



CANADIAN HERB CONFERENCE



Presenters' Notes

November 4, 5, 6 and 7th, 2021

A not-for-profit event in support of herbalists and herbal associations across Canada

50+
Presenters



40+
Original
Workshops



6
Panel
Discussions



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Notes (E-Book)

Resilience, Reciprocity, Respect

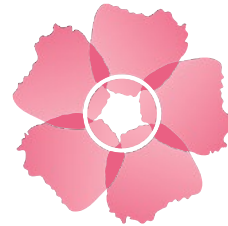
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Welcome to the 2nd Annual Canadian Herb Conference

We all had such a fantastic time last year at the first Canadian Herb Conference that we just had to do it again! This year we have brought you an even bigger showcase of herbalists, herbal medicines and the whole wide world of herbs.

Quite literally, this year we have dedicated the whole of Sunday to an international community of fellow herb lovers. This year we are welcoming presenters from Australia, New Zealand, Portugal, Eire, Northern Ireland, Scotland, Finland, South Africa, Belize, USA and England. With Canada as well, that makes 12 countries sharing one common language of plants. Although we are on opposite sides of the world, we are all connected through the herbs.

We are especially pleased to be hosting the

first ever international meeting of Professional Herbal Associations from seven countries

We hope you will all join us on Sunday morning for a special two hour panel discussion with representatives from the professional herbal associations of seven countries who will dive deep and dig into a review of regulation, registration, rules and requirements for the practice of clinical herbal medicine around the world.

This is the first time ever that the associations who represent herbal practitioners, professional herbalists in so many countries, have been able to meet up and compare notes of their experiences, challenges and successes as professional health care providers.

This unprecedented panel is an opportunity for us to see how each can learn from the experiences of others and work together to bring herbal medicine to the forefront of health care in our own communities.

other panels over the weekend

We are welcoming back the 'Ask the Herbalist panel' that was so popular last year, with 5 leading Canadian herbalists discussing a range of topics arising from questions they are being asked in clinic and in the classroom. We are also offering again the vitally important Covid19 panel, including this time looking at strategies and protocols for long covid as well.

And there are two more panels on the theme of the conference : Resilience Reciprocity and Respect. These are a fabulous opportunity to join a conversation with herbalists of

many styles and practices as they share notes and ideas about herbs and healing.

As well as the panels we will have classes on foraging and wild harvesting, on seed saving, medicine making, psychedelics, humoral medicine, herbal formulating and so much more!

The theme of this conference is RESILIENCE, RECIPROCITY, RESPECT.

We offer these three 'R's of herbal medicine as a wish, an aspiration and an intention for all of us to bring into our daily personal practice.

Resilience: The capacity to stand strong in the storm. A tree is resilient that can bend and sway with the wind but not loosen its roots. It can withstand the vicissitudes of time, of pest and predator, and can renew itself after damage.

Reciprocity: The practice of giving, receiving and giving back. To practice reciprocity means to join into the circle dance of community and cooperation and of compassion for others. It is the embodiment of the adage "love thy neighbor as thyself".

Respect: The act of acknowledging the value and worth of each person in the circle, of believing in each of their capacity to live to their highest good, and of their right to be heard.

We believe that these principles underlie all true healing, and we invite you to refer back to them often and use them for guidance in troubled times.

We look forward to sharing a deep green weekend with you.

Chanchal, Colleen and Yarrow

BEST PRACTICES FOR AN EXCELLENT CONFERENCE EXPERIENCE

Review the conference schedule closely and remember that Thursday, Friday and Saturday presentation times are in Pacific Standard Time (PST), Sunday presentation times are in Pacific Daylight Time (PDT). **NOTE: Daylight Savings Time - clocks go back 1 hour on saturday night.**

Each conference day we suggest joining the conference 15 minutes prior to the start and get organized and set up for your virtual conference experience.

You are welcome to join, leave, or return at any point during the day if you are unable to attend the full day.

The CHC2021 organizing committee requests that best practices and protocols are followed by not sharing these images, slides, or content with others unless specific personal permission to do so has been given. When referencing any of

the teachings, please include full name and website info of the presenter.

PARTICIPATION: We encourage you to take part in the networking rooms, and chat forums that will be running throughout the day. These will be opportunities to learn from, and be inspired by, other individuals who are equally passionate about herbal medicine.

LIVE presentations will be followed by a live question and answer with the presenter; we ask that you save your questions until the presentation is over and the Q&A begins. All participants are welcome to ask questions during the Q&A by typing them into the chat, and the presenter will answer as many questions as they can during the Q&A period.

RECORDED presentations also have an associated chat area where questions can be asked of the presenter who will be in the chat box during their class.

SELF-CARE BREAKS: There are breaks scheduled throughout the day, designed to offer you much needed downtime from your screen and a chance to practice some self-care. We encourage you to go outside during these breaks and take advantage of the screen-free time.

HERB QUIZ AND RAFFLE: During the weekend event be sure to challenge yourself and take the HERB QUIZ on the website. Every person who fills out the quiz will be entered into a draw to win some outstanding prizes from our sponsors! We will also be awarding some great prizes for the Herbal Raffle that all ticket holders are entered into.

Territory Acknowledgement

The Canadian Herb Conference recognizes that this event is being organized and held on the traditional and unceded territories of the diverse and resilient Indigenous peoples and nations across Turtle Island. On behalf of the herbal medicine community we offer gratitude to the ancestral and current keepers of these lands. We pledge to keep gratitude and humility in our hearts as we deepen our learning of our shared history and will centre the need to take meaningful action to address the past harms and ongoing impacts of colonization in this country we call Canada and within herbal medicine. The CHC is excited to welcome presenters and attendees from across Turtle Island and around the world - as the conference unfolds we encourage all people in the herbal community to research the territory on which they are uninvited guests, and to engage in ongoing reflection and learning on what this means on an individual and collective level as we continue to walk this path together.

Visit www.native-land.ca to learn more.

Nettle Seed (*Urtica dioica semen*)

Presented by Abrah Arneson

ETYMOLOGY

urtica from the Latin "urere" meaning to burn

dioica from Latin for "two houses" – this refers to male and female flowers occurring on separate plants.

Nettle from the Anglo-Saxon word "noedl" meaning "needle".

In contemporary western herbal medicine, nettle seed is essentially an energizing trophorestorative for the kidneys. Some herbalists also refer to nettle seed as an adaptogen.

Let's begin with historical uses.

FIRST HISTORICAL USE OF NETTLE SEED

Nettle seed was part of the feed given to horses that were much loved. It made their coats shiny and they appeared to have more vigor.

This is important, the coat of an animal, or the hair of a human will tell you a lot about the health of the body from which it sprouts. Hair that lacks lustre and fullness, unless there is male pattern baldness (androgenic alopecia) which is hereditary, suggest the body lacks the nutrients it needs. The body will sacrifice the hair in order to conserve nutrients needed for more necessary functions. If malnutrition is prolonged changes can also be seen on the nails and skin.

So, we know from those who fed their beloved horses nettle seeds had healthier animals with sustained vigor. We can hypothesise this is because of the nutrients in the seed.

2ND HISTORICAL NON-USE OF NETTLE SEED

Monks during the middle ages, 500 ce to about 1500 ce, were forbidden to take nettle seeds. It was considered an aphrodisiac. They were given Vitex agnus castus seeds instead. This plant suppresses libido in men.

We now know that Nettle seeds awakens the sexual appetite in men. A vigorous sexual appetite suggests gusto for life. This suggests the Nettle seed in some way nourishes the endocrine system. The endocrine system is responsible for survival of the species. It does this by releasing hormones that govern of many of life's survival actions including inflammation and fever as well as fight, flight and freeze and sex. Sex being essential for the survival of the species.

Nettle Seed, as do most seeds, are high in essential fatty acids. These oils are necessary for a healthy functioning endocrine system which includes both sexual and immune health.



3RD HISTORICAL USES OF NETTLE SEED

Culpepper, an English herbalist from in the mid 1600, had many uses for Nettle Seed. From Culpepper's Complete Herbal....

the seed provokes urine, and expels the gravel and stone in the reins or bladder, often proved to be effectual in many that have taken it. The same kills the worms in children, eases pains in the sides, and dissolves the windiness in the spleen, as also in the body, although others think it only powerful to provoke venery...The seed being drank, is a remedy against the stinging of venomous creatures, the biting of mad dogs, the poisonous qualities of Hemlock, Henbane, Nightshade, Mandrake, or other such like herbs that stupify or dull the senses; as also the lethargy, especially to use it outwardly, to rub the forehead or temples in the lethargy, and the places stung or bitten with beasts, with a little salt.

From Culpepper we learn about Nettle seed's direct actions on the kidney. Remember contemporary herbalist now most commonly use it as a kidney trophorestorative. Culpepper tells us it removes kidney stones.

He also suggest it has anti-parasitic actions as well as anti-viral actions. Rabies is a viral infection. This is very interesting to me as I see a lot of infections in my practice and we are currently living with a virus that is changing all our lives.

Constituents of Nettle, not necessarily the seed as most research is done on the leaf is demonstrating anti-viral activity.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3085190/>

One of the primary finding's researchers noticed when offering nettles as medicine, is the lack of weight loss and vitality when mice were injected with a killing virus. This refers back to those who love horses already knew. Nettles is a super food! And Nettle seed is a super, super food!

THE KIDNEY

Herbal Medicine is the relationship between plants and the body/mind complex. To understand a plant's medicine, one needs some understand of the organ or system that the plant effects.

The kidneys are mentioned 5 times in the Hebrew Bible as the organ as the organ God examines to pass judgement on the soul. It is said, Abraham learned the laws of God from dreams offered by his kidneys at night.

"I will bless the Lord, who has given me counsel; my reins also instruct me in the night seasons" (Psalms 16:7).

The ancient Jewish sacred text the Talmudic corpus teaches that one kidney offers good advice, while the other offers bad advice.

In Traditional Chinese Medicine, it is often said that the kidney is where fear resides in the body. The word for fear in Mandarin is Haipa. Haipa is broken into two pictograms. "Hai" which is translated as harm, evil, kill and calamity and "Pa" which translate into afraid, fear and dread.

Translations of Haipa are to be scared, to dread, to lose courage, to be unable to endure and to worry.

I find these considerations of the "emotionality" (for lack of better word) of the kidney's important when we are speaking of Nettle Seed as a kidney trophorestorative. If we consider these ancient understanding of Kidneys - a kidney trophorestorative is a plant that restores the courage, resiliency and the power to stand in our creative goodness.

This brings us to the adoptogenic effect of a kidney restorative. Adaptogenic herbs act on the adrenal glands to moderate the body/mind's response to stress.

Stress is such an overused word today that it has almost lost its significance. "We are all stressed out!" Think of stress as the loss of courage, coming from the French word for a "good heart." When we lose the good heart of courage, we begin to worry. The worry spirals into fear and soon we are waking every morning with dread in our bellies.

Nettle seed restores the courage to the heart by easing the worry from the kidneys.

A MORE PHYSIOLOGICAL UNDERSTANDING OF THE KIDNEY.

The kidney controls the tension or relaxation in the heart and all the blood vessels and therefore the delivery of blood carrying nutrients and oxygen to the rest of the body - including the brain. Relaxed, but not too relaxed, circulation means every cell in the body receives the nutrients it needs to be vibrant and health. Tension in the kidney has a influence on every cell in the body. Worry creates tension!

The kidney also filters blood. In a cadaver antonym class, squeeze a kidney and it's like a sponge releasing fluid. The kidney filters the by-products of metabolism, particularly protein metabolism and maintains electrolyte balance. If the kidneys are hindered in their ability to filter the by-products of metabolism the skin takes on the role. This is why people on dialysis often have the smell of urea coming from skin. Their skin is doing the work on the kidney. (Back to those horses).

Electrolytes balance the fluid levels in your blood plasma, interstitial tissue and within your cells. Electrolytes maintain the pH balance of your body and enable the contraction of your muscles including your heart and arteries and participate in transmission of nerve signals.



Your kidney's actions touch every part of your body and can have a profound impact on your mental well being as well. When you take a kidney trophorestorative, you are supporting not just your kidneys but your whole body.

SIGNS AND SYMPTOMS THAT IT'S TIME TO TAKE NETTLE SEED.

1. Mid and low back ache when standing. It feels like fatigue in your back. (This for me is the key indication that Nettle seed is needed)
2. Dread and fatigue in the morning upon waking. This fatigue can pause once you up and getting on with your day, or it may remain if it has moved deeper into your beingness.
3. Aching legs worse with cold
4. Water retention, swollen tongue.
5. Low libido
6. Sighing

WHEN NOT TO TAKE NETTLE SEED?

When someone is completely depleted. Nettle seed carries a lot of energy. If someone has not inner reserves, you may want to begin with Nettle leaf and as the person re-energizes introduce Nettle Seed.

Dose: Start low and go slow. It is very invigorating and can interrupt a delicate sleep pattern if take too late in the day.

MORE ON NETTLE SEED:

- https://www.researchgate.net/publication/242275567_Urtica_semen_reduces_serum_creatinine_levels - Johnathan Treasure's research into Nettle Seed credited with awakening the current interest in the plant.
- <http://ravensongseeds.com/blog-post/nettle-seed-season> - This is a fantastic article with harvesting tips and recipes and much more.
- <https://napiers.net/blogs/news/nettle-seed-uses> - Some curious clinical applications of the Nettle seeds. One needs to check the resources though.

The Wisdom of Water, Plants and Prayers

Presented By Dr. Rosita Arvigo, DN

THE ABDOMINAL THERAPY COLLECTIVE

www.abdominaltherapycollective.com
www.rositaarvigo.com

The Wisdom of Water, Plants and Prayer is an ancient method taught by Don Eljio Panti, a Maya shaman of Belize and Miss

Hortence Robinson, a herbal midwife of Belize. With these common tools we relieve emotional disorders that plague the body, mind and spirit. Don Eljio taught that the most common ills of the human soul are:

- | | |
|----------------|---|
| Susto /Fright. | After a shocking event |
| Pesar/Grief. | After loss of a loved one or something dear |
| Envidia/Envy. | After having been envied by another |

THE HEALING PROCESS INVOLVES:

PLANTS. There are hundreds of plants that can be used in this manner but most are the aromatics such as basil, rue, marigold, sage, thyme, rosemary, mints, goldenrod, St Johnswort, mallows, linden leaves and flowers, orange leaves and flowers, calendula, yarrow, mugwort, plantain, motherwort, dandelion, plantain.

PRAYER. Prayers used in this method are Medicine Chants with dynamic healing energy that effects the auric field or the electromagnetic field of the person to bring about positive changes in the physical body and the troubled mind.

Plants used in this manner must be collected with prayer and thanksgiving. Don Eljio gave permission to share his Herb Collector's prayer because he felt that plants are too often used, even by herbalists, without gratitude. "If you don't say the prayer of faith and thanksgiving to the spirit of the plant, the spirit of the plant will not follow you home to help with the healing."

*In the name of God the Father, God the Mother and God the Holy Spirit (or your deity). I give thanks to the Spirit of this plant and I have faith with all my heart in your great healing power to help -----.
Amen*

In the Maya system, the person in need of spiritual healing receives a series of prayers repeated nine times into the radial pulse. The healer can access the "chu'lel" (chi, prana, life force) of the client at the radial pulse.

WATER. Water, from whatever source, has memory and the ability to absorb and hold the energy of our thoughts and prayers. Masuro Emoto, a Japanese scientist, showed that when people prayed with murky, even polluted water taken from a lake in the middle of a crowded city, it transformed into crystalline formations under the microscope. He froze the murky water and showed that under the microscope it was grey and formless but after exposure to prayer or words like Love and Gratitude, the frozen water showed perfectly beautiful crystalline formations that resembled snow flakes.

This type of healing of the spirit requires that we give thanks to water and plants before we can successfully use them to heal emotional disorders like fright, grief and envy. The plants are collected with prayer and thanksgiving then mashed into



a bucket of water while saying more prayers, placed in the sun for 1-8 hours then given as a lustration. Lustration is the process of sprinkling the water that holds the plants and the prayer over a person's physical body in a radius that extends out an arm's length from the body.

REFERENCES:

Spiritual Bathing: The Illustrated Guide to Spiritual Water Rituals, by Rosita Arvigo and Nadine Epstein, Echo Point Books & Media, LLC, Brattleboro, VT, 2018

Sastun: My Apprenticeship with a Maya Healer, Harper Collins, 1996

Sacred Plants – Spiritual and Medicinal Uses

Presented by Penelope Beaudrow and Lauri Hoeg

We welcome you today from a couple of old friends, connected since kids at school and connected through family on Georgina Island and our local community. Like minded sisters really —here to share a small piece of our hearts work with you. This particular work has been birthed out of wanting to spend more time together, we are both very busy gals and love any excuse to spend more time together. So, our time spent together preparing for this talk was a gift, thank you, and now we would like to share with you, a glimpse into our plant journey. It is out of our love of plants that today we will share about sacred plants and plant medicine through teaching, song, story and tea.

Penelope

Land Acknowledgement:

Before we begin our talk, I would like to take the time to do a Land Acknowledgement. For those of you who are not familiar with this term, it is a formal statement that recognizes the unique and enduring relationship that exists between Indigenous Peoples and their traditional territories.

"We acknowledge that this afternoon we are gathered on traditional territory, a land now defined in law by the Williams Treaty, signed in 1923 by the crown and the Mississauga's of Curve Lake, Alder Ville, Hiawatha and Scugog Island First Nations, and the Chippewas of Beausoleil, Georgina Island and Rama First Nations." and pay our respect to elders both past and present."

Every community owes its existence and vitality to generations from around the world who contributed their hopes, dreams, and energy to making the history that led to this moment.

Some were brought here against their will, some were drawn to leave their distant homes in hope of a better life, and some have lived on this land for more generations than can be counted. Truth and acknowledgment are critical to building mutual respect and connection across all barriers of heritage and difference. We begin this effort to acknowledge what has been buried by honoring the truth. Please take a moment to consider the many legacies of violence, displacement, migration and settlement that bring us here today. And please join us in uncovering the truths.

PLANTS HAVE ALWAYS PLAYED A VITAL ROLE IN MEDICINE, PRAYER, CEREMONY AND RITUAL.

What are Ceremonies and Rituals?

Ceremonial use of plants has powerful spiritual meaning establishing a direct communication link between the person giving and the spiritual world receiving. In the traditional sense, the most powerful way of communicating with the spirits.

Rituals - Creating ritual helps deal with the challenges of life (birth, death, maturation, war, hunting, agriculture, etc.) seems to be a necessity in every culture. We are spiritually malnourished without rituals.

It has become obvious that we seem to be doing less ceremony and rituals in our lives. Some are even opting to have no funerals for loved ones, which is a real tragedy. We are here today to encourage each and everyone of you to embrace these old ways to feed our spiritual being, which in turn helps with our peace of mind or otherwise known as our mental health.

While we are here today to encourage more ceremony and ritual in your lives, it is important to be respectful and not take what is not yours.

Lauri

Four Sacred Medicines

Each of the four sacred medicines was given to the First Nations people as a means of communicating with the Creator. Tobacco was the first plant to be received and is therefore considered to be the most powerful of all medicines. Tobacco is followed by sage, cedar, and sweetgrass. It is sometimes thought that tobacco sits in the eastern door, sweetgrass in the southern door, sage in the west and cedar in the north; however, these assigned directions differ from First Nation to First Nation. Together, this quartet works to establish a potent connection to the Creator and the Spirit World. Various nations have different teachings regarding these medicines.

We will provide some general information today regarding the Four Sacred Medicines and may differ from certain teachings. For a more in-depth exploration of the Four Sacred Medicines seek out oral teachings from an elder.

Four Sacred Medicines

TOBACCO

Tobacco Cultural: Traditional use of Tobacco (East) is to represent the honesty that we carry in our hearts when words are to be spoken between two people or to the spirit world. When a request is made, a teaching is shared, a question is asked, or a prayer is offered, the Sacred Tobacco travels ahead of the words so that honesty will be received in a kind and respectful way. For many First Nations people, tobacco has been used traditionally in ceremonies, rituals, and prayer for thousands of years. It is used for a variety of medicinal purposes and its' ceremonial use has powerful spiritual meaning establishing a direct communication link between the person giving and the spiritual world receiving. In the traditional sense, the most powerful way of communicating with the spirits is to smoke tobacco in a sacred pipe. (*note the pipe was called tobacco not the plant*)

Tobacco is seen as a gift given to us by the Creator. To offer tobacco is to pay an ultimate respect to that which you are asking. When explorers reached the New World, Aboriginal people had been growing and using tobacco for centuries.

There is a major difference between Traditional Tobacco and commercial tobacco. Originally, our ancestors grew *Nicotiana Rustica*, however, there are more than ten plants related to Sacred Tobacco that are used in the same way and are referred to as Sacred or Traditional. Commercial tobacco which is sold in retail stores and found in commercial cigarettes is not made from Traditional Tobacco but instead is mass produced and has had a number of toxic chemicals added to it. The commercial tobacco that is sold in convenience stores and cigarette outlets has been chemically altered and is sold for profit, taking away the meaning of Tobacco's original purpose.

Tobacco Medicinal: In 1529, a Spanish missionary priest, Bernadino de Sahagun, collected information from Mexican physicians about use of tobacco for medicinal purposes. Used for as an application in general bodily ills, catarrh (mucus), colds, and fevers, as an aid to digestion and in prevention of hunger and thirst, as a purgative and as a narcotic, antidiarrheal, narcotic and emollient; tobacco leaves were applied for the relief of pain, used in powdered form, rubbed in mouth and applied locally or in a slavae to heal wounds and burns. He recorded that breathing the odour of fresh green leaves of the plant relieved persistent headaches.

Between 1537 and 1559, books published in Europe and Mexico commonly referred to the previous mentioned medicinal uses of tobacco among the indigenous populations of the New World, with eyewitness accounts of its therapeutic uses.

During the London plague of 1665 children were instructed to smoke in their schoolrooms; and in 1882, in a Bolton outbreak

of smallpox, tobacco was actually issued to all the residents of a workhouse.

However, claims for such protective effects did not go undisputed. In 1889 an anonymous article in the *British Medical Journal*, concluded that people who did not smoke would be ill advised to take up smoking, which would make them more vulnerable illnesses. An anonymous article in *The Lancet* in 1913 discusses the 'pyridine' content of tobacco smoke and describes experiments showing that tobacco smoke destroys the comma bacillus of cholera; but again it warns that tobacco smoking can 'give rise to constitutional effects which diminish the resisting power of the body to disease'.

The tobacco plant, *Nicotiana*, has probably been responsible for more deaths than any other herb by its misuse. At present, tobacco smoking is causing over 3 million deaths a year worldwide. Add to this the mortality from cancers caused by oral uses and the death toll becomes still higher. Undoubtedly, tobacco is the most important avoidable cause of premature death and disease in the world.

SAGE

Sage Cultural: Sage (the West) is an important medicine to many First Nations cultures. It is generally employed as a means of releasing troubles from the mind and removing negative energies, to clear away. Sage is used most commonly for smudging. It is believed to be a potent cleanser for homes and sacred items. Sage is a women's medicine, conferring strength, wisdom, and clarity of purpose. It is a powerful purifying medicine that drives away negative energies.

Sage Medicinal: Tonic for rebuilding vitality & strength during long term illness. It is generally a medicine to cure all ills. Classic remedy for mouth, throat, tonsils, nose, ears, eyes and mucus. Sage has also been known to benefit the stomach, intestines, kidneys, liver, spleen and reproductive organs. Sage tea promotes moon times (menses), as it is a uterus stimulant. As such, pregnant women should not consume sage. Women who are breastfeeding should also be warned, as sage will stop the flow of milk. Similarly, it will also reduce salivation, yet increase the flow of bile. Sage leaves also contain tannin and thujone, causing it to be an effective astringent. It is also an antiseptic, useful for healing wounds. In addition, Sage contains high amounts of calcium, potassium, vitamin B1 and Zinc. Moderate amounts of magnesium, iron, vitamin A and B complete, niacin and sodium can also be found in sage. Small amounts of phosphorus, manganese, silicon, sulphur, sodium and vitamin C are also present in sage, as well as trace amounts of selenium. As you can see, sage is full of vitamins and minerals, and is quite healthful.

Sage Special Consideration: pregnant and nursing women should not consume



CEDAR

Cedar Cultural: Cedar (the South) is used for purification, when burned and to attract positive energy, feelings, emotions and for balance, when taken as a tea. The brave should fast with Cedar in his mouth before the hunt. Also used to Clear away.

Like many traditional medicines, Cedar is used to purify the home. Cedar branches are used in many ceremonies as a form of protection. In sweat lodges, cedar branches cover the floor. The branches also circle a faster's lodge to keep him or her safe. Another way in which cedar is used is in the bath. Cedar baths are very healing.

Cedar trees support over 40 wildlife species, so growing these trees will be beneficial to the ecosystem. It also provides shelter to many animals during the cold winter months, as it is one of the few trees to remain leafy during this season. While often used to purify the home, cedar also has many valuable medicinal properties. Cedar baths are used widely for healing and cleansing purposes. When cedar is put in the fire with tobacco, it crackles. It is said that this cracking is the sound of cedar calling the attention of the spirits to the offering that is being made.

Cedar Medicinal: Aromatic, astringent, diuretic, anti-inflammatory, diaphoretic, expectorant, anti-microbial, anti-asthmatic, anti-fungal.

Tea is used for Colds/fevers, rheumatism, dropsy, coughs, scurvy and as an emmenagogue (promote blood flow to pelvic area). Also used to eliminate warts

Its vitamin C content helped prevent scurvy when fruits and vegetables were unavailable during the winter months.

SWEETGRASS

Sweetgrass Cultural: Sweetgrass (the North) is used by almost all Aboriginal peoples in North America for ritual cleansing and is a purifier. Sweet grass purifies by replacing negative with positive. When Sweetgrass is walked on, it bends but does not break. Hence, it has been associated with virtue: an injustice can be returned by a kindness, by bending, not breaking. Known for it is for healing spirit, growing heart, ghost medicine.

When sweet grass is harvested, it is done so with a stone knife rather than pulled out. It is often braided because it signifies the hair of *Ogashiiinan* ("Mother Earth"). When used in a healing circle, sweetgrass has a calming effect. It is also used for smudging and often represents the teaching of kindness. Its sweet aroma reminds people of the gentle love she has for them. The vanilla scent of Sweet grass is not too aromatic until it is dried. Lauri's experience is the opposite.

How to Identify Sweetgrass

The following are several clues in helping you decipher sweetgrass from other grasses:

- The base of the leaves, just below soil surface, is broad, purple and white and is hairless.
- The top sides of leaves are very shiny and hairless.
- The undersides of the leaves are matte and flat, never v-shaped.
- The leaves curl quickly when dried in the sun within a few hours. Most other weed-grass leaves remain flat when dried.

Sweetgrass Medicinal: The smoke of burning **sweet grass** was inhaled to treat colds and also **used** to keep insects at bay. Herbal tea made from the leaves has been **used** to treat coughs, sore throat, fever, and venereal diseases. The herb has also been **used** to stop uterine bleeding and to shed the afterbirth after childbirth

Special considerations: has blood thinning properties

Thank you for sharing this time together, our hope is that you will be inspired to reclaim or introduce ceremonies and rituals back into your life...good for the body, mind and spirit.

~Penelope and Lauri

Wise Women Teachings with Pat and Penelope: From our Gardens, Fields, and Forests

Presented by Penelope Beaudrow and Pat Crocker

Talking about: Resilience, Reciprocity, Respect

WHAT DOES IT MEAN TO BE A WISE WOMAN?

For Pat, it means "I'm constantly seeing and acknowledging the exquisite interconnections and interdependencies of all life on earth."

Penny notes that, "first and foremost, a Wise Woman is a being that is connected to the planet in a deep and meaningful way. She is a resilient being who has shifted more into an emotional or spiritual way of relating to nature. The kind of relationship that is mutually beneficial, tuning into nature, feeling nature's desire to receive our awe, gratitude and our attention. Moving through life in a loving, generous, charitable, nurturing, and hospitable way. She is a teacher and a healer. When we speak of 'women' we are speaking of anyone identifying as female and longing for this path of learning and teaching.

WHAT PATH LED PAT AND PENNY TO STRIVE TOWARDS BEING WISE WOMEN?

"As we all do, I began the journey by learning from elders and studying with herbalists; I've grown and worked with plants for decades; and I've carved out a special niche for my particular skills, which are creating and developing new culinary recipes using healing herbs. My focus is the marriage of healing herbs and nourishing food as medicine in every meal, in every bite." muses Pat.

Penny adds, "I have always been drawn to older women whom I could watch and learn from at a young age – women who were intelligent, independent, imaginative, engaging, admired, strong-willed, gifted, secure. These types of women are all around us -- for me it began with my grandmother, such a wonderful example of a way of life that I could choose to embrace and follow – a deep love of nature, gardening and preserving food, that simply captivated me – I began to seek these types of women out, to become my teachers – teaching me skills for life: how to raise amazing children, how to take care of my family's common ailments through plant medicine and then how to take care of my broader communities health using herbal medicine."

WHAT DOES IT MEAN FOR ALL HERBALISTS TO BE WISE BEINGS?

Separately and together all herbalists can walk the Wise Being path consciously, with love for all creatures and plants, with humility, and with loving kindness in our hearts.

This means consciously seeing how nature and humans are woven into the fabric of life and then applying that knowledge to how humans ought to relate to the natural world. It means developing a different set of values in complete opposition to a selfish, consuming, earth-depleting, climate-altering, extinction-causing approach.

HERE ARE SOME CONCEPTS TO CONSIDER AS YOU STEP ONTO THE WISE BEING PATH:

- move towards a completely plant-based diet or choose to reduce your weekly meat consumption
- develop a daily spiritual practice through meditation, yoga, prayer, working with a spiritual advisor; walking in nature
- read the World Scientists' Warning to Humanity (see resources) and develop a personal, practical response; work with others who have the same concerns
- walk the talk in your daily life
- support an earth-based action group by volunteering or by donation; some examples are The David Suzuki Foundation; local native plant sanctuaries; local endangered species groups

THROUGH THE EYES AND HEART OF THE WISE BEING, HOW CAN WE BEGIN TO REFLECT THE CONCEPTS OF RESILIENCE, RECIPROCITY, AND RESPECT?

Resilience is the capacity to withstand the challenges of life on earth

We are experiencing global events that require personal and global transformation and now is not a time for despair or depression. Going forward, we will need a strong belief in and connection to the earth in order to heal ourselves so that we can heal the planet.

Resilience comes from an understanding that we are connected to every single thing and that what we do to one we do to all because we breathe with all of life.

Reciprocity and the practice of giving, receiving and giving back

This is at the core of our calling now as humans. The real object of awakening and becoming healed is not for you, but for everybody else. We are a global community and we must act together as one to solve problems that we've co-created.

We begin to re-shape our own values and move away from consuming, from taking for personal gain...to preserving, to re-building, and nurturing the earth's precious gifts of soil, wind, fire, water, all creatures, and all plants.

We can no longer be by-standers, instead, we become active in positive goals for radical, peaceful change towards these values.

Respect for and acknowledging the value of each person, each element, and each species in the web of life.

We pour grace (love) into everyone because we are all breathing together and as long as one of us is not healed, we are all not healed.

We develop our own, personal spiritual practice in order to open to grace and love for each other; to understand that we are all connected; and so that we begin to see the power of our every thought, word, and action on our world.

We move to a plant-based diet, not as a moralistic badge, not as a judgmental statement, but out of a deep and abiding love and respect for all sentient beings and because we can no longer turn a blind eye to the suffering inflicted in factory farms.

RESOURCES

- David Suzuki Foundation: www.davidsuzuki.org
- Carson, Rachel. *Silent Spring*: Houghton Mifflin Company; Boston, 1962.
- Klein, Naomi. *On Fire: The Burning Case for a Green New Deal*. Simon & Schuster; USA, 2019.



- F.O.A data on global environmental impact of the meat industry: <http://www.fao.org/news/story/en/item/197623/icode/>
- Council of Elders: <https://herbalccha.org/council-of-elders/>
- Prescott, Matthew. *Food is the Solution: What to Eat to Save the World*. Flatiron Books; New York, 2018.
- Wall Kimmerer, Robin. *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*. Milkweed Editions; Minneapolis, MN, 2013.
- Scientists' Warning- November 1992, the World Scientists' Warning to Humanity was published and signed by more than 1,500 senior scientists from 71 countries, including more than half of all living Nobel Prize winners:
- https://scientistswarning.forestry.oregonstate.edu/sites/sw/files/Warning_article_with_supp_11-13-17.pdf

Fall Foraging in Southern Alberta and Rewilding your Garden

Presented by Angela Bewick and Julie Walker

Filmed and Edited by Renee Amber and Angela Bewick

Fall Foraging filmed September 20, 2021 in West Bragg Creek, Alberta

Rewilding Your Garden filmed October 1, 2021 in Turner Valley, Alberta

Find out more about Julie at fullcircleadventures.com

Find out more about Angela at angelabewick.com

Artemisia annua - An Herb of our Times

Presented by Chanchal Cabrera MSc, FNIMH, RH(AHG), RHT

Artemisia annua L.

Annual wormwood, sweet wormwood, sweet Annie, Chinese wormwood

A highly aromatic annual herb of Asiatic and eastern European origin; widely dispersed throughout the temperate region; naturalized in the United States

Energetic properties are bitter, acrid and cooling. Used in TCM to clear damp heat.

Essential oil of A. Annua :

The main chemical constituents are sesquiterpenoids, including artemisinin, artemisinin I, artemisinin II, artemisinin

III, artemisinin IV, artemisinin V, artemisic acid, artemisilactone, artemisinol and epoxyarteannuic acid

Evidence-Based Complementary and Alternative Medicine, Volume 2014, Article ID 159819, Essential Oil of Artemisia annua L.: An Extraordinary Component with Numerous Antimicrobial Properties, Anna Rita Bilia,

Artemisinin is a sesquiterpene lactone with 2 oxygen atoms linked by an endo-peroxide bridge. It is this bridge that gives this molecule and derivatives its special effects.

Due to their rapid rate of division, most cancer cells have high rates of iron uptake.

Soluble transferrin receptors are proteins found in blood that promote iron uptake and can be elevated in cases of iron deficiency when cells are 'hungry' for iron. Cancer cells over-express s.transferrin receptors (stfr) for iron uptake while most normal cells express nearly undetectable levels of stfr. Soluble transferrin-receptors bind with iron to bring it into cells and artemisinin is preferentially taken up with the iron.

The endo-peroxide bridge of artemisinin readily reacts with iron inside the cell to form free radicals leading to intra-cellular oxidative stress

CLINICAL PEARLS

Test for iron, ferritin, total iron binding capacity

And soluble transferrin receptors before using Artemisinin.

Iron should be between 50 and 75% of normal range

Ferritin should be between 25 and 50% of normal range

TIBC and stfr should be in 60 – 80% of normal range

HOW ARTEMISININ ACTUALLY WORKS:

ART in blood absorbed across cell membrane with iron.

Reactive Oxygen Species formed in cell cytoplasm (oxidative stress)

Inhibits *ras* proteins

Inhibits multi drug resistance pathways

Decreases mitochondrial membrane potential in cancer cells leading to 30 – 50% decrease in available cellular energy.

Inhibits VEGFR expression, anti-angiogenesis

Artemisinin and its derivatives, artemether and artesunate, have been studied for their efficacy as antimalarial agents. In vitro trials conducted in China (WHO 1981), showed all three compounds to be effective against the erythrocytic stages of two chloroquine-resistant Hainan strains of *Plasmodium falciparum*, the malarial parasite, at lower minimum effective concentrations than chloroquine, the most commonly used drug. Artemisinin and its derivatives have effectively treated

malaria and cerebral malaria in human subjects with no apparent adverse reactions nor side effects (Klayman 1985).

In vitro studies indicate that artemisinin may be an effective treatment for other protozoal infections such as leishmaniasis, Chagas' disease, and African sleeping sickness. Artemisinin derivatives Artelinic acid, artemether, artemotil (arteether, -arteether) artemimol (dihydroartemisinin, -dihydroartemisinin) and artesunate, are considered to be about five times more potent than artemisinin. May be worth considering as part of a protocol for Lyme disease as well.

The leaves have almost 90% of the total artemisinin in the plant with the uppermost foliar portion of the plant (top 1/3 of growth at maturity) containing almost double that of the lower leaves.

Artemisinin is absorbed faster from the tea preparations than from capsules. The maximum plasma concentrations were observed after 30 minutes following intake. Artesunate is rapidly absorbed and reaches maximum plasma level within 45-90 minutes. It is metabolized in the liver by hydrolysis to dihydroartemisinin

Ingestion of artemisinin induces / upregulates phase I liver enzymes CYP 2B6, CYP 2C19 and CYP 3A4

increased hepatic clearance so plasma levels drop off after 5 - 7 days.

Women clear up to twice as fast as men.

Therefore need to pulse dose to allow enzymes to normalize periodically.

Typically 5 or 7 days on and the same off but

Autoinduction is greatly diminished when whole herb is taken alongside artemisinin. Taking artemisinin along with A. Annua will produce much better bioavailability,

Bioavailability of artemisinin is generally low

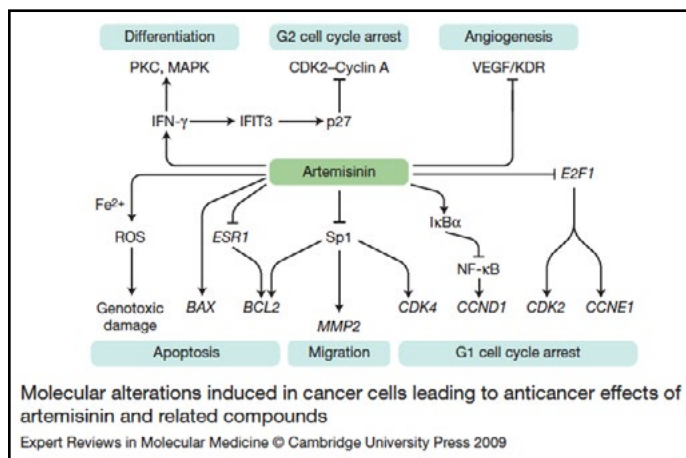
Liver enzyme induction on day one makes around .74 of the artemisinin unavailable, by day five it is somewhere between .94 and .98 depending on the study (meaning that by the end only somewhere between .06 and .02 is bioavailable).

Few studies look at any longer ingestion times since the compound is normally used only for malaria treatment for which five days is considered sufficient. However, it is possible that its induction levels remain within the .94-.98 range indefinitely after day five.

Artemisinin acts in a multi-specific manner against tumors. The cellular response of Art. and its derivatives (dihydroartemisinin, artesunate, artemether, arteether) towards cancer cells include oxidative stress response by reactive oxygen species and nitric oxide, DNA damage and repair (base excision repair, homologous recombination, non-homologous end-joining), various cell death modes (apoptosis, autophagy, ferroptosis,

necrosis, necroptosis, oncosis), inhibition of angiogenesis and tumor-related signal transduction pathways).

From ancient herb to modern drug: Artemisia annua and artemisinin for cancer therapy, Seminars in Cancer Biology, Volume 46, October 2017, Pages 65-83, Thomas Efferth



Oral Artesunate in Colorectal Cancer (CRC)

Oral artesunate was given to 20 patients undergoing surgery for localized CRC.

- Artesunate treatment reduced Ki67
- During a median follow up of 42 months one

Patient in the artesunate and six patients in the placebo group developed recurrent CRC.

Krishna, S., et al., A Randomized, Double Blind, Placebo- Controlled Pilot Study of Oral Artesunate Therapy for Colorectal Cancer, ebiomedicine (2014).

Enhanced activity of DNA-targeting drugs by Artemisinin compounds
Biochemical Pharmacology, Online 31 March 2017,
<https://doi.org/10.1016/j.bcp.2017.03.019>

Artesunate is a synergist with erlotinib in glioblastoma

Dihydroartemisinin is a synergist with radiotherapy in glioblastoma

Although artemisinin is probably the major bioactive component, it is not the only one. Present in the traditional Chinese herbal preparations (tea), leaf flavonoids have shown a variety of biological activities and may synergize the effects of artemisinin against malaria and cancer.

Artemisinin and its semi-synthetic analogs are more effective to treat parasitic diseases (such as malaria) and cancer if simultaneously delivered with

flavonoids.

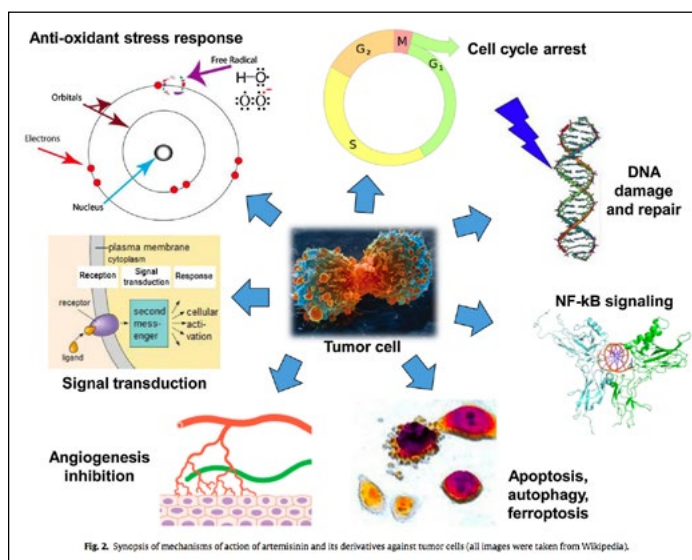
Molecules. 2010 Apr 29;15(5):3135-70. Doi: 10.3390/molecules15053135.

The flavonoids present in *A. Annua* leaves have been linked to suppression of CYP450 enzymes responsible for altering the absorption and metabolism of artemisinin in the body, but also have been linked to a beneficial immunomodulatory activity in subjects afflicted with parasitic and chronic diseases.

All sesquiterpenes (artemisinin, dihydroartemisinin, artemisinic acid, arteannuin B) significantly reduced production of PGE2. Arteannuin B also inhibited production of NO and secretion of cytokines. All NO, PGE2 and cytokines were suppressed by flavonoids casticin and chrysofenol D.

The inhibition of immune mediators of angiogenesis by sesquiterpene lactones and flavonoids may be one of the mechanisms of anticancer activity of *Artemisia annua* L.

Effects of sesquiterpene, flavonoid and coumarin types of compounds from Artemisia annua L. On production of mediators of angiogenesis Pharmacological Reports, Volume 65, Issue 2, March-April 2013, pp 410-420, Xiaoxin X.Zhu et al



A 2019 study demonstrated efficacy of Dried Leaf *Artemisia annua* and mechanistic differences of dried leaf extracts t vs. Artesunate (AS), against NSCLC cells.

Compared to AS, DLA possesses qualities of a novel therapeutic for patients with NSCLC.

Phytomedicine, Volume 52, January 2019, Pages 247-253 Dried leaf Artemisia annua efficacy against non-small cell lung cancer Dina J.Rassiasa and Pamela J.Weathers

An extract of an artemisinin-deficient *Artemisia annua* herbal preparation exhibits potent anticancer activity against triple negative human breast cancer.

Phytomedicine, Volume 62, September 2019, 152962 Antitumor activity of an Artemisia annua herbal preparation and identification of active ingredients, Sophia J.Langa et al

ADVERSE REACTIONS

Oral (high doses): *Artemisia* may cause abdominal pain, bradycardia, diarrhea, nausea, vomiting, decreased appetite, flu-like symptoms, fever, liver enzyme elevations and decreased reticulocyte count.

Topical: *Artemisia* may cause dermatitis

HERB-DRUG INTERACTIONS

Antacids: *Artemisia* interferes with antacids, sucralfate, proton pump inhibitors, and histamine-receptor antagonists because it increases the production of stomach acid.

Anti-seizure medications: *Artemisia* can induce seizures resulting in decreased efficacy of anti-seizure medications

Targeting Microtubules by Natural Agents for Cancer Therapy, Mol Cancer Ther. 2014 Feb; 13(2): 275-284. Eiman Mukhtar,

Anticancer Activity of Natural Compounds from Plant and Marine Environment., Int J Mol Sci. 2018 Nov; 19(11): 3533. Anna Lichota and Krzysztof Gwozdziński

DOSING PLAN

Pulse dose alternate weeks in increasing doses

Week one - taken with 2 oz grapefruit juice

- ART 150 mg (1 cap) twice daily
- Butyric acid up to 10 g
- Vitamin C to bowel tolerance with Vit K-3 (1000:1 ratio)
- Iron if levels are low
- GLA 1000 mg, DHA 500 mg, EPA 750 mg
- Proteolytic enzymes
- Blood moving herbs: *Centella asiatica*, *Ginkgo biloba*, *Vinca major / minor*, *Salvia miltiorrhiza*, *Rosmarinus off.*

Week two

- Cytotoxics blend

Week three

- ART 150 mg (1 cap) three times daily

Week four

- Cytotoxics blend

Week five

- ART 300 mg (2 caps) three times daily

Week six

- Cytotoxics blend

Week seven

- ART 450 mg (3 caps) three times daily

BUTYRATE

Butyrate is a major short-chain fatty acid produced during gut flora-mediated fermentation of dietary fibers. Legumes (beans, peas, and soybeans), fruits, nuts, cereals, and whole grains are good sources of dietary fibers. Butyrate is also found in butter and cheese. Butyrate or butanoate refers to the conjugate base of butyric acid (also known as butanoic acid) with esters and salts. Butyric acid (butanoic acid) is a purified form.

Butyric acid is an important regulator of colonocyte proliferation and apoptosis, gastrointestinal tract motility and bacterial microflora composition in addition to its involvement in many other processes including immunoregulation and anti-inflammatory activity.

Butyrate is a potent inducer of cellular differentiation. The effects on differentiation are mediated through its inhibition on histone deacetylase. Inhibition of this enzyme leads to an increase in histone acetylation, changes in chromosome structure, and increased DNA transcription.

Experimental concentrations of butyric acid at 1.0 millimolar plasma levels produced a ten fold increase in artemisinin effect. To attain such plasma levels you need to take at least 10 grams (10,000 mg) a day. In brain tumors, doses up to 20 g / day have been used. At these high doses the main side effect is body odor.

Phytotherapeutic Perspectives on Dementia

Presented by Todd Caldecott, Dip.CIH, RH(AHG), CAP(NAMA)

Dementia is a general term used to describe a progressive impairment of memory, cognition, and behavior that affects an individual's ability to function normally. The most common cause of dementia is **Alzheimer's disease**, but dementia can be related to other pathologies including **cerebrovascular dementia, Parkinson's disease, Lewy body dementia, frontotemporal dementia (FTD), Huntington's disease, traumatic brain injury, viral infection** (e.g. HIV, COVID?), **bacterial infection** (e.g. Lyme, syphilis), and **prion disease** (e.g. Creutzfeldt-Jakob disease). The term **mixed dementia** refers to features of a few different pathologies that can manifest

simultaneously, such as Alzheimer's disease with Lewy body dementia and vascular dementia.

Alzheimer's disease (AD) is the most prevalent form of dementia, and the primary focus of this paper. It was first described in 1907 by Dr. Alois Alzheimer, in a 51-year-old female patient suffering from a severe form of dementia. Upon autopsy he noticed the deposition "of a peculiar substance in the cerebral cortex," which was later determined to be a 40 amino acid protein fragment called amyloid- β protein. Alzheimer later published a research brief entitled "On a Peculiar Disease of the Cerebral Cortex", and soon his findings were replicated and "Alzheimer's" disease became a recognized pathology.

Clinical features of AD

The clinical features of AD include dementia, disturbances in comprehension and language, as well as several other behavioral clues. This may include confusion, poor memory recall, difficult speech, altered judgment, and impaired abstract thinking. There may also be a feeling of "not being oneself," a loss of interest in favourite pastimes, diminished creativity and a diminished ability to express affection or experience pleasure (anhedonia). Language disturbances include the inability to find the correct word or the use of "filler" words in conversation, circumlocation (talking around the subject), an inability to express one's thoughts in a written form or comprehend the written word, and difficulties in performing everyday physical tasks such as dialing the telephone or unlocking the door. Concomitant behaviours may include a deterioration of personal hygiene, inappropriate dress, a loss of social graces, losing and misplacing items, repeated traffic accidents, irritability, stubbornness, suspiciousness, a short attention span, an inability to perform simple instructions and an obsessive attention to trivial matters.

The diagnosis of **probable Alzheimer's disease (PAD)** occurs when other possible causes of the above clinical features have been ruled out, including multi-infarct disease, Parkinson's disease, depression, alcoholic dementia, hypothyroidism, adverse drug reactions, vitamin B12 deficiency, hydrocephalus (increased CSF in the brain's ventricles), and infections such as syphilis and HIV (Rubin 2001, 742-43; Berkow 1992, 1403; Roberts 1996).

Epidemiology of dementia and AD

It is estimated that dementia affects about 50 million people worldwide, of which 60-70% of cases are diagnosed as AD. The current prevalence of dementia is more than double the estimated number of cases in 1990, making dementia among the top ten causes of death. Dementia is most commonly found in people over the age of 65, increasing in frequency with each succeeding decade, such that nearly half of people above the age of 85 suffer from some form of dementia. Although the risk of dementia increases with age, it



can occur before the age of 65, described as early onset AD. While the incidence of dementia appears increasing in low to middle-income countries, in developed nations the rate of dementia appears to be slowing. One possible reason for this is increased education, which can result in greater **cognitive reserve** (Langa et al 2017; GBD 2016).

Demographic studies show that women have a higher risk of dying from AD than men, particularly in the population older than 85. This can be explained by women experiencing greater longevity, with roughly two women for each man over the age of 85. Although AD-related brain changes tend to be more severe in men, women are more likely to express features of clinical dementia. In part this might be explained by gender-based differences in pathology, in which males demonstrate a greater decline in posterior associative regions, and females in the frontal and temporolimbic networks. The worse prognosis for women might also relate to exhibiting a higher cognitive reserve than men, and thus when women start exhibiting symptoms of AD the degree of neurodegeneration is more progressed (Malpetti et al 2017).

Pathogenesis of AD

The primary pathological feature of AD is atrophy of the cerebral cortex due to the death of billions of neurons. Upon autopsy the two primary distinguishing pathological features are the formation of plaques within the interstitial spaces *between* neurons, and the development of neurofibrillary tangles *within* neurons.

The plaques observed in AD are comprised of tiny waxy deposits of mostly amyloid- β protein and varying degrees of inorganic aluminum that accumulate within the interstitial spaces between neurons. The fact that the number of these plaques appears to correspond with the severity of dementia has made amyloid- β a therapeutic target, although these efforts have thus far remained fruitless. This includes a monoclonal antibody drug directed against amyloid- β called aducanumab, which the FDA approved as a treatment for AD in 2021, despite little evidence of its effectiveness.

Amyloid- β is cleaved from a much larger protein called amyloid precursor protein (APP) by secretase enzymes. The gradual production and accumulation of amyloid plaques has been observed to occur well before neuronal degeneration, and thus AD may begin in early adulthood. Another fragment of APP called N-APP cleaved by one of the same enzymes as amyloid- β may also have been shown to lead to neuronal damage. N-APP has been shown to bind to a neuronal receptor called death receptor 6 (DR6) that is highly expressed in regions of the brain most affected by AD, triggering apoptosis pathways (Nikolaev et al 2009). Nonetheless, there is also evidence to suggest that APP and amyloid- β are formed to protect against the accumulation of toxic amino acid residues in the brain (Castellani et al 2009).

Besides the development of plaques, the other distinguishing pathological feature of AD is the development of neurofibrillary tangles within neurons. These tangles are comprised of the twisted fibers of tau protein that normally maintain the cytoskeletal structure of neurons, as well as modulate the activities of axonal microtubules. Hyperphosphorylated tau proteins pair with other threads of tau to eventually cause the formation of tangles within neurons, causing the microtubules to disintegrate, destroying the cytoskeletal structure and neuronal transport systems, resulting in cell death (Iqbal et al 2005).

More recently a pathological role for a protein called α -synuclein has been identified in AD and dementia. Normally α -synuclein plays a role in regulating neurotransmitter release in presynaptic neurons, and modulates DNA repair processes including the repair of double-strand breaks (DSBs). Despite these functions, α -synuclein has been shown to aggregate as insoluble fibrils that are found in Parkinson's disease, dementia with Lewy bodies, and multiple system atrophy (Twohig and Nielsen 2019).

In the early stages of AD neurofibrillary tangles and plaques begin to develop in the medial temporal gyrus, which includes the hippocampus and major portions of the olfactory system. As the condition evolves it progresses upwards from the olfactory region into the cerebral cortex. With these changes there is a significant loss of neurons, nerve synapses, and a diminishment of acetylcholine synthesis, as well as norepinephrine and serotonin, needed to maintain the higher cortical centers. The marked depletion of acetylcholine has led to the theory that AD primarily targets cholinergic neurons, with the suggestion that this may be related to a deficiency of acetyl-L-carnitine, which is essential for the production of acetylcholine (Rubin 2001, 742-43; Berkow 1992, 1403; Roberts 1996; Mitchell 1996).

While much attention has focused on amyloid- β , tau protein, and α -synuclein as the pathological mechanisms of AD, why these changes occur has thus far eluded researchers. One theory suggests that these pathological changes are related to the activities of cerebrospinal fluid (CSF) and its flow through the interstitial spaces of the brain, and in particular, the olfactory conduit (Ethell 2014).

About 500 mL of CSF is circulated each day to bathe the brain and spinal cord for protection, to deliver nutrients, and to remove metabolic wastes. CSF is generated by the choroid plexus, flowing down around the cerebellum to the spinal cord and then back up the other side of the spinal cord into the subarachnoid spaces that separate the cerebrum from the skull.

While some metabolite laden CSF is absorbed by blood vessels lining the subarachnoid spaces, a significant portion is shunted through the olfactory conduit to the cribriform plate, where some of these metabolites are carried away by

the lymphatic system of the nose. With aging and other pathologies gradual ossification causes the cribriform plate to thicken, closing off natural fenestrations that impairs the removal of metabolic wastes from the CSF. The resulting backlog of toxic amino acid residues results in the formation of amyloid- β in the interstitial spaces to protect the neurons. The continuing aggregation of proteins within the olfactory regions results in the formation of plaques, and then the accumulation of tau protein resulting in the development of neurofibrillary tangles. As AD progresses, it spreads from the olfactory regions where it begins, into the hippocampus, and as the condition progress, spreads further into the cerebral cortex (Ethell 2014).

Etiology of dementia and AD

The balance of evidence suggests that cause of dementia and AD is probably multifactorial, rather than a case of single factor such as genetics or infection. Even in cases of familial prevalence, this may or may not be genetic, but rather, evidence of similar predisposing factors. Above all, dementia and AD appear to be modern diseases, resulting from the combined effect of genetic, vascular, infectious, immunological, environmental, and dietary factors (Tejada-Vera 2013; Rubin 2001, 742-43; Berkow 1992, 1403; Roberts 1996).

AD AND GENETIC FACTORS

Genetic factors are an important factor to consider in AD, particularly in the early-onset form, which is a rare and severe condition that is found in less than 10% of all people diagnosed with AD. It typically occurs between the age of 30-60, and is linked to three single-gene mutations including amyloid precursor protein (APP), presenilin 1 (PSEN1), and presenilin 2 (PSEN2). These mutations play a role in the breakdown of APP and the generation of amyloid plaques (Kelleher and Shen 2017). Another genetic risk factor in AD is a variant of the apolipoprotein E (*APOE*) gene, of which there are three types: *APOE* $\epsilon 2$, $\epsilon 3$ and $\epsilon 4$. The *APOE* $\epsilon 4$ allele variant, which is found in approximately 10-15% of the population, increases the risk for Alzheimer's and lowers the age of onset. Having one copy of $\epsilon 4$ ($\epsilon 3/\epsilon 4$) increases risk by two to four times, while having two copies ($\epsilon 4/\epsilon 4$) can increase the risk by 12 times (Michaelson 2014).

AD AND VASCULAR DISEASE

There has long been an established relationship between impaired cerebrovascular flow and the development of dementia. Cerebrovascular atherosclerosis results in the progressive thickening of vascular walls, occluding the flow of blood to the brain. In part this occlusion of the cerebral arteries in AD is facilitated by the accumulation of amyloid- β in vessel walls (Vlassenko et al 2011). Cardiovascular disease risk factors including obesity, diabetes, smoking, hypertension, dyslipidemia, and a history of stroke all significantly increase

the risk of developing dementia (Barbiellini et al 2021; Kuźma et al 2018; Whitmer et al 2008). Somewhat paradoxically, while mid-life obesity seems to increase the risk of later cognitive decline and dementia, obesity at older ages appears to be protective (Langa et al 2017).

AD AND BRAIN OXYGEN

A reduction in the levels of brain oxygen has been theorized to be a contributing factor in AD, impairing the synthesis of ATP, acetylcholine and nerve growth factor. Factors that limit brain O_2 include smoking, lung and heart disease, anesthesia, air travel, excessive sleep, poor breathing habits, a lack of exercise, migraine related brain blood vessel spasm, and cerebral atherosclerosis (Roberts 1996; Mitchell 1996). Validating this notion, recent research has shown that hyperbaric oxygen therapy improves cerebral blood flow by 16-23% in elderly patients, and alleviates vascular dysfunction and amyloid burden (Shapira et al 2021).

AD AND BRAIN GLUCOSE

Impaired glucose levels can alter brain cell function by initiating glutamate synthesis and altering the synthesis and metabolism of acetylcholine. The areas of the brain that seem to be highly vulnerable to glucose deprivation are the same regions of the brain that are affected by AD. Reactive hypoglycemia, caused by the overconsumption of refined carbohydrates, the usage of exogenous insulin in the absence of dietary precautions, calorie restriction, as well as the chronic usage of caffeine, alcohol and tobacco, are all possible cause of impaired glucose metabolism in the brain (Roberts 1996; Mitchell 1996).

AD, GUT HEALTH, AND THE BBB

Disturbances to the gut microbiota, and its resultant impact upon gut health and the brain may significantly contribute to the pathogenesis of dementia and AD. Alterations to the gut microbiome have been shown to increase gut permeability, leading to systemic inflammation, which in turn impairs the blood-brain barrier (BBB). The integrity of the blood brain barrier appears to be a key element in the pathology of dementia, and after the age of 70, nearly 60% of adults have leaky BBBs (Senatorov et al 2019). Bacterial amyloids generated in the gut may also prime the innate immune system and enhance the inflammatory response to amyloid- β and α -synuclein in the brain, promoting neuronal inflammation, injury, and death (Friedland 2015)

AD AND ORONASOPHARYNGEAL INFECTION

Given the intimate physical connection between the complex microbiome of the nose and mouth and the olfactory regions of the brain, it is perhaps not surprising that chronic oronasopharyngeal infections are linked to the pathogenesis of AD (Chung et al 2015; Maurer 2018). Research has shown that neuronal degeneration is typically accompanied by increased



concentrations of proinflammatory cytokines, which are also elevated in the mucosa of patients with chronic rhino-sinusitis (Lennard et al 2000). Likewise, one meta-analysis has shown that periodontal disease is significantly higher in patients with dementia than in subjects without cognitive decline (Maldonado et al 2018). Evidence has also shown that patients undergoing endoscopic sinus surgery for nasal polyps tend to exhibit a clinical improvement of cognitive dysfunction after treatment (Alt et al 2016).

AD AND SPIROCHETAL DISEASE

Apart from oronasopharyngeal pathogens, there is evidence that AD may be caused by systemic spirochetal diseases such as Lyme. Syphilis is a spirochetal disease that has been shown to exhibit the same amyloid- β plaques, neurofibrillary tangles, and tau protein as AD. This suggests that the accumulation of amyloid- β may be generated as part of an immune response to microbial pathogens. It is thought that spirochetes pass through the BBB and enter into the brain where they gradually multiply. Here they produce a biofilm that activates toll-like receptors (TLRs), proinflammatory cytokines (e.g. TNF- α), and the production of amyloid- β , resulting in neuronal damage (Allen 2016).

AD AND VIRAL INFECTION

There is good evidence that viruses may contribute to AD, including human herpes simplex virus (HSV-1 and -2) and the human immunodeficiency virus (HIV). With infection these pathogens can pass through the BBB to promote neuronal inflammation, leading to the production of amyloid- β and the hyperphosphorylation of tau protein (Sait et al 2021; Canet et al 2018). More recently, SARS-CoV-2 has been linked to an increased risk of dementia and AD. The SARS-CoV-2 spike protein has been shown to damage the integrity of the BBB and alter its function, allowing the virus to enter the brain through the olfactory pathways. The spike protein-binding receptor ACE2 is widely expressed in the brain, and the resulting infection promotes neuronal injury and death (Wang et al 2020).

AD AND ENVIRONMENTAL FACTORS

Exposure to traffic noise and pollution has been shown to result in a higher risk of developing dementia (Cantuaria et al 2021; Shaffer et al 2021). Likewise, there is evidence that inorganic aluminum plays a role in AD. Aluminum is known to interfere with essential enzymes needed to metabolize glucose for ATP production, causing the destruction of the blood brain barrier and the transformation of L-aspartic acid into the neurotoxic D-aspartic acid (Roberts 1996). It has been noted that fluorine enhances aluminum absorption in drinking water, putting into question the sustainability of water fluoridation program (Russ et al 2020).

AD AND NUTRITIONAL FACTORS

Dietary factors seem to be among the more important modifiable risk factors to prevent dementia and AD, although dietary research is notoriously inconsistent. A hybrid of the Mediterranean and DASH diet called the MIND diet was found to promote better memory and thinking skills as they became older, compared to controls (Dhana et al 2021). In contrast, a randomized crossover trial of a modified ketogenic diet was found to improve daily function and quality of life clinically diagnosed Alzheimer's disease patients (Phillips et al 2021). It is likely that much of the benefit of both diets relates to an avoidance of sugar, refined fats, and other processed foods, and that each approach may benefit certain subclasses of patients.

Gluten

AD is associated with celiac disease and non-celiac gluten sensitivity. A variety of mechanisms have been proposed to explain influence of gluten-related pathologies on cognitive function including nutrient deficiencies, systemic inflammation, and an impairment in serotonin synthesis by inhibiting the absorption of tryptophan (Makhlouf et al 2018).

Meat and alcohol

The risk of dementia increases in those that regularly consume processed meat such as bacon (Zhang et al 2021). Red wine is often promoted to reduce the risk of cognitive decline, but this is in contrast to research showing that even moderate to low consumption (7-14 units/wk)¹ can result in damage to the frontal lobe of the brain (Immonen et al 2020).

Essential and accessory nutrients

Essential and accessory nutrients have been shown to play an important role in AD. For example, research shows that adults who are moderately deficient in vitamin D₃ have a 53% increased risk of developing dementia, and a 125% increase in risk in the severely deficient (Littlejohns et al 2014). Accessory nutrients such as the polyphenols found in turmeric and black cherry juice exert antiinflammatory properties in the brain, and have been shown to improve verbal fluency, short-term memory, and long-term memory (Mishra and Palanivelu 2008; Kent et al 2017).

While many phytochemicals have been shown to stave off dementia, too much can be a bad thing. Some research team has shown that eating over 50 grams of chili per day enhanced cognitive decline (Shi et al 2019). Likewise, coffee consumption in excess of six cups a day was associated with a 53% increased risk of dementia and brain atrophy (Pham et al 2021).

1 A pint of beer and a glass of wine contains about 2.4 units of alcohol.

Food Additives

Certain food additives have been implicated in the development of AD, such as MSG and artificial sweeteners such as aspartame (NutraSweet®). Glutamate is well-established excitatory neurotoxin, and when given as MSG in experimental animals, promotes amyloid- β accumulation and tau phosphorylation (Fuchsberger et al 2019).

In a large prospective cohort study of artificially sweetened beverages, higher cumulative intake of artificially sweetened soft drinks were associated with an increased risk of all-cause dementia and Alzheimer's disease (Pase et al 2019). Aspartame consists of 50% phenylalanine, 40% aspartic acid and 10% methyl ester, and all three of these components when consumed in high volumes appears to be problematic. DNA sequencing has shown that the mutation causing the production of amyloid precursor protein (APP) involves the substitution of phenylalanine for valine in the transmembrane domain of APP. Likewise, excessive amounts of D-aspartate and other stereoisomers have been found in the neurofibrillar tangles of AD patients, as well as in the amyloid plaques (Roberts 1996). Upon entering the stomach the methyl ester is transformed in free methyl alcohol, which has neurotoxic properties, and in experimental animals leads to memory deficits and tau hyperphosphorylation (Yang et al 2014).

Holistic treatment of dementia and AD

There is little evidence that advanced dementia and AD can be reversed, and thus the focus of holistic interventions is primarily on prevention, and the stabilization and possible reversal of mild to moderate dementia. As dementia and AD are primarily diseases of aging, general measures are always taken to ensure proper circulation, prevent oxidative damage, and promote physical rejuvenation (e.g. rasayana, fu zheng, trophorestoration).

There is a strong association between a lack of mental and physical stimulation with the later development of dementia. Mental stimulation includes learning new skills, hobbies, socialization, and preventing anhedonia – or a failure to take enjoyment in life. Proper mental stimulation ensures a higher cognitive reserve, which provides a better ability to resist the neurodegenerative changes of aging. Physical exercise is also associated with a lower risk of developing dementia, and in patients with mild dementia exercise has been shown to reduce symptoms and improve body strength and aerobic endurance (Chen et al 2020). Some of the benefits of physical activity may be related to vitamin D₃ synthesis, but research has shown that sunlight has a number of modulatory effects immunological function that should prove beneficial in dementia.

From the perspective of Ayurveda, AD is a vata disorder and thus general and specific measures should be employed to reduce vata, including herbal medication, dietary and lifestyle practices, and topical applications. It should be noted that

the primary seat of vata in the body is the colon, and thus maintaining proper gut function and bowel health in the prevention and treatment of dementia is a preeminent concern in Ayurveda. Classically, this implies the use of medicated enemas (vasti), as well as measures such as abhyanga (massage) and nasya (nasal medications), observing the proper indications and contraindications for their use. Drawing upon the importance of bowel health in Ayurveda, it is likewise vital that proper attention is given to restoring the microbiome, removing dietary factors that alter the microbiome unfavorably and otherwise impair digestive function.

Botanicals

- cerebrovascular stimulants, e.g. rosemary (*Rosmarinus officinalis* herb), bilberry (*Vaccinium myrtillus* leaf), cayenne (*Capsicum annuum* fruit), ginger (*Zingiber officinalis* rhizome), prickly ash (*Zanthoxylum americanum* bark), hawthorn (*Crataegus monogyna* flower/fruit), dan shen (*Salvia miltiorrhiza* root), ginkgo (*Ginkgo biloba* herb), dang gui (*Angelica sinensis* root), guggulu (*Commiphora wightii* oleogum), rhodiola (*Rhodiola rosea* herb)
- nervine trophorestoratives, medhya rasayana, to exert a neuroprotective effect, e.g. mandukaparni (*Centella asiatica* herb), brahmi (*Bacopa monniera* herb), calamus (*Acorus calamus* rhizome), saffron (*Crocus sativus* stigma), ashwagandha (*Withania somnifera* root), milky oat (*Avena sativa* immature seed), reishi (*Ganoderma lucidum* fruiting body), bala (*Sida cordifolia* root), amla (*Phyllanthus emblica* fruit), xi yang shen (*Panax quinquefolius* root), wu wei zi (*Schizandra chinensis* fruit), he shou wu (*Polygonum multiflorum* root), lion's mane (*Hericium erinaceus* fruiting body), dong chong xia cao (*Cordyceps sinensis*), maitake (*Grifola frondosa* fruiting body), shilajitu
- cholagogues, to promote detoxification, reduce inflammation, promote bowel motility e.g. guduchi (*Tinospora cordifolia* stem), chai hu (*Buplerum chinense* root), turmeric (*Curcuma longa* rhizome), gentian (*Gentiana spp.* root), dandelion (*Taraxacum officinale* root), barberry (*Berberis spp.*), balmony (*Chelone glabra* root)
- M1-mimetics, to provide cholinergic stimulus in the nucleus basalis of Meynert, e.g. jaborandi (*Pilocarpus jaborandi*), 1:5, 50% etOH, 0.5-3 mL bid
- acetylcholinesterase inhibitors, to inhibit the enzymatic degradation of acetylcholine
 - calabar bean (*Physostigma venenosum* seed), 1.5:10, 50% etOH, 0.25-0.5 mL bid
 - huperzine A (derived from *Huperzia serrata*), 100-500 mcg daily

Nutritional supplements

- vitamin B complex, including methylfolate, methylcobalamin, and choline



- vitamin C, to bowel tolerance
- vitamin D₃, 2000-5000 IU daily
- EPA/DHA, 1-2 g each daily
- chelated multiminerals with trace minerals; seaweed, bone broth
 - magnesium L-threonate, 2000 mg daily
 - chromium, 200 daily
 - selenium, 200 mcg daily-bid
 - zinc citrate, 25-50 mg daily
- CoQ₁₀ (as ubiquinol), 200-500 mg daily
- alpha lipoic acid, 500-1000 mg daily
- grapeseed extract, 150 -300 mg daily
- resveratrol, 200-500 mg daily
- citrus bioflavonoids, 3-5 g daily
- phosphatidylserine, to support biosynthesis of acetylcholine, 300-600 mg daily
- L-acetylcarnitine, to support biosynthesis of acetylcholine, 500 mg tid
- probiotics, human strain, primarily *Bifidobacterium spp* (e.g. *infantis*, *longum*, *bifidum*, *breve*), 25-50 billion per day

Dietary measures

- avoid any food that promotes congestion (particularly nasal congestion) and periodontitis, e.g. flour, cream, cheese, sugar etc.
- emphasize antioxidant-rich foods, that support liver detoxification (e.g. Nrf2 activators, phase II activators), i.e. a "rainbow" of ingredients, e.g. garlic, onions, cruciferous vegetables, herbs/spices, blueberries, green tea, organ meats etc.
- emphasize foods rich in the building blocks of acetylcholine, e.g. free-range eggs, lecithin
- increase the consumption of live culture foods
- eliminate transfatty acids, hydrogenated fats, grilled/fried meat, preserved meat
- avoid sugar, artificial sweeteners, food additives, alcohol
- avoid aluminum containing foods or foods packaged in aluminum (e.g. various antacids, dolomite; aluminum cans, foil and cookware)

Topical measures

- *bahya snehana*, external oil application e.g. *abhyanga*, *shirodhara*, *shirovasti*, with medicated oils such as Balashwagandha taila, Mahanarayana taila, Bala taila, Sahacharadi taila
- *nasya chikitsa*, nasal administration, Anu taila, Shadbindu taila, Narayana taila, purana ghrita (aged ghee), vacha ghrita (calamus ghee), brahmi ghrita (bacopa ghee), 2-3 gtt in each nostril
- *matra vasti*, medicated oil enema, with Sahacharadi taila (50 mL) and *saindhava* (pinch), administered before bed

- acupuncture

Lifestyle

- education, hobbies, socializing, taking pleasure in life
- regular outdoor exercise, e.g. hiking, bicycling, paddle-boarding
- meditation, tai chi, *hatha yoga*, *pranayama*

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Phytotherapeutic Applications of Magic Mushrooms – abbreviated version

Presented by Todd Caldecott, Dip. CL.H., RH(AHG), CAP(NAMA)

WHAT ARE MAGIC MUSHROOMS?

- refers to a broad category of psychoactive fungal species derived from several different genera
- e.g. *Amanita* spp. (ibotenic acid -> muscimol), ergot (ergotamine -> lysergic acid)
- the term "magic mushroom" typically refers to fungi that contain appreciable levels of psilocybin
- over 200 species of psilocybin-containing fungi, found on every continent except Antarctica
- genera that contain psilocybin include
 - *Gymnopilus* e.g. *Gymnopilus aeruginosus* (magic blue gym)
 - *Inocybe* e.g. *Inocybe aeruginascens*
 - *Panaeolus* e.g. *Panaeolus cinctulus*
 - *Pholiotina* e.g. *Pholiotina cyanopus*
 - *Pluteus*, e.g. *Pluteus americanus*
 - *Psilocybe* e.g. *Psilocybe semilanceata* (liberty caps), *Psilocybe cyanescens* (wavy caps), *Psilocybe cubensis*, *Psilocybe azurescens*

PSILOCYBIN-CONTAINING MUSHROOMS

- all psilocybin-containing mushrooms are saprotrophs, i.e. feeds on nonliving organic matter
 - except *Inocybe* species, which are mycorrhizal, i.e. symbiotic association plant and bacteria
- primary substrates for psilocybin-containing mushrooms are wood, dung, and grass
 - found on coniferous stumps, logs, wood chips, saw dust etc e.g. *Gymnopilus aeruginosus*, *Psilocybe cyanescens*
 - found on deciduous stumps, logs, wood chips, saw dust etc. e.g. *Inocybe aeruginascens*, *Pluteus americanus*
 - coprophilous (dung-inhabiting) species, e.g. *Panaeolus cyanescens*, *Psilocybe cubensis*
 - found in grass, e.g. *Psilocybe semilanceata*, *Panaeolus cinctulus*

ETHNOMYCOLOGY OF MAGIC MUSHROOMS

- given its global distribution, some reference to psilocybin-containing mushrooms can be found in traditional art forms all over the world
- possibly the oldest representations of hallucinogenic mushrooms are found in the Sahara desert region (Libya, Chad, Egypt) from the Round Head Period (9500-7500 BCE)

- dancing shamanic figures depicted holding mushroom-shaped objects, with mushroom-shaped heads, mushrooms emanating from their bodies
- similar representations or references to psychoactive fungi are found in other traditions, at various archeological sites including Africa, Europe, East Asia, India, and the Americas
 - researchers have speculated that psychedelic substances and psychoactive fungi in particular, over millions of years of use, had a significant influence on the evolution of the human brain by modulating neurotransmitter systems (serotonin, dopamine)
 - incorporated into shamanic rituals, to facilitate access to the spiritual world, to access hidden mysteries and gain insight on survival and death, to facilitate healing
 - may have provided the basis for the development of religion and human culture (Winkelman 2019)

MYCOCHEMISTRY OF MAGIC MUSHROOMS

- magic mushrooms contain appreciable levels of a tryptamine called psilocybin (4-phosphoryloxy-N,N-dimethyltryptamine)
 - tryptamines are monoamine alkaloids that are synthesized by the decarboxylation of the amino acid tryptophan
 - tryptamines play a fundamental role in mammalian physiology as signaling compounds such as serotonin and melatonin
- thought to be produced in the fruiting bodies to ward off insect predation, causing the development of ROS-mediated lesions in the insect gut
- when ingested, psilocybin is dephosphorylated by the acidic environment of the stomach and/or intestinal alkaline phosphatase into psilocin (4-hydroxy-N,N-dimethyltryptamine), which is then absorbed into the bloodstream
 - the remaining psilocybin can be dephosphorylated by alkaline phosphatase in the kidneys or blood
 - psilocin is later excreted in the urine as psilocin-O-glucuronide
- psilocybin/psilocin content usually peaks early in fruiting body development, and is present in both the cap and stalk, but often with higher levels in the cap; mycelium alone may contain little to no psilocybin/psilocin
- psilocybin and psilocin content of wild-harvested magic mushrooms can vary widely, depending on the species and growing conditions, ranging from barely detectable to about 2% of dry weight
 - cultivated mushrooms tend to produce more consistent levels of active ingredients, but different growing mediums could result in notable differences

- psilocybin contains a highly polar phosphate group and is thus soluble in water, slightly soluble in methanol and ethanol, and insoluble in organic solvents such as chloroform and petroleum
 - sunlight promotes the oxidation of aqueous solutions of psilocybin
- with the loss of the phosphate group psilocin is non-polar, and thus less water soluble than psilocybin, and more lipid soluble and hence can be extracted with non-polar solvents
- besides psilocybin and psilocin, magic mushrooms also contain other tryptamine derivatives, as well as other pharmacologically important substances
 - baeocystin is an N-demethylated derivative of psilocybin
 - norbaeocystin is an N-demethylated derivative of baeocystin
 - aeruginascin is an N-trimethyl analogue of psilocybin
 - L-tryptophan-derived β -carbolines including harmine, harmine, and others (Blei et al 2019)
 - chitin, beta-glucans, triterpenoids, sterols, proteins, vitamins, minerals
- psilocybin/psilocin/baeocystin content of selected species
 - *Psilocybe azurescens*: 1.70% (psilocybin), 0.38% (psilocin), 0.35% (baeocystin)
 - *Psilocybe cubensis*: 0.37–1.30% (psilocybin), 0.14–0.42% (psilocin), 0.025% (baeocystin)
 - *Panaeolus cyanescens*: 0.08–0.22% (psilocybin), 0.43–0.76% (psilocin), 0.03% (baeocystin)
 - *Psilocybe semilanceata*: 0.17 to 1.96% (psilocybin), 0% (psilocin), 0.36% (baeocystin)
 - *Psilocybe stuntzii*: 0.36% (psilocybin), 0.12% (psilocin), 0.02% (baeocystin)
 - *Inocybe aeruginascens*: 0.32% (psilocybin), 0.27% (baeocystin)
 - *Gymnopilus purpuratus*: 0.23% (psilocybin), 0.27% (psilocin), 0.4% (baeocystin)
 - (Mahmood 2013; Tsujikawa et al., 2003; Gartz 1992, Christiansen et al. 1981)
- in Canada, the most commonly found wild-grown magic mushrooms include *Psilocybe azurescens*, *P. baeocystis*, *P. cyanescens*, *P. cyanofibrillosa*, *P. fimetaria*, *P. semilanceata*, *P. stuntzii*, *Gymnopilus aeruginosus*, *Panaeolus subbalteatus*
- *Psilocybe cubensis* is the most commonly mushroom grown for cultivation, with a number of different strains and hybrids, e.g. Golden Teacher, Penis Envy, Blue Meanie, B+ Cubensis

MYCOPHARMACOLOGY OF MAGIC MUSHROOMS

- psilocybin has no direct psychoactive effects and serves as a prodrug for the dephosphorylated psilocin

- psilocin is structurally similar to serotonin, and differs only by the hydroxyl group being on the 4-position rather than the 5, and dimethyl groups on the nitrogen
- once it enters the bloodstream, psilocin passes through the blood–brain barrier (due to its non-polar nature) into the brain, where it demonstrates an affinity for serotonin receptors, which depending on the receptor subtype, can act as an agonist, partial agonist, or antagonist
- psilocin also has peripheral effects outside the CNS, affecting serotonin regulated activities including vasoconstriction, intestinal motility, and immune function

FACTORS THAT INFLUENCE 5-HT RECEPTOR ACTIVITY

- beyond binding to the various 5-HT receptors and the layered effect of each, a feature called “biased agonism” results in different patterns of cellular signaling
- allosteric modulators are molecules that bind to a receptor to change its response to stimuli
 - these could include non-psychoactive components of magic mushrooms or other herbs that modulate 5-HT receptor activity

PHARMACOKINETICS OF PSILOCIN

- psilocybin is dephosphorylated into psilocin in the stomach, intestines, and liver
- the effects of psilocin typically begin within 10–40 minutes after ingestion, and last 2–6 hours depending on factors such as dose and individual
- psilocin is relatively resistant to deamination by MAO, perhaps in part due to the presence of naturally occurring β -carbolines in magic mushrooms that act as MAO inhibitors
- alcohol consumption may enhance the effects of psilocybin because acetaldehyde reacts with biogenic amines present in the body to produce MAOIs related to tetrahydroisoquinoline and -carboline; tobacco smoke also decreases the activity (van Amsterdam et al 2011)
- naturally occurring β -carbolines in magic mushrooms may also act as MAOIs

OTHER CONSTITUENTS OF MAGIC MUSHROOMS

- baeocystin is an N-demethylated derivative of psilocybin that appears to have little psychoactivity, but its dephosphorylated metabolite norpsilocin is stated to be equipotent to psilocin (Sherwood et al 2020)
- norbaeocystin is an N-demethylated derivative of baeocystin that is thought to have little psychoactivity, is rapidly broken down by monamine oxidase (Sherwood et al 2020)
- aeruginascin is an N-trimethyl analogue of psilocybin
 - contains three methyl groups on the ethanolamine moiety, while psilocybin has two, preventing it from crossing the blood-brain barrier



- structurally related to the frog skin toxin bufotenidine, which is a 5-HT₃ agonist, and causes paralysis (Sherwood et al 2020)
- particularly high in magic mushroom species grown on wood, e.g. *Inocybe aeruginascens*, *Psilocybe azurescens*, *P. cyanescens*
- consumption is associated with "wood lover paralysis", characterized by the delayed onset of temporary muscle weakness and/or paralysis

MYCOCHEMICAL SYNERGISM IN MAGIC MUSHROOMS

- while psilocybin/psilocin is thought to be the primary psychoactive component of magic mushrooms, herbalists often describe the difference between isolated constituents and whole plant extracts, sometimes referred to as the "entourage effect"
 - e.g. all of the cannabinoids and other constituents including terpenes and flavonoids that modulate the activity of THC in cannabis
- Gartz (1989) made the observation that in the cases of magic mushroom poisoning he reviewed, that dysphoria was common in patients that consumed spp. with high levels of psilocybin/psilocin (e.g. *P. semilanceata*)
 - those who consumed less potent species such as *Inocybe aeruginascens*, which also contains aeruginascin, tended to promote a euphoric effect
- Matsushima et al (2009) observed in animal model of obsessive-compulsive disorder that an extract of *P. argentipes* provided significant benefit over purified psilocybin, at lower doses
- Zhuk et al (2015) found that in an animal model used to measure the effect of serotonergic hallucinogens called the head-twitch response, that mushroom extracts were ten times more potent than pure psilocin

CLINICAL INDICATIONS FOR MAGIC MUSHROOMS

- depression
- anxiety
- circadian rhythm dysregulation
- life-threatening disorders, e.g. cancer
- addiction
- obsessive-compulsive disorder
- cluster migraine

CONTRAINDICATIONS AND CAUTIONS

- avoid with concurrent use of serotonergic drugs, e.g. SSRIs, SNRIs, SARIs, MAOIs, triptans
- any symptom of serotonin syndrome, e.g. restlessness, confusion, tachycardia, high blood pressure, shivering,

- tremors, heavy sweating, diarrhea, etc.
- psychosis
- mold and/or penicillin allergy

PREPARATIONS

- fresh or dried mushroom, whole or as powder
- decoction
 - aqueous-acetic
 - a pH of 4.0 assists with extraction

DOSAGE

- for cultivated *Psilocybe cubensis*
 - macrodose: 3-5 g on an empty stomach
 - for ego dissolution, psychological "reset"
- microdose: 50-150 mg (average ~125 mg) bid, on an empty stomach
 - for moderate to severe depression
 - first dose taken upon awakening; second dose if required by 2pm

Are Adaptogens Always the Answer?

Presented by Seraphina Capranos

As clinicians, our first task in uncovering the root of disease for our client is to provide a thorough intake. To do this honourably, it's important to put aside (to the best of our ability) our judgements and presumptions and receive the client with fresh eyes. While the written intake form filled out prior to the appointment can be useful, it doesn't embody the complexity and nuance of the whole person. Knowing we all have our own filters,

An in-depth and clear-minded intake allows for all the seemingly disparate symptoms of a client to form a pattern the clinician can work with.

Creating a relaxed yet professional environment not only allows the client to feel well met, it also means you, the practitioner can set about doing the detective work to consider where the root of the disturbance lies in the person's health concern to avoid treating superficially. So often 'adrenal fatigue' (allostatic load) is thrown around resulting in adaptogens to be over-used often in too-high dosages.

Ultimately our work as clinicians is to match a specific herb to the unique constellation of characteristics of a person.

It also allows us to avoid superficial prescribing and to see that not all fatigue is adrenal exhaustion.

DOES FATIGUE AND EXHAUSTION ALWAYS LEAD TO ADAPTOGENS?

Fatigue and depletion are catch-all terms that stem from a wide array of conditions: PCOS, diabetes, fibromyalgia, cancer, trauma and CPTSD to name just a few.

The rise in popularity of adaptogens in the overculture has led to adaptogens being over-prescribed both by practitioners, health-shop staff and because of marketing, clients themselves.

While every herb and herbal category has its merits, over-use and the one-shot cure approach can result in more problems than solve them.

Like any category, to prescribe adaptogens consider each herb as an individual, first.

WHEN NOT TO USE ADAPTOGENS:

- There are signs of exterior disorder
- Deep deficiency - the individual is unable to take up tonification
Symptoms of dryness coupled with irritability
- Insomnia
- Chronic nausea
- Overall agitation

What I see time and time again, is clients who have taken adaptogens long-term exhibit symptoms of even more fatigue, and eventually develop hot and dry patterns.

When they are over-used (large dose, prolonged) they cause the very symptoms they are intended to resolve.

If you have a patient in excess symptom pattern - do not use adaptogens, manage the excess first.

THE BEST USE OF ADAPTOGENS:

- Use in low dose; closely monitor overstimulation
- After addressing core reason of deficiency
- Short-term use or regular breaks
- Serious fatigue in cancer treatment
- Use in support of lifestyle changes, nutritional modification as needed
- To support normal activity, not super normal use (biohacking)

SOMETIMES THE BEST ADAPTOGEN IS NO HERB AT ALL:

- No herbal replacement for rest and convalescence
- Breath
- Low-stimulation
- Ensure darkness during sleep and exposure to sunshine

Always prescribe in the context of lifestyle changes, nutritional adjustments, and stress management.

ADAPTOGENS

- *Aralia elate* (Aralia)
- *Asparagus racemosus* (Shatavari)
- *Bupleurum chinense* (Chai Hu)
- *Cordyceps sinensis* (Cordyceps)
- *Oplopanax horridus* (Devil's Club)
- *Eleutherococcus senticosus* (Eleuthero)
- *Panax quinquefolius* (Ginseng)
- *Polygonum multiflorum* (He Shou Wu)
- *Ocimum tenuiflorum* (Holy Basil)
- *Urtica dioica* (Nettle)
- *Gandoderma lucid* (Reishi)
- *Rhaponticum carthamoides* (Rhaponticum)
- *Rhodiola rosea* (Arctic Rose)
- *Serenoa repens* (Saw Palmetto)
- *Schisandra chinensis* (Schisandra)
- *Withania somnifera* (Ashwagandha)

NERVINES / TROPHORESTORATIVES:

- *Avena sativa* (Oat seed)
- *Bacopa monniera* (Brahmi)
- *Centella asiatica* (Gotu kola)
- *Tilia europea* (Linden)
- *Passiflora incarnata* (Passionflower)
- *Scutallaria lateriflora* (Skullcap)
- *Stachys betonica* (Wood Betony)
- *Verbena spp.* (Vervain)
- *Borago off.* (Borage)

Herbal Medicine for the Modern Traveler

Presented by Bevin Clare - Herbalist ~ Nutritionist ~ Professor



Ready to Roam courses

Facebook: Ready to Roam with Bevin Clare and

Spice Apothecary with Bevin

Instagram: Spice.Herb.Wander
www.bevinclare.com

Creating optional health for travel

- Stress management



- Refreshing sleep
- Optimal digestion
- Ready immune system

Packing a wellness kit

- Basic first aid supplies
- Activated charcoal
- An essential oil or two (lavender and tea tree?)
- Throat spray
- Your favorite gut blend
- Muslin bags
- All purpose salve
- Diaper cream (natural)
- Herbs and spices (especially calendula, echinacea & ginger)
- Optional:
 - An eye cup

In the days before you go...

- Focus on plenty of sleep
- Get organized to avoid last minute stress
- Gobble the garlic
- Tend yourself as you know best
- Avoid excess alcohol or caffeine
- Drink plenty of herbal teas and nourishing broths

Commonly available herbal medicines:

- Easy to find herbs as teas / capsules:
 - Peppermint
 - Chamomile
 - Turmeric
 - Ginger
 - Black tea
- "Grocery store" materia medica:
 - Garlic
 - Ginger
 - Onion
 - Cinnamon
 - Parsley
 - Thyme, sage and rosemary
 - Oatmeal
 - Witch hazel
 - Epsom salt

Staying well top tips...

- Eat as well as you can (but have fun)
- Count your fruits, veggies, quality fats and protein
- Get enough sleep
- Hydrate constantly
- Have a sense of humor
- Be very thoughtful about hygiene
- Give yourself a break

Stress, anxiety, best laid plans...

- Nervines
- Deep sleep
- Alcohol?
- Openness, humor, adventure

Little tummy troubles

- Eating simply
- Soothing the gut tissues
- Chamomile, ginger, and peppermint
- Black tea
- Morning break time
- Stone fruits and oats

Big tummy troubles: Vomiting

- Hydration at all cost
- Soothing gut tissues
- Special foods: Bananas, porridge, congee
- Ginger and peppermint
- Garlic when healed

Big tummy troubles: Diarrhea

- Hydration at all cost
- Soothing gut tissues
- Special foods: porridge, congee, broth
- Astringents: Blackberry, black tea

Skin stuff

- Keeping clean...but not too clean
- Sunlight and air
- Cornstarch or clay with EO's or any powdered spices
- Black tea
- Diaper cream

Bumps and bruises

- Rest to get better
- Protein and nourishment
- Turmeric, ginger, gelatin
- Stability and care

Respiratory stuff

- Garlic, garlic, garlic...
- EO steam in very hot shower room
- Gargle with common herbs
- Throat spray
- Portable humidifier?

Down for the count...

- Echinacea, garlic, ginger
- Heat it up
- Keep it down
- Rest, rest, rest
- Know when to get help
- Fever relief for sleep

Down there uh ohs

- UTI's – Garlic (orally), cranberry, any herbal teas
- Mild infections – Garlic externally, hygiene, OTC meds, vinegar, yogurt
- Calendula
- Sooth as well as support
- Diaper cream

Bites and boo-boos

- Spray, permethrin, long sleeves
- Topical salve
- Diaper cream
- Compresses and baths

Jetlag

- Exposure to light
- Stay up and make it work
- Adjust your eating first
- Watch alcohol and caffeine carefully
- Licorice

Ask for help

- Phone back home
- Embassies when traveling
- Travel health insurance?
- Pharmacies
- A friend who can help

Enjoy your wanderings!

3 Eclectic Formulas and Michael Moore Walk Into a Bar

Presented by Jasmyn Clift and Maryann Abbs

Neutralizing Cordial:

Contains: Rheum palmatum (turkey rhubarb), Cinnamomum, Mahonia root or Hydrastis root, Spirit of Peppermint, Potassium carbonate, Simple Syrup Alcohol

USES:

- herbal harm reduction
- When we practice client centred care, and we meet clients where they are at, we notice that lots of people don't eat as well as we would like them to. There are many reasons for this, including poverty, being too busy, being unmotivated about food, not knowing how, not having a proper kitchen or any kitchen, living in residential care or assisted living, etc.
- Neutralizing Cordial is one of your allies when you ate something that really didn't serve you, and you feel bloated

- or gaseous, have the burps or flatulence
- amphoteric: when you have diarrhea it seems to dry it up if you use smaller doses/ when you have constipation it will allow you to have more regular bowel movements, at 1/2 to 1 1/2 tsp up to 4 times daily, esp with meals.
- add it to teas like chamomile tea or yarrow tea depending what you need the effect to be.
- when you have gas pains or cramping, it often works, but you need a big dose in this case: 2-3 teaspoons in a little tea.
- seems to help upper and lower Gi issues: from nausea all the way down to hemorrhoids
- in nausea, take with ginger tea.
- chronic conditions like irritable bowel syndrome usually respond to it as well, in which case you probably need to take it for a long time. The eclectics considered the perfect G.I. tonic.
- some people with more serious conditions like Crohn's disease or Ulcerative Colitis will find it works but it will usually have to be part of a more specialized herbal regime. But again, it's harm reduction.
- acid reflux: sometimes works, sometimes not. Usually combined it with a demulcent like slippery elm powder (if you have sustainable source). People with GERD need to mix it into some warm water and not just drink it straight from the bottle.
- folks with GERD do best to take it at bedtime, in warm water.
- may also help with: pain after bowel movements, heaviness in lower abdomen
- some people find it more effective if taken before meals

CONTRAINDICATIONS:

- the original recipe includes Hydrastis (Goldenseal). Most people have replaced that with Mahonia (Oregon Grape root)
- may interact with some medications because of possible CYP 450 implications. In theory the Oregon Grape root could inhibit or increase the absorption of common drugs such as birth control pills.
- may worsen GERD in some people
- do not use in pregnancy

Glyconda:

- possibly the oldest eclectic formula made
- was very popular in its day for all of the same conditions as Neutralizing Cordial, however it contains less alcohol, and is not as strong.
- all the same herbs but more glycerine; more palatable for children
- not OK for alcoholics in recovery, since it does still contain some alcohol.
- quote from Dr. John Fearn who was a doctor in Oakland



California: (thanks to Henriette Kress' Herbal Page) "Glyconda is an ideal summer remedy in this California land of fruits and sunshine visitors will find it a precious remedy to overcome stomach and intestinal troubles, arising from the too free use of our luscious fruits. Every tourist should carry Glyconda as the most valuable emergency remedy."

- Eclectic doctors carried around a big bottle of Glyconda in their bag, and used it as a syrup base into which more strong medicines was mixed: usually at half or more of the formula.
- I do not mix very dose specific/alkaloid-rich herbs like Lobelia into Glyconda because of the tannins and the possibility of precipitation
- For clients who take their remedies straight from the bottle and don't dilute them into water, Glyconda can make it easier to take their herbs.

CONTRAINDICATIONS:

- same as Neutralizing Cordial

Hayden's Viburnum Compound:

Contains: Viburnum prunifolium and opulus, Trillium or Gossypium, Dioscorea villosa, Scutellaria, Syzygium (new name for Eugenia, cloves), Cinnamomum, Orange peel (organic), Simple Syrup

USES:

- we substitute Gossypium (organic cotton root bark) for the Trillium/ Beth Root. Trillium is hard to come by on the West Coast because of clearcut logging which has destroyed its habitat
- only use organic cotton root bark as non-organic is one of the most heavily pesticide sprayed of all crops
- the recipe is available online at "Traditions not Trademarks" website: <http://originalfirecider.blogspot.com/2016/03/haydens-viburnum-compound.html>
- very popular pharmacy standard medicine for menstrual cramps and irregularities. Delicious.
- I was taught that you can't use it for serious conditions such as endometriosis and that it's only for occasional bad cramps rather than monthly ones. But I haven't found that to be true, and I have lots of people who use it every month for what are used to be a horrible menstrual cycle full of pain.
- Use as needed, a few times a month, for example if on the first day of your period if it is very full of clots and really painful
- often helps with dysmenorrhea but not amenorrhea
- Mittelschmerz, where personally I combine it with Ocotillo/ Fouqueria
- It really seems to need hot water to work. Taking it straight from the bottle is much less effective than when you take it in warm water. And, often you need frequent doses, every hour,

until you knock back the cramping.

- May also help cramping pain in people with colitis

Dosage: 1/2 to 1 tsp in warm water; up to 4 times per day

CONTRAINDICATIONS:

- not safe for pregnancy
- not traditionally used for long-term or tonic use
- may worsen pain or cause rebound pain for some people

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5 Elements Model for Encouraging Resiliency - Helping to Prepare for the Great Turning & Changing Global Landscapes

Presented by Christine Dennis RH, MNIMH, MSc (Herb. Med.)

Order in the complex homeodynamic system that Mother Earth is, is becoming ever more disordered. We are in a rapidly changing and increasingly polarized world. This polarization is being reflected on all levels including the state of human consciousness. It seems we are living in a bipolar world, both inside ourselves and outside around us. Within ourselves, our immune system functioning is polarized - cancer vs autoimmunity; our emotional health has become polarized - depression vs anxiety, or going back and forth between these, thus bipolar; and our mental health has become polarized - fear vs hubris. Around us we are seeing an increased gap between the rich and the poor; land soil depletion with nutrient run off leading to massive ocean plankton blooms; changing weather systems (west is burning/east is flooding); and even the shifting of the cycling of 4 seasons with longer autumns and spring seasons.

Risk to all Life is already happening. "Hits" are happening all around the world, with many areas experiencing multiple "hits" in short succession - earth quakes/soil depletion, floods/droughts, hurricanes&tornados/weather domes, fires/heat waves, global pandemics.

Resiliency is the ability to bounce back and recover from or after a difficulty, stressor, challenge or "hit". It is a life long process and can be both learned and built through our behaviours, thoughts and actions. Resiliency is a result of adaptation. But adaptation is complex. In an ecosystem,

every individual and species has many roles in that ecosystem simultaneously. Adaptation means learning to cope with changes in all the roles. Thus adaptation means multidimensional changes that need to occur simultaneously. Conformity in any dimension means expenditure of energy that is then no longer available for other adaptations - migration behavior, hormone changes, etc. Any organism that is able to cope with, survive and reproduce in its environment represents an adaptation. The purpose of adaptation is to bring about a return to balanced homeodynamic state. Since adaptation is a complex interdependent, multidimensional, ongoing process, and it often requires time for adaptation to happen, what if we do not have much time, never mind many generations to adapt? One would think that we had better get on to it now!

However, the human psyche is the biggest hurdle to resiliency & adaptation! Some of the cons with regards to the human psyche are - 1/ The brain has not evolved to recognize a 5 or 10 year threat; 2/ our DNA is imprinted with the concerns and threats of our ancestors which are different from today's threats - warmth, starvation; 3/ we have biases such as being short sighted and believing that the present is more important than the future, thus lack care for future generations; we have the belief that someone else will take care of the problem so we do not need to; and we have a sunk-cost fallacy so beliefs around having invested in something so need to stick with it for that reason alone. 4/ "Enemy narrative" thus negative forces against us and this idea that we are powerless. But we caused this crisis and know how to control it, yet we divert the blame away from ourselves. The bottom line - our psyche is keeping us from doing what we need to do!

And some of the pros with regards to the human psyche are - 20,000 to 30,000 years ago the earth went through a massive climate change. It happened so quickly that the time to adapt was not there. This information has been encoded into our DNA memory. Additionally, the psyche and brain also has evolved and has the ability to overcome our biases, to recall past events, plan, anticipate and innovate. We can re-awaken the adaptation and resiliency back into our consciousness. Therefore our psyche is what is REALLY needed at this time!

Thus the human psyche can be both an asset and liability as both instinctive and learning behaviors are important. Due to the complexity of the psyche, it would be helpful if we had good leadership to navigate this complex process.

Role of Herbalists/Nature Enthusiasts - Our teachers are the plants, and our class room is nature. And Mother Nature teaches us for us to share with others. We are already in a conscious relationship with Her and we are in service to Her. So our role could be that as leaders. As practitioners, we are in a position to be able to help encourage patients to make changes in themselves and in their lives, and really importantly, changes that are in right relationship with Mother Nature. We can point people toward following Her and lead by example as we follow Mother Nature's lead.

How has nature been responding and adapting? When it comes to animals, they can move, adapt or die as this is their reality when faced with change. But moving is not always easy - new competition for territory, food, interacting with foreign species. So we can still look to them for some teaching examples - Bears and squirrels store food; tawny owls now have more brown plumage due to lack of snow; salmon migrated earlier due to warming waters; and animals are moving to higher elevation due to rising sea.

When following Mother Nature's lead with regards to plants & trees, vegetation adaptation is actually more sophisticated than animal adaptation because plants can't migrate. They either manage and survive, or they don't. Some examples of how plants do adapt: normally, plants compete for root space with strangers, but, when researchers put four closely related Great Lakes sea-rocket plants (*Cakile edentula*) in the same pot, the plants restrained their usual competitive behaviors and shared resources. In the tundra, plants are dark in color to absorb solar heat, they grow in clumps to protect each other from wind and cold, and some have dish like flowers that follow the sun for more heat. In the desert, plants store their own water, put down deeper roots, and have slower growth which requires less energy. Plants are flowering earlier in drought areas to take advantage of wet periods. Thyme in France has evolved in response to fewer extreme cold events producing more pungent oils to deter herbivores at the cost of becoming less cold-hardy.

Following Mother Nature's lead when it comes to trees and storm crisis: trees let go, toss their leaves; they do not die but scars are left; they are flexible and bend; trees in forests grow to same height so as to not stand out; trees entwine roots to create a network for sharing resources; when trees snap off, they sprout new growth along the fallen tree, relying on the fallen tree initially but then sets down its own roots; and the hardest trees remain becoming harder and impacted less each time thus they take shorter time to fully recover.

Trees can also tell the future. In Japan's hinoki tree study, a long-lived cypress gave a 2,600 year-long record of rainfall patterns, humidity in the atmosphere, and has help to piece together how weather shapes society. They found that environmental crises rearranged social structures - floods moved people; people quickly adjust to favorable conditions and there are periods when focus on adaptation is not needed; when the good times end, it is abrupt, leaving little to no time to adapt, and devastation ensues. Change triggers stress which drives social upheaval.

So how do we turn things around? Perhaps it is by following nature's lead as we do not just need adaptation, but DEEP adaptation is required. Given the 4 billion years of intelligence and experience, Mother Nature can help guide us and the 5 elements came to my mind as a tool that can be used to do a complete audit on oneself and life. Using it as a personal template, it could be helpful to more easily figure out where



adaptation is needed, and where the gaps are and for determining where and what are the resources, assets and skills that one has and can be shared with others, or at least where to find these resources.

5 Elements Model For Resiliency -

- Earth – food and physical body
- Water – hydration and emotions and feelings
- Air – shelter and mental/thinking
- Fire – fire and work/passions/intuition
- Ether – community and Mind

Additionally, these 5 elements can be applied to various areas of our lives, thus it could be used to cover both micro and macro aspects of our lives: from our self, in our homes, around the home, and out into our community.

The following are some examples of how each element can be applied to various areas of our life. Keeping in mind that one always starts with our selves, so then Self can be the foundation that we then build upon.

Self - Always start here with your self! Foundation to build upon.

Earth	<ul style="list-style-type: none"> • Get well now! Get grounded now! Get in nature!! • Awaken deep adaptation from DNA memory- ie hormesis -from fasting (autophagy), burst exercises • Increase physical resiliency - Wild foods adapted; develop temperature tolerance; shower and shampoo less – Self sacrifices! Exercise – walking, gardening, yoga, Vagus nerve toning
Water	<ul style="list-style-type: none"> • Extracellular matrix hydration • Emotional adaptability and transformation - letting go, grieving, forgiveness; toxic positivity • Emotional resiliency - Self regulation of emotions; look for own biases • Self love, compassion and acceptance; Self humility.
Air	<ul style="list-style-type: none"> • thinking & mental adaptability - flexibility in opinions & beliefs, let go of extremes in our thinking, seek to understand other perspectives; Open mindedness, Self discipline; Self awareness • Sleep – turning off thinking and keeping it off!! • May we be a safe harbor for ourselves, from our selves and our own thinking and thoughts

Self - Always start here with your self! Foundation to build upon.

Fire	<ul style="list-style-type: none"> • Heart's passion, our work/passion and compassionate living; innovation and anticipation • Love, creativity, joy, beauty is still essential! • Heart/brain coherence - same wave length • breathing through the heart practicing gratitude, love, appreciation • Taking responsibility for the energy we put out into the world and around us
Ether	<ul style="list-style-type: none"> • Step out of our little selves, and be Self lead, and Self as witness • Mindfulness - master yourself in the unmasterable storm – Self Rule- take responsibility for yourself • Prayer and Meditation; Ceremony; trust the bigger process that we are all a part of • responsible & intentional sacred psychedelics as teachers exploration - creativity and new innovations

In Home

Earth	<ul style="list-style-type: none"> • Food security – indoor gardening, fermenting, canning, drying, sprouting and micro-greens!!Worm bins and composting; Year round ethical foraging; Storing – barrel buried, root cellar; food sharing • Medicine making; local plants • Reducing our footprint – recycling and repairing and sharing - everything! Take up sewing!
Water	<ul style="list-style-type: none"> • Water collection, saving and storing - jugs, cisterns, barrels; Emergency water stash • Water purification systems - Berkey- store up extra filters; Bush craft skills to clean wild water
Air	<ul style="list-style-type: none"> • Shelter resiliency - natural lighting, ventilation, indoor plants • Anticipate heavy rains and high winds - clean eaves troughs, longer down spout hoses, backwater valves, direct slope away from house, window well covers , hurricane straps on roof trusses - cordage • Practical, flexible and adaptable clothing, linens, etc
Fire	<ul style="list-style-type: none"> • Heating and energy – wood stove and furnace; insulation, doors & windows programs; Solar hot water • Fire starting skills • Cooking methods – solar cooker and dehydrator
Ether	<ul style="list-style-type: none"> • ceremony, smudging, altars - Mother Earth, Ancestors

Around Home

Earth	<ul style="list-style-type: none"> • Soil - Foundation of Life - Build soil; Compost! Worms!! • Planting, seed collecting and saving, seed sharing • Bees and pollinators – plant flowers; Mosquitos - Purple Martin houses • Plant trees! Green roofs/Garden roof tops- cool the air • Learn "bush craft" skills
Water	<ul style="list-style-type: none"> • ponds and streams – beauty and enjoyment, wildlife; stock with fish • rain collection and storage on home and/or out buildings
Air	<ul style="list-style-type: none"> • Air cleaning trees and plants; trees for wind breaks/shelter, for shade, to sequester carbon from air • Greenhouse, polyhouse, framed beds
Fire	<ul style="list-style-type: none"> • Sunlight and shade; ideally have areas for both • Fire pit, outdoor summer kitchen • Medicinal and culinary herb gardens close by
Ether	<ul style="list-style-type: none"> • Planting and Harvesting - offerings, ceremony, celebration

Community

Earth	<ul style="list-style-type: none"> • Find your tribe or community; start one if need be! Ex. "In answer to the C.A.L.L. – Community Assets, Learning and Living" • Foundation – caring, support, sharing, self responsibility
Water	<ul style="list-style-type: none"> • Common beliefs • Sense of belonging to something greater • Peaceful anarchy (?) and Self Rule brought in to the community
Air	<ul style="list-style-type: none"> • Common goals – vision and mission statements can be helpful here • Group learning, sharing, mirroring, motivation and reflection • Flexibility in your opinions and ideas and thinking
Fire	<ul style="list-style-type: none"> • Shared responsibility, action, ideas and advocacy • Group projects – community gardens – they provide so much more than just food, creating a sense of connection to nature and other people; barn building
Ether	<ul style="list-style-type: none"> • Focus on interconnectedness; Shift from "I" to "We" - may no one be left behind • Music, creativity, joy and beauty together – potlucks, barn dances, ceremony and celebrations

Finally, what is THE biggest and main determinant or control of the changes after the storms hit in nature? It is Light. As herbalists and nature enthusiasts, by being prepared as much as possible now, we can be better able to help out and be that guiding and shining light, and be an example for and to help ignite others.

The great turning and change is not just coming, it is upon us now already. What are you waiting for? Time to turn our little selves around, step down, so that our true Self can emerge and guide us. Get grounded and get well - NOW! Then get your Self out there, help guide and lead others in turning themselves around, all the while trusting that there may very well be a bigger picture and a bigger process that is going on.

("Simple Gifts" - traditional song played and song by Yo-Yo Ma & Alison Krauss)

A Conscious Menopause Journey

Presented by Christine Dennis RH, MNIMH, MSc(Herb.Med.)

Menopause Journey - When one's monthly cycling with the moon comes to an end. But it is a process - the length of the journey varies and is influenced by one's lifestyle, genetics, and one's physical, emotional and mental states; the cosmos.

- Physical level - is the period when one's endocrine system and physical body transitions from being fertile to no longer fertile.
- Emotional level - tumultuous times from hormonal fluctuations - stormy boat ride - with extended periods of depression and /or anxiety
- Mental levels - brain fog, decreased confidence in ability to think and focus
- Spiritual level - it is another type of birth - a new phase of being and living

This journey is also known as "The Change" which actually means EVERYTHING CHANGES. And when I realized that, it was then that I realized that my 20 + yrs in clinical practice was actually all about helping to prepare me for my own journey. The following is what I learned from my patients as well as my own journey through the storm.

Perimenopause - The period leading up to the final pause and is most challenging time on the journey, and when most are reaching out for help. Peri, meaning "around" or "about" the meno meaning "month" which is a whole moon cycle, and it is coming to a "pause" or about to stop; A phase of the Moon. In other words - Luna meaning moon and the suffix -acy meaning "a state/phase of" = Lunacy!! Pretty accurate! It is a shift from being high on reproductive and baby hormones -estrogen and progesterone, to now coming down, or a withdrawal and a sobering up part of the life process.



And if a person is in a same sex relationship, both of you may be doing the journey at the same time. Thus both may be experiencing the lunacy, in the true meaning of the word, at the same time, which could be a very challenging time for the relationship.

And if a person is in a relationship with a male, their partner could also be experiencing their own challenges as they too may be experiencing a sort of andropause. For males, testosterone peaks in their early 20's but it is then a long slow decline, until the end, much like perimenopause so both of you are going into a significant decline at the same time. And just as women are ruled by and cycle with the moon, men are ruled by and cycle with the sun - and their cycle may also be getting messed up now as well. Their daily small but mighty FSH and Luteinizing hormone surges may be in decline or disappearing all together. And if they are not conscious, it can turn into a mid life crisis for them as they regress back to the teenager years looking for the testosterone boosting feel they got from corvettes or mustang convertibles, or by looking for someone with a youthful dose of hormones again.

As it turns out, perimenopause is indeed like teenage years all over again as well: we rant against the injustices of life; we don't want to get out of bed some days; we love carbs but now our indulgences all goes to the belly; our language regresses and we are back to using "fuck" ... a whole lot; we are rebelling again as we do what we want, when we want, how we want, why we want to, and even if our more rational parts of our self know we are breaking all social norms, and we don't give a fuck; now we are the moody dark storm cloud scaring everyone away as you approach; and we can be dramatic with all the embellishments.

Over the years I came to question if there was a way to help find order in the chaos feeling there had to be a calmer and more balanced way to navigate this lunacy. I considered that signs and symptoms were forms of communications, inviting us to enter into dialogue with them, and not just shut them down or over riding them.

I turned to psychoneuroendocrinology which is the clinical study of hormone fluctuations and how they affect human behaviour. Disorders include PMS, postpartum depression, and postpartum psychosis. (Hum, what about perimenopause lunacy dis-order!?) So the brain has hormone receptor sites, and throughout perimenopause the hormones are in decline, and the brain then starts to drop the receptor sites for them. This results in the brain going through the hormone "withdrawal" - brain fog, depression, mood swings, surges, anxiety. So the various hormones do indeed affect ones consciousness.

Consciousness of Hormones - some of the key players on this journey

Estrogen - "The Perfect Mother" hormone

- Alert and aware properties - helps you be focused and tuned into the kids, which helps you to keep them alive every day
- Super woman - clean house, school homework all done, home made meals; helps you keep your poop in a group
- Yang - active, outward, assertive

Progesterone - "The Good Mother" hormone

- Protective properties - it literally creates a veil that protects the fetus from the mother's immune system
- Self sacrificing woman - doing for others; makes you be a nice person - gentle and patient;
- Yin - rest, inward, receptive

Testosterone - "Get out there and confront the world" hormone

- Persistent!!! Energetic, courageous, responsible and focused; helps one ignore "no, not now" and rejections; focuses on doing and working with a primal drive to "fight or fuck";
- Hunter Gatherer - puts food on the table and keeps the community going and reproducing

Follicle Stimulating Hormone - "Go, Go, Go! Let's Do This!!" Hormone

- Rallies the troops - Stimulates!! Pushes the system and causes surges
- Interestingly, FSH is regulated by Inhibin but it is in decline and stops now; no longer regulating FSH, so it increases. FSH's normal inverse relationship with estrogen changes and both estrogen and FSH can be high at the same time = intense!!

Luteinizing Hormone - "Hey baby ...how you doin?" hormone

- Makes our partners look good...reeeeal good! Intention is "Get egg out there and fertilized!"
- Surges, and can be unpredictable - showing up as erotic dreams, or the surge wakes you up in the middle of the night because you're having an orgasm. And your partner senses it in us, as they become our "personal pheromones detection system" - so if you are lost, pay attention to your partner and their behaviour around us.

Menopause Map - 5 stages on the menopause journey:

Early Perimeno-pause - "The Change" is hardly perceptible, so slow in onset, with barely a distant rumble. Slow gradual decline of progesterone from about 35 yr old. Still confident and breathing normally. There is the odd shorter cycle, odd heavy bleed, a glum day here or there, an extra pound or two at Christmas that you can't shake. In the 40's might start to get a fleeting sense that things are shifting, but denial is a beautiful thing.

Mid Perimeno-pause - "The Change" is now picking up, like the gusts of wind at the front of a storm - things are starting to change!! Can no longer deny it; but thats ok, you got this one. "Just how bad can it get, right?", pulling in and holding

your breath back a bit as you ask your self. More moody and emotional - losing tolerance and little testier than normal; odd depressing thought with periods of anxiousness. Less predicability - increase in shortened cycles, bleeding can be getting heavier at times with floods even, breasts can be sore. Loosing your zest for life, motivation and sex drive is in decline with periods of surges and interest. Losing hair on your head but gaining it on your face. Jowls start sagging, developing arm wing flaps, losing the butt but gaining a belly, skin and tissues are becoming drier, can't laugh too hard or you will pee.

Final Death Throes - "The Change" - it is hurricane time - intense fight to hang on; full on labour breathing- in and out -hanging on and letting go cycle. Now suffering serious withdrawal symptoms, and are being left to our own devise with much less organized and no nice person hormones now. Becoming afraid of our own heart, with the palpitations, and maybe with panicked labour breathing + panic attacks. Nights are no longer a safe harbour - sleep is often disrupted - full moon lunatics, final death throes howls included as everything is brought up to the surface for review. It's Chiron Return time. We can't keep our poop in a group any more. Like the lack lustre orgasms now, we question, "What? Was that it?!! Did I already pinnacle in life? Is it all down hill from here?" *The regrets!* - "what have I done? Have I wasted my life?" as you look back on your life - life review time - a mid life crisis! Betrayal! - by your mentor, spiritual family, the world and the company you work for, your body, by your kids, and hopefully not by your partner!!; Gin!! Et tu, Brute?! Gin shifts from being a panty remover to truth serum. Grieving all the different losses or what could have beens.

Meno-pause - The surrender. The Death - finally giving up the resistance and fight; Hot flashes can still fire up erratically, like the tail end of lightening after the storm. Acceptance time - yes, that time of your life is done; it was what it was, and here I am now, which may, or may not be where I wanted to be or how I wanted it to be - but it is what it is now. The quiet still early morning but before the dawn, and the clouds are clearing and stars are peaking through. The space after the final breath just letting go, and then there is a waiting - a "Void of the moon" phase - cosmic time out and rest period; A kin to the "land of the bardos" - the place between death and rebirth - having let everything go, waiting to see what, if anything, will be resurrected again. Grief shifts to focusing on finding out who you are now.

Post Meno-pause - We have made it through the storm and the dark of the night. Dawning of light on the horizon, and the sun finally rises up, as if out of the ashes, and with it the sense of a brand new day forms from within ourselves, albeit, we are a little worn out, beaten up and tattered now. That "what's next?" feel; Bated breath - an anticipation, feeling like you are taking in something new and fresh and there is an aliveness to it. A sense of relief like a waking up from long night of tumultuous dreaming; contracted to expanded consciousness - through your body and out into the world around you. Start

to live being true to You now - the You without veil of the intoxicating hormones. Relieved of the burden imposed on to humanity to reproduce - to be productive. Perceive the world in a new way - Hum, is climate change Mother Earth in the Death Throes of Her journey asking "Humans?! Did I do it right?!"; There is no more doing, rather it is a Being. A shift from knowledge to wisdom.

A Living, Conscious Menopause Map - But of course it is not linear straight path from start to the finish line! It is like quantum physics - some days we are everywhere at once! Moving forward and backwards, blown left and then right, drowning one minute and high the next. We can wander off or somehow get lost losing the path completely. The path can be pulled out from under us, erased or blown up on us, and the STRUGGLE to find the path, a path, any path, again can feel insurmountable. Plus, the path has a living consciousness, a consciousness that is effected by both internal and external forces, thus changes on a whim, and without taking you into account. So how to better tune in on your exact location? Where is the "You are Here" arrow? Especially if now there is no path or place to stand on now?

Conscious Navigation - from the "I" of the storm. With mindfulness practices we can witness who's up, so which hormone consciousness is up. By engaging with and entering into dialogue with signs and symptoms, with curiosity, we can also look for the driving forces and meaning from deep within the psyche.

Therapeutic Strategy "Nots"

- Not trying to stimulate ovulation
- Not treating same dose nor regularly around the clock
- Not covering up symptoms
- Not expecting herbs to do all the work

Therapeutic Strategy "Dos"

- Focus on staying in the "I" of the storm and softening the landing
- Present moment Self / "I" awareness - Body & mind awareness - who's up? - hormones, neurotransmitters, traumas, old beliefs; Dreams
- Present moment external awareness - triggers - food, alcohol, stress, blood sugar swings, people; Connection with partner - "personal pheromones detection system"
- Conscious engagement with plant allies to help YOU do YOUR work

Meet The Medicine - Smaller doses - better for the environment. Gentle nudging doses to balance, not over compensate. Turn inward, invite, and then welcome the medicine in; we then watch and witness it, perhaps guide it, to where or how you may need its support



Key Plant Allies

- *Verbena urticifolia/hastata* - sister plants - you are ok and good enough
- *Acetea racemosa* - stuck in "did I do it right?"
- *Leonarus cardiaca* - courage to let go and trust your own heart
- *Salvia officinallis* - surrender to the death of what was and accept what will be
- *Cannabis indica* - held and comforted in the Holy Mother's arms
- *Psilocybe cubensis* - this is the real you; the whole "I"

The Art and Science of Blending with Essential Oils

Presented by Colleen Emery, CL.H, RHT (BCHA)

Clinical Herbalist & Aromatherapist
Educator, Mentor and Medicine Maker
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Creating an essential oil blend can be a deeply creative process that involves both instinct and the keen understanding of basic categories of aroma and phytochemistry. Working from an olfactory framework of scent description alongside therapeutic applications, the art of creating a customized blend of aromatic molecules can provide opportunity for healing for all involved.

Essential Oils are volatile, very concentrated aromatic essences of various herbs that are uniquely complex in their composition and phytochemical make up. Volatile components are produced in the secondary metabolite pathway and are the result of the plant's interaction in its environment during the growing cycle. All of the plant's experience will influence the dynamic expression of volatiles. Everything from the climate, altitude and terrain to the attitude of the harvester and/or farmer interacting with the plant will provoke the balance of phytochemicals produced within the plant and then extracted, primarily through distillation methods.

The art of combining single essential oil extracts together takes an overview of not only the dynamic phytochemical principles, but the note and aroma of the oil itself. When completed thoughtfully the outcome is a combination or synergy that has all the components of each unique essential oil 'holding hands' in a molecular matrix that can address all levels of wellness in a holistic fashion. When essential oils interact with one another the resultant outcome often supersedes the effects that cannot be reduced to any one individual essential oil.

Breaking down this complex art into easy to organize steps offers the alchemist an opportunity to have structure to grow their art of aromatic blending.

WHAT ARE THE ESSENTIAL OIL CHARACTERISTICS?

COLOUR

The two most common shades seen in essential oils are clear like water and pale green-yellow. Other shades include various greens, deep amber, olive brown and cobalt blue but they are less common.

The colour descriptor is mainly used as a method of identification of an oil.

AROMA/ODOR DESCRIPTION

Developing the olfaction system to discern chemistry through scent should be one of every aromatherapist's goals. The work of Steffen Arctander helps to develop a language of the most useful categorization and description spectrum of essential oil odours. His book *Perfume and Flavor Materials of Natural Origin* equates specific aromas to the chemistry of the oils with well-developed descriptive language and is one of the most revered works in the industry for perfumery description.

A SIMPLE CATEGORIZATION SYSTEM

Floral

Floral scents remind us of the flowers from which the oil is extracted. They tend to be sweet and bright with an intense energy.

Lavender, Neroli, Jasmine

Woody

Woody or Woody essential oils evoke the scent of freshly cut trees. Some scents are labeled green, but woody would be described as being brown.

Pine, Cedar

Earthy

Earthy scents that are reminiscent of being deep in a forest and the scent that the forest floor emits.

Oakmoss, Vetiver, Patchouli

Herbaceous

Herbaceous essential oils are green, earthy scents from the herbs they are extracted.

Marjoram, Rosemary, Basil

Minty

Minty essential oils are typically in the mint family. They tend to be clearing and cooling.

Peppermint, Spearmint

Camphoraceous

Essential oils with camphoraceous aromas are clear, clean and purifying. They are known to be excellent for the respiratory system

Eucalyptus, Cajuput, Tea Tree

Spicy

Spicy essential oils are typically exotic, warm and quite aromatic
Nutmeg, Clove, Cinnamon

Citrus

Citrus essential oils are known to be fresh and slightly sour,
typical of the fruit rinds from which they are extracted
Orange, Lemon, Lime

PERSISTENCE

Also referred to as tenacity, this indicates how long the aroma
remains either in the atmosphere or on the skin post dilution.
Generally graded as excellent (long lasting) to Moderate to
Poor persistence.

Persistence is considered when you wish for the aroma to
remain longer term on the skin or in the environment.

VISCOSITY

Most essential oils are as mobile (thick) as water, others range
from being slighter thicker or less mobile to very viscous,
syrupey and thick.

Viscosity is to be considered when measuring oils via drops.
A highly viscous or less mobile essential oil will take up more
volume in a drop hence being heavier if weighing essential oils.

A thin, more mobile, less viscous oil will weigh less and take up
less space in volume.

NOTE

Essential oils are described through perfumery terms in that
they are categorized as a Head/Top, Heart/Mid, Root/Base
notes.

Head/Top

Described as fresh, usually pungent or lemony in odor with
a higher degree of volatility and a light, sharp, penetrating
character. They are the melody, the most noted and are
generally the first to aromatize and volatilize. They lure us in to
notice a formula.

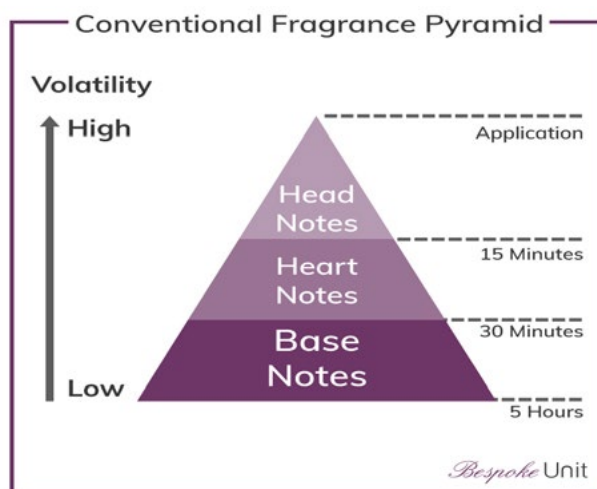
Heart/Mid

Typically sweet, floral, green, amber or spicy. Modestly volatile,
having a balancing, harmonizing character. The Heart or Mid
note helps the base/root and head/top hold hands and
connect, having the distinct ability to smooth the entire formula
to unison.

Root/Base

Described as woody, rooty, mossy, has poor volatility, tending
to be less mobile and offers a formula/blend a depth, volume,
glow and richness and presence. The aroma/odor of a root/
base note is often the last to remain after the more mobile,
volatile notes have dissipated. This note has the energy of

rooting, grounding and stabilizing, often coming from the roots
of the plant, the resins or bark of the tree.



Top Note: accounts for 5 – 20% of the blend

Noisy
Attention seeking
Showy
Can be hot or cold but never warm
The highly volatile oils
Examples: florals and citruses such as lemon, rose, neroli,
grapefruit

Middle Note: accounts for 60% of the blend

Soft, warm, round and mellow
Warming, tonic in energy
Examples are marjoram, ho leaf, lavender, cajeput

Base Note: accounts for 5 – 20% of the blend

Least volatile
Perfumists call the base the fixative
Viscous, thick
Connects and roots the top note to hold it steady
Examples include patchouli, cedarwood, vetiver, frankincense

THINK OF THIS LIKE A SYMPHONY:

The top notes create your first impression but although they
have caught your attention it's the middle notes that carry the
melody. The base notes hold the rhythm together, carry the
real feeling of the piece and actually stay with you the longest.

Another analogy to blending is the base note is what grounds
us, the mid note harmonizes, and the top note connects us to
our spirituality.

- Root oils are thick and viscous, they ground us.
- Trunk oils are good for stress and help us stand tall.
- Leaf or needle oils help us breath.
- Flower oils are higher notes, good for skin care, perfume,



enhance our sexuality.

- Seed or fruit oils aid our digestive systems.

ACTIONS OF AN ESSENTIAL OIL

In addition to the aroma quality, the note and aesthetic action of the essential oil, the therapeutic action can be considered when creating a holistic combination essential oil blend. Here are some examples:

Anti-inflammatory

Clove Bud, Ginger, Helichrysum, Orange, Roman Chamomile, Turmeric

Antiseptic / Antimicrobial

Cinnamon, Citronella, Eucalyptus, Lemon, Rosemary, Tea Tree

Balancing / Amphoteric

Blue Tansy, Cedarwood, Juniper Berry, Marjoram, Patchouli, Fir, Spruce, Ylang Ylang

Calming / Nervine

Bergamot, Frankincense, Geranium, Lavender, Lemon, Neroli, Ylang Ylang

Carminative

Basil, Cardamon, Cinnamon, Fennel, Ginger

Alterative / Detoxify

Cypress, Lemon, Fennel, Juniper Berry, Palmarosa, Patchouli, Peppermint

Stimulating / Lymphatic / Circulatory

Eucalyptus, Ginger, Grapefruit, Lemon, Lime, Peppermint, Rosemary, Sweet Orange

Uplifting / Antidepressant

Bergamot, Frankincense, Lavender, Lime, Citrus oils, Rosemary, Ylang Ylang

CONSIDERATIONS BEFORE YOU BEGIN BLENDING;

1. Have a purpose to your blend. What do you want to create? What is the therapeutic need of your blend? How will you administer/apply this blend?
2. Have all your supplies handy and ready including a clean vessel to blend into, a notepad and pen to write down your formula, a calculator to do the needed math.
3. Remember when you are blending you are combining very concentrated, complex constituents that may or may not want to 'join hands' in your blend. It is very important to consider the concept of synergy and create your blend using 4 – 6 oils only, capturing the formula within 20 – 25 drops.
4. Do not touch the top of your mother bottle of essential oil with your finger, this will introduce your natural oils and encourage rancidity.
5. Be sure the proper cap arrives back on its proper bottle. Introducing the wrong cap introduces different

constituents to the essential oil in the bottle.

6. When blending into a carrier oil avoid dropping essential oils on top of the oil as they will not combine properly. Add your oil blend to the bottom of the bottle, add a bit of the carrier and swirl, once mixed add the remaining carrier.
7. On average there are 30 drops from a standard essential oil dropper top in 1 ml depending on viscosity.

BLENDING MATH 101

Keep track of your creations by using either a weighing method or counting drop method. Both methods have pros and cons to how they function. The weighing method can be tricky and requires a special scale able to read very light weights. A certain amount of oil may be lost in the weighing beaker.

The number of drops that constitutes a milliliter will change based on the viscosity of the essential oil. A thin, citrus oil will take more drops to create a ml while a thick, root oil will take less drops.

DROP MEASUREMENT:

30 drops = 1 ml

10 ml = 300 drops (10 multiplied by 30)

12 ml = 360 drops (12 X 30)

5% dilution in a 12 ml bottle

$12 \times .05 = .6$ of a ml = 18 drops (.6 X 30)

5% dilution in a 50 ml bottle

$50 \times .05 = 2.5$ ml or 75 drops (2.5 X 30)

PRINCIPLE PRECAUTION CHECKLIST

- Only use essential oils that are 100% pure and unadulterated
- Educate yourself before you purchase and have a standard to how you access essential oils
- Do not pour undiluted essential oils into water, emulsify them first in alcohol, oil, milk or a commercial dispersant. Essential oils are hydrophobic; they do not mix with water.
- Never use neat essential oils on sensitive mucous membrane area
- In the case of accidental ingestion, ingest a vegetable oil
- In case of oils getting into the eye area, mop up with a carrier oil, not water.
- Do not use essential oils internally for children under six.
- Be cautious when using essential oils with those who have respiratory concerns such as asthma. This includes diffusion within their surroundings.
- Carry out a skin test prior to using essential oils for aromatic rubs or massage
- Avoid use of certain essential oils in pregnancy and/or breastfeeding

- Display extreme caution with use of phenolic containing oils. Diluted application only.
- In renal and/or hepatic diseases avoid the use of essential oils internally.
- Do not use photosensitive essential oils prior to sun exposure
- Display caution with essential oils contain neurotoxin ketones. Avoid use with those with epilepsy.
- Never put essential oils in the ear canal.
- Avoid use of essential oils with cats and other small animals.
- Use with dogs and larger animals should be done with extreme caution and diluted to administer with the guidance of an education professional.

RECOMMENDED READING

- Essentials Oils: Handbook for Aromatherapy Practice, Jennifer Peace Rhind Pub. Singing Dragon
- Listening to Scent; Jennifer Peace Rhind Pub: Singing Dragon
- Aromatherapeutic Blending, Jennifer Peace Rhind: Singing Dragon
- Aromatic Medicine, Volume I, Kathy Skipper/Patrice de Bonnevel Pub. Editions des Savoirs Naturels
- Aromatica: A Clinical Guide to Essential Oil Therapeutics. Volume 1: Principles and Profiles Peter Holmes Pub. Singing Dragon
- Aromatica: A Clinical Guide to Essential Oil Therapeutics. Volume 2: Principles and Profiles Peter Holmes Pub. Singing Dragon
- Perfume and Flavor Materials of Natural Origin, Steffen Arctander, Pub Author/Reprinted by Pathfinder books for Rutgers State University in Newark USA

The colonial roots of Western herbal medicine in Australia and consequences for practice.

Presented by Sue Evans PhD FNHAA University of Tasmania

1. HAWTHORN *Crataegus spp*



2. COLONIZATION OF AUSTRALIA AS BRITISH PENAL SETTLEMENT

- First Fleet
 - 26 January 1788
 - 11 ships
 - 1400 people



3. AUSTRALIA'S FLORA

- Golden wattle *Acacia pycnantha* (upr l)
- Bottlebrush *Callistemon spp.* (lwr l)
- Flowering gum *Corymbia ficifolia* (r)



4. JOSEPH BANKS, BOTANIST

- equipping an arkload of plants (Malouf 1998)
- Included: sage, chamomile, hyssop, fennel, garlic, thyme and borage (Frost 1993)



5. FIRST DAYS OF THE COLONY

- Denis Consideen and John White - surgeons and botanists on the First Fleet (Collins 2011; White 1790)
- Native sarsaparilla *Smilax glycyphylla* (left)
- Eucalyptus *Eucalyptus spp* (right)



6. SELF RELIANCE AND SELF HELP IN THE ABSENCE OF MEDICAL CARE

(See Pearn 2012)



7. 19TH CENTURY GOLD RUSH

Herbalists of Hill End NSW

Anna Madden (Kennedy) (Cornwall) - Elizabeth Evans (Madden) b 1842 - Hannah Wheeler (Evans) b 1869 - Gilbert Wheeler b 1892 - Paul Wheeler b 1925 (Kirby 1990)



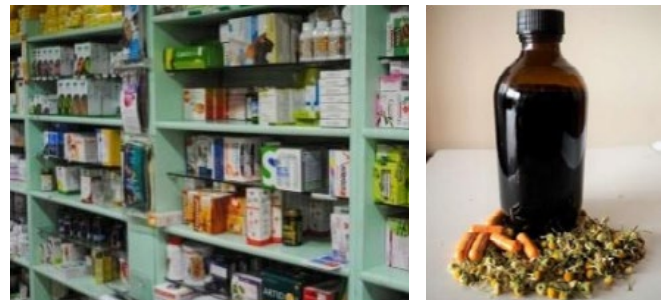
Varley's General Store, Hill End

8. 19TH AND 20TH CENTURIES NATURALISED AND CULTIVATED PLANTS

l-r: Mullein *Verbascum thapsis*; Californian poppy *Eschscholzia californica*; Centary *Erythraea centaurium*; Ribwort *Plantago lanceolata*.



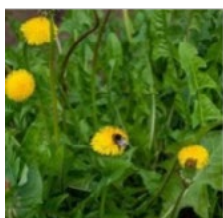
9. HERBAL PRODUCTS IN THE 21ST CENTURY



10. WILL WE “BECOME LOCAL”?

Why - sustainability & supply chains

What - bush foods - & medicines? Intellectual property issues



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- White, J. (1790). Journal of a Voyage to New South Wales. Retrieved from <https://gutenberg.net.au/ebooks03/0301531h.html>

Photos

- Slide 2 Thanks to Jamie Morrison on Unsplash
- Slide 3. Golden wattle & bottlebrush thanks to Trevar Skillicorn & Arwen Jayne on Unsplash;
- Slide 4 A portrait of Joseph Banks by Joshua Reynolds (circa

1771-1773).(National Portrait Gallery) <https://www.abc.net.au/news/2020-04-28/joseph-banks-traveller-botanist-agent-of-the-british-empire/12188954>

- Slide 5 Native sarsaparilla - [https://commons.wikimedia.org/wiki/File:Smilax_glyciphylla_berries_\(3412543341\).jpg](https://commons.wikimedia.org/wiki/File:Smilax_glyciphylla_berries_(3412543341).jpg)
- Eucalyptus https://www.flickr.com/photos/_mia/45918446795
- Slide 7. <https://picryl.com/media/varleys-general-store-hill-end-nsw-australia-4cf415>
- Slide 10 <https://www.flickr.com/photos/botanic-gardens-sydney/4168231756/>; Bush foods thanks to Marjan Blan on Unsplash.
- All other photos by the Sue Evans.

Nourishing the Blood: A traditional look at postpartum nourishment & healing

Presented by Tiffany Freeman

Blood deficiency: what it can look like in the postpartum period?

- postpartum depression
- chest/ breast/ or body feeding difficulties
- anxiety and/or panic attacks
- migraines
- fatigue and exhaustion
- blood pressure issues, heart palpitations
- insomnia
- bleeding issues

The Importance of blood

- blood holds
- it houses and creates the Qi of our bodies, our life force energy
- supports our good health
- contribute to the functioning of our body systems as a whole
- carries with it the body fluids that nourish our tissues and bones
- important component to the production of milk

The Relationship between the blood, fluids and kidney essence

- kidney essence supports what we would consider our youthful appearance & vitality
- deficiencies of that essence can cause:
 - premature greying of the hair
 - loss of hair
 - weakness of the bones
 - lower body weakness & pain
 - infertility



- lowered or absent libido
- hearing difficulties
- memory issues
- difficulties with vision

Importance of blood through a traditional medicine lens:

- 1 out of 3 people suffer anemia after childbirth
- average uncomplicated vaginal birth it is expected to lose at least 500ml (half a quart) of blood within the first 24 hours
- an uncomplicated c-section it is expected to lose 1000ml (1 quart), that's 1/10th of the amount of blood we have in our body.
- blood and qi are needed to have good production of milk; Qi helps produce the blood and blood helps produce the breastmilk.
- 1/4 of North American peoples are iron deficient during their pregnancy

Anemia: Potential causes

- restrictive eating, eating disorders, genetic predispositions, restrictive diets (in some cases of veganism or vegetarianism)
- nutrient deficiencies such as deficiencies in iron, folate or vitamin B12, and deficiencies in nutrients such as vitamin C, B12, B6 and folic acid which play a role in the absorption of iron
- health conditions such as celiac disease, atrophic gastritis, hernia's, ulcers, IBS and other malabsorption conditions will contribute or be a causative factor of anemia prior to and during pregnancy.

Contributing factors to blood loss:

- cesarean birth
- tearing: along the area of incisions, cervical or vaginal tearing, or knocking of surrounding tissues
- uterus atony: loss of tone of the uterine musculature from prolonged labour
- precipitous labour, labour that lasts shorter than 3 hrs
- lack of sleep
- prolonged lochia
- coldness: surgical instruments, cold and/or icy drinks and cold food

Blood deficiency can also look like:

- tiredness and fatigue
- paleness of the skin & pale lips
- dizziness
- blurred vision
- insomnia
- depression & anxiety
- numbness & tingling of the extremities as the limbs heat palpitations, blood pressure issues

Herbs & foods to help with blood and support the postpartum:

- Bone broths

- mushroom broths
- seaweed broths
- traditional foods
- cocoa - *theobroma cacao*
- Placenta - *hominis placenta*
- Reishi - *ganoderma lucidum*
- Angelica - *angelica sinensis*
- Rehmannia - *rehmannia glutinosa*
- Red Raspberry leaf - *rubus idaeus*
- Nettle - *urtica dioica*
- Dandelion - *taraxacum officinale*
- Hawthorn fruit - *crataegus pinnatifida*
- Motherwort - *leonorus cardiaca*
- Yarrow - *achillea millefolium*

Sitz bath / peri-soak herbs used:

- calendula - *calendula officinalis*
- yarrow - *achillea millefolium*
- red willow - *Cornus sericea*
- *artemesia spp*
- chickweed - *Stellaria media*
- *echinacea spp*
- rose - *Rosa spp*

Blood Building Syrup

Inspired & Adapted by Raeanne Maddison of Postpartum Healing Lodge

- 1 cup da zao - *ziziphus jujuba*
- 1 cup gou qi zi - *lycium barbarum* or *lycium chinense*
- 1 cup shan zha - *crataegus pinnatifida*
- 1 cup Medjool dates (pitted) - *phoenix dactylifera*
- 2 slices Shu di huang - *rehmannia glutinosa*
- 1 cup black strap molasses
- 6 cups water

Herbs for Resilience

Presented by Monica Giacomini

With a wildflower bouquet of thanks to all my wonderful educators who generously share their knowledge and wisdom so that we can thrive in these challenging times! These are my favourite herbalist-authors, and their websites, that I encourage you to visit often!





EDWARDS, GAIL FAITH

- www.blessedmaineherbs.com
- *Opening Our Wild Hearts To The Healing Herbs; A Florilegia For The Wild Heart Tribe*, Bertha Canterbury Rosina Press, 2019
If you're going to splurge on one book, this would be the one with its abundance of information about herbs that we can easily grow in our cooler climate, with a ton of transforming ideas. I also love the history about herbs and our Indigenous people, and tales of Gail's Italian herb lineage. A true gem!

GLADSTAR, ROSEMARY

- www.sagemountain.com
- *Herbs for Longevity & Well-Being* and *Herbs for Reducing Stress and Anxiety*, Storey Books, VT. 1999
- *Family Herbal*, Storey Books, Mass. 2001

WEED, SUSUN

- www.susunweed.com ... subscribe to The Wise Woman e-zine for monthly herb tips
- *Healing Wise...The Wise Woman Way*, Ash Tree Publishing, 1989
- *Abundantly WELL! The Wise Woman Way*, Ash Tree Publishing, 2019

ROSALEE DE LA FORET

- www.herbalremediesadvice.org
- *Alchemy of Herbs: Transform Everyday Ingredients into Foods & Remedies that Heal*, Hay House, 2017)

Clinical Use of Psychedelics in Psychotherapy

Presented by Mark Haden

Further reading on this topic is available in Mark's book: **Manual for Psychedelic Guides** available though the marketplace

Henriette's Favorite Books: a tour through a bibliophile heaven

Presented by Henriette Kress, herbalist, Helsinki

hetta@henriettes-herb.com • www.henriettes-herb.com

I like books. You can tell, if you go to my website: you'll find quite a few of them there. There'd be way (way) more of them if I had more time. Or if I were quintuplets. Or something.

MY FIRST BOOKS ...

My very first herb books were in **German**. German books have information, pictures, and recipes on the same page. This is very helpful, and is why my own books have much the same layout.

(Shown: Schön und gesund durch heilende Kräuter, by Helga und Hans E. Laux. <https://www.buchfreund.de/de/suche/ergebnisse?isbn=9783440053188>)

Then came **Swedish** books, one of the best was "Nyttiga växter", by Edmund Launert, Roger Gorringer and Anne Davies.

<https://www.bokborsen.se/?qt=nyttiga+v%C3%A4xter>

The English title is "Edible and Medicinal Plants of Britain and Northern Europe" https://www.ebay.com/sch/i.html?&_nkw=Edible+and+Medicinal+Plants+of+Britain+launert

I bought a few **Russian** books, as their traditions differ a bit from west European ways to use herbs:

Лекарственные Растения СССР («Medicinal plants of the SSSR»). <https://www.ozon.ru/product/lekarstvennye-rasteniya-sssr-3269275/>

BOOKS BY MY TEACHERS

Michael Moore's books are very informative, a lot of fun, and still very current, nevermind that they're a bit older:

Medicinal Plants of the Mountain West, 2003, 368 pages <https://www.powells.com/book/medicinal-plants-of-the-mountain-west-re-9780890134542>

Medicinal Plants of the Desert and Canyon West, 1989, 368 pages <https://www.powells.com/book/medicinal-plants-of-the-desert-canyon-west-9780890131824>

Medicinal Plants of the Pacific West, 2011, 359 pages <https://www.powells.com/book/medicinal-plants-of-the-pacific-west-9780890135396>

About Michael Moore:

<https://www.herbalgram.org/resources/herbalgram/issues/82/table-of-contents/article3405/>

Such a cool guy. I miss him.

Paul Bergner's books are very sound. He's written a series of four books:

The Healing power of Garlic <https://www.betterworldbooks.com/product/detail/Healing-Power-of-Garlic---The-Enlightened-Person-s-Guide-to-Nature-s-Most-Versatile-Medicinal-Plant-9780761500988>

The Healing power of Ginseng and the tonic herbs (about tonics and Chinese medicine) <https://www.betterworldbooks.com>



[com/product/detail/Healing-Power-of-Ginseng-and-the-Tonic-Herbs---The-Enlightened-Person-s-Guide-9780761504726](https://www.betterworldbooks.com/product/detail/Healing-Power-of-Ginseng-and-the-Tonic-Herbs---The-Enlightened-Person-s-Guide-9780761504726)

The Healing power of Echinacea and Goldenseal (about the immune system) <https://www.betterworldbooks.com/product/detail/Healing-Power-of-Echinacea-and-Goldenseal-and-Other-Immune-System-Herbs-9780761508090>

The Healing power of Minerals, special Nutrients and Trace Elements. <https://www.betterworldbooks.com/product/detail/Healing-Power-of-Minerals--Special-Nutrients--and-Trace-Elements-9780761510215>

The books by **Christopher Hedley** and **Non Shaw** (a husband and wife team) are very practical.

Herbal Remedies: <https://www.ebay.co.uk/p/1026391240>

They have a few others. For medicine makers, their "Of making and taking" is a great work. <https://www.aeonbooks.co.uk/product/a-herbal-book-of-making-and-taking/94121/>

About Christopher (and Non):

<https://www.herbalgram.org/resources/herbalgram/issues/119/table-of-contents/hg119-omit-hedley/>

Such a gentle lovely loving man.

BOOKS FOR HERBALISTS

Jill Stansbury, Herbal formularies for health professionals (I just googled the title; it's widely available in local bookstores, even in Finland, so you can google too, and grab these books, without lining the pockets of billionaires.)

<https://utpdistribution.com/9781603587075/herbal-formularies-for-health-professionals-volume-1/>
Digestion and Elimination, including the Gastrointestinal System, Liver and Gallbladder, Urinary System, and the Skin

<https://utpdistribution.com/9781603587983/herbal-formularies-for-health-professionals-volume-2/>
Circulation and Respiration, including the Cardiovascular, Peripheral Vascular, Pulmonary, and Respiratory Systems

<https://utpdistribution.com/9781603588553/herbal-formularies-for-health-professionals-volume-3/>
Endocrinology, including the Adrenal and Thyroid Systems, Metabolic Endocrinology, and the Reproductive Systems

<https://utpdistribution.com/9781603588560/herbal-formularies-for-health-professionals-volume-4/>
Neurology, Psychiatry, and Pain Management, including Cognitive and Neurologic Conditions and Emotional Conditions

<https://utpdistribution.com/9781603588577/herbal-formularies-for-health-professionals-volume-5/> Immunology,

Orthopedics, and Otolaryngology, including Allergies, the Immune System, the Musculoskeletal System, and the Eyes, Ears, Nose, Mouth, and Throat

Bartram's encyclopedia of herbal medicine <https://blackwells.co.uk/bookshop/product/9781854875860>

Just a very good quick reference, when your client states, out of the blue, "oh yes, and I have this diagnosis too".

Eric Yarnell: Natural Approach to Urology

<https://www.aeonbooks.co.uk/product/natural-approach-to-urology-2nd-edition/94280/>

He has a companion volume, Natural Approach to Prostate Conditions:

<https://www.aeonbooks.co.uk/product/natural-approach-to-prostate-conditions-2nd-edition/94279/>

and well, he has lots of other books: <https://www.aeonbooks.co.uk/author/eric-yarnell/23128/>

Meticulous texts, great books for the practitioner. I really (truly!) would have these as bedside reading, but they are way too big and heavy for it. I just love how he tears various researched myths to bits.

Graeme Toby, Alison Denham, Margaret Whitelegg

The Western Herbal Tradition, <https://uk.bookshop.org/books?keywords=9781848193062>

Tracing herbal information through the ages, with humoral theory thrown in as well. Cool book!

Forgotten from the Video but you do need it:

Gazmed Skanderi, Herbal Vade Mecum. This has short blurbs with the most important uses for 800 herbs, and sane cautions. Sane cautions are so rare that you should get it for that alone. It's not a picture book, not for people who don't know their herbs yet -- except for those sane cautions. My rule of thumb is, if Skanderi doesn't caution against something, the caution is bogus. (it's a good idea to doublecheck, but he's right so often -- he's just very good.)

<https://firestorm.coop/books/68-herbal-vade-mecum.html>

Try used book stores ... although I think that nobody in their right mind would sell their copy.

MY BOOKS ARE AVAILABLE HERE:

Practical Herbs 1

<https://www.henriettes-herb.com/articles/pract-herbs.html>

Practical Herbs 2

<https://www.henriettes-herb.com/articles/pract-herbs2.html>
(these books are now with Aeon Books, a UK publisher. Cool people!)

Practical Herb Cards

<https://www.henriettes-herb.com/articles/herbcards.html>

Practical Herb Cards 2

<https://www.henriettes-herb.com/articles/herbcards2.html>
(the cards are based off Pokemon trading cards, because it's a great layout.)

OTHER HERB CARDS:

Katja Swift, Ryn Midura: <https://commonwealthherbs.com/>
made a small run of herb cards; ask them about availability.

Siolo Thompson. Hedgewitch Botanical Oracle <https://www.llewellyn.com/product.php?ean=9780738757537>

Maia Toll, The Herbiary <https://herbiary.com/the-illustrated-herbiary/>

MY WEBSITE, HENRIETTE'S HERBAL:

<https://www.henriettes-herb.com/>

The old books:

<https://www.henriettes-herb.com/eclectic/index.html>

They include these, but well, go nuts on the others too:

King's, 1898 - <https://www.henriettes-herb.com/eclectic/kings/index.html>

Elizabeth Blackwell, A Curious Herbal, 1737 - <https://www.henriettes-herb.com/eclectic/blackwell/index.html>

Madaus, Lehrbuch der Biologischen Heilmittel, 1938 - <https://www.henriettes-herb.com/eclectic/madaus/index.html>

Some Boreal Herbs I Like and Love - Rose, nettle seed, cinquefoils and more.

Presented by Henriette Kress, herbalist, Helsinki

There are so many plants ... so very many I love to admire, smell, taste, touch, use ... here's just a few, with tips and/or uses that are perhaps a bit lesser known.

STINGING NETTLE SEED AND LEAF

Urtica dioica and similar species of *Urtica*

Picking: leather gloves, long sleeves, scissors or knife. They sting even though they're dried.

Leaf, I pick 30-40 cm (1' or so) tall nettles and cut them in bundles with a sharp knife on a cutting board. After that they go into the dehydrator.

Seed, I cut beneath the lowermost seed dangles and put the lot into a biiiig multiuse shopping bag. When that's full ... and I've jammed in even more ... I cut the stems to fit into the dehydrator and fill that to the brim.

Dried seed, first garble (remove everything off the stems), then rub all the leaf and seeds through a sieve. Good thing you did, you think, when you see a few snailshells in the sieve.



Don't do it on a hot summer day, as the itchy hairs will whirl up as dust while you work and settle on your sweaty face.

Itching.

Once it's all sieved, all the hairs are broken and it no longer stings. Pour into a jar, label, store in a dark cupboard until you need it.

Uses: nettle leaf, allergies, general boggiiness, and to give phlegmatics off their butts, that is, stop procrastinating and actually do all that they know needs doing.

Nettle seed, bone tiredness, burnout. Dose, 1/2-1 teaspoon a day on food. If that is too much (ie. they get jittery), lower the dose to a pinch a day. If that doesn't work (ie. they don't stop being jittery), raise the dose



to 1 tablespoon a day. It takes months for their system to be rebuilt, so pick lots. Luckily nettles are extremely abundant, and the seeds are a joy to pick. Except for the sting of course, but we all need a little defense sometimes.

Nettle seed, kidney problems all the way up to kidney failure. Too late for nettle seeds after they've started dialysis, and best to start it a few months before. Timing of the seed for kidney problems, take it 3x/day until the creatinine levels no longer go down, pause for a week or two, start nettle seed again until the creatinine levels no longer go down. Continue until dialysis is no longer on the agenda.

ROSE PETALS AND HIPS (FRUCTUSCYNOSBATI)

Rosa rugosa and similar scented-flowery species of rose



Picking: great fun, but do check inside the flowers before you do. Sometimes there's somebody already there, and you'll both be equally surprised. If that somebody is a bumblebee, no worries. If it's a wasp, it's an ouch. Keep Echinacea tincture + rescue remedy with you, that takes care of wasp stings within 10 minutes (use both, both internally and externally).



Any species will do, as long as it's scented, and as long as it's not sprayed with pesticides.

Let it sit overnight in your picking basket (or bag or whatever), that way it ferments and gets stronger. In the morning, spread out to dry or fill your dehydrator.

Don't bother picking the whole flowers: the green bit takes ages to dry, slowing down the drying of the petals, and it's pretty much an apple-analog. We have apples for that.

Rosehips, they suffer from those itchy hairs around the seeds. I've tried several times, and ended up with itch beneath the fingernails for a week several times. It's really cheap to buy, so these days I send off for a kg or two at a time.

If you're adventurous though, I'm told (but haven't tried) that you need to slice larger rosehips (like the rugosa ones in the photo) into four pieces, dry them in a dehydrator or spread out, and then shake them vigorously in a metal jar. That'll shake out the seeds (I'm told) along with the hairs, and you'll end up with rosehips as low-itch as the ones you buy in bulk.



Uses: the petals will make you love yourself more, which helps loving others. It's for people who don't dare show their soft side, for fear of being taken advantage of. It also gives courage: it's velvet for the inside and thorns for the outside.

Give it to anybody who years later still beats themselves up for irrelevant things they did or didn't do. Everybody else has forgotten it, but they still flinch every time they see the person they think they offended ... rose petal. Love yourself more.

The rose hip is great for joint problems, especially if taken along with nettle. Capsules work a treat, but a tea is nice too.

Also, a lot of vitamin C, but in fact we do have lots of other plant parts rich in vitamin C. Cabbage, all kinds of berries, and so on. So don't tell them to take rosehips for their vitamin C needs, tell them to eat more vegetables.

DANDELION ROOT, LEAF AND FLOWER

Taraxacum officinale and similar species of dandelion



Picking: there's an abundance of dandelion flowers in early summer. In Helsinki, that's at the end of May.

I pick lots and dry it. Part of it goes into infused oils too.



My garden runs to the wild side, and my neighbor is a bit fussier than I am. So when he tells me that the front garden is a bit unkempt, I grab my shovel and pull up all and any dandelions in flower that I have. I grow chicory, so it's not a good idea to pull dandelions that aren't in flower. If I'd do that, I'd end up without chicory. (Chicory is not wild here.)

Remove all brown leaves, wash the roots but don't be too fussy about it, we need some dirt.

Then slice it all up on a chopping board and dehydrate it. Stem, leaf, root, all work much the same way so go into the jar as one jumble. The flowers pretty things up in there.



Uses: the flower brings joy. I've used it for that since I did a few flower essence sessions with students, and they said that the flower essence brings joy. It does ... so it's great as a tea (or why not tincture, but I don't tincture all that much) for people who've lost their joy.

As an infused oil, it relaxes muscles that are stiff from negative emotions. Frustration, anger, what have you. Rub some dandelion flower oil or salve on and it goes all soft and warm.

You get a great salve by combining dandelion flowers, calendula flowers and goldenrod flowers. Call it your DYC salve (D'mn Yellow Compositae) and give it to people with stiff or achy muscles. Works a treat. Arnica would do well in that too, but that's endangered where it grows ... so wherever people would use Arnica, I use St. John's wort.

The greens and root are good for people who have a compromised liver. Hepatitis A B C D ..., people who work with solvents (aromatherapists, painters, car mechanics, furniture makers, alcoholics, what have you). Give them the tea to drink

(3 cups a day) or the root to chew on (three pieces the size of a matchstick a day) and their liver-related problems clear up. Also tell them to drink more water. And make daily salads from the leaves, that'll get them out into nature too.

Dandelion is quite diuretic. Don't drink it in the evening, else you'll have to go pee in the night. The French call it pisenlit, pee in bed. That's a possibility too, if you drink it in the evening.

CINQUEFOILS, AERIAL PARTS

Potentilla species and *Dasiphora fruticosa*



Picking: I pick the ground-cover plants in late summer, when they have large leaves; the annual plants in high summer, when they're in full flower, and shrubby cinquefoil (nowadays *Dasiphora fruticosa*, no longer *Potentilla fruticosa*) when the neighbor says, "oh, that's looking a tad ragged don't you think?"



Of these, shrubby cinquefoil is easiest to process. Just dry everything on the twigs, and then pull off the leaves and flowers. The others get cut into pieces on my chopping board, then dried in a dehydrator or spread on old bits of bedsheets on a layer of newspapers.



Uses: It's my main stress removing herb. You stop caring what others think about you, which means that you stop doing things just because others think you should.

(You will continue to do things which you think are important.)

After a week or three of regular use, you find you suddenly have so much time! Because you've learned to say "no", you've learned to lean back and let others volunteer for various things.

I have had quite a few clients come in with stress symptoms, get rid of their stresses and stressors with just cinquefoil in their tea blends. All species work.

Use them as teas, in salads, or add them to your green powder. It doesn't matter how you use it, as long as you use a little every day. If you want the effects, that is.

Green powder

- at least five liters of dried, mild, edible herbs
- a blender

Powder, pour through a sieve. Divide into smaller batches and add different spices to each. Jar, label "green powder, lovage leaf", "green powder, thyme", "green powder, chili and ginger", sort of thing.

Use in or on foods, like meatballs, bread dough, pizza crust, soups, stews ...

Green powder is a great way to use up the rest of last year's *Epilobium*, nettles and similar mild edible medicinal herbs, when the new harvest is in and you don't have enough empty jars for it all.

RECIPES

Herbal oil, waterbath

Pour 500 ml (a pint) oil into a metal bowl, add as much dried or fresh cut-up herb as you can fit without there being mounds of dry herb above or large pockets of just oil.



Set the bowl onto a pan with about 5 cm (2") of water. Bring the water to a boil, then simmer on lowish heat for about 1.5 hours.

Strain through some old clean cloth (you can only use the cloth once), wringing as well as you can manage.

Dried herb: pour into a bottle, label.

Fresh herb: pour into a wide-mouth jar, let the cloudy oil stand until it's clear (about 4-7 days). After that, decant the oil off the bottom muck, bottle label.

Herbal salve

Measure 400 ml of your herbal oil oil, add 55 grammes of beeswax. Pour into a metal bowl, set onto a pot with about 5 cm (2") of water, bring to a boil, let boil on full until the beeswax has melted.

A widemouth syringe helps with getting the salve into jars. Let cool and set, add lids, add labels.



Rose elixir

Fill a jar with fresh (scented) (unsprayed - you don't want pesticides) rose petals, fill it to one third with liquid honey, and fill it to the brim with fruit brandy (slivovitz, cognac, rum or similar. Vodka works too, in a pinch.)

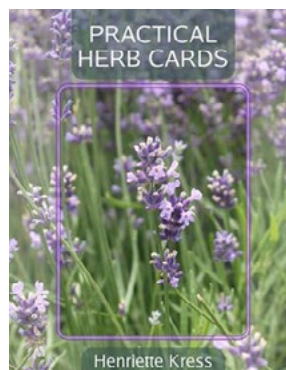
Close the lid and let it steep for 2 weeks. Strain, bottle, label.

Take 1 teaspoon when the sky falls down. It does, *so often*, when you have this in your cupboard.

MY BOOKS

My books (they are so cool!) are available here:

- <https://www.henriettes-herb.com/articles/herbcards.html>
- <https://www.henriettes-herb.com/articles/herbcards2.html>
- <https://www.henriettes-herb.com/articles/pract-herbs.html>
- <https://www.henriettes-herb.com/articles/pract-herbs2.html>



Druidic Mead Making

Presented by Denis Manzer

BASIC MEAD MAKING RECIPE:

For 1 Gallon (4 Litres Of Mead) You Will Need:

- 1 Gallon Glass Carboy Jug
- 1 Airlock
- 1/5 Packet Of "Champagne Yeast"
- 750 ml Honey
- ~3 L Water (Or Any Delicious Tea You Want To Flavour Your Mead With)

1. Combine your Honey and Water - Mix it well for easy pouring into your jug. (Make sure if you are using a herbal decoction that it is cool to the touch in order to preserve the medicinal qualities of the Honey!)
2. Pour the Honey mixture into the jug! Add 1/5th of the Champagne Yeast packet to your brew and your mead is ready to ferment! Place the airlock onto the jug (make sure to add water to the airlock to the specified line) and in 2-3 days the mead will begin to ferment very rapidly!
3. Place your mead in a room-temperature environment in your house: If it is too cold and it will take a long time to ferment & if it is too warm it can lead to the formation of unwanted organisms such as mold
4. In roughly two weeks of fermentation the mead will be ready! To be certain pay attention to the bubbles forming in the airlock... when the "blooping" slows down to 30 seconds between each bubble your mead is ready!
5. Carefully pour the clear mead on top off leaving the bottom portion of yeast sediment. The cloudy sediment is good for you to drink but does have a strong "Yeasty" flavour! Enjoy!
6. Bottle your mead and keep them refrigerated Fermentation can continue in the bottles and the cold will halt this process

EXQUISITE HERBS TO ADD TO MEAD FOR FLAVOUR & FUNCTION

Instead of simply adding water to your mead you can utilise infusions of decoctions of any herb you like!

Some Herbs Make Alcohol More Potent! Be Warned!

- Yarrow (*Achillea millefolium*) : Aromatic Bitter & Potentiator
- Mugwort (*Artemisia vulgaris*) : Aromatic Bitter & Potentiator
- Wormwood (*Artemisia absinthium*) : Aromatic Bitter & Potentiator
- Raspberry leaf (*Rubus idaeus*) : Tannic - creates crystal clear mead

- Raspberries (*Rubus idaeus*) : Gorgeous colour & flavour
- Elderberry (*Sambucus nigra*): Gorgeous colour and medicinal effects
- Elderflower (*Sambucus nigra*): Delicious Flavour & Potentiator
- Hibiscus (*Hibiscus sabdariffa*): Stunning Colour (Crowd Pleaser)
- Hawthorn (*Crataegus sp.*): Heart Opener (Conducive to good times)
- Cinnamon (*Cinnamomum sp.*): Circulatory stimulant & Potentiator
- Etc. etc. ! The only limit to your mead is your imagination!

A Step-by-Step Guide to Making Elderberry Syrup At Home

Presented by Bree Nabholz, RH(AHG)

Wild Yarrow Herbal Medicine Clinic

www.wildyarrow.ca



With winter right around the corner and the kiddos back to school, it's that time of year again where colds & flus abound. One of the best ways to support yourself and your family is to keep your immune systems strong and healthy, minimizing the likelihood of getting sick in the first place and/or shortening the duration and severity of illness if you do get sick.

One of my all-time favorite herbs for this is Elderberry! European elderberry (*Sambucus nigra*), also known as black elder, has a long-standing reputation for its ability to help the body combat colds and flus and for good reason. It tastes absolutely delicious (Hello, Elderberry syrup!) and has some pretty impressive medicinal properties to go along with it.

Elderberry is Highly Antiviral

Yes, this tiny purple berry packs a serious punch when it comes to fighting off viruses (am I the only one who just pictured an elderberry wearing boxing gloves?). In vitro studies have revealed it to be effective against 10 strains of Influenza virus! (1) The way it works seems to be multi-faceted, acting



on various stages of illness including "suppressing the entry of the virus into the cell, modulating the post-infectious phase, and preventing viral transmission to other cells." (1) Not only that, but it contains Vitamin A, C & P! Vitamin P, also known as flavonoids, are essentially potent plant-based antioxidants that help to decrease inflammation and quench free radical damage.

Should I Use It Preventatively or Only When I'm Sick?

According to the Journal of Natural Medicine, it was found that elderberry's action against the Influenza virus is "strongest when used in pre-treatment, during infection and post-infection, rather than when used solely during infection." (1) Having said that, elderberry is an excellent herb to be taken as a preventative measure, to get the best results.

DELICIOUS ELDERBERRY SYRUP RECIPE

This syrup is rich in antioxidants, is anti-viral and supports the immune system in fighting off infection and illness. Can be used daily to prevent illness or used acutely to fend off colds and flus. Great for adults and children. Tastes delicious!

Ingredients:

- 2 cups dried elderberries
- 1 Tbsp dried rose hips
- 1 cinnamon stick
- 2 tsp licorice root
- 1-2 tsp ginger root
- (1/2 tsp freshly ground black pepper, optional)
- 4 cups water
- 1 cup local honey (Can add up to 2 cups of honey if desired to preserve longer. However, this will make it REALLY sweet! You can also add up to 1 cup of brandy or vodka to preserve it longer. For infants under the age of one, avoid honey and use maple syrup or glycerine instead).

Directions:

1. Mix herbs with water in a large pot and bring to a boil.
2. Turn down heat to simmer for 20 minutes.
3. Then turn off the heat, put the lid on and let sit for 1 hr.
4. Strain herbs from liquid (you can line your strainer with cheesecloth to catch any little bits that are small enough to escape through your strainer). Careful it may be super hot! You can let it cool slightly if needed.
5. Mix in sweetener of choice until dissolved. This is when you would add in your alcohol as well, if you choose to do so.
6. Let cool completely before bottling and labeling. Will keep in the fridge for 6-8 months.

Dose:

½ - 1 teaspoon for kids and ½ - 1 tablespoon for adults. If the flu does strike, take the normal dose every 2-3 hours instead of once a day until symptoms disappear.

ELDERBERRY GUMMIES

Directions:

1. Take 1.5 cups boiling elderberry syrup and add 2 packs gelatin
2. Pour into moulds (that hold approx. 1 tbsp of liquid per mould) and let set overnight.

Dose:

Follow same dosing as syrup equivalent

Credit: Gummy Recipe inspired by www.LearningHerbs.com

Cautions and Contraindications:

For pregnancy, simply omit licorice; safe for lactation ("food-like" in dosing); Caution with hypertension (Licorice); Caution advised in peptic ulceration, reflux and gastritis (ginger); Do not exceed 2g per day in pregnancy (ginger); Elder berries eaten raw can cause nausea and vomiting in humans (that's why we cook them!)

REFERENCES

- Elderberry's Antiviral Activity: An Update. Retrieved September 3, 2021 from <https://www.naturalmedicinejournal.com/blog/elderberry%E2%80%99s-anti-viral-activity-update>
- Randomized study of the efficacy and safety of oral elderberry extract in the treatment of influenza A and B virus infections. Retrieved on September 3, 2021 from <https://pubmed.ncbi.nlm.nih.gov/15080016/>

Seed Saving

Presented by Latifa Pelletier-Ahmed

1. Identify your plant of interest. Learn as much as you can about the life cycle of your plant and observe them closely throughout the growing season. Can you recognize the flowers that will mature into fruit and seed?
2. Collect ripe seed. Determine ripeness based on colour and ease at which the fruit and seed falls from the plant. Allow dry fruits to dry for 6 to 12 weeks before processing further. Ferment fleshy fruits in water for immediate processing and allow seeds to dry for 6 to 12 weeks.
3. Clean seeds. Remove leaves, stems, dried fruit, and chaff from seeds. Different sized sieves are recommended to separate smaller seeds from larger plant material.
4. Store seeds. Keep seeds in cool, dry conditions and out of direct sunlight. Store seeds in the fridge or freezer to extend the life of seeds beyond their natural viability period.



RECOMMENDED MATERIALS:

- Secateurs/ Pruning shears
- Paper bags
- Container with lid (for fleshy fruit)

ABOUT

ALCLA Native Plants is a native plant nursery that supplies plants and seeds of nearly 200 species of grasses, shrubs and wildflowers native to Southern Alberta, Treaty 7 Territory. Learn more at www.alclanativeplants.com

Flower Essences – Creating Your Own Flower Essences

Presented by Gudrun Penselin

I would like to express my gratitude to be able to live on and speak from Treaty 8 territory

"Simplicity is the key to all creation." Edward Bach

Flower essences are a unique category of herbal preparations. They are subtle plant medicines that work with the vibrational energies of the flowers. The medium for the extraction of this energetic imprint of the flowers is water.

This form of healing was initially developed in the 1930s by Dr. Edward Bach, a medical doctor from England. The best-known Bach Flower is the Rescue Remedy, a combination of five of the Bach Flowers.

Flower essences can be made from any flower. There are two different methods, the sun and boiling method. This demonstration focuses on the sun method (see below for step-by-step instructions).

The sun method is used for the softer, more delicate flowers whereas the boiling method is primarily applied to the flowers of trees.

FLOWER ESSENCES VERSUS AROMA THERAPY (ESSENTIAL OILS)

The most significant difference is that aroma therapy works primarily through the sense of smell whereas flower essences do not engage the sense of smell in any way.

Essential oils are highly concentrated and require a large amount of plant material to produce.

Flower essences are prepared using only the flowers whereas aroma therapy also uses roots, seeds, and/or the bark.

Most commonly essential oils are extracted through steam inhalation. Flower essences are extracted into (spring) water, using the sun to impart the vibrational frequencies of the flower into the water.

Most essential oils need to be infused in a carrier oil before it is safe to use them. Flower essences are safe to use undiluted, internally and externally.

Flower essences and essential oils can be used together and even combined in sprays, oils and creams.

FLOWER ESSENCES VERSUS HOMEOPATHY

Flower essences and homeopathy share some common aspects.

Common Aspects:

Both

- address the whole person (body, mind, emotions, spirit)
- support the healing process to achieve true healing rather than suppressing symptoms
- are based on energetic principles

Differences:

- Homeopathic remedies are prepared using different plant parts, minerals, human and animal substances. Flower essences are prepared using only the flowers.
- Homeopathy works with the Law of Similars ("like cures like") whereas flower essences work with the integration of polarities ("darkness is replaced by light").
- Homeopathy practice matches the symptoms of a client to a specific (proven) remedy. Flower essence treatment focuses on the state of mind, the emotions, personality of the individual, and soul development rather than physical symptoms.
- Homeopathic remedies are often antidoted by strong herbs and substances like camphor whereas this is not the case with flower essences.
- Depending on the practitioner, flower essences may or may not be combined with a homeopathic treatment protocol.

FLOWER ESSENCES VERSUS HERBAL REMEDIES (INFUSIONS, TINCTURES, POWDERS ETC.)

- The primary focus of herbal remedies is a person's physical state. Flower essences address the emotional and mental state, leading to improvement/resolution of physical imbalances.
- Some herbal remedies are toxic and dosaging is crucial. Flower essences are safe to use.
- Herbal remedies and flower essences combine well in any form of preparation.



CREATING FLOWER ESSENCES – THE SUN METHOD

STEPS INVOLVED:

1. Creating the Flower Water
2. Preparing the Mother "Tincture"
3. Preparing the Stock Remedy/Bottle
4. Preparing the Treatment Bottle

CREATING THE FLOWER WATER

- Fill glass bowl with spring water and take to harvesting site (do not use stainless steel, aluminum, plastic or oven glass ware). Do NOT use city water that has been chlorinated etc. or distilled water.
- On a sunny day pick enough flowers to cover the entire surface of the water.
Avoid handling the flowers (as much as possible) with your hands.
Ensure to be in a balanced state of mind, expressing your sincere gratitude to the plant while harvesting the flowers.
- Let the bowl with the flowers sit in the full sun for approx. 3 hours.
- Remove flowers from water, using stems of the plant. Avoid touching the flowers and water with your hands.
- Strain flower water through (unbleached) material, i.e., coffee filter paper.

PREPARING THE MOTHER TINCTURE

- Mix equal parts of the "flower essence water" with 40% brandy as a preservative, i.e., 50 ml flower essence water and 50 ml brandy.

PREPARING THE STOCK BOTTLE (Stock bottles is what is sold in the stores)

- Add 2 drops of the mother tincture to 30 ml (1 ounce) of brandy.

PREPARING THE TREATMENT BOTTLE

- Add 2 drops of the stock bottle mixture to 30 ml (1 ounce) of spring water.

"The action of these remedies is to raise our vibrations and open up our channels for the reception of our Spiritual Self, to flood our natures with the particular Virtue we need, and wash out from us the fault which is causing harm.

They are able like beautiful music, or any gloriously uplifting thing which gives us inspiration, to raise our very natures, and bring us nearer to our Souls: and by that very act, to bring us peace, and relieve our sufferings." — Edward Bach

Morning Meditation

Presented by Gudrun Penselin

I would like to express my gratitude to be able to live on and speak from Treaty 8 territory.

A JOURNEY THROUGH THE SEASONS

Explore the benefits and exhilarating effects of this moving morning meditation. This session combines honoring the Earth, movement meditation, and connecting to plant spirit as we journey through the seasons of plant life.

BEGINNING OF THE MEDITATION:

PRAYER TO THE 7 DIRECTIONS

This prayer integrates the knowledge and wisdom from many different cultures with my personal experiences I gained from being part of ceremonies throughout my travels. It is designed to create unity.

Let's turn to the EAST

The EAST is the place of where the sun rises, symbolizing new beginnings; it brings enlightenment and understanding. As the sun rises it reveals the beauty and majesty of this Earth. It enlightens our hearts and minds, encouraging us to see the truth within.

We give thanks for the opportunity of new beginnings.

We are praying to the spirit of the East, asking for guidance and wisdom as we travel along our path.

Let's turn to the SOUTH

The SOUTH is a place of purification where our emotions and feelings reside. Water rules our emotions. May we always have a fountain of fresh water within us, to wash away our tears, clean our wounds, and heal our pain. May the water cleanse us from fears, our shadows, and destructive forces.

We give thanks for the many gifts of water.

We are praying to the spirit of the South, asking for clean water so that Mother Earth may continue to shine and provide for us.

Let's turn to the WEST

The WEST, the direction of the sunset. We remember with gratitude all we have harvested this year. We find quiet and stillness in the west. In our sleep, in the darkness, we may find answers to our troubles.

We give thanks for the love and fruits found in healthy relationships.

We are praying that the spirit of the west may protect us on our journey with love.

Let's turn to the NORTH

The NORTH is the direction of the future. It is the place of the winds, where knowledge and the intellect reside. May we be grounded and feel our oneness with the Earth.

We give thanks for the purifying winds and the winds of change.

We are praying to the spirit of the north for assistance to stop our wandering minds, see ourselves clearly and be the best we can be.

Let's turn to the ABOVE

The ABOVE connects us to the cosmic energy, it is the place of the spirits. Here we may gain insight and wisdom from those who walked before us.

We give thanks for all the guidance, knowledge, and wisdom we receive from above.

We are praying to above, that we will be heard, be given the strength and guidance to walk on this Earth with gratitude, respect and confidence.

Let's turn to BELOW

The BELOW represents Mother Earth. Mother Earth is the beauty that always protects and cares for us regardless of how we treat and abuse her.

We give thanks to below, our MOTHER, for continuing to be here for us and exemplifying unconditional love.

We pray to BELOW for forgiveness for walking on the Earth with disrespect and asking that she may continue to support and provide for us.

Let's turn to the CENTRE, to WITHIN

The CENTRE lies deep within our hearts. The place we need to journey to for stillness and for connecting to the Great Spirit.

We give thanks for giving us this sacred place for communication with the spirit world.

We pray to the Spirit of the Centre to nurture us with love and understanding.

From here let's sprinkle stardust to all corners of this world, may it reach all those who are less fortunate than we are. May the stardust cover the Earth bringing love, light, hope and healing to all.

Final words of the meditation:

One song can spark a moment

*One flower can wake a dream
 One tree can start a forest
 One bird can herald spring
 One smile can begin a friendship
 One hand can lift a soul
 One star can guide a ship at sea
 One word can frame a goal
 One vote can change a nation
 One sunbeam can light a room
 One candle can wipe out darkness
 One laugh can conquer gloom
 One step starts each journey
 One word starts each prayer
 One hope raises our spirits
 One touch can show care
 One voice can speak with wisdom
 One heart can know what's true
 One life can make the difference
 BE THAT ONE TODAY!*

Medical Astrology for the Practicing Herbalist

Presented by Sajah Popham

(See tables on following 3 pages)

THE
ASTRO-HERBALISM
MINI COURSE

LESSON ONE:
The Seven Planets
Table of Correspondence

	Sun	Moon	Mercury	Mars	Venus	Saturn	Jupiter
Day	Sunday	Monday	Wednesday	Tuesday	Friday	Saturday	Thursday
Main Organ	Heart	Brain	Lungs	Blood	Kidneys	Spleen	Liver
2ndary Organ	Blood	Stomach	Mind	Gallbladder	Bladder	Bones/joints	Gallbladder
System	Circulatory	Nervous	Respiratory	Immune	Genitourinary	Skeletal/Structural	Metabolic
Tissue	Plasma	Marrow	Lymph	Muscles/Tendons	Mucous	Bones	Fat
Plant Examples	Crataegus/Leonurus	Avena/Artemesia	Ligusticum	Urtica/Oplopanax	Althea	Ceanothus	Arctium
Mineral	Gold	Silver	Mercury	Iron	Copper	Lead	Tin
Chakra*	4th & 3rd	2nd & 6th	5th	3rd	2nd & 4th	1st and 7th	6th & 7th
Sumerian	Bisebi	Aku	Bibbu	Simutu	Zib/Zig	Lu-lim	Dapinu
Jyotisa (Vedic)	Surya	Chandra	Budha	Mangala	Shukra	Shani	Brihaspati
Norse	Sunni	Mani	Odin	Tyr	Frigg/Freya	-	Thor
Greek	Apollo	Artemis	Hermes	Ares	Aphrodite	Kronos	Zeus
Babylonian	Shamash	Sin	Nabu	Nergal	Ishtar	Ninib	Marduk

A FREE EDUCATIONAL SERIES

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THE
ASTRO-HERBALISM
MINI-COURSE

LESSON TWO:
The Planetary Plant Medicine Chart

PLANET	HERBAL ACTION	ORGANS	ENERGETICS	BALANCES THESE PLANETS
SUN	Cardiotonic, Circulatory Stimulant, Adaptogen	Heart, Cardiovascular system	Warming & Drying	Moon Saturn
MOON	Demulcent, Emollient, Bitter Tonic, Nervine	Stomach, Brain, Breasts, Lymph, Mucosal membrane	Cooling & Moistening	Sun Mars Saturn
MARS	Stimulant, Alterative, Diaphoretic, Immune Stimulant	Blood, adrenals, muscles, immunity	Hot & Drying	Moon Venus Saturn
VENUS	Diuretic, Astringent, Nervine, Anti-spasmodic	Kidneys, Skin, Bladder & UT, Pancreas	Warming & Moistening	Mars Saturn Mercury
SATURN	Tonic, Astringent, Nutritive	Bones, Joints, Teeth, Skin, Spleen, Gall Bladder	Cold & Drying	Sun, Moon Mars, Jupiter Venus
JUPITER	Alterative, Bitter Tonic	Liver, Digestion, Adipose Tissue, Metabolic System	Warming & Moistening	Saturn Mercury
MERCURY	Expectorant, Anti-spasmodic, Nervine, Nootropic	Lungs, Respiratory and Nervous Systems	Cold & Drying	Venus Saturn

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THE
ASTRO-HERBALISM
MINI-COURSE

LESSON TWO:
The Planetary Constitution Chart

PLANET	CONSTITUTION	ORGANS	TISSUE STATE EXCESS	TISSUE STATE DEFICIENCY
SUN	Pitta, Choleric	Heart, Cardiovascular system	Heat/Excitation Dry/Atrophy	Cold/Depression
MOON	Kapha, Phlegmatic	Stomach, Brain, Breasts, Lymph, Mucosal membrane	Damp/Stagnation	Dry/Atrophy
MARS	Pitta, Choleric	Blood, adrenals, muscles, immunity	Heat/Excitation	Cold/Depression
VENUS	Vata or Kapha, Sanguine or Phlegmatic	Kidneys, Skin, Bladder & UT, Pancreas	Damp/Relaxation	Wind/Tension
SATURN	Vata, Melancholic	Bones, Joints, Teeth, Skin, Spleen, Gall Bladder	Cold/Depression, Dry/Atrophy	Heat/Excitation, Damp/Stagnation, Damp/Relaxation
JUPITER	Kapha, Phlegmatic	Liver, Digestion, Adipose Tissue, Metabolic System	Damp/Stagnation	Dry/Atrophy
MERCURY	Vata, Sanguine	Lungs, Respiratory and Nervous Systems	Wind/Tension, Dry/Atrophy	Damp/Relaxation

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Sustainability in the Herbal Medicine Industry

Presented by Krista Dawn Poulton

Krista Dawn Poulton is an educator at Pacific Rim College, where she has developed a new course on Growing, Harvesting & Sustainable Sourcing, along with weaving sustainability practices in the herbal medicine industry within her pharmacy classes and materia medicas. Krista is also a small herb farmer, where she cultivates almost half of her dispensary with her gardens and started a larger scale Avena sativa cultivation setup at her family farm in Saskatchewan.

CURRENT HERBAL MEDICINE INDUSTRY STANDARDS, THE ETHICAL AND SUSTAINABLE ISSUES CURRENTLY:

- Education & Sustainability - where and when do we teach about sourcing of these herbs in our education curriculums
- Transparency of sourcing: Where do our herbs come from? Does the grower or wild-harvester get paid a fair price for their work? Where is the higher margins in this industry?
- Small Scale farming & competition: how do we start supporting small farmers? how can we create these connections and value their work? Certifications and the cost to small farm operations. Wild harvesting versus organically grown herbs.
- Sustainability: what are the social and environmental impacts of this global industry and how can we support communities. Increasing the pressure of companies to have sustainability practices --> through consumer education.
- The relationship between quality, sustainable and adulterations: higher market demand affects all three of these issues within the herbal industry.

HOW CAN WE MAKE A SUBSTANTIAL CHANGE IN OUR INDUSTRY:

1. Environmental Leadership – sustainable growing, regenerative agriculture or progressive agriculture
2. Social responsibility – means that individuals and companies have a duty to act in the best interests of their environment and society as a whole
3. Traceability – transparency within our herb companies & economic accountability.

SUSTAINABILITY WEBINARS & VIDEOS:

SHP and ABC are hosting a series of online conversations on key issues around sustainability and the botanical industry with leaders in the botanical community.

SHP Toolkit Webinar Series: <https://sustainableherbsprogram.org/toolkit-webinar/>

Plants in Commerce Webinar Series: <https://sustainableherbsprogram.org/plants-in-commerce-conversations-on-quality-sustainability-and-equity/>

Ethnobotany Webinar Series: <https://sustainableherbsprogram.org/plants-people-and-commerce-conversations-on-ethnobotany/>

ETHICAL AND SUSTAINABLE HERBALISM:

Purchasing Herbs Checklist:

As a herbalist or consumer of herbal products, it is essential we ask questions from our supplier of where our herbs are coming from.

Sustainability considerations when choosing to order herbs from a supplier:

- Does this company have a direct relationship with the farmers or collectors? If sourcing from a wild collector, they should be able to discuss all the points under Wildharvesting Herbs Checklist regarding their identification, harvesting technique, ecosystem considerations (animal and other plant life), and post sustainability practices.
 - See Wildharvesting Herbs Checklist for wild collection of herbs
- Does the supplier work with organizations such as Fair Wild, Forest Botanicals, Global Strategy for Plant Conservation (GSPC) or other sustainable organizations?
- Is the plant on the United Plant Savers To Watch or At Risk list? Can we use other plants in replacement or minimize the amount we need to use? (Example pairing Goldenseal with other berberine plants to minimize the amount we need)
- What is the harvestable material amount? Can we use other plants in replacement of small production herbs such as Eyebright, Trillium, Goldenseal with plants that are much more abundant to grow?
- Consider the plant part that is used when you are formulating. Are you using all root medicine which has more impact on water & land usage or aerial parts of the plant which can be harvested yearly.
- Where are these plants growing? Are they coming from farther locations which utilize more oil & gas and do we have local options that we could in replacement?
- Do you understand the time harvest would take for the farmer or collector to get these herbs to the supplier? Is the farmer or collector earning a fair wage for this work? How is the margin (or profit) of this herb divided?
- Is this herb traditionally used for healing, ceremony or any other sacred usage? Addressing the misuse of traditional healing plants around the world is an important step in moving our industry to ethical herbalism and to address cultural appropriation for the herbs we use. (Kava kava, Cedar,



Devil's Club example)

- Is the company purchasing herbs at a sustainable scale? Does the supplier have procedures in place for ethical and sustainable measures such as a Sustainability Director?

Wild Harvested Herbs Checklist:

Ecological considerations when choosing to Wild harvest or purchasing from a supplier a wild harvested plant:

- Is the plant on the United Plant Savers To Watch or At Risk list?
- Do you know the history of the landscape you are harvesting from? (Old railroad beds, water contamination, previous industry)
- Do you know if the plant you are harvesting accumulates heavy metals?
- Timing of harvest? Is the plant able to finish its lifecycle with seed pods maturing? (Example is harvesting roots before the flower or berry has completed its lifecycle such as echinacea's flower as purple flag or American ginseng berry which is easier to identify and spot)
- What is the harvestable material amount? Is this a plant we can grow different species of which would have larger harvestable amount of material (Mahonia example)
- Are there any delicate ecosystems this plant grows in? (Old growth forests, marsh land where birds may be nesting)
- Are there any plants that grow in this ecosystem that are endangered that could be damaged with harvesting practices? (Osha footprint example)
- Is there a correct identification of plant species? (Echinacea's pollen ID example)
- Post practices of sustainability can include repopulating the plant species with seeds collected or planting decumbent stems or root crowns.
- Managing invasive plants by removing in the location you are harvesting to steward the wild-harvested landscapes.
- Managing wild landscapes by continually going back to the same location (throughout varies seasons) to watch for plant community changes.

*If sourcing from a wild collector, they should be able to discuss all the above points regarding their identification, harvesting technique, ecosystem considerations (animal and other plant life), and post sustainability practices.

United Plant Savers at Risk Plant Species:

<http://www.unitedplantsavers.org>

Ulmus rubra (Slippery elm) At-Risk:

Major Sourcing Issues: Habitat loss due to Dutch elm disease (this fungus typically does not attack young elm trees) & popularity of herb increases demand.

UpS recommendations:

- Limit wild harvest to trees struck by natural disaster such as storms, otherwise use cultivated resources only
- Possible substitutions include marsh mellow, comfrey, and mullein. (Strauss, 2000)

Hydrastis canadensis (Goldenseal):

Major Sourcing Issues: Takes three years to flower and reproduce; over-harvesting wild plants and difficult to cultivate.

UpS Recommendations:

- Possible alternatives include barberry, cultivated Oregon grape, cultivated yerba mansa, and other cultivated Berberis species
- Use only cultivated goldenseal if possible (Blumenthal, 2000)

Echinacea spp (Purple Coneflower):

Major Sourcing issues: Specific Echinacea species have much narrow range than angustifolia but are often used interchangeably. Proper identification is assessed with pollen.

UpS Recommendations:

- Use only cultivated sources
- Possible alternatives include marshmallow, boneset, and Astragalus.

Actaea racemosa (Black Cohosh)

Major Sourcing Issues: Colonization and subsequent population increases, market demand and harvest pressures increased dramatically on medicinal plant resources."

UpS Recommendations:

- No wild harvest is recommended at this time; Purchase cultivated resources.
- Possible alternatives include yucca for musculoskeletal concerns; skullcap for headache relief, mood swings, and anxiety; and pulsatilla, motherwort, and chaste berries for general substitution. (Wood, 2000)

Ligusticum porteri (Osha):

Major Sourcing Issues: Highly endangered species! Listed on United Plant Savers as a species effected by overharvesting / habitat loss along with environmental damage with harvesting procedures

UpS Recommendations:

- Use the wild plant only when absolutely necessary; otherwise use only cultivated resources.

- Thyme, elecampane, marshmallow, lovage, angelica, and rosemary are all good alternatives. (Tilford, 2000)

***Dioscorea villosa* (Wild Yam):**

Major Sourcing issues: Habitat loss with decline of hardwood forest ecosystems where wild yam grown and over-harvesting (particularly not specificity of the specie harvest leading to the lesser abundant Dioscorea species being over-harvested)

UpS Recommendations: (Cech, 2000)

- Choose cultivated resources if at all possible
- Good alternatives include chamomile, licorice, and catnip. Peppermint is a good substitute for digestive issues.

Celtic Herbs and Traditional Healing Practices of Scotland and Ireland

Presented by Keith Robertson & Danny O’Rawe



The practice and culture of herbal medicine is ancient, and no less so in Europe’s most Western isles. The last outposts of an immense Celtic culture which once dominated Europe, can be found in areas of Spain, France and Britain but especially in Ireland and Scotland where Celtic culture is still very much alive.

Celtic artwork and traditional folk music are known the world over, and are common in a land adorned with ancient megaliths and stone circles, aligned to the heavens and the sowing and harvesting of crops. This interrelationship with Nature is a common theme for all the tribes which archaeologists place under the Celtic banner.

ORIGINS OF THE HEALING TRADITION

There are a number of different strands that have intertwined over the centuries to create the living and breathing herbal tradition we find today.

The Celts did not use the written word. Theirs was an oral tradition preserved by poets known as Bards who spent many years committing the history and genealogy of their tribe to memory and who were able to recite tribal knowledge in verse form at major Celtic festivals.

Greek and Roman scholars are the first to tell us about the Celts and their mysterious Druids, who appear to have performed multiple roles within Celtic society, as well as the practice of herbal medicine.

The earliest writings on the Celts are attributed to Periplus (6th century BCE) but his work is thought to be lost, though it is referenced in later authors.



THE CLASSICAL WORLD

From the 5th century to the 3rd century BC, there are references to Celts in the works of Hecateus, Herodotus, Plato, Pytheas and Aristotle but little in regards to their medical practices. However, the ancients discuss their relationship to the elements.

Aristotle, for example, recounts that among non-Greek races it is customary to wash children at birth by dipping them in a cold river, and with others, for instance the Celts, to give them scanty covering so that they become accustomed to Cold (Politics Book 7, Section 1336a). This early exposure to cold and damp inures children and strengthens them to the elements they will experience in life.



Although, the Celts revered the elements they did not fear them. **Aristotle** reminds us how the Celts were fearless to the point of recklessness. The Sea itself did not frighten them, “for even when knowing the greatness of the danger, the Celts take arms and march against the waves” (Eudemian Ethics, Book 3, Section 1229). This fearlessness gained the Celts a formidable reputation.



Diodorus of Sicily (36 BCE) confirmed the Celtic belief in the transmigration of souls, which also contributed to the Celtic sense of fearlessness. The Celts did not have an origin myth, believing in perpetual cycles of life and death which the Druids found reflected in the natural world.

Diodorus also wrote of Druidic divination from the flight of birds. This idea of studying the patterns of Nature through an elemental filter is central to our discussion.



Julius Caesar recounts that, “they likewise discuss and impart to the youth many things respecting the stars and their motion, respecting the extent of the world and of our earth, respecting the nature of things, respecting the power and the majesty of the immortal gods” (The Gallic Wars, Book 6, Section 14).

The Celts were animist in outlook. For example, **Maximus of Tyre** writing in the second century noted “The Celts indeed worship Zeus, but they honour Him in the form of a lofty oak” (Dissertation VIII, Section 8).

These and other classical historians allow us an insight into the Druidic practice of observing the Book of Nature and interpreting patterns and associations, an interpretive tool which was also brought to bear on the practice of medicine.

Pliny the Elder



Veronica beccabunga, an excellent alternative, is known as Bilur Muire in Irish.

Pliny the Elder is perhaps the earliest scholar to write about some of the herbs used by the Celts. The Oak (*Quercus robur*) was their most sacred tree, and Mistletoe (*Viscum album*) their most scared herb. Mistletoe was rare on Oak and, if found, was harvested with great ceremony on the 6th day after a new moon.

Later, between 50 BCE-50CE the Celts had begun to adopt the Humoral system of medicine coming out of Greece. It seems likely that this adaptation was so universal across Celtic Europe precisely because of its basis in the elements.

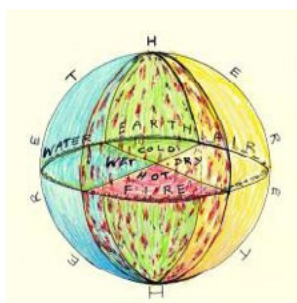
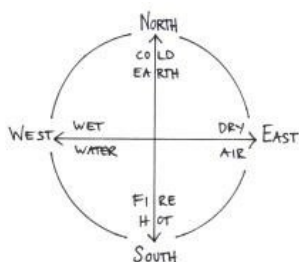


Celtic Herbal Medicine

There are several permutations or variants on the elemental theme, all of which are derived from the same root source. Each of the models we have considered are, or can be, extremely complex, going into deeper and deeper layers. For us, this risks slipping into reductionism where it becomes necessary to fit the patient into a category before a treatment regimen can be considered.

The risk is the patient becomes the category much as the patient becomes the disease in modern Biomedicine. We therefore began to consider the elements at a more basic level as a guide to intuiting. Hypo-deductive-reasoning, pattern recognition and intuition are the clinical reasoning methods by which the herbalist matches the herbs to the patient (West & Denham, 2017).

Also there is a risk of seeing the physical nature only and eclipsing the emotional nature of the disease process.



Systems Approach to the Energetic Body

Earth-	Cold Roots	Digestion & Bones
Water-	Wet Stems	Urinary, Fat, Lymph, Immunity & Sex
Air -	Dry Leaves	Lungs & Skin
Fire -	Hot Flowers	Nerves, Hormones & Muscles
Ether -	All	Spirit, Soul, Genetics & Epi-Genetics

The blood and the heart unite all elements through the Cardiovascular system

Earth is in the iron and minerals,

Water is in the plasma,

Air is in the Oxygen and Carbon Dioxide,

Fire is in the heat and nervous and hormonal control of the CVS,

Ether flows in and around our emotional heart

Go to www.veganherbal.com to contact Keith.

For Danny see www.excelsiorapprenticeships.co.uk

The Use of Medical Astrology & Spiritual Considerations to Assess a Case Study of Chronic Fatigue Syndrome & Fibromyalgia

Presented by Maureen Robertson MSc MNIMH

INTRODUCTION

Wanting to know about how plants had an pharmacologically active effect on the body was what led me to my passion for Herbal Medicine; wanting to know more about the living principle of plants is what led me to my passion for Goethean Science and wanting to know more the energetics of plants and people has led me to my passion for the Energetic and elemental basis of life and now Medical Astrology. I love how herbal practice is something that is alive, evolving and growing all the time and having been in practice for over 25 years, I am embarking on another hugely satisfying path with the planets and their influence on both the plants and us through Medical Astrology.

I want to share one of the first cases I applied the knowledge of reading a Natal chart to help give further insights into a patient and their health. First, I will go through the case history, like any intake form we are all familiar with and then we will look at the patient's chart to see how their constitutional tendencies and nature of symptoms and chronic disease can be read from the chart.

MAIN AIMS OF HERBAL TREATMENT BASED ON MEDICAL ASTROLOGY

1. Always support the constitution of the patient as indicated by the Ascendant/Rising sign and ruling planet of the Ascendant in the 1st house (our physicality, identity, image & persona);
2. Check challenges in the House of Health (representing the physical body, our daily rituals, work, mind-body links and health in general in the 6th House). More acute symptoms can be treated antipathetically by herbs ruled by planets with qualities opposite the planet associated with the symptoms or issue presenting.
3. Check which planetary influences are in the House of Death & Rebirth (representing big life changes & transformation, hereditary factors and sexuality in 8th House);
4. Check which planetary influences are in the 12th House of Spirituality (representing the past, the dream world, dreams of the future and chronic conditions);
5. Look for any testimonies of an afflicted planet (adversely positioned in the chart and experiencing challenging



aspects from other planets) that can be supported by herbs with sympathetic qualities to the planet.

CASE SUMMARY

A 45 year old man presents with fibromyalgia, chronic fatigue syndrome, lots of dental problems and being hounded by dark forces.

HPC Onset of dark forces 23 years ago, shortly after his daughter was born and the subsequent relationship broke down with the mother of his child, who together with her mother, he believed put something in his food and every since everything has gone wrong for him. He started feeling and seeing a shadow like entity/presence bringing heat and pain like his heart is being squeezed and he can't breathe; the pain leaves him feeling angry and thinking with words written backwards. He soon lost his DJ career, lost his DJ shop and electronic computer malfunction affecting his work. He is left powerless, fatigued and with pain in his teeth to his ear and now in his stomach and his employment prospects have declined from him being a successful DJ and record seller to becoming mostly unemployed on sickness benefits (except for recent dog walking employment).

15 years ago fibromyalgia was diagnosed after experiencing pain in lower back like two knives on either side and energetic discharge of pain – knees would go and he falls down with a shock. Now he is very tense and rigid to avoid falling down again. Can experience pins and needles like bone pain and when this is in his head, it feels like the skin is coming off his skull. Nothing shows in medical examinations.

He has recently had a magnetic examination under a rheumatologist 6 months previously – no obvious inflammation was detected. Blood analysis and x-ray resulted in advanced osteoporosis 35% lower than average as a direct side effect to medication.

PMH Throat op to remove tonsils as a child.

Rx Fentanyl transdermal patch (used to treat chronic pain in opioid-tolerant people) prescribed since one and a half years - helps with fatigue but only relief for 1 of the 3 days the patch lasts for. Side effect for him is loss of spatiality and bumping into things.

Previously he was on Tramadol 100-250mg daily for 13 years – helped with pain but not fatigue and experienced side effects of kidney stones x 5 episodes.

Sleep badly effected – he feels really tired and sleepy but then can't get off to sleep and when he does wakes after 5-10 minutes. When in bed, his knees and back are so painful that he has to get up again. Sitting is ok but he can't rest. Knee pain is better for walking and worse for crossing legs which gives him dead legs.

Circulation NAD and blood pressure normal.

Digestion Appetite and metabolism very high – he is quite slim and wiry and cannot put weight on.

- Multiple bowel movements daily.
- Eats a lot of bread and cakes and craves sweet foods especially after 7pm.
- Drinks coffee using dairy free milk. Can't tolerate dairy, alcohol and vomits if eats fatty meat. Prefers white meat and fish with veg.

Skin – oily on face and ears, suffers from spots (especially near the ears) which are hard and big but not inflamed. Had to have fat cysts removed from around the ears.

R/S Smoker, no shortness of breath.

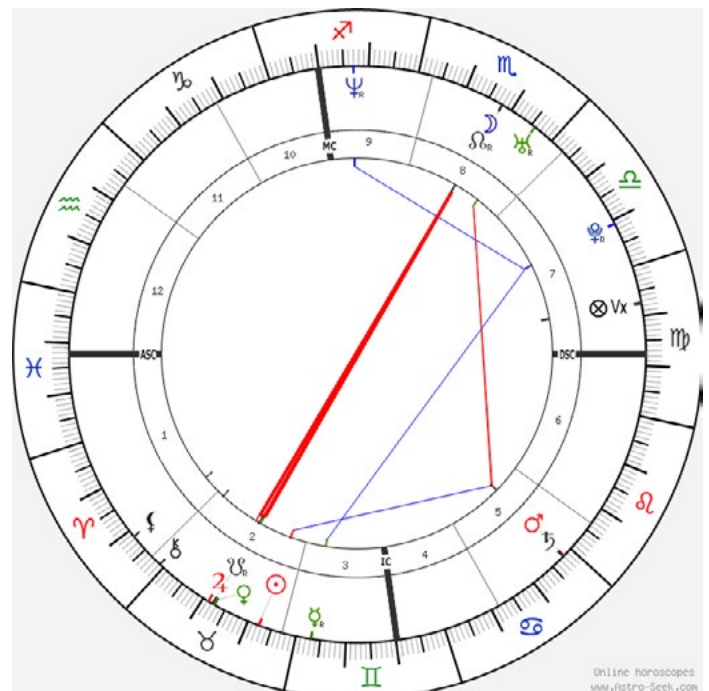
F/H Mother asthma due to chemical sensitivity, arthritis in hands.

Father good health, occassional gout.

PSYCHOLOGICAL TENDENCIES

Born on the feast day of Our Lady of Fatima, the patient has always felt strong religious connections, has an altar of religious statues for his protection and 8 years previously began a on going catechism programme. He has strong spiritual beliefs and joined a Brahma Kumaris meditation group 2 years ago to help deal with excess aggression.

CHART INTERPRETATION



In his chart we first see his **Ascendant in Pisces** (ruled by Jupiter and Neptune). The archetype of Pisces (Mutable Water sign) is dissolution of boundaries and pure universality; these qualities can be linked to being ungrounded – ironic as Pisces rules the feet (think reflexology as a means of accessing all parts of the body through the corresponding zones to restore disturbed areas of the body). Wanting to avoid confrontation, Pisces can tend to '**unconscious somatization**' – where emotions can be expressed as (quite dramatic) body symptoms. Pisces rules the **lymphatic system** and the pineal gland resulting in tendencies to **chronic fatigue syndrome, seasonal affective disorder and sleep disturbances**. With such a strong influence of the Water element (ruling both Neptune and the Moon – emotions), reality can become dreamy and illusionary; delusions easy to come about and mental dysfunction like psychosis, schizophrenia, **hallucinations and altered states of consciousness** more possible; these can include **obscure diseases of psychic origin, psychosomatic illnesses** and diseases that are hard to diagnose or are misdiagnosed. Pisces can also relate to victims escaping from a situation in various ways. Neptune, the co-ruler of Pisces is found in the 9th house, which can also involve a predisposition for escapism. Factor in the joint ruler of Pisces being Jupiter (abundance, strong beliefs and ability to make bigger whatever it is influencing) found in Taurus in the 2nd house representing values, security and self worth and we see how many of the patient's symptoms and psychological disturbance starts making sense. (Taurus rules the throat, ears and lower jaw).

Now we look to the co-ruler of Pisces who is **Jupiter in conjunct with Venus and the South Node of the Moon**, which means their qualities are fused. The line joining the opposing position of the two Nodes of the Moon is said to encode your life purpose – the South Node linked more with familiarity of the past and hence a kind of comfort zone, a habitual place from where insecurity towards change can develop or energy is more likely to leak from the chart. In this way, Jupiter may find itself slightly weakened and the conjunct with Venus means that romantic relationships may prove emotionally needy. The South node conjunct Venus can also bring a tendency to define oneself in relationship with other and a tendency to depend on others for happiness. Venus sextile Saturn also makes for dependency on companionship for general well-being. Jupiter having mostly warm and moist qualities also doesn't particularly like being placed in the cold, dry, Fixed Earth sign of Taurus ruled by cold, moist Venus (also conjunct). This gives us the indication that Jupiter is slightly afflicted and therefore the patient could benefit further from sympathetic Jupiter herbs to strengthen. Jupiter rules the liver and for sure with 15 years of chemical drug treatment, this patient can benefit from liver herbs.

The cusp of the 6th House of Health is in the sign of Cancer and does not have any planets in it, so we look to the ruler of the sign, which is the Moon, found in the House of Death in

the 8th house which is in Scorpio (who also generally rules the 8th house to give a double influence). **The Moon is said to be in her fall in Scorpio, meaning she is in her most afflicted or weakened position.** The Moon (and Cancer) govern the stomach, breasts and reproductive system in the body (Scorpio also rules the reproductive system as well as the colon) and we see that the patient has had stomach issues. (Saturn is also in Cancer and has an under-functioning influence - in case on the stomach. **Saturn is also conjunct Mars** indicating an inflammatory tendency in the digestion also).

The Moon represents emotions, instincts, nurturing style and psychological dysfunction. Aspects to the Moon reveal a lot about the nature of emotions. **With the Moon conjunct north node**, the influence is that emotions can be heightened and very challenging whilst at the same time often feeling detached from emotions (the North Node indicates what one strives towards in terms of challenges and where energy is more likely to enter into the chart – in this case making the emotions more intense) Working through this process, we can see there might be a tendency to **attract drama**, and if there is nothing going on in the outer world, a drama can be created on its own! The Moon is also in opposition to abundant Jupiter (increasing her weakened position) and the South Node (insecurity towards change) means she now has four testimonies to her affliction (three are all that are needed) and would need to be treated with sympathetic Lunar herbs.

HERBS PRESCRIBED WITH PLANETARY RULERS

Herbal Tea

Rx Melissa off./Lemon Balm (Jupiter)	30g
Calendula off./Marigold (Solar)	20g
Althaea off. Radix/Marshmallow root (Lunar/Venusian)	20g
Borago off./Borage (Jupiter)	10g
Glycyrrhiza glabra/Liquorice (Mercury)	10g
Artemisia vulgaris/Mugwort (Lunar/Venusian)	10g
	100g

1 handful to 1 litre boiling water, drink 3 cups/day.

Rx Tincture

Scutellaria lateriflora/Skullcap (Lunar)	20
Avena sativa/Milky Oat seed (Lunar/Mercury)	20
Viburnum opulus/Crampbark (Saturn)	15
Stachys betonica/Wood Betony (Jupiter)	15
Filipendula ulmaria/Meadowsweet (Venus)	10
Angelica archangelica/Angelica (Solar)	10
Viola odorata/Sweet Violet (Venus)	5
	100ml

Take 2.5ml tds. ac.

Essential oil

Vetiver (Chrysopogon zizanioides) (Venus)	2
Gummed Rock Rose (Cistus ladanifer) (Solar)	1
Myrrh (Commiphora molmol) (Mars/Sun)	3



Patchouli (<i>Pogostemon cablin</i>) (Venus)	2
Rose (<i>Rosa centifolia</i>) (Venus)	2
	10ml

Burn in oil burner, apply neat to palms of hands to inhale and sweep the body to cleanse aura energy bodies. Especially before going to bed and if entity is present.

Incense

Frankincense (*Boswellia sps.*) (Solar) and Myrrh resins to burn on charcoal discs to cleanse self, the house and especially when and where entity appears.

White sage (*Salvia apiana*) (Jupiter) smudge stick – burn to cleanse self and areas of the house as above.

Follow up 6 weeks later: the patient was feeling more relaxed and felt like the herbs had been helping his nervous system, although he still had pain.

The most remarkable result was that after 2-3 times of using the oils and incense for smudging, he had experienced the strongest retaliation from the entity and then after 30 seconds, it went and has not come back! He felt the essential oil mix was the best part of his treatment and enjoyed daily use. The aim of these deep, base note oils was to help him with more embodiment and to move him from his emotions and psychological tendencies to create acute physical painful symptoms.

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Wild Harvesting with Reciprocity

Presented by Tamara Segal

A FEW IDEAS TO HELP BRING US INTO RECIPROCAL ENGAGEMENT IN OUR WILD HARVEST....

Remember that we are in reciprocal relationship with every inhalation and exhalation we take, as we receive oxygen from the plant world and give back CO2.

Walking barefoot on the earth helps us to connect with the place we're in with deeper sensing as we walk a bit slower, more lightly and with increased awareness with each step. It

also gives the earth more information about us when our skin is in direct contact with it.

Offering gratitude: through words, song, gifts (tobacco, cacao, heart shaped rocks, a hair from your head, a song etc)

Tending the wild: allowing wild spaces to thrive on your land; planting seeds and/or transplanting to help encourage growth of wild plants; pruning semi-broken or damaged branches to encourage healthy growth.

Asking permission and tuning in deeply to find a response before harvesting.

Harvesting only about 20-30% of what is there, and only taking from areas of abundance.

Understanding which plant(s) you're harvesting from, so that we know whether the harvest is detrimental or helpful for the plant's ability to thrive (mint family plants for example will often grow bushier and stonger with more harvesting when done respectfully)

Seeing if there are recently fallen branches etc that can be harvested instead of taking from a living plant/tree.

Being mindful about maintaining the integrity of the plant/tree (ie not taking branches/leaves that will strongly change the look or strength of the plant/tree).

Filling in holes and cleaning up spaces where roots have been taken from the ground.

Remembering that we ARE nature, and therefore we always play a reciprocal role in it.

LYRICS TO THE HARVESTING SONG SHARED AT THE END OF THE VIDEO:

*Humbly we walk
Humbly we sing
Humbly we bless this land
(Repeat two or more times)*

The Witching Herbs: Alkaloid-rich psychotropic plants

Presented by The Seed SistAs

The witching herbs; the magical, poisonous, European power plants are steeped in a tumultuous past.

In learning to listen to the message of these mysterious plants, there is a possibility that we can create a new, balanced paradigm for the healing experience, that is reaching altered states through the use of plant allies. All healing plants have

the ability to shift our perceptions when we ingest or work with them but some more than others unleash hidden, possibly innate knowledge and reveal secrets of the world around us.

We believe, as herbalists and healthcare professionals, we need to re-build our relationship with the witching herbs, integrating a more yin or subjective approach to both the spiritual practice and the research of these valuable and beautiful plants. That is not to say that more analytical and measurable methods are obsolete but that we could achieve a more balanced perspective when coupled with the revival of some ancient, female-led practices and methods of application.

As herbalists, many of the plants that can be found in gardens, woodlands and waysides are part of our tool kit. We love and respect each individual plant but the most interesting of all the plants and the most misunderstood, are the ones that can also kill; the true poisons.

The witching herbs; the nightshades, foxgloves and banes are closely linked in our culture to powerful female archetypes like the medicine woman, the witch, the healer, the midwife and soul-wife. When we look at our relationship to these plants throughout history, we can see a map of the fear and misunderstanding of these archetypes driven by cultural beliefs.

WOMEN AND WITCHES

All women that work with plants and healing at some point get labelled 'a witch'. The vast majority of our society uses the term in a negative or detrimental way. The term 'witch' conjures up images brought to us through stories and films in popular culture. The idea of the 'evil witch' was brought into mass consciousness over 500 years ago as the Inquisition swept through Europe. From reports taken during the Inquisition — of orgiastic rites carried out with the application of flight-inducing unguents to the vaginal mucous membranes using the ends of broomsticks — the image of the witch riding her broomstick was born. Printed images of flying hags and witches' communion with the devil can be seen in early texts as Christianity sought to eradicate opposing views to the church. There are woodblock prints dating to the 14th Century that can be found depicting the flying hag around a cauldron and with the invention of the printing press, mass hysteria and fear spread. It was pure propaganda and set the stage for the fear that still exists today. We are brought up on fairy tales of evil witches, women twisted with hatred and full of cruelty, Hansel and Gretel, Rapunzel, Snow-white, Baba Yaga and many others are routinely filling the heads of children brainwashed into believing witches are bad.

There is much written about the horrors of the Inquisition for women and there is not scope here to go into more depth but what is clear is that with witch-finders sweeping the countryside and images of the flying hag, there was an

atmosphere of fear and dread. Women have long held the secrets of the medicine of birth and death, and utilised creative energies to perform rites with a power that touches the void between the living and the dying. This was misunderstood and misinterpreted by the Catholic Church, as were the magical and healing arts in general.

THE WITCHING HERBS

All herbs hold medicinal gifts and all plants are teachers. There is not a hierarchical code that deems one more important than another. Some however shout louder to us humans, exerting stronger physical effects and have a greater ability to transport us to other realms, to open pathways both ancient and new. When used with care and full attention, these plants are potent enough to elicit massive shifts in perceptions bringing positive health changes both on an individual and societal scale.

The ones called 'the witching herbs' help to create the mysteriously magical and pleasurable, medicinal green unguent; the flying ointment. These pungent, alkaloid-rich fetid plants are the ones we value and revere above many others. These enchanted plants can relax the most debilitating spasm, will ease a dying man from his pain, and if needed walk his soul across the waters of eternity to the other-side. These herbs have the potential to take you to magical realms, holding keys to the doors of altered perception.

The witching herbs symbolise personal responsibility, freedom and the knowledge of women. Recipes for flying ointments containing the witching herbs were spoken of in hushed tones down through the generations, from grandmother to grandmother, those called wise or witch, those keepers of the secret knowledge. The witch trials were part of a complex shifting of power, thought to be leading folk out of the dark, devilish ways of the Middle-Ages into God's light overlaid by a renaissance of sophistication, scientific discovery and male-dominated power. They were, in fact, a genocide of traditional sacred knowledge and we are still suffering the negative effects of it today. If you were found to have a green ointment (a great remedy for muscular spasm and pain) in your possession during the witch trials, you could be instantly deemed a witch, a crime punishable by death.

Trepidation around these herbs is still strong and acceptance of the unknown is not something our society encourages. Misinterpretation of these herbs is rife. With lack of research and knowledge we have been in danger of losing the whispers from the past. Much of what remains is simply annotations from the trials of the Inquisition, where recipes gathered under duress can be found.

SOLANACEAE OR NIGHTSHADE FAMILY

Most of the Solanaceae family, which consist of over 2500 species, contain potent alkaloids. Important members of this vast plant family both feed and energise our global population. Potatoes, peppers and tomatoes feed millions whilst chilli and



coffee stimulate the masses. The alkaloid content of these plants is what gives them their strong-acting nature. The power of these alkaloids can be seen in some of the plants we use as food. Look at the poisonous nature of the green skin of potatoes or the endorphin releasing properties of the chilli.

The word alkaloid derives from the term vegetable alkali, referring to the alkaline nature of these compounds. Isolated Alkaloids generally have a strong bitter taste thus tend to act as digestive stimulants. The Solanacea family contain some of the most powerful of these herbs and we will focus in on Henbane and Datura.

MECHANISMS

Both datura and henbane contain tropane alkaloids. Tropane comes from the Greek Tropos, meaning 'taking a turn' or 'adopting a new manner', indicating the transformative nature of these compounds. Tropane alkaloids act in part on the cholinergic system pathway of the nervous system, which is involved in the regulation of memory and learning. The cholinergic system nerve cells respond to a neurotransmitter called acetylcholine (ACh).

Our view of the world is in part shaped through how we respond to ACh, associated with a number of cognitive functions, including memory, selective attention and emotional processing. ACh is therefore allied with consciousness.

ACh is also an initiator of skeletal and smooth muscle contraction. In the heart, it exerts influence over the maintenance of the rhythm of the heart at rest, a little like a natural pace maker. So in heart tissue, ACh acts in an inhibitory way, reducing heart rate, whereas in skeletal muscles it excites contraction and has a function that aids the movement of muscle and the mobilisation of joints. Henbane and datura act as anti-cholinergic agents, which means that the alkaloid compounds within the plants have been found to sit on the receptors in the cholinergic system so that resultant heart rate increases and muscle activity decreases.

When we interfere with this pathway, as with datura intoxication, we can access more ancient, primal and animalistic aspects of the brain, as we access our reptilian brain more directly. We can, in effect, reveal our ancient selves by cutting off some of the conscious awareness that we have from the cerebral cortex.

HENBANE

Henbane, *Hyoscyamus niger*, enjoys the margins, the edges of fields. The plant does not need rich soil but rather seems to prefer poorer quality hummus and it will happily share a pot with another more nutrient dependant species. The seeds are numerous and tiny light brown with a reddish tinge. The most striking part of the plant are the purple/red veined white flowers, so incredibly intricate and mesmeric. The leaves are

sticky to the touch, emitting a fetid scent and covered in light, long hairs.

This plant has long been documented and has been deployed most often to sedate; an alternative to opium. Compared with opium, henbane is more effective as a sedative since it does not result in constipation. It can be used to induce sleep and calm unbalanced nerves. In ancient medicine, the seeds were heated over coal or charcoal until they produced fumes, which were then inhaled as a painkiller or other treatment for toothache.

Over the years, descriptions of this plant have become much maligned. This useful medicinal ally is now often painted as a filthy looking plant, a stinking malodorous weed or evil looking, giving it a sinister reputation as with all the witching herbs. Around the middle ages, even having these plants growing in your garden could be enough to be questioned for sorcery! Much had shifted between the times of the ancient Greeks, who considered henbane sacred to the God Apollo and a herb that walked in the light, and the times of the Inquisition, when a Christian wave of suppression induced fear and loathing of the very plants that brought us personal empowerment and powerful medicine.

Our work, Sensory Herbalism, teaches people how to build their own relationships with plants using their full senses, intuition and close observation. Without fail, when we have given people the time to connect with henbane in a group setting, Henbane initiates feelings of lightness, chatting and laughter. We always notice that there is a willingness to talk about the reactions to this plant in comparison to datura.

Henbane, as we mentioned has historically been associated with the sun god Apollo, a much more upbeat and jovial god than some of the others written about in ancient texts. It was one of the main ingredients in beer, before the first ever drug laws were initiated in Europe in the early 1500s. The 'Beer Purity Act' decreed that only Hops could be added to beer. When you compare Hops and Henbane, it is clear that a much more sedative, numbing herb was added in place of an uplifting and psychotropic plant. Imagine the shift in energy this change produced in community celebrations, festivals and rituals.

In modern western herbal medicine a tincture is made from the aerial parts of the henbane plant, one part herb to ten parts 70% alcohol, and the dosage is recommended at 5-20ml per week

Henbane contains the alkaloids hyoscyne and hyoscyamine, which together equal the amounts of scopolamine (thought to be responsible for a tranquilizing or narcotic action) measurable in samples. These alkaloids are parasympatholytic, meaning that they competitively inhibit ACh. Recalling that ACh initiates muscle contraction (except in the heart), this inhibition is largely responsible for the antispasmodic effects

of the plant making it useful in conditions where spasm is an issue, like Parkinson's.

In homeopathy Henbane is made into a remedy called Hyos. The Hyos remedy can be used for hyperactivity and behaviour disorders in children, hyper sexuality or sexual deviance, especially adapted to those who suffer from jealousy, to victims of delirium and to people who are inclined to convulsive attacks.

DATURA

Another herb of Solanaceae or nightshade family is datura or angel's trumpet. It has sticky stems, deep green leaves, elegant trumpet flowers and spiky seedpods, flowering at night a luminous trumpet that appears like the full moon when looked at directly. The scent is notably more powerful at night when she prepares to attract her pollinators. She tricks the moths with her moon-like appearance and sweet smell to pollinate her trumpets. Found growing in the most unlikely places, on waste grounds, in yards or where the soil has been upturned, the edges of fields or any gardens and she is common in the warmer climes of southern Europe.

It has been postulated that the cholinergic system is the regulator for the serotonin induced pathways of sleep. While serotonin has been widely established to initiate REM sleep, it looks like ACh has the role of ensuring safe awareness is maintained while sleep is occurring. It keeps us vigilant enabling a filtration of sounds and eternal stirrings. Do we need to wake up if the wind blows outside or our partner moves in bed? Or are the sounds more alarming and require our conscious awareness? Appropriate production of ACh can determine these things and therefore acts as the guardian of our sleep. Now if we inhibit the effects of ACh, we are blocking the filtration system of our night's rest. Datura, with her high levels of atropine, unleashes a powerful force, representative of the more feminine power of the night, less discerning about what and how we perceive what we are experiencing.

A shadowy history, datura has a tale that needs to be told. Long associated with werewolves as many psychonauts have found in their journeys to other realms. Feelings of morphing into wolves, growing hairier and hands turning into paws are common when under the influence of datura, especially when imbibed during the luminous full moon.

Medicinally we use datura for the lungs, specifically as a bronchodilator. By opening up tight or restricted lungs, she helps us to breathe more deeply, take in oxygen and fill ourselves up with life. In the 1970s and 80s the herbal company Potters used to make asthma cigarettes with datura that could be bought at any chemist without prescription.

Unfortunately many a trippy explorer dabbled without prior knowledge of dosage in the 1970s and burnt their psycho-emotional edges, often returning with tales of madness and lost days. The stories travelled throughout the alternative

scene and spread fear into those experimenting with psychotropic plants. There is still a residue of fear that surrounds the beautiful moonflower, due to this association with death and madness. Datura does not come without risks but heroic doses are not the order with this beautiful and mysterious plant. She demands careful consideration, respect and small doses.

Atropine, one of the tropane alkaloids found in relatively large amounts in datura, is used in medicine to dilate the pupils before eye operations and as an anaesthetic. There is a syndrome caused by the over-use of the tropane alkaloids, the anti-cholinergic syndrome. There is a great ditty that goes with it in order to recognise the symptoms.

*Blind as a bat,
mad as a hatter,
red as a beet,
hot as Hades,
dry as a bone,
the bowel and bladder lose their tone,
and the heart runs alone*

In the case of an excess dose of datura you will see the symptoms described above, usually starting with an unquenchable thirst. The pupils also become dilated. In some large doses, as a result of the effects on muscle, the body will be very still but the heart will be racing.

Interestingly, when used as a mind-altering agent, datura can often produce similar experiences amongst different people. This phenomenon has been documented since the mid-1500s when Andres Laguna (who served as a physician to the Spanish King) started to look more deeply into the effects of the plants that were being confiscated and interrogated during the witch trials. Andres Laguna was a scholar and medicine researcher who set about trying to prove that the visions folk were having came directly from the plants and not from direct communion with the devil. He showed that even the wife of the executioner had similar experiences as those who were deemed witches. His work was swiftly shut down under pain of death.

Datura contains more of the tropane alkaloid atropine than Henbane. Atropine named after Atropa, one of the three fates in Greek mythology, who holds sharp scissors, determining how and when your chord of life is to be cut. She is directly responsible for death. This naming instantly creates a picture of the powerful nature of this compound in particular, and the darker side of datura intoxication. Datura is the feminine lunar archetype, a seductress capable of offering great insight but can also induce a powerful, hysterical madness. She is to be revered and respected. We can connect with our intuitive self but also the dark parts of our psyche and ancestry that lay hidden deep within.



Atropine seems to exert the strongest cholinergic effects and so has been more readily isolated for orthodox medicine than the other compounds. In our groups over the years, when tasting and connecting with datura, we have seen a much more introspective response to the herb. There is less chatter in the room and folk are more reserved or possibly need to say less when we ask for feedback about their symptoms.

Unfortunately, the witching herbs scared the 'powers that be' and thus fell into abuse, control, misunderstanding and misuse. With the rise of patriarchy, God and governance, which led to subjugation of the people, access to knowledge about these plants was quelled, panic ensued and many of these beautiful and powerful herbs were destroyed, in some cases literally ripped out of the earth.

Through the use of these plants in measured dosages, sometimes just through the growing and presence of them, we can utilise the dream state entered to find answers to questions around our own health and the health of others. Further still, we can form strong connections with our tribes, our communities, connected through ceremony, common experiences and understandings. We can become more conscious and caring human beings, complicit in the knowledge that humanitarian actions and compassionate aims are paramount for all life on the planet.

NATIVE POWER PLANTS

There are many different 'power plants' from exciting and exotic far-flung places. Over the years we have enjoyed and learnt from exploring these foreign plant teachers, but over the past thirteen years however, we have been deeply drawn to hone our attentions in on those that grow closer to home, here in Europe the British Isles.

Interestingly, it is our very own native or naturalized plants, that are the least researched and shrouded in mystery. It is for these reasons that we began a journey of historical and personal research. We searched for information written in medical texts (ancient and modern), anthropological papers, herbals, historical references and annotations from the witch trials.

With the academic information gathered, we worked at connecting with each plant individually by growing and imbibing them, alongside investigations into creating different applications tinctures, teas, balms, creams and powders, drawing the plants, writing down our experiences and all the physiological and emotional effects we noticed. We discovered that the smaller the dose, the more profound the experience and long reaching its effects, no need to work with masculine heroic doses.

Using these plants in what would could be viewed as micro-dosing, blows away any terror that needs to surround them, fears about poisonings or toxicity levels, even growing a potent plant is often enough to alter your reality.

These beautiful, insightful medicinal plants, when grown and imbibed in small doses can bring great insights and wonderful experiences. Cultivating these herbs is often enough for them to enter into our dreams and take hold of us in a truly magical way. Exploration into these herbs is exciting and completely 'safe' in very small doses, i.e. drops of tinctures diluted in water. It really does not take much to connect with and feel the spirit of a plant, especially ones as powerful as these.

Women's use of native power plants was forced underground, and swept the floor clean for male dominated patriarchy to run amok in the spiritual realm of ordinary lives.

The witching herbs are associated with to the crone archetype, and their connection with the dark times, the winter, the madness, the death times, and their ability to poison and at most extreme cases cause death (although this is infrequent) ties them further to this association. These herbs deserve upmost respect. Demonization and fear are enemies of education and connection, so we counsel careful, slow, observation of all these powerful medicinal herbs.

A starting point of exploration is your local wild spaces, gardens and parks. Go plant hunting, get a good identification book and perhaps choose one particular plant and ask to be introduced to it. Go walking and see what you discover, do not ignore anything that comes to you on these wandering as nothing is linear in this woven world of magic. It may take moons of exploration and searching but so much may be uncovered in this spiral of adventure.

If you get impatient, go on a quest for the seeds, both henbane and datura seeds can be bought from a variety of sources. Propagation and cultivation can offer more insights to the plants qualities and personalities.

CONCLUSION

In certain dosages and preparations the witching herbs have the ability to induce hallucinations. The word 'hallucination' in the Oxford English dictionary is defined as 'an experience involving the apparent perception of something not present'. Altered states of consciousness and indeed hallucinations can, in other cultures, be perceived as messages for healing from Spirit.

The more masculine approach of action and linear thought has extended into the way that folk in our modern era, seek out the entheogenic plant experience. Not only have rituals with exotic psychotropic herbs been commoditised into businesses they are also often extremely prescriptive or hierarchical with little room for the wildness at heart to be expressed.

The term recreation comes from the Latin recreation, originally meaning refreshment of health or spirits by relaxation and enjoyment. Unfortunately there are some barriers in European culture to mixing spirituality and recreation especially here in the UK, perhaps because images and ideas of the Christian

church seem so in opposition to celebrating and partying with recreational substances. The spiritual experience overlaid by a conservative, guilt ridden, and sexist religion hasn't done wonders for social positivity.

Here in the UK we have a spiral, chaotic and feminine tradition that can allow us to experience the spirituality of the henbane and datura. This tradition has the capacity to create connectivity and a sense of oneness, generating more awareness of others. The witching ointments, which contain both these herbs amongst others, are and have been prepared in community and in ceremony for many years, and create a space for all to be heard and a spirit of togetherness celebrated. The herbalist, the midwife and the death wife, could all harness these magical herbal gifts, in their individual and combined crafts, utilised for health, birthing, and death rites.

Herbalism as Rebellion

Presented by The Seed SistAs

'With rebellion awareness is born' - Albert Camus

Being a herbalist is a political act. Herbalism has had many ups and downs through the centuries and while it is enjoying a revival through a resurgence in interest of more self-sufficient ways of managing our healthcare, it is also seeing some of the most stringent guidelines and regulations that it has ever seen before.

We Seed SistAs met during a degree in herbal medicine, a scientific focussed 4 year degree, that gave us a foundation in understanding of tissues, disease and the human body but didn't teach deep and wonderful connection to the plants and nature.

After much debate and discussion we decided to channel our rage at the state of the world into something positive and to work to Cultivate change, we formed our Social Enterprise, Sensory Solutions Herbal Evolution as an arts and health-education, Community Interest Company. We are completely committed to the promotion of empowerment, autonomy, freedom, health, and diversity through teaching about plant medicine. All of our Sensory Herb courses, publications, talks and tours promote the aims of the CIC: to educate about and promote the growing and use of herbal medicine.

We are known as the Seed SistAs, and spend a lot of time collecting and sharing seeds of medicinal plants along our travels, organizing and attending seed swap events and inspiring and cultivating change were possible

We believe that a positive shift occurs in each person that is educated about the harvesting and utilization of herbal medicine, a reconnection with our precious plants and

planet ensues. Through this reconnection and shift a whole new system of healing relevant to today will be created. A system that takes the pressure off the NHS by empowering people to treat their minor ailments with abundantly growing herbs and a system that builds healthy communities by connecting people to their local plants, to each other, good health and our beautiful Earth.

Our publication; The Sensory Herbal Handbook a culmination of years of working with plants, health and the cycles of the year has been written for anyone who has heard the whispers of the wild and has been stirred to know more.

We are driven by the recognition that we are living in a world that is in ecological crisis and life on earth can feel this chaos and deepening sadness. Movements for sustainably and environmental projects are blossoming world over, often with women leading the way, but we are living in a world that has far to go - Cranfield University reported the number of women holding senior jobs in the boardrooms of Britain's biggest companies fell in 2018, quotas to address the balance were made up in less senior positions. The implication here, that where women only make up 32% of the board room, women are less involved in the big decisions on climate and sustainability policies within large companies. It also worth noting that Canfield's research states that the woman that are in senior positions are markedly lacking in diversity. Research carried out at Adelaide University, concluded that the average corporate could save as much as £2.4m on the £158.54m average environmental lawsuit for every woman it appointed at boardroom level.

There are many people working and fighting for change – for social change and environmental laws to be brought into our court system despite the existence of international agreements or codes of conduct, the devastation and harm to our atmosphere is worsening.

Existing international declarations, treaties and protocols, do not impose an international legal requirement to uphold nation state and corporate responsibility for ecocide. The impact of including ecocide law as an international crime will be significant; prohibiting dangerous industrial activity that causes ecocide and exacerbates climate change has the potential to be a game changer on a global scale.

COMMUNITY GARDENS

The aims of our Social Enterprise is to educate people about the harvesting and utilization of plant medicine thus spreading the radical roots of a whole new paradigm of healing relevant to today. This is achieved through various educational resources and community growing projects managed and run by the us and our amazing Sensory Herbal Apprentices. Through each of the Sensory Community Medicine Garden projects, education is proliferated about the medicinal power



of plants through the growing, harvesting and the creation of simple plant remedies.

Community gardens have the potential to mitigate some of the problems that plague our societies. They can be a beneficial addition to many communities by increasing the availability of nutritious foods, and useful medicines strengthening community ties, reducing environmental hazards, reducing food miles and creating a more sustainable system.

Getting our hand down in the soil, sowing seeds, planting out, weeding and creating compost is now a whole new studied branch of health! Social and therapeutic horticulture - the process of utilizing plants and gardens to improve physical and mental health, as well as communication and thinking skills.

Gardening is a wonderfully flexible medium that can transform lives with the ability to help everyone, regardless of age or disability.

The benefits of a sustained and active interest in gardening include:

- Better physical health through exercise and learning how to use or strengthen muscles to improve mobility
- Improved mental health through a sense of purpose and achievement
- The opportunity to connect with others – reducing feelings of isolation or exclusion
- Acquiring new skills to improve the chances of finding employment
- Just feeling better for being outside, in touch with nature and in the 'great outdoors'

Horticultural and woodland therapies are attracting attention thanks to the increasingly well-documented value of the outdoors for people's mental health and wellbeing. There is a growing pile of research showing that the flexible nature of gardening projects allows service users to feel empowered in a non-threatening space. It also helps develop nurturing skills and is thought to boost mindfulness, as well as increasing serotonin and dopamine levels.

SENSORY HERBALISM

Working together over the past 20 odd years, formulating medicinal preparations based on lunar cycles and the energetics of the plants, we created combinations of herbs to treat the root cause of disease. We travelled far and wide teaching and giving people drops to encourage altered states of being, more passionate, more self-love and nurture, courage for difficult times. Over the years we developed a system based on the plants through the seasons, we called this Sensory Herbalism.

Sensory Herbalism is based on the Western Herbal Medicine Tradition, drawing on tools and energetic language that have always been used to connect with and understand plants and people but it differs. Western Herbal Medicine is a holistic system of medicine focussed on returning a persons health back to a state of homeostatic balance. It has become a practice with rigorous medicalised training and often (but not always) little connection to the plants themselves. Sensory herbalism differs from this. The focus is on the plants themselves. Getting to know them intimately through utilising your own senses and intuition as well as the analytical brain. It has a strong political ethos. Naturally, in following the plants, it is clear that habitat and diversity have become under threat. Places that can be harvested from have reduced in number since the introduction of modern farming practices and the use of pesticides. Sensory herbalism aims to get to know the plants but also to protect them and to encourage the growing of plants, the instigation of re-wilding universe green spaces and to pass on knowledge and information to reignite people's interest in these most valuable, beautiful and medicinally-rich beings.

There is a focus on how as humans we can restore our own health through interacting with the plants themselves in energetic doses and through the growing and harvesting of them. Sensory Herbalism has a strong focus in creativity holding great emphasis on connection to nature or spirit through storytelling, drawing, poetry. It draws on the power of intension whilst growing, crafting and taking medicines. It is a system developed to create and strengthen the mutually beneficial relationship between herbs and humans.

Herbal Practices for Parents and Caregivers of Children: Building Personal Resilience Through Regular Herbal Practice with Young Kids

Presented by Kristin Stark

It can be hard to find the time for our daily herbal practices in the best of times, and especially when parenting or caring for young children. Yet, integrating herbs into our everyday lives can help to build health, wellness, and joy, making us more resilient as individuals and humans living in community. **Let's explore some fun herbal practices that we can welcome into our daily rhythms to help cultivate nourishment, joy, and resilience.**

Part 1. Caring for the Caregiver (yourself!)

Even though this presentation is about kids, let's start with you. Caregivers and parents spend so much energy taking care of others, so we'll start by thinking about one herbal practice that's just for you.

A QUESTION TO CONSIDER:

What herbal preparations bring you joy? Or, how would you enjoy working with herbs day-to-day?

Consider what type of herbal preparation you enjoy working with: *Herbal teas? A tincture or elixir as a 'support blend'? Topical herbal oils or salves/creams?*

Consider how you enjoy interacting with herbs: *Do you enjoy quiet time with herbal plants and trees? Do you enjoy herbal baths? Herbal steams? Do like drinking tea? Do you like making things with herbs in the kitchen? Do you prefer to buy herbal preparations that someone else makes?*

Start with this brainstorm and see if there is one simple herbal practice you would like to adopt that would bring a little joy and self care into each of your days. If you're not sure where to start, consider a *daily infusion* --

HERBAL LONG INFUSION: A SIMPLE WAY TO WORK WITH HERBS DAILY

Herbal long infusions offer a nice way to get the goodness of herbs (vitamins, minerals, and more) into our bodies regularly. Herbal infusions are generally made with the leaf and flower parts of the plant.

How to make a long infusion:

1. *Place herbs in mason-type jar (that can withstand boiling water) or tea pot.
2. *Add 1 heaping tablespoon dry herbs for each cup of water – for 1 litre of infusion add 4 heaping tablespoons of dry herbs.
3. *Pour in boiling water, cover. Let stand for 4 – 8 hours. Drink at room temperature or reheat gently on the stove (without boiling).

Infusion suggestion 1: A blend for emotional support and a feeling of inner strength and resilience.

Consider a blend that includes: Tulsi (*Ocimum sanctum* or *O. tenuiflorum*), Rose petals (*Rosa sp.*), Linden (*Tilia sp.*).

Infusion suggestion 2: A blend that offers vitamins and minerals so that you are getting some green nutrition into you each day.

Consider a blend that includes: Nettle leaf (*Urtica dioica*), Violet leaf and flower (*Viola sp.*), Peppermint leaf (*Mentha x piperita*). Add other herbs that you enjoy.

**Note: When starting a practice with any herb, always check for herb/drug interactions and for any contraindications with your current state of health / any health concerns. If unsure, talk to a herbalist!

Part 2. Simple Ways to Work Herbs into Cooking

(you may already be doing more than you realize!)

Working food-type herbs into our cooking is a common way that humans have gotten herbs into their bodies throughout history. Incorporating foods like **onions, garlic, celery**, and aromatic green herbs like **thyme, oregano, sage, and rosemary** into our cooking can help to boost the vitamin and mineral content, as well as adding antioxidants, helping to reduce inflammation, and more. To make this work better when cooking for kids, sometimes it helps to hide the extra things you are adding. **See some tips to try below:**

- **Increase the quantity of onions and garlic that you put into a recipe.** If a recipe calls for one onion, consider adding three. To hide the onions and garlic in the food, cook them in the pot first and then puree them with an immersion blender to get a smooth base for whatever else you will be adding to the recipe. This works for soups, stews, curries and more.
- **Include herbs like sage, rosemary, thyme, and oregano in your cooking.** Again, like with onions and garlic, you can usually add more than a recipe calls for and still end up with a nice end flavour.
- **Work with bone broth or herb broth in places where you would normally add water.** Consider a bone broth, or if you are vegetarian, a broth that includes seaweeds, mushrooms, and even mineral-rich herbs like nettles. Broths hide particularly well when used to cook foods like lentils and as the base for a soup or curry dish.

Part 3. And Now Fun with Kids!

Now that we've got some herbs for you and into your food, let's think about herbs and kids. To start with, instead of thinking about how we can get our kids to *eat* herbs, **let's talk about play.** Through play we can find fun ways to bring herbs into our kids' lives, starting by thinking about what lights our child up and what might spark their interest. This can be the start of a lifelong relationship with herbs built on scent-based and tactile memories of playing with herbs as a child.

Here are a few ideas for how to bring herbs into play:

SPICE JARS

*If your child enjoys getting their hands involved in things, consider setting up a **spice jar collection.***



You will need:

- Empty spice jars or other small jars; small bowls and cups; small spoons.
- Whole spices or herbs that will be dedicated to play, such as: whole cloves, cinnamon sticks, cardamom pods, whole nutmeg, rose petals, lavender buds, anise stars, whole coriander.
- Other fun things to include: a small funnel, a tiny box grater, a mortar and pestle.

What to do:

- Lay out a picnic blanket and put everything on the blanket
- Allow your child's imagination to take the lead. They can blend, pour, and mix, allowing the scents of the herbs to fill the room. In our house, sometimes the spices get mixed into various 'potions' and served to stuffed animals; Other times the spices themselves become small creatures being moved through a 'playground' of jars and cups and spoons. Each time we get out the spice jars the play goes in a different direction, but it always smells really nice!

DREAM PILLOWS

*If your child enjoys crafting, creating a **dream pillow** might be just the thing to get them engaged.*

You'll need:

- Small piece of cloth (roughly 15cm by 15cm); A piece of yarn or cloth ribbon.
- Herbs such as dried rose petals, lavender flowers, mugwort leaves or flowers, or evergreen needles.

To assemble:

- Lay the cloth out flat.
- Allow your child to pick their herbs and place a small pile of herbs in the centre, spending some time crumbling them together, arranging them, and inhaling the aroma.
- Gather it up into a bundle and tie it with the ribbon or yarn.
- As an alternative and more involved project, you can also sew a tiny pillow (in a square or heart or other shape) and then stuff that with herbs.

IDENTIFYING PLANTS AND TREES

*If your child enjoys moving their body while they think, consider **exploring outside and learning to identify plants together.***

- Identifying plants together can be a great way to explore and think together. You don't need to already know the plants yourself – get a field guide for your area or allow your curiosity to guide you. The goal here isn't necessarily to correctly identify a plant, but instead to follow the curiosity,

observing closely how different plants grow and what similarities and differences you can find between them.

- For a late autumn/winter outing, consider looking at the evergreens in your area and seeing if you can learn the difference between different species of pine, or spruce and fir. Look at how the needles grow (are they single or in bunches?); Look at how long the needles are; Observe whether they are flat or round; Look for other similarities and differences between needles, cones, bark.
- For a spring/summer/early fall outing, you can look at leaf growth patterns, observing where they grow from (Do they grow in pairs up the stem? Do they alternate up the stem? Do all the leaves come out of the base of the plant?) Also look at leaf shape and whether leaves have smooth edges, toothed edges, etc.
- In addition to a field guide for your area, a great book to support this inquiry is "Botany in a Day" by Thomas J. Elpel.
- You can also check your observations with an app like iNaturalist once you think you've figured out which plant you are looking at.

Part 4. Herbal Treats

It can be fun to incorporate herbs into some of the treats we make for our kids. We'll look at three here: herbal cookies, herbal hot cocoa, and herbal tea parties. There is so much you can with herbs in the kitchen - if this interests you, a good herbal cookbook can be a great resource and inspiration. Two favourites in our house are:

- "The Boreal Herbal" by Beverley Gray
- "Family Herbal" by Rosemary Gladstar

HERBAL COOKIES

If you are an adventurous baker, consider incorporating herbs into your existing cookie recipes. Possible flavours / herbs to try include: **lavender flowers; rose petals and rose water; ground white pine needles** (though it can be hard to grind them fine enough!) with **organic orange zest** and **cardamom; or pumpkin pie spices** like cinnamon, cloves, allspice, and ginger.

HERBAL HOT COCOA

Herbal hot cocoa can be a great way to work some herbs into your day. You can play with flavours that *will* get noticed (like peppermint) OR you can play with additions that are less likely to get noticed (like burdock root (*Arctium lappa*) decoction). Here is a recipe with a couple variations to try:

Step 1. Make 1 cup (250ml) of strong herbal tea or decoction. Try:

- **peppermint tea** (with loose peppermint or 2 bags of peppermint tea)



- **chamomile tea** (same as for peppermint; this flavour will be more subtle)
- **burdock root decoction** (put 2 Tbsp dry burdock root in 2 cups water; bring to a boil and simmer gently, covered, for 20 min. Strain to get 1 cup hot liquid)

Step 2. In a small pot, combine 1 cup liquid from step 1 with approximately 1 cup (250ml) milk of choice (almond, cow, etc) and 1-2 Tbsp cocoa powder. Whisk to incorporate cocoa powder. Heat gently.

Step 3. Sweeten with honey or maple syrup. Start with 2 tablespoons and add more to taste.

(Makes around 2 cups (500ml) hot chocolate)

TEA PARTY

Sometimes kids love herbal tea and sometimes they don't! Having special teacups or a mini tea set to drink the tea from can get them more excited about drinking it. Play with different tea flavours to see if you can find one or more that your children enjoy. Part of the idea here is simply to expose them to a range of flavours. Some flavours to consider:

- **Red teas** made with herbs like hibiscus &/or rose hips &/or rose petals. Lemon balm &/or lemongrass can also go well with this flavour combination.
- **Spiced chai-type teas** with cinnamon, cloves, cardamom, and ginger. You can add milk and honey.
- Straight **peppermint** or **lemon balm tea**.
- **Chamomile and lavender** with a bit of honey for some pre-bedtime calm.

Blend these from loose herbs or check out the herbal teas in the health food section of the grocery store and see if you can find a blend or two that your kids enjoy.

Have fun!

Humoral Medicine - Ancient wisdom for modern healing

Presented by Stephen Taylor

Humoral medicine is the traditional system of health care of the Western world.

It is intrinsically holistic in its viewpoint taking its starting point from the belief that the nature of the cosmos is a harmonious interaction of all its parts.

*"In the beginning... Gaia, the Earth came into being, her broad bosom the ever firm foundation of all."
(Hesiod, 117.)*

It evolved out of a world view shared across the Eurasian continent that described all natural phenomena as being combinations of four basic elements, which manifest in the body as both physical and non physical aspects. These aspects are called humours, and are identified by combinations of the intrinsic qualities of heat and cold, and moist and dry. Such combinations engender and impart a particular temperament wherever they manifest, and every aspect of the living body has an ideal temperament within which it functions best. When the humours are in balance, like the Earth they provide a firm foundation from which all other things may arise.

The first record that we have of humoral medical philosophy comes from the writings of Empedocles (b.494bc.) the humoral system was further developed by Hippocrates (b.460 bc) and then refined by the Greek physician Galen (b.129ad) who practiced in Rome.

Hippocrates is said to be the physician who rescued medicine from superstition, and was the first to stress the importance of observation and record keeping of the development of disease. However this is a viewpoint emphasising what western science would recognise as a form of the 'scientific method' and through being influenced by today's filter of modern western scientific rationalism edits out some equally important aspects of Hippocratean medicine. Hippocrates was in fact an Asclepiad, a practitioner who worked in the setting of healing temple complexes called Asclepiions, he practiced medicine in conjunction with temple priests and priestesses called Therapeutes. The medical approach used in Asclepiian medicine proposed that it was the role of the practitioner to use skill, insight, observation and medical intervention to bring the patient back into a state of health. Good health was envisioned as a natural state epitomised by Gaia, the cosmic mother, who creates the order of the cosmos from the chaos of the void. This state of health depends on all the aspects of a patient- mind, body, spirit and emotions being attended to. When such a state was engendered the natural healing forces within the patient will arise in the form of a strong divine spirit.

The healing temple provided a sanctuary within which the patient's physical, mental, emotional and spiritual needs could be met. The patient would be treated through a wide range of therapies, including diet, exercise, drama, philosophy, song, communal ritual, medicines, cleansing regimes and spiritual renewal. The healing process would culminate in the opportunity to attend the Abaton or dream chamber in the hope of receiving direct healing from one of the healing deities- Asclepius or Hygiea, through encountering them or one of their sacred animals in a dream.

The natural elements arise in the body as the four humours

1. **Air** - hot and moist- Sanguine humour, has its seat in the liver, provides the medium of blood
2. **Fire** -hot and dry- Choleric humour, has its seat in the gall bladder, is the red portion of blood.



3. **Earth** – cold and dry- Melancholic humour, has its seat in the spleen, is the residue of the blood.
4. **Water**- cold and moist- Phlegmatic humour, has its seat in the lungs, is the plasma in the blood.

The humours are dynamic and are inimical to one another, so that through their natural interaction they change and transform. Heat will dry and cold condenses and moistens. Because the humours are in constant flux and transformation they require a medium within which to connect, this medium can have no actual physical form of its own, and must provide a neutral space of interaction. This fifth element is called Ether and has no specific temperament of its own.

The body itself is maintained through the function of four administrative virtues:

1. The apprehensive virtue- Fire- gall bladder- this virtue distils out the essence of things.
2. The Digestive virtue-Air-Liver- through a process of four concoctions this virtue nourishes the organs and tissues with a balance of humours.
3. The retentive virtue-Earth-Spleen- this virtue enables the humours to be held in tissues and organs providing growth and nourishment.
4. The expulsive virtue-Water-Kidneys- this virtue clears excess and waste, makes the waste soft and the passages smooth and moist and enabling complete and effective evacuations.

Each virtue is associated with a particular element and shares its temperament. The virtues are the processes through which the natural functions of the body arise, and can equally be blocked or obstructed in their function by the excess of any of the individual humours.

Life is maintained by the action of the Spirits

*"Natural forces within are the true healers of disease."
Hippocrates*

When the body is provided with a balance of humours the natural forces within- known as the 'Spirits' can arise in a strong and healthy manner.

- The procreative Spirit, desire and fertility- resides in womb and testes
- The Natural Spirit, Produces digestion and humours-resides in the Liver
- The Animal Spirit, Provides the sensitive and intellectual virtues of the nervous system
- The Vital Spirit, a combination of innate heat, and radical moisture-resides in the heart, and is the manifestation of the divine light or the Soul in the body.

If a particular humour becomes excessive, it will cause an imbalance that results in disease by offending the spirits and blocking the flow vital spirit. It will also overwhelm other organs and interfere with the function of the four administrative virtues.

Temperament

"Consider, that all diseases are cured by their contraries, but parts of the body maintained by their likes...consider the natural temper of the body afflicted, and maintain it in that, else you extinguish nature." Culpeper 1652

Alongside each organ, virtue and spirit having a natural balance of temperament each individual will also have a temperament that is dominant within them, thus we have earth, air, fire and water people.

Sometimes there is a combination of two of these temperaments with one being primary. The temperament of a person will influence all the ways that they manifest in the world, and each temperament also has a life stage, emotional disposition, and set of physical strengths and weaknesses associated with it.

1. Air- Youth, springtime, joyful, explorative, prone to hot swellings, inflammations and over-indulgence
2. Fire- Adulthood, summertime, striving, angry, prone to overheating and getting burnt out
3. Earth- Middle age, autumn, considering, solitary and studious, prone to getting stagnant, blocked and from suffering from chronic conditions
4. Water- Old age, winter, tolerant, slow and indecisive, prone to cold swellings, oedemas, phlegm and catarrh.

An individual ideally should attempt to maintain an equal balance of all four humours, but is likely to find that it is the dominant humour which is most likely to become out of balance and lead to disease.

We are able to classify herbs, foods, and lifestyle by temperament, and therefore can balance or temper a person or organ by attempting to counter the effects of an imbalance. This means at its simplest level that we can use hot or heating herbs to balance and counter cold conditions and cold temperaments, and cold or cooling herbs to balance and counter hot conditions.

This always provides us with a narrative with which to relate to a patient, their condition and how that condition evolves over time. Whilst we may use a cold strategy to counter a presentation of heat such as an inflammation, it may be that alongside it we will use a warming herb or strategy to strengthen a virtue, spirit or organ. This means that we always have an idea of underlying causes, which will give us a treatment strategy over the long term with each patient.

CATHARSIS

Catharsis is the clearing of excess humours, in the physical realm this may involve sweating, purging, diuresis and vomiting. Before attempting to cleanse an excess humour it must be 'ripened'- made mobile or accessible to the cleansing virtues of the body. This may will involve softening hard cold blockages with warming and softening remedies, or making moist and cool hot residues, or involve consolidating remedies to bring waste together prior to evacuation.

The excess will also afflict the emotional and mental aspects of a patient, so catharsis through releasing emotional and mental distress through processes including singing, shouting, crying, dancing, and drama are also effective, necessary and helpful.

PROTECTING THE ORGANS AND THE SPIRITS:

"Be sure always to fortify the aggrieved part of the body by sympathetical remedies." Culpeper 1652.

Once excess has been cleared, and temperaments have been balanced, one must provide strengthening remedies for any aggrieved organ or part. A sympathetic remedy is one which shares the temperament of the part afflicted or is one that shares a correspondence.

SYMPATHY AND PLANETARY SYMBOLISM.

In the early medieval period there was a re-introduction of classical Greek and Babylonian ideas and philosophy via the arrival of Arabic translations of the original Greek and Latin manuscripts which had been lost in Europe.

One of the most influential philosophies that consequently came to command a central place in western thought was Hermeticism. It saw the world as being a reflection in a microcosmic form of the divine cosmos, and that the planets, or 'celestial bodies' were indicators of the cosmic and divine activities.

The planets were considered also to have a relationship to elements, temperaments and all things in existence. This meant that they were able to provide a common set of symbols that could show the relationships and interactions of otherwise disparate aspects of the cosmos.

Plants, people, seasons, emotions, virtues, organs, anatomical parts, foods, herbs, and environments can therefore all be cross referenced according to their planetary rulership.

In a world where the vast majority of people were not literate the use of a symbolic language was very helpful to communicate ideas. This means that if you know that a herb is ruled by the planet Venus, you also know that it will have a sympathetic relationship to all the organs, systems, and diseases associated with Venus. Venus rules with the moon the water element, which corresponds to the phlegmatic humour in the body. The stomach and bowels, brain, the exhalation,

urinary system, joints, reproductive system and the skin are all phlegmatic in character. This means that a warm dry Venus herb such as Thyme will help to clear an excess of phlegm or catarrh from the lungs, digestive system, and any of the phlegmatic organs, and bring them into balance while also tonifying and strengthening them. A warming herb like Thyme will also temper or balance the excess cold caused by excess phlegm, and therefore also balance the temperament of the body and organs.

In Culpeper's herbal we will find the rulership and the quality of each herb elucidated, enabling us to choose remedies suitable to the humoral nature of the person, organ, and condition that we are treating, either through having a sympathetic relationship to the aspect being treated, or through having a similar temperament.

BRINGING HUMORAL PRINCIPLES INTO OUR PRACTICE

Whatever way we choose to use our remedies, having an idea of the natural temperament or constitution of a patient is always a very helpful starting point.

We can assess every aspect of the patient and their condition in the light of this temperament and therefore develop approaches that are both individual, inspired, while being well founded.

We can use the insights of humoral practice to give us a pathway of simple interventions which will gradually clear the impediments to health and support the patient in every aspect of their being.

We are given tools in humoral practice which can return fully the concept of 'healing' to herbal medicine rather than just intervening as practitioners who react to pathologies and symptoms.

A final word from Nicholas Culpeper:

"Use no strong medicines, if weak will serve the turn, you had better take one too weak by half, than too strong in the least."

Herbs to Respect: Devils Club and Pokeroot

Presented by Katolen Yardley, DO (EU), MNIMH, RH (AHG) ~ Medical Herbalist

DEVIL'S CLUB: *Oplopanax Horridus*

Latin: *Oplopanax horridus, Echinopanax horridus, Fatsia horrid*

Common Names: Devil's club, devil's walking stick, cukilanarpak



Medicinal parts: root bark, lower stem bark, green inner bark of aerial stems

Araliaceae family (same family as American and Asian Ginseng). Devils club has sometimes been commercially marketed under the misleading, (and now illegal in the United States) common names of Alaskan ginseng, wild armored Alaskan ginseng and Pacific ginseng. This marketing relies on purported phytochemical similarities between devil's club and *Panax* spp. However these claims are based on the speculation that many plants within the family Araliaceae share similar chemical constituents, despite the fact that this claim is not supported by current phytochemical research, many herbalists continue to use this plant for its purported adaptogenic properties.

Taste: Sweet, spicy, saponaceous, pungent, bitter
Energetics: a slightly cooling / warming, moistening expectorant

This deciduous shrub often grows in dense, nearly impenetrable thickets. It is especially common near streams in moist woodlands and grows near sea level to subalpine elevations in the mountains. Devils Club grows in Alaska southwards along the British Columbia coast and on the west side of the Cascade range to southern Oregon and Washington, and eastwards to the Rocky Mountains areas of Idaho, Montana, western Wyoming, and Alberta and along Lake Superior and Michigan.

It is known for its large palmate leaves and erect woody stems both covered in brittle spines. If the plant is touched, the spines can break off and easily cause infection. The flowers bloom in white greenish panicles in the spring and mature into flattened bright red berries in the late summer. The shrub can reach up to 20 feet or 6 meters. It is considered an important part of ecosystem and is food for bears and birds.

Oplopanax as a genus contains three species: *Opolopanax elatus* found growing in Russia and Korea and *Opolopanax japonicus* in Japan and *Opolopanax horridus* in North America. Some authorities show different chemical constituents in the Russian, Japanese and North American *opolopanax*; thus we are just referring to *Opolopanax horridus*.

Devil's club is considered one of the most important spiritual and medicinal plants by indigenous communities. Traditionally various plant parts were used by First nations including the inner bark, inner bark ash, whole stems, roots, berries, and leaves were used numerous ways. That said, the most common type of preparation (and perhaps one of the most sustainable) is as an infusion or decoction of the stem inner bark or aerial stems.

According to Lantz, Swerhun and Turner, the First Nations use of this plant varied from: arthritis, rheumatism, respiratory ailments such a dry cough, tuberculosis, as an emetic, purgative and analgesic. Traditionally it was used as an aid

in childbirth (post-partum), for internal haemorrhage and digestive tract issues, for ulcers, broken bones, fever, dandruff, lice, headaches, and as a general tonic for cancer.

Spiritually, Devils club was utilized for cleansing and purification rituals. It was thought to offer protection from evil influences, witchcraft, epidemics and poor weather and used for good luck. The spiny or de-spined aerial stems could be hung over a home entrance for protection and repelling negative energy or used after a death. Bathing in a tea of the inner bark was used for personal purification and protection and also used to wash fish nets and boats. The bark and stems have been used in amulets, placed under a pillow or sewn into a pouch for protection and love charms. For shamanic purposes, the roots was chewed, or an infusion of the inner bark or roots used. The berries were used topically to prepare protective face paint for ceremonies.

CONTEMPORARY AND CLINICAL INDICATIONS OF DEVIL'S CLUB

Inner root bark of upright stems: antipyretic, antitussive, antibacterial, hypoglycemic (mixed outcomes in studies), antioxidant, antiviral, antimicrobial, antiproliferative, respiratory expectorant, analgesic, general tonic as an all purpose healer.

Traditional and Contemporary Use: Gastrointestinal, Respiratory expectorant, Musculoskeletal for joint health.

Scientific literature shows in-vitro activity of the plant against bacteria, viruses, mycobacteria and fungi.

In vitro preliminary studies show promise for cancer research by inhibiting cell proliferation and apoptosis – more research is needed in this area.

External use: Skin wash or salve: for sores, cuts, swellings, swollen glands, acne, burns, infections, eczema

Devil's club has been used as a purgative, emetic, and cathartic in higher doses.

Mixed Outcomes for Blood Sugar regulation: The inner bark has a long history of use as an anti-diabetic agent by first nations including the Squamish and other First Nations of British Columbia and the Haida, Heiltsuk, Nuxalk, and Sechelt.

To date this traditional use as an anti-diabetic agent has not been consistently confirmed by research and highlights more of the challenges around clinical research methods rather than therapeutic outcomes. Limited studies have been conducted, with a lack of information affecting the ability to reproduce studies (including a lack of plant part identification, clear preparation methods, consistent dosages). In addition, human studies have been very limited in sample size. More research and human trials are needed to determine possible blood sugar balancing effects. Regardless, devil's club is



still widely used today for support with type 2 diabetes and hyperglycemia in North America.

Energetic properties: Many North American herbalists speak of Devils Club used energetically to nourish and relax a hypervigilant nervous system. Used for individuals who need to claim and stand in their personal power.

General Tonic: The Adaptogen Debate: Devils club has a long history of being used as a general tonic. Today, the majority of commercial sales revolve around the marketing of Devils club as Pacific or Alaskan ginseng and many websites rave of the use of Devils Club as an adaptogen used similarly to ginseng. Despite being in the same family as Panax ginseng, there has been no evidence to date, that devil's club contains a specific group of saponins known as the ginsenosides and there is little conclusive research to demonstrate that Devils Club mirrors any of ginseng's adaptogenic properties.

Traditional Use of Devils Club: Infusion or decoction of inner bark of aerial stems and root bark

Decoction and infusion: 1 tsp per cup. General Tonic: up to 20g /day as tea or used as a steam bath or poultice

High dose: emetic and purgative

Commercial Dried Root Bark Tincture 1:5 60 % 0.5-2 ml taken 3x/day and 2-4 ml taken 3 times per day

**Note no historical use of tincture or capsule form; only aqueous extract solutions (infusion/ decoction) used traditionally*

Cautions: Berries are toxic- do not ingest. No research has been done on the safety of this herb internally during pregnancy and breastfeeding so avoidance is suggested. Until more information is available, carefully monitor blood sugar levels with concurrent hyperglycemia, insulin resistance and diabetes.

With the gift of receiving traditional plant medicine knowledge comes great responsibility...

Ethical Considerations and Small Scale Harvesting Of Devils Club: This is a revered plant and one to respect on all levels; certainly when meeting it in the forest and for its prized spiritual and medicinal traditional use by first nations.

Due to the increased popularity of this herb, the mislabelling and inappropriate selling of this plant as "Alaskan Ginseng" and considering its primarily wild harvesting for commercial sales; this plant has the potential to be overharvested for questionable inaccurate commercial use. The plant parts traditionally used involved inner bark of the aerial stems (a sustainable harvest), where commercial applications today largely utilize the root bark, perhaps due to the ginseng family relationship and perceived superiority of the root.

The increasing commercialism of this plant is largely based on the advantageous marketing as Pacific or Alaskan ginseng which brings up a number of ethical considerations for large scale commercialism. What are the ethical obligations for harvesters, commercial sellers, practitioners using the plant in clinical use? What steps could or should be in place for protection of overharvesting of the plant? What about commercial sales based on therapeutic actions which have not been confirmed traditionally or in current research? How could intellectual property rights of indigenous and traditional use be protected and part of fair equitable sharing in commercial avenues?

Some first nations have expressed concern regarding commercial harvesting of this plant. Acknowledging the reverence that first nations hold for this sacred plant; it has been largely debated whether this plant should be sold at all in large scale commercial venues.

If one feels that small scale wild harvesting this medicine is absolutely then take only what you need, (which is likely less than you think) and harvest in an ethical sustainable manner. Consider the natural habitat of the plant and do your part to ensure that the stand is flourishing for future years to come. Collect and replant seeds and leave no trace. Consider drop dose or a flower essence to minimise the potential overuse of this plant.

RECOMMENDED READING FOR DEVILS CLUB:

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- Nyruz Elahmer. Bioassay-guided antidiabetic potentials of Devil's club (*Oplopanax horridus*) preparations from the traditional pharmacopeia of the Squamish and other first nations of British Columbia. University of Montreal. Biomedical Sciences Program Faculty of medicine. Feb, 2018.

POKE ROOT: *Phytolacca americana* / *decandra*

Family: Phytolaccaceae

Synonyms: Pokeweed, Poke root, Pigeon Berry, Bear's Grape, Poke Weed, Raisin d'Amérique, Red-ink Plant, American Spinach, Crowberry, Cancer-root, American Nightshade, Virginian Poke, Poke Berry, Pocan, Cokan

Parts Used Today: Dried root

Harvest: Dig up roots in the fall, wearing gloves, when the aerial parts die back.

Habitat: Indigenous to North America. Common in Mediterranean countries

Taste: Bitter

Tissue State: Heat, stagnation = cooling

Qualities: pungent sweet; softening dissolving, stimulating

Actions: Lymphatic movement, glandular support, increasing waste removal and improving nutrition. Alterative, Depurative, Lymphatic stimulant, Immunostimulant, Anti-inflammatory, Anti-rheumatic, Mild Analgesic, Anodyne, Antirheumatic, anticatarrhal, anti parasite and fungicidal properties. Traditionally, pokeroot has been used for Rheumatism, Congestion of lymph, swollen glands, (adenitis, mumps, respiratory catarrh, tonsillitis, laryngitis), Stubborn skin diseases with irritation, inflammation, ulcers, (dry cracked eczema,

psoriasis, scabies, tinea, acne), Breast congestion and mastitis. Topical: anti-parasitic, fungicidal

Constituents: Triterpenoid saponins, Phytolaccic acid, alkaloid (phytolaccine), calcium malate, resin, starch, wax, gum, tannin, mucilage, lignans, lectins, proteins

Saponins (phytolaccagenin, phytolaccic acid) –toxic in high doses.

Berries: Tannin & Phytolaccic acid

Root : sugar, formic acid, bitter resin & alkaloid Phytolaccin in small quantities.

The virtues are extracted by alcohol, diluted alcohol, and water.

Low dose herb –

Tincture of Dried Root: 1:5 40 % (BPC 1923) 1-5 ml per week. MAX 5 ml per week. Drop Dose: 1-10 drops up to 3X daily.

Ointment 4g in 30g of base

Dried root 0.06-0.3 g or by decoction 3x/ day or total 0.18-0.9 g per day

Caution: This is a herb to respect! The **FRESH PLANT IS TOXIC** (berries, leaves, root). Do not consume the raw plant or berries and avoid consuming the fresh root or mature leaves. Avoid use in pregnancy and lactation. Consumed in excess, the plant is purgative, cathartic, emetic and a gastro-intestinal irritant. Overdose: produces vomiting, dizziness, drowsiness, feeble pulse, cool clammy skin and overdose can lead to convulsions, coma and death.

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Walking Lightly on the Earth

*Know the ways of the ones who take care of you,
so that you may take care of them.*

*Introduce yourself. Be accountable as the one who comes asking for
life. Ask permission before taking. Abide by the answer.*

Never take the first. Never take the last. Take only what you need.

Take only that which is given.

*Never take more than half. Leave some for others.
Harvest in a way that minimizes harm.*

Use it respectfully. Never waste what you have taken. Share.

Give thanks for what you have been given.

Give a gift, in reciprocity for what you have taken.

Sustain the ones who sustain you and the earth will last forever."

- Robin Wall Kimmerer,

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants