

# ACTIONS OF HERBS

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## BASIC ACTIONS OF HERBS

- The study of the “Actions” of herbs is a practical and effective method of practicing herbal medicine.
- Herbs may be selected based on the basic “Actions” desired such as:
  - \* Warming or cooling
  - \* Stimulating or sedating
  - \* Antimicrobial, Antispasmodic, Anti-inflamm. Etc.
  - \* Cholagogue, cell proliferator, anti-histamine etc.

ALL ARE VALID METHODS OF PRESCRIBING

## IMPORTANT ACTIONS OF HERBS

- ANTIMICROBIALS
- ANTISPASMODICS
- ALTERATIVES
- ADAPTOGENS
- CARMINATIVES
- NERVINE
- DIAPHORETICS
- COUNTER IRRITANTS
- DEMULCENTS
- IMMUNE MODULATORS
- STIMULANTS
- SEDATIVES
- HEMOSTATICS
- ASTRINGENTS
- VULNERARY
- TROPHORESTORATIVE
- GALACTAGOGUE
- LYMPHOGOGUE
- SECRETOGOGUE
- BLOOD BUILDER
- BLOOD MOVER
- BLOOD PURIFIER
- CHI TONIC
- TISSUE PROTECTANT
- CONNECTIVE TISSUE TONIC
- DIURETIC

## ANTIMICROBIALS Based on Tissues and Organs

### ○ TOPICAL ANTIMICROBIALS:

\* *Tea Tree and many essential oils, Achillea, Calendula, Hydrastis,*

### ○ DIGESTIVE ANTIMICROBIALS:

\* *Allium, Mahonia, Hydrastis, Matricaria, Croton, Glycyrrhiza*

### ○ URINARY ANTIMICROBIALS:

\* *Arctostaphylos, Barosma, Vaccinium, Calendula, Asparagus*

### ○ RESPIRATORY ANTIMICROBIALS:

\* *Allium, Lomatium, Thymus, Eucalyptus, Sambucus,*

## ANTIMICROBIALS Based on Microbial Type

- ANTI-BACTERIALS:

- \* *All essential oils, Achillea, Hydrastis, Mahonia,*

- ANTI-VIRALS:

- \* *Allium, Mahonia, Sambucus, Lomatium, Hypericum, Melissa*

- ANTI-FUNGALS:

- \* *Allium, Berberine containing plants, Juglans, tannins, sulphur*

- CELL BARRIER SUPPORT:

- \* *Sambucus, Calendula, Equisetum, Asparagus, Althea,*

## ANTIMICROBIAL Essential or Volatile Oils

- ESSENTIAL OILS SUITABLE FOR TOPICAL USE, UNDILUTED:

- *Tea Tree, Lavendar, Mentha, Rose, Sandalwood*

- ESSENTIAL OILS TO DILUTE AND RUB INTO THE CHEST FOR BRONCHITIS, PNEUMONIA:

- *Thymus, Oregano, Eucaplyutus, Rosemary, Pine, Fir*

- ESSENTIAL OILS TO RUB INTO THE ABDOMEN FOR INTESTINAL INFECTIONS, NAUSEA AND VOMITING:

- Mint, Fennel, Dill, Ginger*

## CALENDULA



## HYDRASTIS



# MAHONIA- Oregon Grape



# Mahonia





***Vaccinium* - CRANBERRY**



***Arctostaphylos uva ursi***



## *Allium sativum* – Garlic



## *Thymus vulgaris* - Thyme



## STIMULANTS

- Various plants may specifically stimulate the nervous system, the eliminative organs, the blood circulation, glandular secretions, and basic metabolic functions.
- Many hot, spicy, alkaloidal, and slightly toxic plants tend to be the most stimulating.
- Following are several examples of specific herbal stimulants.

## NERVOUS SYSTEM STIMULANTS

- Caffeine and other methylxanthines promote adrenergic activity
- *Gingko* and *Vinca* promote cerebral circulation and general neurotransmission.





## DIGESTIVE STIMULANTS

- Cholagogues promote bile production and flow
- Many bitter herbs are thought to promote bile and HCL production
- Anthraquinone agents promote peristalsis - in a harsh way if not used correctly



## CIRCULATORY STIMULANTS

- *Ginkgo, Vinca, Achillea, Angelica...* can have vasodilating effects that promote circulation and perfusion.
- *Zingiber, Capsicum, Cinnamon...* can have platelet anti-aggregating effects.



## SECRETORY STIMULANTS

- *Glycyrrhiza* promotes intestinal goblet cell mucous secretion
- *Iris versicolor* promotes bile, saliva, and HCL secretion.
- *Pilocarpus* promotes lachrymal, sweat, salivary, and intestinal secretions.



## METABOLIC STIMULANTS

- *Capsicum* promotes cellular ATP production
- *Commiphora mukul* promotes iodine uptake and thyroxine production.
- Methyl xanthine, forskolin... promote cAMP and signal transduction



## ANTISPASMODICS

- Antispasmodic herbs can be used for musculoskeletal pain, spasm and stress-induced tension.
- Various antispasmodics may have specific affinity to vascular and cardiac muscle, digestive smooth muscle, or respiratory/bronchial smooth muscle.
- Many antispasmodics are also nervines, useful for stress, tension, anxiety, and sleep disorders.

## MUSCULOSKELETAL ANTISPASMODICS

- *Piper methysticum*
- *Dioscorrea*
- *Piscidia*
- *Valerian*



## BRONCHIAL ANTISPASMODICS

- *Lobelia*
- *Tussilago*
- *Drosera*
- *Thymus*
- *Khella*



## GASTROINTESTINAL ANTISPASMODICS

- *Mentha*
- *Matricaria*
- *Foeniculum*
- *Zingiber*
- *Glycyrrhiza*



## CARDIOVASCULAR ANTISPASMODICS

- *Lobelia*
- *Mentha*
- *Angelica*
- *Gingko*



## UTERINE ANTISPASMODICS

- *Viburnum*
- *Angelica*
- *Matricaria*
- *Lobelia*
- *Dioscorrea*





## URINARY ANTISPASMODICS

- *Piper methysticum*
- *Lobelia inflata*



## ALTERATIVES

- Alteratives are foundational herbs in the treatment of many ailments because they enhance digestion, elimination, and support the liver in conjugating hormones, clearing wastes and toxins.
- In general, many bitter roots of the Aster family have an alterative action.
- Alterative improve hormonal balance, digestion, liver function, skin disease, and chronic infections.

## *Taraxacum officinale*



*Silybum marianum*



*Rumex oblongata*



*Mahonia aquifolium*



*Chelidonium*





*Arctium lappa*



*Achillea millefolium*





## ADAPTOGENS

- Adaptogens are another foundational prong of many herbal formulas.
- Adaptogens act on the adrenal gland and HPA axis improve stress response and corticoid balance.
- Adaptogens are useful for fatigue, adrenal hypofunction, stress and anxiety, sleep disorder, dysglycemia, reproductive and thyroid hormone dysfunctions, including menopause, infertility, low sperm count, and muscle wasting.

## ADAPTOGENIC HERBS

- The most well studied and used adaptogens include:
  - *Panax ginseng*
  - *Eleutherococcus*
  - *Glycyrrhiza glabra*
  - *Withania somnifera*



## CARMINATIVES

- A carminative is an herb capable of dispelling gas and bloating from the stomach and intestines.
- Mint, Chamomile and most Apiacea family spices including fennel, anise, and cilantro are carminatives.
- When gas and bloating are due to hypochlorhydria and/or biliary insufficiency, the hotter spices such as Cayenne, Ginger, Cinnamom, and Black Pepper may have a carminative effect.

## The Relaxing Carminatives

- Reduce cramps, bloating, and nausea and include
- *Mentha*
- *Matricaria*
- *Foeniculum*
- *Pimpinella*

These may all be used as topical essential oils for infantile colic or spastic colon.



## The Stimulating Carminatives

- Many of the “hot” culinary spices will soothe nausea, indigestion, and bloating when do to malabsorption, fermentation, hypochlorhydria, and biliary insufficiency.
- Combine with the relaxing carminatives and alteratives for best results.



## DIAPHORETICS

- A Diaphoretic is an agent that promotes sweating, and is also referred to as a sudorific.
- Diaphoretics are not needed as often as Alteratives and Adaptogens, but can be very useful in treating mucous congestion, cold damp conditions, treating sinus, lung infections, treating systemic viral infections, and “breaking” fevers.
- Diaphoretics may be combined with saunas and hydrotherapy for powerful anti-infective and decongestant effects.

## DIAPHORETIC HERBS

- Diaphoretics are best consumed as a hot tea in a hot bath.
- *Achillea millefolium*
- *Sambucus nigra* flowers
- *Nepeta cataria* leaves
- *Zingiber* root
- *Armoracia* root



## COUNTER IRRITANTS

- A “counter irritant” is an agent with an irritating effect on the skin, oral and respiratory mucosa, throat, digestive passages, or urinary organs.
- Counter irritants are used in very small quantities to stimulate circulation, secretion, peristalsis, glomerular filtration, or mucocilliary apparti.
- Such stimulation is desirable in situation of chronic deficiency and stagnation.
- Counter irritants are avoided in acute infections and inflammation

## SKIN COUNTER IRRITANTS

- *Sanguinaria*
- *Podophyllum*
- Pine tar
- Tar and Resins in general



## RESPIRATORY COUNTER IRRITANTS

- *Lobelia* and *Capsicum* are a classic combination for chronic bronchitis
- *Armoracia* will irritate/stimulate the nasal mucosa, useful in formulas for chronic congestion with tendency to sinusitis.





## URINARY COUNTER IRRITANT

- *Juniperus communis* is an example of an herb that will increase glomerular filtration and reduce stones, debris, and chronic UTI in the elderly or those with sluggish renal function.
- Avoid in acute infections or inflammation.



*Juniperus communis* L.  
Image processed by Thomas Schoepke  
[www.plant-pictures.de](http://www.plant-pictures.de)

## MUSCULOSKELETAL COUNTER IRRITANTS

- Bee venom and Nettle flagellation are folkloric remedies for chronic arthritic and rheumatic pain.
- Stimulating a brief inflammatory response may trigger immune and circulatory response that improve pain long term.



## DEMULCENTS

- Demulcents soothe and soften the skin and mucous membranes.
- Demulcent promote healing of skin wounds and ulcerative lesions.
- Demulcents soothe pain of peptic, duodenal, intestinal and urinary lesions and ulcers, and promote healing of the lesions.
- Many mucilagenous agents in plants have demulcent actions.

## DEMULCENTS

- Demulcent mucilagenous herbs include:
- *Athea* species
- *Glycyrrhiza glabra*
- *Tussilago farfara*
- *Symphytum officinale*
- *Aloe vera*
- *Avena sativa*



## DEMULCENTS

- For best effects on throat, esophageal, peptic, duodenal, and urinary ulcers, consume demulcents as teas to provide surface contact with the lesions.



## IMMUNE MODULATORS

- Immune modulators both improve immune deficiency states and chronic infections, as well as may reduce hyper-immune responsiveness and allergic disorders.
- Through improving WBC cytokine response, immune recognition and cell to cell communication, other immune signaling pathways, both hypo- AND hyper- immune states may improve.
- Many immune modulators contain “immune” polysaccharides.

## IMMUNE MODULATORS

- o Immune modulators include *Panax ginseng*, *Astragalus* and *Echinacea* species, and many medicinal mushrooms such as *Lentinus*, *Ganoderma*, *Cordyceps*, and *Coriolus*.



## IMMUNE MODULATORS

- o Immune modulators can be taken in tea, tincture and capsule form for many months to improve chronic infections, retroviral infections, chronic fatigue, allergies, chemical sensitivity, and possible auto-immune diseases.



## PANAX GINSENG



## ASTRAGALUS MEMBRANACEOUS





## DIURETICS

- Folkloric herbal literature classifies Diuretics as being Hydrogogues (water movers) and Renal Depurants (agents that increase the renal excretion of dissolved waste).
- Diuretics may be classified into 4 Categories:
  - Stimulant Diuretics – Caffeine
  - Irritant Diuretics – Juniper
  - Osmotic Diuretics – Althea
  - Perfusion Enhancing Diuretics – *Gingko, Salvia milt.*

## STIMULATING DIURETICS

- Stimulant Diuretics  
Such as Caffeine, have adrenaline effects that increase GFR rate via increasing cAMP driven cellular metabolic function.



## IRRITANT DIURETICS

- Irritant diuretics promote GFR via irritating effects on renal cells.
- Irritant diuretics can be used in small amounts combine with more nourishing herbs for renal failure and sluggish renal functions.

- Juniper is an example of an irritant diuretic.



## OSMOTIC DIURETICS

- Large mucilagenous molecules reach the kidneys via blood circulation and are not resorbed out of the renal tubules, and cause more water to be retained osmotically.
- Althea is an example of a mucilagenous osmotic diuretic.



## PERFUSION ENHANCING DIURETICS

- Agents that enhance circulation and perfusion to the kidneys will enhance GFR.
- *Angelica*, *Ginkgo*, *Salvia miltiorrhiza* may improve renal function in cases of renal failure and nephropathy.



## NERVINES

- A Nervine is a broad term implying a tonifying action on the nervous system.
- Nervines may be further classified as:  
Sedating Nervines – Kava, Valerian, Passiflora  
Stimulating Nervines – Thea, Bacopa, Rosemary

Nervines are used to calm anxiety, panic and tension,  
 As well as to improve melancholy, depression, and fatigue.

## 63 SEDATIVE NERVINES

- Sedative nervines can be used regularly for those with anxiety and panic disorders.
- Sedative nervines can be used when need for those who somatize stress with tension HA and physical symptoms.
- Sedative nervines can be used before bed for insomnia.



## 64 STIMULATING NERVINES

- Stimulating nervines can be included in formulas for:
  - Depression
  - Fatigue and lethargy
  - Poor concentration associated with adrenal dysfunction
  - Dementia and senility

Green Tea – *Thea sinensis*



65

## NERVINES CATEGORIZED BY MODERN MOLECULAR RESEARCH

Modern molecular research has demonstrated folkloric Nervines to work by a number of mechanisms including:

- HPA Axis effects on cortisol, CRH, and stress response
- MAO and COMT enzyme effects
- Neurotransmitter effects such as SSRI, Dopaminergic, cholinergic, GABAergic etc.



## NERVINES THAT ACT VIA HPA AXIS

Adaptogens and Adrenal Tonic herbs can help balance stress hormones and both improve deficient adrenal function and reduce adrenaline surges.

Adaptogenic herbs can be foundational in formulas for both depression and anxiety.

Adaptogens include:

- *Panax ginseng*
- *Withania somniferum*
- *Eletherococcus*
- *Glycyrrhiza*



66

Withania somniferum



67

## NERVINE MAO INHIBITORS

Monoamine oxidase and Methyltransferase enzymes degrade neurotransmitters in the synaptic cleft.

Inhibiting these enzymes will increase neurotransmitter activity in general.



*Hypericum* is the most studied enzyme inhibitor

68

## DOPAMINERGIC NERVINES

- Dopaminergic nervines can improve both anxiety and depression.
- Dopamine also controls pituitary gonadotropins, thus many of these herbs also have hormonal effects.
- Dopaminergic herbs include *Hypericum*, *Actae*, *Verbena*, and *Melissa*



69

## CHOLINERGIC NERVINES

- Herbs that promote acetylcholine neurotransmission can improve mental clarity in formulas for dementia and poor concentration.

- Cholinergic herbs include

*Rosmarinus*

*Salvia officinalis*

*Bacopa*



70

## GABANERGIC NERVINES

GABA is the primary inhibitory neurotransmitter and GABAergic herbs have calming and relaxing effects.

GABAergic herbs include:

*Hypericum perforatum*

*Piper methysticum*

*Passiflora incarnata*

*Valerian stichensis, offic.*



## HEMOSTATICS

- Hemostatics are also known as Styptics when used topically. Hemostatics and Styptics are generally high tannin herbs with broad astringent effects.
- Hemostatics can control bleeding when applied topically
- Hemostatics can help arrest bleeding from the bowels such as bleeding ulcers and severe colitis when consumed orally as tincture or tea.
- Herbs with hemodynamic effects that vasoconstrict the pelvic vasculature and vasodilate peripherally, can also control uterine hemorrhage and gastrointestinal bleeding.

71

## HEMOSTATICS and TANNIN ASTRINGENTS

High tannin hemostatics include:

- *Hammamelis* –Witch Hazel
- and *Geranium* species
- Both work well topically to astringe bleeding and weeping secretions, and internally as tea to control bleeding ulcers and bleeding from the bowels.



73

## HEMOSTATICS

- Peripheral vasodilators that simultaneously constrict uterine vessels can be included in formulas for menorrhagia.

*Achillea millefolium* acts in this way, plus contains tannins.



COMMON YARROW  
*Achillea millefolium* L.  
Anem. Flacum.

74

## HEMOSTATICS

- Ergotamine, found in the *Ergot* fungus and many fungi, is a powerful vasoconstrictor used in acute situations such as for post partum hemorrhage.



**Mastering the  
Actions of Herbs  
is the first step to becoming  
a skillful herbal clinician**

75

**Thank you!!!  
Dr Jillian Stansbury**

76



There are still several spaces left in my  
Ethnobotany Tour of the Andes and Amazon  
July 20-30, 2017  
Contact Dr Jillian Stansbury at [jstansbury@num.edu](mailto:jstansbury@num.edu)



77