



CANADIAN HERB CONFERENCE

Presenter's Notes

November 5, 6, 7 and 8th, 2020

A not-for-profit event in Support of Canada's National & Provincial Herb Associations

35+
Canadian
Herbalists

40+
Original
Workshops

5+
Panel
Discussions

+
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Notes (E-Book)

Plant Medicine as People's Medicine

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Making Fresh Plant Tinctures

Abrah Arnason CHT RH

What is a fresh plant tincture?

A water/alcohol extraction of the medicinal constituents from plants freshly gathered, not dried.

Why some herbalists don't like fresh plant medicine?

Some feel they are unstable due to the unknown water content in the fresh plant.

If using dried plants to make your tincture consider all the variable in the creating effective plant medicine.

- How are they dried?
- Where were they grown?
- How were they harvested?
- Who harvested them?

Why make fresh plant tinctures:

- Teaches you about the plants you use and the medicine they make.
- Cost effective
- Strong medicine: you can dose lower.
- Bioregional medicine: good for the planet.
- Understand the source of your medicine.

Traditional Method of Making Fresh Plant Tinctures

1:2 95% HO

1:2 means: one part herb to 2 parts alcohol.

For example:

100 grams of herbs to 200 mls of alcohol

350 grams of herbs to 700 mls of alcohol

95% HO means 95% alcohol (HO). *(This is the way Canadians measure alcohol. I am confused by the American system that uses "proof" to measure the percentage of alcohol.*

Challenges with these recommendation for fresh plant tinctures

- Taste and smell of the alcohol
- Reduced compliance
- Amount of the plant needed
- Amount of alcohol needed
- Cost

Key to Making Fresh Plant Tinctures

Plants make their medicine in relationship to the environment they are living in.

Considerations

- Full Moon Weakens – aerial parts
- Full Moon strengthens - Roots
- New Moon Strengthens – aerial parts
- New Moon weakens - Roots
- Dry weather or raining weather (you want to harvest your medicine during dry weather.)
- Soil – what kind of soil supports a plant in making medicine?
- Sun – Does the sun strengthen or weaken the medicine?
- Cold nights (not frost) – Often as nights become colder, the

medicine in plants increases

Understanding the Medicine in the Plants

- Alkaloids – higher in the sun, younger part of a plant
- Volatile oils – disperse in the sun
- Hips – stronger after frost
- Resins – stronger with cold nights
- Roots – spring or fall
- Flavonoids – stronger in the sun
- Water – weakens medicine

Steps to Making Fresh Plant Tinctures

- Offer the plant a gift and ask if it is a good time to make medicine with it. If it says no, accept the answer and ask again another day.
- Pick correct part of the plant and garble: removing bugs, eaten or diseased parts.
- Wilt for 24 to 48 hours if the plant is carrying a lot of water (mucilage).
- Decide on the ratio of alcohol to water in the menstruum while considering the water content in the plant and the constituents you wish to extract.
- Put herbs in a blender. Don't put too many in. Work slowly.
- Mix your water and alcohol in a separate container.
- Pour the menstruum over the herbs.
- Pulse the herbs until chopped, not mushy. Note: You are not making a smoothie.
- Add more plants matter.
- If the blender is struggling to chop the herbs, add more menstruum.
- Once you have blended all your herbs. Pour into a jar, put the lid on and label.
- Record what you did in your medicine making book. (3 ring binders work well.)

Example of the Blessed Thistle Notes:

September 28, 20 Tincture F.F 75% HO

500 mls HO 95%

125 mls H2O

625 mls Total menstruum

Yield 600 mls

Note: Leaves were mucilaginous and sticky.

Wilted for 24 hours.

+++ bitter taste

In 2-3 days, press your herbs and bottle. Record your yield.

Be sure to:

- Smell and taste your tincture.
- If it smells and taste like the original herb, you have a good tincture.
- It is a good idea to also feel the herb in your body.

I wish you all the best on your medicine making journey.



Giving Back - it's good for your soul

Penelope Beaudrow

GIVING BACK - IT'S GOOD FOR THE SOUL

For man, autumn is a time of harvest, of gathering together. For nature, it is a time of sowing, of scattering abroad. -Edwin Way Teale

Deep within my soul I have a love of plants and nature so deep that they are a part of me, not knowing where one begins and the other stops. A constant yearning to be out of doors; see the land awaken after a long cold winter, feeling the warm winds upon my face, hearing the geese flying overhead and walking with my dogs through fields and forest. But one of the most sacred times is autumn, a long-awaited time for all our seed-bearing friends and avid gardeners to sow once again.

With autumn upon us everything is full of promise, it's the perfect time we can consider giving back to nature! The amazing plants of the fields and forest give us so much: intoxicating fragrances, life giving oxygen, herbal medicines, materials and amazingly, inspiration for the arts; many a painter's muse. But alas, we keep taking. We take from mother earth's precious water resources and natural habitats, to make room for factory farming and ever-expanding cities. And we can't forget our own shame – the overharvesting from the wild for our herbal medicines. As a herbalist or anyone who uses herbs or wild plants, it is our responsibility to ensure the replenishment of a diverse plant species. Remember the plant kingdom is not sustainable if we only take and do not give back.

So how are we giving back? We have been tilling, digging, dividing and planting on our lovely little farm for over thirty years. Planting any native plant species that are not already thriving on the land. Only a small portion of our 100-acres is actually "farmed". We have taken over 60 acres of workable land and given it back to nature. Trees, shrubs, wildflowers and herbs are all thriving, increasing the natural habitat for the surrounding wildlife. Common sightings are deer, rabbits, coyotes, wild turkeys, hawks, raccoons, and rare sightings of lynx, bears, and even a cougar. In the last several years we have really been focusing on planting "At Risk" medicinal plants. Some of the plants we have re-introduced into the wild are Echinacea, Ramps, Trilliums, Black Cohosh, Blue Cohosh, Butterfly weed, Lobelia, Arnica, Goldenseal and Bloodroot. Our most honoured "at risk" plant in the sanctuary came all on her own. One day I was leading an herb walk discussing the "at risk" plants and I happened to ask the photographer, who was out with us, what had been her favourite plant and she said, "the yellow one". I said, "what yellow one?" She quickly scrolled back through her camera and showed me a glorious photo of a Lady's Slipper Orchid. I was stunned! We never planted this orchid ~ I guess the saying "Build it and they will come" is true

I had no idea when we first started planting that our efforts would turn into our own botanical sanctuary! We are thrilled to say that since 2015, we have been Botanical Sanctuary Member of United Plant Savers. Our mission is to protect native medicinal plants and their native habitat while ensuring an abundant renewable supply of medicinal plants for generations to come. Our future goals are simple, to increase the number of "at risk" plant colonies annually. It is my dream that years from now someone will carry on my work with the plants, nurturing and loving our botanical sanctuary as much as I do. Until then, I will continue to pour my hearts love into this land, giving the only way I know how to.

NOW WHAT CAN YOU DO?

- Plant "at risk or at watch" medicinal plants while hiking and walking
- Scatter "at risk or at watch" medicinal plant seeds while hiking and walking
- Donate to United Plant Savers
- Become a member of United Plant Savers
- Save plants that are being destroyed by development – transplant them
- Do not purchase wildcrafted "at risk or at watch" herbs
- Do not forage "at risk or at watch" herbs

I am incredibly thankful every day, for my work within the herbal community introducing people to the many uses of herbs and seeing them begin to use them daily- for themselves and their loved ones (human and pet), but more importantly now is to spread the message to give back - it is truly my life's passion!

As you grow older, you will discover that you have two hands — one for helping yourself, the other for helping others."

Botanical Sanctuary Medicinal Herb Walk - Featuring "at risk" and "at watch" plants

Penelope Beaudrow, Registered Herbalist

MEDICINAL PLANT WALK HANDOUT

Materia Medica that follow are the 'at risk' and 'at watch' medicinal plants that we have planted at our farm.

'AT RISK' PLANT LIST

- American Ginseng (*Panax quinquefolius*)
- Bloodroot (*Sanguinaria canadensis*)
- Black Cohosh (*Actaea racemosa* L.)
- Blue Cohosh (*Caulophyllum thalictroides*)
- Echinacea (*Echinacea* spp.)

- Goldenseal (*Hydrastis canadensis*)
- Slippery Elm (*Ulmus rubra*)
- Trillium Beth Root (*Trillium spp.*)

'TO WATCH' PLANT LIST

- Arnica (*Arnica spp.*)
- Goldthread (*Coptis spp.*)
- Maidenhair Fern (*Adiantum pendatum*)
- Mayapple (*Podophyllum peltatum*)
- Ramps (*Allium tricoccum*)

'AT RISK' PLANT LIST

American Ginseng (*Panax quinquefolius*)

- King of tonics; said to mean 'The Wonder of the World'
- Revitalizes and restores energy; good for entire nervous system
- Stimulant for brain and memory centers

Bloodroot (*Sanguinaria canadensis*)

- Used for infection of respiratory tract: asthma, croup, laryngitis
- Valued for nervous irritation
- Used for lowering high pulse and heart disease

Black Cohosh (*Actaea racemosa L.*)

- Calms nervous system
- Natural estrogen; good for relieving symptoms of menopause & balancing hormones
- Can be used for nervous conditions in males

Blue Cohosh (*Caulophyllum thalictroides*)

- Used for rheumatism, dropsy, epilepsy, uterine inflammation
- Uterine stimulant and called "Women's Best Friend"; relieves menstrual cramps
- Anti-spasmodic on whole, therefore has effect on nervous system and relieves muscle cramps and spasms

Echinacea (*Echinacea spp.*)

- Effective against both bacterial and viral attacks
- Good for colds, flu and upper respiratory tract infections
- Can be used to increase general immune system function; boosts system

Goldenseal (*Hydrastis canadensis*)

- Used for digestive problems
- Externally used for treatment of eczema, ringworm, itching
- Seals wounds but can seal in infection, pus. Use only on a clean wound.

Slippery Elm (*Ulmus rubra*)

- Used for gastric ulcers, colitis
- Excellent poultice for boils, abscesses, skin irritations
- Helps to feed the adrenal glands and produces cortin hormone which stimulates the entire body

Trillium Beth Root (*Trillium spp.*)

- Used principally for hemorrhages
- Poultice to restrain gangrene
- Brings on contractions to aid in birth; uterine tonic to help stop bleeding

'TO WATCH' PLANT LIST

Arnica (*Arnica spp.*)

- Anti-inflammatory
- Stimulates cardiovascular system
- Used externally for bruises, sprains and swellings

Goldthread (*Coptis spp.*)

- A tea can be made for an eye wash
- Stimulates appetite
- Can be used as mouth wash; also for cankers and mouth sores

Maidenhair Fern (*Adiantum pendatum*)

- Used in pulmonary disorders
- Used for hair loss and hair wash
- Useful for sore throats, asthma, phlegm and expels chest congestion

Mayapple (*Podophyllum peltatum*)

- Used for bowel and liver complaints; regulates
- Stimulates liver thus increases intestinal secretion and bile flow
- Helpful for venereal/genital warts and some cancers i.e. lymph, lungs, brain, breast, testes

Ramps (*Allium tricoccum*)

- Spring tonic
- Cleanses system and blood after long winter's diet
- Leaves are used to treat colds

Mindful Movement Practice

Angela Bewick

I've used mindful eating as a foundation in my nutrition work and have used movement as a form of meditation for many years. Last year, I was introduced to trauma-sensitive mindfulness and this opened up a whole new approach to my work with clients. Previously, I had always recommended sitting meditations in my work, and while I still think formal sitting contemplative practices are extremely beneficial, it's clear that for many people that practice was really challenging. Either they didn't feel comfortable sitting for long periods or because of past experiences, it was difficult to feel safe and grounded in their bodies. While it's important to recognize that mindfulness is NOT a panacea, sometimes the ways in which we can practice mindfulness can be modified and adapted to fit our own experience. All of us are coming here today with our own experiences and ideas around



movement and mindfulness, including me. There are some things in this workshop that will resonate with you and some things that may not. What we're really working towards today is developing a relationship with ourselves and the landscape that we find ourselves in. Since we're always changing and growing, it's important that we remember that the process of getting to know ourselves with compassion, is an ongoing one, one that we can keep coming back to. My hope is that you can use parts or all of this workshop to help you work towards that and leave behind what doesn't serve you.

You can do this practice wherever you wish. There's many forms of mindful walking practices and some may use this outside on a familiar route, some may just practice while pacing their living room, there's no rules about it. You want to be in a place that feels safe for you. We will be engaging in some grounding movements to begin with and so you'll want to find a place where you feel comfortable moving freely.

I want to talk a little bit about the words I'm using and give you some context for the practice. My foundational learning in mindfulness is based in the Buddhist contemplative practice of meditation and certainly, many modern mindfulness practices can be quite separate from its roots in Buddhism. Many delineate between mindfulness and its roots to allow inclusivity to secular practitioners, some think that the basic roots of Buddhism are important to practice as well to avoid the pitfalls of ego-centrism and to maintain "pure" spiritual aspirations.

For the purposes of our session today, I want to talk about mindfulness as it's defined by a western practitioner with a background in Buddhism, Jon Kabat-Zinn. He defines Mindfulness as "paying attention, on purpose, in the present moment and non judgmentally." My personal practice is rooted in Buddhist theory, but you don't need to be familiar with Buddhism to understand the benefits of a mindfulness practice. One of my favorite lessons in Buddhism was when Buddha said to his students, "don't just believe me, try these methods for yourself and see what happens." For me, this practice is evolving and it's provided me with a great deal of peace, not because I'm always

happy, (I'm not,) but the tools of mindfulness become easier to access and utilize and even when there's difficult things happening externally or even within my mind, I'm better able to respond and navigate through them, to be with them rather than always trying to avoid them. You'll find that I use the terms mindfulness and meditation interchangeably and so when I say meditation, I am talking specifically about contemplating or concentrating deeply on something, in this case, our body and mind's experience in the present moment.

There's a couple reasons why I find walking such a useful tool in the practice of mindfulness. One is that the body is very good at being in the present moment. When we are using our bodies in this way, it's a fast track to get present. The other

thing is that I'm usually going for big walks outside and I'm sure you can appreciate the meditative and presence that comes with being in nature - even if you're walking in the city, nature is always there whether it's the rock that made the cement under your feet or the plants or tree roots poking through the sidewalk or the sky above you, it's always there. Our bodies are also living embodiments of nature. As we are all in relationship with nature all the time, this conference is about developing that relationship, remember that you too are nature and to deepen that connection with yourself is maybe one of the most powerful ways to revere this planet that gives us so much.

Here we are. Enjoy.

A SHORT LIST OF RESOURCES:

Mindfulness –

- Thich Nhat Hanh
- Jon Kabat Zinn
- Tara Brach
- Jack Kornfield
- Eckhart Tolle
- David Treleaven (Trauma-Sensitive Mindfulness)

Mindful Movement and Somatics–

- Prentis Hemphill
- Brea Johnson, Heart and Bones Yoga
- Katy Bowman, Nutritious Movement

The Magic, Mystery and Medicine of the Yew tree

Chanchal Cabrera, MSc, FNIMH

The life of a Yew, the length of an Age

*"The lives of three wattles, the life of a hound;
The lives of three hounds, the life of a steed;
The lives of three steeds, the life of a man;
The lives of three eagles, the life of a yew;
The life of a yew, the length of an age;
Seven ages from Creation to Doom."*

– Attributed to Nennius, 7th century historian.

*Quoted in Practical Magic in the Northern Tradition,
by Nigel Pennick*

Taxus brevifolia - Pacific yew

- Bark contains 27 different diterpene taxanes - potent anti-cancer activity
- Decreases availability of tubulin to form spindles during mitosis - prolonging of Gap 1 phase and inhibition of cell replication
- Taxol is one of the 27 diterpenes. Taxotere is a synthetic

analogue

Taxus sp. also contains

- four flavonoids, including quercetin
- three plant sterols, which include beta-sitosterol, daucosterol, and ponasterone A.

Taxus brevifolia (Pacific Yew or Western Yew) is a conifer native to the Pacific Northwest ranging from southernmost Alaska south to central California, mostly in the Pacific Coast Ranges. It is a small to medium-sized evergreen tree, growing 10-15 m tall and with a trunk up to 50 cm diameter, rarely more.

Taxus baccata is a conifer native to western, central and southern Europe, northwest Africa, northern Iran and southwest Asia. It is a small- to medium-sized evergreen tree, growing 10–20 metres (33–66 ft) (exceptionally up to 28 m/92 ft) tall, with a trunk up to 2 metres (6 ft 7 in) (exceptionally 4 m/13 ft) diameter.

Yew is slow growing, but very long-lived, up to 4-5000 years with the maximum recorded trunk diameter of 4 metres probably only being reached in about 2,000 years.

The age of yews is impossible to determine accurately and is subject to much dispute. There is rarely any wood as old as the entire tree, while the boughs themselves often hollow with age, making ring counts impossible.

Taxus baccata is the longest living plant in Europe. Fossil yew over 1 million years old is identical with yew today.

The yew's reputation for long life is due to the unique way in which the tree grows. Its branches grow down into the ground to form new trunks, which then rise up around the old central growth as separate but linked trunks. After a time, they cannot be distinguished from the original tree. So the yew has always been a symbol of death and rebirth, the new that springs out of the old.

Most parts of the tree are toxic, except the bright red, fleshy aril surrounding the seed, enabling ingestion and dispersal by birds. The major toxin is the alkaloid taxine. The foliage remains toxic even when wilted or dried. Horses have the lowest tolerance, with a lethal dose of 200–400 mg/kg body weight, but cattle, pigs, and other livestock are only slightly less vulnerable. For humans the tolerance is much lower at 2 – 20 g / kg. Symptoms include staggering gait, muscle tremors, convulsions, collapse, difficulty breathing, and eventually heart failure. However, death occurs so rapidly that many times the symptoms are missed.

Paclitaxel first isolated from *Taxus brevifolia* as antitumor agent in the late 1960's.

Semi-synthetic taxane called docetaxel (taxotere) derived from 10-deacetylbaecatin III was introduced in the 1990's.

Paclitaxel and docetaxel are two of the most effective chemotherapeutic drugs used today. They are used to treat many types of cancers including ovarian, breast, and non-small cell lung cancer.

Micro Tubule agents either inhibit microtubule polymerization, destabilizing microtubules and decreasing microtubule polymer mass, or promote microtubule polymerization, stabilizing microtubules and increasing the polymer mass.

At the cellular level both types of agents may lead to cell cycle arrest in mitosis and trigger cell death through apoptosis. Mitotic arrest is associated with aberrant spindle formation, thus clearly linking interference with microtubule functionality to inhibition of cell proliferation

Taxanes act by stimulating and disrupting microtubule dynamics, inducing cell cycle arrest before M phase and consequent activation of apoptosis.

Taxol is a tricyclic diterpenoid, occasionally considered as a pseudo alkaloid, that inhibits cell division by disturbing the dynamics of microtubule formation. Paclitaxel is the drug derived from it.

Clinical treatment with synthetic taxane agents often causes undesirable side effects and multidrug resistance (MDR) caused by overexpression of P-glycoprotein (Pgp).

Some non-taxol-type diterpenes in the yew enhance cytotoxicity of other cytotoxic compounds by inhibiting multi-drug resistance. These taxanes increased cellular accumulation of vincristine (VCR) in multi-drug-resistant cells as potentially as verapamil.

Various taxanes, other than taxol, from the yew tree may be candidates for pharmaceuticals for reversing multi-drug resistance (MDR) and also may be good modifiers of MDR in cancer chemotherapy.

CLINICAL PEARLS

No galenical dose established

Yew extract is an excellent general alternative with a high affinity for suppressing cancerous growth. It is also an advantage to use with taxane-derived drugs such as Taxol and Abraxane; for it potentiates and reduces MDR.

Energetically speaking, Yew is an invaluable ally for those who have cancer and facing death, as it can assist in breaking through dogma, doubts, fear and conditioning by elevating our spirit – the “Shen.” The Yew helps to make the connection between our brief mortal lives and eternity.

LD₅₀ of Pacific yew powder orally administered to rats could not be determined at doses up to 5 g/kg

“The cardiotoxic alkaloidal fraction ‘taxine’ is relatively



abundant in *Taxus baccata* (European Yew) and even more so in *Taxus cuspidata* (Japanese Yew), which are the most frequent causes of stock poisonings by yew, but the *taxine fraction* is almost absent in *Taxus brevifolia*, and Pacific Yew is indeed a frequent browse of moose, elk and deer."

- www.bighornbotanicals.com/Toxicity.htm

Oneirogens: Herbs and Dreams

Reflections on Some Select Oneirogenic Botanical Agents and their Uses

Victor Cirone

My video presentation for this conference focused on laying down the philosophical and psycho-spiritual foundations of the use of oneirogenic herbs. I want to take the opportunity in this written contribution to discuss some specific oneirogens and explore their potentials for use. There are dozens of oneirogenic herbs that can be discussed, each with a distinctive dream phenomenology. There are also what we can call anoneirogenic herbs, that is, herbs that inhibit or disrupt the activity of dreaming (cannabis perhaps being the most notorious and troublesome example¹). Even herbs that are not traditionally considered to be oneirogenic can, in my experience, produce oneirogenic effects if they are administered to an individual on the basis of specific, well chosen indications (that is, if they are very well suited to the symptomatology and overall constitution of an individual). When the resonance of an herb matches the resonance of a person, this can create a systemic effect that may bring about therapeutic dreams as part of the overall healing response of the organism.

One of my favourite oneirogens is *Albizia* (Mimosa, He Huan Pi, collective happiness flower, sensitive plant). *Albizia* is an extraordinary remedy for unshakeable depression, melancholia, severe loss, broken heartedness, anxiety, and chronic grief. Taken before bed, *albizia* can help us to release the oppressive weight of grief, loss, and devastation through cathartic dream experiences. *Albizia* can make us aware of the underlying contours of our psychical and emotional landscape and gently show us a way through. It can be used to help calm individuals who fall too quickly and easily into bouts of anger, frustration, and rage as well as those who tend towards excessive worry and fear. *Albizia* contains Acetylcholine, a vitally important and multifaceted neurotransmitter that is also found in the human nervous system ("every human, like every plant and animal, is one of the infinitely many neurons in the nervous system of Gaia"²). While *albizia* is not as widely

utilized as some of the well known mood-elevating and antidepressant herbs (such as St. John's Wort and Kava Kava), I believe that it is the most effective and widely applicable botanical remedy that is available to us for working into this complex of psycho-emotional issues. In the Chinese Materia Medica *albizia* is understood as a superior Shen tonic, a calming spirit herb. Both the bark and the flowers are used; the bark is said to 'anchor' the spirit, the flowers to 'lighten' it. Ron Teeguarden says that a medicine made from the flowers serves to "lift the spirit, calm the emotions, stabilize mood and point our psyche in a positive direction."³ The bark has a strong affinity for the heart and liver meridians and can be helpful in some cases of muscular discomfort and swelling. The leaves of the mimosa tree fold and unfold under the influence of the Sun, and are also sensitive to being touched. As Julia Graves elaborates from this: "We will not be surprised to find they are healing plants for nerves and sensitivity, and to know that these leaf movements occur from electrical impulses running through the plant tissue in quasi-nerve-like fashion. The Cherokee call the sensitive plant *bashful*; it is used in formulas for people who are too shy."⁴

Next I want to consider the reishi mushroom (*Ganoderma* spp.), which like *albizia* is considered to be a *shen* (or spirit) tonic in Traditional Chinese Medicine (TCM; more on the notion of *shen* below). The Chinese name *Lingzhi* (a traditional name of the reishi mushroom) literally translates as *supernatural fungus*. Reishi is well known for its action as a cardiovascular, lung, immune and nervous system tonic and restorative. It is a medicine that improves circulation and oxygen utilization, and strengthens the will. Over thousands of years, reishi has been called the mushroom of spiritual potency and the mushroom of immortality. For our purposes, it is important to note that reishi can promote deep, undisturbed sleep, release tension held in the body (I have found reishi to be especially useful in stubborn presentations of chest tension/tightness), and has a tendency to generate dream experiences that involve processing long neglected, stagnant emotional material that the individual needs to learn how to metabolize, integrate, transform. This processing of emotional material that has come to be held in the body in turn leads to more tranquil thought patterns during the day, to a heightened sense of peacefulness, and a deepening of one's trust in one's own innate capacities and potentials. Reishi's reputation as an adaptogen has to do with its ability to teach us how to develop the resources with which we can more adequately confront and effectively work through a variety of psychological blockages, conflicts and obstacles.

In part due to its long cycles of growth, reishi can teach us how to foster resiliency in the face of distressing and conflicting circumstances and conditions (both inner and

1 Cannabis adversely affects sleep and dreams for a number of reasons. To name but one: cannabis, with habitual use, disturbs the extremely delicate balance that exists between the thalamus and hypothalamus and the pineal and pituitary glands. Those who find that they need cannabis to go to sleep are often suffering from withdrawal insomnia, whether they wish to acknowledge this or not.

2 R tsch, Christian. *The Encyclopedia of Psychoactive Plants*. Maine: Park Street Press, 2005. Pg. 852.

3 Teeguarden, Ron. *The Ancient Wisdom of the Chinese Tonic Herbs*. New York: Warner Books, 1998. Pg. 199.

4 Graves, Julia. *The Language of Plants: A Guide to the Doctrine of Signatures*. Great Barrington: Lindisfarne Books, 2012. Pg. 229.

outer). For the same reason, reishi is also known to be able to facilitate a deeper connection to ecological cycles and a greater attunement to the rhythms of life, death, transformation, and rebirth. Reishi teaches us how to be comfortable with stillness, and how to artfully navigate change. Some who take reishi report dreams centering on themes of renewal, and images of primeval forests budding with ever-new life. Reishi can also, remarkably, produce dreams of itself – even in those who have no idea what the mushroom looks like!

Reishi helps us to find adaptive ways to traverse conflict and deepens our awareness of the patterns in our lives that lead to disequilibrium and imbalance. In other words, reishi gradually leads us to a greater rootedness in the givenness of our lives and helps us to establish a deeper understanding of, and appreciation for, our place in reality. This happens gradually and slowly. Reishi is a medicine that typically is best worked with over time. Reishi has cumulative effects, gradually strengthening our nervous and immune systems as well as our spirit, and in so doing naturally transforming the ways in which we relate to and perceive life itself.

Reishi can transform the ways in which we relate to and perceive life in that it can disclose the contradictions and discordant relations that exist between parts of the self. This process of self-reconciliation is well summarized by Carl Jung: "The self is made manifest in the opposites and in the conflict between them; it is a *coincidentia oppositorum* [coincidence of opposites]. Hence the way to the self begins with conflict."⁵ The Self is the person as she really is, and not as she appears to herself (that is the ego, which stops at the level of the conscious mind and conscious awareness; the ego does not encompass the whole personality). The Self is the supraordinate personality, that which transcends the ego or the limited personality. For many, reishi is an invaluable teacher on the path towards the Self.

Jung's reflections on the process of individuation as the path towards the Self are also resonant with the spirit of reishi's teachings, with reishi's ability to move the individual towards a state of deeper integration and wholeness through the resolution of inner self conflict: "Self-reflection, or - what comes to the same thing - the urge to individuation, gathers together what is scattered and multifarious and exalts it to the original of the One, the Primordial Man. In this way our existence as separate beings, our former ego nature, is abolished, the circle of consciousness is widened, and because the paradoxes have been made conscious, the sources of conflict are dried up."⁶

When there is an overabundance of psychological and emotional conflict, or inner dissonance, this can precipitate health conditions such as hypersensitivity asthma and allergies. When we study the TCM literature we see that

reishi has a long history of being used to treat allergies and asthma; it is described as tonifying the blood and vital energy and calming "disturbed shen." Or, as Matthew Becker puts it: "Formality and obsessive ritual interfere with physical and psychic inhalation/exhalation. As a result, our connection with heaven and its inspirational forces suffer. Reishi... [can help to] restore deep breathing, cellular respiration and circulation of energy in the heart and lungs so we have access to both our own deeply hidden truths and the elemental forces."⁷

Both reishi and albizia are considered to be shen tonics TCM. To tie these two medicines together, let's briefly consider what this notion of disturbed shen (or spirit) entails. Shen is one of the essential substances that are recognized in Chinese medicine as forming the basis for the development and maintenance of the body. These substance are: Qi, Blood, Essence, Spirit, and Fluids. Shen enters the body with the first breath of life, and exits with the last breath. Shen plays an essential role in determining our thoughts, feelings, and imaginations. Shen is primarily housed in the heart, and the heart is the locus for psychic/emotional integration, much of which takes place during sleep, that is, when the consciousness located in the head/brain quiets down. All this helps to explain why reishi and albizia can facilitate dreams of emotional resolution and the harmonization of inner conflict – both of these medicines work to refine and bring calmness to the mind in the heart.

Lastly, I'd like to briefly discuss the significant oneirogenic properties that many psychedelic/entheogenic plants possess. While plants such as san pedro, iboga, and ayahuasca are well known for their ability to significantly alter consciousness and to produce an astonishingly diverse array of striking visual phenomena, their ability to transform dream life is less often remarked upon. This is a complex subject, and more research needs to be done in this area.

I will limit myself to discussing the Amazonian psychoactive brew *ayahuasca*. Ayahuasca is typically a combination of at least two plants: the *Banisteriopsis caapi* vine and the leaves of *Psychotria viridis*. B. caapi is rich in the beta-carbolines harmine, harmaline, and tetrahydroharmine. These substances act as monoamine oxidase inhibitors (MAOIs). MAOIs are present in significant concentration throughout the human organism and play a critical role in facilitating the metabolism of endogenous neurotransmitters, including dopamine and serotonin.

The leaves of *Psychotria viridis*, on the other hand, contain a significant amount of N,N-Dimethyltryptamine or DMT. DMT is ubiquitous in the natural world. It is found in innumerable plant species and in every mammalian organism. DMT has been detected in "human blood, brain, cerebrospinal fluid, and the pineal gland of rats" (ibid). DMT is commonly understood

5 Jung, Carl. "Individual Dream Symbolism in Relation to Alchemy," CW 12, par. 259.

6 Jung, Carl. "Transformation Symbolism in the Mass", CW 11, par. 401.

7 Becker, Matthew. "Reishi and Other Allies for Emotional and Spiritual Healing", undated, <http://clinicalherbalism.com/reishi-and-other-allies-for-emotional-and-spiritual-healing-by-matthew-becker/>



as an *endogenous hallucinogen*, but its role in human biology remains unclear despite over 50 years of (albeit, limited) clinical research devoted to this area of study. There has been some very interesting speculation recently concerning the possibility that DMT is essential for the activity of dreaming.

What we do know about the substances that are classed as "endogenous hallucinogens" is that they are implicated in producing alterations of consciousness. Research conducted by Dr. Rick Strassman has speculated that the endogenous hallucinogens are implicated in dreaming, psychosis, and near death experiences.⁸

As Ede Frescke comments: "These effects presumably reflect action on serotonin (5-HT) receptors (5-HT1A, -2A and -2C) as well as the trace amine associated receptors (supposedly TAAR6). While the scientific knowledge about trace amine associated receptors is rapidly increasing, it is still deficient."⁹

The pharmacologist Jace Callaway has undertaken research on a compound produced in the pineal gland called pinoline. Callaway's research on pinoline may point to yet another mechanism that can be said to underlie the ayahuasca experience. Callaway found that tetrahydroharmine, an alkaloid found in *Banisteriopsis caapi*, shows a high degree of resemblance to pinoline, which also functions as a moderately potent presynaptic serotonin reuptake inhibitor, thereby contributing to higher levels of serotonin in the synapses of serotonergic brain cells. The phenomenological implications of such a neurophysiological event would entail heightened levels of alertness during the experience of the effects of DMT. From this, as Louis Luna elaborates "we could say, metaphorically, that under the influence of ayahuasca, an individual is both fully awake (due to the higher levels of synaptic serotonin) and dreaming, as Callaway presented in his hypothesis that DMT may be involved in the experience of dreams, particularly during REM sleep."¹⁰ As noted above, Rick Strassman's research has revealed that DMT can be found in all mammals, and has been found in blood, urine, and cerebrospinal fluid. In light of this evidence of endogenous DMT and Callaway's findings concerning pinoline, he coined the phrase *endohuasca*, which suggests that human biology and neurophysiology is naturally engaged in the process of synthesizing compounds which are identical or similar to those that are found in many traditional ayahuasca brews. The implications of these findings for oneirogenic research should not be ignored.

8 Strassman, Rick; Wojtowicz, Slawek; Luna, Luis Eduardo; & Frescka, Ede. *Inner Paths To Outer Space*. Vermont: Park Stress Press, 2008.

9 Frescka, Ede; Bokor, Peter; & Winkelman, Michael. 02 March, 2016. 'The Therapeutic Potentials of Ayahuasca: Possible Effects against Various Diseases of Civilization.' *Frontiers in Pharmacology, Pharmacol*. <https://www.frontiersin.org/articles/10.3389/fphar.2016.00035/full>

10 Strassman, op. cit., pg 95.

Nature's Pharmacy: Practical Phytochemistry for Medicine Makers

Evelyn Coggins, Clinical Herbal Therapist

Introduction

- Topic: This lecture is designed specifically for those who do not have an extensive academic background in the sciences and who have forgotten high school chemistry. It will seek to explain the basic classifications of known important plant chemicals and how to extract them into botanical remedies in forms the body can use.
- The primary learning outcomes are for participants to be able distinguish between important plant constituents based on the major phytochemical categories: carbohydrates, lipids, amino acids, phenolic compounds, terpenes, steroids and alkaloids (and glycosides). This knowledge will enable kitchen-based medicine makers to choose appropriate herbs, solvents, extraction processes and delivery methods that will obtain the therapeutic results they seek.

James Green

- "Herbalism is indigenous to all communities and cultures"
- If you are new to making herbal medicine and plan to continue, consider buying the book
- Green, James. 2000. "The Herbal Medicine-Maker's Handbook: A Home Manual", California: Crossing Press ISBN 10: 0-89594-990-3

Good medicine Depends on Choosing the Right

- Plant, plant part, time to harvest, method of preparation, solvent and storage/ conditions of the finished product
- We rely initially on the wisdom of our ancestors and over 2000 years of herbal knowledge
- Every cultural practice evolves with the times
- We have made significant departures from traditional methods:
 - Fresh tinctures instead of dried herb tinctures
 - Dosing in teaspoons instead of drops
 - Herb blends instead of simples

Choosing the wrong plant

- Belgian medical doctors running weight loss program ordered what they thought was *Stephania tetandra* from Chinese supplier.
- Not understanding Chinese nomenclature, they actually received *Aristolochia ringins*
- *A. ringins* is potentially nephrotoxic and carcinogenic
- Many participants developed non-reversible renal failure that progressed to dialysis.
- Some of the participants later developed kidney cancer due to the genotoxicity of b-asarone (VO)

- *Aristolochia spp* is used cautiously in TCM but it is extracted in water because aristolochic acid poorly water soluble
- Poisonings from the trial extract are likely due to the choice of an alcohol solvent
- Cross cultural adaptations need to be approached cautiously

Use of common names in Western Traditional medicine can lead to the choice of the wrong herb

- Cases of hepatotoxicity associated with the substitution of germander (pink skullcap) for skullcap
- Even yet some sources warn of skullcap associated hepatotoxicity
- Poisonings due to emerging digitalis leaves in the spring wrongly identifies as comfrey leaves

Echinacea spp

- Mass confusion in the investigation of this herb
- Traditionally administered orally
- Effects were investigated after injection directly into blood making study findings not transferable to modern practice. Search focused on identifying a single bioactive constituent, but immune system effects are due to at least 3 constituents that we know of: polysaccharides, phenolic acid derivatives and lipophilic constituents
- Extraction of wrong plant parts:
 - Polysaccharides do have immune stimulating & antimicrobial properties but they are not present in root extracts
- Confusion over plant action led to negative results of certain studies.
 - Echinacea works best as a preventative of the common cold and is not a "cure".

Extracting the chemicals for your intended purpose is ultimately based on plant chemistry

Plants as Chemists

- The molecules produced by plants are chemicals.
- Chemicals consist of everything we can see, breathe, touch and eat.
- They are produced by the plants primarily for their own use and the ecosystems they grow in
- Plants are chemical production factories with dedicated production lines

In the beginning: Photosynthesis

- Chlorophyll from leaf chloroplasts
- Water from soil (roots)
- CO₂ from decomposition
 - Ocean is greatest source
 - Also, land-based wildfires and volcanos
- Sunlight is converted to chemical energy in leaf chloroplasts to feed the plant and power chemical production pathways.

Photosynthesis Cycle:

- Plants are the basis of animal life on earth as we do not have the ability to turn light energy into chemical energy (sugar).
- Nothing else on earth can do this except plants, certain bacteria and algae
- Plant sugars also have biological activities in animals
- Medicinal plants used whole explains the concept of 'food as medicine' and herbal medicine as nutritional medicine.

Plant chemical names describe molecular structure

- Plant chemicals are referred to as constituents
- Provide plants with energy and nourishment for growth, reproduction and defense
- Based on our own production pathways, these chemicals affect our body systems in a variety of ways

Constituents are medicinal and nutritional

- Many plant chemicals provide for our nutritional needs which is an important impact of herbal medicine but some also are active in our body systems that repair tissues, ameliorate symptoms of disease, assist defense mechanisms and balance endocrine function among other actions.
- There are 7 known major categories of constituents of interest to herbalists and scientists
- Structure correlates to medicinal action in body systems and effective extraction methods for oral and topical use.

Living Constituents:

- The extraction of plant chemicals is a bit of a moving target because plants change, adapt and even evolve with their environment
- This effect is compounded with climate change and the growth of "invasive species".
- Hoary alyssum and hawkweed emergence force native species to adapt and evolve for survival. Those that don't effectively evolve cease to exist.

Structure and action

- Structure correlates to action and extraction (Lisa Ganora)
- If this lecture leaves you with a burning desire to know more, this book may be the best place for you to start.
- There are various known interconnected production pathways in a living plant but they begin with the conversion of sunlight to sugar.
- The sugar provides the energy for all other plant processes
- There are many production pathways inside the plant based on the external factors influencing its survival
- It is important to remember that many plant constituents are in process of becoming something else until production is halted by death of the plant. (time of harvest) – must honor traditional wisdom
- All living beings have the ability to evolve based on external factors: availability of raw materials important to survival



- Too much light or not enough, number and type of predators, organic cultivation vs use of pesticides
- Climate change paves the way for non-indigenous plants (invasive species) to thrive.
- Ganora, Lisa. 2009 "Herbal Constituents: Foundations of Phytochemistry", Colorado: Herbalchem Press ISBN978-0-615-27386-0

Extracting plant chemicals

- Natural dyes, fragrances, perfumes, biopesticide, flavors, spices
- Example: coffee, caffeine

Methods of brewing coffee

- Decoction, infusion, gravitational feed, pressurized percolation

HOW TO MAKE COFFEE

Extraction methods in home pharmacy

- Infusion, decoction, fluid extract/tincture, distillation
- Fluid extracts are 1:1 (1g. herb:1 mL of alcohol) or 1:2
- Tinctures are 1:3, 1:4, 1:5 etc.
- A 1:10 tincture is more dilute than 1:5 and is reserved for preparation of toxic herbs e.g. pokeroor

Alcohol Strength

- 100 proof ethanol = 50% ethanol & 50% water
- Over proof usually 75% ethanol
- Grain alcohol – The term usually denotes any alcohol that is at least 90% pure alcohol
- Grain alcohol can be diluted with distilled water
- Tap water may change the pH of your solvent affecting constituent extraction
- A free calculator for diluting alcohol can be found at: <https://www.distilling-spirits.com/tools/calculations/diluting-alcohol/>

Influences on constituent solubility

- Anything attached to a sugar (glycoside) is more readily dissolved. Smaller molecules are more easily dissolved than larger one
- A polar molecule has an uneven electrical charge that makes it more reactive than a non-polar molecule.
- The properties of companion chemicals and their reactions will affect solubility
- Warm/hot solvent molecules are in motion and can knock more molecules loose from whole plant with the exception of mucilage. Mucilage is easily extracted in hot water but the heat damages their structure and medicinal action is affected.
- Plant matrix not well understood by science. There is a lot going on in there.
- The pH of the solvent will determine the electrical charge (reactivity) of the molecule.

Usual Solvents

- In order of the most to the least polar: Water, glycerol, ethanol, acetic acid, edible oils
- Please note that tap water may change the pH of your solvent.
- Always use distilled water (pure water)
- Solvency is dependent on the polarity (reactivity) of both the solvent and the constituent molecule

Examples of carbohydrates contributing to medicinal actions

- Echinacea polysaccharides - arabinogalactans
- Reishi, Maitake, Shitake and brewer's yeast - Beta glucans
- *Eleuthrococcus senticosus* (Siberian ginseng), *Panax ginseng* (Korean ginseng) - adaptogens
- Derivatives of carbohydrates are organic acids - citric, ascorbic, malic

Lipids and Amino acids

Phenols

- Bearberry, willow, meadowsweet, hawthorn, witch hazel, St. John's wort, liquorice
- Phenols can precipitate alkaloids in herbal formulations. This can be averted by adding glycerin to your tincture blend.

Terpenes

- Digestive bitters, anti-inflammatory
- Phytoalexins are chemicals of plant defense against parasites
- Aucubin contributes to the medicinal actions of plantain, vitex and eyebright
- Dandelion, yarrow, wormwood, chamomile

Alkaloids

- Caffeine is a classic central nervous system, respiratory & cardiac stimulant

Glycosides

- Herb molecules that have a sugar attached by the plant so they can be moved around more easily in plant circulation
- Saponins – Anti-inflammatory
- Cardiac – Affect heart function
- Cyanogenic – Cough suppressant

General rule:

- Caffeine- Classic CNS, respiratory & cardiac stimulant

Generally speaking:

- Carbohydrates are water soluble
- Lipids are readily extracted with edible oils
- Amines are somewhat polar (soluble) in water/alcohol mixtures with a high % of alcohol (EtOH solution)
- Phenols
- Glycosides typically water soluble
- Aglycones (the non-sugar part of the glycoside molecule) are generally soluble in EtOH solutions

- Terpenes are oil &/or alcohol soluble
- Most alkaloids are soluble in mid to high percentage EtOH solvents

Why do I care?

- Are the constituents responsible for the actions needed actually present in my medicine?
- Are my preparations safe and effective?

Great medicine making is no different than great cooking and baking and both require a basic understanding of the chemistry involved.

Sex, Drugs & Evolution - The Potential And The Pitfalls Of The Psychedelic Renaissance

Chad Cornell M.H.

WHY THIS TOPIC?

Sex and drugs are both known to generate states of divine transcendence, ecstasy, bliss, love, insight, feelings of pleasure, and surges of energy or power. However, they are also both known to be arenas of great fear, trauma, overwhelm, pain, and the abuse of power. How is that possible? They are both celebrated and feared, upheld in some cultures and repressed in others, why? They may both lead us to the state of awe and exclaiming "OH GOD!" and both considered holy and sacred and also frowned upon elsewhere. Sex and drugs are often associated with being "of the dark" in a bad kind of way by many in Western culture. Yet as we enter into the new psychedelic renaissance and sacred sexuality movements of our era, we should really consider the underlying reality of this paradox. If not for ourselves, then for the next generations.

1. A QUICK LOOK AT COMMONLY USED AND POPULAR EMERGING PSYCHEDELICS:

There are hundreds of psychoactive plants and fungi, and even more drugs at the drug store and liquor marts that are endorsed by our government and culture as good and acceptable. Yet there are many herbs and mushrooms that have been used around the world and are still in use "underground" today. Many of these have been proven to be less harmful and more therapeutic than alcohol and many pharmaceuticals so why are they still illegal. When things are kept underground it is hard for us to culturally refine our relationship to them in a way which minimizes harm and maximizes possible benefit. Simply put, when we repress things they tend to pervert. Especially the deep urge to quest and to transcend the ordinary, or mundane states of life. This is especially true for the youth and the suffering souls of today. **Most herbs / fungi on the following list are still illegal** or just now being decriminalized, and most of them have been

increasingly used in modern culture over the past 15 years. Not by "druggies" but by all walks of life, all ages, and for a great variety of reasons.

Let's take a look at some of the more common ones in use today:

Marijuana: Used as a traditional medicine for so many purposes throughout time. However, today its main uses include: aiding insomnia, supporting appetite, constipation, visionary inspiration, aphrodisiac, inflammation and physical trauma / pain, calming nerves, calms some forms of seizure, improves energy at times of exhaustion, can support new insights into life.

DOWNSIDE: This is a bit of a trickster plant that not only varies greatly in strength and variety, but also in action. It may relax one person and send another into great anxiety and paranoia by showing you your fears. It tends to give great visionary power but can also lessen the ability of one to actually manifest those visions fully. It can give a sense of false energy that later leaves one feeling really tired. It helps often with sleep but can take away the sharpness of the mind / consciousness and the ability to remember dreams. It can be used to mask and put off deeper healing that is needed by facing reality and one's emotional baggage on its terms so to speak. It may lead to a messiah complex, or the sense that instead of being "one with the oneness" that the user is the actually chosen ONE. It can generate very black and white thinking of good and evil and great paranoia. Many elders have told me it weakens the aura and allows unwanted psychic intrusions. Marijuana has been shown to decrease testosterone and long term smoking can be hard on the lungs. Marijuana does not combine well with paranoia inducing research into the nature of reality.

Magic Mushrooms: Known most recently to support recovery from the depression associated with a hyper-materialistic lifestyle and a wounded cosmology. To help lessen the craving for harmful addictive substances like alcohol. To promote a sense of ease in those facing death, by allowing a glimpse of the world of spirit, the greater landscape of the mind, the unseen realms, the realms beyond death, and even to access the subconscious for information needed for healing, etc. Mushrooms appear to support the development of the brain, and insight into one's life, they can support libido, and fight depression, and aid PTSD. Some people claim magic mushrooms have cured them of serious diseases. Mushrooms have been used in a sacred and healing way in many traditional cultures around the world. Mushrooms like many sacred substances of the kind, are considered as a kind of food of the gods or a stimulant for the kundalini / Shakti force within each of us which can light up the higher mind and all of its potential.

DOWNSIDE: Mushrooms are quite safe from a toxicity perspective, they are mainly dangerous only if the dosage is extremely exceeded, the setting of use is very disturbing or unsafe, or they are used too frequently at a high dosage.



They should be used cautiously if one is on mood altering pharmaceuticals such as SSRI's. The downside of lighting up the kundalini / Shakti power is that it will speed up the intensity at which one must process their personal or ancestral trauma and it can cause a kind of crisis that may be too much - especially when approached too aggressively or without the skill and tools required. It is possible that once a person starts to stimulate the flow of kundalini energy one has to keep that flow up or else there will be physical blockage manifestations over time.

Ayahuasca: This powerful Amazonian plant brew has really increased in presence in Canada over the past 15 years. It's well known for allowing the user to glimpse the shamanic "otherworld" and the nature of inter-dimensional reality. Ayahuasca shows promise in addressing Parkinson's disease, some kinds of addiction, depression, and a general sense of meaninglessness towards one's life purpose. It is used traditionally to access information that can be applied towards the betterment of the tribe or community. It was also traditionally used as a way to strengthen the bonds within the tribe. When prepared well and with the right guidance this plant can lend tremendous energy to a person's process of awakening and understanding of the meaning of life.

Ayahuasca and Parkinson's

<https://kahpi.net/could-ayahuasca-help-fight-parkinsons-disease/>

DOWNSIDE: Ayahuasca, especially in the modern world can be destabilizing for many as it kind of "takes the lid off" of one's world and that can be overwhelming if there are not good systems of integration around as well as a safe grounded community or council of heart centred experienced guides. Ayahuasca may show a person what needs to be done in their lives but it is up to them to integrate that download into their lives in real time ~ basically one has to do to do the work! There are no shortcuts. When using such powerful plants it's important to stay centred in the heart, use other grounding plant medicines, and remain in genuine service to others and the planet. Otherwise the spiritual ego can flare out of control and lot's of drama can follow. Any interest or regular use of a "power plant" or any entheogen will attract all varieties of motivations. It's very important to have the right intention or surrounding lifestyle habits or else it will simply magnify a person's delusions of grandiosity, greed/lust, hatred/fear or ignorance - thus poor bad karma. Again these types of plants are not meant to be used too frequently or in combination with certain medications or by those with a propensity towards schizophrenia. It's best to follow a sattvic diet when using such a powerful life catalyst.

Ibogaine / iboga: This traditional African remedy is mainly known for its ability to help people kick intense addictions to substances like crystal meth and opioid drugs. It's a powerful and stern teacher plant but may hold a very important role in the future of humanity. There is an increasing number of

addiction centres in Canada that are using this plant.

DOWNSIDE: The practitioner has to be very skilled and educated in its use. Though it can save a person from life threatening addiction it can also take one to the edge of death or death itself. This plant demands respect and must be used only under professional guidance.

MDMA: This substance has been popularly known as ecstasy due to its ability to induce states of euphoria and sensual delight. Though it's famous as a party drug it's been proven to be very helpful in couples therapy and PTSD.

DOWNSIDE: It can be very addictive, and very dehydrating and hard on the kidneys. MDMA holds great potential as a therapeutic remedy but in the wrong hands it can also lead one to avoid being with reality as it is. It can leave a person unable or unwilling to live a life that is not filled with ecstasy at all times, or the regular challenges of life and relationships day to day.

LSD: Acid is famous as the "white light drug" that can introduce a person to the Godhead of consciousness. It can annihilate the delusion of 3rd dimensional reality as being the only reality. It's been used successfully in earlier Canadian research to address alcoholism in the 1950/s - 1970's.

DOWNSIDE: Acid did not deliver what it was promised to deliver to pop culture in the 1960's. Though it opened some new "doors of perception" it did not give people any better skills with which to handle the mundane world of day to day life. In some ways "pressing the button" that psychedelics allow you to press, makes regular life less interesting and the regular use of the drug can leave one more and more disillusioned, desensitized, exhausted and confused as a misfit in the "real world." Like it or not our society has rules and there is a game in play. Dropping out of it is much harder than one might think and there are definite repercussions. Some Yogic teachers admit that LSD is a decent introduction to the sacred realms of nature but not a path in itself. LSD as more of an ambassador to a path or state, but not meant to be the path in itself. It is thought to sometimes cause cancer as well, possibly due to it's deep effect on the vibrational aspects of being which the body must attempt to accommodate but in some instances cannot. One must remain grounded to work these substances, but also to discover other more sustainable methods - aka dharma / methods.

Early LSD Research Canada

https://maps.org/research-archive/w3pb/2005/2005_Dyck_22866_1.pdf

Psychedelics and Evolution

Some authors like Terrance McKenna (and now Paul Stamets) have suggested "the stoned ape" theory or hypothesis, suggesting that our early ancestors experienced a leap in evolution when they discovered Psychedelic mushrooms

in Africa. Modern research also suggests that some psychedelics, do indeed improve the development of the brain.

Links:

<https://www.youtube.com/watch?v=Nxn2LLBJDlO>
The Effects of Some Recreational Drugs on Intelligence:
<https://jech.bmj.com/content/66/9/767>

SEX:

Sexual energy is not really sexual energy, it is the creative energy of nature itself. Not only do drugs release Kundalini or Shakti but so too do sex and even erotic thoughts or images. This energy has been recognized in many cultures, including in modern science, to underly the health and development of the mind. if you are really interested in this topic, check out these links:

Taoism / Brain Health and Sexuality ~ MANTAK CHIA:

<https://www.learnreligions.com/taoism-and-sexual-energy-3182581>
mantak-chia-717

Sex Slows Aging Brain:

<https://www.iflscience.com/brain/sexual-satisfaction-correlates-intelligence-elderly/>

2. A NEW OLD MAP - 4 LENSES FOR US TO VIEW THROUGH:

4 Lenses Through Which to View Psychoactive Plant Use and Sexuality / Libido Energy:

Doctor Western Physiology Medicine: That plants / fungi are chemicals that act on body systems. These have physiological actions and you can try to make synthetic versions that will basically create the same effect. The goal tends to be increasing the longevity and well being of the physical being in this lifetime. Sexual energy is thought to support mental health and overall well being.

Yogic / Yogini Ayurveda Eastern View & Taoist Tradition:

This could be a book itself but to summarize... the use of psychedelics and sexual force are used towards a process of awakening to the dream of life. Psychedelic plants are thought **to release kundalini by force**, a process that would normally happen more slowly and naturally as a person progresses on their path. The goal is to rest the trajectory of one's consciousness in the beyond. We are "not this, not that" we are beyond. That sexual energy is seen as a fuel for the awakening of a higher mind ~ so too can psychedelics be a fuel towards the process of awakening. However, the use of straight up sex and drugs are not generally recommended as a path because the "G-force" of such a process is risky and create psychosis and exaggerate the negative karmic patterns of the user. It's also believed that they are a lesser path because they are temporary and wear off shortly - sometimes leaving the user in a lower state than they were to begin with. Sexuality is

thought to distract and deplete a yogi unless practicing actual yoga tantra.

Shamanic / Animistic: The use of drugs is not really a concept as much as the use of the "sacred medicines allies" Plants range from tobacco to peyote and ayahuasca and mushrooms. These plants are considered the top of heap of all medicines and "gifts from the gods" because they not only create insight into what is needed for physical healing of oneself and others and the betterment of the tribe, but they also heal the soul. For the shaman is interested in the well being of the planet and the tribe but they see the bigger picture - the health of that part of a person that travels onward after death. The shaman sees the plants as allies, guides, cohorts, that allow them to open to a terrain or portal through which they can have an effect on the "real world." The spirit world is seen as a place or dimension in which the mind / soul of the shaman can affect real change that will play out here on earth by interacting with the spiritual forces that underlie nature. It is a world of spirits, ancestors, power animals, inter-dimensional forces and much more. The world of the shaman is not anti- sex, sex and plants are seen as a natural part of our world, not sinful at all. But sex (and greed in general) is also seen as the downfall of most shamans who cannot "ride the dragon" with skill and grace so to speak. Plants release power, but that power will test a person and it's only through the sacred practices of constantly applying oneself to the helping of others that one is protected. Much like the story of Icarus, it is humility that protects the shaman.

Sattvic Diet / Similar to common Shamanic Initiation Diet:

<https://www.youtube.com/watch?v=6ZUFTOCwU1w>

Modern Integrative Eclectic Herbalist: Embracing the best of each of the above. Yet also interested in a kind of "midwifing" of our culture through this process of reconnection. Herbalists are the therapeutic plant experts of our time and are a natural fit for this stage of our re-membering and returning to such ancient practices amidst modern research. As (w) holistic practitioners we can see the process of healing on many levels and that there is an element of awakening or transcending that can help people fully "self realize," but also guide us to a fuller embodiment of our human potential right here and now. Our higher mind / higher self is in a process of embodiment - we are not simply here for transcending. We are here to participate in helping the earth and helping others and nature supplies us with tools and gifts to support that process. This is the true potential of health - not simply the absence of disease, but embodying the duality of Spirit and Matter and eventually transcending them both.

NOTE: The term "psychedelic" is derived from the Ancient Greek words psychē (ψυχή, "soul") and dēloun (δηλουν, "to make visible, to reveal"), translating to "mind-manifesting."

STORY OF ICARUS - VIDEO

Story of Icarus - Transmuting our primal nature but



keeping the middle path - https://www.youtube.com/watch?v=9xeQbeRs_3k

EXAMPLE OF CYMATICS - many other videos online:
<https://www.youtube.com/watch?v=vvJAgUBF4w>

3. SAFETY:

REMINDER: IT'S THE DOSE, INTENTION, AND RELATIONSHIP TO BOTH SEX & DRUGS THAT MAKES SOMETHING A MEDICINE OR A POSION.

1. Are you suited to psychedelics or not?
2. What dosage are you working with and does it match your intention?
3. Are you on medications that may mix poorly with your chosen psychedelic?
4. Do you have supportive practices and a community in place to help you through the rough patches?

THE EIGHT S's!!!

Set - Set your intention, follow a clean diet, calm your mind, make sure you are not on the wrong meds.

Setting - Make sure you are with decently wholesome people, who are very experienced, good hearted and wise to the ways of the terrain you are about to enter. It helps to do your research and make sure you are getting a good referral to the right guides. Also make sure the location is calm, and has a sacred feel to it. Having good sounds, and a good feeling. It's normal to feel nervous or afraid but you should be able to feel the love and the intention of the setting.

Sex - It's good to stay away from sex for a few days before and after, not because it is bad, but it is a lower chakra centre and one is better off cultivating the energy of their sexuality and using it to light up their higher abilities during and around the session. it also keeps your "mind out of the gutter" so to speak and increases the potential of focussing on great healing intentions.

Smudge - Don't buy into the idea that burning sage or other sacred plants in a space is just superstition. Plants like sage and Palo Santo, Juniper and Cedar, and tobacco, are all timeless allies that help keep the location we are in clear of negative influences.

Surrender - So many people suffer from trying to stay in control. Explore and practice surrendering to the process, find the faith it takes, and the pleasant feeling of exhaling out the mouth with a sigh of surrender. Learn to love the process of witnessing, accepting, and letting go.

Smile - When possible, especially once you have decided to partake, embrace the medicine you use with total humility, trust and gratitude. When you smile it helps the energy move up to the higher centres and decreases your suffering

/ increases the presence of your higher mind. In Buddhism it is said that our true nature is indeed peace and bliss! A good sense of humour is always helpful too.

Stay Put - It's a good reminder that many positive experiences have turned bad when people wander off in the dark or try to fly off a building etc. It's a good idea to stay put or stay in a general safe area.

Spotter - It's important when possible to know that you have a good spotter or sister only in case you need them. Not someone who is trying to control your experience too much, but there if you need them.

4. INTEGRATION

Where so many people fall short is that they do not spend the time grounding out and processing and integrating their journey's into real life. They are too quick to get on with the next journey. Remember that there are many ways to help integrate what you have learned and gathered through:

Some of these include: Good counsel and friends, shadow work, yoga (move the energy), time in quiet and nature, art, journaling, dance, play, reviewing your life mission and direction in a practical way, devotional love, reading sacred scripture - sutras etc. And I'm sure you can think of more!

Message from the Elders!

Many elders from Alan Watts to Ram Dass have said the same thing.

Once you get the message ~ hang up the phone! There are many ways that these substances help us wake up to our human potential and the nature of reality. However, let's not make the same mistake of many before us... we need to ground out and integrate our findings and find ways of accessing similar awakened states that support us in our day to day lives. This can avoid burn-out, becoming unstable, and getting too lost into a power source outside of oneself. Maybe you wish to visit the temple now and again and check for new downloads but often as time goes on you will realize it's a bit of a repeat experience and the work is in the humble here and now. Being a better human being, playing our humble part, enjoying life, taking care of ourselves and our planet, and helping others.

5. OTHER GREAT SUPPORTIVE PRACTICES INCLUDE:

Yoga, meditation, shadow work, tantric buddhist dharma practices, Jyoti ~ mind body therapy (ask me for more info!), exercise, visit power spots in nature, breathwork, guided fasting, prayer and tobacco, sonic driving / shame drumming, working with sound, music and dance, qi gong, using other herbs that support chi. and awakening.... etc. Let's also remember that what really protects and aligns us on our journey is play, and a good sense of humour, especially towards ourselves.

6. KEY SUPPORTIVE HERBS INCLUDE:

- CALAMUS (Americanus): Removes blockages in the subtle energy body, helps awaken the mind, transmutes sexual energy into the higher centres, helps overcome primal fear energy, protects the aura, gives energy, fights infection, supports digestion.
- OSHA (aka bear root): Unfortunately endangered but very grounding and calming to the mind
- VALERIAN - calming, grounding supporting GABA
- ASHWAGANDHA - strengthening the adrenals and glands, calming, grounding, supports GABA
- GOTU KOLA - Supports higher mind, adrenals, cleansing
- REISHI - Calms the over active thinker, calms paranoia, centres one in the heart, supports sleep
- OATSTRAW - Calming and supports nerves
- LEMON BALM - Calming and helps with depression
- HOLY BASIL - Supports feeling centered and grounded, very sacred plant
- CORDYCEPS - Energizing and supportive to chi and libido when needed
- SKULLCAP - Great to strengthen the nervous system address anxiety and irritability / tension
- BLACK COHOSH - Used to rejuvenate and heal the medulla
- FLOWER ESSENCES - Google and learn more - resets the glands and helps deep transformation!

Essential oils:

There is a reason so many temples have burned plants and use oils. They help guide us to certain places and healing states. Some of the most notable are:

Frankincense, Sandalwood, Rose, Holy Basil. Angelica, Rose Geranium, Gold Chamomile, Patchouli (grounding), Vetiver (grounding), and there are so many more...

7. RESOURCES - WEBSITES AND VIDEOS

- Reset me <https://reset.me/>
- MAPS <https://maps.org/>
- RAM DASS TALK~ On Drugs as a Path to Enlightenment <https://www.youtube.com/watch?v=9GB6wMWi-O4>
- Alan Watts on Psychedelics and Awakening <https://www.youtube.com/watch?v=9GB6wMWi-O4>
- Chad Cornell - Our Common Roots Film on Gaia Trailer <https://www.youtube.com/watch?v=1XipKGxJJU>
- Imaginal Cells of the Butterfly: <https://blogs.northcountrypublicradio.org/allin/2017/11/26/imaginal-cells-make-butterflies-from-caterpillar-soup/>
- Tantric Buddhism (lot's more out there) <https://www.youtube.com/watch?v=F3eW5F5w6ek> <https://lamalodro.ca/>
- Hollow Reed School of Healing Arts website <https://www.hollowreedholistic.ca/>

I hope this was a useful presentation for you and that it inspires you on your own path. Please take what fits, and leave what doesn't. Life is an ever unfolding adventure and mystery! I will continue to refine this presentation for future generations. Any feedback is welcome...

May all beings be well and happy!

Herbal Medicine For Children

By Colleen Emery, RHT (BCHA)

All children can be given the opportunity to strengthen their relationship to the natural world by utilizing herbal medicine from an early age. Understanding how to administer herbal medicine to children, to teach and guide children to make connections with herbs and develop allies and relationships with the plants is key to encouraging respect for the natural world and holistic health and herbalism in general.

SAFETY AND BIOAVAILABILITY OF HERBS IN CHILDREN

Safety is key when including herbal medicine as a method of care for children. For obvious ethical reasons there are very few studies done with children and herbal medicine to prove out safety concerns. For this reason we rely on evidence of traditional use as well as generally looking to adult studies for safety data. However, one must not lose sight of the fact that children are not small sized adults. Use logic and critical thinking when making decisions regarding herbal medicine and children. Always try the medicine first yourself in the dosage and delivery before you offer it to the child.

Consider the following:

1. **When administering herbs via the digestive system** one must consider that a child's digestive system function is immature, meaning that absorption through the gastrointestinal lining will differ from an adult. The length of time that a herbal medicine has to be contact with the gastrointestinal mucosa will directly affect medicine absorption. Intestinal transit times tend to be shorter in children and this could lead to inadequate bioavailability of the medicine.
2. **When administering herbs to infants** it may be more advantageous to include a herbal bath rather than through the digestive system. Not only are infants' bile and pancreatic secretions insufficient at this age of development, infants have a larger skin surface area relative to their body weight than an adult. This and the fact that their skin has reduced thickness leads to a more efficient transdermal absorption.
3. **The role of the gut flora in phytochemical metabolism** particularly in relation to glycosides will determine which herbs a younger child will be able to metabolize effectively.



Post weaning, a child's capacity to hydrolyse glycosides will increase and will follow a developmental pattern with increasing age.

4. **Relying on the passive exposure of herbal medicine through breastmilk may be insufficient.**

First there is little data available on how one would dose correctly for this route of administration.

Second, the overall rate and transfer is influenced by many factors including stage of lactation, chemical characteristics of the herb, composition of the breast milk, and age of the child. A more suitable route of administration for breastfeeding infants and toddlers is covered in routes of administration

5. **Infants and Children move through illness quickly;**
a clinician's goal is to work with the innate immune system and encourage its self-healing capacity.

HOW TO DETERMINE A CHILD'S DOSAGE

Adjusting the adult dosage to fit the child allows for consideration of age, size, weight and safety. There are several formulas one can follow to find a child's dosage each with its reasoning as to why it would be useful. Here are two of the more commonly used formulas:

FORMULA ONE

Referred to as Young's Formula or Young's Rule and is based on age of the child, this equation is generally used for child age 1 and up.

$\frac{\text{Age in years}}{\text{Age} + 12}$ Equals portion of Adult's dose

Example: Child is 6 years old and adult dosage is 5 ml, 3 X per day

$\frac{6}{6 + 12}$ Equals $\frac{6}{18}$ or .33 of 5 ml = 1.7 ml 3 X per day

FORMULA TWO

Referred to as Dilling's Formula or Dilling's Rule and is based on the maturity age being 20 years, generally used for child age 1 and up

$\frac{\text{Age in years}}{20}$ Equals portion of adult's dosage

Example:

Child is 6 years old and adult dosage is 5 ml, 3X per day
6 divided by 20 = .3 of 5 ml = 1.5 ml 3 X per day

ROUTES OF ADMINISTRATION AND CHILD FRIENDLY HERBAL PREPARATIONS

Factors such as a developing digestive system and transit times are to be considered when administering herbal medicines for children but so is taste, texture and experience.

Herbs may be used in numerous preparations when administered for medicine. There are many lesser known preparations that can be utilized for children not only for efficacy but also for compliance.

Include the following preparation techniques:

Infusions Decoctions Syrups Electuaries Herbal Pills or Tablets
Acetum Oxydels Baths Infusions Oils and Body Rubs Salves
Tinctures

A note about Alcohol:

A newborn babe doesn't have the ability to breakdown small molecules such as ethanol until they are about 1 year old when they have developed about 40% the capacity of an adult to do so. Adult values are then reached incrementally between the age of 1 and 10 years old however this is very individual based.

Some resources suggest using boiling water to denature the alcohol content. However, to do so one would need to keep a sustained heat of 80 degrees Celsius for 5 minutes for this to occur, rendering most of the medicinal aspect of the herbs inert. Reserving alcohol extraction of herbs for times when it is important to deliver meaningful amounts of medicine to a child is a good idea. Consider the herb itself and whether or not a tinctured extract of this plant is the best way to gather the medicinal aspects it offers. If a tincture of the herb is the preferred method of extraction ask yourself if this herb is the best suited medicine at this time.

Administering the tincture with other medicines or liquids is preferable. Mixing with breast milk, a herbal syrup or infusion, coconut oil or honey are all options to help with ensuring safe and effective delivery of the tincture. Mix the tincture with the liquid of choice, pull back into the dropper the solution and squeeze this into the child's mouth. This will ensure you deliver the needed dosage without waste. And, always be sure to taste this preparation first before you administer to a child

TASTE OF HERBS AND DEVELOPING A CHILD'S PALETTE

Consider:

- The first taste a child encounters will likely be the sweetness of breastmilk
- As they experience more food and drink they develop their palette of taste
- We have 4 taste receptors: Sweet, Sour, Bitter, Salty We have 2 mouth feels: Pungent, Astringent

SWEET

The sweet taste is most folk's favorite taste. The proper amount of this flavor will nourish us.

Plants have a special relationship to the sweet flavor because it is one of their main strategies for survival. Flowers have sweet smelling fragrances to attract pollinators, turning into sweet fruits eaten by creatures that carry seeds to other parts

of the bioregion where they are excreted and grow into new plants.

In herbal medicine, the sweet flavor is generally nutritive and strengthening. In Chinese medicine, the sweet flavor is associated with the spleen and stomach and help to harmonize, improve digestion and absorption. Sweet herbs tend to be anti-inflammatory and often demulcent.

SOUR

The sour taste, one of the most noticeable tastes most associated with citrus fruits. The sour taste is associated with the liver in Chinese medicine and is a taste that helps relax, cool and nourish this organ. Because of that sour herbs are useful for people who tend to run hot, overeat fatty, spicy and processed foods that are difficult for the liver to assimilate. Sour herbs help to cleanse and promote good digestion. Sour helps cool and relax.

BITTER

Bitter is a very helpful flavor that can be deeply helpful medicinally. Generally bitter herbs are "cooling" and drying. They tend to move energy down, meaning that they help us to digest, absorb, urinate and excrete. Bitter principles stimulate bile production, improve digestion and stimulate elimination through the bowels. The bitter taste is often also helpful for strengthening cardiac function. Bitter herbs are also often antimicrobial, anti-inflammatory and alterative and tend to be cholagogues.

SALTY

The salty taste is associated with the kidneys in Chinese. The kidney is the storehouse of a substance called "Jing", the essential fluid that provides the basis for our health and vitality. The salty taste is key to restoring our jing and building our energy levels. Salty herbs are often mineral and nutrient rich. Seaweeds such as kelp and dulse are deeply nutritious, emollient and strengthening. They contain high amounts of vitamins and minerals such as iron and manganese.

ASTRINGENT

Astringent is a term for a substance that is "puckery", absorbent, that binds tissue. Astringent herbs are often rich in tannins. For that reason, astringent herbs are often offered to people who have diarrhea, excessive bleeding and tend towards dampness and excessive sweating and secretion.

PUNGENT

Pungent herbs are the ones that you can smell from a distance. They tend to have volatile oils promoting the herb's anti-microbial and stimulating action.

Pungent tasting herbs tend to promote circulation, sweating and mucus secretion useful at the onset of a cold or where deep fluid needs to be expectorated in the sinus and/or lungs after an infection.

CHILD FRIENDLY MATERIA MEDICA

Childhood is a time of building, growing and strengthening wellness, particularly the immune system. The child's immune system will be put to the test in an effort to develop and mature. Working with herbal medicine in supporting this maturation creates holistic balance for the child. Not all herbs are safe for kids based on the factors already cited. Focusing on the herbs that offer nutritive, tonic benefits as well as those that work to clear heat, soothe inflamed, sore and tender tissue and support the immune system will be most beneficial. This small Materia Medica offers a herbal allies for calming the nervous system, influencing the immune system (preventative and acutely), respiratory issues, fevers and heat conditions, skin and first aid support, digestive system support as well as nutritive adjuncts.

ASTRAGALUS (*Astragalus membranaceus*)

Parts Used: roots

Taste: Sweet

Energy: Warming

Summary: Referred to as Huang Qi in Traditional Chinese Medicine, Astragalus is a well-known immune regulatory herb. Its tonic action brings a building energy to the protective quality of the immune system and contributes to the immune reservoir, reserves of the body.

For children, this herb can be a very supportive ally for preventing illness as well as building energy and vitality long term. Astragalus is a known immune system amphoteric, meaning it normalizes the function of the immune system. This is an excellent herb to utilize for a child who is dealing with hyper immune system responses such as seasonal allergies and certain skin conditions. Excellent herb to prepare as a decoction and/or syrup as well as adding to bone and/or veggie broth, congee or kitcheree. Remove before serving.

BACOPA AKA BRAHMI (*Bacopa monnieri*)

Parts used: whole plant, mainly aerial parts

Taste: Bitter

Energy: Cool, Dry

Summary: In traditional Ayurvedic medicine, Bacopa is a rasayana, or a rejuvenative tonic, which promotes the revitalization of the body and tissues. It was used as a tonic to promote intellect and longevity. Energetically, Bacopa is a cooling bitter that is thought to pacify all doshas (vata, pitta, & kapha), or constitutions in the Ayurvedic tradition. Brahmi is one of the main brain tonics used in Ayurvedic medicine. It is regarded as an herb that builds and improves mental performance, improves long- and short-term memory, increases intelligence, increases longevity, relaxes the whole nervous system, increases circulation to the brain, and stimulates the cerebrovascular system. Brahmi has traditionally been used to improve mental capacity and



memory in children. It is attributed with improving learning ability and concentration. Excellent addition to tea infusions, acetums and syrups. Often utilized to calm an overactive, scattered or anxious nervous state.

CALENDULA (*Calendula officinalis*)

Parts Used: flowers

Taste: Bitter, Salty, mildly fragrant

Energy: Slight warm or neutral, slightly dry

Summary: This sunny, bright and cheery flower is a must have in any apothecary, home or otherwise.

Used both internally and externally its primary influence is vulnerary, offering cell repair, anti-inflammatory action, and soothing support. Internally, calendula is useful for fever or heat conditions as well as lymphatic support both acutely as well as a nutritive. Having this herb in many preparations in your pantry will prove useful. An oil infusion of this flower offers a topical remedy for bruising, swelling, sore, dry and cracked skin. A tincture provides both an internal and external antiseptic and cooling agent. Dried flowers for infusions can be useful both internally and external. A skin wash tea with Calendula is a wonderful support for many children's skin concerns.

CATNIP (*Nepeta cataria*)

Part Used: Flowering Herb

Taste: Pungent, slightly bitter

Energy: Warm, Neutral

Summary: Catnip has a very long history of use as a children's remedy for colds, fevers with restlessness, stomach aches, diarrhea, intestinal virus, nausea, flatulence, intestinal colic with cramping, irritability, insomnia and teething pain. It can be used with Fennel, Chamomile, Lemon Balm, Ginger, Linden flower or Peppermint for these conditions.

For children's fevers, use Catnip with Elderflower and Peppermint.

A compress soaked in warm Catnip tea can be a very effective application for abdominal and intestinal pain as well as cradle cap in infants.

CHAMOMILE (*Matricaria recutita*)

Parts used: Flowers

Taste: Sweet, mildly bitter

Energy: Warm, slightly moist

Summary: This small, sweet smelling, gentle plant has long been revered as a beverage tea however Chamomile offers a wonderful, effective medicine for children.

Excellent at addressing all things digestive such as colic, calming a nervous child or helping bring about sleep.

Excellent addition to an external skin tea formula for washing tired and sore skin plus easing nervous tension at the same time. Encourages healthy digestive flow, Chamomile is also a well-known mild, bitter herb.

ECHINACEA (*E. angustifolia/purpurea/pallida*)

Parts used: Flower Cones and Roots

Taste: Pungent

Energy: Cool

Summary: Echinacea is a very well-known immune influencing herb. Echinacea works by increasing macrophage (specialized immune system cells) activity in defence of pathogenic activity in the body. Safe for all ages, Echinacea is a very important herb to have in your materia medica for children. It has a cold energy, working well when heat conditions are present. I use all parts of the echinacea plant, the root and the seeds have a definite pungent taste, creating a zing feeling on the tongue. This sensation is something to share with children before they are sick and needing Echinacea. Working ahead of time to get used to this sensation with provide compliance when needed for wellness.

ELDER (*Sambucas nigra*)

Parts used: Flowers and berries

Taste: Sweet (flowers), Sour (berries)

Energy: Cool, moist (flowers), Cool, neutral (berries)

Summary: Mother Elder is a shrub/tree and is one of Europe's most esteemed herbs for colds, flu and upper respiratory infection. Both the berries and the flowers are used for medicine and both possess anti-viral activity. The flowers in particular are a much-valued diaphoretic herb, inducing sweating, modulating a fever response and shedding the pathogen from the body. In addition to this important action the tea of Elderflower tastes delicious! The berries of the Elder tree offer us high levels of Vitamin C, bioflavonoids, and stimulate cytokine activity in the body, protecting the cell membrane from invading pathogenic activity. The nice part about Elder is it can be taken preventatively or acutely.

Prepare this outstanding herb as an infusion of the flowers, a cordial of the flowers or a syrup, acetum or oxymel of the berries. It by far is the best medicine to deliver other medicine with.

ELECAMPANE (*Inula helenium*)

Parts used: Roots

Taste: Bitter, Fragrant

Energy: Neutral, slightly moistening.

Summary: Elecampane is a large, sunflower like plant, with a lovely yellow flower. The root is medicinal and offers a fragrant, quite pungent bitter flavour. An excellent herb for assisting the body to expectorate stuck, hard to move mucous that

is irritating the respiratory system and resulting in frequent coughing that presents dry and irritated. The root of this plant helps to increase the watery secretions of the respiratory system, helping the cough become more productive and less irritating. It can be made into a syrup or a tincture could be added to an Elderberry syrup for easy administering. Some child will not enjoy this flavour and some will.

FENNEL (*Foeniculum vulgare*)

Parts used: Seeds

Taste: Sweet

Energy: Warm, Moist

Summary: A very pleasant tasting herb, Fennel is a wonderful carminative and digestive aid. Fennel seed stimulates digestion, regulates appetite and relieves flatulence. Fennel seed helps resolve painful cramping in the abdomen and is a helpful respiratory expectorant.

It is a wonderful tasting herb, the seeds can be chewed to alleviate tummy troubles, powdered and added to honey for a delicious electuary, created into a syrup for a digestive aid and excellent cough syrup addition. Works wonderful in formula with other herbs.

LEMON BALM (*Melissa officinalis*)

Parts used: Leaves and flowers

Taste: Sour, slightly bitter

Energy: Cool, neutral, to slightly dry

Summary: The mere scent of Lemon Balm provokes a gentle calmness and lifted spirit of joy, this plant offers much to us for children's wellness. This gentle herb stimulates digestive function, reduces gas and bloating and releases tension from the digestive tract muscles and organs. Lemon Balm is a wonderful herb to assist in relieving tension, nervousness, anxiety and irritation. Most children describe anxiety as a pain in their tummy. Lemon Balm is a wonderful ally in assisting with the mind, body, spirit connection of emotions and resolving this tension.

MARSHMALLOW (*Althaea officinalis*)

Parts used: Leaf, Flowers and root

Taste: Bland, slightly sweet, slightly bitter

Energy: Cool, moist

Summary: Marshmallow offers us medicine that is both for internal and external use. Anytime there is irritation, whether that be bug bits, wounds, burns or coughing, ulcers, gastritis and other inflammation, Marshmallow offers us a way to cool, soothe, moisten, soften and calm. Marshmallow root contains mucilage that is best extracted in a cold-water infusion, however hot water can work in a pinch. Soaking Marshmallow root in cold water over night, straining and combining with a bit of raw honey will create a lovely syrup elixir. This can be used

to soothe a sore throat, help a cough or even apply topically to soothe sore skin.

OAT (*Avena sativa*)

Parts used: Oat tops in milk stage, straw

Taste: Sweet

Energy: Slightly warm, moist

Summary: The oat plant offers us both medicine and food. We use the grain of this plant as a food source, flaking it for our morning porridge. The immature seed tops in their milky stage and the straw that grows on the sheath of the plant offer us an excellent nervous system tonic and nutritive. This incredible ally is one of the major restoratives for the nervous system in the herbal world, actually feeding the nervous system. This is an important herb to integrate for those children who tend to anxiety, exhaustion, overwhelm and irritability. It is useful for those children who struggle to fall asleep or have interrupted sleep patterns.

Excellent as an infusion, used within formula for best results.

TRIPHALA

Taste: Sour, bitter (some resources comment it contains all 6 tastes)

Energy: Warm, Dry

Summary: Triphala is a staple of Ayurvedic practice used for well over 2,000 years. It is a traditional herbal formulation consisting of three fruits native to the Indian subcontinent: Amalaki (*Emblia officinalis*), Bibhitaki, (*Terminalia belerica*) and Haritaki (*Terminalia chebula*).

It is said of Triphala; "No mother? Do not worry so long as you have Triphala."

Indian people believe that Triphala can care for the internal organs as a mother cares for her children.

Triphala is a safe formula to incorporate for healthy bowel and immune function in children. My favorite way of using this medicine with kids is to create an electuary with marshmallow root and fennel seed.

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Fermentation And Seasonal Changes

By Colleen Emery, RHT (CHAofBC)

The benefits of including Fermented Foods in the diet has widely been documented and reported. What not too long ago was an almost lost culinary art in the modern kitchen has now become a mainstay for most. Not only are people fermenting at home, everything from kombucha to fermented ketchup to probiotic rich kraut can even be found in our local shops, health food stores and on the menu at local restaurants and cafes.

The benefits of including fermented foods in the diet are far reaching and include:

- Preserving nutrients, breaking them down into more digestible forms.
- Creating new nutrients; microbial cultures create B vitamins (including folic acid, riboflavin, niacin, etc.).
- Removing toxins in food.
- Some ferments function as antioxidants, scavenging harmful free radicals from the body.
- Fermented foods are rich in healthy bacteria and they promote the growth of healthy flora in the intestine helping with overall digestive system function.

However, the idea of pursuing a seasonal approach to fermenting is just now becoming more of a conversation although this approach was certainly the way our ancestors went about navigating this preparation method.

Eating seasonally is not a new idea. Taking time to consider what grows around us, what the weather is doing and the

unique characteristics of the current season helps us connect to the organic rhythm of nature that deeply nourishes us.

It's not so different when we consider our fermenting projects. It makes great sense to consume cool beverages of kombucha and tibicos in the hot months of summer to help regulate our body temp and quench our thirst. When the season changes and the dampness and colder weather returns it's important to adapt to this change and adjust the way in which we include ferments. Moving from the cooling ferments such as kombucha into the warming beverages such as a Bug makes great sense.

Preparing a Bug is a simple, inexpensive way to include a spicy, warming addition to our beverages in the fall. The key is to use a fresh root or combinations of roots. Ideas could be ginger, turmeric, dandelion, burdock, elecampane and more. All the healthy benefits of the root as a herbal medicine are amplified when we prepare it as a ferment. Bugs are an interesting way to create medicines from roots and also preserve fresh plant medicine for longer storage.

HOW TO BREW A BUG

Ingredients & Supplies

Fresh Roots

Whole Unrefined Cane Sugar

Water

1 Litre size jar with seal and ring or air lock

Instructions

1. Wash your root if needed and decide if you should peel it. Sometimes the skin of the root is thin and easy to work with and sometimes not. Peel if you feel it is necessary, ensure there is no mold or areas of decay.
2. Grate the root to yield 2 heaping tablespoons.
3. Place the root in a 1 litre jar and stir in 1 - 2 tablespoons unrefined cane sugar and ¼ cup of water. Mix well to integrate. The amount of sugar you will use is dependent on the natural sugars that the root may offer. The more sugar rich your root is the less sugar you will need to feed the ferment.
4. Cover the jar loosely with a ring and seal or airlock and place in a warm spot in your kitchen that stays consistent with temperature.
5. Every day for 5 days, mix an additional 2 tablespoons grated ginger, 1-tablespoon sugar and ¼ cup water into your jar.
6. The ginger will begin to foam and bubble at its top and will take on a yeasty aroma somewhat like beer. After 5 days, it is ready to use. Store it in the refrigerator and use within a few months of making.

HOW TO USE YOUR BUG

1. Secondary Fermented Tea

- Prepare 1 litre of herbal tea adding 1 tablespoon of unrefined cane sugar.
- Strain off ¼-cup of the bug's liquid and stir into the cooled sweetened tea.
- Replace the ¼-cup bug you've removed with 2 table-spoons sugar dissolved into ¼-cup water and return your bug to the fridge.
- Transfer the sweetened tea and ginger bug to flip-top bottles and allow it to ferment at room temperature for 3 days.

2. Addition to your daily herbal medicine

- Include a tablespoon of your bug with appropriate herbal medicines such as tinctures, syrups elixirs etc.
- What you choose to combine will depend very much on the herbs you are using and the condition and/or person who is taking the concoction

3. Stir a spoonful into your soup, tea or hot elixir.

Any time you take from your bug, be sure to add back in a little sugar and a little water to the master bottle. At a certain point the master bottle will be spent. You will know this because the flavour, smell and activity of the ferment will change to a displeasing quality.

Including a BUG in your fermentation station for the colder, chilly months allows for a spicy warm approach for those days where the winds are blowing, the sun as slipped below the horizon too soon and the chill is in the air.

Colleen Emery, RHT (BCHA), Clinical Herbalist and Aromatherapist, is the founder of Emery Herbs Dispensary, Healing Suites and Teaching Centre in the heart of Winlaw, BC. Colleen is passionate about empowering individuals and families to take charge of their wellness through fostering traditional skills and connection to the *natural world*.

Herbs for Sexual Health & Wellbeing - A traditional medicine look at sexual vitality

Dr. Tiffany Freeman R.Ac, TCMD, Reg CLH

In the tradition of my ancestors it is told that we are made of the sky & the earth, that they are our original parents

The energies from the sky & the earth culminate to transfer our spirit to peoples upon earth to nourish and birth us

Our birthing parents provide us with the essence that helps provide the basis or foundations of our personal energy, and that is further nourished by what we take in, the food, water, clean air, and nourishing substances in our daily lives

This ancestral energy is a part of the energy that creates healthy ovum, sperm, sexual fluids and drive

At the ages between 12-16 years old this ancestral energy, or our essence, makes way for the entry of another energy called Tian Gui in Mandarin, the 'celestial waters' or moon waters. These waters include the fluids such as menstrual blood, semen & spermatid fluids, ovum and ovulatory fluids.

This arrival correlates with our bodies ability to reproduce and our fertility

Sexual desire is dependant on our internal fire, called Minister Fire and a healthy sexual appetite depends on the abundance of this fire

An orgasm is created by the build up of this fire energy that releases and creates a free flow of energy throughout the body

The build up of sexual desire stirs up Minister Fire and affects the Mind, more specifically the Heart and Pericardium which in Traditional Chinese Medicine governs the mind.

Conversely the mind, governed by the Heart and Pericardium, affects sexual desire as well then stimulates Minister Fire

The Heart (mind) is connected to the uterus via the Uterus Vessel (Bao Mai) and the prostate, orgasmic contractions discharge the accumulated energy of the Minister Fire.

When sexual desire is present but does not have an outlet in sexual activity and/or orgasm, the Minister Fire can become pathological. The fire can accumulate and give rise both to heat in the Blood and to stagnation of the Lower Body. This can be seen physiologically as irritability, frustration, painful menstruation, prostatitis, etc

If one abstains from sexual activity but the sexual desire is strong, this will also stir up the Minister Fire

If sexual desire is absent, then lack of sexual activity and/or orgasm will NOT be a cause of disharmony or dis-ease

When sexual drive is robust and responsive it is generally considered that one is in good hormonal balance

Water - sexual fluids, Fire - desire, Earth - our bodies, Air - the energy moved and released

Physiologically people go through 4 phases in terms of sexual response: desire (libido- mind), arousal (excitement- fire), orgasm (air) and resolution (our body)

Beyond Aphrodisiacs: when we look at the energetic aspects of desire, as well as sexual function, we can differentiate between a more variety of herbals to support

Some herbal categories: Nourishing, Relaxing, Stimulating, Adaptogenic, Warming, Uplifting with aromatics, and entheogenic



Nourishing

Oats - *Avena sativa*: nourishing and strengthening of the nervous system

Relaxing

Passionflower - *Passiflora incarnata*: Relax the body to receive, calm the mind, anti-anxiety, sedative

Kava kava - *Piper methysticum*: Relaxation, anti-anxiety, sedative, powerful muscle relaxant, traditionally used to release tension from the day, An empathogen

Stimulating

Damiana - *Turnera diffusa*: "before sexing there was sex tea!" use for sexuality predates written history, Increase arousal, stamina, increase blood flow to the genitals, relaxant, digestive, mood enhancer

Adaptogenic

Shatavari: *Asparagus racemosus*: "she who possesses 100 husbands", gets the juices flowing, soothes systemic dryness and increasing cervical mucous to aid sperm into the cervix, Increases blood flow to the genital area, enhancing sexual sensation, sensitivity and increasing vaginal lubrication

Ashwaganda: *Withania somnifera*: Recorded use in the Kama Sutra, reduce stress, affect on adrenals inhibiting cortisol, anti-anxiety, Increase blood flow to the genitals, Increases the serum levels of the luteinizing hormone and testosterone, natural balance of sexual hormones, Increase physical performance

Warming

Ginger: *Zingiber officinale*: Increase blood circulation and sensitivity to erogenous zones, warming & building up the yang energy, releases tension in GI and lower abdomen

Floral Aromatic: Uplifting

Rose: *Rosa Spp*: Relieves stress, calm emotions, association with love & the heart, stirs desire

Entheogen

Cannabis: Lowers anxiety and stress, lowering inhibitions, can heighten sensation, slow down perception time, decrease pain Microdose may be better

Adrenal Health With Botanicals

Michael Friedman

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Sit Here! Relaxing Into Foot Soaks

By Jennifer Gawne, R. TCM.H

WHY SOAK?

Foot soak are an effective alternative to consuming herbal decoctions

Foot soaks have a long tradition of maintaining and restoring health

- detoxifies, stops pain, reduces inflammation
- can treat arthritis, neuropathy, plantar fasciitis, fibroids, PCOS and digestive issues like IBS

HOW TO HAVE A GOOD SOAK

Arrange a comfortable chair with back support

Choose a good time of day, best before bed or before a treatment as foot soaks improves sleep

Use a nice large basin so warm water can be added as you soak, ideal if part of legs are submerged also

Have water at just the right temperature, avoid too hot.

Soak for at least 20 minutes but ideally less than 40 minutes

Goal is to break a sweat, but not sweat too much

Do not soak if consuming alcohol or acutely unwell

HERBAL FORMULAS

Epsom salts- add 1 ½ cups to warm water, alleviates constipation, reduces fatigue, improves sleep

Ginger and white wine- one thumb sized chunk of ginger (sliced), 50 ml of white wine. Boil ginger for a few minutes, add ginger water and wine to foot soak water. Disperses cold, good for cold extremities in winter

Ginger and dandelion – treats flu, fever and headache

Motherwort, chrysanthemum, skullcap root and fleece flower – activates blood circulation, warms uterus, stops painful menses

Rose Petals – pretty and helps treat depression. All flower herbs raise qi upward.

Lemon Juice – treats callused feet

Dang Gui and Longyan – 40 grams of angelica and 25 grams of long yan. Nourishes blood and benefits skin

Tumeric – anti inflammatory, helps arthritis, will stain skin and tub

Seaweeds – mineral rich, purifying, reduces cellulite and stimulates adrenal glands

To treat arthritis or Gout – tou gu cao 30 grams, hong hua 10 g, da huang 15 g, huang lian 15 g, ru xiang 12 g

Weight Loss – winter melon peel 30 g, poria 30 g, quince fruit 100g, perilla leaf 100 g, qing pi 100 g. Promotes metabolism, enhances sweating, urination

Plantar Fasciitis – 1 cup apple cider vinegar

Skin sores/rash – mulberry fruit 15 g, hemp seeds 10 , cloves, lovage root. Stops inflammation, promotes healing

Insomnia – ju jube 30 g, suan zao ren, mimosa tree bark, long gu or mu li, lily bulb, red sage root, gardenia fruit (shan zi zi) calms the mind.

Itchiness – sheng di huang (rehmannia root), san qi, huang qin, cnidium seeds. Soothes the skin, promotes blood circulation, expels wind and heat

Neck and shoulder soreness – fleece flower root, mulberry twig (sang ji sheng), safflower (hong Hua). Promotes blood circulation, relieves muscle tension

Tibetan Foot Soak – safflower (hong hua), Mugwort (Ai Ye), ginger, Sophora root (Ku shen)
Pink salt, Notopterygium (qiang hua), orange peel (chen pi)

Anti-inflammatory, anti bacterial, anti parasitic, blood circulation, improves immunity, regulates digestive system, improves production of red blood cells.

Introduction to Ukrainian Folk Herbalism

Dionne Jennings, Community Herbalist

Land acknowledgements (**Treaty No. 1 Territory**, the traditional **lands** of the Anishinabe (Ojibway), Ininew (Cree), Oji-Cree, Dene, and Dakota, and is the Birthplace of the Métis Nation and the Heart of the Métis Nation Homeland.

Introduction (me, where my people are from, grew up in the Ukrainian diaspora in northern alberta, canada- (Edmonton Treaty 6 Territory) (Blackfoot Confederacy), Stoney Nakoda, Cree, Saulteaux (Anishinaabe), Métis and Dene peoples. I attended Ukrainian bilingual program in Edmonton public school where we learned the Ukrainian language, music, handcrafts and many cultural traditions.

My ancestors on my mother's side come from Bukovina and they came in the 1st wave of immigration from what is now Western Ukraine in the very early 1900's. I started studying herbal medicine over 20 years ago, but it wasn't until about 6 or 7 years ago that I had a moment-an OMG moment where I realized I was studying western herbalism and it had never occurred to me what herbal tradition was in my family, or if the herbal lineage I was taught incorporated methods or plants used by my ancestors. It was the first time I ever stepped out of that colonial viewpoint and wondered whether the contribution of my ancestors was reflected in the herbal world view I had at the time.

And so I started to wonder about some things, and my very curious mind led me down a path of self discovery and deepened my understanding of the history of my people, their experience in the land that we now call Canada, what their influences were and how with their relationship with the plants they essentially healed themselves.

So I give you an introduction to Ukrainian Folk Healing/ Herbalism/Medicine!

I want to acknowledge that I'm encompassing healing traditions that may cross over if you are Polish, Romanian, Serbian, Russian, Austro-Hungarian and this may depend on where geographically your ancestors were located (not their citizenship) and their ethnicity and the ethnicity, cultural and political influences of the time. (I could literally talk for 30 minutes just about that!)

I identify as an herbalist and so I'm extremely interested in plants and herbs used in everyday folk healing within my culture- in a historical and present day context. However there were a lot of other healing practices by Ukrainians that could either incorporate or not use herbs at all which are rich and deeply interesting

A lot of my cultural herbal understanding reflects on what I know of my ancestors and the time they came over to Canada. No socialized medicine then-reflected the plants they knew and the practices they knew at the time from what they brought over. (I could talk for another 30 minutes just about this!) This includes bonesetting, cupping, midwifery, knowledge of herbal preparations & medicine making (steaming/sweating, poultices, washes, salves, syrups, teas, and so much more). However I want to acknowledge that herbal medicine is still very alive and well in Ukraine. In fact, when you walk into any pharmacy in Ukraine, it looks like a health food store. Teas, plant based preparations and herbal remedies far outweigh the drugs and other preparations you are likely to find front and centre. Ukraine actively grows (it's a



fairly large industry) and researches medicinal herbs as well.

So, back to Ukrainian folk Healing (which was largely the realm of women, btw):

Folk Healing largely is separated into Physical & Non-physical Healing (and sometimes the two cross over).

In the Physical realm are things we consider in the realm of western medicine today-frostbite, work injuries, broken bones, toothaches, arthritis, flus, childbirth, etc.

In the Non-physical realm-just as widely in the non-physical realm were causes of physical ailments or other imbalances. These were considered emotional/spiritual/psychic reasons for acute colds or flus, sleep disturbances, insomnia and other things.

PHYSICAL REALM:

- Plant Healing
- Midwifery
- Bonesetting
- Cupping

NON-PHYSICAL REALM:

- strong belief in curses or the evil eye (jealous folks, good looking kids that "attract too much attention")
- healing dealt with rituals and practices to remove curses or the evil eye -removing "fear" or dealing with a spiritual disturbance of some sort (strakh) with ritual

It's important to understand the idea of "double belief" in the Ukrainian culture. Even though Ukraine adopted Christianity in 988 pagan practices, rituals, beliefs related to pagan gods or goddesses or some practices that would look really similar to what in the contemporary world we might call witchcraft didn't just disappear. They were just folded into the Christian faith-times of the year honouring certain gods/goddesses became saints days, the lord's prayer was worked into ritual or replaced older pagan incantations. This is important to understand relating to healing and practices in the non-physical realm.

For example: my cousin was a sleepwalker, and so she was taken to a person to help determine the cause of this and to help clear it or cure it or however we want to define this-to a person who practiced the wax pouring ritual.

Wax pouring was a practice that was much more common 30 or more years ago in the diaspora than it is now and there were more people who practiced it. It was largely women who did this however there was also one man who did it in our community. It's basically a ritual that involves water-spring water or holy water, ritual knife, beeswax (or occasionally lead) sometimes an herb, incantations and/or prayers, sometimes using divination to determine the cause of the issue, and then clear this person of this fear or this upset or event that has caused disharmony in the emotional or spiritual body. They used either old incantations (more pagan related) or the Lord's Prayer in conjunction with the ritual. There are many people

who went to these healers or took their children to them.

Less than a handful remain practicing in Canada today, and they typically stay very much under the radar. Some may have learned this and inherited this from their family lineage or someone in their community, and some have reconstructed it and taken it up for themselves.

The interesting thing to note is, that I know of no practicing "herbalists" within the Ukrainian Canadian community when I was growing up (it does not mean they did not exist-as plant use was very common in day to day use in my grandmother's and great grandmothers generation), however the use of herbs primarily for healing was replaced with modern drugs and health care, while ritual and spiritual practice did not to the same extent.

CONCLUSION:

Thank you for joining me for an introduction to Ukrainian Folk Healing/Herbalism/Medicine

Invitation: learn your cultural plant lineage and enrich Western Herbalism.

Do you have any stories of plant use or healing, any family remedies that you want to share with me-whether Ukrainian, Romanian, Polish or otherwise? I'm working on compiling some firsthand stories and recollections. Please e-mail me at dionne@wildrosecollege.com with any memories, stories in your family (seeds that were brought over, plants tended, folk remedies made, stories of healing, spanish flu recollections). No story, memory, or snippet is too silly or too small. I welcome them all.

There is so much more I can say on this topic-so much more context and detail I can go into regarding plant use from the old country to the new, herbal and non-herbal-non physical healing practices, and stories from my family and community-how to learn some of the roots of your people, their plant practices and more, but we have to leave it there today.

You can find me on social media to be notified of any other talks or workshops that go more into depth on this topic, as there is so much more I'd love to share.

<https://www.facebook.com/YEG.Community.Herbalist/>

Once again, Dyykuu vam, thanks again for joining me and learning a bit about Ukrainian folk healing and I look forward to seeing you again!

OTHER RESOURCES:

There are scattered and limited resources for studying Ukrainian herbal medicine, largely because of the language barrier. With Ukraine having been occupied by Russia for so many years folks were not educated in English or anything connected to the Western world. Things are changing there and there is so much exciting growth, creativity and innovation happening now.

My references are varied and limited academic papers in English, and I've combed through the Kule Ukrainian archives at the University of Alberta, spoken with folks in my community, on-line, visited herbal clinics, contemporary pharmacies and pharmacy museums in Ukraine and much more.

There are a few useful videos on YouTube. If you are interested in learning more about the Wax Pouring Ritual check out the book "The Word & Wax" by Rena Hanchuk.

Herb Sovereignty For City Folk: Urban Medicine Gardens

Dionne Jennings, Community Herbalist

Why Medicine Gardens in the City?

It is important that the practice of herbalism evolves with the times. 2020 has thrown us some big curveballs, and we saw this with the interruption of the herb supply chain in a big way. These rapidly changing times, combined with an increased interest and demand to return to traditional plant medicine from growing populations demand we look ahead with solutions.

There is an inability for natural spaces in and near cities to sustain wild harvesting by even a fraction of an average North American city's population. We have to get crafty and think about how to expand our idea of how to access medicinal plants in these spaces.

How can we re-imagine urban foraging? Gardens, stewarded wild spaces, partnerships, trades, offering reciprocal services.

Benefits of Urban Medicine Gardens:

- increase resilience of city folks
- connect people to plants
- connect people to their communities
- have people working together for the good of their communities
- empower people to help support themselves & their health
- excite people about plants & plant medicine, & encourage them to grow their own herb gardens -Studying herbalism or plant medicine is an art and a science & also a very basic & necessary study that connects us back with all of the ancestors. All of our ancestors had relationships with plants. There's much wisdom in getting to know a few plants really really well-so you really feel confident in your home medicine

What does the idea of Herb Sovereignty Entail?

- Creating a closed system for our herbs
- local resources, supplies, smaller suppliers, creating networks for trading, bartering, supporting the community
 - Having our own resources should demand increase,

shipping slows or ceases

Discuss A few Community Medicine Garden Initiatives in Canada:

- Community Medicine Gardens Edmonton (an Initiative between myself & Sustainable Food Edmonton),
- The People's Apothecary Garden in Victoria
- The Peterborough Community Medicine Garden, ON

6 Medicinal Herbs to Start Your Apothecary Garden

Why did I choose these plants? Why these 6 plants?

- Hardy to most cold zones in Canada (Zones 3-4)
- Easy to grow & overwinter
- They are all incredibly versatile and have many, many uses & applications— not just one use per plant.
- As they cross over into culinary territory it just means they are so much easier to use in a variety of preparations rather than a bad tasting herb that has an obscure or specific use & is only used by clinical herbalists once every 6 months.
- They are also fairly safe to use by lay folk and folk herbalists save a few contraindications. These are not herbalists herbs that must be used under the supervision of a registered or clinical herbalist.

1. Calendula *Calendula officinalis*

- *annual*
- *start from seed*
- *harvest flowering tops*
- *edible flowers*
- *decorative flowers*
- *use fresh or dried*

2. Chamomile *Matricaria recutita*

- *Re-seeding annual*
- *Flowers*
- *Internal & topical use*
- *Teas, tinctures, soaks, compresses, etc.*

3. Thyme *Thymus vulgaris*

- *Perennial*
- *Best to start with young plants*
- *Aerial parts*
- *Harvest just before blooming*
- *Fresh or dried in vinegars or tea*

4. Sage spp. *Salvia officinalis*

- *Leaves*
- *Harvest just before blooming*
- *Best to start with established plants in a cold climate*
- *Fresh or dried, culinary*

5. Mint (Peppermint &/or Spearmint) *Mentha* Spp.

- *Can divide easily*
- *Contain in the garden*



- Harvest leaves just as going into blossom

6. Lemon Balm Melissa officinalis

- Leaves & flowering tops
- Beautiful dried as a tea
- Tender Perennial (with cover)
- Can start from seed or division

.....and more! Some additions to the six:

- garlic (plant in fall)
- oats (annual)
- comfrey (perennial)
- bee balm/ monarda (perennial)
- fennel
- marshmallow

...and so many more. I easily had a combination of 60 varieties of medicinal herbs (perennial & annuals) in my Apothecary Garden in a fairly standard sized city lot in zone 3b Edmonton. (cold!)

It doesn't take much space to get you going, to start to deepen your relationship and understanding of the plants, your harvesting, medicine making, and more.

If you don't have a lot of time or space, pick 1-2 plants to work with each year. Connect with and network with other herbalists in your area to see if you can share garden space in someone's yard or chip in to a community plot that you tend together. Many hands make light work!

Why else developing relationships with plants is important:

- The importance of real world connection with plants for budding herbalists cannot be stressed enough. This is where you start to apply and integrate and learn plants on a whole other level— the most important one.
- Connecting with herbs in their natural growing state—"out in the wild", so to speak, bridges your academic knowledge— aka "book learning"— to the classroom garden. "The plant is not the book".
- Remember that although now the mainstream model for learning things in the western world is generally academic first, these are not traditional learning systems for learning plant medicine in many cultures and eras. It was plants first.

Let's Explore: How to develop a relationship with a new to you herb?

Thanks so much for joining me—you can stay connected by following me on the interweb:

- Facebook: www.facebook.com/YEG.Community.Herbalist/
- Instagram: www.instagram.com/yeg_community_herbalist/

Happy Herbing!

Dionne

P.S. A few resources for growing medicinal herbs

Ravensong Herbals: <http://ravensongherbals.com/>

Richters: <https://www.richters.com/>

Rico: Cech <https://strictlymedicalseeds.com/product/the-medicinal-herb-grower-book-volume-1-by-richo-cech/>

Jekka: <https://www.jekkas.com/collections/books/products/jekkas-complete-herb-book>

Plant Medicines in Addictions Therapy

Patrick Kooyman, B.Sc. M.H.

Living on traditional Ktunaxa and Sinixt territory, Nelson British Columbia

Introduction: When I proposed this presentation, I didn't fully realize what a vast topic the use of plant medicines in relation to addiction really is. I'd like to say that I am not a psychiatric or psychologist, not a counselor or addictions specialist. I'm an herbalist, and the information presented here is so that anyone wanting to use herbal medicine in their therapeutic work can better understand the plants themselves.

There are many forms of addiction, and many different substances or behaviours to which people become addicted. In order to limit the scope of conversation, I will mostly be discussing the use of plant medicines in relation to addiction to opiate drugs, such as heroin, morphine or fentanyl. That said, a lot of this information is relevant to addiction therapy in general, and all the plants discussed are already being used in the treatment of many forms of addiction. Some of this treatment is happening in a therapeutic context with trained practitioners, and some is happening in uncontrolled settings, often through self-experimentation by those interested in breaking their own addictions.

I'll discuss **seven different plants:** Opium poppy, because I don't think a presentation relating to plant medicines and opiate addiction would be complete without discussing the plant from which it all started. Then I'll discuss three psychoactive plant medicines that can be used in working with addiction. This is a controversial topic, as using one psychoactive substance in order to treat addiction to another psychoactive substance is bound to raise some questions for people. The three psychoactive plant medicines are Kratom, Iboga, and Ayahuasca (I'll admit I sneaked some extra plants in here, as Ayahuasca isn't made from just one plant).

What is addiction? At a fundamental level, addiction is a compulsive behaviour. The more you do the same behaviour, over and over again, the more it becomes the path of least resistance in the mind and body. Addicts organize their lives around obtaining and using the addictive substance. Addicts find great difficulty or are unable to control this compulsive behaviour, even when they want to. The compulsive behaviour

may cause harm to the addict, or those around them. Opiates are the classic form of drug addiction, in which the opiate addict experiences both psychological and physical cravings for the drug.

Withdrawal effects from opiates reportedly very unpleasant, beginning with muscle aches, restlessness and anxiety, a runny nose and excessive sweating within the first day. The withdrawal symptoms progress to nausea and vomiting, abdominal cramping, diarrhea, elevated heart rate and blood pressure. All this time, the person knows they can the “fix” their sickness temporarily with another dose of the drug. After suffering through this for several days, withdrawal symptoms slowly ease, though people are often left with PAWS (Post Acute Withdrawal Syndrome), with symptoms such as feeling depressed and anxious. For many opiate addicts, dealing with withdrawal is a very difficult aspect of overcoming their addiction.

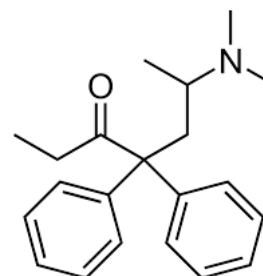
We're all been following the Coronavirus pandemic, which has killed a little over 220 people so far this year in British Columbia. During that same period of time, over 900 people in British Columbia have died from opiate overdose. These people come from all walks of life. Many of them die because their illegal street drugs contain fentanyl or fentanyl analogues, a group of highly potent opiate drugs whose therapeutic dosages are measured in micrograms rather than milligrams. Opiate overdose deaths remain high despite the wider availability to opiate users of naloxone, an opiate antagonist that can reverse the effects of an opiate overdose and has saved many lives. Without naloxone, a lot more people would be dead.

Conventional treatment of drug addiction offers four main therapeutic approaches, often used at different stages of the addiction:

Harm Reduction is not as widely used as it should be. In this practice, the goal is reduce the risks associated with substance use. Harm reduction strategies include educating users about the drugs they are using, providing drug testing, and in the case of opiates providing needle exchange programs, safe injection sites with medical supervision, and providing naloxone and training in its administration.

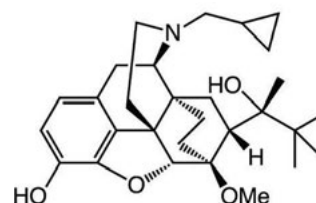
Substitution therapy is when the drug to which a person is addicted to (such as heroin, or fentanyl) is replaced by a different drug, which is administered through the medical system. Usually the substitute is methadone, a long lasting opiate pharmaceutical (picture at right). With substitution therapy, the goal is not to break the addiction at all, but simply to switch to a less dangerous drug. There are several advantages to substitution therapy. Users receive a drug of known purity and dosage, administered by pharmacists, so many of the risks of street drugs (such as unknown purity and potency) are avoided. The risk of overdosing is far less. Methadone is typically given as a liquid drink, so the risks

associated with intravenous injections are also avoided. Opiate users do not have to worry about going through withdrawal, because the methadone keeps their opiate receptors saturated. On methadone, users no longer have to go to the streets to obtain their drugs, and may be able to make improvements in their life such as finding steady work and residence.



Substitution therapy has many potential downfalls as well. Many users continue to use illegally obtained opiates on top of their dosage of methadone. They may sell or trade their methadone to obtain a more desirable street drug. In order to try and control this, methadone is usually administered directly at a pharmacy, and users are required to consume their whole dose in front of the pharmacist before being allowed to leave. If you are on the methadone program, it can mean going to the pharmacy every day to be administered your dose. Control is kept in the hands of the medical system, not the users themselves. Some opiate users find that methadone makes them sleepy and drowsy for a long time, and this interferes with their ability to function. Because methadone is a particularly long lasting opiate, the withdrawal symptoms can be longer and more severe than withdrawal from heroin. In Canada, opiate addicts can essentially be given a script for methadone for life in order to manage their addiction.

Detox and Rehabilitation therapy is when a person stops taking their drug of addiction, under medical and therapeutic supervision. Typically, the person enters some kind of “rehab” facility, where they are removed both from their drug(s) of addiction, and the social context of their day to day lives. Some people choose to enter this facility, others may be forced by legal and social pressure. The goal during detox and rehab is to prevent the person from taking the drug, and to assist with their recovery.



Buprenorphine

Acute withdrawal symptoms may be treated by administering a drug that moderates or reduces the symptoms, such as buprenorphine (a very long lasting opiate agonist, with minimal opiate "high"), or the person may simply go "cold-turkey". Withdrawal from some substances, such as benzodiazepines and alcohol, can be fatal without medical supervision.

Being helped through the acute withdrawal stage is incredibly valuable, since this is one of the biggest challenges for opiate users. Many people successfully make it through acute withdrawal when in a rehab setting, but most of them later relapse. A relapse is particularly dangerous for opiate users, as they have a far lower tolerance to opiates than they did before rehab, and are more likely to overdose. After completing rehab, most people are returned to their social context. They go back to the same people, the same place, and often fall into the same addictive behaviours as before.

Long Term Care is the recognition that people dealing with addiction need support long after the acute withdrawal and cravings for a drug have passed. Most people who successfully break their addiction have had support from family, friends, counselors and community. 12 step programs are a common example where former users can meet like-minded people, and form a supportive community. Long term care can also include the use of health practitioners.

Where do herbalists fit in this process? Most herbalists I know would feel comfortable providing herbal support and advice to people in need of long term care after breaking an addiction. You feel anxious and depressed, your body is worn out and emaciated? Great, we've got herbs for all that. Addressing the addiction itself, or assisting with detox and rehab, is a much taller order!

Some of the psychoactive herbs discussed here are used during active addiction and withdrawal, however they are not the kind of herb you want to use lightly. Some of these plants and preparations are even illegal, depending on which country you live in. Despite this, many people are seeking out psychoactive plant medicines to work with their addictions, there are many clinics and therapists (both legal and underground) doing this work, and many people have shared stories of success.

Opium Poppy (*Papaver somniferum*) - Papaveraceae

Opium poppies are one of the mother plants of civilization. Wild poppies were first domesticated around 6000 years ago, in the Mediterranean region. Poppies are one of those special plants, which has gifted the people with both food and medicine. Food, in the form of poppy seeds harvested from the mature pods. Medicine, from the milky white latex that oozes from the fresh green poppy pods when their skin is lightly scored. On exposure to air, the white latex dries and darkens in colour, and is collected to yield raw opium. The

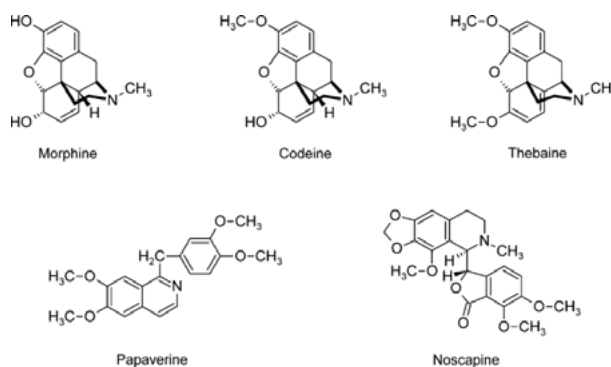
ancients were well aware of the properties of opium. A 2,500 year old papyrus scroll describes 700 different medicinal preparations using opium as an ingredient, including one for sedating tiresome children(1).

In Ancient Greece, the poppy was considered sacred to Demeter, the goddess of fertility, agriculture and the harvest. Demeter is often portrayed holding sheaves of grain and poppies in her hands. There is a signature here, the milky white latex of the poppy being like Mother's Milk. Just as an upset and crying baby is soothed and nourished by the breast, so too does the milk of the poppy have a soothing and calming quality. It relieves pain, and makes us sleepy. Linnaeus named this plant *Papaver somniferum*, the species name indicating this is the poppy that induces sleep.

The latex of opium poppy has a sweet smell and a bitter flavour, and contains several alkaloids. The alkaloid Morphine was isolated from opium in the early 1800s, by the Prussian pharmacist Friedrich Serturner. He named the crystalline extract Morphine after Morpheus, the Greek god of dreams. Morphine was the first ever alkaloid extracted into pure form, and in many ways it gave birth to modern pharmaceuticals, where purified chemical compounds are administered at exact dosages.

The invention of the hypodermic syringe revolutionized medicine, and morphine was soon liberally administered to wounded soldiers.

Minor alkaloids in opium include codeine, thebaine, narcotine, papaverine and narceine. Morphine is chemically modified to create heroin, which was once touted as the miracle cure for morphine addiction. The alkaloid thebaine is chemically modified to produce pharmaceuticals including the notoriously addictive oxycodone, as well as buprenorphine which is used as a detox pharmaceutical, and the opiate antagonist naloxone, that is administered in cases of opiate overdose.



It is a principle in herbal medicine, that the whole plant has a more complex medicinal action than any one active constituent isolated from it. This is true of the case opium poppy. Morphine overdose can be fatal because it slows the heart rate and respiration, while minor alkaloids in the poppy

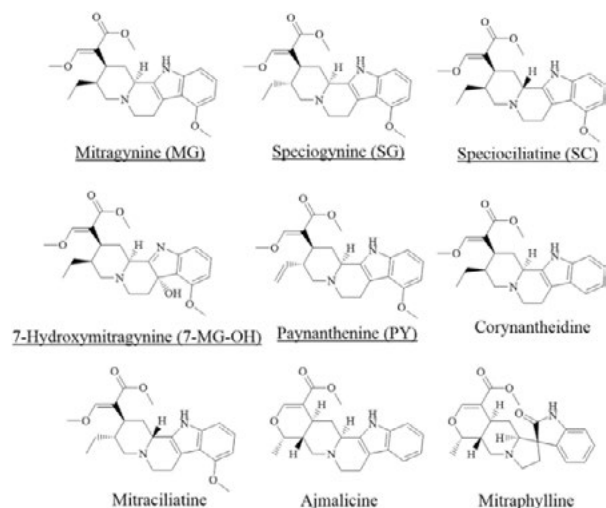
mildly stimulate heart rate and respiration, having a balancing effect.

Kratom (*Mitragyna speciosa*) - Rubiaceae

Ethnobotany: Kratom is a small tropical tree in the Rubiaceae, a plant family that includes such diverse medicinal members as coffee and cleavers. Kratom is native to Southeast Asia, and is primarily found in Thailand, Malaysia, Borneo and New Guinea. It has long oval leaves, with prominent red or green veins. Kratom is found in both wild and cultivated stands.

The leaves of kratom are the portion used. Leaves are traditionally chewed, sometimes taken as a decoction, or as a concentrated syrupy liquid made by reducing a decoction. Kratom users are often lower class individuals who work hard, physical labour jobs. It is popular among *tuk-tuk* drivers. They say the kratom gives them strength and energy, and relief from pain. Kratom is traditionally used as a substitute for opium, and addiction to kratom also occurs. In Thailand, kratom use is illegal, while in most of the rest of the world it is legal.

The leaves of kratom taste bitter, astringent, and mildly aromatic. Energetically they are cooling and drying. Kratom is traditionally used to treat diarrhea, and as an analgesic.



Phytochemistry and Pharmacology: Kratom leaf contains 0.5-1% indole alkaloids. In addition to alkaloids, the leaves are rich in flavonoids and tannins. The principle alkaloid in kratom leaf is mitragynine, with smaller amounts of ajmalicine, corynanthedin, mitraphylline, speciophylline, rhynchophylline and many others. The exact alkaloid profile and ratios vary widely depending on the kratom variety, and different strains of kratom can have widely differing effects. When kratom is sold on the international market, it is often labelled with the name of a particular variety or location where it was harvested, such as Thai Red Vein, Green Maeng Da, or Malay Gold.

In general, the effects of kratom are a combination of stimulation, and opiate-like sedation. Kratom is reported to have central nervous system stimulant effects similar to coca

leaf or strong coffee, and certain strains like Maeng Da are said to be more stimulating than other varieties. Other strains of kratom are reported to have strong opiate-like, sedative effects. These effects can also be dependent on dosage, smaller dosages of kratom tending to have more stimulating effects, and larger dosages having more opiate-like effects. One particular alkaloid in kratom, 7-OH-Mitragynine, has been of interest to pharmaceutical companies. It acts on opiate receptors at 1/5 the potency of morphine.

Preparations and Dosages: Kratom leaf on the international market is usually sold as a powder, sometimes as a tea cut size. Decoction is a common preparation method, though some people may encapsulate the leaf powder, or use the "toss and wash" method where the powder is quickly choked down with some liquid. Fresh or tea cut leaves may be chewed and held in the cheek.

The effects of kratom can vary widely from person to person, and depending on the source material, so the dosage range given here is intentionally left broad. Sensitive individuals may find a dose as low as 3 grams has noticeable effects, while other people may require dosages of up to 50 grams, especially if they have a tolerance to kratom or opiate drugs. A typical dosage guideline is:

5 grams – light effects, stimulation, enhanced mental focus

10-15 grams – moderate effects, a combination of stimulation and sedation, pain relief

15-30 grams – strong sedative effects and pain relief, often accompanied by side effects.

The main effects of kratom last from 3-5 hours, and if you overshoot the therapeutic dose range, side effects of dizziness, nausea and vomiting are common.

Use in Addictions Therapy: Kratom can be used as a substitute for opiate drugs, similar to the way that methadone is used. Both users of street opiates like heroin, and those taking pharmaceuticals like oxycodone, have reported being able to make the switch to kratom. In the USA, kratom has been listed as a "drug of concern" by the FDA, and there was a movement to make this plant illegal. A lot of citizens spoke up in support of kratom, in particular many army veterans who said that kratom had helped them manage chronic pain, and enabled them to get off of pharmaceutical or street opiates.

Advantages of using kratom as a substitute for opiates, is that the user does not have to go through acute withdrawal, because kratom is still working on their opiate receptors. Many users also report that kratom is more functional for them than methadone. Because kratom is also a stimulant, users do not feel as sleepy and spaced out as on methadone, and feel more functional in their day to day lives. The duration of effects of kratom is shorter than methadone, and so users can have more control over the level of effects over the course of a day. Kratom is unlikely to lead to an overdose event. Kratom



is legal to obtain in most countries, and users are in control of their own dosage schedules (rather than having to go to a clinic to be administered their dose of methadone). This last can be beneficial or not, depending on the ability of the person to moderate their use of kratom.

The best results I have seen using kratom as a substitute for opiates comes when the user first tapers down their dosage of opiates as much as possible, then switch to taking just enough kratom so that they don't feel withdrawal effects. Start the dose of kratom off small, and titrate upwards until the person feels relief of opiate withdrawal symptoms. After a period of time stabilized on kratom, the user can slowly taper down their dose of kratom if they want to stop taking it. Although kratom can cause withdrawal effects, generally these are a lot milder and shorter in duration than with opiates.

Case study: A man in his twenties, who had developed an addiction to opium poppy pod tea, the poppy pods being purchased from floral arrangement suppliers. After tapering his dose of poppy pod tea down from 12 pods, to a couple pods per day, he switched to doses of 10-15 grams of kratom, taken 2-3 times daily. This was effective at preventing withdrawal effects, and he was able to stop taking poppy pod tea.

However, after being stabilized on kratom, this man started using poppy seed tea (made by cold infusion of 1-2 pounds of poppy seeds in water). Poppy seeds themselves do not contain opiate alkaloids, but small amounts of opiates are deposited on the seed when they are removed from the pod. He then got back onto poppy pod tea in time.

A second attempt was made to switch from poppy pod tea to kratom. This time, the man switched directly from high doses of poppy pod tea (10 or more pods per day) to kratom. He used very high dosages of up to 100 grams of kratom daily, which did not just prevent withdrawal, but had strong opiate-like effects of its own. This attempt was unsuccessful, as the man simply kept switching back and forth between kratom and opium poppy tea, depending on what he had available.

Contraindications and Cautions: One of the main cautions around the use of kratom, is that it can itself be an addictive substance. Users of kratom often increase both the frequency of use, and the dosage required to achieve effects, indicating that physical tolerance to kratom occurs. Withdrawal effects from kratom are similar to those of classic opiates, though usually less intense and shorter in duration.

Case study of Kratom addiction: A man in his 50s started taking kratom before his workouts, on recommendation that it was a great herb for increasing energy and physical stamina. This man had a past history of addiction to alcohol, which he had successfully quit of his own accord. He started out with doses of 1 teaspoon (approximately 5 grams) of kratom before working out, and found he really liked it. He reported being able to work out longer, and had pleasant pain free feelings

in his body. Over time, he increased both the frequency of kratom use, and the dosage he was taking. Kratom became something he had to take to feel energized enough to work out, rather than being an optional workout booster like it once was. He began taking kratom daily, not just before working out. He reported eventually taking kratom in doses of multiple tablespoons per day, going through 1 kilogram of kratom every 2 weeks. Realizing he had become addicted to kratom, he checked himself into a rehab facility, where he was administered suboxone as part of his detox program.

A small percentage of people who take kratom experience severe abdominal pain even from a single use, and when they seek medical attention they are found to have elevated liver enzyme levels potentially dangerous effects of kratom on the liver. The exact cause of this not known, but it has been reported enough times that it is important to watch for it. Regular users of kratom sometimes develop symptoms of jaundice or liver dysfunction.

Because kratom is also a strong stimulant, it can cause symptoms of adrenal exhaustion or burnout when used to frequently, similar to other stimulants.

Kratom is synergistic with other central nervous system sedatives or stimulants, and it is not recommended to combine with such substances. Kratom in combination with alcohol is far more likely to cause dizziness, nausea or vomiting than either substance on its own. The risk of overdose when combining kratom with other drugs is higher.

Be cautious of kratom products on the market sold as "enhanced" or "ultra-enhanced" as they may have been fortified by the addition of kratom extracts, or even by the addition is synthetic "research chemical" substances with sedative or opiate-like effects. This of course will give much different and potentially dangerous effects than unadulterated kratom leaf.

Iboga (Tabernanthe iboga) - Apocynaceae

Botany and Ethnobotany: Iboga (*Tabernanthe iboga*) is a medium sized shrub growing to 2 metres, with edible yellow fruits, and bitter tasting roots that are brownish on the outside, yellow on the inside. Iboga is native to the west coast of Africa, predominantly found in Gabon and Equatorial Guinea, with its range extending east into the Democratic Republic of Congo, north into Cameroon, and south into Angola.

Iboga is in the Apocynaceae family, which brings us diverse medicinal plants such as Dogbane (*Apocynum sp.*) which contains potentially toxic cardiac glycosides, and Madagascar Periwinkle (*Catharanthus roseus*) which is the source of the chemotherapy agent vinblastine, as well as containing some of the same alkaloids found in iboga. Iboga is a psychedelic plant, one of those whose medicinal action comes from the powerful mental and emotional experiences people have after taking it, as well as from its physical effects on the body.

Herbal Energetics: The root bark is the portion used. It is strongly bitter and astringent in taste, and causes a numbing or tingling sensation in the mouth. Energetically it is cool and dry.

Traditional Use: Iboga is used by the Bwiti religion and similar groups, particularly in Gabon. Bwiti is a syncretic religion, where Christianity merged with older local traditions. The Iboga plant, like many sacred plant medicines, is said to have first grown from pieces of the body of a person, which were planted in the earth. The roots of Iboga are dug, and the root or root bark is rasped. The raspings are eaten straight, sometimes powdered or made into a tea.

Small amounts of Iboga root bark are consumed often in Bwiti culture, and tend to have a stimulating effect. Iboga is used this way at social gatherings, ceremonies and all night dances, by hunters to heighten their senses, and by those on long journeys or night watches to enhance their stamina and wakefulness. It is said to make one feel lighter, as if floating.

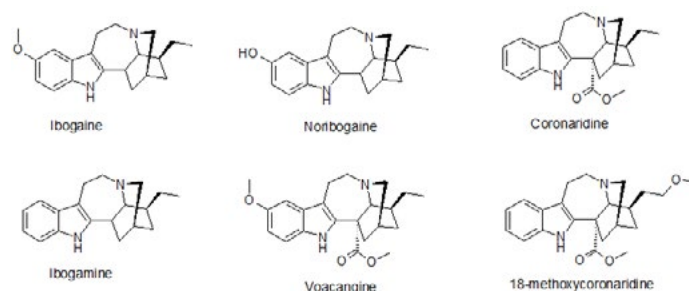
Once or twice in a lifetime, during Bwiti initiation rites, a person takes a very large dose of Iboga, in order to "break open the head". With a strong dose of Iboga, the effects are very different. Passing through the stimulating effects, colourful visual patternings are noticed. Initiates fall into a dreamlike state, where their soul leaves their body, and travels in the realm of death. In this state they meet the spirit of Bwiti, and communicate with the ancestors. It takes days before the major effects of Iboga wear off, and afterwards the spirit of Bwiti stays with them. Occasionally, initiates do not return from the land of the dead:

"There are sometimes deaths from the excessive doses taken during initiations, but the intoxication usually so interferes with motor activity that the initiates must sit gazing intently into space, eventually collapsing, and having to be carried to a special house or forest hideout. During this almost comatose period, the "shadow" (soul) leaves the body to wander with the ancestors in the land of the dead. The banzie (angels) – the initiates – relate their visions as follows: 'A dead relative came to me in my sleep and told me to eat it'; 'I was sick and was counseled to eat Iboga to cure myself'; 'I wanted to know God – to know things of the dead and the land beyond'; 'I walked or flew over a long, multicolored road or over many rivers, which led me to my ancestors, who then took me to the great gods.'" – *Plants of the Gods by Shultes, Hoffman & Ratsch pg 112-113*

Harvest Practices and Sustainability: Iboga is harvested both from wild patches, and from cultivated plants. When cultivated, Iboga is usually propagated from sections of root. Iboga can be grown from seed, though the seeds are viable only before they have fully dried out. The traditional harvest

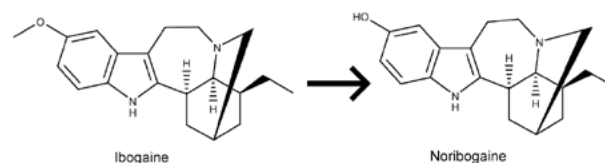
method is to excavate out a section of the root system and cut it out, leaving enough of the root stock that the plant remains alive and will grow new roots. The increasing demand for Iboga on the international market, often for use in Iboga clinics, has resulted in more harvesting of wild Iboga than in the past. There is concern that the harvesting of wild Iboga may threaten the plant populations, and that some harvesters may did the whole plant rather than harvesting a portion and allowing it to regrow.

Phytochemistry and Pharmacology: Iboga is rich in alkaloids, principally Ibogaine, with smaller amounts of Ibogamine, Voacangine, Tabernanthine and others.



Small doses of Iboga or ibogaine tend to have a stimulant effect, then as the dosage is increased, psychedelic effects become more prominent. Iboga interacts with the serotonin receptor system and sigma-2 receptors, similar to other known psychedelic substances. Ibogaine also binds to NMDA and opioid receptors.

Ibogaine is metabolized in the liver into nor-ibogaine, which then persists in the body for days or weeks and continues to have effects cognition, emotion and our neurotransmitter systems. Many people say that the true healing of Iboga comes in the days following the peak psychedelic experience. Noribogaine is a potent serotonin reuptake inhibitor, and it binds to opioid receptors with a higher affinity than ibogaine



Psychoactive effects: In small dosages, Iboga is a stimulant and sensory enhancer. The psychedelic effects of Iboga are described as colourful patternings or auras around objects, and tingling vibrations within the body. As the effects deepen, motor function is increasingly effected and people enter a powerful visionary dream-like state. At the height of effects, Iboga participants are no longer able to stand. They lie still for long periods of time, and are often fully dissociated into their visionary state, with occasional moments of

Preparations and Dosages: There are several different forms you might find Iboga prepared in:



Whole root raspings or powder, which have about a 1% alkaloid content by dry weight. **Root bark** raspings or powder, where the alkaloids are concentrated in the plant and make up about 6% dry weight. **Iboga TA** (Total Alkaloids) is an extract of the alkaloid fraction of Iboga, of which the majority will be ibogaine (about 80%), with smaller amounts of other alkaloids. Pure **ibogaine** (usually ibogaine hydrochloride) may be obtained either by separation from Iboga TA, or by synthetic routes.

Iboga Dosage Guidelines and Equivalencies (based on an individual weighing 75 kilos or 165 lbs):

Dosage level	Whole Root (@ 1% alkaloid content)	Root Bark (@ 6% alkaloid content)	Iboga TA (@ 80% ibogaine content)	Ibogaine
Light dose Stimulant effects Clinical "test dose"	18 to 30 grams	3 to 5 grams	180 to 300 mg	150 to 240 mg (2-3 mg / kg)
Common dosage for Psychedelic effects	35 to 100 grams	6 to 15 grams	375 mg to 950 mg	300 to 750 mg (4-10 mg/kg)
Heavy dosage Bwiti Initiation	50 to 200 grams	8 to 30 grams	450 to 2000 mg	360 to 1600 mg (4.8 to 21 mg/kg)
Clinical "Flood Dose"	75 to 94 grams + 9 to 47 grams 112+ grams Higher risk of cardiac abnormalities DO NOT EXCEED 225 grams in 24 hours	12.5 to 15.6 grams + 1.5 to 7.8 grams 18.75+ grams Higher risk of cardiac abnormalities DO NOT EXCEED 37.5 grams in 24 hours	Initial dose: 750 to 940 mg Booster dose: 94 to 470 mg 1125+ mg associated with higher risk of cardiac abnormalities DO NOT EXCEED 2250 mg in a 24 hour period	Initial dose: 600 to 750 mg (8-10 mg/kg) Booster dose: 75 to 375 mg (1-5 mg/kg) Dosages of 900+ milligrams (12 mg/kg) are associated with higher risk of cardiac abnormalities DO NOT EXCEED 1800 mg (24 mg/kg) in a 24 hour period

In clinics focussed on treating addiction, the medicine is administered either as pure ibogaine, or as Iboga TA. In traditional settings, it is administered as root or root bark. Iboga TA may require slightly higher dosages (since it contains less ibogaine, considered to be the "active ingredient") than pure ibogaine, however the Iboga TA is reported to have more powerful and complex effects than ibogaine alone. To herbalists, this isn't a big surprise, because we see time and time again that the complex array of phytochemicals in plants

works together to create the medicine.

Use in Addictions Therapy: Clinical use of ibogaine for addictions therapy goes back to the 1960s, and was pioneered by the Chilean psychiatrist Claudio Naranjo. The value of Iboga medicine in addictions therapy is two-fold: Firstly, the Iboga experience itself is described as a visionary journey through one's life history, which powerfully shifts consciousness out of the regular, ingrained patterns (such as compulsive addictive behaviour). Many people say that this allows them valuable insight into their addictions and life in general, and they are able to see the path towards healing and positive change. In this way, Iboga is similar to other psychedelic medicines used in addictions therapy, such as psilocybin, LSD or Ayahuasca.

Another aspect of Iboga is that it can work on the physical body to greatly reduce or prevent the withdrawal effects from opiates. This is one of the reasons Iboga has become popular during the acute detoxification and withdrawal phase. Many long-term opiate users have found that taking

Iboga has allowed them to come off of opiates without major withdrawal effects, which is a huge step on their path to long term recovery.

Iboga and ibogaine are legal in Canada, and there are several clinics currently operating. In the USA and some other countries, ibogaine and Iboga are illegal. Iboga clinics provide a safe, facilitated space for people to experience Iboga medicine. Staff have medical and psychotherapeutic training appropriate to provide care for participants. In many Iboga clinics, the staff themselves have experienced Iboga, and may even have used it to heal from their own addictions.

After careful pre-screening and preparation, a person entering an Iboga session is usually given a small "test dose" to make sure they are not allergic to Iboga, and to assess how their body metabolizes the medicine. If everything goes well, this is followed by the main clinical "flood dose". Sometimes the flood dose is taken all at once, or sometimes it is administered in increments to allow the body some time to adjust. A booster dosage may be given 2-3 hours into the experience. The main effects of Iboga take several hours to fully come on, and last for 12-36 hours depending on dosage.

Contraindications and Cautions: The clinical use of "flood" dosages of Iboga can potentially be dangerous. High dosages of Iboga effect the heart, and can cause cardiac abnormalities and (rarely) death. People may differ in how they metabolize Iboga, and so even when using consistent mg/kg dosages of ibogaine or Iboga TA, there will be variability in how people react and the intensity of effects. Careful pre-screening of anyone entering an Iboga clinic is necessary to identify those who may be at higher risk of cardiac effects. Also, many people seeking Iboga to work with their addictions may have infections affecting the liver, such as hepatitis or HIV. Since the liver is the organ that metabolizes Iboga, the health and functional capacity of the liver should be evaluated before

working with Iboga. Medical supervision during Iboga sessions is needed to ensure the safety of participants.

Other than the physical risks of high dosages of Iboga, the experience itself is completely overwhelming for participants. Dizziness, nausea and vomiting are an expected part of the experience, and as the effects deepen then a loss of motor control becomes apparent. A person deep in the Iboga trance is mostly dissociated from their physical body, and are unable to stand, eat, drink or use the bathroom without assistance. They need constant supervision for the duration of major effects, which may last from 12 to 36 hours. The powerful psychedelic effects may be frightening for many people, and persons with a past history of mental illness are considered at higher risk of having a negative psychological reaction to Iboga.

Iboga can have complex and little understood interactions with other drugs, pharmaceuticals and herbs. Anyone entering an Iboga session should fully disclose any medications they are taking, and if possible they should taper down or stop taking them before the Iboga session. Psychiatric pharmaceuticals may be dangerous in combination with Iboga. Some opiates (such as methadone) can have potentially dangerous interactions with Iboga, and if possible the person should switch to shorter acting opiates like morphine, limit their dosage, and be in the initial stages of opiate withdrawal going into the Iboga session.

AYAHUASCA NOTES

Botany and Ethnobotany: Ayahuasca is a strong psychoactive decoction made from a combination of Amazonian plants. The base of the brew is made from the wood and bark of a liana vine, called Ayahuasca, Yage, Caapi and many other names. Amazonian plant healers describe and recognize many different varieties of vine, with differing effects and energetics, which are indistinguishable by western botany and all given the latin name *Banisteriopsis caapi* in the family Malpighiaceae. Other plants are added to the vine decoction to bring out specific psychedelic and medicinal aspects. Certain plants are added to heighten the visions, most commonly Chacruna leaf (*Psychotria viridis*) in the family Rubiaceae, or Chaliponga leaf (*Diplopterys cabrerana*) in the family Malpighiaceae. Many other plants may be added for medicinal purposes, for instance Cat's Claw/Una de Gato (*Uncaria tomentosa*) or Clavo Huasca (*Tynanthus panuriensis*).

Ayahuasca is widely used throughout the Amazon, and there are many different traditions and local variations on the preparation. Ayahuasca has also become well known internationally, and its use has been adopted by some Amazonian peoples who did not use it before. Ayahuasca is widely used by Mestizo groups in many South American cities, and Ayahuasca churches such as the Santo Daime or UDV (União do Vegetal) are now present around the world. The religious use of Ayahuasca as a sacrament has been upheld in some court cases, for instance in the USA in 2006 the

supreme court upheld the right of the UDV to use Ayahuasca, despite it containing DMT which is a schedule 1 substance. Ayahuasca retreat centres have sprung up all through the Amazon, to which people from all over the world travel.

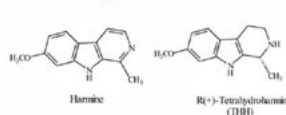
Ayahuasca is an interesting plant medicine to look at, because although its use has come out of the Amazon and spread world-wide, a lot of aspects of its traditional use have been maintained. Various Amazonian healers or maestros travel worldwide, facilitating Ayahuasca sessions all around the world. The people preparing and administering the brew have traditional training in lineages of Amazonian plant medicine, and the sessions themselves usually include traditional healing songs (icaros), and other practices such as cleansing with Mapacho tobacco (*Nicotiana rustica*).

Harvest Practices and Sustainability: Ayahuasca vine and admixture plants are harvested both from the wild, and from cultivated patches. Wild Ayahuasca vine is still abundant in some regions of the Amazon, although it is at risk both due to both deforestation and harvesting. Ayahuasca vine and admixture plants are increasingly cultivated, both by groups who provide the plants to those where it does not grow, and by communities using Ayahuasca in regions where it can be grown, but was not found before. Ayahuasca cultivation is occurring now in Hawaii, for instance, and around many of the new Ayahuasca retreat centres. Growing Ayahuasca plants provides some Amazonian groups with a reliable source of income. Certain cultivars of Ayahuasca have been grown and passed down for many generations, and have specific energetic and medicinal qualities when used.

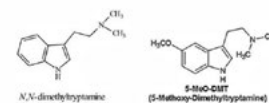
Phytochemistry and Pharmacology: The Ayahuasca vine contains tricyclic indole alkaloids, principally harmine and tetrahydroharmine. Tetrahydroharmine has also been called Telepathine, for its psychoactive effects. Admixture plants commonly contain tryptamine alkaloids, specifically dimethyltryptamine (DMT) in the case of Chacruna leaf, and 5-methoxy-dimethyltryptamine (5-MeO-DMT) and DMT in the case of Chaliponga leaf. These tryptamines are normally orally inactive due to digestion by particular enzymes (monoamine oxidases or MAO). A magical aspect of the Ayahuasca brew is that the harmine and harmaline in the vine inhibit the MAO enzyme (called monoamine oxidase inhibitors, or MAO-I), thus allowing the tryptamines to survive digestion, enter the bloodstream, and have powerful psychedelic effects.

Ayahuasca Alkaloids

Banisteriopsis caapi vine contains the indole alkaloids Harmine, Tetrahydroharmine and others, which inhibit the MAO enzyme



Admixture plants contain the indole alkaloids DMT and 5-MeO-DMT, which are metabolized by MAO





In some western sources, the DMT and 5-MeO-DMT containing plants are known as the “active ingredients” while the Ayahuasca vine is considered only a potentiating plant making these alkaloids orally active. Scientists have been puzzled as to how Amazonian peoples discovered this particular combination of plants. I'd like to point out that in traditional practice, the Ayahuasca vine itself is considered the true heart and driver of the brew. Some groups use Ayahuasca vine without any admixtures. Other plants added to the brew are simply there to enhance the visions and medicinal qualities. Ayahuasca vine is considered a powerful teacher plant, and it is taken before trying out other plants, in order to learn about the medicine of those other plants. Amazonian plant medicine workers say that the plants themselves have spirits and songs, and will call out from the forest and teach directly about how to use their medicine.

In addition to powerful visionary, psychedelic effects, Ayahuasca brews work a lot on the physical body. Nausea, vomiting and diarrhea are common, and are held to be a cleansing aspect of the medicine. The main effects last for 3-5 hours. More doses can be given to heighten or extend the duration of the effects. The healer in charge of the session holds and distributes the medicine as

needed, often in rounds though some people may receive additional amounts.

Preparations and Dosages: As mentioned, Ayahuasca is almost always prepared as a decoction, by a person trained in traditional Amazonian plant medicine. The exact ratios and amounts of plants used depend on the practitioner. Many westerners have experimented with making their own Ayahuasca brews, outside of a traditional context and using plants purchased on the international market. In general, a single dose of Ayahuasca brewed by westerners may contain:

30 to 200 grams (dry weight) of *Banisteriopsis caapi* vine. The alkaloids are concentrated in the bark of the vine, and brews with a large amount of bark, or those made from older vines, may have stronger effects.

25 to 200 grams (dry weight) of *Psychotria viridis* leaf may be used as admixture. The alkaloid concentration can vary widely, and fresh leaf may be more potent than dry.

10 to 50 grams (dry weight) of *Diplopterys cabrerana* leaf. Again, the alkaloid concentration can vary widely, and fresh leaf may be more potent than dry.

The basic process is to layer vine and leaves in a large pot, fill it with water and simmer down for many hours. The Ayahuasca decoction is reduced until it is a thick, not quite syrupy liquid. There is a strong ceremonial aspect, with songs, prayers or energetic inputs while brewing that are considered very important in traditional practice.

Use in Addictions Therapy: In traditional Amazonian societies,

addiction is rare and it is not a common reason that people who seek out Ayahuasca for healing. A family member may even go and take Ayahuasca in place of the sick person, or in some traditions only the healer themselves ingests Ayahuasca, in order to heighten their ability to see and treat the cause of illness.

In more modern times, a lot of members of Ayahuasca churches (many of whom come from Mestizo backgrounds and live in urban environments) say that they found Ayahuasca at a difficult time of their lives. In a study of randomly selected members of the UDV, a majority of them reported a prior history of problematic use of alcohol or drugs, but all these people had stopped using substances other than Ayahuasca. Ayahuasca provides the mental, emotional and physical healing, and the church provides a supportive social context.

The use of Ayahuasca has become syncretic with other traditions and practices from around the world. In North American and European contexts, often times Ayahuasca sessions are organized by members of the psychotherapeutic community, who arrange to bring in the Amazonian plant healers, invite participants, and provide healing spaces or retreat centres to host the sessions in. There are some important cultural differences that come into play here. In a traditional Amazonian context, the Ayahuasca visions are important, but the physical effects and healing of the body are considered just as important. In a modern context outside of the Amazon, or in the Ayahuasca retreat centres that are aimed mostly towards tourists, the visionary and psychedelic effects are held to be the most important aspect of the experience, and physical cleansing effects such as vomiting and diarrhea are viewed by some as uncomfortable side effects, rather than part of the medicine.

When sessions are organized by therapists and psychologists, there is a stronger emphasis on interpreting the Ayahuasca visions as having direct personal relevance, and as revealing aspects of a person's consciousness. In a traditional context, the visions may be interpreted very differently, as being something coming from outside the self. Traditional healing may interpret sickness as the result of malevolent spirits, or an attack by a *brujo* (evil shaman). In a traditional context, psychic “darts” used to attack and cause illness may be removed from the body. In a modern context, many people are specifically seeking out Ayahuasca to help heal from addiction. The cause of sickness is thought to be an imbalance within the individual, especially their mind or emotions, and that healing will come through personal insight gained during the experience. People may even come hoping to cure their addiction to cigarettes (*Nicotiana tabacum*), while the traditional healer relies on the use of Mapacho (*Nicotiana rustica*) during ceremony.

Case Report: A recent observational study on the use of Ayahuasca-assisted therapy for addictions was conducted in a First Nations group in southern British Columbia. First

Nations groups in Canada have higher levels of problematic or addictive drug and alcohol use than the Canadian population in general. Preparation for the Ayahuasca session included aspects of traditional First Nations practice, including songs from a traditional spirit keeper, and a sweat lodge ceremony. The ceremony itself was facilitated by Amazonian *ayahuasqueros* and included their traditional practices such as singing of *icaros* (healing songs) in Spanish, Quechua and Shipibo, and the use of Mapacho as a cleansing smudge. Results were evaluated using various western psychotherapeutic methods and scales. Results showed a significant reductions in alcohol, tobacco and cocaine use, as well as positive and long lasting psychological and behavioural changes in all study participants.

Read full study at: https://maps.org/research-archive/ayahuasca/Thomas_et_al_CDAR.pdf

Legality Note: In Canada in 2012, the federal health minister denied a request for an exemption for the ceremonial use of Ayahuasca. Practitioners including Dr. Gabor Mate who have used Ayahuasca for addictions therapy in Canada have been threatened with legal action. The DMT, 5-MeO-DMT and harmala alkaloids in Ayahuasca are controlled substances in Canada.

Contraindications and Cautions: Ayahuasca can have complex, unpredictable or synergistic effects with many drugs, pharmaceuticals and herbs. For use in addictions therapy, it is best if the person entering the session by clear of all other drugs for at least one day before the session.

Ayahuasca is **contraindicated** with:

- Psychiatric pharmaceuticals (particularly SSRIs and SNRIs) which may lead to hypertensive crisis or serotonin syndrome.
- Pharmaceutical bronchodilators, cough suppressants (DXM), amphetamines and ADHD medications, which may cause dangerous rises in heart rate and blood pressure.
- Herbs that are strong central nervous system stimulants including Yohimbe (*Corynanthe yohimbe*), Ma Huang (*Ephedra sinica*), Coca (*Erythroxylum coca*)
- Any strong central nervous system stimulants or sedatives

Ayahuasca strongly potentiates the effects of herbs containing tropane alkaloids: Belladonna (*Atropa belladonna*), Henbane (*Hyoscyamus niger*), Mandrake (*Mandragora officinarum*), *Datura spp.* and *Brugmansia spp.* Some of these plants are used as Ayahuasca admixtures, which can lead to very strong, dissociative visionary states, and potentially dangerous rises in heart rate and blood pressure.

Ayahuasca has powerful psychedelic effects, and is contraindicated for use in people with schizophrenia, as it may worsen their symptoms. Strong caution is recommended for anyone with a history of mental illness.

Dietary precautions: Most traditional Ayahuasca practitioners

recommend a *dieta* or special diet to be adopted in the days or weeks before, and after an Ayahuasca session. This diet is to prepare the body to receive the medicine. Traditional dietary recommendations often include no red meats, fatty foods, salt of spice, and abstinence from sex and psychoactive substances. Recommended foods are bland and starchy, such as plantain or rice.

From a western perspective, the MAO-I activity of Ayahuasca leads to a different set of dietary recommendations. MAO is responsible for breaking down the amino acid tyramine, which can cause a rise in blood pressure or heart rate if it is not broken down. This can lead to a hypertensive crisis. Pharmaceutical MAO-I drugs are known to cause this reaction, and a tyramine free diet is recommended (no fermented or preserved foods, alcohol, high protein foods like beans, red meat, and protein isolate products). Research has indicated that Ayahuasca is much less likely to cause an issue with tyramine as pharmaceutical MAO-Is, because the alkaloids in Ayahuasca selectively inhibit only one subtype of MAO, while a different subtype is responsible for breaking down tyramine. Nevertheless, caution here is a good idea.

NERVINES AND ADAPTOGENS:

Milky Oat Seed (*Avena sativa*) – Poaceae

Milky oats are an excellent nutritive nervine, with trophorestorative properties for the nervous system. This can be an excellent herb for working with people in recovery from addiction, as their bodies and nervous systems may be depleted from long term drug use. Interestingly, milky oats are particularly indicated for opiate addictions because they themselves have activity at opiate receptors. It was noted even in the 1800s that oats or milky oats have a soothing quality for opiate addicts, and they can actually buffer or reduce withdrawal effects from opiates, even if it's just a mild effect.

When you squeeze a green milky oat seed, and see the white liquid ooze out, it is remarkably similar in appearance to opium poppy latex, and fits the signature of appearing and acting like mother's milk: soothing, calming and nourishing.

Rhodiola aka Roseroot (*Rhodiola rosea*) – Crassulaceae

Rhodiola is a succulent plant that grows in extreme northern climates. The root is the portion used in herbal medicine. It is considered an adaptogen, have a normalizing and balancing effect on body functions. A lot of early research on Rhodiola was done by Russian scientists. Rhodiola is an excellent herb for improving energy levels and motivation, which is often a challenge for people recovering from addiction.

Rhodiola may be particularly valuable because of its effects on our neurotransmitter systems. Rhodiola mildly inhibits the breakdown of certain neurotransmitters, including serotonin, dopamine and norepinephrine. In cases of drug



addiction, often the substance being used is keeping neurotransmitter levels artificially high, or otherwise modifying their activity. After quitting, there is an emotional crash as the neurotransmitter levels drop off, and this resolves only in time after the systems are able to reset and come back into balance. Rhodiola can help to buffer this drop in neurotransmitters, and improve the mood, energy and motivation of people in recovery from addiction. I've used it this way in my practice with a few clients who were quitting smoking, and they

found it was quite helpful for the emotional aspects that come up in the first few weeks.

Lion's Mane mushroom (*Hericium erinaceus*)

Lion's Mane is an excellent nutritive herb that has an affinity for the brain and nervous system. Research has shown that lion's mane promotes neuroplasticity. This is potentially very valuable to use as an adjunct to other therapeutic approaches to working with addiction. Any compulsive or addictive behaviour is one we have done, over and over again, until it has laid down a very strong pathway in our neurobiology. The easiest thing to do is to persist in the compulsive or addictive behaviour, because the imprint is so strong. By promoting neuroplasticity, lion's mane may be helpful to take when we are working to shift or change our patterned behaviours. In order to break an addiction, we need to lay out a new neural pathway, a new way of responding to stimuli, a learn a new way of living.

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- Ayahuasca-Assisted Therapy for Addiction:
- Results from a preliminary observational study in Canada by Gerald Thomas et al. https://maps.org/research-archive/ayahuasca/Thomas_et_al_CDAR.pdf

Physician in the Kitchen

Dr. Marisa Marciano, ND, RH (AHG)

Culinary herbal medicine is the therapeutic application of any plant part including leaves, berries, barks, roots & flowers (fresh or dried) administered within a variety of food & beverage forms for its nutritional & medicinal value. It's health benefits include improving:

- Digestion & assimilation of foods
- Sensory appreciation of our meals
- Relationship with the earth & our food systems

Herbs have been used in cuisine as a source of potent healing in all nearly all cultures and traditional healing models for centuries.

Medicinal foods are "herbs" which are rich in macro/ micronutrients as well as key active plant phytochemicals. They can be used safely in as foods and as well as in higher therapeutic amounts.

The Taste of foods/herbs can be associated with therapeutic properties and energetic qualities that can be best suited to an individual's constitution or seasonal environment such as:

- Bitter - cooling
- Sour - cooling & drying
- Salty - cooling & moistening

- Pungent (Spicy) - warming
- Sweet – harmonizing

Organoleptics is the act of using all of the senses (taste, touch, smell, sight) to identify an herb or foods medicinal properties & applications. 5 major categories which can be easily identified include:

1. **Aromatics** (volatile oils): are major culinary herbs such as garlic, rosemary and sage to consider for a variety of inflammatory, digestive & nervous system complaints.
2. **Astringents** (tannins): berries, barks and green tea are often antimicrobial, drying/tightening and tonifying to mucus membranes of the digestive tract.
3. **Bitters** (bitter principle): Stimulate all digestive functions and parasympathetic nervous system activity. Huge variation in bitter taste & tasters, from Gentian to Cocoa.
4. **Mucilaginous** (mucilage): sweet, moistening and often regulate bowel function as form of soluble fiber such as slippery elm, flax, okra and aloe.
5. **Nutritives** (macronutrients, chlorophyll): are important as preventative medicine and while recovering from illness (e.g. mushrooms & nettle).

KITCHEN PHARMACY

The culinary herbalist is inclined to focus on using those methods that maintain the subtle energetics & characteristics of the whole plant as much as possible. Each choice of preparation will release different flavours, healing properties & medicinal effects of the plants we choose and may take the form of:

Foods:

- Fresh Herbs: Salads, Pestos/Pistous, Smoothies, Soup
- Dried Herbs (spices & seasonings): sweet & savoury
- Cooking with Infusions & Decoctions
- Medicated Vinegars & Oxymels
- Medicated Syrups
- Jam & Compotes
- Infused Fats & Oils
- Pickling & Fermentations

Beverages:

- Smoothies & Lassis
- Raw Juices (Succus)
- Mocktails
- Tinctures
- Medicated Wines & Beers
- Medicinal Infusions & Decoctions
- Elixirs
- Fermentations (e.g. Kombucha, Jun)

Kitchen Solvents

- Water: Infusions & Decoctions

- Alcohol: Wine, Beers & spirits
- Vinegars & Oxymels
- Sugar & Syrups
- Fats & Oils
- Pickling & Fermentation

Fresh Herbs as Foods

- Incredibly nutritious (vitamins & minerals not lost by cooking), and retain more volatile oils & flavour.
- Can use leaves & flowers in salads, pestos & green sauces or as garnish
- Berries & Fruits in salads, porridge & smoothies
- Roots & Rhizomes in steams, stir-frys, & roasting

Dried Herbs as Food

- Considered more medicinally concentrated vs. fresh
- Added to sauces, marinades, dry ingredients of baked goods, smoothies, porridges & granola, and to finish practically any dish (e.g. herbal salts)
- Often aromatic leaves & seeds, but roots/rhizomes are used too.
- Solvent extraction (e.g. water, syrups, vinegars & alcohol): can then added to almost any food or beverage
- Act powerfully on the digestive system & nervous systems

Transforming & Preserving Herbs

- Water: infusions & decoctions
 - Deep Immune Soup, Golden Mylk,
- Alcohol: tinctures, beers & wines
 - Mama Juana
- Vinegars & Oxymels
 - Lemon Balm Vinegar
 - Orange & Pomegranate Fire Cider
 - Ginger Maca Miso Dressing
 - Maca & Eleuthero Oxymel
- Sugar & Honey
 - Jams, Syrups, Compotes & Candies
 - Red Clover Syrup
- Fats & Oils
 - Finishing, Dipping & Drizzling Oils
 - Salad dressings, sauces & marinades
 - Cooking & Roasting meats & vegetables
 - Emulsions (e.g. mayonnaise, dressings & "Bullet-proof" beverages)
 - Herbal Infused Butters (Garlic and Nettle butter), Cheeses & Yogurts
 - Nut-butter blends (Schisandra berry almond butter)
- Pickling & Fermentation

Take Home Tips:

- Have fun! Don't get too caught up in perfect measurements
- Trust your senses & intuition when making herbal choice



- The process of experimentation with herbs in the kitchen, is healing unto itself
- With every meal/beverage ask yourself:
 - *How can I add more herbs to this?*
 - *Is there an ideal way to let this herb's medicinal properties shine?*

Favourite Books & Resources:

- The Kosmic Kitchen Cookbook
- The Boreal Herbal
- The Healing Herbs Cookbook by Pat Crocker
- Kale and Caramel
- My New Roots
- Pacific Rim College Online Course: "The Medicinal Kitchen"

Female Health Treatment Protocols: Diagnostic Laboratory Analysis

Bev Maya B.Sc.(Hon), D.Phyt., MNIMH, AHG MH

SECTION ONE INTRODUCTION TO DIAGNOSTICS

GP by patient request: serum - free & LOTS!

- basic panels - easy to get
- condition specific panels require cooperation with GP

Private labs: requires account & kits

- Dry blood: IgE & IgG food intolerance
- Saliva: 4 sample - hormones, insulin, gliaden (gluten)
- Urine: 24 hr collection- hormones with metabolites

Clinics: requires \$\$\$ & time

- Live Blood Analysis

ACCURACY OF MEDICAL LAB RESULTS

Maximum allowable error*:

- intra-individual: variability of a parameter for one person
- inter-individual: variability of a parameter between populations
- **WHO** uses 10-15 of the most accurate labs in the world to develop target values using same sample in repeated testing
- Suppliers of lab testing kits attempt to match target value
- Precision in analytical labs = 5-10% error (2 SD)

Coefficient of Variation:** measure Precision

- 5% on all routine testing
- 10% on immunoassays due to all antigens being unique to each individual

Allopathic vs Natural Medicine:

Interpretation of values

GP: look for "A" for abnormal beside value & only considers values outside normal range

Natural Medicine:

- find midrange value as optimum
- look at sequential lab results for trends
consider accuracy within testing procedure
some patients feel better outside normal

Hematology Panel: Clinical Applications I - RBC considerations

MCV: Volume = SIZE

Normocytic - OK

Microcytic - Iron deficient, acute blood loss or renal disease (normochromic -loss of erythropoetin)

Macrocytic - Folate deficient or MTHFR mutation

Hgb: protein in RBC

Normochromic - OK

Hypochromic - chronically low iron & heavy metal poisoning

Hyperchromic - high lipid levels cause abnormal MCV, MCH & MCHC

Blood Tests from GP: Clinical Applications II: Condition Specific

Adrenals: AM & PM Cortisol, DHEA(S)

Insulin/glucose: Fasting glucose & insulin, HgbA1C

Thyroid: TSH, Free T4 & T3, Thyroglobulin AB & Thyroid peroxidase AB

Reproductive: Estradiol, Progesterone, LH, FSH, Prolactin, Sex hormone binding globulin (SHBG), Androstenedione & Testosterone

GIT: RBC folate (absorbed in large intestines & MTHFR mutation)

Bone/Mood: 25 OH Vitamin D, PTH (Parathyroid hormone)

Mineral/Vitamin: Ferritin, Selenium, Zinc & Vitamin B12

Inflammatory markers: Homocysteine, C-reactive protein, full lipid profile (cholesterol, HDL, LDL, triglycerides)

GPs order but LAB determines which tests are run!

SALIVA & URINE TESTING

Saliva:

excretion of salivary cell = excretion of endocrine cells
"Closest" look at what is happening in Cell
Dynamic not static = ALLOSTASIS vs Homeostasis

Urine:

looks at chemicals that body has excreted = indirect
measure check GFR or 24 hour urine volume > 1L per day

Ideal Values for Optimum Metabolic Balance

HBA1c: determines 2-3 month stores of glucose = sugar exposure over time In Studies:

Diabetes & Pre diabetes (metabolic) =5.7- 6.0% (sensitivity **60.6-83.7%**) Prediabetes: low accuracy (67.6%) & high false-

negative rate (**39.4%**)

* Caution: Patients with iron deficiency can have falsely elevated HgbA1C levels

Blood glucose: Canadian Medical Council = single point measure

Fasting: >5 mmol/L = increased risk of diabetes

2 hours after meals: <6.5 mmol/L

Insulin:

Inexpensive & easily accessed test but not ordered by physicians

Dr. Staffan Lindeberg made detailed measurements of fasting insulin while they were visiting the isolated Melanesian island of Kitava = 25 mmol/L (3.6 uIU/mL)
Optimum <58 mmol/L (8.4 uIU/mL)

Signs & Symptoms of Insulin Resistance

Increased abdominal circumference
Easy weight gain: midline & Difficult weight loss
PCOS: polycystic ovarian syndrome
Acanthosis nigricans & dark velvety skin behind the neck or under the arms
Skin tags & Fatty liver: raised triglycerides

Thyroid in Blood: Whole Picture

TSH: what the pituitary "sees" as the metabolic needs
2 is IDEAL value

T4: the response of the thyroid to TSH - inactive

T3: active form 90% produced in cells from liver enzyme

$100\% \text{ Conversion } T4-T3 = (T4 \text{ value}/4) \times 3 = P$

$\text{Actual } \% \text{ Conversion } T4-T3 = (T3 \text{ value}/P) \times 100$

OR

$100\% \text{ Conversion} = [T4] \times 0.84 = P$

$\text{Actual } \% \text{ Conversion} = [T3]/P \times 100$

Thyroid & Halogens

Heavier atoms are slower faster atoms have higher affinity for receptors on thyroid

Fluorine, Chlorine & Bromine displaces Iodine:

Fluoride in water & toothpaste

Chlorine in drinking water & bathing/showers

Bromine in dairy: used to clean animal's teets prior to milking

E1 & E2 Levels: Blood vs Urine

The study evaluated conjugated & unconjugated urinary estrogen metabolites as surrogate biomarkers for serum levels of unconjugated E1 and E2 in premenopausal women

Estrone(E1) & metabolites: E1, 2-OHE1, 4-OHE1, 2-MeOE1 & 16-OHE1 (p<0.001)

Estradiol(E2) & metabolites: E2, 2-OHE2 & 16-ketoE2 (p<0.001)

Estriol(E3) & total estrogens: (p<0.001)

Conclusion: Urinary E2 emerged as the best predictor for serum E1 and E2

Dutch Test: Estrogen & metabolites

E1: strong estrogen - pro-inflammatory

E2: strongest "good" estrogen

E3: weakest: supportive to mucous membranes = 16-OH E1

Phase I liver metabolites: 3 pathways

2-OH E1: safest - have been shown to be "anti-cancer"

4-OH E1: genotoxic: creates reactive products that damage DNA

16-OH E1: creates strong metabolite - strong E: if low total E is beneficial but if total E is high this is not needed

DIM/13C - favour 2-OH pathway metabolism

Phase II liver metabolites: methylation (1 of 6)

2-OH & 4-OH E1 can be deactivated by this pathway if low: COMT(needs Mg) mutation or MTHFR

Testosterone: Function in women - libido, vitality & muscle mass

Metabolized out to:

5 alpha-DHT = cystic acne

Androstenedione = Hyperandrogenism

Hirsutism (male-pattern hair growth), Alopecia, Masculine appearance, PCOS, Oligomenorrhea, Obesity & Hidradenitis suppurative (inflamed lumps under arms, groin & under breasts)

More accurate values in saliva & urine

Herbs for Epidemics

William Morris, PhD, RH

There are several models for understanding the progression of an epidemic. These approaches hold up under any infectious influences because the focus is on physiology.

There is a debate as to whether the terrain (Bechamp) or the microbe (Pasteur) is the primary cause of disease. These beliefs affect the construction of diagnosis and treatment. An inclusive approach uses a humour-centered analysis of the body's landscape, whether Greek, Chinese, Ayurveda, or Unani, and then applies a medicinal selected based on contemporary scientific evidence.

This discussion focuses on the level of physiology where the infection is taking place. It is a background of western physiology for the stages. Please see the lecture for information on the herbs and their applications per stage of infection

The earliest known systemic approach to using herbs in epidemics is the *Shang Han Lun (Damage by Cold Classic)*. Hippocrates addressed the matter in *On Epidemics*, but there is no therapeutic discipline. It is instead a record of case observations regarding disease entities alone.



Shang Han Lun – Damage by Cold: Eastern Han Dynasty c. 200 C.E. (Z. Zhang, Ye, Wiseman, Mitchell, & Feng, 1999; Zhongjing, 200 CE)

01 Tai Yang	02 Shao Yang	03 Yang Ming	04 Tai Yin	05 Shao Yin	06 Jue Yin
Surface Diapho- retics	Heat Enters Harmo- nize	Clear Heat From Gut	Improve Digestion Stop Diar- rhea	Treat Kid- neys And Heart	Prevent Dying

Wen Bing – Heat Disease School: Ming and Qing Dynasties (Wen & Seifert, 2000; H. Zhang & Luo, 1999)

01 Wei Initial Response	02 Qi Functional Organ Level	03 Ying Nutrient Nerves	04 Xue Blood
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Morris' Construct – essentially envelopes the Wen Bing model with prevention and recovery, then includes hit-cold patterns.

02 Surface Pathophysiology – is it hot or cold, is there sweat or no sweat?

Do the opposite.

Toxins stimulate the adrenal gland. There stress hormones noradrenaline and acetylcholine cause the capillaries to contract. If the toxin is mild, the vessels will not contract as intensely.

Suppose the acetylcholine secretion is higher than adrenalin, sweat increases. There can be an aversion to cold with piloerection. Acetylcholine is a neurotransmitter involved in various functions, including cognition, mood, sleep, and functioning of muscles, stomach, spleen, bladder, liver, sweat glands, blood vessels, and heart.

Endotoxins increase in the presence of microbes, and cellular immunity activates with neutrophils, lymphocytes, and monocytes. The macrophages engulf bacteria. Activation of the inflammasome takes place with histamine, kinin, 5-hydroxytryptamine.

Asymptomatic carriers have pathogens with no fever. But bacteria always have endogenous pathogens. Usually, endotoxin molecular weight is so much it cannot go through the blood-brain barrier. Therefore, the body temperature control center in the hypothalamus is not activated. When lysozymes kill the bacteria or virus, endogenous pyrogens are created that are small enough to cross the blood-brain barrier into the cerebrospinal fluid. This increases cAMP and prostaglandin production. The fever goes up.

03 Movement to the Interior – Organ Level – Treat the Involved Organs

The most common presentation as pathogens move to the interior is a loss of appetite. It takes place in the context of a partially weak constitution, with a somewhat weak pathogen

– entry to the interior, with some signs of heat and key symptoms, are bitter taste, diminished appetite, temperature dysregulation, irritability, subcostal fullness.

Lower toxicity brings a reduced fever. The aversion to cold is only slight. It is because the endopyrogens are low. There can be more aversion to fever or more aversion to cold depending on the constitution and the pathogen. It is the most common pattern in children and the elderly. Though the toxin is weak, it is still a toxin that will cause the vegetative nervous system's disorder. The first choice is Minor Bupleurum

Chai Hu (Rx Bupleuri), Huang Qin (Rx Scutellaria), Ban Xia (Rx Pinellia), Ren Shen (Rx Panacis ginseng), Sheng Jiang (Rx Zingiberis), Gan Cao (Rx Glycyrrhizae), Da Zao (Fr Zyziphae jujubae).¹¹

03 The Gut Goes Hot

Microbial endotoxins increase as do plasma adrenalin and noradrenalin. There is skeletal muscle vasodilation, with increased fever as the surface blood vessels dilate. Due to significant sweat, there is extreme thirst, and the pulse surges. A high fever interferes with neutrophil and macrophage functions, while a low fever promotes their function. There is abdominal fullness because high fever reduces intestinal peristalsis. With high fever, there is a heaviness of the body. The high fever causes toxins that affect the CNS, affecting speech. The face may look dirty (dirty complexion); the high fever increases toxins. There can be incontinence of urine because of toxic load.

03 Towards Constipation and Bowel Retoxification

As contraction of G.I. tract vasculature increases, the secretion reduced, as does peristalsis. Bacterial content increases, and E. coli with other colonizing bacteria increase, leading to constipation. The sustained fever leads to gut dysbiosis, where the harmful bacteria grow, and good bacteria decrease. The resulting endotoxins are absorbed through the portal vein causing fever. They cross the blood-brain barrier causing CNS symptoms such as delirium.

Because of the decreased peristalsis, the stool becomes drier with abdominal bloating and constipation. There is the contraction of G.I. tract vasculature, secretion of tract reduced with food decay and ferment, creating endotoxins to the portal. Delirium is the net result.

03 Cold Gut Tract

A cold gut pattern with abdominal fullness, abdominal pain, vomit, diarrhea, which can be severe and without thirst, aversion to cold, wind, possible fever. There is hypo-osmotic dehydration, acidosis, diarrhea with no desire to drink. Hydration is critical, and a saline drip may be necessary. The essence of cold is clear fluids. These may be from the nose, mouth, bowels or urinary tract.

¹¹ <https://www.fareastsummit.com/education/educTradForm-MinrBupMorris.html>

There is strong endotoxin (E. Coli). There is an increase of adenylate cyclase and faster conversion of ATP to cAMP. The crypt cells increase their Cl^- , H_2O , HCO_3^- and the chorionic epithelium inhibits Na^+ absorption.

Regulate the Middle Pills are used for this with ginseng (ren shen) 10g, white atractylodes (bai zhu) and dry ginger (gan jiang) 6g each with some nice flavoring by honey-baked licorice (zhi gan cao) 6g.

The difference between this cold gut pattern and a kidney-heart circulatory level is whether there are cold extremities. The gut pattern still has warm extremities, and no thirst even though there is diarrhea.

High osmotic dehydration is due to excess sweat; only a little amount of electrolytes lost there is extreme sweat and thirst. Low osmotic dehydration brings about a loss of fluids and electrolytes. Usually there is no thirst.

Dante's Inferno – The Disease Goes Deep

04 Circulatory System – Bupleurum Reversal Powder and Aconite Formulas

Danger Zone Heart Kidney Penetration

There are large amounts of bacterial or viral endotoxin (feeble rapid pulse), a cellular immune response. It is a critical stage with high-stress conditions.

The peripheral blood volume is low, so the pulse is feeble. There is drowsiness due to brain hypoxia. The patient has to sleep even if they don't want to. The heart rate is fast, and sound is low, so the heart is weak. The liver can become enlarged due to heart failure. The large venous return to the heart from the brain diminishes. It can appear as a cardiovascular attack with pneumonia. Vasodilators such as prostaglandin, histamine, and kinins flood the body causing dilation of peripheral capillaries. Blood pressure drops, the pulse is feeble, and there is a decrease of circulating blood volume. It is a high output low-resistance shock (toxemia), which can damage the cardiac cytomembranes. The compensative cardiovascular reaction is a rapid pulse. There is also general cellular damage due to reduced ATP and cAMP decreased. The extremities are relatively cold.

The cold extremities are not too cold. Some of the endogenous contributors to the inflammasome are interleukin, interferon, macrophage inflammatory proteins, and tumor necrotic factors. When they go through blood-brain barrier, the thermostatic point of hypothalamic heat-regulating function is increased. The sympatho-adrenomedullary system becomes highly excited, and there is increased adrenalin and noradrenalin. The composite state leads to spasm of the peripheral capillaries. The circulatory blood volume reduces, and there is low output high-resistance shock (cardiac failure) with increased renin, angiotensinogen, thromboxane, and myocardial depressant factors. Then there is continuous

peripheral capillary spasm restricts blood flow, and the lung exhibits shortness of breath, the extremities get cold extremities, the brain doesn't get enough oxygen, and there is a tendency to fall asleep. If it hits the kidneys, there is difficult urination. If it goes to the heart, the pulse becomes almost imperceptible.

When large amounts of viral or bacterial pathogens enter the body, they can lead to a highly toxic state. Suppose it is respiratory tract disorders it goes from the throat into the blood stream. In that case, this will stimulate the sympathetic adrenal medullary system – this causes adrenalin to increase more than 100 times average. The results in continuous spasm of peripheral capillaries. Because of this, blood stagnates, the sufficient circulatory blood volume decreases. The internal organs have a lack of blood supply. This causes an internal organ's lack of oxygen.

At this circulatory system stage, there can be very obvious G.I. symptoms such as vomiting, nausea, and anorexia.

Lung lack of oxygen, w/ right heart failure, blood doesn't go back to heart it stagnates in L.U. causing Lung failure. The cell of the mucosa fails to function due to a lack of oxygen, causing diarrhea. Because of the brain lack of blood supply, there is a state of drowsiness. Sun is going down, the whole body lack oxygen, there is organ failure.

04 The End

A large amount of platelets are destroyed. There is a release of platelet aggregating factor (PAF), with increased plasma coagulation and concentrated hemagglutinin. There is a consumption of platelets and (PAF) with fibrinolysis that leads to and is caused by hemangioendothelioma damage. There are multiple systemic organ failures.

These conditions are often seen in epidemic cerebrospinal meningitis encephalitis B. The toxins and pathogens pass the blood-brain barrier leading to CNS dysfunction and convulsions.

In Closing

Epidemics are as much psychosocial as they are biological. Spiritual work is essential. Coronaviruses have been with humanity since before recorded history and appear in India's shastras, with ritual activities and chants designed to moderate them. These practices can uplift the spirit and alter the noosphere.

There is increasing evidence of chants and meditation modulating the vagal nerve and stress responses. The inflammatory compound Interleukin 6 (IL6) is associated with stress (Kalyani, 2011). Further, chanting O.M. can improve lung capacity (Ilahi, 2020). The mantra *Om Rudraya Namah* was used by participants at a fire ceremony I attended. Priests performed the more detailed recitations. It was through the Vedic Yagya Center, which performed fire ceremonies



throughout the night. This link approximates the participant's chant: https://www.youtube.com/watch?v=PF_oh_Ko3ew.

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Strategic Plant Choices for Sustainable Agriculture

Sarah Orlowski, Master Herbalist, PDC

Planting perennial species whenever possible in your garden will save you lots of work. These include most herbs, berry bushes, trees and specific vegetables such as asparagus and rhubarb. Edible herbs such as stinging nettle make a great companion plant, when grown in the correct spot, space permitting. Not all plant choices necessarily have to be a food crop as there may be many other uses of value.

Interspersing annual herbs within your vegetable beds and planting perennial herbs and bushes along the edges of your vegetable garden borders will do much to repel damaging insects. Don't let them take over; sometimes you have to clear some out to maintain the correct balance for allowing your desired crop to grow to its full potential, especially with herbs that have a tendency to spread or self-seed. Having trees nearby will help with moisture and frost protection.

STRATEGIC PLANT USES

Below are just a few examples of how various plants affect other plants and the surrounding environment.

- **Artemisia** – Grow in borders to keep animals out of garden, repels insects. Various types. Vermifuge and insecticidal.
- **Alder** – Plant by stream banks to prevent erosion and keep current clear. Fast growing, pioneer tree. Nitrogen fixing. Potent blood cleansing medicine.
- **Alliums** – Anti-microbial. Plant ornamental ones with roses to repel aphids and other pests.
- **Aloe** – Best burn treatment. Helps digestion. Powdered and dusted on plants repel rabbits. (Repeat after rain.) Apply gel

to cuts of pruned branch areas to promote healing. Promotes healing and repels insects from further damaging the tree. Put plants in chicken's drinking water to cure them of disease.

- **Wild Amaranth** – aka **Red-Rooted Pigweed** – Grow with potatoes, onions and corn. Keep thinned so veggies will not be choked out. Brings nutrients up from subsoil. Makes a great mineral vinegar extract.
- **Anise** – Grows better when grown with coriander (more vigour and better seed heads). Avoid planting near carrots.
- **Asparagus** – Plant parsley with it to add vigor to both. Basil helps it too. Tomatoes nearby protect asparagus from asparagus beetle due to its solanine.
- **Basil** – Helps tomatoes. Plant parallel to them, rather than among. Do not plant near rue. One is bitter (rue), the other sweet. They do not like each other.
- **Calendula** – Repels asparagus beetle and unwanted soil nematodes. Anti-fungal, affinity for female reproductive system, excellent first aid plant.
- **Cilantro** – Repels potato beetle. Excellent detoxifier, removes heavy metals from the body.
- **Dill** – Attracts beneficial insects and repels cabbage looper, spider mites and aphids. Besides brassicas, other plants that benefit from being nearby are corn, cucumbers, onions, lettuce, asparagus and basil. Avoid planting near carrots. Good digestive, especially seeds
- **Hyssop** – Drought tolerant, attracts beneficial insects, less invasive than mint.
- **Lamb's Quarters** – Excellent wild edible, freezes well and retains colour. High nutrient profile. Good companion to potatoes. Decoy plant for leaf miners. Makes a great mineral vinegar extract.
- **Lavender** – Enjoys being in an herb/flower bed with thyme, rosemary, sage, echinacea, wild indigo, aster, sedum, baby's breath and roses. Drought tolerant. Relaxing nervine, good for burns.
- **Nasturtiums** – Plant in a circle around base of trees to stop aphid infestation on tree and to repel borers. Yellow flower causes aphids to avoid plants above them (Connecticut Experiment Station). They also protect broccoli from aphids when plants are nearby.
- **Parsley** – Attracts beneficial hoverflies (which eat aphids and thrips). Encourages growth of tomatoes, chives, carrots, corn peppers, peas, onion and, especially, asparagus.
- **Rosemary** – Grow near brassicas to repel pests. Cerebral circulatory stimulant, anti-oxidant.
- **Rue** – Plant near roses and raspberries to repel Japanese beetle. Do not plant near basil.
- **Sage** – Strawberries, tomatoes, carrots and cabbage all like growing near it. Most herbs don't, except for rosemary. Potent antimicrobial, very astringent. Affinity for the mouth and throat.
- **Thyme** – Deters worms. Plant near strawberries, blueberries, cabbage family and solanaceae family. Excellent to treat

respiratory infections.

- **Wood Betony** – Grow near mint, rosemary, thyme, echinacea. Tolerates sun or shade. Good beneath trees. Relaxing, cerebral tonic.

PERENNIAL BERRY BUSHES:

Along with the regular type of berries that most folk are familiar with (raspberries, blackberries, salmonberries, thimbleberries, huckleberries, salal berries, saskatoon berries, gooseberries, currants, etc.), try some of the less common ones (climate permitting). These include Goumi berries, Goji berries, Cornelian Dogwood Cherries, Elderberries, Nan King Cherries, Cloudberries, etc.

The following list is by no means complete, but serves to give a general idea about aspects of a plant that you might consider. Many plants have multiple functions and these make particularly good choices for your garden/landscape. For instance, yarrow attracts hoverflies, lacewings, ladybugs and parasitic mini-wasps (non-stinging), all of which are beneficial insects to have in your garden as they help to control damaging pests. It is also a fantastic herbal medicine used as a diaphoretic, pelvic circulatory tonic, gentle genito-urinary tonic, liver stimulant, excellent wound healer and anti-inflammatory. All the while, yarrow is an attractive ornamental (cultivars come in various colours) and can be used in xeriscaping due to its drought tolerance.

Plant	Ornamental	Food Drink	Medicine	Dynamic Accumulator	N-Fixer	Nectary	Helpful Insect Host	Butterfly Bird Habitat	Deer Resistance	Insect Repellent	Xeri-Scaping	Floral Arranging	Drought Tolerance
Angelica	X	X	X				X						
Artemisia	x		X						X	X			X
Astragalus			X		X								
Barberry	X	X	X						X				X
Chicory		X	X	X									X
Cilantro		X	X				X						
Comfrey			X	X		X	X		X				X
Cosmos, white	X						X					X	
Dandelion		X	X	X		X	X						X
Dill		X	X				X						
Fennel	X	X	X				X						
Basil	X	X	X						X				
Hyssop			X			X			X		X		
Bee Balm	X	X	X			X		X	X				
Borage	X	X	X						X				
Mimulus	X		X						X				
Lady's Mantle	X		X						X				
Periwinkle	X		X						X				
Queen Anne's Lace	X		X				X						
Sunflower	X	X	X			X	X	X			X		X
Tansy			X				X						X
Violet	X	X	X			X			X				
Wild Ginger	X	X	X						X				
Clover, Red			X		X								
Caragana					X								
Kiwi	X	X											X
Stinging Nettle		X	X	X					X	X	X		X
Yarrow	X		X	X		X	X		X	X			X



Earth Wisdom - Communicating With Plant Spirit Session 1 and 2

Gudrun Penselin

I would like to express my gratitude to be able to live on and speak on the Indigenous territories of the Metis, Kelly Lake Metis Settlement and Beaver people

PLEASE READ INSTRUCTIONS BELOW

*"Look deep, deep into nature, and then you will understand everything better."
~ Albert Einstein*

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

Each one of us has the innate ability to communicate with plant spirit. Tuning into the spirit unique to each plant requires an attitude of gratitude and respect, acknowledging that we are only a strand in the web of life. You can learn to "hear their voices" and receive their messages. Plants act as bridges in the universe. They are like conductors with their roots anchored and grounded in the soil while at the same time reaching to the sky.

This presentation combines background information about plant spirit communicating with a prayer to honor Mother Earth and a guided meditation/visualization connecting to plant spirit.

The goal is to awaken our innate ability to connect to plant spirit, deepen our connection to the healing potential of Mother Earth, and bring awareness to a simple, yet powerful way of using plants for healing.

As part of these presentations you will have the opportunity to listen live to the "Music of the Plants".

NOTE: Session 1 and 2 will be two different workshops

INSTRUCTIONS FOR PARTICIPATION (recommended but optional)

- **Session 1:** If possible, please be in the presence of a live plant (herb, flower, tree, shrub) that you would like to connect with
- **Session 2:** If possible, have a small amount, 1-2 teaspoons, of one dried herb with you

GUIDELINES/PRACTICAL SUGGESTIONS for PLANT SPIRIT COMMUNICATION

- You might choose to set an INTENT at the beginning, and possibly write it down
Setting an intent may enrich the experience

Examples:

- Health related support (improved IS for coming flu season etc.)
- Ask for understanding, why dealing with specific health issues
- Ask for specifics re: what to do
- Support with personal life (relationships, decisions, work, goals, purpose in life)
- General, such as help with focus during this exercise

- Take note of how you are feeling before and after; you might want to take a journal, spending a moment writing down how you are feeling (physically, emotionally, spiritually and mentally); compare notes at the end
- Acknowledging that plants are living beings and engaging with nature with sincere gratitude and respect will enhance the experience
- Let the plant be your guide and teacher, you do not need to accomplish anything, just "be"
- "Get out of the way" and let the spirit of the plant do the work
- Trust plants – allow them to do the work
- You may choose to engage all senses (sight, smell, hearing, touch, taste, intuition); stop and be still to look/observe, touch flowers, bark.... Engaging all senses means being present and not lost in the head
- There is no right or wrong, every experience is perfect the way it is
- Introduce yourself to the plant/tree, "initiating a conversation"
- Breathing deeply helps to be present in the now
- Be open and accepting to receive any healing and information
- "Ask" a question
- "Ask/check" if the plant has a message for you
- Ask if you can be of service to the plant
- At the end, give thanks to the plant and other nature beings
- Become conscious of your experience, compare notes (before and after), possibly journal
- Be aware that messages, answers, healing etc. may occur in days to come or in dreams
- Know that once you have connected to specific plants, you can call on their spirits at any time; you do not need to be in the presence of the plant for this

MOST OF ALL, ENJOY EXPLORING THE WONDROUS WORLD OF MOTHER EARTH

JUNGLE JUICE

Green drinks, using fresh plant materials, provide concentrated nutrition full of enzymes to the body. They are easily absorbed and provide vital building blocks to the body for the (re)generation of healthy tissue.

The JUNGLE JUICE provides an instant increase in vitality. The nutrients are easily assimilated, and every single cell of your

body will benefit and feel its revitalizing and nutritional effect. It is true "Cell Food!"

The nutritional value will vary with the choice of ingredients and is enhanced by the addition of fresh ginger root. Both Ginger and honey serve as "carriers" for the herbal ingredients.

INGREDIENTS

ALWAYS USE

- Lemon (with peel if organic)
- Approx. 1 thick slice fresh Ginger root
- Honey, acc. to taste, possibly 1–2 tsp.
- Water or mineral water – approx. 350ml or 1–2 cups

VARY

- Fresh herbs of your choice (small handful for 1 big glass)
- Examples of edible herbs: Chickweed, Yarrow, Wild Rose petals, Borage flowers, Wild Strawberry leaves, Alfalfa.

NOTE: In northern climates when the wild plants are under a cover of snow you can use sprouts, spinach, or other green vegetables available.

DIRECTIONS

BLEND all ingredients in blender until finely chopped. Drink as is or strain. Anyone new to herbal medicine might want to strain the Jungle Juice until accustomed to the "green taste". The Jungle Juice is best enjoyed fresh right after preparation.

PRAYERS

*Dear Mother Earth,
We are gathered here this beautiful morning to honor you.
We thank you for always protecting and providing for us, giving us food, shelter, and so much more.
Thank you for nourishing our souls and senses with your richness and beauty: the colours, aromas and nature's music.
Please forgive us when we are walking upon you with disrespect and disregarding the fact that we are only a small strand in the web of life.
Thank you for being here for us with your unconditional love.
I would like to take a moment to send star dust of hope, love, light, peace, and happiness to all corners of the world to all those who are less fortunate than us.
Thank you, dear Mother Earth, for continuing to provide for us.*

~ Gudrun Penselin

IROQUOIS PRAYER

*We return thanks to our mother, the earth, which sustains us.
We return thanks to the rivers and streams, which supply us with water.
We return thanks to all herbs, which furnish medicines for the cure of our diseases.
We return thanks to the moon and the stars, which have given us their light when the sun was gone.
We return thanks to the sun that has looked upon the Earth with a beneficent eye.
Lastly, we return thanks to the Great Spirit in whom is embodied all goodness,
and who directs all things for the good of his children*

CONCLUDING QUOTES

In the age-old Medicine Way of Nature, it is the spiritual energy of the plants that is important, not their chemical properties. The Plant Spirits have an intelligence, a consciousness that is beneficial to the energetic healing of our emotional/spiritual souls. Our sacred brother and sister plant relatives are natural teachers. They know the art of healing...

You will "wake up" to a feeling of deep connection with all of Creation. This process of waking is one that occurs both physically and emotionally. Your experiences in nature will be richer, more textured and vivid. As long as there are trees (and plants) nearby, you will never be alone. You may receive teachings and guidance from your new friends that will take you to places you never dreamed of.

~ Earthsong Healing Circles: Transformational Healing with Plant Spirits

The spirit of plants move about the world talking with one another, and if you meditate sincerely with them, they teach this art. For a curandero, plants sustain life... plants with their roots in the soil and their branches spreading to the sky, act like bridges between the worlds.

~ Juan Flores Salazar, Curandero, Robert Tindall, The Jaguar that Roams the Mind.

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Virtual Herb Walk

Gudrun Penselin

The Difference Between An Herb And A Weed Is A Judgement

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

This virtual herb walk (power point presentation) will introduce students to so called garden weeds (Dandelion, Plantain, Chickweed etc.), common herbs found in many parts of the world, and some herbs easily grown. The focus will be on their medicinal and nutritional properties as well as how to prepare and use them.

The workshop includes the demonstration of some, not so common, herbal preparations, e.g. hand bath and cold infusion.

*"If you see a dandelion as a weed, you'll spray it.
If you see it as a flower, you'll draw it close, turn it
this way and that, and become lost in the colossal
burst of slender golden petals that spew sunshine
into the darkest of souls. And so, how many things
have we sprayed that could have illuminated our
souls if we would have let them be more than what
we let them be?"*

~ Craig D. Lounsbrough

Weeds/Plants Covered

- Dandelion – Taraxacum off.
 - Plantain (broadleaf) – Plantago major
 - Fireweed/Willow Herb – Epilobium/Chamerion angustifolium
 - Wild Rose & Prickly Rose – Rosa woodsia - R. acicularis
 - Red Clover – Trifolium pratense
 - Chickweed – Stellaria media
 - Calendula/Marigold – Calendula off.
 - Pineapple Weed – Matricaria discoides/matricariodes
 - Yarrow – Achillea millefolium
 - Usnea/Bear Lichen – Usnea barbata
- KNOW THE PLANT you are looking for. A mistake could be fatal!
 - Refer to herbal books as reference or talk to a knowledgeable person in your area
 - Only pick plants growing in clean locations and away from roadsides to avoid contamination as much as possible
 - Individual plants in obvious poor health (many insect holes etc.) may have distinctly atypical biochemistries.

PREPARATIONS & RECIPES

- POULTICE to reduce irritation and potential allergic reactions from insect bites
 - a) Spit Poultice Chew on Plantain or Fireweed leaf to activate chemical reaction and apply to affected area

- b) **Clay/Earth Poultice** Make paste by mixing dirt with water and apply to affected area

ROSE PETAL WATER:

Make a cold infusion by adding a few rose petals to cold water, cover and let sit for a few minutes or up to several hours (amounts of plant material and length of time for infusion depend on personal preference). No need to strain. You can add other flowers and/or some lemon for a refreshing drink.

NOTE: You can dry rose petals or freeze them. I store them in a glass jar in the freezer for later use in the year.

ROSE PETAL HONEY

Add a few Rose petals to a jar of honey. The honey will be infused with the fragrance of the rose petals. You can also use other flowers such as Lavender or Dandelion.

ROSEHIP SYRUP:

In herbal medicine, syrups refer to a form of herbal preparation that preserve the herbs using a sweet medium such as honey. There are many ways to prepare syrups, but the following is my favourite for rosehips.

Ingredients

- 1 part Rosehips
- 4-6 parts water (using less water will produce a thicker syrup; rosehips absorb a lot of water)
- Honey
- Brandy (as a preservative)

Directions

Combine rosehips with water

Simmer over low heat until you have half the liquid left; you can increase the extraction of the juice from the rosehips use a potato masher to create a pulp

Strain the liquid through a sieve first, followed by straining through muslin or cheese cloth

NOTE: Any particles left in the liquid increase the risk of fermentation and spoilage.

It is recommended to use a clean and moist cloth because the moisture will help to trap smaller particles including dust.

Pour liquid back into pot, bring to simmer over low heat

Add honey to liquid (i.e. for 1 cup liquid add 1/2 to 1 cup honey) and stir until dissolved

Remove from heat

Add Brandy, 1 tablespoon (15ml) for every cup of syrup as a preservative

Bottle in clean, sterilized jars

Label and date bottles (ALWAYS label to avoid the creation of what I call "mystery products") ENJOY - yourself or as a great gift!

HAND AND FOOT BATH

This is a great way of applying herbal medicine, it is highly effective and especially useful for children and anyone with a sensitive digestive system and/or allergies. For this you can use fresh or dried plant material, add tinctures, homeopathic remedies, flower essences and essential oils to the water.

PREPARATION: Add hot, almost boiling water to a handful of plant material, cover and let steep for 10 – 20 minutes. Test temperature before immersing hands or feet into the water.

I have seen people recover from adding only 2-3 drops of a remedy to the water, once a day over an extended period of time. Overly sensitive people may only be able to use a hand or foot bath once every three or four days.

Maurice Mességué (1921 –2017), was a highly successful French herbalist who primarily used hand and foot baths to administer herbs.

Literature: Health Secrets of Plants and Herbs. New York 1979.

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ALWAYS USE

- Lemon (with peel if organic)
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VARY

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Trans-inclusive Care for Herbalists

Ember Peters, RHP (HANS)

This class is a brief introduction to trans health and will cover some of the most specific herbal support strategies for transgender clients and community members. Geared towards herbal practitioners striving to be trans-inclusive, this class will help you to better understand how to choose herbs that are safe and effective for your trans clients.

To be more trans-positive let's use language in a way that doesn't equate physiology with gender, and let's respect everyone's names and pronouns. Rather than assigning certain organs or body functions to a gender, we understand that any body part/function can be a part of any gender and there are infinite pathways to express one's gender. Let's learn together how to empower everyone's gender!

Gender Language

Here are some of the most commonly used (and confused) categories that may be a part of someone's gender:

- Sex assigned at birth (male or female)
- Gender identity: one's own sense of being female, male, or outside of the male/female binary. Includes man, woman, non-binary, two-spirit, gender-non-conforming, etc
- Gender expression: masculine, feminine, both, neither, or something else entirely!
- Sexual orientation – one's physical, romantic, and/or emotional attraction to another person, includes straight, gay, lesbian, bisexual, queer, a-sexual, etc.
- Transgender or trans: A person whose **gender identity** differs from the sex that was presumed/assigned at birth

For more about gender terminology, check out this great resource: <https://transcare.ucsf.edu/guidelines/terminology>

The Context of Trans Healthcare

Transgender, intersex and non-binary people, and *especially* trans women of colour, are subject to psychological, physical, economic and institutional harm in our society. A higher percentage of trans people are homeless, incarcerated, unemployed, abused, evicted and disowned from family. As *practitioners it is important to be aware of this context, while understanding that it's not always the case.*

Barriers for trans people seeking healthcare:

- Few competent providers
- High cost of care / coverage obstacles
- Disrespect by providers and administrators, such as pronouns and names used incorrectly
- Pathologization of trans identities



- Having to prove that you're "really" trans in order to access gender affirming therapies
- Assumptions that there's one path to gender affirmation that is accepted as the norm ("male-to-female" or "female to male")
- Medical coverage for one gender not another – breasts, prostates, pap tests, pregnancy, etc.
- Passing: Fear of being "discovered" as trans in a (emergency) medical situation that would affect their care - may have to come out to providers, educate or face discrimination
- Not passing: non-normative, gender-variant appearance can cause trauma from one's gender identity not being respected, greater visibility of being trans so greater risk of harassment, assault, etc

To successfully provide services to trans people:

From the UCSF Center of Excellence for Transgender Health

- Be careful about confidentiality, disclosure, and "outing."
- Be patient with a person who is questioning or exploring their gender identity.
- Understand the difference between "coming out" as lesbian, bisexual, or gay, and "coming out" as transgender.
- Don't assume that the transgender person you know wants to be your resource on trans identity
- NEVER ask a transgender person what their "real name" is. To many it is their "dead" name.
- NEVER ask about a person's genitals or surgical status unless it's necessary for the care or service being provided.
- NEVER ask a transgender person if or how they have sex.
- Think twice before calling YOURSELF an ally. It is for transgender people to decide whether you live up to the label.

Plus, I would add... DON'T assume a trans client/patient is coming to you for something trans-related, and don't expect or ask them to do the work to educate you.

Transgender Specific Care

Surgery Support Sample Protocol (double mastectomy "top" surgery):

1 month before surgery:

- Gotu Kola fresh tincture (2-4ml QD) for supporting and healing connective tissue, blood vessels, nerves, improving overall circulation and reducing inflammation
- Increase the rainbow of organic fruits and vegetables in diet
- Reduce or eliminate sugar and beverage alcohol
- Multivitamin daily that includes trace minerals or a mineral-rich tea
- Ashwagandha (2-3g QD) to regulate stress response, support immune system

- Consume adequate protein, to support tissue rebuilding

*Most people will choose to stop taking all herbs 3-5 days before surgery, as recommended by their doctor. We should absolutely recommend our clients to **AVOID** some foods and supplements for 5 days before surgery and 2 days after as they can increase blood loss and interact with medications during surgery. These include: Alcohol, Angelica, Aspirin, Dan Shen, Dong Quai, Evening primrose Oil, Feverfew, Garlic, Ginkgo, Hawthorn, Meadowsweet, Red clover, St John's Wort, Turmeric, Willow.*

Immediately after surgery:

- Continue everything above
- Echinacea tincture (3-5ml QD) to stimulate tissue repair, reduce risk of infection
- Healing, nutritive, nervine tea blend: Calendula, Plantain, Skullcap, Chamomile, Nettle
- Bone broth with Reishi and Astragalus, seaweeds (1-2 cups/day) to improve overall healing
- Pain relief tincture with California Poppy (1-3 ml PRN)
- Drink plenty of water to encourage removal of waste
 - Start after 2 days: Turmeric ("Curcuminoids with Bio-perine" 1-4 caps/day) to reduce inflammation and pain

1 week to 2 months after surgery:

- Continue everything above
- Echinacea, continue for 1-2 weeks after surgery
- Lion's Mane or fresh Milky Oats tincture (2-5ml QD) for support nerve regrowth, repair
- Alternatives to support elimination of waste during healing process: Dandelion, Burdock, Cleavers, Nettle
- Topical honey for healing and scar reduction: Start once the incision site has healed over with granulation tissue. *Caution: messy!*
- Wash or sitz bath with a cool tea of healing and antibacterial herbs if there is any sign of infection: Yarrow, Usnea, Barberry
- Long term scar-reduction cream with Gotu Kola, Rosehip seed oil, Yarrow, Chickweed, Helichrysum E.O

Support with Other Gender-Affirming Practices:

- Binding: For support, help with bruising, muscle and soft-tissue pain, especially back pain; improve circulation and lymphatic drainage; support deep breathing. Topical Arnica, Comfrey, St. John's Wort, Poplar bud oils.
- Packing and tucking: May cause rashes, fungal infection, ingrown hairs, irritation, UTIs. For support, consider hygiene, healing salves, antifungal herbs topically (berberine-rich, calendula, oregano/thyme/bee-balm, usnea), dusting powders daily to keep area dry (clay, herbal powders, corn starch).
- Pumping or injecting silicone into breast and butt: carries high risk of infection, transmission of infectious disease. Consider

- anti-microbial and immune support concurrently.
- Injections: reduce inflammation/pain on site and reduce chance of infection with a tea bag poultice, cream, or wash including Yarrow, Chaparral, Lavender, Calendula, Barberry, etc
- Facial hair removal/reduction: Electrolysis, laser, plucking, waxing, threading. For support, reduce inflammation, soothe and protect against oxidative damage, manage pain. Consider soothing and healing creams/salves

Feminizing Hormones: Considerations for Holistic Support:

- Reduce risk of blood clots (stroke, DVT, etc) with herbal blood thinners and circulatory tonics
- Watch for lipid and cholesterol elevation, blood sugar dysregulation and address accordingly
- Support the liver, especially with pre-existing liver impairment/damage or any signs of liver stress
- Watch for electrolyte imbalance, support the kidneys
- Address any mood imbalance or increase in libido/energy
- Adaptogens & nervines for all!!!

Masculinizing Hormones: Considerations for Holistic Support

- Watch for elevated blood sugar or blood sugar dysregulation and address accordingly
- Look for clinical signs of PCOS
- Support healthy bone density with minerals and absorptive capacity (especially if ovaries removed)
- Support the liver, with pre-existing liver impairment/damage or any signs of liver stress
- Adaptogens & nervines for all!!!

Credit: Thank you to herbalists Vilde Chaya Fenster-Ehrlich, Larken Bunce, Linden DeVoi, Kara Sigler, Jacoby Ballard for all of their research and public information on the topic.

LINKS:

"Competent Care for Transgender, GenderQueer and Non-Binary Folks" by Larken Bunce and Vilde Chaya:

- <https://sites.google.com/vtherbcenter.org/transhealth/home>

Hormone metabolism and interactions:

- <https://www.medscape.com/>
- <https://www.uptodate.com/home>

Resource on gender terminology:

- <https://transcare.ucsf.edu/guidelines/terminology>

Thank you! Please attend the class or watch the recording for more in-depth information.

Building An Accessible Herbal Practice

Ember Peters, RHP (HANS)

What are barriers to accessing herbal medicine? How can we increase accessibility in our schools and clinics while still receiving adequate compensation for our work? This class will provide practical and concrete accessibility models we can put into practice now. The framework of this class will be taught through a client-centred, anti-racist, harm-reduction lens, with the view that herbalism can play an important role in cultivating resilient communities.

Two major barriers to accessing herbal medicine are financial and cultural.

There is no model that will be accessible to everyone. You have to ask yourself:

Who do I want to access my services?

What are their specific needs and barriers?

Financial barriers exist when somebody lacks the economic privilege to have extra income to spend on their health. People who are low-income, unemployed or under-employed, single parents and elders are often in this group. Black, Indigenous and People of Colour (BIPOC) are much more likely to experience poverty/financial barriers due to discrimination and historical and ongoing exploitation including slavery and theft of land.

"When health care providers don't understand how poverty narrows patients' options, their patients will either be less likely to trust the advice and prescriptions they receive or more likely to blame themselves unnecessarily for their failure to improve or comply" - Claudia Chaufan and Rose Weitz in *The Elephant in the Room: The Invisibility of Poverty in Research on Type 2 Diabetes*

How do we address our own stigmatization of poverty?

Remember that poverty exists in a cycle. It is connected with racism, transphobia, colonialism, neurodivergence, trauma, etc. Poverty does not exist in a vacuum of someone's "poor personal choices". This stigma perpetuates people's experiences of marginalization, oppression and trauma.

How will your client's financial access affect your work together?

It's not as simple as charging a lower price for your consultations. Your clients who experience poverty will likely not be able to afford to eat a prescribed diet or buy supplements, they may not have as much leisure time, and will likely experience more stress and therefore be at higher risk for complex chronic illness.

Cultural barriers exist when a health practitioner is not familiar with, or not open to, the views, values and culture of the



person seeking care. A lack of acknowledgement on the part of practitioners to their own ignorance contributes to overall dis-empowering and frustrating experiences for people seeking care.

"We have to recognize that many of our clients, especially those from BIPOC (Black, Indigenous, and People of Color) communities, will have personal or ancestral experiences of displacement from land, systemic discrimination, poverty and racism that will impact their ability to be well. We also have to recognize that our clients' worldviews, values and traditions may be vastly different than our own. In our work with our clients, we can incorporate supporting access to community connection, traditional foods, medicines and culture; and connection to land - recognizing these as integral parts of healing.... A holistic herbal protocol should be tailored to the specific narratives, worldviews, traditions and needs of our clients. We need to be aware of our own cultural blind spots and our ability to meet our clients where they are at."

- Ember Peters in Diabetes and Systemic Barriers to Health (AHJ Journal Spring 2020)

Research shows that being empowered to practice one's culture, to have a strong sense of self/identity, to be connected with one's own community, etc, benefits health. The stigmatization of cultures that are not white/euro-centric has a long-term inter-generational impact of stress, trauma, and health issues for BIPOC communities.

Though you don't need to be accessible to everyone, you can: listen to the needs of marginalized people in your community, learn different ways of viewing health/the body that go beyond the western medical allopathic framework, learn trauma-informed and client-centred care, and support practitioners from marginalized communities who may be more able to show up for their communities.

Client-centred care is the practice of empowering our clients to work towards their personal healing goals based on their realistic capacities, barriers to resources and cultural values. In this practice, we set aside our own agenda or ideas of what success looks like for someone, and support them in what they want and are able to do for their health, based on their own values and cultural traditions. A part of client-centred care is a practice of harm reduction, where we challenging stigma, shame and judgments of people's health, choices, and life circumstances.

Harm-reduction: The barriers to health due to the impacts of living in this society are so great that, for most people, it is not possible to attain some perfect vision of health. From a harm-reduction approach, we commit to empowering our clients to work towards their personal healing goals based on

their realistic capacities; and we are committed to challenging stigma, shame and judgments of people's health, choices, and life circumstances.

Other types of barriers to consider include:

Physical: is your space wheelchair accessible? Do you have a wheelchair accessible washroom? Are you located up a flight of stairs?

Technological: Do you assume your clients all have access to the internet? If so, who might be left out? Do you have multiple contact methods with your clients?

Transportation: Are you on a bus route? Does travelling to your clinic require a car? Do you offer alternate locations or virtual offerings for people who don't have access to a car?

Environmental: Many people are sensitive to chemical and even natural scents. What is the scent policy in your office/building? What other toxic exposure might there be in your office/building/neighbourhood?

ACCESSIBLE CLINIC MODELS

In order to receive adequate compensation for our work and increase accessibility in our practices, we need to consider possible sources of funding.

Models:

- subsidize by selling products (medical cannabis, other products)
- subsidize with student tuition/labour
- sliding scale or different pay scales based on income

You can include in your business budget a portion going towards accessibility/discounts. I recommend starting at about 5% of proceeds OR you can budget for a certain number of tuition payments or product sale to go towards your accessibility fund.

Teaching: classes and programs are a great way to subsidize access for BIPOC/low income clients/students/customers. You can also work into your budget to offer reduced rates for BIPOC/low income students. I will often have my budget for classes set at 10 or 15 people to cover the costs, and then I will allow 3-5 extra students whose tuition goes towards discounts in my clinic and classes. The other great way to support discounts for your medicine is to have your students learning experience include making medicine for your clinic, in order to keep your costs lower and therefore be able to offer more discounts for your herbs.

Sliding scale asks people with more access to financial resources to pay more, allowing people without access to financial resources to pay less.

- Pros: People can decide how much they are able to pay. I tell

people to “pick a number that feels like its enough that you are investing in your health, and not too much that it feels like it adds stress.”

- Cons: The honour system, in my opinion, gives people with more access the ability to pay less than they are able, which can lead to feelings of being taken advantage of. Many people without access to resources carry shame about that and may not feel comfortable actually asking for a reduced rate.
- You can give people a guideline of what to pay based on different income brackets, which may help reduce people taking advantage of a sliding scale, though it doesn't fully reflect different people's living costs and access to disposable income.

Alternatives to sliding scale:

- Charge more for people who can pay market rate and offer discount appointments
- Offer lower rate sliding scale for BIPOC only
- Monthly contribution commitment for herbs and consults that you discuss with your clients
- Free clinic days (you might want to look into being invited into communities where there is the most need)

Reparations

Keep in mind, BIPOC folks might not want to access your clinic or classes if they are primarily white spaces. Another way to promote access for BIPOC knowledge and healing is to offer funds to subsidize their access to other BIPOC healers or herbalists in your community, or offer funds to the BIPOC practitioners themselves to be able to offer more accessibility options for people in their community.

This is just a beginning!

The information in this class is build on the knowledge and experience of many amazing herbalists and practitioners. Thank you to:

- Mandana Boushee and Amanda David – “Woke Without the Work” online class for non-BIPOC herbalists – HIGHLY recommended! <https://courses.rootworkherbals.com/courses/woke-without-the-work-test>
- Larken Bunce, Betzy Bancroft, Guido Masé - founders of the Vermont Center for Integrative Herbalism programs and sliding-scale clinics www.vtherbcenter.org
- Jasmyn Clift, Maryann Abbs and other practitioners at the BC Compassion Club Wellness Centre accessible herbal clinic <https://thecompassionclub.org/wellness-centre/>
- 7 song, practitioner at the Ithaca Free Clinic <https://7song.com/ithaca-free-clinic/>

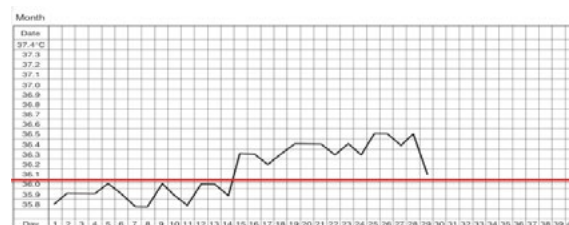
Reproductive Health - Treatment Protocols and Diagnostics with Menstrual Chart Tracking

Krista Poulton

Why to Get Patients to Chart:

- In the West, we rely mostly on laboratory testing for hormonal conditions.
 - Hormonal panels need to be taken at correct intervals in the menstrual cycle.
 - Day 3: Estrogen, FSH, LH
 - Day 21: Progesterone
 - OR month-long hormonal panel (Cost = \$300 CAD+)
- CYCLE CHARTING provides empowerment for treatment protocols for both the patient and the practitioner
- An INVALUABLE tool in a Herbalists practice for diagnosing and treatment

Assessing Pathology with Cycle Charting

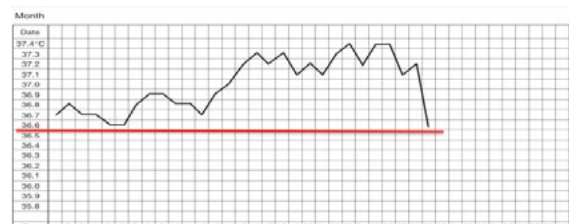


Temperatures are below 36.0 C = low metabolic rate and suspected low thyroid

- Symptoms: lethargy, weight gain, sensitivity to cold, unusually long cycles, anovulatory cycles, heavy menses, or unexplained infertility

Treatment Protocol:

- Support Thyroid: Ashwagandha 35mL/week and Bladderwrack 30mL/week
- Support Nervous System: Milky Oats 35-60mL/week, Skullcap 30-50mL/week NOT Lemonbalm
- Support Adrenals: Licorice 25-35mL/week, Borage 30mL/week



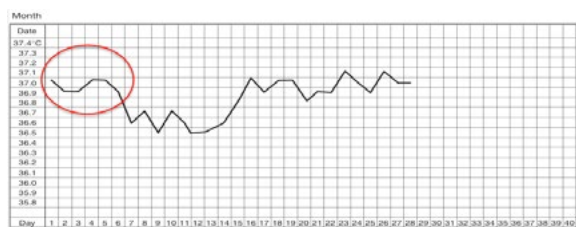
Temperatures are too high = high metabolic rate and suspected overactive thyroid



- Symptoms: fast heart beat, feelings of agitation, insomnia or weight loss, scant menses, long cycles, and infertility

Treatment Protocol:

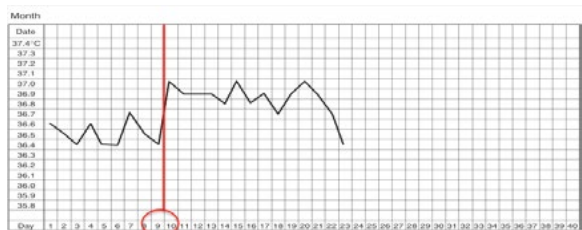
- Support Thyroid: Lemonbalm 30ml/week, Bugleweed 30ml/week
- Support Nervous System: Milky Oats 30-60ml/week, Skullcap 30-50ml/week
- Support Adrenals: Licorice 25-35ml/week, Borage 30ml/week



Follicular phase starts too High can indicate Estrogen Dominance specifically Endometriosis

- This can be indicative of endometriosis (a condition characterized by estrogen dominance)
- Show an incomplete discharge of endometrial tissues, such as when endometrial tissue grows outside of the uterus
- Chai & Wild (1990): "A significant association was found between the presence of pelvic endometriosis (without previous treatment) and the appearance of a late decline in BBT during the early follicular phase of the menstrual cycle. A temperature > 97.8 °F on the first 3 days of menses is associated with pelvic endometriosis"

Continual Wet- Quality Cervical Fluid: can be indication of excessively high levels of estrogen



Follicular Phase too Short can indicate estrogen dominance as seen in Endometriosis, and Fibroids

- Fertility issues: with follicular maturation being released too soon
- Reduced Conception: "even with follicular maturation and progesterone given in luteal phase, reduced conception was seen in individuals who had shorter follicular phases"
- Ovarian aging: with high FSH and E2 with individuals less than age 35
- Estrogen dominance: high estrogen in relation to progesterone

High Estrogen:

From Estradiol/Estrone (we make) and xenoestrogens (endocrine disrupting chemicals)

Symptoms:

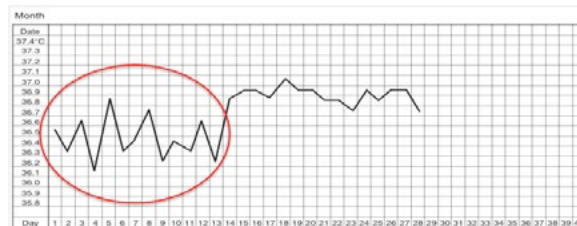
- Heavy flow
- Clots
- Dysmenorrhea, often dull, achy and will be persistent
- Breast tenderness
- Weight gain specifically around middle/hips
- Shorter cycle: follicular phase will be shorter = decreased egg quality
- Cervical mucous: sticky/creamy cervical mucous often

Endometriosis Treatment Protocol: Botanical

- Regulate excess bleeding: Shepherd's Purse 30-50ml/week, Yarrow 35-55ml/week
- Reduce 'relative estrogen excess' via clearance from liver: Schizandra 10-15ml/week, Rosemary 10-15ml/week
- Managing pain: Corydalis 3-50ml/week, Crampbark 30-60ml/week, Pasqueflower 6-20ml/week, Jamaican Dogwood 35ml/week
- Managing nausea: Ginger 10ml/week
- Modulating inflammation: Turmeric 60ml/week or 2- 00 caps 3x/day, Meadowsweet 35ml/week, Willow 40-60ml/week
- Address autoimmune: Echinacea 40ml/week, Astragalus 30ml/week, Mushrooms – all are TH1, which will regulate TH2 dominant condition 30ml/week
- **Modulating estrogen excess: Chastetree at high doses 5-7ml/day.

Fibroids Treatment Protocol: Botanical

- Contain or reduce the size of the fibroid: Thuja placata (Cedar) Max 15ml/week *Only for 6 week intervals
- Berberine: Inhibit proliferation, induce apoptosis, blocked E2 and P4 suggesting antiestrogenic and antiprogesterin effects reduces COX-2 expression (Chuang et al, 2015)
- Green Tea Extract: decreases fibroid volume, and reduces blood loss (Al-Hendy, et al, 2013)



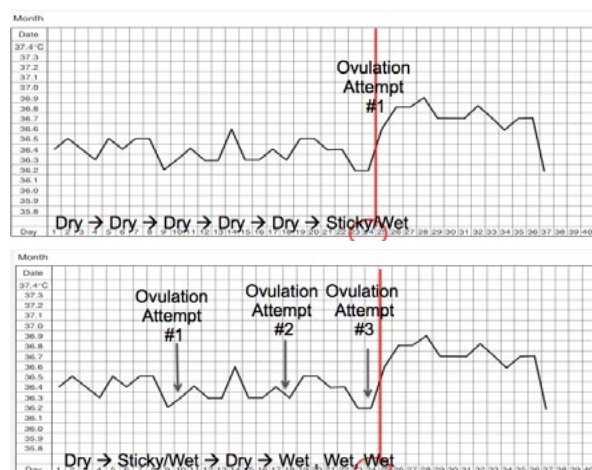
STRESS (HPA axis affecting HPO axis)!

- shift work, not getting enough sleep, taking your temperature at different times or other temperature mistake

- If you rule out temperature mistakes, it can be due to stress
- Cortico-trophin-releasing hormone (CRH) appears to inhibit GnRH (therefore affecting FSH, and estrogen), while cortisol has an inhibitory action on GnRH, LH, estradiol and progesterone synthesis. (Marques, 2018)

Herbs for Stress: Nervines, Adaptogens, Adrenal Support

- Nervines: Motherwort 35mL/week, Wood Betony 30mL/week, Vervain 30mL/week, Skullcap 35mL/week, Lemonbalm 35mL/week, Passionflower 35mL/week
- Adaptogens: Siberian ginseng 35mL/week, Astragalus 35mL/week
- Adrenal Support: Rehmannia 30mL/week, Licorice 30mL/week, Borage 30mL/week



This can be completely normal as long as it is consistent BUT can show having difficulty to ovulate with more than one attempt to have a successful ovulation.

***Follicular phase being too long can indicate Estrogen Deficiency, or in particular failure to ovulate (PCOS)

Cervical Fluid:

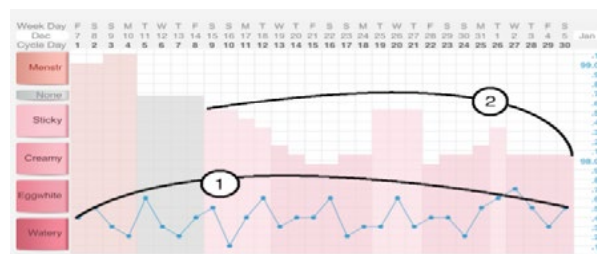
- PCOS = Pattern of cervical mucous from dry, sticky, creamy, eggwhite back to dry to repeat cycle before a successful ovulation occurs (Harlow, 2000)
- Estrogen deficiency = longer period of cervical mucous and longer lower temperatures. (Harlow, 2000)

PCOS Treatment Protocol: Botanical, Dietary/Supplement

The treatment of PCOS aims to:

- Reduce and treat excess androgens: Peony 30mL/week & Licorice 30mL/week combination, Saw Palmetto 25-35mL/week
- Reduce LH: Black Cohosh 20-30mL/week, Hops 20mL/week
- Treat insulin resistance: Goat's Rue 30-50mL/week, Fenugreek 35mL/week, Cinnamon 10mL/week

- Ensure regular menstrual bleeding by improving ovulation and fertility: Puncture Vine 20-40mL/week, Peony 30mL/week, Black Cohosh 20-30mL/week



Amenorrhoea: absence of menstrual cycle

- Menstrual cycle (fluctuating estrogen and progesterone) is protective for health!
- Lack of a menstrual cycle increases the risk of endometrial hyperplasia and uterine cancer

Amenorrhea Treatment Protocol: Botanicals & Diet

- Regulation of the HPO axis: Chastetree 1ml in AM only, Peony 30mL/week
- Pulsed steroidal saponins (10-12 days) to stimulate ovulation: Puncture Vine 35mL/week
- Adaptogens, Adrenals, Nervines: Ashwagandha 30mL/week, Rehmannia 30mL/week, Licorice 30mL/week

Low Estrogen:

Symptoms:

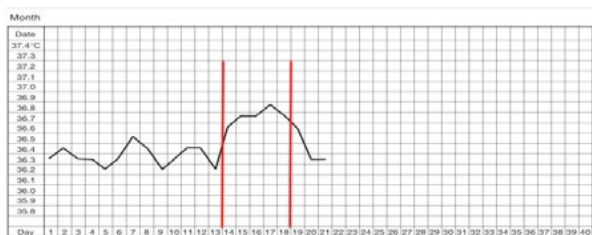
- Irregular cycles from late ovulation or no ovulation
- No ovulation leading to (1) amenorrhea (2) irregular cycle with either heavy or light flow (no ovulation = no progesterone, which acts as a hemostatic, light flow because endometrium was not built up with progesterone)
- Head hair loss
- Bone health long term
- Increased anxiety
- Longer cycle or Irregular cycle
- Temperatures: no temperatures shift (no ovulation) or very delayed temperature shift (Follicular phase long = decreased egg quality)
- Cervical Mucous: very scanty and no eggwhite

If Functional Hypothalamic Amenorrhea:

- Building/Nutritive Herbs: Dang qui 35mL/week
- Diet: Fats should constitute between 20-30% of total energy intake, proteins 10-35%
- Reduction in exercise if extreme: reduce intensity until menses resumes

If Hyperprolactinaemia Amenorrhea:

- Reduce High Prolactin Levels: Chastetree



10 or fewer days of post-ovulatory high temperatures above the cover line can mean two things:

- Short luteal phase also known as inadequate luteal phase
- Temps may take a few days to reflect ovulation

Luteal Phase Defect: Causes

- High Prolactin:
- Oxidative Stress:

Low Progesterone:

Symptoms:

- Breast tenderness
- Spotting before bleeding *key identifying feature!
- Early miscarriage from short luteal phase
- Temperatures: Lu teal phase will be short, or the temperatures will drop towards bleed onset causing spotting to occur
- Cervical Mucous: May be normal, or can be excessive creamy as progesterone will not dry up

Herbs for Modulating Progesterone:

Vitex agnus castus (Chastetree) 1ml in am:

- Regulates both phases of the cycle; regulates both estrogen and progesterone
- Increases Prolactin-Inhibiting hormone (PIH aka Dopamine)

Key Luteal Phase Treatment Strategies:

- Ensure ovulation for the production of progesterone with ovulation herbs: Puncture Vine 35ml/week
- Manage stress: Milky oats 30ml/week, Borage 30ml/week, Skullcap 30ml/week
- Support luteal phase: Chastetree 1 ml in am, Peony 30ml per week

Medicinal Mushrooms: A Brief History

Robert Rogers

Medicinal Mushroom (MM) fruiting bodies have been utilized for thousands of years. The use of shiitake mushrooms in Japan, fly agaric in Celtic and Russian cultures, Reishi in China, *Phellinus igniarius* by Inuit of Yukon and Alaska, to the use of

Psilocybe genera in parts of Mesoamerica, including Mexico and Guatemala.

Biomedicine, medical doctors and the pharmaceutical industry continue to portray medicinal mushrooms as unproven, lacking clinical trials, or even unsafe for use the prevention or treatment of various health conditions.

In some cases of oncology, patients are advised to avoid taking any natural products while undergoing chemotherapy or radiation; which is a real disservice to those individuals wishing to utilize integrative medicine.

I have been chastised by medical professionals for citing in vitro and in vivo studies on mushrooms; suggesting tests in test tubes, petri dishes, or rat and mice studies are not transferable to human experience.

This is very often true. Preclinical studies on at least two animal species are mandatory before testing synthetic drugs, on humans. (Zhou et al, 2005).

But before a single, isolated, synthetic molecule is approved by the FDA, it has to undergo up to a decade of studies and may cost several million dollars. Even then, the number of humans in double-blind (DB), placebo-controlled (PC), randomized trials often require thousands, or tens of thousands of cases to make a marginal claim of efficacy over placebo.

And even then, many of these new drugs are removed from the market after five to ten years due to significant side-effects, including death.

The past two decades have shown no less than one hundred and twenty-eight thousand annual deaths in the USA when drugs are taken as prescribed. This makes it the 4th leading cause of death. It is estimated that up to three million hospital visits annually, are related to adverse reactions to drugs.

As an herbalist, with fifty years of experience in clinical work and research, I find it somewhat hypocritical for orthodox medicine to point their finger at natural health products and practitioners.

It should be noted that epidemiological studies are often discarded as lacking proof due to causal or correlative confusion.

A recent study in Singapore by Feng et al (2019) noted an association between mushroom consumption and mild cognitive impairment (MCI) in 663 participants. Those who consumed two or more portions per week had reduced odds of having MCI, independent of age, gender, education, cigarette and alcohol consumption, hypertension, diabetes, stroke, heart disease, physical and social activity.

An earlier study, The Ohsaki Cohort 2006 Study, involved 13, 230 people over sixty-five years of age. The study suggested that frequent mushroom consumption is

significantly associated with a lower risk of dementia, even after adjustment for possible confounding factors (Zhang et al., 2017).

The consumption of mushrooms and incident risk of prostate cancer found an inverse relationship between dietary consumption and incidence among middle-aged and elderly Japanese men. This was a pooled analysis of the above mentioned Ohsaki Cohort Study (1994), and Miyagi Cohort Study (1990) which followed participants for just over 13 years (Zhang et al, 2019).

Two studies of Korean women with breast cancer, involving 362 women in first and 358 women in other, found strong inverse correlation between breast cancer risk and eating mushrooms. The strongest association involved women with estrogen receptor (ER+), progesterone receptor, and tumors (OR= 0.30). Hong et al., 2008; and Shin et al., 2010.

However, the picture for mushroom consumption and risk of cancer, cardiovascular and type 2 diabetes in US population tells a different story.

Both prospective cohort studies included 68,327 women (Nurses' Health Study 1986-2012) and 44,664 men (Health Professionals Follow-up Study, 1986-2012).

Both found no association between mushroom consumption and 16 site-specific cancers (Lee et al., 2019a) and coronary heart disease, stroke and diabetes (Lee et al., 2019b)

This is interesting, and may be related to other factors associated with diets in USA and Japan/Korea. For example, until the past decade the most common mushrooms consumed fresh in the United States was button mushrooms, seldom cultivated under organic certification, and often sliced raw onto salads or pizza.

In Asia, shiitake, shimeji and enoki were, and are, more widely consumed in a diet richer in fish oils, less animal protein and dairy products.

Interesting, but perhaps comparing apples and oranges.

Clinical studies of MMs have been published in over six hundred (600) papers, with many, of course, on *Ganoderma lucidum*.

An earlier paper by Roupas et al, (2012) looked at fifteen clinical trials on edible mushrooms.

More than 40 clinical trials are found listed on the US National Institutes of Health website (www.clinicaltrials.gov).

Many of the studies indicate an inverse relationship between MMs and colo-rectal, breast, prostate, cervical, ovarian and gastric cancers.

If you are a medical doctor, or oncologist, my hope is you will find an interest and help your patients undergoing chemotherapy and/or radiation.

And if you are an herbalist, naturopath or other natural health practitioner, my wish is that you make use of this information, and pass it on to your clients.

And finally, if you are reading out of general interest, or have family members and friends that suffer chronic disease; please loan them my latest book if they show any interest. It is *Medicinal Mushrooms: The Human Clinical Trials*, available from our website: www.selfhealistributing.com It contains the positive results of several hundred double-blind, placebo-controlled, randomized human trials on the top 20 medicinal mushrooms.

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The Prickly Medicine of Prickly Ash

Tamara Segal Registered Herbalist

Northern Prickly Ash *Zanthoxylum americanum*

Family: Rutaceae (Citrus or Rue Family)

Other Common Name: Toothache Tree

Close Relative: Szechuan Peppercorn *Zanthoxylum simulans*

Habitat: Tree lines in pasture land; Open woods; Forest edges; Meadows and overgrown fields

Parts Used: Bark, Berries

Botanical Features: Leaves compound with smooth (untoothed) edges on leaflets. Leaf formation somewhat resembles that of ash trees (hence the common name). Leaves have stalks. Thick sharp thorns grow all along branches. Small inconspicuous green flowers (known to attract honey bees) grow in groups from stems in the leaf axils. These eventually become small round fruit which ripen to an orange-red colour. Fruit and young leaves have a citrus-like aroma. Prickly ash is a small deciduous tree which grows to about 10-15 feet tall. In tree lines or at forest edges, these trees are often found growing in dense clusters, making passage through them difficult due to their abundant thorns.

Actions: Circulatory stimulant (peripheral, neural); Analgesic; Bitter (bark); Nerve restorative, Anti inflammatory, Lymphatic, Carminative (berries)

Prickly Ash is a warming, stimulating herb that is primarily known for its circulatory stimulant properties. It helps move blood from the core throughout the periphery of the body, supporting circulation to the extremities and helping to treat conditions like Reynauds and other circulatory issues. It can be added to herbal formulas to help stimulate the medicine into action and carry it through the bloodstream to the site(s) where it is needed in the body. As the circulation is stimulated, so too are the nerves. As such, prickly ash is a useful remedy for restoring nerve damage of various types, often bringing back sensation, taste, smell etc when they have been compromised.

It is a marvellous pain reliever as well, especially for nerve pain and for very extreme "torturous" pain (Matthew Wood). It seems to work particularly well for pain in the lower abdomen, making it effective for ovarian pain, menstrual cramping and lower intestinal pain. The berries tend to be more warming and stimulating than the bark, and should be used with caution for those who run hot and have over-stimulated heart function. For these people, the bark will be a more suitable choice. However, the berries can help to energize those with slower metabolism and colder constitutions, while also triggering the healing effects of other remedies so that they work quicker. As part of its warming, stimulating properties, prickly ash can help to clear the lymph nodes and energize the system towards healing. The citrus aroma of the berries is uplifting as well, and offers a pleasing flavour to an herbal formula.

Caution: Prickly ash berries generally work well in relatively low doses. As mentioned above, use mild caution for those with heart palpitations or other stimulated heart conditions, as well as for those with hot constitutions. The bark is less stimulating and is generally safe for all.

Energetics: warming, drying, stimulating



Hawthorn Herbals

Seaweeds: Nutritional and Medicinal Information

Angela Willard Mh

Harvesting Tips:

- Always cut the fronds, rather than removing the holdfast from the rock.
- Harvest in areas of fast moving water, without any industry in the area or upstream.
- 1 in 4 is a good rule of thumb.
- Get to know their seasons, harvesting during optimal times.
- Rinse in ocean water before drying.
- Dry in the Sun~ ultraviolet rays helps convert polyphenols to simple tannins, enhancing the flavour profile and increases digestibility.
- Maintains high nutrient profile up to 10 years dried.

Reds:

- Anti-Viral (Sulphated Polysaccharides) helps cells block penetration of virus
- Potassium, Protein, Vit. A
- Closely related to Fungi
- Traditionally used as antibiotic, vermifuge, antitumor, to treat goiter, cough remedy, wound healing, hydrating, gout, gallstones, hypertension, diarrhoea, constipation, dysentery, burns, ulcers, skin diseases, and lung diseases.
- Prebiotic oligosaccharides
- Highest protein
- Phycobilins: lutein and phycocyanin phycocyanin: antioxidant and antiinflammatory
- Can be useful for anti parasitic programs due to domoic and kainic acid.
- Gelling properties- high viscosity, stabilizing, emulsifying (although carrageenan and agar do not contain many bioactives).

Greens:

- Contains Ulvans which have similar properties to reds
- Sulfated polysaccharide; anti-viral.
- Immuno-modulating
- High protein
- Fat burning
- Highly antioxidant
- High omega 3's (cardioprotective, prevents osteoarthritis and diabetes.)



- Shown to inhibit tumor cell proliferation
- Highest in Magnesium and Iron
- Chlorophyll detoxifying, wound healing, blood building

Browns:

- Known for high iodine content- Iodine dosage is 5-15 gm/day (dried) or 1-2 tsp. powder average for an adult 145lb. On the higher side if drinking municipal water~ chlorine or fluoridated toothpaste, etc
- Alginates- binds toxins in the intestines and eliminates them efficiently, especially heavy metals and radioactive particles.
- Lowest protein content
- Fucoidan- Immune building/modulating, tumor shrinking, hormone balancing, suppresses of allergy response, anti-inflammatory, inhibits pathogens, anti-diabetic, Vit. D synthesis, similar composition to colostrum. Complementary vs. antagonistic to chemotherapy.
- Fucoxanthin- Fat burning (can successfully treat fatty liver).
- Prebiotic oligosaccharides shown to multiply healthy flora 13 fold.
- Among this category are the fastest growing organisms on the planet- Giant Kelp (up to 2ft/day!)
- Highest in Potassium and Calcium
- Special class of polyphenols highest in browns called Phlorotannins- a highly antioxidant, stabilizing flavonoid, also found to protect from UVB rays (both internal and external use)
- Carotenoids are antioxidants that build the immune system

Seaweeds contain all 8 **Glyconutrients**:

Responsible for communication on a cellular level.
Harmonizes bodily systems.

All 600 trillion cells need them for proper functioning.

Bind to proteins and fats to encase the cell structure with information.

Therapeutic Actions: clears heat, transform phlegm, soften hardness, and dissipate nodules. They can also promote urination and reduce edema.

Contraindications:

- Kidney problems- reds high in potassium
- Browns- surgery/warfarin, vitamin K content (blood thinner)
- Iodine- hyperthyroid or hashimoto's (still no verdict) *cooking seaweeds or using reds can minimize iodine content

Topical Use:

- Promotes collagen and elastin formation, simultaneously reducing it's degradation
- Tones and tightens the skin
- Moisturizes dry/brittle/frizzy hair
- Hydrating, nourishing, regenerative
- Increases brightness and vitality
- Stimulates local circulation, decreases cellulite
- Protects skin from the elements
- Regulates sebum, helping with acne

- Reinforces the hydrolipidic (protective) barrier of the skin
- Antioxidant activity
- Free radical scavenger
- Oligosaccharides in kelps (laminarins) have stimulating, regenerating, conditioning and energising effects on the skin.

Toxic species in our waters:

- Prionitis lanceolata (bleachweed)
- Desmarestia aculeata (acid kelp)

Toxicity concerns:

Iodine 131 (Radioactive iodine) has a short half-life of about 8 days, thus a radiogenic life of about 60 days. Storing seaweed dried for 60 days will ensure that seaweeds do not contain Iodine 131.

Other radioactive particles are heavy and are in deeper waters, bigger concern is with large fish.

Other interesting uses:

- Weather barometers
- Cervix dilators (Laminaria tents- saccharina)
- Roofs~ Asia and Northern Europe
- Fuel source
- Ear candling
- Garden fertilizer
- Basket weaving
- Animal Feed
- Cooling and moistening energetics; useful for hot, dry conditions and constitutions Chinese
- Seacell wool
- Fabric dye

RESOURCES:

Cookbooks: Irish Seaweed Kitchen, Prannie Rhatigan; Sea Vegetable Celebration, Shep Erhart & Leslie Cerier; The New Seaweed Cookbook, Crystal Maderia; The Seaweed Jelly-Diet Cookbook Guide, Clayton Tylor; Seaweed Soul, Larch Hanson; Extreme Greens: Cooking, Foraging, Cosmetics by Sally McKenna

Nutritional/Medicinal: Seaweeds edible, available & sustainable, Ole Mouritsen; The Thyroid Crisis and the Seaweed Remedy, Eleanor Kwei

Topical: The Seaweed Beauty Guide, Clayton Tylor

Studies: Seaweed: Ecology, Nutrient Composition and Medicinal Uses, Vitor Pomin

Websites:

- www.seaweed.ie
- www.isaseaweed.org/symposia.php
- <http://www.ryandrum.com/>
- <http://larchhanson.com/>



SEAWEED RECIPES

Seaweed chips

Such a great alternative to carb based chips- packing in a punch of minerals and other highly health enhancing compounds!

- 3-4 TB coconut or olive oil
- 1 40g pkg seaweed strips (Kombu is our favourite!)

Heat pan on medium, add and warm the oil, then add seaweed. Stir continuously until seaweed is crispy, and texture starts to bubble. Take off heat, let cool, and store in an airtight container if they're not all gobbled up right away!

Mexican Cortido Sauerkraut w/ Sea Veg

- 2 heads of cabbage, cut into quarters and sliced thin
- 2 large carrots, diced small or shredded
- 1 large onion, halved and sliced thinly
- 6 garlic cloves, minced
- 2-3 teaspoons Mexican oregano (or other oregano)
- about 3 1/2 tablespoons sea salt, or more to taste
- 4 tablespoons Sea Veg flakes

Finely chop cabbage, carrots, onion, and garlic. Add rest of ingredients and "knead" together until a good amount of juices start to flow. Pack mixture into a fermenting crock pot and add sterilized weights or rocks to ensure the juices rise above the kraut. Cover and let sit at room temperature for 2-3 weeks. Once it has fermented to desired taste and texture, put into jars and store in the fridge.

Seaweed Balls:

- 1 C tahini
- 2 TB miso
- 1 clove garlic minced dried 1 tsp
- 1/4 C Sea Veg
- 1/2 C hemp seeds
- 4 TB dried porcini mushrooms (or any favourite dried mushroom, finely chopped)
- 4 TB chopped olives
- pinch cayenne

Soak porcini's for 1/2 hour, then strain and lightly sauté. Once they are cool, mix above ingredients together and roll into balls.

1/2 C crushed soaked almonds or other crushed nuts/seeds

Roll balls in crushed nuts/seeds. Best served on a bed of lettuce.

Seaweed Omelette:

- 3 eggs
- Splash of water or milk
- 1 TB Sea Veg or favourite flaked seaweed

- 1/4 tsp. Garam Masala spice blend
- 1/2 C sauteed vegetables
- Olive Oil

Whisk together eggs, water or milk, spice, and seaweed. Heat pan, add oil, then egg mixture. Cover and let cook through on med-low heat. Once cooked, add sauteed vegetables to one side of the cooked egg, folding the other half over top. Voila!

Asian Flare Humous:

- 1 1/2 cups cooked chickpeas
- Juice of 1 Lemon
- 1/4 cup tahini
- 2 small garlic cloves, minced
- 3 tablespoons (30 ml) extra-virgin olive oil, plus more for serving
- 1 TB Miso
- 2 to 3 tablespoons water
- 2 TB Sea Veg or bull kelp flakes
- 1 TB toasted sesame seeds

In a vitamix or food processor, combine all ingredients except Sea Veg and Sesame Seeds. Once processed, put into a mixing bowl and hand mix in last two ingredients. Add more water for desired texture. Enjoy!!

Salad dressing:

Soaked Sunflower Seeds, Lemon Juice, Sea Veg or favourite Seaweed flaked, blend and use for salads or Buddha bowls.

Other Ideas:

- Pesto
- Dessert- pudding, cookies, cake
- Stirfry
- Borscht
- Corn Bread
- Chutneys/Salsas

PICKLED BULLWHIP RECIPE:

- 2 C apple cider vinegar
- 1 C apple cider
- 1/2 C grated fresh horseradish
- 1 small dried chile
- 1 TB yellow mustard seeds
- 2 cloves garlic
- 1 and 1/2 C dried sliced bullwhip stipes or 3 C fresh
- 1 tsp salt
- 2 TB honey

Combine all ingredients, cover with a weight. Cover with cheesecloth and a loose lid, leave in a cool dark place for 2-3 days. Add a little extra vinegar if using dried to keep bull whip submerged. Add salt and honey to adjust flavour.



Interesting Mechanisms of How Herbs Really Work

By Terry Willard ClH, PhD

To get a good understanding of how botanical remedies really work in us two legged, over intellectualized meat computers,^{12,13} we have to go way back in our history. I mean way back, to the beginning of our existence. Even though in our present forms we seem quite intelligent, mobile and rulers of our earthly realm, it was not always this way. What are we as biological beings?

A great and growing volume of facts about life as it goes on about us and within us becomes available for practical application ... [But] this new material is still imperfectly accessible to ordinary busy people.

This quote is a good description of biology's situation at the beginning of the 21st century. However, it was written almost 100 years ago by H. G. Wells, in his book *The Science of Life*.¹⁴

(1929–30, giving a popular account of all major aspects of biology as known in the 1920s. It has been called “the first modern textbook of biology”)

Though life as we know it developed relatively late in the universe's history, the origins of Earth and the Universe are important to fully understanding the pattern. The universe is between **10 and 20 billion** years old and said to have begun at a moment called the **Big Bang**. The current scientific community considers the Universe starting with the big bang 13.8 billion years ago. The Maya state 16.7 billion years ago on Stele 26 in Coba, Mexico. I trust the Maya version more, but they are both at least in the same order of magnitude.

Our Sun is about **5 billion** years old. The Earth was formed from an accumulation of cosmic dust about **4.6 billion** years ago. The early Earth, shortly after its formation, was an inhospitable place that could not have supported “life” by any definition we might use today. However, **3.5 billion years** ago (approximately **1 billion** years after its formation), the Earth was teeming with life in the form of organisms that resemble modern-day bacteria. This development was extremely fast, especially considering that the molten Earth needed half a billion years to cool enough to form a solid rock surface. Some biologists now think that there is evidence for life even earlier, at about 4 billion years ago. In any case, life appeared on Earth as soon as it was possible.

1. Most scientists now think that life **arose spontaneously from non-living matter**.

¹² <https://www.prnewswire.com/news-releases/discovery-institute-are-humans-simply-meat-machines-300865749.html>

¹³ <https://www.youtube.com/watch?v=CbsNVH6ceNw>

¹⁴ H. G. Wells, Julian Huxley and G. P. Wells, published in three volumes by The Waverley Publishing Company Ltd.

2. Many religions believe that life was bestowed on non-living Earth by a **deity**.
3. Some scientists suggest the **panspermia hypothesis**, which says that the original life on Earth arrived here from another planet.

Both of these last 2 alternatives, ignore the question of how living matter could emerge from nonliving matter. The first does not fit into a vitalist's concept, but the others do.

MOST SCIENTISTS NOW THINK THAT LIFE AROSE SPONTANEOUSLY FROM NON-LIVING MATTER.

Arising spontaneously from non-living matter¹⁵ – In the 1920s, Alexander Oparin and J. B. S. Haldane suggested that Earth's early atmosphere had little oxygen—that it was composed primarily of hydrogen, methane, and ammonia. This composition would be conducive to spontaneous production of organic molecules. Miller tried to reproduce early Earth conditions with an apparatus that used heated water in one flask (the “ocean”) and another flask (the “atmosphere”) that contained hydrogen, methane, ammonia, and water vapor. Miller also exposed the gases in the “atmosphere” to electrical energy to mimic lightning, volcanism, and ultraviolet radiation. Within a few days, Miller's apparatus had synthesized a wide range of organic compounds, including such complex ones as amino and nucleic acids. Research following Miller's original experiment has shown that all major classes of organic compounds can be synthesized under early Earth conditions. However, molecules synthesized this way are still rather simple compared to the compounds that make up living things. Besides the ability to synthesize more complex compounds, three additional things are required to create life:

1. We need to be able to **make more of any compound at any time**, without relying on random chemistry, which may not (by its own doctrine) produce the same compound every time
2. We need a **method of combining and organizing compounds** into larger functional units
3. We need to find a way to **accumulate and store energy**, because living things do not rely on lightning or volcanism to power themselves.

Another characteristic of living systems is that they are organized in a **hierarchical fashion**, from molecules to cells, to organisms, to communities of species, **to ecosystems**. At the same time, three unifying principles that cut across all levels of organization form a useful way to look at systems as a whole.

1. **Information and Evolution**, which explores how the structure and organization of living things is encoded in the DNA molecule, how this information is transmitted

¹⁵ Stephen Nowicki: Biology: The Science of Life; The Teaching Company, LLC (P)2004 The Great Courses



and modified, and the implications of these processes for understanding life at all scales of organization.

2. **Development and Homeostasis** which considers two related issues for understanding the workings of complex organisms: how single cells (i.e., fertilized eggs) proliferate and transform into complex, multicellular organisms and how the various parts of complex organisms remain coordinated and maintain their integrity in the face of various challenges.
3. **Energy and Resources**, which explains how living systems obtain the energy and other materials needed to maintain their highly ordered state and the implications of these processes for understanding the organization of biology at all levels of scale. This principle is especially interesting because it dictates the structure of all levels of organization.

From my point of view, this **randomly** arising spontaneously from non-living matter is completely unsupportable. Life cannot just be a random accident of chemicals running into each other. Even though it is the basis of most scientific timelines, it just doesn't hold up. Upset for the non-vitalists.

DEITY

Many cultures and religions have creation stories that include a single or a group of Deities, breathing the breath of life into non-living matter to animate Life.

A group of Scientists tell God that they can make life without God, so he can now retire. He/She/ It is not needed anymore. They go about giving a demonstration. 'First, we take water and dirt . . .', God interrupts. 'Wait a second, use your own water and soil.'

PANSPERMIA HYPOTHESIS

Side-stepping the issues and believing that life came from another realm of our galaxy, arriving on earth intact enough to start the process of life on its evolutionary path. Of course, this makes us and the whole level of creations on earth – ETs!

Well we are not going to solve which of these mechanisms or combinations started the evolutionary climb to today's life, so we can put a pin in trying to figure out 'who cut down the cherry tree' and look at the process itself.

But let us say 2 wins for the vitalists and 0 for the non-vitalist.

So somewhere around **3.8 and 3.5 billion** years ago the earth started teaming with one-celled organism. It was at about the **2 billion** years ago that the first **Eukaryotic cells** – cells with internal "organs" (known as organelles) – come into being. One key organelle is the nucleus: the control centre of the cell, in which the genes are stored in the form of DNA.

It wasn't until about **900 million years** ago that the first multi-cell organism arose. This means that over 75% of the length of the existence of life on this planet has been as single-celled organisms.

530 million – first true vertebrate – an animal with a backbone – appears **500 million** Fossil evidence shows that animals were exploring the land at this time

465 million years ago – Plants begin colonising the land.

400 million years ago – The oldest known insect lives around this time. Some plants evolve woody stems.

397 million years ago – The first four-legged animals, or tetrapods, evolve from intermediate species such as Tiktaalik, probably in shallow freshwater habitats.

The tetrapods go on to conquer the land, and give rise to all amphibians, reptiles, birds and mammals.

180 million years ago – first split occurs in the early mammal population.

168 million years ago – A half-feathered, flightless dinosaur called Epidexipteryx, which may be an early step on the road to birds, lives in China.

130 million years ago – The first flowering plants emerge, following a period of rapid evolution. **47 million years ago** – The famous fossilised primate known as "Ida" lives in northern Europe.

40 million years ago – New World monkeys become the first simians (higher primates) to diverge from the rest of the group, colonising South America.

25 million years ago – Apes split from the Old-World monkeys.

18 million years ago – Gibbons become the first ape to split from the others.

14 million years ago – Orangutans branch off from the other great apes, spreading across southern Asia while their cousins remain in Africa.

7 million years ago – Gorillas branch off from the other great apes.

6 million years ago – Humans diverge from their closest relatives; the chimpanzees and bonobos.

Shortly afterwards, hominids begin walking on two legs.

200 thousand year ago – *Homo sapiens* arrived less than 10,000th of a percent since first one cell organism arrived

When taking a giant step backward and looking at the timeline; it is evident that **evolution** is the driving force moving

life towards creating **ecosystems**. This would mean there is an underlying communication system (signal) guiding the process.

Looking at microorganisms as over 75% of this process, and also due to the fact that multicell organisms have an abundance of microorganism (in their personal ecosystem) that there has to

be some form of communication both intraspecies and interspecies. This signaling system seems to be key to our whole question.

It is All about Signaling

HOW MEDICINES WORK

We can see that the explanation for how medicines work goes along the same argument as the scientific discussion of our timelines of celestial and living evolution but just on a tighter ecosystem – the human body – A fractal relationship

If it is all about the signal to create communication, let's look at how modern medicine has modelled this.

Random Chemical Interaction – Certainly in the 1950 – early 1970s (but still used today) the explanation of how medicines worked was this: The medicine just bounced around the body until it randomly found a place to work and worked there. This might be true for a few single constituent remedies. If a person has a calcium deficiency, then you take calcium. Since most

pharmaceutical products are single constituent products, this seemed to be a good enough for their claims. The thing is, I have never found a patient with a Prozac or Valium deficiency. And even if a person had a calcium deficiency, there is a pretty complex mechanism, which includes

lots of other chemicals, to start building up the bones. There is no mention of this complex mechanism in this model of life. It is a random spontaneous action of non-living matter.

Does this sound familiar?

This level of signal transference is like randomly running into a person while out and about that randomly **talks** to you about the information you need to hear, through oral communication (signal), to solve an issue you were wondering about. It is possible, but I wouldn't want to run my life that way.

Biochemical Pathways – In the 1960 – 80's the educational system started to work more with biological pathways. This meant the constituent (calcium or Prozac) was metabolized along an organized biochemical pathway to help target the signal.

This idea is like **going to a conference** and attending a specific lecture or running into a certain expert at the conference that gives you an idea that you were looking for.

This communication or signal seems random, but occurs within pretty tight perimeters.

We now start to see the communication of the signal to be important in control systems. The two biggest control systems in the body are:

1. Endocrine – hormonal
2. Neural

Receptor sites – little packets of information travelled like letters that could only be read by certain receptor sites. This means hormones (or other chemicals) could travel along regular pathways (the blood circulation system) and once the information got to suitable readers (receptor sites) the signal could be unpacked and transferred.

Just like in the **mail system**, a single letter from a colleague or a Lover can contain all kinds of information that can start into motion a set of reactions (both intellectual and emotional). The communication is rather slow (snail mail) and infrequent but can deliver a tremendous amount of information. The receiver can digest this information and send out feedback to the signal received.

Neural Communication – here the communication is similar to **telephones**, where there are wires connecting each phone to a grid, creating two-way communication. This is better for communication as it is basically instantaneous with a packet of most of the information that would come from a letter, but with a slightly different 'feeling'.

ECS – The Endocannabinoid System is a relatively newly discovered communication system within the body. It is named after cannabinoid receptor sites, as that is where it was first discovered. It is a very sophisticated whole body communication and controls system. We now know that many other botanicals also use this signaling system. The ECS is above both the nervous system and endocrine system of communication and control.

I like to think of this system as like the **internet**. It can combine both the mail service and the phone service, but steps it up a few octaves, with lots of bonus material. Now we get a full service communication system. This comes with not only packets of information, it comes with YouTube, Netflix, Facebook and Zoom all wrapped up in the signal. Both good and bad!

The thing is that the signal can go along 'wires' as in LAN lines but can also communicate wirelessly as if the communication is both 'WIFI' and 'Bluetooth' capable. Single ingredients can turn on a whole set of instructions.

Welcome into the 21st century

I like to consider this both travelling along wires and creating an electromagnetic field around the organism. This helps



explain acupuncture, energy work, chakras, auras and whole fields of both ancient and modern healing technologies.

Turmeric and piperine as an example.

Transdermal ointments

Living crystal ideas

This also starts to explain all kinds of additional botanical preparations like sublingual, low dose specifics, Flower Essence and Homeopathic. These delivery mechanisms help the remedies tune the signal into specific frequency zones.

Ecosystem Communication – As herbalists one of our higher goals is to fit nicely and cleanly into our **larger ecosystem**. In a human our ecosystem is ourself and our community of trillions of **microorganisms**. Some botanicals and other medications can send signals to the microorganisms in our body. These microorganisms can signal their cousins and, in many cases, other species, to produce distance healing. Most likely some of this is via the ECS.

Turmeric and Wobenzym work on the microorganism in the GIT and reduce inflammation in muscles and joints in our peripheral system.

CBD and THC work on pain and inflammation.

Microorganism Lives Matter Too

I know at first this seems to be putting a lot on the 'shoulders' of the microorganisms. But there have been thousands of papers on how both intra- and interspecies communication (signaling) is achieved by various frequencies of the electromagnetic spectrum from radio waves to photons and x-rays.

An analogy is Reishi marching into GIT singing Hallelujah, hallelujah and handing out sugars from their polysaccharide as pre-biotics.

There is more information travelling from the immune system in the GIT, via the vagus nerve to the brain, than from the brain to the GIT.

The thing is that microorganisms have been using these electromagnets frequency systems for a lot longer than we have. Remember they ruled for over 75% of our history (if not still and we just don't want to admit it).

In fact, they use this signaling system for **marketing** and **recruiting**. Advertisements from biofilms.¹⁶ They can also spread all kind of **false news**. There are over 3,000 papers on how biofilms can create 'false news'.

Ya, we are really in the 21st century now

16 Habimana O, Casey E. Biofilm recruitment under nanofiltration conditions: the influence of resident biofilm structural parameters on planktonic cell invasion. *Microb Biotechnol*. 2018;11(1):264-267.

Lesson: Stay in your lane, fill your channel with messages that support you.

The concepts of this song vibration of botanical remedies was first introduced to me by Don Antonio (Jaguar, shape-shifting shaman of Peru) and sent me down the path of sounds of Plants medicine. Each plant and each constituent has its own song, blending together in a choir of an ecosystem. If the ecosystem is healthy, the music is beautiful. If it is imbalanced, it is not as melodious.

A list of plants that function on the ECS.¹⁷

17 Russo EB. Beyond Cannabis: Plants and the Endocannabinoid System. *Trends Pharmacol Sci*. 2016 Jul;37(7):594- 605. doi: 10.1016/j.tips.2016.04.005. Epub 2016 May 11. PMID: 27179600.

COVID 19 Panel

Building immune resilience and managing post-viral fatigue syndrome

Talal Al-Hamad, Todd Caldecott, Chad Cornell, William Morris. Moderated by Chanchal Cabrera

A healthy functioning immune system requires that it be

- c) Detective and defensive – proactive and preventative
- d) Internally regulated – switch on and switch off
- e) Restorative – healing and rejuvenating
- f) Tolerant of non pathogens e.g. food, pollen

immune system has 4 primary levels or layers

1. **barrier immunity** – mucus, sweat, the skin itself and the linings of the gut, lung and urogenital tract, the vomiting reflex and cough reflex, the microbiome of the skin and the gut

barrier immunity works as a preventative in the moment of threat from a pathogen
 - Building resilience increasing the integrity of the barrier
 - Stomach acid, mucus, epithelial integrity of gut or respiratory passages - pictures, digestive enzymes, mucilage, connective tissue repair (gotu kola, calendula, liquorice)
 - mast cell stabilization (chamomile, nettle leaf, ephedra, baical root, albizzia bark, quercetin, luteolin, forskolin)
2. **innate immunity** - chemotactic agents, neutrophils, MALT, GALT (antigen presenting cells that give bits of pathogen to T cells for initiating response)

takes around 4 hour's to effect a response at this level and may last days or weeks

Enhancing innate immunity –
 - quick fix with immune stimulants e.g. echinacea, baptisia, Ligustrum lucidum (privet)
 - anti-microbials – garlic, Oregon grape, goldenseal, pau d'arco, lomatium
 - deeper repair with tonics – mushrooms, astragalus, codonopsis (used after acute infection resolved)
3. **inflammation and fever** - involves monocytes and macrophages

takes around 6 hours to three days to activate. Necessary and useful but must be controlled and stopped before tissue damage occurs
 - Diaphoretics - Yarrow flower, elderflower, boneset, ginger, peppermint
 - Mediators of inflammation through regulating COX and LOX - willow, meadowsweet, turmeric, omega 3 fish oils, evening primrose oil, capsaicin, baical, feverfew,

green tea catechins, reveratrol, melatonin, carnosol a diterpene from Rosemary, carvacrol a monoterpene from oregano

- Proteolytic enzymes - bromelain, serrapeptase, nattokinase, lumbrokinase

4. **acquired immunity / specific immunity** - presentation of an antigen to lymphocytes what will generate either Th1 (cell mediated) immunity using the T cells and the cytokines they produced, or Th2 (humoral) immunity involving B cells and antibodies.

- move lymph to induce acquired immunity - cleavers,
- stimulate and activate lymphocytes - poke root, mistletoe
- spleen tonic – ceonothus

Researchers have found many other types of acquired immune lymphocyte strains including Th17 which specifically produces an interleukin 17 cytokine. This mediates the gut mucosal immunity and promotes chronic inflammatory responses including autoimmune diseases like ulcerative colitis or Crohn's disease.

To downregulate Th17 - Retinoic acid, statins, triptolide a diterpene from Thunder God Vine *Tripterygium wilfordii*

Another driver of chronic inflammation is the transcription factor called nuclear factor Kappa beta. It is upregulated by sugar, tobacco and obesity and is a key driver of metabolic syndrome and cancer.

To downregulate and inhibit this transcription factor

- calorie restriction
- Omega-3 fats and fish oils
- Lipoic acid
- N acetyl cysteine
- Vitamins C&E
- Pomegranate, echinacea turmeric green tea feverfew, baical, boswellia
- Quercetin

COVID PATHOLOGY

- ACE2 receptors in many tissues – involved in regulating blood pressure and vasoconstriction/ dilation
- Target for docking of Corona virus, hence widespread or systemic tissue effects
- Cytokine storm – over reactivity of immune system and tissue damage as a result
- Vascular endotheliitis

higher risk

- hypertension
- diabetes
- heart disease
- immuno-compromise



Consequences of infection (acute emergency situation)

- acute respiratory distress syndrome (lie prone)
- vasculitis, blood clots and coagulopathy
- kidney failure (avoid NSAIDs)
- children - rash, high fever – Kawasaki like syndrome

Postviral fatigue syndrome

Fighting off a strong infection can leave you run down, debilitated and depleted, and no amount of sleep seems to fix it. Long after the virus is gone you can be left struggling to recuperate and at risk of relapse.

People who have suffered a severe infectious disease will often report fatigue, low stamina or endurance, Slow recovery or recuperation, possibly sensory overload from noises or bright lights or hectic activities. In the case of COVID-19 this may be quite extreme and exacerbated by polymyalgia, extreme lung damage and by a strange array of peripheral vascular damage.

Hospitalized patients in Wuhan, China - survivors had a range of complications: 42% had sepsis, 36% had respiratory failure, 12% had heart failure, and 7% had blood clotting problems.

Digestive system, heart, kidneys, liver, brain, nerves, skin, and blood vessels can all be involved

Possible long term consequences

- kidney damage may require long-term dialysis
- strokes and blood clots may lead to disability
- scarred lungs may lead to permanently decreased lung function
- liver damage from drug therapies

A strange metallic taste, tingling in the arms and legs, muscle weakness, nerve pain, agonising headaches, severe fatigue, numbness, heart palpitations, back pain, chronic shortness of breath, gastrointestinal disorders, a sore throat, brain fog, conjunctivitis, blurred vision and more.

Possible natural treatments

- Immune tonics - deep repair with mushrooms, astragalus, codonopsis
- Lymphogogues- ceanothus, cleavers, calendula, violet
- Adaptogens - liquorice, eleuthero, luzea. Reserve the stimulating adaptogens like rhodiola and ginseng for occasional use if an extra push is needed
- Brain tonics that are not sympathomimetic - gotu kola, rhodiola, ginkgo, periwinkle, oat seed, holy basil, bacopa, lions mane,
- Cardio-vascular restoratives – hawthorn berry, bilberry leaf, horse chestnut, yarrow leaf and flower, linden, butcher's broom, ginkgo, prickly ash
- Psychospiritual approach to raise the spirits and prevent depression - verbena, damiana, rose, holy basil, chamomile, lavender, Albizia julibrissin

- vitamin D 5000 – 10,000 iu
- vitamin A 5000 – 20,000 iu
- vitamin K2 100 mcg,
- zinc 50 mg
- omega 3 fats for prostaglandins
- probiotics, bone broths

Other restorative strategies

- deep, deep, restorative and rejuvenating sleep
- quiet time in nature, sunshine
- walking barefoot on the dewy grass or on the beach
- toning and crystal bowls
- spending time with pets and animals
- gentle stretching and exercise
- nutrient dense, high protein foods and good fats
- probiotics, prebiotics
- cacao – blood pressure regulator, anti-oxidant, anti-inflammatory
- mushrooms (reishi, lions mane, maitake and many others)

Sustainability and Ethical Harvesting Panel

Connie Kehler, Patrick Kooyman, Yarrow Willard, Todd Caldecott, Krista Poulton. Moderated by Colleen Emery

- <https://www.dropbox.com/s/cudhocryxkoo3p6/Best%20Practices%20for%20introducing%20a%20new%20crop%20%282%29.pdf?dl=0>
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