

# PRINCIPLES AND PRACTICE OF CONSTITUTIONAL PHYSIOLOGY FOR HERBALISTS

by MICHAEL MOORE



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Michael Moore

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## PREFACE

A few years ago, I think it was around 1980, I was working with a man in his mid thirties who had atopic dermatitis. Sometimes it was bad enough to form vesicles, other times it took the form of a contact dermatitis on his hands, aggravated by being a bartender and having to work with booze and detergents.

Back then I was using a mixed-bag approach to herbs, relying heavily on herbs for primary symptoms and adding supporting botanicals for obvious secondary problems. I was using a therapeutic approach very similar to the British Medical Herbalists, but relying mostly on plants I gathered myself in the western half of the United States. I knew a lot of plants, had a retail store full of herbal preparations that I wildcrafted and manufactured, and considered that I had a rather sophisticated knowledge of their many and varied differences. You want a liver herb? I knew them all, and the symptom pictures that separated them. I was a well-versed problem-oriented herbalist. I was helping people, but I had only the fuzziest kind of underlying philosophy of evaluation and treatment.

So, I gave this fellow what seemed appropriate. Some foods seemed to worsen the dermatitis, especially those high in protein and fat, so I gave him some Green Gentian as a bitter tonic, to be taken before each meal. Normally, poor gastric secretions result in extended presence in the stomach of undigested food, allowing an allergic person to acquire food sensitivities, thereby worsening systemic reactions such as dermatitis. Most folks with such allergies are constipated, but he in fact, had loose stools. I figured he had steatorrhea (undigested fat in the feces), and inflamed mucus membranes in the lower intestinal tract and colon, so I added some Yellow Dock (*Rumex crispus*) to tighten them up. Finally, it seemed that the problem was systemic (blood-mediated) because the topical reactions to booze and detergent only occurred when he already had some reactivity. He was only sensitive and not truly allergic, therefore I added the standard, never-fails, liver stimulant, Oregon Grape Root.

Back then, as now, I knew that the sooner the waste products from the allergy were broken down in the liver, the less reactive would be the condition. Fewer reactions would occur to OTHER irritations, and the frequency and severity of each acute episode would lessen. The herbs always worked, he had already been through the medical route with little lasting relief to the dermatitis, and once again (offstage muted fanfare) I would help someone.

Two days after starting this sensible, foolproof approach, he broke out in hives, from his scalp to his feet. I took away the Yellow Dock and the Green Gentian, keeping the fool-proof Oregon Grape root, and the hives got worse. He stopped the Oregon Grape Root and they gradually got better. We checked through his diet and medications for allergies or drug urticaria, but the foods were

the same. He wasn't taking medications and he wasn't even drinking, since he found that it worsened the dermatitis. All the books and my personal experience dictated Oregon Grape, but resuming the tincture once again started to bring the hives back.

I changed my tactic, and two or three days of Burdock Root tea cleared up the hives. I then added some Dandelion Root to the Burdock, and gradually the dermatitis subsided to an occasional mild condition without vesicles or skin sensitivities. Both the herbs are widely recommended for chronic skin problems but I had had little success with them. Instead, the Oregon Grape had been consistently helpful...before then.

I talked about this to an acupuncturist friend. She too thought it odd, since eczema or dermatitis usually resulted from kidney deficiency (or something like that...I still know little of the TCM diagnostic model). Hives are considered a symptom of a rather different imbalance caused by liver heat rising and, she felt, the Oregon Grape must have aggravated that condition in the man.

I went back over my past dermatitis, hay fever and atopic allergy patients and found that they all were folks with dry skin, constipation, frequent urination, life-long allergies of various types, and a passion for sweets, carbs, fruits, and other yinny stuff.

I talked to the bartender again in greater detail. I had been so sure of his treatment that I didn't dig as deep as I often did. He had greasy skin, loose stools, no tendency to frequent urination, and preferred protein-fat foods...although he was avoiding REALLY greasy foods since he had observed on his own that, like alcohol, they aggravated the dermatitis. He had no history of allergies, and his parents had no allergies. Most people with atopic reactions have it running in the family, since it is an inherited condition of excess immunoglobulin E and over-reacting mast cells and basophils induced by an excess of one or more leukocyte enzymes. In fact, the skin problem only started after a mild case of hepatitis three years earlier. It had become acute several months later when he helped a friend rebuild an engine. He had been in frequent contact with gasoline and solvents.

He wasn't the normal dermatitis person, dry, yinny and allergic (and always helped by Oregon Grape Root); he was an anabolic greaseball. The allergic response was an acquired one, and not an inherited trait. It resulted from a combination of hepatitis and exposure to aromatic haptens. The herb was exaggerating his basic nature, and a slightly impaired liver was not able to cope with the increased irritation; he got hives. Apparently the Burdock and Dandelion were cooling to the liver.

I went back and checked other herbs I used. I tried better to view them as more complex agents than the usual simple therapeutic labels...labels borrowed from medicine, where drugs are more easily described and defined by their pharmacologic nature.

Valerian is a sedative for some folks, not at all pleasant for others. How come? I got out all my books, reviewed the homeopathic symptom pictures, and started to make lists of the various and conflicting traditional uses. I made a

complete cataloging of similar odd reaction I had seen in the past and gradually pulled together a very different way of viewing my botanical agents.

Herbs are exogenous agents. They do not mimic the bodies' own functions. Instead, they cause the body to react to them. They do not mimic, inhibit, or block digestion, absorption, circulation, metabolism and excretion the way that drugs tend to. Instead, they stimulate these functions by their very presence in the body. Their very complexity is also their grace, if you know how to take advantage of that.

Valerian, Passion Flower, Hops, Vervain, Black Cohosh, Lobelia, Hypericum and Skullcap are all useful sedatives. Each one is widely different, however, in how it effects the intestines, liver, kidneys, skin, respiration and vascular functions. Some stimulate parasympathetic functions, some have sympathetic suppression, some stimulate respiration, others calm or suppress breathing...while others do none of these things but effect the SKIN.

Seeing this, I decided to crudely chart their effects on the major systems, (either stimulating or suppressing functions,) ignoring for the moment that they were all considered sedatives...at least to the central nervous system. That meant having to establish to my satisfaction what those organ systems did, what the symptoms of excess and deficiency were, in order to understand their relationship to the secondary effects of these herbs. Now I felt I was able to better predict which sedative would be most likely to help a specific person with insomnia.

When the dust settled, I found myself with the beginnings of a wholistic approach to differential evaluation and therapeutics based on western physiology, not on sophisticated but alien philosophies. After all, I had always had a personal philosophic and political aversion to the adaptation of others' cultural and ethnic sensibilities simply because of an overfamiliarity with my own.

I had always viewed myself as, like it or not, a born member of the Dominant Minority (as Toynbe calls it). I was a white middle-classed male (from Los Angeles as well), and I had no cultural or ethnic claims. My native culture (**Cultural taxonomy** being species: American, genus: European, tribe: Greco-Roman, family, Indo-European) had developed in a milieu of physical abundance, unending resources, sophisticated methods of exploitation, transport and communications...a three centuries-long Bull Market and unending growth...a truly Anabolic Society.

My culture has a short past, has always looked ahead, worships the new and the potential, and generally views its cultural heritage as belonging in museums.

For me to adopt the trappings and trivialized "markers" of other surviving cultures seemed absurd. No Zen meditation (culturally Japanese) no pseudo Sundances (Lakota), no Yoga (Hindu), no Sufism, no Qabalah, no Korean chanting. To attempt to adopt one of the three surviving traditional non-Western medical-healing modalities, Chinese, Ayurvedic or Unani, seemed downright embarrassing. A wholistic philosophy derived from physiology seemed only natural. Iyam what Iyam, said Popeye.

My friends in Traditional Chinese Medicine and Ayurveda proceeded to gleefully point out that I was reinventing the wheel. This very process was the basis of their philosophy. They evaluated the person for excess and deficient energies, and applied therapies to stimulate the deficiencies, tune them up, and only THEN did they treat the complaint. I was doing the same thing they were, only I surrounded myself with all these medical and physiologic concepts

I should stop this intellectual bullshit and learn **their** philosophy.

Personally, I feel comfortable with the western model of anatomy and physiology. It is at heart a body of observations, and can be used in a medical standard practice fashion or used to define a wholistic, constitutional understanding. To this day, concepts like pita, damp spleen, tridoshas and kidney yang suppressing liver heat are like Albanian to me. Besides, a lot of herbalists and wholistic practitioners (in fact, almost everyone else) have learned the western model, and won't mind having a constitutional model like this one.

I have refined it a bit, added a couple of other models (stress and fluid transport) and what you have in this book is how it stands fifteen years later.

If I could remember who the bartender with skin grunge was, I would like to thank him for forcing me to look deeper at my craft. I still think I have a first-rate grasp of which herb is most useful for which type of disorder, and I still approach a lot of stuff in a problem-oriented fashion. This monograph is not about that; it offers a way to look at human functions in order to see patterns of accommodation, and how to effect changes to strengthen the person when there is acute or chronic disease. This approach will also help you put herbs together for a specific condition without producing undesirable effects.

Finally, this book offers an understanding of physiology that is specific to using herbs. Medical physiology focuses on conditions that have medical therapeutic implications. I am focusing on the very different subclinical imbalances that have HERBAL therapeutic implications. No more hives.

## **INTRODUCTION**

People get sick. By the time they are in their twenties, they start to get sick in predictable ways. The physiology and the constitutional approaches described in this book are meant to offer a way to understand and evaluate the person who is imbalanced or ill, and strengthen their metabolism as a **SUPPORT** to other therapies aimed at their primary complaints.

You can strengthen them by using properly chosen tonic herbs that support inherited and acquired weaknesses and lessen the effects of habitual stress and fluid imbalances. Tonics are not meant to directly treat disorders, but to strengthen the person according to his or her nature. These archetypes of constitution are meant to enable you to evaluate **how** that particular person has made accommodations for hereditary and lifestyle factors and **which** accommodations

have become excessive for their health. Herbs can then be used to strengthen the PERSON who is sick, not necessarily deal directly and specifically with their illness.

My approach to defining organ functions is to describe what that organ does under ideal circumstances, what it does when suppressed by stress or is natively weak, and finally, what happens when it functions to excess...when it is over-stimulated or relied upon under stress because of its native strength.

A basic premise of stress is that once a pattern of chronic weakness has been set up, **any** stress increases the imbalance. Homeostasis means being in balance, locally and throughout the body. This is accomplished by controlling our internal and external environment through nerves, hormones, fluid transport, a self-adjusting energy template. In a way we only lose homeostasis when we die.

Let's state it another way. We all are blessed with a fixed amount of energy to expend in a given day...call it \$100. If running our body costs \$45 in life energy (or chi or blood transport surface area) in 24 hours, we have \$55 to spare. We may expend \$30 on our work, \$10 on our relationships, \$5 wasted in agitation over the evening news, \$5 on a brief argument with our mate. and fall asleep without overspending. If it is Friday, we may get blotto on bourbon at our local swillery, costing us \$15 in life energy. Overspent, we wake up Saturday with a headache from hell and sloth reflexes. We maintain second-day homeostasis by moving carefully, methodically and with great fragility. We have maintained our metabolic balance by getting semi-sick the next day, expending fewer \$, allowing the liver to have the balance of money to clean up after ourselves. If we had osteoarthritis, however, we might have ended up with a BAD day Saturday...our chronic disease flaring into an acute episode, enabled by homeostatic stress.

If we had strengthened the body, made it less expensive (say \$30 a day instead of \$45 for upkeep), we might not have had an acute arthritis attack...or maybe not had the hangover...or maybe not even have needed the release of demon rum at all.

Breaking up a relationship, moving, losing a job, a death in the family, a tax audit, are all generic expenses. Added on to normal life, they can contribute to chronic disease. I don't have any herbs to offer for breaking up, but methods of constitutional strengthening outlined here will definitely decrease the cost of living, helpful in supportive treatment for chronic disease.

The treatment of chronic disease presents us with two main problems. First there is the conundrum of the honeymoon period. The arthritis responds to direct treatment for awhile, only to return, seemingly outlasting the primary therapy. You try another approach and it too wears out. Often, neither approach will ever work as well again. If you are an M.D., you wince as you gradually have to increase the strength and iatrogenic potential of the meds. If you are an herbalist or an acupuncturist, you wince as, one by one, your best therapies wear off.

Secondly, there is simply the nature of chronic disease. It begins as a functional disorder (thermostat settings off, things subtly out of balance, but reversible). After reoccurring acute episodes, it can become organic (things broken, scarred, not factory original, busted). The purpose of supporting your therapy

with a constitutional methodology is that your main stuff will work longer. The person is healthier, the acute episodes get further apart (they don't overspend as often) and the functional disorder is less likely to become organic because as the body has more time to heal itself between episodes.

Again, the purpose of this approach is to strengthen the person in a rational and non-toxic fashion, while you do your main stuff.

The focus of both the Traditional Chinese Medicine and Ayurvedic Medicine approaches is the same: strengthen the person, THEN treat their problem. Of course they work. They diagnose imbalances, have therapies that make the homeostasis easier, and they help people. They like and bemusedly approve of our use of herbs and diet, but they regularly and emphatically tell us "Fine, good work, but YOU HAVE NO TONICS...how can you take yourselves so seriously when you ain't got no **philosophy**...just gentler medicines than the M.D. has."

The methodology described here is an attempt (and a good one) to supply several parameters to evaluate the strengths and weaknesses of a patient. A body of tonic herbs are presented to strengthen the weaknesses and (sometimes) to cool the excesses, with charts outlining the effects of all major herbal medicines on the organ systems to avoid unwanted synergism. Also covered in this book are a simple patient intake form, a sample therapy worksheet and a patient questionnaire.

Since this book is ultimately about HERBS, all the tonics I recommend are dealt with in the Materia Medica section. You can evaluate their quality, prepare them yourself if you wish, know the range of dosage, special contraindications that might apply, and a list of sources that I feel to be reliable and consistent.

## **SECTION 1**

# **ORGAN SYSTEM ENERGETICS**

This is the primary approach in constitutional evaluation. In setting up patterns of excess and deficiency, the starting point is the primary physiologic function of the organ system. Herbs effect absorption, metabolism, fluid transport and excretion; the important aspect here is function (physiology) not structure (anatomy). In an energetic support of chronic imbalances, you want to strengthen the function of systems in order to avoid impairment of structure.

**EXCESS** means that that organ system is over functioning, usually from hormonal or neurologic causes. More often than not, the excess in one organ system is paid for by a deficiency or suppression in another system. The simplest way for the body to stimulate one system is mechanical; more arterial blood is pumped in by vasodilation, sometimes with concurrent hormone or neurohormones stimulation of the same system. If the body stimulates one system through normal channels (no pathology), it will decrease blood supply and metabolism to other systems.

To suppress an excess function often entails some form of drug effect. Drug

effects tend to build up resistance and tolerance. Further, direct sedation of an excess is more often than not likely to suppress the structure, whereas the ideal would be to decrease the need for excess function. If you have essential hypertension, it is usually because you NEED a harder working heart in order to be in homeostasis. Without lessening stress or changing body energetics, suppressing cardiovascular excess in essential hypertension with only a drug action leaves the need for homeostatic accommodation intact but takes the most able system out of the game. Other systems (the kidneys or liver, as an example) must make less efficient changes, eventually weakening them. Medical approaches often suppress excesses as a primary treatment.

**DEFICIENCY** in an organ system is often the main focus of my approach. Most such weaknesses derive from the necessary diverting of energy to other organs or functions. This may result from the lifelong accommodations between inherited organ strengths and weaknesses. Most frequently it is caused by the habitual and learned induction of stress or emergency responses in the nervous and endocrine systems as a lazy or even necessary means of summoning a usable substitute for missing motivation, creativity, emotional health, passion, or psychic energy.

We all use these auto-induction stress devices. It isn't always possible to control our lives, to always have the energy to do what needs doing, to always WANT to do what is necessary...and sometimes Shit Happens. Some of us, however, become too reliant on jump-starting ourselves with emergency stress measures, on the rolodex of fears, frustrations and angers that can be thumbed through to induce a knee-jerk twitch of adrenalin.

Since the first symptom of metabolic imbalance is usually increased central nervous system irritability, some of us may prefer to stay just a *little* sick or autotoxic, if only to push the stress button more easily. One of the most frustrating things for a therapist to deal with is the person who doesn't LIKE being healthy or in better balance; it takes away the gristly irritability that gives them their *edge*.

The ideal, of course, is to place a helping hand into the limbic system, hypothalamus, even the genetic code. The best balance for a person is of the person's making. Lacking that, we take the organs suppressed by stress and habit, stimulate them physiologically with herbs, and deflect life energy from those functions that are chronically hyperactive. This isn't the same as endogenous balance. It is, after all, just another external manipulation. But it is a manipulation by inference, not by direct suppression. Use defines form. Use an organ or function or tissue and it becomes stronger, better organized and better fed. It grows more mitochondria, draws more blood, increases its capillary surface area, elaborates better neuropeptides, elbows out a larger place in the physiologic pecking order of the body-colony...gets stronger.

Stimulating the deficient upper intestinal tract with herbs will never be the same as having, by nature, a strong upper G.I. But helping those depressed functions to strengthen will, in time, retrain them to become stronger. It ain't the real thing, but it will do for starters.



**FINALLY**, another basic premise to keep in mind when you are undertaking an organ system evaluation is: don't try to judge the system involved in the main complaint. An acute disease or a chronic one with acute episodes will put special stresses on the affected organ or tissues that are defensive, inflammatory or regenerative, and will have little bearing on how the organ or tissues normally relate constitutionally with the rest of the body.

If the patient has a peptic ulcer, a classic chronic disease with some constitutional implications, use Tagamet, antacids, cabbage juice, a *Hylobacter* antibiotic, visualizations, whatever...as the primary therapy. Use the methods outlined here to strengthen the rest of the person. Although that person may have been Upper G.I. deficient or excess in the past, the ulcer induces a disease excess that has no constitutional implications. Here, the herbs used to tonify the rest of the organs are to help decrease the ongoing metabolic expenses so more serum binding and transport sites and liver/spleen/lung/kidneys/marrow surface areas are freed up to aid the disease responses. Besides, if you induce better health, you lessen the severity of metabolic and blood chemistry spikes...and lessen the irritability of the CNS while raising the threshold for habitual stress-induction.

Once again, ignore Upper G.I. and try to tonify everything else **BUT** the stomach. Then the primary therapy, of whatever modality, will have more fertile ground, a less expensive homeostasis with less cost of living, and more probability of extended success.

## **UPPER INTESTINAL TRACT**

### **OUTLINE OF FUNCTIONS**

Saliva is secreted in response to chewing, taste, visual and olfactory stimulation. It is partially mucoid, viscous and thick (to mix with food and lubricate swallowing), partially thin and watery (to alkalize mouth, inhibit bacteria and begin starch digestion). Stomach secretions are also stimulated, muscle coats relaxed to ease swallowing and stomach filling, proteins for B12 carrying and absorption secreted. The bottom of the stomach secretes protein-digesting acid into a small volume of food, separated by constriction from undigested food above; acid is ejected into the duodenum of the small intestine. Hormones secreted in the stomach and duodenum stimulate the pancreas and gall bladder to evacuate together into the food leaving the stomach, neutralize the acidity, make soap to emulsify fats, and inject enzymes for protein, fat and further carbohydrate digestion. If fats are still un-emulsified, the stomach is inhibited hormonally. Further enzymes and secretions are added by glands in the upper small intestine. Digestion has been set up and continues methodically down the intestinal tract.

**UPPER GI DEFICIENCY SYMPTOMS** are a dry mouth, usually with a history of gum and teeth problems. The person has a coated tongue and bad breath first thing in the morning, and seldom eats breakfast. He/she often does not

finish meals or may intentionally eat to calm down, often has indigestion or a sense of excess fullness after eating and has trouble with evening meals. The stomach, like the mouth, has deficient or slow secretions, with erratic tone and peristalsis, and sometimes there is difficulty in swallowing. The slow evacuation of the stomach results in poor coordination of pancreatic and gall-bladder secretion, which in turn results in poor digestion of fats and inhibition of subsequent stomach evacuations. This induces an extended retention of food in the stomach with resultant fermentation, smelly burps, and frequent problems with food sensitivities and food combinations. They don't like too many proteins and fats, and if diet-aware, may (understandably) have a rigid and articulate approach to what they can/can't eat. Heavy, long term use of alcohol can induce deficiency symptoms, and some cigarette smokers instinctively picked up the habit in the first place because it helped stimulate upper GI functions they forgot were weak...until they quit smoking.

••**HERBS TO STIMULATE** either excite by reflex as a bitter tonic taken just before meals, increasing both mouth and gastric juices to encourage better function, or stimulate function by exciting membrane secretions or increasing blood supply to the mouth, stomach and pancreas.

**UPPER GI EXCESS SYMPTOMS** are a moist mouth and over-secreting stomach in the presence of food, often with a pointy, red-tipped tongue (even to the extent of a sore tip), and an exaggerated and rapid evacuation of the stomach and bowels in the morning. The person can (seemingly) eat anything, often preferring high protein and fat foods. If the person has any tendency to chronic nausea, it is in the mornings or just before a delayed meal.

••**HERBS TO COOL** are astringent (acting locally as a vasoconstrictor, decreasing inflammation), protectant (coating the mucosa) or anesthetic to the muscle coats and mucosa. Generally, a difficult imbalance to modify directly with herbs (except in gastric ulcers). It is easier to accidentally overstimulate, so avoid using other tonic herbs with the side effect of strong upper GI stimulus. It is a reactive condition. Low doses of Rheum (Rhubarb) work as well as anything.

## **LOWER INTESTINAL TRACT**

### **OUTLINE OF FUNCTIONS**

Digesting food passes through much of the small intestine under almost total local control (and therefore subject to little stress potential from the autonomics and CNS). Lipids are absorbed primarily into the lymph system and carbohydrates and proteins digested and absorbed into the portal blood. This blood drains from capillaries in the intestines (and the spleen), into the portal system, collecting in the portal vein and then back out into capillaries in the liver...a way of isolating all

intestinal venous blood from general circulation until the liver has picked through and organized these wildly varying constituents.

The digesting food (chyme) passes the lower ileum where very complex substances are absorbed, such as B12, folic acid, some essential fatty acids, vitamins A, D and E, and the bile acids that were secreted into the duodenum for fat emulsifying. The chyme, now exhausted of usable substances, is squirted into the cecum of the large intestine, where the intestinal flora break down the chyme further (now called feces) and release for absorption some folic acid and Vit. K.

The large intestine (colon) then sets about reabsorbing the sodium, chloride and water that was secreted into the food in the upper GI, along with gases made in the cecum. Mucus is added to lubricate the feces and bicarbonate and potassium to raise the pH to alkaline. In the descending colon, formed feces are passed into the rectum (usually from reflex when the stomach is filled) and the defecation reflex (parasympathetic) is followed by conscious defecation.

**LOWER GI DEFICIENCY SYMPTOMS** are characterized by either simple constipation, with poor stimulation of colon function, dehydration of feces, extended transit time and the long-term tendency to overlook the defecation reflex (usually of short duration and not repeated for several hours), or the more complex syndrome of fat malabsorption with episodes of steatorrhea. Like the first, the latter is the result of upper GI deficiency, but usually in persons that chronically consume fats in excess of their digestive capacity.

The lipids are poorly emulsified in the stomach and duodenum, and the fat particles remain larger than normal, with less surface area for pancreatic lipases to act upon. The diminished amount of adequately digested lipids is absorbed into the lymph system, much more is left to be taken into the liver (thickening the portal blood and slowing its passage through the liver), with the undigested and poorly emulsified fractions passing raw into the cecum.

Intestinal flora reflects the stuff its fed. Lipid-digesting bacteria, rare in the normal cecum, proliferate with undigested fats. The small intestine is nearly sterile, the cecum is a stomach-like culturing tank that inoculates used food with friendly (and controllable) flora, and the juncture of the two is heavily protected with lymph nodes and specialized defense organs...the appendix in the cecum and the Peyer's Patches of the lower ileum. With the shift to an abnormal balance of flora, the whole area becomes moderately inflamed and the selective absorption (B12, fatty vitamins etc.) becomes impaired.

The specialized endothelial cells that line the inner surface of the lower ileum depend on their impermeable mutual protein bonds to block any substances from passing out of the ileum except THROUGH them (that way completely controlling what gets into the body). Both the distension of inflammation and the tattering of these bonds by excited leukocytes as they move in and out of the ileum between these cells result in the leaking of solutes past the endothelium. This results in the loss of selective absorption that the ileum specializes in.

Fat is sometimes excreted in the feces and in some persons the deficiency may

vacillate between constipation and loose stools (Irritable Bowel Syndrome). With impaired drainage of blood from the lower GI into the portal system and the liver, venous drainage from the descending colon and even transverse colon has to bypass into smaller collateral veins that drain into general circulation. These veins become congested. Hemorrhoids, varicose veins in the inner thighs and general pelvic congestion are the results. Further, the rather noxious metabolites from the lower colon are not screened by the liver first...they go into general circulation. In both types of Lower GI deficiency, the liver plays an important role and in both types the efficiency of upper GI function must be improved before any approach substantially helps the lower.

••**HERBS TO STIMULATE** increase bile, pancreatic and succus entericus secretions ( both types of deficiency). For the constipative type, herbs may increase peristalsis by direct irritation, vasodilation or parasympathetic stimulation.

**LOWER GI EXCESS SYMPTOMS** are rapid transit of food through the GI tract (usually 20 hours or less) with dark soft stools and heightened defecation reflex (eat a meal, get the urge shortly after). The beginning of a bowel movement is formed, the major part is semi-formed, and the whole process is quick (no magazine reading here). This is seldom of major constitutional importance, since it is either an acute condition that needs specific treatment or it is a secondary effect in a well-formed stress imbalance.

••**HERBS TO COOL** sedate plexus nerves in the smooth muscle walls, suppress parasympathetic excess, cool the thyroid, or act as simple astringents.

## **LIVER**

### **OUTLINE OF FUNCTION**

The liver is responsible for synthesizing most blood proteins, including globulins, albumin, heparin, fibrinogen and prothrombin. It makes and stores a variety of specialized carrier proteins, and maintains the balance between the breaking down and building up of the labile protein resources of the body.

It detoxifies much of the body's metabolites, and maintains the balance of fats and carbohydrates, storing glucose as glycogen, in turn feeding the brain and other tissues glucose under the stimulus of glucagon (from the pancreas), adrenalin (adrenal medulla) and cortisol (adrenal cortex).

Further, it synthesizes cholesterol and other building and storage fats, increases building materials for growth (under the stimulus of pituitary somatotropin, gonad hormones and some adrenocortical steroids). In general, the liver maintains the ebb and flow of catabolism (breaking down) and anabolism (building up).

Broadly speaking, during the day, when we are active, it lets things out;

while we sleep it builds things back up again for the following day. It breaks down aging red blood cells, holds some storage iron, and ships off the rest of the hemoglobin in carrier form to the bone marrow to make more RBCs with.

Further, by way of it's portal system, it draws venous blood from the pancreas, spleen and the entire intestinal tract. The liver sorts through this blood, organizing, distributing, and storing digested nutrients, cleaning out the trash with its great array of resident white blood cells (liver macrophages or Kupffer Cells), recycling and organizing with its enzyme-rich hepatocytes.

All this metabolism in the liver creates many waste products and it excretes much of it into its own functional analog of urine, the hepatic bile. This thin, watery, urine-like fluid contains surplus cholesterol, various waste products of hemoglobin metabolism, and corrupt and unreusable metabolites, as well as special cholesterols called bile acids. Its synthesis by the liver and excretion through the hepatic duct, with increases and decreases in volume and constituents reflecting the types and magnitude of hepatic function, ...all of must be viewed as part of liver function and reflecting liver energy.

The bile is stored downstream in the gall bladder, where it is concentrated and dehydrated into a thick liquid. Gall bladder bile, although derived from the liver, is converted into a digestive fluid. The gall bladder and bile are really part of digestion, and the uses, reflexes and problems are almost completely entrenched within the digestive system. Mixed with pancreatic alkali while entering into the duodenum, it makes bile salts, the soap that emulsifies dietary fats in preparation for digestion. Fetally, the gall bladder is formed from a loop in the primitive colon, migrates to below the liver, and must connect with the hepatic duct before or shortly after birth. Gall bladder function usually reflects Lower GI functions, more than the liver.

Hepatic bile can also drain past the gallbladder to empty directly into the duodenum. Unrecyclable hemoglobin is excreted in the bile as bilirubin and colors the feces brown. Bile itself acts as a stimulus to colon peristalsis, whether thin bile from the liver bypass or thick bile from gall bladder storage.

## **PHILOSOPHICAL ASIDE**

It is almost necessary to view "liver" as a metaphor. Anatomically speaking, the liver is that big organ below the diaphragm, embryologically derived from etc.(...yawn).

Viewed physiologically, many organs specialize in a high volume (and complexity) of certain functions normally performed by all cells. This frees other organs to specialize in THEIR specialty because most of THAT function is covered by the first organ.

The liver does so much of the stuff performed by the smooth and rough endoplasmic reticulum of a generic cell, other cells in other parts of the body are partially relieved of the task. In a way, the body mimics in macro the various functions performed in micro within a single-celled organism.

The many herbs that are used for the "liver", while strongly effecting that

organ, also effect those functions in other tissues that specialize in a similar high rate of enzyme metabolism.

Oregon Grape Root will predictably stimulate transamination and nitrogen metabolism in the liver...that's why we use it. It will also stimulate the same processes in the sub-mucosa of the small intestines, the spleen, the pancreas, the bone marrow, and the most active regions of the skin...it stimulates THEIR liver energy, if you will. It isn't that simple, of course, since Oregon Grape Root works best on protein recycling, and only the intestinal submucosa and skin do this so much as to be noticeably effected.

The body uses many biologic processes over and over...after all, they are merely elaborations of the same basic themes used in a single celled organism. Fooling the liver into an intentional over-response by introducing a low-toxicity agent that resembles a high-toxicity stress, all this in order to stimulate deficient processes (the actual way most tonic herbs work...face it!), means you will induce echoes in OTHER tissues that are using these biologic processes at a similar rate.

**LIVER DEFICIENCY SYMPTOMS** are dry skin and mucosa; atopic allergies of the skin, sinuses and bronchial mucosa; generally poor fat and protein metabolism and appetite. There is a tendency for labile blood sugar levels and an overall catabolic-leaning homeostasis, with yinny sweet foods preferred to yangy fats and proteins.

Most folks with blood sugar problems, allergies and constipation are liver deficient. It can be acquired later in life from viral hepatitis, heavy drinking and extended contact with solvents.

••**HERBS TO STIMULATE** increase liver metabolism by exciting hepatocyte enzyme production, increasing bile synthesis and liver cleansing, improving fat absorption into the lymph and taking the lipid load off the portal blood and liver, or increasing blood supply by dilating the hepatic artery.

**LIVER EXCESS SYMPTOMS** are moist, oily skin; fat and protein cravings with general anabolic excess, that, in middle age tends to elevated cholesterols, hyperuricemia and essential hypertension; rapid defense response with quick fever and sweating. The usual causes are adrenocortical stress, with elevated testosterone and progesterone, but also may be caused by thyroid stress, in which case there is general tachycardia and disruption of sleep patterns.

••**HERBS TO COOL** tend to increase blood buffering of nitrogen compounds with electrolytes, increase bile secretion without stimulating liver metabolism, or aid in sodium loss/potassium retention.

In reality, diet is the most important approach, decreasing proteins and fats, and increasing those green and red crisp things hated by liver excess folks. A trip to a salad bar by a liver excess is an excuse to eat blue cheese dressing. Hard people to change.

# KIDNEYS

## OUTLINE OF FUNCTION

The kidneys take the arterial blood from the renal arteries and squeeze it through half a million little filter tubes (the nephrons) which separate the blood into thick protein sludge and watery serum. The serum passes lymph-like through the tubules, allowing all the important constituents to be absorbed back into the sludge until the exiting blood is restored and cleaned. A minute amount of fluid (containing waste solutes) is passed out into the pelvis and ureters as urine. The result is that sodium or potassium is retained (under the influence of the adrenal cortex), water is retained or not (the pituitary) and the balance between acid and alkaline is maintained.

Further, the compensatory reactivity and constriction of blood vessels and the heart is potentiated by kidney proteins, which are acted on by the liver, and activated in the tissues. This allows blood to flow to the brain when we stand, to back off when we sit, etc. Basically, the kidneys' primary function is to control blood volume, quality, and dispersal, with urine production simply a means to this end. The kidneys are organs that hold in far more than they let out.

**KIDNEY DEFICIENCY SYMPTOMS** are frequent, dilute and pale urination (often at night), flushing, thirst and the tendency for low blood pressure. Orthostatic hypotension is common...you stand up and the blood stays somewhere around your solar plexus, gradually surging up to your brain. If your kidneys and arteries fail to compensate fast enough, YOU compensate...by fainting.

There is a tendency to react poorly to sudden changes in temperature and humidity, with short term water retention and headaches. Common stresses to fluid and osmosis homeostasis, such as PMS, changes in barometric pressure, high altitudes, the last trimester of pregnancy, steroid drugs and high salt intake produce exaggerated symptoms in the kidney deficient person.

The urine more easily becomes neutral or alkaline, easily shifting from the normal acidity with even moderate shifts in diet.

••**HERBS TO STIMULATE** either strengthen or stimulate kidney nephrons, improve renal blood supply that is diminished in adrenalin stress, and improve hormonal stimulation. With kidney deficiency and increased volume of urine, there is less fluid surplus for the skin, intestines and lungs. This is further defined later.

**KIDNEY EXCESS SYMPTOMS** are sodium and water retention, essential hypertension (from increased blood volume), concentrated acidic urine, warm moist skin (under any circumstance), and orthostatic hypertension (you stand up quickly and it feels as if blood was trying to pound out through your ears

and crown chakra).

••**HERBS TO COOL** either dilate renal arteries, relax the limbic system and the hypothalamus, decrease tubular reabsorption of sodium and therefore increase the volume of the urine (since water follows sodium), or decrease water reabsorption by altering osmosis in the nephrons, with sodium following. As in liver excess, food is very important here; decrease protein in the diet and increase foods high in electrolytes and minerals. The same hormonal stresses are also involved.

## **REPRODUCTIVE SYSTEM**

### **OUTLINE OF FUNCTION WOMEN**

This is easiest to define through the estrus cycle. At ovulation (days 14-15), preceded by a massive surge of ovarian estrogen, FSH (follicle-stimulating hormone) is secreted by the pituitary (controlled by the hypothalamus of the brain). A now fully matured egg is popped from an ovary, and the initiation of next month's follicle maturation begins. The dozen or more proto-follicles that attempt maturation at this time are gradually reduced, by the end of menses, to a single dominant one (the one that will mature and pop at next ovulation). The newly emptied follicle from THIS month's ovulation seals off to form the corpus luteum, the temporary endocrine gland that makes progesterone.

The newly initiated egg follicles will be the source of estrogen for 4 weeks (until the surviving follicle's egg pops and it starts making progesterone). Both the corpus luteum (progesterone) and the maturing follicle(s) (estrogen) secrete their hormones under the influence of another pituitary hormone, LH (luteinizing hormone). LH drops two or three days before menses, the corpus luteum falls apart (no more progesterone for that cycle), and the estrogen from the new follicle stops.

Menses begins ("day one"), a few days later LH is surged up by the pituitary until estrogen levels surge high enough to induce the FSH surge, triggering ovulation, progesterone initiation, and more proto-follicles to begin their maturation (day 14-15).

**ESTROGEN** triggers growth of the uterine lining and some breast tissue after menses (the proliferative phase). The dominance of progesterone after ovulation (the secretory phase) results in secretory organization and the increase in blood supply to the tissues stimulated by estrogen earlier. Estrogen also increases sympathetic and catabolic functions.

**PROGESTERONE**, a testosterone relative, increases fat and protein metabolism, red blood cell synthesis and insulin sensitivity, as well as acting to prevent sodium retention and lessen inflammatory responses.

When menstruation starts, the resultant flow has been set up by the progesterone phase so that there is heparin (anticoagulant), lysozyme (anti-



microbial) and mucus present to aid in the dissolution of the thickened uterine lining. The increased tissue volume of the progesterone phase (particularly in the breasts) is reduced and urine production slightly increased. Estrogen is yinny, progesterone yangy, and women (in their reproductive years) go through four week cycles of contraction and expansion.

## **OUTLINE OF FUNCTION MEN**

Testosterone is the dominant reproductive hormone, and the only important one that is present in the blood stream. It is secreted by the Leydig cells of the testes (stimulated by LH), and is moderated in the testes by the Sertoli cells, which secrete estradiol and androgens locally (stimulated by FSH) and can inhibit LH and therefore testosterone.

This ebb and flow between the Leydig and Sertoli cells constitutes the male equivalent of the estrogen- progesterone ambivalence in women, and the balance of yin and yang in the testes maintains fertility, prostate health, and prevents testosterone overdominance in the body.

**REPRODUCTIVE DEFICIENCY** in women includes long cycles (30 days or more); erratic cycles; menses that start slowly, with cramping and spotting and that extend too long. Deficiency can also include frequent vaginal or uterine inflammation or congestion, cervical erosion with or without a history of class II or III pap smears, and herpes flare-ups around the time of menstruation. Since liver deficiency is often present, the anabolic peak of days 21-24 is poorly handled, with a sense of heaviness, malabsorption, and pelvic congestion due to portal blood engorgement.

Food cravings before menses tend towards sweets and CHOCOLATE! The woman generally feels better while in an estrogenic and catecholamine-dominant mode, uncomfortable under progesterone influence.

In men, deficiency is characterized by benign prostatic hypertrophy before age 45, sometimes a difficulty in maintaining erection under appropriate circumstances, and a low sperm count together with dry skin. Frequent use of alcohol, Cannabis and cocaine can induce an acquired deficiency.

••**HERBS TO STIMULATE** (in both sexes) increase utilization of steroids, improve pelvic circulation, or effect the hypothalamus/ pituitary relationship.

In simple deficiencies, you may view *Angelica sinensis* (Dong Quai) as a stimulant to the primary gonadal hormones if they are low (estrogen in women, testosterone in men), and *Vitex* as a stimulant to the secondary (or modifying) energies (progesterone in women and the sertoli cells in men).

**REPRODUCTIVE EXCESS SYMPTOMS** in women are a short estrus cycle with a rapid peaking of estrogen after menses. Premenstrual food

cravings tend towards proteins and fats...ranging from cheesecake to tofu cheeseburgers to fried pork rinds (depending on ethnic and/or dietary awareness). Reproductive excess women feel better during the progesterone phase, gorp under estrogen influence, and may be especially sensitive to the brief estrogen surge just before ovulation.

Excess symptoms in men include recent increases in skin and scalp oiliness in the absence of recent alcohol or solvent exposure.

**NOTE:** Regular alcohol consumption can mimic excess in both sexes, regular Cannabis use can mimic excess in women.

••**HERBS TO COOL** are seldom important...as with liver excess, modifying the diet and methods of diminishing pituitary/ hypothalamic stress are more useful. Exceptions would be the peculiar energy-diminishing (and seemingly tonic) effects of *Pæonia* and *Nuphar*. In addition, *Vitex* is useful for reproductive excess in males...although used for reproductive deficient women.

## **RESPIRATORY SYSTEM**

### **OUTLINE OF FUNCTION**

The lungs expand and contract under the action of the diaphragm, intercostal muscles and abdominal muscles, and under the control of the central nervous system and both sections of the autonomic. The main volume of air stays static and warm, never leaving the lungs, although the volume that is actively exchanged varies with physical and emotional stress. The bronchi of the lungs expand (letting more air in) and contract (letting less air in), depending on the carbon dioxide buildup in the blood and the balance between sympathetic and parasympathetic enervations.

The blood pumped in from the heart (venous blood) and back out to the heart (arterial) is similarly controlled, all meant to maintain a balance between waste gas (CO<sub>2</sub>) and needed gas (O<sub>2</sub>), and acid and alkaline pH.

Since the main mass of lung air is static, the differences between internal and external gases diffuse through this body. Inhaled air may be as little as a pint in volume or several quarts (in physical activity). The air is inhaled through the nose and sinuses, cleaning and moistening the air.

The upper respiratory system, larynx, trachea and bronchi are all lined with mucus, flowing upwards and out to, the flow aided by the passage of air and the movement of cilia. Deep in the lungs, billions of macrophages ("dust cells") line the most delicate parts of the lungs, protecting them from bacteria and particles that manage to penetrate that deeply.

Sympathetic adrenergic nerves dilate the bronchi and increase the bore (physical activity, stress), parasympathetic nerves contract the bronchi and stimulate moistening mucus secretions (resting).

**RESPIRATORY DEFICIENCY SYMPTOMS** are frequent lung problems, shortness of breath, dry membranes with poor expectoration, frequent yawning and noticeably labile respiration. Sometimes it is shallow and fast, other times there are deep sighs that reflect emotions...sort of respiratory non-verbal communication. Respiratory-deficient people often smoke tobacco as an instinctive response to its respiratory stimulation but usually quit after several years because it is irritating. This is in contrast to other people that continue smoking because of its stimulation of the GI tract, liver, metabolic rate...and addictiveness.

••**HERBS THAT STIMULATE** may induce an increase in cardio-pulmonary function or counterbalance adrenalin stress by increasing parasympathetic function. Others will increase the secretions of mucus, the activity of cilia or excite lymph and serous movement in the lungs.

**RESPIRATORY EXCESS SYMPTOMS** include the tendency to hyperventilate under stress, have active and excessive expectoration, or have the type of moderate cardio-pulmonary excitation associated with thyroid stress.

••**HERBS TO COOL** are usually not an important consideration. Cooling liver and mucus membrane functions or lessening the causes cardiovascular excess will take care of the limited secondary effects of respiratory heat. If it is part of a thyroid stress syndrome, deal with it in that context.

## **CARDIOVASCULAR SYSTEM**

### **OUTLINE OF FUNCTION**

The heart pumps arterial blood out from the left ventricle into the aorta and thence out through the major arteries. These in turn lead the blood into arterioles and out into the capillary beds where nutrient-bearing serum leaks out to become interstitial fluid, feeding cells and picking up waste products. Some of this serum flows into the lymph capillaries and into the lymph system. The rest, containing soluble waste and gas, filters back into the venous blood. Returning to the center of the body through venules and veins, this thickened waste blood is joined in the subclavian veins by its missing lymph. The venous blood, restored to its original volume, minus the waste solids removed in the lymph system, enters the right atrium of the heart, goes to the right ventricle, and out into the lungs. Here it discharges waste CO<sub>2</sub>, gets oxygenated, returns to the left atrium of the heart and exits once again from the left ventricle as arterial blood.

Under physical stress, adrenalin and sympathetic nerves increase the heart output and pump more blood to the skeletal muscles. Under adrenalin stress this volume is further increased by blood shunted from the viscera, spleen and membranes. At rest, the heart works more slowly and blood supply disperses back to the deprived tissues.

The kidneys and liver, together with the brain and autonomic systems, control the constriction and relaxation of major arteries. Local circulation into the skin and mucosa is largely controlled by local factors. Together, these vascular mechanisms maintain an even rate of feeding and cleansing, taking excess substances to where they are deficient, compensating and maintaining homeostasis.

To speed up metabolism to an organ or tissue, more arterial blood is pumped in. To slow down metabolism, blood supply is shunted away. Although the neurologic and hormonal homeostatic control systems are unimaginably complex, when push comes to shove,

*MORE BLOOD = MORE LIFE FORCE, <> LESS BLOOD = LESS LIFE FORCE*

The cardiovascular system responds to these needs and causes these changes.

**CARDIOVASCULAR DEFICIENCY SYMPTOMS** are cold hands and feet, dry skin and mucosa, and a thready shallow pulse that is often quick and easily compressed. The skin flushes and blanches under environmental and emotional stimulus, and there is a general tendency towards peripheral vasoconstriction.

••**HERBS TO STIMULATE** either increase the force and efficiency of cardiac output, increase the resilience of arterial walls, stimulate parasympathetic energy or act as simple vasodilators.

**CARDIOVASCULAR EXCESS SYMPTOMS** are warm skin, bounding pulse, strong and easy secretions and excretions. This is usually concurrent with varying degrees of essential hypertension with excess blood and interstitial fluid. Blood viscosity may be high, due either to increased chylomicrons (transport fats) from the liver and lymph or a general high level of blood proteins.

Simply lowering the blood pressure without decreasing either blood volume or viscosity is to suppress the effect without altering the cause. This often means working on the kidney and liver excess that is the usual cause.

••**HERBS TO COOL** generally support parasympathetic or cholinergic energies, sedate the heart and major arteries or act as sodium leaching diuretics.

## **LYMPH-IMMUNE SYSTEM**

### **OUTLINE OF FUNCTION**

From the heart to the smallest capillary, the cardiovascular system is lined with endothelial cells that maintain a strong charge that repels blood proteins and corpuscles towards the center of the blood. This allows (in the capillaries) the serum to separate and flow out through the crypts between the capillary cells and into the interstitial fluid (actually a starch hydrogel). Most of this fluid is

reabsorbed back into the capillaries as they leave the tissue and drain into the venous blood. The old physiology axiom still holds that blood feeds the lymph and lymph feeds the cells.

Some of the exiting serum, carrying disorganized junk too large to fit back into the blood vessels, drains into open-ended lymph capillaries. These in turn join to form lymph vessels (complete with valves). This is the back-alley garbage collecting system of the circulatory system.

As the lymph vessels move into the center of the body, the lymph passes through nodes where the junk is digested and sorted through to check for bacteria, toxins, and known antigens.

In the small intestines, lymph capillaries absorb dietary fat that has been organized by the intestinal wall, carrying it completely out of the bloodstream for slower and less disruptive metabolism. The lymph drains into a large vessel, the thoracic duct, which, after many hours of perusal and cleansing, finally drains the lymph back into the venous blood where it belongs.

The immune responses occur variously in in the lymph, the blood, and the tissues. These can be separated into two categories: innate and acquired immunity. Innate immunity is nonspecific and genetically programmed, and consists of reactions that induce inflammation, phagocytosis (WBC digestion of waste) and some chemical responses. This is carried out by the granulocytes, neutrophils, basophils, mast cells, macrophages and eosinophils.

Acquired immunity has a learned memory of previously encountered foreign proteins, held mostly in the lymph nodes, and manifested by a whole other group of white blood cells called lymphocytes. When microorganisms or large toxins are digested by macrophages, large particles of digested "marker" protein (epitopes) are worn on their membranes. If these markers have been previously encountered, lymphocytes are cloned to directly respond to, and kill, the organism that bears them, or to make antibodies out of immunoglobulins as specific "antidotes" (antibodies) for the foreign molecules.

Well organized lymph drainage into lymph tissue results in a quick acquired immunity response, and speeds up the cleaning of debris when tissues need innate immunity responses, such as with a bruise. Although grossly oversimplified, this is the gist of the lymph/immune system that is pertinent to managing constitutional imbalances.

**LYMPH/IMMUNE DEFICIENCY SYMPTOMS** are mainly those associated with chronic moderate immunodeficiency; slow recuperation, slow healing of injuries and bruises, frequent low level infections in high-stress tissues such the respiratory mucosa and skin, and cold and flu symptoms that come and go for a month or more. Underlying causes can be many, ranging from a diet poor in protein to constant and subtle infections that never go away and drain immunologic energy (such as "slow" viruses, candidiasis and sinus infections). Further functional causes are emotional stresses that induce depressions and frustrations. Allergies that persist and induce hypersensitivities to other agents are

also symptoms of deficiency.

••**HERBS TO STIMULATE** increase efficiency of lymph transport, the bone marrow proliferation of WBCs, phagocytosis by innate immunity granulocytes, and overall synthesis of blood immunoglobulins and complement protein by the liver. Some tonics stimulate liver breakdown of immune waste products as well. Most allergies have as a base an acquired immunity underpinning (antibody response to Juniper pollen, as an example) and, if the chemicals produced by the response are not removed from the blood in an orderly fashion by the liver, they induce further unneeded innate immunity reactions.

**LYMPH/IMMUNE EXCESS** seems to have little constitutional importance... or perhaps I just don't know.

## **SKIN/MUCOSA**

### **OUTLINE OF FUNCTION: SKIN**

This is the protective covering that connects with the mucosa (the inside skin) like the outside of a doughnut. It cools and heats the blood through vasodilation, vasoconstriction, sweating and simple conduction. It provides a major surface for excretion of waste products, through sweat and sebaceous fats, that is sometimes equal to the kidneys. It acts as the first immunologic defense barrier to the outside. It is heavily protected by the granulocytes of innate immunity, and is capable of rapid shifts of arterial and venous blood and lymph, to both defend the surface and to protect the fluids by sending them deeper into the body. It contains many sensory organs and is responsible for monitoring our direct environment.

It is **SUPPOSED** to get infections first, and can isolate organisms very effectively while resistance is accomplished and healing can occur.

### **OUTLINE OF FUNCTION: MUCOSA**

This is the protective covering that connects with the skin at the entrances, and guards the body from any aspect of the external environment that enters into it (respiratory and digestive) or when there is even the possibility of physical access (urinary tract, reproductive, etc). Even though these tissues are often buried deep in the body, they, like the external skin, face the outside and drain outwards.

Since the body organizes waste products in order to excrete them (usually to the nearest outside surface), mucus is excretory as well as secretory. Mucus protects the mucosa, taking the place of the dead but flexible squamous epithelium that covers external skin, and when the mucosa is irritated it protects itself by increased secretions. Unlike external skin, the cells below this slime are alive, and absorption is possible much more rapidly than through the skin. Mucus membranes are therefore highly permeable and specialized membranes that are contiguous with the outside skin.

If the outside is dry, the inside usually is also. If there are skin allergies, there will be similar reactions in the mucosa. If the person is moist and sweaty, their mucosa will be hypersecretory. As well as their skin heals, so does their mucosa. There are some different neurologic and circulatory responses effecting the two skins, and they may sometimes present different evaluations.

**SKIN/MUCOSA DEFICIENCY SYMPTOMS** are often caused by liver deficiency. Together with the liver symptoms, vasodilation and secretory stimulus is often inadequate. Dry flaky skin, with crack and fissures, eczema and strange rough spots are typical, as well as frequent mouth, rectal and vaginal sores or inflammation.

••**HERBS THAT STIMULATE** generally increase blood supply, stimulate cholinergic sympathetic and parasympathetic enervation, or support the liver (and related functions) to make better quality proteins and fats for cell regeneration. Remember, you need to stimulate blood constituents for rebuilding, blood availability to the tissues, and excretory secretions from the skin.

**SKIN/MUCOSA EXCESS SYMPTOMS** are greasy and oily skin, often with adolescent type acne (acne vulgaris). There is hypertrophy in often-used membranes, such as keratosis pilaris, and a tendency to ingrown hair, sebaceous cysts or hydrosis. All the skin is oily, not just the face, and all the skin is moist, not just the face, neck, hands and feet (an adrenalin-induced sweat). The person has warm, radiant heat and often a strong body scent. Mosquitoes love them, and cold-bodied lovers covet them in the winter.

••**HERBS TO COOL** are either sedative to skin nerves or decrease liver excitability. Skin/mucosa excess is usually dependent on reproductive, liver and kidney excess and hard to effect directly.

## **MUSCLE/SKELETAL SYSTEM**

### **OUTLINE OF FUNCTION**

These evaluations exclude the importance of bones in blood cell formation and mineral metabolism, but deal with their structural importance as anchors for tendons and muscles. With muscles (speaking here of skeletal or voluntary muscles only), their tone is set by spinal chord nerves, reflexes, the brain, and sympathetic adrenergic nerves. Their blood supply (and therefore available energy) is controlled by autonomic nerves and adrenalin. They store glucose fuel as glycogen, and can also use fatty acids as an alternate fuel. When their stored fuels are exhausted by physical activity they are fed additional glucose from the liver, facilitated by insulin from the pancreas. The more often they are used, the greater their tone when at rest and the more blood they receive. In physical activity, their

increased blood supply is drawn mainly from the viscera; at rest, digestive, metabolic and reproductive functions again regain their former blood supply (and energy).

**MUSCLE/SKELETAL DEFICIENCY SYMPTOMS** are subtle except for joint aches and sense of weakness in the shoulder or legs. A telling sign is very pronounced lethargy after eating. This is sometimes found in adrenalcortical stress, usually found in thyroid stress, seldom found in adrenalin stress. Those with very excessive liver and GI functions usually show deficiency in muscle-skeletal energy; those with muscle skeletal excess usually have deficiencies in liver, kidney and reproductive energy. Much chronic joint and muscle pain seems to have little constitutional implication and needs to be treated separately.

••**HERBS TO STIMULATE** are sympathetic and motor nerve tonics or help to increase blood flow to the muscles and joints. Frankly, other deficiencies are usually more pronounced, and this deficiency is often dealt with better by treating the stronger imbalances first.

**MUSCLE/SKELETAL EXCESS SYMPTOMS** are tight muscles and tendons in the neck, back and legs. The person often needs massage, hot tubs and body work, since the skeletal muscles are both overstimulated when used and hypertonic and taut at rest. The most pronounced excess is in the muscles most effected by adrenalin, those of the neck, shoulders, intercostals, lower back, and legs.

Other muscle excesses are caused by emotional guarding, with the brain and spinal cord defensively overstimulating some muscles that protect parts of the body that are "dangerous". This may show up as abdominal hypertonicity (guarding reproductive functions), arms and shoulder hypertonicity (guarding the head or chest), upper back hypertonicity (from a protective or submissive slump or over-large breasts) and so forth. These are hard to treat with herbs and need therapies like rolfing or chiropractic.

••**HERBS TO COOL** oppose adrenergic stress, disperse blood to the viscera or act as simple muscle relaxers.

## **FINAL WORDS ON THE ORGAN SYSTEMS**

Remember, in organ system constitutional evaluations, the herbs need to be tonic.

If the herbs cause distress they are wrong, unless there is a clear healing crisis in the primary (disease) problem.

DON'T over estimate this probability, since most worsening of symptoms is a



worsening of the disease and not beneficial.

Any formula that induces a new problem is **WRONG**.

Don't try to treat imbalances that are barely evident.

Don't try to use an herb for **EVERYTHING** (the best herbs help several systems at once).

Conversely, if the primary problem is aggravated by herbs meant to strengthen everything else, you **ARE** on the right track, just lower the dosage or substitute less potent ones.

Remember to differentiate between constitutional tendencies and pathologies.

The **TENDENCY** for some folks to manifest muscular- skeletal deficiency under stress, as an example, is very trivial when compared to the somewhat similar deficiencies manifested by a collagen disease.

The first is a homeostatic accommodation, with energy being clearly shifted to other functions.

The second is a pathology, with the tissues being **UNABLE** to function, and the "missing" energy is expended in defense and healing, not shunted elsewhere.

## **SECTION 2**

# **THE PATTERNS OF STRESS**

We are capable of immense changes in our internal and external environments. We have brains that remember the past, react to the present and evaluate implications and future potential, then hold an internal ad hoc committee meeting (our limbic system) where we decide, given the physical state of our bodies as a further perimeter, how we feel. Our hypothalamus, the decide and act part of the limbic system, then sets our various stress thermostats to respond for the presumed order of the day, using both the pituitary hormones and its own hormones to control the body.

As we are animals that specialize in this uniquely complex array of stress reactions and automanipulations, we do what we can do, easily setting up patterns of neurohormonal manipulations that become habit, tending to drive our body and psyche in the ways we learn early in life are our innate strengths. We learn to manipulate our metabolisms and energies in excess of physical need, skim off the cream to meet job and life requirements, and let the body soak in the remaining stresses. It is easier to release substances into the bloodstream than it is to put them back if they are not needed. It is easier to stimulate a stress reaction than it is to undo it when there is no outlet. Most of us have physically sheltered lives in well controlled environments and our stress reactions, being largely physical, are

usually redundant.

The basic neurohormonal patterns of stress are rather predictable and I lump them into adrenalin (catabolic) stress, adrenocortical (anabolic) stress and thyroid (basal metabolism) stress. Although these patterns are observed more specifically in the organ system energetics and these are more easily modified than innate stress patterns, they need to be understood and sometimes they can be modified. If a person is a thyroid stress type and, besides their primary disorder, has no specific organ system weakness, the stress response can often be helped by Lycopodium or Leonurus alone, without having to address specifically the effects of thyroid excess on the organs, since they are all predictably responding to thyroid elevation. Generally speaking, in chronic disease it often helps to modify not only the organ imbalances but also the stress patterns; without overt disease I usually leave the stress patterns alone and deal with the organ system imbalances.

**ADRENALIN STRESS** results from the consistent reliance on epinephrine (adrenalin) or flight-or-fight responses to get through the day; it is the most common type. It would take pages of VERY boring discussion to describe the process, but the more we use nerve pathways and neuro-effector junctions, the easier it is, the more dominant they get, and the stronger the organ and tissue changes they induce become. As most adrenalin responses (sympathetic adrenergic) are opposed by other nerves (mostly parasympathetic cholinergic), adrenalin dominance also becomes parasympathetic suppression.

**These are the predictable patterns:** GI, liver, kidney, skin/mucosa deficiencies and central nervous system and muscle/skeletal excess.

**HERBS TO COOL** will increase parasympathetic strength or “relax” the hypothalamus and decrease its stress manipulation. Since the brain has such a high rate of metabolism (25% of blood sugar and oxygen is consumed by it), any shifts in blood chemistry or nutritional deficiencies show up there first as CNS irritability and hypersensitivity, long before less reactive organs have symptoms.

The cooling herbs are separated into those that are parasympathomimetics (strengthening cholinergic functions depressed by adrenergic dominance), those that tend to decrease hypothalamic over-reaction, and simple sedatives that have been shown to lessen CNS irritability in these folks without having any long term drug reactivity (something always to be avoided in a tonic approach).

Always check the diet for missing nutrients and, if possible, check blood proteins and fats. If high, they may be over taxing their metabolic energy, since adrenalin stress types are almost always natively catabolic. If low, they are adhering to a high carbohydrate diet that maintains a brittle energy level but which will only exaggerate their catabolic dominance, furthering blood sugar lability and, in the end, diminishing their ability to heal well because of substandard proliferation.

When cell proliferation and anabolism is diminished, the body's priorities

become rigidly defined: erythrocyte and WBC synthesis ranks **FIRST** in importance, skin and mucosa **SECOND**, with blood proteins and collagen **THIRD**. Therefore the **LAST** clinical or subclinical symptoms of diminished anabolic energy (unless there is overt disease) will be hematocrit, and RBC/WBC counts. Instead, look for diminished globulins, low non-RBC serum proteins, then chronic allergies and skin/mucosa weaknesses. This will manifest as eczema, psoriasis and lesions or cracks of the muco-epithelium lining the body's entrances.

Always look for nutritional deficiencies or dietary excesses, since CNS irritability **ALWAYS** accompanies blood chemistry imbalances, and these are the most common, day-to-day, non-disease reasons for such imbalances. **THEN** use herbs.

**ADRENOCORTICAL (ANABOLIC) STRESS** results from excess reliance on adrenal cortical and gonad steroids (testosterone, progesterone) and somatotropin, the pituitary hormone that stimulates protein metabolism. The consequence is over-production of structural and storage proteins and fats is essential hypertension and elevated cholesterols. The cause is limbic system stress, the pituitary induces it, and this is just the way some people instinctively, following subtle genetic encoding, stress themselves.

**These are the predictable patterns:** liver, kidney, reproductive, cardiovascular and skin/mucosa excess.

**HERBS TO COOL** help to modify hypothalamus stress, lessen liver anabolism or add alkali to the blood. Unlike adrenalin or thyroid stress, this is a tough tendency to deal with directly...there are no direct deficiencies to stimulate. The deficiency is often only conceptual or philosophic...Life Span.

Further, like catabolic stress, there are social reinforcements... "Look at the **SIZE** of that little tyke...a future defensive lineman for the Bears!"...or..."Bob sure is something...built like a linebacker but works seven days a week to keep those billings up!". Nobody ever says, later, "Look at Bob, could've played pro ball...isn't he macho, sitting there in the wheel chair, fighting his First Stroke...what a Trouper!". In an Italian or Mexican movie, maybe...in America, never

Obviously, this cultural reinforcement is gender-heavy. You'll rarely hear "Look at little Devon... what a **HUNK!**...gonna grow up to be a top scorer in Roller Derby!" More likely she will be put on thyroid medication, at least until she grows hips and a waist. You also won't hear "Look at that big macha mama...works long hours keeping up her billings, yet looks strong enough to jump into the mud wrestling ring!"

Many anabolic-dominant women spend their lives battling their physical nature...big thighs, wide hips, and their currently unfashionable big butt or wide shoulders. At its most pernicious, this social degradation can manifest as a warped metabolism...anabolic at heart, with the superficial blood sugar lability and adrenergic stress normally found in catabolic stress folks. This is often the sequela

of years of dieting and hang-dog exercising, not often enough for the admirable reasons of increasing one's health and body-mind-spirit integration, only TOO often in an attempt to fundamentally alter one's genetic reality ("Come on, burn the fat off those HIPS, girls!...to the LEFT...two..three...four, crossover RIGHT and two...three-and-four...").

Those that are genetically anabolic-dominant do VERY poorly when attempting to run on adrenalin energy. It isn't possible to maintain BOTH stresses and live very long OR very well. Remember such cultural icons as Elvis, John Candy and Mama Cass if you need to visualize an anabolic person struck down by adrenergic stress. Remember the cliched reality of retired NFL linemen or aging HBP Sam Brown Strutters relegated to desk work at your local police station if you want to visualize an anabolic who never changes habits with age...or natural physical deterioration.

Adrenalin stress in a catabolic person can be maintained for a long lifespan (or perhaps it just SEEMS that way). Adrenocortical stress in an anabolic person CANNOT be maintained for a long lifespan. It MUST be modified by age and wisdom. Adolescent-like metabolic gonad-goosing wears women and (especially) men out. Since there seems little value given to those Elders that figuratively Can't Cut The Mustard, adrenalin folks cook their adrenals more (long-living but irritable), and anabolic folks (short-lived greaseballs) can burn themselves out with their only native stress tools, gonad and adrenal steroids.

This sense of hopelessness as one grows older, with an obsessive denial of real-time aging, can keep people locked into the emotional self-goading of their spend-thrift youth, whipping a diminished physical reality in the hope of maintaining social importance. A lack of respect (or need) for the traditional value of the Elder (memory, experience, wisdom, and a knowledge of Important Things that are not of the realm of passion) may be a fundamental weakness of our culture. It doesn't help to know this on a philosophical level if your emotional attachments still burn you out in THIS life.

Help by organ system or fluid energetics. I have no herbs to help diminish social excesses.

**THYROID STRESS** is not to be confused with thyrotoxicosis or Graves disease, real pathologies, but instead it is a pattern of internalized stress a few people seem genetically prone to. It is the only one I have seen acquired through excess coffee, amphetamine or cocaine use, as well as the usual stress source, the hypothalamus/pituitary axis. These people use their metabolic rate as their stress response.

Superficially they seem like adrenalin types, but their skin is warm and moist and their intestinal tract is one a lion would envy. Mild tachycardia is nearly always present, even present first thing in the morning, and they sometimes have a mild pseudo-lethargy during the day, with troubled, short sleep.

**These are the predictable patterns:** GI, liver, cardiovascular, lymph/immune and skin/mucosa excess, kidney and muscle/skeletal deficiency.

**HERBS TO COOL** relax the hypothalamus or mildly decrease thyroid response to thyroid stimulating hormone from the pituitary.

## **THYROID STRESS: DEPRESSIVE**

Unlike the other two stress types, where there is actually increased strength that “settles” in the target tissues (and is essentially organic), thyroid stress is ongoing, with imbalances occurring only so long as the pituitary responds to the hypothalamus (and is essentially functional). Many thyroid stress people manifest a sort of manic-depressive duality, a metabolic bipolarity. If they respond to agitation with elevated metabolism, they may respond to depression with a decrease of thyroid stimulation. It may difficult to perceive their current depression as part of a big cycle, unless they have had extended periods in the past when they have clearly been in excess. You often need some fairly extensive interviewing before seeing the patterns.

To further confuse matters the thyroid stress person will often perceive the physically-depressed end result, but understandably flail about for some external explanation, such as CFS, MCS, or some acronym-of-the-month. They will want you to work with them based upon this realistic presumption

In fact, **THEY ARE OFTEN CORRECT**, since a thyroid person in a deficient phase is very susceptible to such subtle, lingering pathologies. But until you can help them begin an upswing in metabolism, there is nothing at all you can do about such a condition.

**The predictable patterns are:** GI, liver, lymph/ immune and skin/mucosa deficiency. To the observer they have sluggish eyes and pasty skin.

**HERBS TO STIMULATE** act on the hypothalamus primarily, although some simple CNS stimulation is often helpful.

## **SECTION 3 FLUID TRANSPORT ENERGETICS**

This is still another parameter of imbalance. It is the least complex but it is an approach that, by itself is often sufficient. The basic premise is this: land animals must carry their ocean with them. We evolved in the ocean, developed methods- of controlling potassium, sodium and chloride across membranes to maintain metabolism and life (using solutes in the water), and, along with land plants, we now must carry the ocean within our skins, controlling these electrolytes (particularly sodium), bathing the outside surfaces of our cells as if they were single-celled organisms in the sea. The ocean feeds and cleanses them, and the colony/body must excrete the wastes to the the outside, while maintaining the

integrity and flow of the ocean on the inside.

We excrete in the neighborhood of a quart of salty waste-water a day, through the kidneys, the outside skin, the mucosa and (as vapor) the lungs. When one surface excretes more than it should, the others suffer. Rebalancing the fluid excretions helps maintain better homeostasis and more efficient waste removal.

**SKIN DEFICIENCY** results from adrenalin stress or thyroid depression. The excreting fluids are going excessively out the kidneys (kidney deficiency), leaving a diminished volume available to cleanse in the skin, mucosa and usually the lungs.

Treat for kidney deficiency and the specific stress type.

**MUCOSA DEFICIENCY** is most noticeable as upper and lower GI deficiency, with surplus fluids going out the kidneys. The skin is usually dry as well, although the lungs' fluid energetics are variable.

The best approach is to stimulate the GI and the liver bile secretions.

**KIDNEY EXCESS** is found in adrenocortical stress people, with the surplus fluids cleansing the skin, mucosa and lungs but being held back by the kidney excess. This needs to be dealt with by treating the kidney excess with sodium/water leeching diuretics, cooling the liver and using the herbs that relax the hypothalamus. The person usually needs to increase dietary minerals (especially calcium) and decrease dietary animal fats and proteins.

**LUNG DEFICIENCY** is almost always the result of adrenalin stress and the increase in respiration and dehydration caused by a brittle cardiopulmonary adrenergic stimulus. This is best approached by treating for kidney deficiency and adrenalin stress, perhaps adding some *Asclepias tuberosa* as well.

**ALL MEMBRANES OVER-SECRETING** is the result of thyroid stress and usually is helped by treating that imbalance alone. If the person is adrenocortical stressed but with seeming kidney deficiency, this is often the sign of the anabolic excess burnout with early symptoms of adult-onset insulin-resistant diabetes...so be sure to run a full glucose test first. It isn't the casual hyperglycemia that is important, but the REACTIVE profile.

**ALL MEMBRANES UNDER-SECRETING** is usually found in thyroid stress depression and treating that is the best approach. If it is found in an adrenalin stress person with diminished urine production (and some recent edema) have kidney function tests performed; it may be early warning symptoms of renal failure or iatrogenic responses to prescription drugs.

### **FINAL NOTE on SECTION 3**

Although I am listing this constitutional model last, and although it is somewhat simple in design (and the shortest and perhaps, therefore, Least Worthy), it is often the easiest one to deal with AND the quickest to show results. It may result in changes and metabolic rebalancing of shorter, even trivial duration, but **IT GETS THINGS STARTED.**

Getting the chronic disease patient to honestly perceive beneficial results, even trivial ones, creates a subtle but supremely important shift in self-perception. Since the only long-term non-procedural stability or actual improvement to be found in chronic disease is through fundamental changes in metabolism, nine times out of ten the PERCEPTION of improvement in symptoms can help the person TRUST in their body.

Whether you wish to use the physiologic explanations offered by psychoneuro-immunology, or whether you wish to accept the innate spiritual magic of the Human Predicament, a person having a long-standing chronic disease rooted in their own genetics AND self-manipulations needs to follow a different set of values that define SELF. Most folks are, at heart, aware and realistic. Show them some perceptible changes and **THEY WILL BELIEVE.**

Further, you, the therapist **MUST BELIEVE**, so getting some improvement with a previously unresponsive patient will help you trust this sometimes peculiar method of evaluation and supportive treatment. Treating fluid imbalances is the quickest way to begin viewing folks as, however subtly you do it, more than a Bag-o'-Symptoms.

# PRIMARY HERBS FOR USE IN CONSTITUTIONAL TREATMENT

## ORGAN SYSTEM ENERGETICS

### UPPER G.I. DEFICIENCY.

**BITTER STIMULANTS:** Agave, Aletris, Artemisia spp. Berberis, Cnicus, Coptis, Fraxera, Gentiana, Mahonia, Menyanthes, Ptelea.

**FUNCTIONAL STIMULANTS:** Angelica, Anthemus, Aristolochia (all), Capsicum, Panax quinquefolium, Xanthoxylum

### UPPER G.I. EXCESS.

**ASTRINGENTS:** Erigeron, Geranium, Juglans, Myrica, Rubus, Salvia.

**PROTECTANTS:** Acacia, Althea, Glycyrrhiza, Prosopis, Symphytum.

**ANESTHETIC/SEDATIVE:** Dioscorea, Foeniculum, Garrya, Humulus, Mirabilis, Nepeta, Pluchea, Verbesina.

### LOWER G.I. DEFICIENCY.

**CONSTIPATIVE TYPE:** Cassia, Glycyrrhiza, Menyanthes, Podophyllum, Rhamnus, Rumex.

**CONGESTIVE TYPE:** Aristolochia (all), Chionanthus, Collinsonia, Euonymus, Fouquieria, Rumex

**LOWER G.I. EXCESS:** Acacia, Erigeron, Garrya, Geranium, Lycopus (thyroid), Myrica, Prosopis, Rheum

### LIVER DEFICIENCY.

**METABOLIC/BILIARY STIMULANT:** Aloe, Asclepias tuberosa, Berberis, Brickellia, Chelidonium, Chelone, Euonymus, Iris, Leptandra, Linaria, Mahonia, Menyanthes, Phytolacca, Silybum.

**LIPID/PORTAL STIMULANT:** Aristolochia (all), Fouquieria, Larrea, Rumex.

**ARTERIAL STIMULANT:** Aristolochia (all), Leptandra, Podophyllum, Xanthoxylum

### LIVER EXCESS.

**BUFFERING COOLER:** Medicago, Trifolium, Urtica.

**ANABOLIC COOLER:** Arctium, Harpagophytum, Lycopus, Silybum, Tribulus.

**BILIARY COOLER:** Artemisia vulgaris, Bidens, Coralorrhiza, Erigeron, Taraxacum

**KIDNEY DEFICIENCY.** Angelica sinensis (Dong Quai), Capsella, Equisetum, Glycyrrhiza, Oplopanax, Panax (all), Vaccinium

### KIDNEY EXCESS.

**METABOLIC COOLER:** Asclepias (all), Harpagophytum, Iris, Tribulus, Vinca.

**DIURETIC COOLER:** Arctium, Capsella, Erigeron, Equisetum, Taraxacum.

**LOWER URINARY DEFICIENCY:** Capsella, Eryngium, Verbascum Root

**LOWER URINARY EXCESS:** Agropyron, Althea, Piper methysticum, Serenoa

### REPRODUCTIVE DEFICIENCY

**ANABOLIC STIMULANT:** Angelica sinensis, Caulophyllum, Glycyrrhiza, Paeonia, Panax (all).

**CIRCULATORY STIMULANT:** Aristolochia (all), Asarum, Asclepias asperula, Cimicifuga, Collinsonia, Corynanthe, Fouquieria, Phytolacca, Ptychopetalum, Solanum dulcamara

**HYPOTHALAMUS/PITUITARY STIMULANT:** Anemone, Gossypium, Leonurus, Turnera, Vitex

### REPRODUCTIVE EXCESS.

**FUNCTIONAL COOLER:** Dioscorea, Mitchella, Nuphar, Oenothera Seed, Trillium, Viburnum.

**ANABOLIC COOLER:** Eleutherococcus, Paeonia, Tribulus, Vitex

### RESPIRATORY DEFICIENCY.

Aconitum (cured Chinese), Copaiba, Eriodictyon, Guaiacum, Stillingia.

**PARASYMPATHETIC STIMULANT:** Anemone, Asclepias (all), Lobelia, Polygala, Sanguinaria.

**SECRETORY STIMULANT:** Aralia racemosa, Asclepias (all), Drosera, Ligusticum porteri, Polygala, Sanguinaria



## **RESPIRATORY EXCESS.**

**FUNCTIONAL COOLER:** Equisetum, Glycyrrhiza, Grindelia, Prunus, Verbascum.

**THYROID COOLER:** Leonurus, Lycopus

## **CARDIOVASCULAR DEFICIENCY.**

**CARDIAC/ARTERIAL STIMULANT:** Aconitum (cured Chinese), Apocynum, Asclepias asperula, Cereus (Selenicereus), Cola, Convallaria.

**PARASYMP/VASODILATOR:** Anemone, Aristolochia (all). Bryonia, Ginkgo, Guaiacum, Leonurus, Stillingia, Xanthoxylum, Zingiber.

## **CARDIOVASCULAR EXCESS.**

**CHOLINERGIC COOLING:** Crataegus, Chrysanthemum parthenium, Leonurus, Lycopus (thyroid), Passiflora, Veratrum, Viscum.

**DIURETIC:** Arctium, Taraxacum, Tribulus, Visca

## **LYMPH/IMMUNE DEFICIENCY.**

**LYMPHAGOGUE:** Anemopsis, Ceanothus, Fouquieria, Guaiacum, Phytolacca, Polymnia, Stillingia

**INNATE STIMULANT:** Althea, Aristolochia (all), Arnica, Astragalus membranaceus, Baptisia, Bursera, Commiphora, Cupressus, Echinacea(all), Guaiacum, Polymnia

**ACQUIRED STIMULANT:** Cupressus, Echinacea(all), Thuja

## **LYMPH/IMMUNE EXCESS.**

Chrysanthemum leucanthemum, Erigeron, Scutellaria, Tribulus

## **SKIN/MUCOSA DEFICIENCY.**

**VASCULAR STIMULANT:** Aristolochia, Asclepias (all). Calendula, Capsicum, Guaiacum, Hydrastis, Stillingia, Xanthoxylum.

**LIVER STIMULANT:** Guaiacum. Mahonia, Panax (all)

## **SKIN/MUCOSA EXCESS.**

**NERVE COOLING:** Ambrosia, Encelia, Ephedra, Euphrasia, Krameria, Urtica.

**LIVER COOLING:** Arctium, Erigeron, Euphrasia, Taraxacum, Tribulus

## **MUSCLE/SKELETAL DEFICIENCY.**

**MOTOR STIMULANT:** Aconitum (cured Chinese), Caffea, Cola, Lophophora, Paullinia. Sumbul.

**VASCULAR STIMULANT:** Aesculus hippocastanum, Anemone, Aristolochia serpentaria, Arnica, Oplopanax, Panax (all).

## **MUSCLE/SKELETAL EXCESS.**

**ADRENERGIC COOLING:** Avena, Harpagophytum, Lobelia, Yucca.

**MUSCLE RELAXANT:** Aconitum, Cimicifuga. Cypridium, Gelsemium, Lobelia, Passiflora, Populus, Scutellaria

# **PATTERNS OF STRESS**

## **ADRENALIN STRESS.**

**PARASYMPATHOMIMETIC:** Anemone, Cimicifuga, Hypericum, Lobelia, Piscidia, Scutellaria, Verbena.

**HYPOTHALAMIC:** Eleutherococcus, Oplopanax, Panax (uncured)

**TONIC SEDATIVES:** Avena, Leonurus, Scutellaria, Verbena.

## **ADRENOCORTICAL STRESS:**

**HYPOTHALAMIC:** Aralia (all), Eleutherococcus, Oplopanax, Panax quinquefolium.

**ANABOLIC COOLING:** Arctium, Medicago, Taraxacum, Trifollum, Tribulus, Urtica

**THYROID STRESS.** Leonurus, Lycopus

**THYROID DEPRESSION.** Anemone, Aristolochia serpentaria, Centella asiatica, Mahonia, Phytolacca Berries.

# **FLUID ENERGETICS**

**GENERAL DEFICIENCY** see ADRENALIN STRESS. THYROID DEPRESSION

**SKIN DEFICIENCY:** See KIDNEY and LOWER GI DEFICIENCY, LIVER DEFICIENCY

**MUCOSA DEFICIENCY:** see UPPER GI DEFICIENCY

**KIDNEY EXCESS:** See KIDNEY EXCESS, ADRENOCORTICAL STRESS

**LUNG DEFICIENCY:** see KIDNEY DEFICIENCY, ADRENALIN STRESS, add Asclepias tuberosa, Lobelia, Polygala, Stillingia

**LUNG, GI DEFICIENCY W/KIDNEY EXCESS** - Glycyrrhiza

# NOTES ON CLINICAL FORMS

## CONSTITUTIONAL INTAKE FORM

To be filled out by the patient or client

The questions are divided into organ systems. For visual ease, the check lines preceding each question are either to the FAR left (signifying excess) or the IMMEDIATE left (signifying deficiency). Many of the questions are meant to reflect the person's view of self, and results are purely subjective. Questions of degree, such as "frequent need for laxatives" (Lower GI), "frequent minor illnesses" (Liver) and "seems to have low blood sugar" (Liver) can be open to riotous debate, both with them and you, as well as between their own dichotomies. Pursue as far as seemly, and WITHOUT JUDGMENT...this stuff lay in the realm of psych and counseling, but we are all subject to sundry views of our OWN actions on different days. The General Section questions are mainly springboards to further verbal input.

PROBLEM PATIENT 1: Some folks will refuse to respond to any question that does not have an obvious bearing on their primary complaint. The woman with long, painful cycles ALWAYS has a constellation of other symptoms, but may only check the boxes that deal with "that problem". She will have fallen into the common position of separating Self from Affliction. If you are willing to pursue the interview further, you may learn the rest of the story...or not. A lot of folks with this rigidity are not going to be very good candidates for a constitutional approach. If you wish to continue anyway, rely more heavily on other observations. The General Questions are often helpful in opening up less dangerous subjects.

PROBLEM PATIENT 2: Some folks check EVERYTHING, as if in confusion or having a self-inflicted role as a befuddled victim...you know the type. That often leaves the load on YOUR shoulders to somehow read their biotype without their conscious involvement. They will sometimes worry about the "right" answer, trying to put forth the facet of their nature that you will approve of, and more often than not will have such a vacillating sense of self that they are even harder to help than the first type. They are often unsure whether they are being helped at all. Then again, some people HAVE that many multi-system problems. It's, once again, up to you. Just don't get too involved in their scenarios.

PROBLEM PATIENT 3: This is the person who has taken so many prescriptions and had so many operations that their real constitutional nature is deeply buried or totally obliterated. Those who have gone through the gamut of auto-immune or arthritis treatment (including orthoped surgery) or those who have FOUR different types of asthma inhalers in their pockets and glove compartments, and are taking mucolytics, anti-inflammatories, etc. can be decades removed from any sane non-iatrogenic homeostatic state as to be hopeless to evaluate. At the very least, the fluid energetic approach will bring some relief. Medications will have erased their native stress mechanisms and produced organ system energetics completely induced by the drugs, with their genetic nature deeply hidden. If you are a Medical Doctor who has found any value in my approaches, stop right now! A person so clouded by well-intentioned but routine meds can give you a sense of deep frustration. Twenty years of knee-jerk HMO medications for chronic disease will profoundly alter or erase such a person's native strengths or weaknesses.

## **EVALUATIONS AND RECOMMENDATIONS**

**Your office record for initial and subsequent evaluations and treatment.**

Bare-boned as it is, it gives you a chance to wed several levels of evaluation. The questions on the intake form are more than adequate most of the time, but you may find things out from conversation, body language or instinct that may over-ride THEIR answers. Further, if the patient's diet aggravates a moderate stress or organ system imbalance, it may add further weight to your evaluation. A person who seems to have native upper and lower GI deficiency and is ALSO taking anticholinergics, antacids or is dutifully fasting has therapies that will further aggravate their constitution.

I usually end up using symbols like those in the herb charts...circling the "+" or "-" of a system or stress that is strong and needs direct action. I use plain and uncircled pluses or minuses for less important imbalances.

There are areas to list any dietary recommendations you make, as well as other advice you may give that seems to have a constitutional bearing, as well as spaces to record the herbs, media, dosology and frequency.

The Worksheet is just that....a place to list potential herbs OR to screen formulas they are already taking. You will be surprised how many commercial herb formulas make no sense at all energetically, being simply random herbs that are only assembled together for Name Recognition and marketing value. Although herbs present few of the direct iatrogenic and constitutionally-confusing potentials of meds, a dedicated self-treatment person can STILL shunt themselves into strange patterns. Particularly since their formulas deal to some degree with conditions they are trying to treat. A person with recent hepatitis or with reoccurring bronchial problems may often take OTC herb formulas for the liver or lungs, and, because, in fact the constituents ARE those traditionally aimed at those organs, aggravate an inflammatory state by using herbs that stimulate and excite, or depress functions further that are already deficient.

Don't overlook the value in showing them your scribblings in the worksheet or the multisystemic effects I have outlined in the charts. It's big, complicated, and Ever So Authoritative in visage that the patient may simply be awed into submission.

Besides, it is all reasonably accurate...trust me...I'm an herbalist.

**FINAL NOTE:** The section at the bottom of the Evaluations and Recommendations sheet marked "Self-Monitoring Parameters" is very important to use if you are dealing with a patient with a long-standing, stable, but consistent chronic disease. An ideal patient has to be your ally and partner in this process. THEY will know their physical weaknesses, THEY may have a very accurate and sophisticated system of self-monitoring their disease. The quickest way to enable them to intellectually give up to their body (a frequent enemy) and its native ability to heal or stabilize is to find ways that THEY can monitor their symptoms, and perceive changes brought about by treatment.

How early in the day can they place both palms on their knees? (if arthritic), how many times a night do they have to urinate (if they have interstitial cystitis), how many units of conjugated insulin do they need at night to prevent waking up before dawn with the shakes...etc. IF the constitutional treatment helps, they will know it first, tell you second, want more treatment third, and start to trust their body fourth.









⊕ Strong stimulation + Weak stimulation - Weak suppression ⊖ Strong suppression

Herbal Energetic Charts	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR-URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCULAR	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Abies (Tsuga canadensis)	Bark	⊕	-					⊕					+		-		+			
Acacia greggii (Catclaw Acacia)	Lvs/pd	-	⊖									-	-				-			
Acacia senegal (Gum Arabic)	Gum	⊖	-			-							⊖							
Achillea (Yarrow)	Herb			-	-		⊕	+				⊕	+					-		
Aconitum (Monkshood)	Hb/rt	+		-	-	-		⊖	⊖	+		-	+	⊖	⊖	⊖	+	-		
A. carmichaeli (Fu-Tze)	Cured Root	+			+			⊕	⊕		-	-		+	⊕	⊕	-	⊕		+
Acorus calamus	Root	+	+					+	+		+		+	+		⊕	+			
Actea rubra (Baneberry)	Root	+	+				⊕	-	+	+		+	+	⊖	⊖	-	+	⊖		-
Adiantum (Maidenhair Fern)	Herb			-	+		+	+		+		+	-			+				
Aesculus glabra (Ohio Buckeye)	Bk/frt	⊕	+	+			+		+	+	+		-	⊕	⊖	+	+	-	-	
A. hippocastanum (Horse Chest)	Bk/ft		⊕	+			+	⊕	⊕					⊕					-	
Agave	Root	+	⊕	-				+	-			+	+	-						
Agave	Leaf	+	+		-				-								-			
Agrimonia (Agrimony)	Herb	-	-	-	-	+	+	+					+							
Agropyron (Couchgrass)	Root		+	-	-	⊕									-				-	
Ailanthus (Tree of Heaven)	Brk/frt	⊕					+	+	⊖					⊖	⊖	-	⊕	-		-
Alchemilla (Lady's Mantle)	Herb	-	-		-								-							
Aletris (True, False Unicorn)	Root	⊕	+		+		+	+		+		+		+		-		-		
Allium sativum (Garlic)	Bulb	+	+	-	+		+	+	-	+		⊕	+						⊖	-
Alnus serrulata (Tag Alder)	Bark	+		+	+	+	+			+	+	+	+				+			
Aloe spp.	Dry sap	+	⊕	⊕	-	+	⊕					+		-						
Althea (Marshmallow, etc)	Root	⊖	-		-	-		-			⊕		-							
Ambrosia (Ragweed)	Herb	-	-	+		-	-								-			-		-
Amygdalus persica (Peach)	Gm.twg	⊖	-	-			-	⊖	-											-
Anagallis (Scarlet Pimpernel)	Herb	+		⊕			+		+		+	+			+	+			+	+
Anaphalis (Everlasting)	Herb	-	-	-				-					-							
Anemone pulsatilla, tuberosa	Fresh hb	⊕	+	+			⊕	-	⊕	+		⊕		⊕		-	⊕	-		
Anemopsis (Yerba Mansa)	Root		+	-	⊖	-		+		⊕	⊕	+	+	-	-				-	
Angelica spp.	Root	⊕	-		-		⊕	+	+	+	+	+	+				+	-		
Angelica spp.	Seed	+	+		-		+		+	+		+	+				+	-		
Angelica (cured Dong Quai)	Root	⊕		+	+		⊕	+	+	+	+	+	+	-			+		+	+
Anisum (Anise)	Seed	+	-		-			-						-		-	+	-		
Anthemus (Roman Chamomile)	Flw	⊕	+	+	-		+								-	+				
Apium (Celery)	Seed	⊕	+	+	-	+		+		+					+	+	+	-	-	+



⊕ Strong stimulation ⊕ Weak stimulation ⊖ Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCUL.	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Apocynum(Dogbane,Cn.Hmp)	Rt.	+	⊕	+	⊖		+	+	⊕	+		+	+			⊖	⊕	-		
Aralia nudicaulis (Am.Sarsap.)	Root	+		+	+		+			+	+	+	+					-	+	+
A. racemosa (Spikenard)	Rt,brry	+		+	+		+	⊕		+	+	+	+	+			+	-	+	
A. spinosa (Hercules Club)	Root	+	+	+	+			+	+	+	+		+						+	
Arctium (Burdock)	Root	-		⊖	-		-	-								-			-	-
Arctium (Burdock)	Seed				⊖	+	⊕			+		+						-	-	
Arctostaphylos(U-Ursi,Mnznta)	Leaf	⊖			⊖	+						+								
Argemone(Prickly Poppy)	Herb	-	-	+		-		-	-		+			-	⊖	-		-		
Arisaema(Jack-in-the-Pulpit)	Corm	+	⊕		+		-	-				+								
Aristolochia californica	Rt,hrb	⊕	+	⊕	+		⊕	+	⊕	⊕	⊕	+	⊕	+		-	+	-		+
A. serpentaria (V.Snakeroot)	Root	⊕	+	⊕	+		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	-	+	-	+	⊕
A. watsonii (Indian Root)	Rt,hrb	⊕	+	⊕			+	+	+	+	⊕	+	+				+	-		
Arnica spp.	Plant	+		⊕	-		+	⊕	⊕	⊕	⊕	⊕	+	⊕	⊕	+	⊕	+	+	+
Artemisia absinthium(Wrmwd)	Herb	+		⊕			+		⊕		+			-	⊕		⊕	-		
A. tridentata (Sagebrush)	Herb	⊕	+	+	-	-	⊕	+	+	+	+	+	+	-	-		+	-		
A. vulgaris (Mugwort)	Herb	-	+		-		⊕		+			+	+				⊕	-	-	
Asafetida (Ferula asafetida)	Gum	⊕	⊕			+	⊕	+	⊕	+				+	⊕			-		-
Asarum (Wild Ginger)	Root	⊕	+				⊕	+	⊕	+	+	+	+				+	-		
Asclepias asperula (Immortal)	Root	⊕	+	+	⊖		⊕	⊕	⊕	+		⊕	+	-	-	-		⊖		
A. comuta (Common Milkweed)	Root	⊕	+	⊕	-		+	⊕	⊕			⊕		-	-		+	-		
A. incarnata (Swamp Milkweed)	Root	⊕	+	+	-			⊕	⊕			+					+	-		
A. tuberosa(Pleurisy Root)	Root	⊕		⊕	⊖		⊕	⊕	⊕	⊕	+	⊕	⊕	-	-	-	⊕	-		
Asparagus officinalis	Root	+	+		⊖	-		-	-							-	+			
Aspidium(Dryopteris,Male Fern)	Resin	⊕	+	+				-	-								+			
Aspidosperma(Quebracho)	Bark							+	⊕							+	⊕	-		
Avena (Oats)	Green Sd	+	-	-		+	-		-						+	-		-		-
Balsam of Peru	Balsam	⊕	+				⊕	+				⊕	+							
Balsam of Tolu	Balsam	⊕	⊕	+	⊕	+	⊕	⊕	⊕	⊕	+	+	+	⊖	-		+	-		
Balsamorhiza (Balsam Root)	Root	+						⊕	+	+	+	+	+				+			
Baptisia (Wild Indigo)	Root	⊕	⊕	+	⊕	+	⊕	⊕	⊕	⊕	⊕	+	+	⊖	-		+	-		-
Barosma (Buchu)	Leaves	+			+	⊕		+				⊕	+							
Betula (Birch)	Bk,ls	-	-		+	+						⊕								
Bidens (Tickseed)	Herb	-	-	-	⊕	+	-					-	-							
Brickellia (Hamula, Prodigiosa)	Herb	+		⊕	+					+		+						-		

⊕ Strong stimulation ⊕ Weak stimulation ⊖ Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCUL.	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENALN STRESS	ANABOLIC STRESS	THYROID STRESS
Bryonia (Bryony)	Root	⊕	⊕	⊕	⊕		⊕	⊖	⊖	⊕	⊕	+	+	⊖	⊖		⊕			
Bursera microphylla(Elephant Tr.)	Gum	⊕	+	⊕	—	+	⊕	+	+	⊕	⊕	+	+				+			
Cacalia decomposita(Maturiqui)	Root	⊕	+	⊕	⊖	—	⊕	⊕	+	+	+	+	+	⊖	—		+	—	—	
Coffea arabica (Coffee)	Bean	+	⊕	⊕	⊖	+		⊕	⊕	⊕	+	+		⊕	⊕	+	+			+
Calendula (European Marigold)	Flower			+	—				+	+	+	⊕	+							
Campsis radicans (Tpt.Creeper)	Herb	+			—			+		+		+								
Cannabis sativa (Marijuana)	Herb	+		+	—	—	⊖	⊖	⊖	—			—	⊖	⊖	—	—	—	—	—
Capsella (Shepherd's Purse)	Herb		—		⊕	—	⊕		—				—		—	—	+		—	—
Capsicum frutescens (Cayenne)	Fruit	⊕	⊕	+	—	+		+	⊕	+	+	⊕	⊕	+	+	+	+	—		
Cardamomum (Cardamon)	Seed	⊕	—						+			+	+							
Carthamus (Safflower)	Flower		+		—							⊕	+				+			
Carum (Caraway)	Seed	+			—										+					
Caryophyllus (Cloves)	Buds	+	+					+	+				⊕							
Cassia marilandica(Am.Senna)	Leaves	+	⊕	+	—		+										⊕	—		
Cassia senna,etc.(Senna)	Leaves	⊕	⊕	+				—	—	+		+			—	—	⊕	—		
Castanea (Chestnut)	Leaves							⊖	—					—				—		—
Castela (Chaparro Amargoso)	Herb	+	—	+	—									+	—					
Caulophyllum (Blue Cohosh)	Root	+		—	—		⊕	+				+	+	—			⊕	—		
Ceanothus (Red Root)	Root	—	+	⊕	+	+	—	—	+	⊕		+	+	—	⊖	—	—	—	—	—
Centaurium (Centaury)	Plant	+					+						+				+	—		
Centella asiatica (Gotu Kola)	Herb			+		+		—	⊕		+	⊕		—	—			+		⊕
Cephalanthus(Button Bush)	Herb	+	+	+	—			+	+			+		—			+	—		
Cercocarpus(Mountain Mahog.)	Twgs		—		+			+	+											
Cereus grandiflor.(Selenicereus)	Stms	+			+		+	+	⊕		+	⊕		+	+	+		—		—
Chamaelirium (Helonias)	Root	⊕	⊕		—		⊕						+	—	—		+	—		—
Chelidonium (Celandine)	Herb	⊕	+	⊕	⊖		+		+	⊕	+	+	+	+	+		⊕	—		
Chelone (Balmony)	Herb	+	⊕	+				—				—					+	—		
Chenopodium(Epazote,Am.Wmsd)	Hrt	⊕		⊕	—		⊕		—				+	—	⊖	—				
Chilopsis (Desert Willow)	Lf.twg			+			+	+	+	+										
Chimaphila (Pipsissewa)	Herb	+	+	+	⊖	—	+		+	⊕	+	+	+							
Chionanthus (Fringetree)	Bark	+	+	⊕	—				⊕	+	+			+	+		+	—		
Chlorophyllins	"JJ"		+					+	⊕			+	+	+	+					+
Chrysanthemum parth.(Feverfew)	Herb	+		+	—		+		+	+		+	+		+	+	+	—		
Cichorium (Chicory)	Herb	—		⊖	—		—	—		+	+	+							—	

⊕ Strong stimulation ⊕ Weak stimulation ⊖ Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCULAR	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Cimicifuga (Black Cohosh)	Root	+					⊕	-	+					⊖	⊖	-	+	-		-
Cinchona (Quinine Bark)	Bark	+		+	⊕	-	⊕	+	⊕	-		+		⊕	+					
Cinnamomum (Cinnamon)	Bark	+	-		+		+					⊕	-		+					
Cistus (Rock Rose)	Herb	-	+	+	-			-	-	-	-	-	-				-	-		
Clematis (Virgin's Bower)	Herb	+	+		-	+	⊕		⊕			+		⊖	-	-		-		
Cnicus (Blessed Thistle)	Herb	⊕	+	⊕	-	-	⊕	+	+	+	+	⊕	⊕	+			+	-		
Cola nitida (Cola Nuts)	Seed	⊖	-		+	+		⊕	⊕	+				⊕	⊕	+		+		
Collinsonia (Stone Root)	Root	+	+	+	⊕	+		-	-	⊕	-		⊖				+	-	-	
Commiphora (Myrrh)	Gum	+		⊕	+	+	⊕	⊕	⊕	⊕	⊕	+	⊕	+	+		+			
Condalia (Lotebush)	Rt/bk	-						+				-	-					-		
Convallaria (Lily of the Valley)	Root	+	+			+	+		⊕			+			-			-		-
Copaifera (Copaiba)	Oil	⊕			⊖	+		⊕	⊕	⊕	⊕	⊕	⊕							
Corallorhiza (Coral Root)	Root	+		-	+		+	-	-	⊕	+	⊕		-			+			
Coptis (Goldthread)	Plant	⊕		+					+	+	+	⊕	⊕				+	-		+
Coriandrum (Coriander)	Seed	-	⊖										+							
Cornus (Dogwood, Osier)	Rt/bk	+	+			⊖			+	+		+	+							
Corydalis aureus (Golden Smoke) Hrb		+		⊕			+	-	-			+		⊖	⊖	⊖	+	-		-
Corynanthe (Yohimbe)	Bark	-			⊕		⊕		⊕			⊕	+	⊕	⊕	+	+	+	+	+
Crataegus (Hawthorn) Berries, flowers		+							⊖			-			-		+	-	-	
Crocus (True Saffron)	Stigma	⊕	+				⊕					⊕		-	+					+
Cubeba (Piper cubeba)	Seed	⊕			⊕	⊕	+	⊕	⊕			⊕	⊕		+					
Cupressus (Cypress)	Herb	+		+	+	⊕	⊕	⊕	⊕		⊕	+	+	-						
Curcuma (Turmeric)	Root	+		-				+	-	+	-	+	+	-	+		+		-	-
Cuscuta (Dodder)	Herb	+	⊕	⊕					-	⊕		+					+	-		
Cymopyerus (Chimaja)	Herb	-	-		-		+	+				+								
Cynara (Artichoke)	Herb	+	+	+	+					+					-					
Cynoglossum (Hound's Tongue) Hb/rt		-	-	+				-	-				-		-					
Cypripedium (Lady Slipper) Root		-		+			⊖	+	+			+	+	⊖	⊖	⊖	+	-		-
Datura (Jimson Weed)	Herb	⊖	⊖	-	-	+	-	⊖	⊖			⊖	⊖	⊖	⊖	-	⊖			
Daucus carota	Seed	+			⊖	⊕	⊕		+			+			+				-	
Dicentra canadensis (Trky Corn) Root		+		⊕			+	-	-	+	+	+		⊖	⊖		+	-		
D. formosa (Bleeding Heart) Rt/hb		+	+	+			+	-	-	+				⊖	⊖	-	+	-		
Dioscorea (Wild Yam)	Root	⊖	⊖	-	+		-					-	-	⊖			-			
Dipsacus (Teasel)	Herb	⊕	+		-			-		+							+	-		

⊕ Strong stimulation ⊕ Weak stimulation ⊖ Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	LR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCUL.	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Dracontium(Skunk Cabbage)	Root	+	-		⊖		-	⊖						⊖	+	-	+	-		
Drosera (Sundew)	Herb	-	-	-			-	⊖	-			⊖	+	-	-		+			-
Echinacea angustifolia / pallida	Rt/fwr	-	+	⊕	-	-			+	+	⊕	⊕	⊕	-	-		+			
Echinacea purpurea	Rt/fwr	-		⊕	⊖				+	+	⊕	⊕	+							
Eleutherococcus(Sib.Ginseng)	Root	+			+	-	+		+		+	+	+		-	-		-	-	-
Encelia farinosa(Incienso)	Herb	-	+	+	-	-	+	+		+		+		-						
Ephedra viridis (Mormon Tea)	Herb	-			⊖	⊕		⊕	-			-	-	-			-			
Ephedra vulgaris(Ma Huang)	Herb	-	-		+			⊕	⊕		-	-	-	+	⊕	⊕	-	⊕		+
Epigea (Trailing Arbutus)	Herb	+	+		⊖	⊕							+							
Epilobium (Fireweed)	Herb	-	⊖	-	-								⊖							
Epipactis (Stream Orchid)	Plant	+			-	-	⊖	+	+	+		+		⊖	⊖	⊖	+	-	-	
Equisetum arvense (Horsetail)	Herb	+	-	-	⊕	+						⊕		+	-			-		
E. hyemale (Scouring Rush)	Herb		-	-	+	+	-	-				+								
Erechtites (Fireweed)	Oil	⊕	+	+			+		⊕			+	⊕	+				-		
Eremocarpus (Turkey Mullein)	Herb	-	-					-	-	+	+	⊕	+	-		-				
Erigeron (Conyza,Cn.Fleabane)	Herb		-		+		⊕		⊕			⊕	-	-	-					
Eriodictyon (Yerba Santa)	Herb	⊕	+		-	+	-	-	-			+	⊕		+	+				
Eriogonum (Buckwheat Bush)	Herb	-	-	-	+	-	-					-	-							
Erodium (Storcksbill, Alfilerillo)	Herb	-	-	-	-	+							-							
Eryngium(Eryngo,Button Snkrt)	Root	+	⊖		⊕	⊕		+		+		+	⊕				+	-		
Eschscholtzia(Cal.Poppy)	Herb	⊕	+	+	-		+	+	-	+		+	+	⊖	-	-	+	-		
Eucalyptus	Herb	⊕	+		⊖	-		⊕	⊕	+	+	⊕	⊕	-			+			
Euonymus (Wahoo)	Bark	⊕	⊕	⊕	-			-	-	+		⊕	+	-	-		+	-		
Eupatorium perfoliatum(Boneset)	Herb	+	+	⊕	⊕			⊖	-	+	+	⊕	⊕	-	-	-	+	-		
E. purpureum (Gravel Root)	Root	+	+	⊕	⊕	⊕	-	-	+					-		-		-		
Euphrasia (Eyebright)	Herb	-	-	-	⊕			-				+	⊕	-	-			-	-	-
Foeniculum (Fennel)	Seed	⊖	-				+					+	⊕					-		
Fouquieria (Ocotillo)	Bark	+	+	⊕			⊕	+	-	⊕	+	+	⊕	-	-	-	+	-	-	
Frangula (Rhamnus, Buckthorn)	Bark	+	⊕	+	-				+						-		+	-		
Frankenia (Yerba Reuma)	Herb	-	-		+	+							⊖							
Frasera (American Columbo)	Root	⊕	⊕	⊕			+		-	+							+			
Fraxinus (Ash)	Bark		⊕	-	-	+	+							+						
Fremontia (Cal.Slippery Elm)	Bk/hb	⊖	-										-							
Fucus (Bladderwrack)	Herb	+	-	+	⊖							⊕								⊕

⊕ Strong stimulation + Weak stimulation - Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCULAR	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENALN STRESS	ANABOLIC STRESS	THYROID STRESS
Galega (Goat's Rue)	Herb	+	+	⊕	-		+			+		+	⊕	-			⊕			
Galium (Cleavers, Bedstraw)	Herb			-	⊖	-				-		-	-						-	-
Garrya (Silk Tassel)	Bk/lf	+	⊖	-		-	+	-	-			-	-	-	-		⊖			
Gaultheria (Wintergreen)	Hrb/Oil	-	-		⊖		+	-	-					⊖						
Gelsemium (Yellow Jasmine)	Root	-	-		-	⊖	⊖	⊖	⊖		-	-	-	⊖	⊖	⊖		-		
Gentiana (Gentian)	Root	⊕	+	⊕					-				-	-	-			-	+	
Geranium (Cranesbill)	Root	-	-		+					-			-							
Geum (Avens)	Herb	-	-		+	+	-						-							
Ginkgo biloba	Leaf	⊕	+	+			+	+	+	+					+					+
Glycyrrhiza glabra (Licorice)	Root	⊖	⊕	+	⊕	+	+	+				+	+		-			⊖	+	
G. lepidota (Am. Licorice)	Root	-	+	+	⊕		⊕	+			+	+						-	+	
Gnaphalium (Cudweed)	Herb	-	-	-		-		+		+		-	-							
Gossypium (Cotton)	Rt.bk	+			+		⊕		-					-	-	-				
Granatum (Pomegranate, Punica)	Rt/bk	⊕	⊕				+		+					-	⊖					
Grindelia (Gumweed)	Tops	+			⊕	-	-	⊕	⊕			+	⊕				-			
Guaiacum (Lignum Vitae)	Bk/wd	⊕	⊕		⊕		-	⊕	⊖	+	+	⊕	⊕	⊕	-	-	+	-		
Hæmatoxylon (Logwood)	Wood				+			-	⊖			-	-	+	⊖	-				-
Hamamelis (Witch Hazel)	Twigs	-	-	-	+	+	-	-	+	-		⊖	-				-			
Harpagophytum (Devil's Claw)	Tubers	+		-	⊕		+			⊕	-			⊕					-	
Hedeoma (Amer. Pennyroyal)	Herb	+	+		-	-	⊕	-	-	+		+	⊕	⊖	⊖	-	+			
Helianthemum (Rock Rose)	Herb	+	-						-	+		⊕	-				+	-		
Heliopsis (Raiz del Oro)	Root	⊕	+			+		+		+			⊕				+	-		
Hepatica (Liverwort)	Herb	-		-				-					-							-
Heracleum (Cow Parsnip)	ROOT	+	-	-	-		+	+	+	+		+	+	-	-	-	+	-		
Heracleum (Cow Parsnip)	Seed	⊖	-	+	-	-	+	⊕		+					-	-				-
Heterotheca (Camphorweed)	Herb	-	-	-				+				+	+	-			+			
Heuchera (Am. Alum Root)	Root	⊖	-		+	+			+				-							
Humulus (Hops)	Strobile	⊖	-	-	-	-	-		⊖			+		⊖	⊖	⊖	+	-		-
Hydrangea (Seven Bark)	Root	+	+	+	-	-		-	-				-		-	-	-		-	-
Hydrastis (Goldenseal)	Rt / lf	⊕	⊕	⊕		+	-		+			+	⊕	-	+		+			
Hyocyamus (Henbane)	Tops	⊖	⊖	-	-		-	⊖	⊖		-	⊖	⊖	⊖	⊖	-	⊖			
Hypericum (St. Johnswort)	Tops	-	-	-	-	-	-	-		+				-	-	-			-	-
Hyptis (Desert Lavender)	Tops	-		-		+	-		-				-							
Hyssopus (Hyssop)	Herb	⊖	-	-		-		-	-		-	-	-				-		-	-

⊕ Strong stimulation + Weak stimulation - Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCULAR	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Illicium (Star Anise)	Seed	⊖	-						-						-	-				
Impatiens (Jewel Weed)	Gm hb			-						-		⊖	-							
Inula (Elecampane)	Root	-	+		⊖	+	+	⊖			+	+	-	+						
Iris versicolor (Blue Flag)	Root	⊕	⊕	⊕	-	-	⊕	+	-	⊕	+	⊕	+	-		-	+	-		-
Jateorhiza (Columbo)	Root	⊕	⊕	⊕	+								+				⊕	-		
Jatropha (Sangre de Drago) Rt	Rt	⊖	-	-		+			-			-		-			-			
Jeffersonia (Twin Leaf)	Root	+	+	+	-		-	+		+	+	+	+	-	-				-	
Juglans cineria (Butternut Bark)	Bark	+	+	+	+		+	+				+	+	-			+	-		+
Juglans major (Black Walnut)	Leaf	-	-	-			-	-				-	-							-
Juniperus (Juniper)	Fruit	⊕		+	⊖		⊕	⊕	+	+		⊕	+		+					
Kalmia (Mountain Laurel)	Herb	-	-		-	-	⊖	⊖	⊖			-	-	⊖	⊖	-	⊕			
Kino (Pterocarpus, Kino)	Gum	-	⊖		+							-	⊖							
Krameria (Rhatany)	Plant	⊖	-		+	+						-	⊖							
Lactuca (Wild Lettuce)	Herb	-	-		-	-	-	⊖	-					-	-	-	-			
Larrea (Chaparral, Gobeadora) Herb	Herb	+	-	⊕	-	+		+	+	⊕	-	+	+	-		-	+	-		+
Lavandula (Lavender)	Flower	⊖	-		-	-		+	+	+	-	⊕	+	-	+					
Ledum (Labrador Tea)	Herb				-			-			-	-	-	-	-					
Leonurus (Motherwort)	Tops	-	+	-		-	+	-	-				-	-	-	-	+	-		-
Leptandra (Veronicastrum, Culver's Rt.)		⊕	⊕	⊕	-	-		-		+		+	⊕	-	-	-	⊕	-	+	
Leucanthemum (Ox-eye Daisy) Herb	Herb	+	-	-	-	+	-	-			-	-	-							
Leucophyllum (Cenizo, Prple Sage) Hrb		-		+				+				+								
Liatris (Cachana, Button Snkrt) Root	Root	-	-	-	-			+					-		+				-	-
Ligusticum porteri (Oshà) Root	Root	⊕		+			+	⊕	+	+	+	+	+		+	+	+			
Ligustrum (Privet)	brk/lf	-		-		⊕							-							
Lilium tigrinum (Tiger Lily)	Plant	+	+	+	+		⊕	-	+			+	⊕	-	-		⊕			
Linaria (Toadflax)	Herb	+	+	⊕	+		+			+		⊕	+	-	-	-	+	-		+
Linum (Flax, Linseed)	Seed	-	+	+		-	+	-				+		+						
Liquidamber (Sweet Gum)	Balsam	+			-	+	+	⊕	+	+			+							
Lobelia cardinalis	Herb	+						⊖				+		⊖	-		+			
Lobelia inflata (whole fresh herb)	herb)	+	+	+	+		+	+	+	+		+	+	-	-	-	⊕	-		-
Lobelia inflata (commercial herb)	herb)	⊕	+					-	-			⊕		⊖	⊖	⊖	⊕	⊖		
Lobelia inflata	Seed	⊕	+	-			+	+	-	⊕		+	+	-	-	-	⊕	-		-
Lomatium dissectum (Leptotænia) Root	Root	⊕		+	-		+	⊕	+	+	+	⊕	+	-	+	-	+			-
Lophophora williamsii (Peyote)	Plant	-		+	⊕	-	⊕	⊕	⊕	+	+			⊕	⊕	+	+	⊕	+	+

⊕ Strong stimulation + Weak stimulation - Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCUL.	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENALN STRESS	ANABOLIC STRESS	THYROID STRESS
Lycium pallidum (Wolfberry)	Herb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lycopodium (Club Moss)	Spore	-	-	-	⊖	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lycopus (Bugleweed)	Herb	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	⊖
Magnolia	Bark	+	+	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-
Mahonia (Oregon Grape)	Root	⊕	+	⊕	-	-	+	+	+	+	+	⊕	+	+	-	-	-	-	-	+
Malva neglecta (Mallow)	Herb	-	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Marrubium (Horehound)	Tops	+	+	-	-	-	-	+	+	-	-	+	-	-	-	+	-	-	-	-
Marsdenia (Condurango)	Bark	+	+	-	-	-	-	-	+	-	-	+	+	-	-	-	-	-	-	-
Matico (Piper angustifolium)	Leaf	+	-	+	+	+	+	+	-	-	-	+	-	-	+	-	-	-	-	-
Matricaria (Chamomile)	Flower	⊖	-	-	-	-	+	-	-	-	-	+	-	-	-	-	+	-	-	-
Medicago sativum(Alfalfa)	Herb	+	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
Melilotus (Sweet Clover)	Herb	-	-	-	-	-	-	-	-	-	-	-	-	⊖	-	-	-	-	-	-
Melissa (Lemon Balm)	Herb	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Menispermum (Yellow Parilla)	Root	+	⊕	+	+	-	+	-	+	+	-	+	+	-	-	-	+	-	-	-
Mentha arvensis (Brook Mint)	Herb	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
M. piperita (Peppermint)	Herb	-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-	-	-	-
M. pulegium (Pennyroyal)	Herb	-	-	-	-	-	+	+	+	-	-	+	-	-	-	-	-	-	-	-
M. spicata (Spearmint)	Herb	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Menyanthes (Buckbean)	Plant	⊕	+	+	+	-	-	-	-	+	+	+	+	-	-	-	-	-	-	-
Mirabilis multiflorum (Maravilla)	Root	⊖	+	+	-	-	-	+	-	-	-	+	-	-	+	+	-	-	-	-
Mitchella repens (Squaw Vine)	Herb	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Monarda(Wild Bergmnt,Bee Balm)Hrb.		-	-	-	-	+	+	-	+	+	+	+	+	-	-	-	-	-	-	-
Myrica (Bayberry)	Rtbrk	⊕	+	+	+	+	+	+	+	+	+	+	+	-	+	-	+	-	-	+
Myristica (Nutmeg)	Seed	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-	+	-	-	-
Nepeta cataria (Catnip)	Tops	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
Nicotiana (Tobacco)	Herb	⊕	+	⊕	-	-	-	-	-	-	-	+	+	-	⊖	+	+	-	-	-
Nuphar(Yellow Pond Lily)	Root	-	-	-	-	-	⊖	-	-	-	-	-	-	-	-	-	-	-	-	-
Nymphaea(White Pond Lily) Rt.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oenothera(Eve.Primrose)	Root	-	+	+	+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
Oenothera(Eve.Primrose)	Sd.Oil	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oplopanax (Devil's Club)	Root	+	-	+	+	-	+	+	-	⊕	+	+	+	-	+	+	+	-	-	+
Opuntia (Prickly Pear)	Juice	-	-	+	+	⊖	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Opuntia (Prickly Pear)	Flower	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orobanche (Broomrape)	Plant	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-

⊕ Strong stimulation ⊕ Weak stimulation ⊖ Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR-URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCULAR	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Oxydendron (Sourwood)	Leaf		—		⊖	+							—							
Pæonia (Peony)	Root	—	—				—	—	—					—	—	—	—			—
Panax Ginseng (Asian, uncured)	Root	+			+		+			+	+	+		—	+	—		—	+	—
" " (Kirin Chinese, Korean "Red")	Root			+	+		+	+	⊕					+	+	+		+	+	+
P. quinquefolium (Am. Ginseng)	Root	⊕			+		+	+	+	+	+	+		—	+	—	+	—	—	—
Passiflora (Passion Flower)	Herb	+	—	—			—	⊖	—					—	⊖	—			—	—
Paullinia (Guarana)	Seed	—	—	+	+	+		⊕	⊕					⊕	⊕	⊕		+		+
Pedicularis (Betony, Lousewort)	Herb	+	—	—			—		—					⊖	—	—		—		—
Peganum (Syrian Rue)	Rt/Sd	+		+				+	+					—	+	+				+
Petasites (Western Coltsfoot)	Herb	—	—	—				—	—		—					—	—			
Petroselinum (Parsley)	Root				+	—		+				+								
Phytolacca (Poke)	Root	—	—	+	—		—	—	—	⊕	+	+	⊕	—	—	—	+	—		
Phytolacca (Poke)	Bery	—	—					—	⊖	+	+	⊕	+	—	—		⊕			—
Picraena (Quassia)	Wood	⊕	+	+	—	—		—	—		+	—		—	—			—		
Pilocarpus (Jaborandi)	Leaf	⊕	+	—	⊖			—	—	+		⊕	+	—	—	⊖	⊕			
Piper methysticum (Kava-Kava)	Root	+			⊖	+				+			⊕	⊖	—	—	+			
Piper nigrum (Black Pepper)	Seed	⊕						⊕	⊕	+		⊕	+		+					
Piscidia (Jamaica Dogwood, Habin) Bk.		—	—		—	—	—		—	+		⊕	+	⊖	⊖		⊕	—		—
Plantago ovata (Psyllium)	Seed	—	⊕				—											—		
Pluchea camphor. (Mirsh Fleabane) Hrb		—			—			+	+			+		—	+					
Podophyllum (Am. Mandrake)	Root	⊕	⊕	⊕	—		⊕	+	⊕	⊕	+	+	⊕	—			⊕	—		+
Polygala (Senega Snakeroot)	Root	⊕	⊕		—		+	⊕		+	+	+	+	—	+		⊕	—		
Polygonum bistorta (Bistort) Root		—	⊖		+	+							⊖							
P. hydropiper (Smartweed) Herb		+		—	—	+	+					+		—	+				—	
Polymnia (Am. Bearsfoot)	Root	+	⊕	⊕	+		+		⊕	⊕	⊕	⊕	+	⊖			⊕	—		+
Polypodium (Licorice Fern) Root		—	—	—	+	—		—			—			—						
Populus balsamifera (Poplar Buds) Bds		+		+	⊖			⊕		+		⊕	+	⊖						
P. tremuloides (Aspen) Bark		⊕		+		⊖						+		⊖		—				
Potentilla	Herb	—	—		+	+						—	—							
Prinos (Black Alder) Bk/sd		⊕	⊕	+			+		+				+					—		
Propolis (Tree-derived bee secretions)		+	+			—	+	+	+	+	+	+	+							+
Prosopis (Mesquite) Lf/pod		—	—	—					—			—	—							—
Prunus (Wild, Choke Cherry) Bark		+	+	—	—	—	—	—	—			+	+	—	—	—				—
Ptelea (Hop Tree, Wafer Ash) Bark		⊕	+	+	+		+	+	+	⊕		+	+				+	—		+



⊕ Strong stimulation ⊕ Weak stimulation ⊖ Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UDR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCULAR	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
<i>Ptychopetalum</i> (Muirapuama)	Bark	+	+	+	+		⊕	+	+			+		+	+	+		+		+
<i>Pyrola</i> (Shinleaf)	Herb		+		-	+				⊕	+	+	+							
<i>Quercus</i> (Oak)	Bark	-	-		+	+		+	+											
<i>Rhamnus californica</i> (Coffeeberry)	Bark	⊕	⊕	+			+										+			
<i>R. purshiana</i> (Cascara Sagrada)	Bark	⊕	⊕	⊕	+					+								-		
<i>Rheum</i> (Chinese/Turkey Rhubarb)	Root	-	⊖	+	+		+			+			-							
<i>Rhus aromatica</i> (Sweet Sumach)	Rt.bk	-	-		+	+	-					-	-							-
<i>R. glabra</i> (Smooth Sumach)	leaf/frt	-	-		+	+		-				-	-							
<i>Rosmarinus</i> (Rosemary)	Herb	+		-	-		+	+	+	+	+		+	-	+				-	
<i>Rubus idæa</i> (Raspberry)	Herb	-	-		-	+	-					-	-							
<i>Rumex crispus</i> (Yellow Dock)	Root	+	⊕	⊕			+	+		⊕		⊕	+				+	⊖		+
<i>R. hymenosepalus</i> (Canaigre)	Root	⊖	-		+						-		-							
<i>Ruta graveolens</i> (Rue)	Herb	⊕	⊕				⊕	-	⊕					⊕	⊕	+	+			
<i>Salix</i> (Willow)	Bark	+			-	⊖	-		-		-	-		⊖						
<i>Salvia apiana</i> (White Sage)	Herb	+		+	+	+		+			⊕	+		-						
<i>S. officinalis</i> (Garden Sage)	Herb	+			+				+		+	+	-				-			
<i>Sambucus</i> (Elder)	Flower	+	⊕		⊖			-		+		⊕		-	-		+	-		
<i>Sanguinaria</i> (Blood Root)	Root	⊕	+	⊕	-		+	⊕	⊕			+	⊕	+		-	⊕	-		
<i>Santalum</i> (Sandalwood)	Oil	⊕	+	+	-	⊕	⊕	+	+	+		⊕	+	+	+					
<i>Sassafras</i>	Bark	-	-	+	-							+	+	+						
<i>Scoparius</i> (Cytisus, Broom)	Herb	+	+		⊖		⊕	-	⊖		-			+		+	+			
<i>Scrophularia</i> (Figwort)	Herb	+	+	+	-				+	+	-	+	+	-					-	+
<i>Scutellaria</i> (Skullcap)	Herb	+		-	-			-	⊖		-	⊕		⊖	⊖	⊖	-	-	-	-
<i>Senecio aureus</i> (Liferoot)	Herb	+	+	⊕	+	⊖	+	+	-	+		+	+			-	+			+
<i>Serenoa</i> (Saw Palmetto)		+		+		+	+	-					-	-					-	
<i>Silybum marianum</i> (Milk Thistle)	Seed	-		+	+				+	+				-	-					
<i>Simmondsia</i> (Jojoba)	Herb	-	-		+			-				-	-							-
<i>Sinapis</i> (Mustard)	Seed	⊕		+	-			+	⊕	+		+	+	+	+					
<i>Smilax</i> (Sarsaparilla)	Root	+		+	+		+		+	+		+			+				+	
<i>Solanum carolinense</i> (Bullnettle)	Root				-		-							-	-	-	-			
<i>S. dulcamara</i> (Bittersweet)	Twigs	+	+	+	-		-		+			⊕	+	-	-	-	+	-		
<i>Sphaeralcea</i> (Yerba de la Noche)	Herb	-	-			⊖		-			⊕		-							
<i>Spigelia</i> (Pink Root)	Root	+	+	+			+	-	+			+		-	-	-	⊕			
<i>Stellaria media</i> (Chickweed)	Herb	-	-		-				-		-		-	-					-	-

⊕ Strong stimulation + Weak stimulation - Weak suppression ⊖ Strong suppression

	PART USED	UPPER G.I.	LOWER G.I.	HEPATIC	RENAL	UUR. URINARY	REPRODUCTIVE	RESPIRATORY	CARDIO/VASCUL.	LYMPH SYSTEM	IMMUNOLOGIC	SKIN	MUCOSA	MUSC./SKELETAL	CENTRAL NERVOUS	SYMPATHETIC	PARASYMPATH.	ADRENAL STRESS	ANABOLIC STRESS	THYROID STRESS
Sticta (Lungwort Moss)	Lichen	-			-			-					⊖	-			-			
Stillingia sylvatica	Root	+	+	⊕			+	+	+	⊕	+	⊕	⊕	-	-	-	+			
Styrax benzoin (Benzoin Gum)	Gum	+			-	+	+	+					+							
Sumbul (Ferula sumbul, Musk Rt)	Root	+	-	+	+		+	+	+	+	+				⊕	+	+	-		+
Swertia (Green Gentian, Cebadilla)	Root	⊕	⊕	⊕			+		-	+							+			
Symphytum (Comfrey)	Root	-	-	+				-	-			-	-							
Symphytum (Comfrey)	Leaf	⊖	-		-			-	-			-	-							
Tabebuia (Pau D'Arco, Amapa)	Bark			+	+			-		+				-						
Tanacetum vulgare (Tansy)	Tops	⊕	⊕	⊕	+		⊕	+	+	+		⊕	⊕	+			+			
Taraxacum (Dandelion)	Root	+	+	-	-					-	-			-				-	⊖	-
Taraxacum (Dandelion)	Herb	+			-							-						-	-	-
Tecoma stans (Tronadora)	Herb	+	+	-	+			+		+		+		-			+	-	-	
Thalictrum (Meadow Rue)	Herb	-	-					+	+	+		+		-		-				
Thuja (Arbor Vitae, Red Cedar)	Grn. lf	⊕		+	+	+	+	+	+	⊕	⊕	⊕	⊕	-	+					
Thymus (Thyme)	Herb	+					+	+			+	+		-	-		-			
Tribulus (Puncture Vine)	Herb			⊖	-	+	⊕		-					-	-	-	-		⊖	
Trifolium pratense (Red Clover)	Tops			-	-			⊖				+		-	-	-		-	-	-
Trillium (Beth Root)	Fresh rt	+			+		⊖	-	-				-	⊖	-					
Turnera (Damiana)	Herb	+	+		-	+	⊕	-					-	-	+	-	+	-		
Tussilago (Coltsfoot)	Herb		-			-	-	-					-	-						
Ulmus fulva (Slippery Elm)	Bark	-	-		-	-		-												
Umbellularia (Calif. Bay)	Leaf		+	+			+	-		-	+	-	-				-			
Urtica (Nettles)	Herb	-	-	-	-	+						-	+				-		-	-
Ustilago (Corn Smut)	Fungus	-					⊕	+	+				+		+					
Vaccinium (Blueberry, Huckleberry)	Herb	-	-	+	-	+					-									
Valeriana (Valerian)	Root	+		+		+	+	+	⊕	+		+	+	-	-	+	+	-	+	
Veratrum viride (False Hellebore)	Root	⊕	+	+				-	⊖	+					⊖	-	⊕			
Verbascum (Mullein)	Leaf	-						-					-							
Verbascum (Mullein)	Flower	-	-	-	-	+	-	⊖	-			-	-							-
Verbascum (Mullein)	Root	-		-	-	⊕	-						+		+					
Verbena (Blue Vervain)	Herb	+		⊖	-	-	+			+		⊕	+	-	⊖		+			
Verbesina (Añil del Muerto)	Herb		+	+					-			+	-	-	-					
Viburnum opulus (Cramp Bark)	Bark	-				-	-	-	-			-		-	-	-	-			-
V. prunifolium (Black Haw)	Bark	-	-	-		-	-								-	-	-			-



# HERBAL MATERIA MEDICA

A brief outline of major medicinal plants,  
giving preferred media, strengths, and common dosage ranges

Michael Moore

**ABIES (*Tsuga canadensis*, Canada Balsam, Hemlock Spruce)**

BARK. EXTERNAL: Weak Decoction. INTERNAL: Weak Decoction, 1-3 fluid ounces. Tincture [1:5, 50% alcohol] 5-20 drops. Essential Oil, 2-5 drops

**ACACIA GREGGII (Catclaw Acacia)**

PODS/LEAVES. Standard Infusion, 2-4 fluid ounces

**ACACIA SENEGAL (Gum Arabic)**

One tablespoon dissolved in 4 oz. water, flavored with vanilla, cinnamon, etc.  
Gum Arabic Mucilage, 1-2 teaspoons as needed.

**ACHILLEA (Yarrow, Milfoil, Plumajillo)**

WHOLE FLOWERING PLANT. Tincture [FRESH 1:2, DRY 1:5, 50% alcohol] 10 to 40 drops. Standard Infusion, 2-4 ounces.

ROOT. Fresh Root Tincture, topical to gums as needed.

**\*ACONITUM COLUMBIANUM (Aconite, Western Monkshood)**

FLOWERING HERB. Fresh Herb Tincture, 1:4, topical in moderation, internal 1-5 drops to 4X a day. **DANGEROUS IN LARGER DOSES.**

DRIED ROOT. Tincture [1:10, 70% alcohol] FOR TOPICAL USE ONLY.

**\*ACONITUM CARMICHAELI (CURED) (Fu-tse, Fo-tzu)**

CURED CHINESE ROOT-SLICES. 1/4 to 1 slice, eaten or boiled, to 2X a day.

**ACORUS CALAMUS (Calamus, Sweet Flag)**

RHIZOME/ROOT. Tincture [FRESH 1:2, DRY 1:5, 60% alcohol], 15-45 drops, to 4X a day. The dried leaves make a tasty simple tea.

**\*ACTEA RUBRA (*A. arguta*, Baneberry)**

ROOT. Dry Root Tincture, [1:5, 80% alcohol] 10-20 drops to 3X a day.

**ADIANTUM (Maidenhair Fern)**

DRIED HERB. Standard Infusion, 1-3 fluid ounces; 8 ounces as hair rinse.

**\*AESCULUS CALIFORNICA (California Buckeye)**

BARK and FRUIT. Same as *Aesculus glabra*.

**\*AESCULUS GLABRA (Ohio Buckeye)**

BARK and FRUIT. Tincture [1:5, 50% alcohol] 5-15 drops. **USE WITH CARE.**

**\*AESCULUS HIPPOCASTANUM (Horse Chestnut)**

BARK and FRUIT. Tincture [1:5, 50% alcohol] 3-10 drops. **USE WITH CARE.**

**AGAR AGAR. Powdered or flaked refined mucilage from several seaweeds.**

Infusion, 1/2 to 2 tablespoons in water or fruit juice.

**AGAVE (Century Plant, Maguey, American or False Aloe, Lechuguilla)**

Tincture [Fresh Leaf, 1:2, Dried Root, 1:5, 50% alcohol] 30-60 drops, to 4X a day.  
The fresh leaf can induce a rash in some folks; test on arm first.

**AGRIMONIA (Agrimony)**

HERB. Standard Infusion, 2-4 ounces. Tincture [1:5, 50% alcohol, or Fresh Plant, 1:2], 1/4 to 1 teaspoon as needed

**AGROPYRON REPENS (*Triticum repens*, Couchgrass)**

RHIZOME/STEMS. Cold Infusion, 2-4 fl. oz. Tincture [1:5, 50% alcohol] 30-60 drops to 5X a day. Fluidextract [1:1, 50% alcohol] 10-30 drops to 5X a day

**AILANTHUS ALTISSIMA (Tree of Heaven)**

BARK, FRUIT. Cold Infusion, 1-2 ounces, to 5X a day.

**ALCHEMILLA (Ladies Mantle)**  
WHOLE PLANT. Standard Infusion, as needed

**ALETRIS FARINOSA (Star Grass. "True"(properly "False") Unicorn Root)**  
RHIZOME. Tincture [1:5, 50% alcohol] 30-60 drops to 3X a day. Cold Infusion, 1-3 ounces.

**ALLIUM SATIVUM (Garlic)**  
BULB. Fresh Juice, 1/4 to 1 teaspoon. Fresh Tincture [1:2] 15-40 drops.

**ALNUS SERRULATA (Tag Alder)**  
BARK, fresh or recent only. Strong Decoction, 1/2 to 2 tablespoons. Weak Decoction for external use.

**\*ALOE (Aloes Socrotine, etc.)**  
DRIED JUICE. Capsules, a single #0 or #00. Tincture [ 1:10, 50% alcohol] 15-60 drops. Use with antispasmodic such as Acorus or Angelica.

**ALTHEA (Marshmallow or Hollyhock)**  
ROOT. Cold Infusion or Fresh Tincture [1:2] as needed  
HERB. Cold Infusion as needed, or moistened for poultice.

**AMARANTHUS (Pigweed, Alegria)**  
WHOLE PLANT. Standard Infusion as needed.

**AMBROSIA (Ragweed, Bursage, Yerba del Sapo)**  
HERB. Standard Infusion, 1-2 ounces. Fresh Tincture [1:2] 20-40 drops, both to 4X a day.

**\*AMYGDALIS PERSICA (Peach Tree)**  
FRESH TWIGS. Cold Infusion, 1-2 oz. Tincture [1:2], 30-90 drops, both ad lib.

**ANAGALLIS (Scarlet Pimpernel)**  
HERB. Fresh Plant Tincture [1:2] 5-15 drops. Not for extended use.

**ANAPHALIS MARGARITACEA (Pearly Everlasting)**  
FLOWERING HERB. Standard Infusion, as needed. Rubbed leaves mixed with hot water for poultice.

**\*ANEMONE HIRSUTISSIMA (Pulsatilla ludoviciana, Pasque Flower)**  
FRESH PLANT. Tincture [1:2] 3-10 drops, to 4X a day. Use with care.

**\*ANEMONE TUBEROSA (Desert Anemone, Desert Pasque Flower)**  
Same as previous.

**ANEMOPSIS (Yerba Mansa, Lizard Tail)**  
ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 60% alcohol] 20-60 drops to 5X a day. Cold Infusion, 2-4 ounces similarly.  
HERB. Standard or Cold Infusion as needed.

**ANGELICA**  
ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 65% alcohol] 30-60 drops, to 4X a day. Strong Decoction, 1-2 ounces similarly.  
SEED: Tincture (as previous), 10-30 drops, or several seeds chewed.

**\*ANGELICA SINENSIS (Dong Quai, Tang Kwei)**  
CURED CHINESE OR KOREAN ROOT. Large slices, 1/16 to 1/8 a day, chewed and swallowed. Tincture [1:5, 70% alcohol] 5-20 drops Capsules, #0, 1 to 3 a day.

**ANISUM (Anise Seed)**  
SEED. Standard Infusion, 2-4 ounces. Spirit of Anise, 1/4 to 1/2 teaspoon, Oil of Anise, 1-5 drops, all as needed

**ANTENNARIA (Cat's Paw, Pussy Toes, Mountain Everlasting)**  
WHOLE PLANT. Standard Infusion, 3-6 ounces to 4X a day.

**ANTHEMIS NOBILIS (Roman Chamomile)**  
FLOWERING HERB. Cold Infusion (bitter tonic), Standard Infusion (diaphor-

etic), both 2-4 ounces.

**APIUM (Celery)**

SEED. Simple Infusion, 1/2 to 1 teaspoon of seeds in cup of hot water.

**APOCYNUM CANNABINUM (Dogbane, Canada Hemp)**

ROOT. Tincture [1:5, 50% alcohol] 5-20 drops, to 3X a day. USE CAREFULLY!

**ARALIA HISPIDA or SPINOSA (Dwarf Elder, Hercules Club, Devil's Walkingstick)**

ROOT or BARK. Tincture [1:5, 50% alcohol] 5-25 drops, to 3X a day.

**ARALIA NUDICAULIS ("American Sarsapilla")**

ROOT. Cold Infusion 2-4 ounces. Tincture [1:5, 60% alc.] 15-30 drops, both up to 3X a day.

**ARALIA RACEMOSA [including A. californica] (Spikenard, California Spikenard)**

ROOT. Tincture [Fresh Root, 1:2, Recent Dry Root, 1:5, 50% alcohol] 10-30 drops. Strong Decoction or Cold Infusion, 2-4 ounces.

**ARBUTUS (Madrone)**

LEAVES. Same as *Arctostaphylos* spp.

**ARCTIUM (Burdock)**

ROOT. Cold Infusion, 2-4 ounces. Fluidextract [1:1, 60% alcohol] 15-30 drops.

Tincture [Fresh Root, 1:2, Dry Root, 1:5, 60% alcohol] 30-90 drops, all 3X a day.

SEED. Tincture [1:5, 60% alcohol] 10-25 drops.

**ARCTOSTAPHYLOS (Uva Ursi, Manzanita, Bearberry)**

LEAVES. Tincture [1:5, 50% alcohol] 30-60 drops in 8 oz. of water, to 3X a day.

Standard Infusion 3-4 ounces to 3X a day. For sitz bath, 8-12 ounces Standard Infusion in warm water; sit in it morning and evening.

**ARGEMONE (Prickly Poppy, Cardo Santo)**

HERB. Cold Infusion, 2-3 ounces, to 3X a day. For short duration of use only,

**ARISAEMA (Jack-in-the-Pulpit)**

CORM. Tincture [Fresh Corm, slightly wilted, 1:2, 50% alcohol] 2-10 drops.

**\*ARISTOLOCHIA CALIFORNICA (California Snakeroot, Cal. Dutchman's Pipe)**

WHOLE PLANT. Fresh Plant Tincture [1:2] 5-20 drops to 3X a day.

**\*ARISTOLOCHIA SERPENTARIA (Virginia Snakeroot, Serpentaria)**

ROOT and HERB. Tincture [Fresh Plant, 1:2, Dry Root, 1:5, 70% alc.] 5-20 drops to 3X a day. For extended use, use only low doses, and within a formula.

**\*ARISTOLOCHIA WATSONII (Indian Root, Raiz del Indio)**

Same as previous, but safer for extended use, as is *A. californica*.

**\*ARNICA (A. montana, A. cordifolia, A. latiflora, etc.)**

WHOLE PLANT. Fresh plant, flower or root tincture [1:2], dry flowers or herb tincture, [1:5, 50% alcohol] and dry root tincture [1:5, 60% alcohol]. EXTERNAL is diluted with one or two parts of water, applied as needed. INTERNAL use 3-10 drops. TAKE INTERNALLY WITH CARE

**\*ARTEMISIA ABSINTHIUM (Wormwood)**

HERB. Cold Infusion, 1-3 ounces.

**\*ARTEMISIA TRIDENTATA (Sagebrush)**

HERB. Cold Infusion, 1-2 ounces.

**\*ARTEMISIA VULGARIS (Mugwort, California Mugwort)**

HERB. Tincture [1:5, 50% alc.] 10-25 drops. Acetum Tincture [1:5, in vinegar] as needed externally. Standard Infusion (drunk hot) for diaphoretic, Cold Infusion as tonic.

**ASAFETIDA (Ferula asafetida, Devil's Dung, Stinkasant)**

GUM. Tincture [1:5, 85% alcohol] 5-20 drops.

**ASARUM (Wild Ginger, Canada Snakeroot)**

ROOT. Tincture [Fresh Root 1:2, Dry Root, 1:5, 60% alcohol] 20-50 drops in hot

- water. HERB. Standard Infusion or simple tea as needed.
- \***ASCLEPIAS ASPERULA (Immortal, Antelope Horns, Spider Milkweed)**  
ROOT. Tincture [1:5, 50% alcohol] 5-30 drops, Capsules, #00, 1-2, to 3X a day.
  - \***ASCLEPIAS CORNUTA (Common Milkweed)**  
ROOT. Same as above.
  - \***ASCLEPIAS INCARNATA (Swamp Milkweed)**  
ROOT. Same as above.
  - \***ASCLEPIAS SUBULATA (Desert Milkweed)**  
ROOT. Tincture [1:5, 50% alcohol] 10-20 drops in hot water, to 3X a day.
  - \***ASCLEPIAS TUBEROSA (Pleurisy Root)**  
ROOT. Cold Infusion, 2-4 ounces. Tincture [1:5, 50% alcohol] 30-90 drops.  
Capsules, #00, 1-3, all to 3X a day.
- ASPARAGUS OFFICINALE**  
ROOT. Tincture [Fresh, 1:2, Dry, 1:5, 50% alcohol], 30-60 drops in water, 3X a day.
- \***ASPIDIUM (Dryopteris filix-mas, Male Fern)**  
OLEORESIN, ROOT. Oleoresin in capsules, 2 grams; powdered root in capsules 10-15 grams. Prepare with epsom salt purgative in the evening, take capsules in morning, have a light lunch, and another purgative in evening.  
WARNING: Consume no oils, fats or alcohol the day the capsules are taken, and the light lunch should contain NO fatty foods. USE WITH CARE.
- ASPIDOSPERMA (Quebrache Bark)**  
BARK. Tincture [1:5, 50% alcohol] 15-30 drops, to 3X a day.
- ASTRAGALUS MEMBRANACEUS (Huang-Chi)**  
SLICED ROOT. Cold Infusion, 2-3 ounces to 3X a day. Fluidextract [1:1, 55% alcohol] 10-15 drops to 3X a day. Tincture [1:5, 60% alcohol] 30-60 drops, 4X a day.
- AVENA (A. sativa, A. fatua, Oats, Wild Oats.)**  
UNRIPE FRESH SEED, w/"Milky" center. Fresh Tincture [1:2], 10-20 drops, to 4X a day. STRAW (dry stems). Standard Infusion, 4-8 ounces.
- BALSAM OF PERU (Myroxylum pereirae, Peruvian Balsam)**  
RESIN (Dark Brown, syrupy). EXTERNAL: Mix one part balsam with two parts of lanolin or lard. INTERNAL: 5-10 drops in capsule, taken with a little food.
- BALSAM OF TOLU. (Myroxylum toluiferum)**  
RESIN. (Light Brown, syrupy, aromatic). TINCTURE: One part resin in five of ethanol; take in 15-30 drop doses or add to boiling water for steam inhalation.
- BALSAMORHIZA (Balsam Root)**  
ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 65% alcohol], 20-50 drops in hot water, to 4X a day. LEAVES. Powdered, with water as poultice.
- BAPTISIA (Wild Indigo Root)**  
ROOT. Tincture [1:5, 65% alcohol], WHOLE PLANT. Fresh Tincture [1:2], both taken 10-25 drops, to 3X a day. USE WITH CARE; better long term in formulas
- BAROSMA (Agothasma, Buchu)**  
LEAVES. Cold Infusion (rewarmed) 1-3 ounces. Tincture [1:5, 80% alcohol], 30-60 drops in water. Both forms to 4X a day.
- BERBERIS VULGARIS (Common Barberry)**  
ROOT. Tincture [1:5, 50% alcohol] 10-60 drops. Cold Infusion, 1-3 ounces. Capsules, #00, 1-3. All to 3X a day. See MAHONIA (Oregon Grape) as well.
- BETULA (Birch)**  
BARK. Strong Decoction, 1-2 ounces, to 4X a day. External wash.  
LEAVES. Standard Infusion as bath or wash, as needed.
- BIDENS (Tickseed, Spanish Needles, Te de Coral)**  
HERB. Cold or Standard Infusion, 2-4 ounces. Tincture [Fresh, 1:2, Dry, 1:5, 50%

- alcohol] 45-90 drops.
- BRICKELLIA (Prodigiosa, Hamula)**  
HERB Standard Infusion, 2-4 ounces, to 2X a day. Tincture [1:5, 50% alcohol], 30-60 drops to 3X a day. Use the infusion for Type II diabetes, tincture as tonic.
- \*BRYONIA (Bryony)**  
ROOT. Tincture [Fresh Root, 1:2, recent Dry Root, 1:5, 50% alcohol], 2-10 drops to 3X a day. USE WITH CARE; better in small, frequent doses.
- BURSERA MICROPHYLLA (Elephant Tree, Torote)**  
GUM. Tincture [1:5, 80% alcohol], 5-20 drops, and diluted for mouth wash.  
TWIGS/LEAVES. Fresh plant tincture [1:2], 10-30 drops.
- \*CACALIA DECOMPOSITA (Odontotrichum decompositum, Maturin, Maturique)**  
ROOT. Tincture [Fresh Root 1:2, Dry Root, 1:5, 70% alcohol], 15-30 drops.  
Usually for acute hyperglycemic episodes; I wouldn't advise extended use.
- CAFFEA ARABICA (Coffee)**  
ROASTED BEANS. Black, freshly brewed or cold infusion, 4-12 ounces.
- CALENDULA OFFICINALIS (European Marigold)**  
FLOWERS. Tincture [Fresh Flowers, 1:2, Dry Flowers, 1:5, 70% alcohol] 5-30 drops, to 4X a day. Dilute with several parts of water for topical use.
- CAMPSIS RADICANS (Trumpet Creeper)**  
HERB. Cold or Standard Infusion as needed externally, 1-3 ounces internally.
- CANNABIS SATIVA (Marijuana, Hemp)**  
FLOWERING TOPS. Tincture [Fresh Herb, 1:2, Dry Herb, 1:5, 95% alcohol] 5-30 drops. Smokers need higher dose. ILLEGAL TO POSSESS AT PRESENT.
- \*CAPSELLA BURSA-PASTORIS (Shepherd's Purse)**  
WHOLE PLANT. Tincture (Fresh Plant, 1:2, recent Dry Plant, 1:5, 50% alcohol] 20-60 drops.
- CAPSICUM (Cayenne, African Bird Peppers)**  
FRUIT. Tincture [1:5, 95% alcohol] 5-15 drops. Capsules, #0, 1-2
- CARDAMOMUM (Cardamom Seeds)**  
SEEDS. Tincture [1:5, 50% alcohol] 5-10 drops...or chew a couple seeds, already.
- CARTHAMUS TINCTORIA (Safflower, American, Mexican or Bastard "Saffron")**  
FLOWERS. Standard Infusion 4-8 ounces.
- CARUM (Caraway Seed)**  
SEED. Spirit of Caraway (1 part essential oil, 10 parts ethanol) 10-20 drops in water, or some chewed seeds or simple tea for indigestion.
- CARYOPHYLLUS (Cloves)**  
UNRIPE BUDS. Essential Oil: 1:4 drops in capsule, taken with food. A piece of oil-moistened cotton on or in a tooth, avoiding gums if possible.
- \*CASSIA MARILANDICA (American Senna)**  
LEAVES. Standard Infusion, 3/4 Senna, 1/4 Coriander Seed (antispasmodic), 4-8 ounces. Take in evening for morning effect.
- CASTANEA (Chestnut)**  
LEAVES. Standard Infusion, 1-4 ounces.
- CASTELA EMORYI (Holacantha emoryi, Chaparro Amargosa)**  
"HERB". Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol] 20-50 drops (as anti-microbial), 5-10 drops (as bitter tonic).
- \*CAULOPHYLLUM (Blue Cohosh)**  
RHIZOME / ROOT. Tincture [1:5, 60% alcohol] 5-20 drops, usually in formula context.
- CEANOTHUS (Red Root, New Jersey Tea)**  
ROOT. Cold Infusion, 2-4 ounces. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 50%



- alcohol] 30-90 drops, to 4X a day.
- CENTAURIUM (Erythraea, Centaury)**  
WHOLE PLANT. Fresh Plant Tincture [1:2] 10-20 drops before meals. Cold Infusion 1-2 ounces, also before meals.
- CENTELLA ASIATICA (Hydrocotyle asiatica, Gotu Kola, Brahmi)**  
HERB. Fresh Plant Tincture [1:2], 15-30 drops to 3X a day. Standard Infusion, 1-2 ounces. Dry Herb Tincture [1:5, 50% alcohol] 20-40 drops, to 4X a day.
- CEPHALANTHUS (Button Bush)**  
BARK and TWIGS. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol] 10-30 drops, to 3X a day. Best for short term use.
- CERCOCARPUS (Mountain Mahogany, Ponil)**  
TWIGS and STEMS. Strong Decoction, 2-3 ounces to 3X a day.
- CEREUS GRANDIFLORUS (Selenicereus, Peniocereus, Night-Blooming Cereus)**  
FRESH STEMS. Fresh Tincture [1:2], 5-15 drops (*Selenicereus spp.*) ; 10-25 drops, (*Peniocereus greggii*). Either one to 4X a day.
- CHAMAELIRIUM (Helonias, Unicorn Root )**  
RHIZOME and ROOT. Tincture [1:5, 50% alcohol] 10-40 drops. Best in lower doses in a formula context.
- CHELIDONIUM (Greater Celandine)**  
WHOLE PLANT. Fresh Plant Tincture, [1:2] 10-25 drops. Alone, for short term use; safe for extended use as a low dose formula constituent.
- CHELONE (Balmony, Turtlehead)**  
HERB. Tincture [fresh plant, 1:2], 10-20 drops to 3X a day. Cold Infusion, 1-3 ounces, to 3X a day. Dry Plant Tincture [ 1:5, 50% alcohol], 30-60 drops, to 4X a day.
- \*CHENOPODIUM (Epazote, Wormseed)**  
SEEDS. As Vermifuge: take laxative in evening, fast twelve hours the following day, take 2 grams of seeds [3 or 4 #00 capsules] with a soothing tea, such as Althea or Ulmus, wait 2 hours, follow with a full dose of Castor Oil.  
HERB: As Emmenagogue: Standard Infusion, 2-3 ounces. USE BOTH SEEDS and HERB WITH CARE. The herb, used to spice beans, is perfectly safe.
- CHILOPSIS LINEARIS (Desert Willow, Mimbre)**  
BARK and TWIGS. Strong Decoction or Cold Infusion, 3-6 ounces to 3X a day, WHOLE PLANT. The powder for topical application.
- CHIMAPHILA (Pipsissewa, Prince's Pine)**  
HERB. Tincture [Fresh Plant, 1:2, Dry plant, 1:5, 50% alcohol), 20-50 drops, to 4X a day. Standard Infusion 4-8 ounces.
- CHIONANTHUS (Fringetree)**  
BARK. Cold Infusion, 2-4 ounces. Tincture [Fresh Bark, 1:2, Dry Bark, 1:5, 65% alcohol] 30-60 drops. LEAF. Cold Infusion, 2-4 ounces.
- CHOROGALUM (Amole Lily)**  
FRESH BULB. Grate 2-4 tablespoons in cheesecloth, rub into a froth in a cup, of water, and wash or shampoo.
- CHLOROPHYLLIN (Sodium Copper Chlorophyllin, Chlorophyl "JJ")**  
1 scant teaspoon in a gallon of water, 2-6 ounces to 3X a day. WARNING: this will color feces a festive green.
- CHRYSANTHEMUM PARTHENIUM (Tanacetum , Pyrethrum, Feverfew)**  
HERB. Cold Infusion 2-4 ounces. Tincture [Fresh plant, 1:2, Dry herb, 1:5, 50% alcohol] 30-60 drops, to 4X a day.
- CICHORIUM (Chicory)**  
ROOT. Strong Decoction, 3-6 ounces, up to 4X a day.

- \*CIMICIFUGA RACEMOSA (Macrotys, Black Cohosh)**  
RHIZOME and ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 80% alcohol], 10-25 drops. Capsules, #00, 1-2, both to 3X a day.
- \*CINCHONA (Peruvian Bark, Quinine Bark)**  
BARK. Cold Infusion, 2-3 ounces, to 3X a day. USE WITH CARE.
- CINERARIA (Senecio cineraria, Dusty Miller)**  
Sterile Juice, as a pharmaceutical preparation, either from a homeopathic supplier or as a prescription preparation from Walker Pharmacals, St. Louis, MO.
- CINNAMOMUM (Cinnamon, Canela)**  
BARK. Standard Infusion 2-4 ounces. Tincture [1:5, 60% alcohol, 5% glycerin] 20-50 drops, both to 4X a day. ESSENTIAL OIL. 2-5 drops in capsule.
- CISTUS (Helianthemum, Rock Rose)**  
FLOWERING HERB. Tincture [1:5, 50% alcohol] diluted for topical use with two to four parts of water.
- CLEMATIS (Virgin's Bower)**  
RECENT HERB. Standard Infusion, 2-6 ounces, to 2X a day. Tincture [1:5, 50% alcohol] 10-40 drops, to 3X a day.
- CNICUS BENEDICTUS (Blessed or Holy Thistle)**  
FLOWERING HERB. Cold Infusion, 4-6 ounces. Tincture [Fresh Herb, 1:2, Dry Herb, 1:5, 60% alcohol] 20-40 drops in hot water, both to 3X a day.
- COLA NITIDA (Kola Nut)**  
SEED. Strong Decoction, 2-6 ounces, to 4X a day.
- COLLINSONIA (Stone Root, Horse Balm)**  
ROOT and HERB. Tincture [Fresh Plant, 1:2] 20-40 drops to 3X a day. Tincture [Dry Root, 1:5, 60% alcohol] 45-60 drops to 4X a day (inferior).
- COMMIPHORA (Myrrh Gum)**  
RESIN. Tincture [1:5, 95% alcohol] 5-20 drops. Capsules, #0, 1-2, both to 3X a day. Topically, dilute tincture with water as needed.
- CONDALIA (Lotebush, Tecomplate)**  
ROOT AND BARK. Strong Decoction, 2-4 ounces to 4X a day, as needed when used topically
- \*CONVALLARIA (Lily of the Valley)**  
ROOT. Tincture [Fresh Root, 1:2, recent Dry Root, 1:5, 65% alcohol] 5-20 drops. USE WITH CARE.
- COPAIFERA (Copaiba)**  
ESSENTIAL OIL. 5-10 drops in capsule, taken with food. Topically, dilute with three parts of ethanol before applying.
- COPTIS (Gold Thread)**  
ROOT and HERB. Tincture [Fresh plant, 1:2, Dry root, 1:5, 50% alcohol] 30-60 drops, to 3X a day. Topically as needed, either diluted, or Strong Decoction.
- CORALLORHIZA (Coral Root, Crawley)**  
ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 60% alcohol] 30-90 drops in hot water. Cold Infusion 3-6 ounces, reheated.
- CORIANDRUM (Coriander, Cilantro)**  
SEED. Tincture [1:5, 65% alcohol] 10-20 drops. Seeds chewed as needed.
- CORNUS (Dogwood, Red Osier, Bunchberry)**  
ROOT, STEM, BARK. Cold or Standard Infusion, 3-6 ounces, to 3X a day.
- \*CORYDALIS AUREUS (Golden Smoke)**  
HERB. Tincture [1:5, 50% alcohol] 10-40 drops; small, frequent doses are best.
- \*CORYNANTHE (Pausinystalia Johimbe, Yohimbe)**  
BARK. Tincture [1:5, 65% alcohol] 5-30 drops. USE WITH CARE.

**CRATAEGUS (Hawthorn)**

BERRIES, FLOWERING BRANCHES. Tincture [Fresh Plant, 1:2, Dry Berries, 1:5, 60% alcohol] 10-30 drops, to 3X a day. Cold Infusion (berries) 1-2 ounces, to 2X a day.

**\*CROCUS (True Saffron)**

STIGMAS. Tincture [1:5, 95% alcohol] 5-20 drops.

**CUBEBA (*Piper cubeba*, Cubeb Berries)**

UNRIPE FRUIT. Tincture [1:5, 80% alcohol] 10-30 drops. Capsules, #00, 1-3. To 3X a day, for up to a week.

**CUPRESSUS (Cypress)**

GREEN FOLIAGE. EXTERNAL: Tincture [Fresh Herb, 1:2] straight, or diluted with two parts water. INTERNAL: Standard Infusion [lightly roasted twigs], 2-4 ounces.

**CURCUMA (Turmeric)**

ROOT. Tincture [1:5, 50% alcohol], 10-30 drops. 1 teaspoon of powder suspended in water. Colors mouth a disturbing yellow.

**\*CUSCUTA (Dodder)**

HERB. Standard Infusion, 2-4 ounces, for short duration use.

**CYMOPTERUS FENDLERI (Chimaja)**

HERB. Standard Infusion, 2-4 ounces. SEEDS chewed as needed.

**CYNARA (Artichoke)**

HERB IN FLOWER. Standard Infusion, 2-4 ounces. Tincture [1:5, 50% alcohol] 30-90 drops, either to 3X a day.

**CYNOGLOSSUM OFFICINALIS (Hound's Tongue)**

HERB (in summer) ROOT (in fall). Standard Infusion, 1-3 ounces, to 3X a day. For short term use; may irritate liver if used excessively.

**CYPRIPEDIUM (Lady Slipper Orchid)**

ROOT. Tincture [1:5, 60% alcohol] 20-90 drops, to 3X a day. PLANT IS RARE IN MOST AREAS (and things are not getting any better). Use other medicines whenever possible, such as *Epipactis* or *Valeriana*.

**\*DATURA (Jimson Weed, Stramonium, Thorn Apple)**

LEAVES. Tincture [1:10, 60% alcohol] 3-10 drops to 3X a day. Leaf w/Tussilago and smoked. DANGEROUS IN MODERATE DOSES.

**\*DAUCUS CAROTA (Carrot, Wild Carrot)**

SEED. Standard Infusion, 2-6 ounces. Tincture [1:5, 60% alcohol] 20-60 drops, both to 2X a day.

**DELPHINIUM (Larkspur, Delphinium, Stavesacre)**

RIPE SEEDS. Tincture [1:2, 95% alcohol], diluted in two or three parts of water for topical use.

**DICENTRA CANADENSIS (Turkey Corn)**

CORM. Cold Infusion 1-4 ounces, to 3X a day. Best used in formulas.

**DICENTRA FORMOSA (Bleeding Heart)**

ROOT. Fresh Root Tincture [1:2], 10-20 drops or applied topically. Dry Root Tincture, [1:5, 50% alcohol] 15-30 drops. HERB. Tincture [1:5, 50% alcohol, 25-50 drops, all to 3X a day.

**DIOSCOREA VILLOSA (Wild Yam)**

ROOT. Tincture [Fresh ROOT, 1:2, Dry Root, 1:5, 60% alcohol] 30-100 drops, to 4X a day. Fluidextract [1:1, 55% alcohol] 10-25 drops. Cold Infusion, 2-4 ounces to 4X a day.

**DIPSACUS (Teasel)**

HERB. Standard Infusion, 2-4 ounces to 4X a day.

**DRACONTIUM (Symplocarpus, Skunk Cabbage)**

RHIZOME AND ROOT. Tincture [Fresh Root 1:2, Dry Root, 1:5, 50% alcohol], 20-60 drops.

**DROSERA (Sundew)**

HERB. Tincture [Fresh Plant, 1:2], 5-15 drops to 4X a day.

**ECHINACEA ANGUSTIFOLIA, E.PALLIDA (Kansas Snakeroot, Purple Coneflower)**

ROOT and FLOWERS. Tincture [Fresh Plant 1:2, Dry Plant, 1:5, 70% alcohol], 30-100 drops as needed. Cold Infusion 2-6 ounces, all to 5X a day. Fluidextract [1:1, 65% alcohol] 10-30 drops.

**ECHINACEA PURPUREA (Missouri Snakeroot, Purple Coneflower)**

ROOT and FLOWERS. Fresh Plant Tincture [1:2] 30-100 drops. Dry Plant Tincture 1-2 teaspoons to 5X a day.

**ELEUTHEROCOCCUS (Acanthopanax, Siberian Ginseng)**

ROOT. Tincture [1:5, 60% alcohol] 20-60 drops. Cold Infusion, 2-4 ounces, both to 3X a day.

**ENCELIA FARINOSA (Incienso, Brittlebush)**

LEAVES AND STEMS. Strong Decoction, 2-3 ounces, to 3X a day.

**EPHEDRA VIRIDIS (Mormon Tea, American Ephedra, Canutillo)**

HERB. Standard Infusion, as needed.

**EPHEDRA VULGARIS (Ma Huang, Chinese Ephedra)**

HERB. Standard Infusion, 1-4 ounces, to 2X a day. Unlike the previous, this type contains the alkaloid Ephedrine and should be used in moderation.

**EPIGEA (Trailing Arbutus)**

LEAVES. Standard Infusion, 2-4 ounces to 4X a day.

**EPIPACTIS GIGANTEA (Stream Orchid, "Helleborine")**

WHOLE PLANT. Tincture [Fresh Plant, 1:2, Dry Root, 1:5, 60% alcohol] 30-90 drops. An equivalent to the far rarer Cypripedium.

**EPILOBIUM ANGUSTIFOLIUM (Fireweed, Giant Willow-Herb)**

HERB IN FLOWER. Standard Infusion as needed.

**EQUISETUM ARVENSE (Horsetail)**

HERB. Standard Infusion, 2-4 ounces, topically as hair rinse. Use only herbs gathered upstream...inorganic fertilizer runoff alters the chemistry.

**EQUISETUM HYEMALE (Scouring Rush)**

HERB. Standard Infusion for external use.]

**ERECHTITES (Fireweed)**

ESSENTIAL OIL. 5-10 drops in capsule, to 3X a day.

**EREMOCARPUS (Turkey Mullein)**

HERB. Standard Infusion, 1-3 ounces, or 8 ounces in bathwater.

**ERIGERON CANADENSE (Conyza canadensis, Canadian Fleabane)**

RECENT FLOWERING HERB. Standard Infusion 2-4 ounces, to 4X a day.

**ERIODICTYON (Yerba Santa)**

LEAVES (from current year's growth). Tincture [Fresh Herb, 1:2, Dry Herb, 1:5, 75% alcohol] 20-30 drops, to 5X a day. Standard Infusion, 2-4 ounces as needed.

**ERIOGONUM (Buckwheat Bush)**

FLOWERING TOPS. Standard Infusion, 2-8 ounces.

**ERODIUM (Storksbill, Alfilerillo)**

HERB. Standard Infusion as needed.

**ERYNGIUM YUCCAFOLIUM (Eryngo, Rattlesnake Master, Button Snakeroot)**

WHOLE PLANT. Fresh Plant Tincture, 1:2, 15-30 drops in warm water.

ROOT. Weak Decoction, 4-8 ounces. Dry Root Tincture, [1:5, 60% alcohol], 20-40 drops, in cup of water. All forms to 4X a day.

**ESCHSCHOLTZIA CALIFORNICA (California Poppy)**

FLOWERING PLANT. Fresh Plant Tincture, [1:2] 15-25 drops, to 3X a day. Dry herb, Standard Infusion, 2-4 ounces.

**EUCALYPTUS**

LEAVES. Standard Infusion, 2-4 ounces, to 4X a day. ESSENTIAL OIL, 1-5 drops in capsule.

**\*EUONYMUS (Wahoo, Burning Bush)**

BARK. Tincture [1:5, 60% alcohol] 10-30 drops. Cold Infusion, 1-2 ounces, both to 2X a day. Avoid prolonged use; *Euonymus* can irritate the biliary functions.

**EUPATORIUM PERFOLIATUM (Boneset)**

FLOWERING HERB. Fresh Plant Tincture [1:2], 20-40 drops in hot water. Dry herb, Cold Infusion (tonic), Standard Infusion (diaphoretic), 2-6 ounces, to 3X a day.

**EUPATORIUM PURPUREUM (Gravel Root, Queen of the Meadow)**

ROOT. Strong Decoction, 2-4 ounces, to 4X a day. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 60% alcohol] 30-90 drops in cup of warm water.

**EUPHRASIA (Eyebright)**

HERB. Strong Decoction, 2-4 ounces. Tincture [1:5, 50% alcohol] 30-90 drops, both to 4X a day.

**FOENICULUM (Fennel Seed)**

SEED. Tincture [1:5, 60% alcohol] 30-60 drops in warm water as needed. Standard Infusion as needed.

**\*FOUQUIERIA SPLENDENS (Ocotillo)**

FRESH BARK. Tincture, [1:2] 10-30 drops, to 4X a day.

**FRAGARIA (Strawberry)**

HERB. Standard Infusion as needed.

**\*FRANGULA (Rhamnus frangula, Buckthorn)**

Capsules, #00, 1-3, taken with warm water at night.

**FREMONTIA CALIFORNICA (Fremontodendron, California Slippery Elm)**

BARK AND LEAVES. Cold or Standard Infusion as needed.

**FRAXINUS (Ash)**

BARK. Cold or Standard infusion 2-4 ounces to 3X a day.

**FUCUS (Bladderwrack, seawrack)**

WHOLE PLANT. Cold Infusion, 2-4 ounces. Capsules, #00, 1-2, both to 2X a day.

**\*GALEGA (Goat's Rue)**

DRIED HERB. Standard Infusion, 2-4 ounces.

**GALIUM APARINE (Cleavers, Bedstraw)**

WHOLE PLANT. Cold or Standard Infusion, as needed. Fresh Plant Tincture [1:2] 1-2 teaspoons. Fresh plant juice, 1/2 to 1 teaspoon, all to 4X a day.

**GARRYA (Silk Tassel, Cuachichic, Quinine Bush)**

LEAF. Tincture [Fresh leaf, 1:2, Dry Leaf, 1:5, 50% alcohol] 45-60 drops to 5X a day. ROOT BARK [Tincture, 1:5, 50% alcohol] 10-20 drops to 5X a day, Leaf, Cold Infusion, 2-3 ounces, to 4X a day. Use moderately.

**GAULTHERIA (Wintergreen)**

ESSENTIAL OIL, INTERNALLY: 2-5 drops in capsule. EXTERNALLY, diluted with four parts vegetable oil for liniment. RECENT HERB. Standard Infusion in frequent 2-4 ounce doses.

**\*GELSEMIUM (Yellow Jasmine)**

ROOT. Tincture [Fresh Root 1:2, Dry Root, 1:10, 65% alcohol] 2-10 drops.  
DANGEROUS IN LARGER DOSES

**GENTIANA (Gentian)**

ROOT. Tincture [Fresh Root 1:2, Dry Root, 1:5, 50% alcohol] 5-20 drops before each meal.

**GERANIUM (Cranesbill, Alum Root)**

ROOT. Tincture [1:5, 50% alcohol, 10% glycerin] in 1/2 to 1 teaspoon doses. Strong Decoction, 1-4 ounces, both to 4X a day.

**GEUM (Avens)**

WHOLE PLANT IN FLOWER. Standard Infusion, as needed.

**GINKGO BILOBA (Maidenhair Tree)**

LEAVES. Standard Infusion, 2-4 ounces. Tincture [1:5, 60% alcohol] 30-60 drops to 3X a day.

**\*GLYCYRRHIZA GLABRA (Licorice)**

ROOT. Tincture [1:5, 50% alcohol] 3-60 drops. Strong Decoction, 1-3 ounces, either to 3X a day. Can occasion sodium retention.

**\*GLYCYRRHIZA LEPIDOTA (American Licorice)**

ROOT. Strong Decoction, 1-3 ounces, to 3X a day. Topically, the decoction as an antimicrobial.

**GNAPHALIUM (Cudweed, Everlasting)**

FLOWERING HERB. Standard Infusion, 3-6 ounces to 3X a day. Topically, as needed.

**\*GOSSYPIUM (Cotton)**

ROOT BARK. Fresh Bark Tincture, [1:2], 30-60 drops, to 3X a day. Recent Dry Bark Tincture, [1:5, 50% alcohol] 1-2 teaspoons, to 4X a day.

**GRANATUM (*Punica granatum*, Pomegranate)**

ROOT BARK. Cold Infusion, 1-3 ounces, to 3X a day. For tapeworms, alkaloid or prescription treatment is the only rational approach. The bark will shrink membranes and inhibits tapeworms, but does NOT kill them.

**GRINDELIA (Gumweed, Yerba del Buey)**

FLOWERING TOPS. Tincture (Fresh Herb, 1:2, Dry Herb, 1:5, 70% alcohol), 15-40 drops to 5X a day.

**GUAIAACUM ANGUSTIFOLIA (*Porlieri*, Guayacan)**

BARK AND WOOD. Fresh Tincture [1:2] 10-25 drops in water, frequently. As a gargle, one part tincture in four parts hot water.

**GUAIAACUM OFFICINALE (*Lignum Vitae*, Guaiac Wood)**

BARK OR WOOD. Tincture [1:5, 95% alcohol] 5-15 drops in water, frequently. As a gargle, the same as above.

**GUTIERREZIA (*Escoba de la Vibora*)**

FLOWERING HERB. Standard Infusion, 8-12 ounces in bathwater.

**HAEMATOKYLON (Logwood, Brazil)**

HEARTWOOD. Cold Infusion, 2-6 ounces.

**HAMAMELIS (Witch Hazel)**

TWIGS AND LEAVES. Tincture [Fresh Herb, 1:2] 10-60 drops as needed, and diluted for topical use. BARK. Servicable as Standard Decoction topically.

**HARPAGOPHYTUM PROCUMBENS (Devil's Claw)**

TUBERS. Capsules, #0, 2-4 in evenings. Cold Infusion 4-6 ounces similarly. Strong Tincture [1:2, 60% alcohol], 1/2 to 1 teaspoons. Some recommend that two weeks on and two weeks off is the best approach to Devil's Claw. I have found a month of continuous use is the best way to begin.

**\*HEDEOMA (American Pennyroyal, Poleo Chino)**

HERB. Tincture [Fresh Plant, 1:2, Dry Plant (recent) 1:5, 50% alcohol] 20-60 drops in hot water. Standard Infusion, 2-4 ounces, to 5X a day. ESSENTIAL

- OIL. diluted with vegetable oil or grain alcohol as an insect repellent.
- HELENIUM HOOPESII (Dugaldia, Yerba del Lobo, Orange Sneezeweed)**  
WHOLE PLANT. Tincture [Fresh plant, 1:2, Dry Plant, 1:5, 60% alcohol] as a counterirritant liniment.
- HELIANTHEMUM (Cistus, Rock Rose, Frostwort)**  
FLOWERING TOPS. Tincture [Fresh Plant 1:2, Dry Plant, 1:5, 60% alcohol], 30-90 drops. Cold Infusion as gargle, douche, topical poultice.
- HELIOPSIS LONGIPES (Raiz del Oro, Chilcuan)**  
ROOT. Piece of root chewed for gingivitis and periodontal disease. Chronic overuse can cause intestinal irritation.
- HEPATICA (Anemone hepatica, Liverwort)**  
HERB. Standard Infusion, as needed.
- HERACLEUM (Cow Parsnip, Yerba del Oso)**  
ROOT. Fresh Root Tincture [1:2] applied topically as nerve irritant/stimulant.  
SEED. Fresh Seed Tincture [1:2] applied topically to teeth/gums as anesthetic and antimicrobial
- HETEROTHECA (Camphor Weed, Mexican Arnica)**  
FLOWERING HERB. Tincture [Fresh Herb 1:2, Dry Herb, 1:5, 60% alcohol] as liniment, topically as antifungal. Standard Infusion as topical application, or 2-4 ounces to 3X a day.
- HEUCHERA (American Alum Root)**  
ROOT AND LEAF. Tincture [Fresh Whole Plant, 1:2, Dry Root, 1:5, 50% alc., 10% glycerin] 30-90 drops. Cold Infusion (root, leaves, or both) 1-3 ounces to 4X a day, or 4 ounces in 8 ounces warm water for douche or enema.
- HUMULUS (Hops)**  
STROBILE. Tincture [Fresh strobiles, 1:2, Dry strobiles 1:5, 65% alcohol] 30-90 drops. Cold Infusion 2-4 ounces, Standard Infusion 3-6 ounces, to 3X a day.  
HERB. Cold or Standard Infusion for topical use, powder for poultice.
- HYDRANGEA (Seven Barks)**  
ROOT. Cold Infusion or Strong Decoction, 3-6 ounces, frequently. Tincture, [Fresh Root, 1:2, Dry Root, 1:5, 50% alcohol] 1/2 to 1 teaspoon in water, up to 4X a day.
- \*HYDRASTIS (Golden Seal)**  
ROOT and LEAF. Fresh Plant Tincture [1:2], 15-30 drops. Dry Root Tincture, [1:5, 70% alcohol] 20-50 drops. Dry Herb Tincture [1:5, 60% alcohol] 30-75 drops all the above to 4X a day. Dry Root capsules #00, 2-4, to 3X a day. Standard Infusion of leaf 1-3 ounces, to 4X a day. The root is only partially soluble in water and should not be wasted in tea; this old friend is disappearing in the wild.
- \*HYOCYAMUS NIGER (Henbane)**  
FLOWERING TOP. Tincture {Fresh Herb, 1:2, Dry Herb, 1:5, 50% alcohol} 3-10 drops to 3X a day. USE WITH CARE. Standard Infusion topically for pain.
- HYPERICUM (St. Johns Wort)**  
FLOWERING TOPS. Tincture [Fresh Plant, 1:2] 20-30 drops to 3X a day. The dry plant is far less active, but a Standard Infusion can be taken, 3-6 ounces.
- HYPTIS (Desert Lavender)**  
FLOWERING HERB. Standard Infusion, 2-6 ounces as needed.
- HYSSOPUS (Hyssop)**  
FLOWERING HERB. Cold Infusion, 2-3 ounces, or topically for bruises.
- ILLICIUM (Star Anise)**  
SEEDS. Same as Cardamom. For a tea, Standard Infusion, 2-4 ounces, ad lib.
- IMPATIENS (Jewel Weed, Touch-Me-Not)**

FRESH PLANT. Fresh juice for topical use, Fresh Plant Tincture [1:2], both as needed.

**INULA (Elecampane)**

ROOT. Tincture [Fresh root, 1:2, Dry Root, 1:5, 60% alcohol], 10-30 drops to 4X a day. Strong Decoction 2-6 ounces, to 3X a day.

**\*IRIS VERSICOLOR, I. MISSOURIENSIS (Blue Flag)**

RHIZOME. Tincture [1:5, 80% alcohol], 5-20 drops to 3X a day. USE WITH CARE.

**JATEORHIZA PALMATA (Columbo, Calumba)**

ROOT. Tincture [1:5, 65% alcohol], 20-30 drops before meals. Cold Infusion, 1-2 ounces.

**JATROPHA CINERIA (J. cardiaca, Sangre de Drago, Limberbush)**

ROOT. Strong Decoction or Cold Infusion, 2-4 ounces, topically applied, or as a mouthwash.

**JEFFERSONIA (Twin Leaf, Rheumatism Root)**

RHIZOME. Cold Infusion, 2-6 ounces, to 3X a day.

**JUGLANS CINERIA (Butternut Bark)**

BARK. Weak Decoction, 2-4 ounces, to 3X a day.

**JUGLANS MAJOR (Black Walnut)**

LEAVES. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol], 30-90 drops to 3X a day. Standard Infusion 2-4 ounces.

**JUNIPERUS (Juniper)**

BERRIES. Tincture [1:5, 75% alcohol], 20-40 drops. Standard Infusion, 2-3 oz., to 3X a day. LEAVES: Standard Infusion, 2-4 ounces, or boiled for inhalation. For short term use; may irritate the kidneys eventually.

**\*KALMIA (Mountain Laurel)**

LEAVES. Fresh Plant Tincture [1:2], 3-10 drops. Dry Plant Tincture [1:5, 50% alcohol] 5-20 drops, both to 4X a day. USE WITH CARE.

**KINO (Pterocarpus, Gum Kino)**

GUM. Tincture [1:5, 65% alcohol, 15% glycerin], 30-50 drops in water as needed.

**KRAMERIA (Rhatany)**

WHOLE PLANT. Tincture [Fresh Plant, 1:2, Dry Root, 1:5, 50% alcohol, 10% glycerin], 20-50 drops. Strong Decoction, 1-3 ounces, or used topically.

**LACTUCA (Wild Lettuce)**

HERB. Standard Infusion as needed. LATEX (Lactucarium), Tincture [1:2, 95% alcohol], 1/2 to 1 teaspoon.

**LARREA (Chaparral, Gobernadora, Creosote Bush)**

LEAFING BRANCHES. Tincture [1:5, 75% alcohol], 20-60 drops. Capsules, #00, 2-4 a day. Strong Decoction for topical use.

**LAVANDULA (Lavender)**

FLOWERS. Standard Infusion, 2-3 ounces to 4X a day. ESSENTIAL OIL. 5-10 drops in capsule, with food.

**LEDUM (Labrador Tea)**

LEAVES. Standard Infusion for tea. Fresh Leaf Tincture [1:2] is diluted for topical use.

**\*LEONURUS CARDIACA (Motherwort)**

FLOWERING HERB. Tincture [Fresh Plant 1:2, Recent Dry Plant, 1:5, 60% alc.] 30-60 drops, to 4X a day. Standard Infusion, 2-4 ounces.

**LEPTANDRA (Veronicastrum, Culver's Root)**

ROOT. Tincture [1:5, 65% alcohol], 10-30 drops, to 3X a day. An herb better used in formulas than by itself. USE WITH CARE.



**LEUCANTHEMUM (*Chrysanthemum leucanthemum*, Oxe-Eye Daisy)**

FLOWERING HERB. Standard Infusion, 4-8 ounces to 4X a day.

**LEUCOPHYLLUM (Cenizo, Purple Sage, Texas Ranger)**

FLOWERING HERB. Standard Infusion, 2-6 ounces

**LIATRIS (Button Snakeroot, Cachana, Gayfeather)**

ROOT. Strong Decoction, 2-4 ounces frequently.

**LIGUSTICUM PORTERI (Osha, Chuchupate, Mountain Lovage)**

ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 70% alcohol], 20-60 drops up to 5X a day. Cold Infusion, 2-6 ounces, as needed.

**LIGUSTRUM (Privet)**

BARK AND LEAVES. Strong Decoction, as needed.

**\*LILIUM TIGRINUM (Tiger Lily)**

WHOLE BLOOMING PLANT. Tincture [Fresh plant, 1:2], 5-20 drops, up to 3X a day. USE IN MODERATION.

**LINARIA (Toadflax, Butter-and-Eggs)**

FLOWERING HERB. Tincture [1:5, 60% alcohol], 20-40 drops. Standard Infusion, 2-4 ounces. Capsules, #00, 1-2, all to 3X a day. For short term use in full doses, long term use in low dosage formula format.

**LINUM (Flaxseed)**

SEEDS. Whole seeds, 1-2 teaspoons in cup of warm water, Ground seeds for a poultice. Only use whole seeds internally; grinding results in changes to the oils, creating irritating lipids.

**LIQUIDAMBER (Sweet Gum Tree)**

BALSAM. Tincture [1:5, 95% alcohol], 10-30 drops as needed. Strong Decoction of Bark is serviceable as well.

**LOBELIA CARDINALIS (Cardinal Flower)**

WHOLE PLANT. Fresh Plant Tincture [1:2], 10-40 drops up to 5X a day.

**LOBELIA INFLATA (Lobelia, Indian Tobacco)**

FLOWERING PLANT. Fresh Plant Tincture [1:4] 5-20 drops up to 4X a day. Dry Plant Tincture (inferior) is best as an Acetum Tincture [Dry Herb 1:5 in vinegar] 10-20 drops, or used for local application.

SEED. Tincture [1:5, 65% alcohol), 3-10 drops.

**LOMATIUM DISSECTUM (*Leptotaenia*, Biscuit Root)**

ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 70% alcohol], 10-30 drops up to 4X a day. Cold Infusion, 2-3 ounces also to 4X a day.

**\*LOPHOPHORA (Peyote, Mescal Buttons)**

FRESH PLANT. Tincture [1:2], 20-40 drops to 4X a day. ILLEGAL TO POSSESS AT PRESENT.

**LYCIUM PALLIDUM (Wolf Berry)**

HERB. Fresh Plant Tincture, [1:2], 15-40 drops. Standard Infusion, 2-3 ounces both up to 4X a day. Best for short-term use.

**LYCOPUS (Bugleweed, Water Horehound)**

HERB. Fresh Plant Tincture [1:2] 15-40 drops, to 3X a day. Standard Infusion of recent plant, 2-3 ounces, also to 3X a day.

**LYSICHITON AMERICANUM (Western Skunk Cabbage)**

SAME as *Dracontium*.

**MAHONIA (Oregon Grape, Algerita)**

SAME as *Berberis*.

**MALVA NEGLECTA (Mallow, Malvas, Cheeseplant)**

HERB. Standard Infusion, 2-6 ounces, as needed.

**MARRUBIUM (Horehound)**

FLOWERING HERB. Cold Infusion, 2-4 ounces. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol], 30-90 drops, both to 4X a day.

**MATRICARIA (Chamomile, Manzanilla)**  
FLOWERS. Standard or Cold Infusion, 2-6 ounces as needed.

**MEDICAGO SATIVA (Alfalfa)**  
FLOWERING PLANT. Standard Infusion as needed.

**\*MELILOTUS (Sweet Clover)**  
FLOWERING HERB. Standard Infusion, 2-4 ounces; the tea for topical use. Not for extended consumption as a tea, due to its coumarin content.

**MELISSA OFFICINALIS (Lemon Balm)**  
FLOWERING HERB. Standard Infusion as needed.

**MENISPERMUM (Yellow Parilla, Moonseed)**  
ROOT. Tincture [1:5, 70% alcohol], 10-40 drops, or 5-10 drops as a bitter tonic, taken just before meals.

**\*MENTHA ARVENSIS (Brook Mint, Poleo)**  
HERB IN FLOWER. Standard Infusion as needed. Although less than found in *Hedeoma* or *Mentha pulegium*, the pulegone content in this plant makes it inappropriate in pregnancy.

**MENTHA PIPERITA (Peppermint)**  
HERB. Cold or Standard Infusion as needed. ESSENTIAL OIL. 10-20 drops in capsules (in a binder), to 3X a day.

**\*MENTHA PULEGIUM (European Pennyroyal)**  
BASAL LEAVES and FLOWERING STALKS. Same as *Hedeoma*.

**MENTHA SPICATA (Spearmint, Yerba Buena)**  
HERB. Standard Infusion, or any way you want, as needed.  
ESSENTIAL OIL. 10-20 drops in capsules (in a binder), to 3X a day.

**MENYANTHES (Buckbean, Bogbean)**  
WHOLE PLANT. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol], 10-30 drops, to 3X a day. Cold Infusion, 1-2 ounces, also to 3X a day.

**MIRABILIS MULTIFLORUM (Wild Four-O'Clock, Maravilla)**  
ROOT. Fresh Root Tincture [1:2], 30-60 drops. Strong Decoction, 2-4 ounces, either form taken 1/2 hour before meals.

**MITCHELLA REPENS (Squaw Vine)**  
HERB. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol], 1/2 to 1 teaspoon to 3X a day. Standard Infusion, 2-8 ounces to 4X a day.

**MONARDA (Bee Balm, Oswego Tea, Wild Bergamot, Wild Oregano)**  
FLOWERING HERB. Standard Infusion, 1-4 ounces, to 3X a day or as gargle.

**MYRICA (Bayberry)**  
BARK and ROOTBARK. Tincture [Fresh Bark, 1:2, Dry Bark, 1:5, 60% alcohol] 20-60 drops. Cold Infusion, 2-4 ounces, both to 3X a day. The diluted tincture or the infusion for topical use or as a gargle.

**MYRISTICA (Nutmeg, Mace)**  
SEED. Tincture [1:5, 75% alcohol] 5-10 drops.

**NEPETA CATARIA (Catnip)**  
FLOWERING HERB. Tincture [Fresh Herb 1:2, Recent Dry Herb 1:5, 50% alc.], 1/4 to 1 teaspoon Standard Infusion, 2-6 ounces, all to 4X a day.

**NICOTIANA (Tobacco)**  
HERB. Standard Infusion topically.

**\*NUPHAR (Yellow Pond Lily)**  
ROOT/RHIZOME. Fresh Root Tincture, [1:2], 10-20 drops. Weak Decoction 2-4 ounces, both to 3X a day.

**OENOTHERA (Evening Primrose)**

FLOWERING HERB. Standard Infusion, 2-4 ounces. The seeds contain high levels of GLA and tryptophan.

**\*OPLOPANAX HORRIDUM (Echinopanax, Devil's Club)**

ROOT and ROOTBARK. Tincture [Fresh Root 1:2, Dry Rootbark, 1:5, 60% alc.] 10-40 drops. Cold Infusion, 1-3 ounces, all forms to 3X a day.

**OPUNTIA (Prickly Pear)**

FRESH JUICE, 2-4 ounces to 2X a day. DRIED FLOWERS, two or three as an infusion (strain VERY well).

**OROBANCHE and CONOPHOLIS (Broomrape)**

WHOLE PLANT. Standard Infusion 2-4 ounces; applied topically as needed.

**OSMORHIZA OCCIDENTALIS (Sweet Root, Western Sweet Cicely)**

ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 65% alcohol] 45-60 drops to 3X a day. Strong Decoction, 2-3 ounces to 3X a day.

**OXYDENDRON (Sourwood)**

LEAVES. Strong Decoction, 2-4 ounces to 4X a day.

**\*PAEONIA (Peony)**

ROOT. Tincture [Fresh Root 1:2, Dry Root, 1:5, 60% alcohol] 10-25 drops up to 4X a day. Cold Infusion, 1-2 ounces. Capsules, #00, 2-3 at a time.

**\*PANAX GINSENG (Asian Ginseng)**

ROOT. Tincture [1:5, 70% alcohol]. KIRIN (dark red Chinese cured root) 5-20 drops. SHIU-CHIU (light red Chinese cured) 10-30 drops. KOREAN RED, 5-15 drops. WHITE (Chinese or Korean uncured) 20-40 drops, all to 3X a day. Capsules, "Red Ginseng" (Kirin or Korean Red) to 4 a day. "White", to 6 a day. Chewing root pieces is more reliable than loosely identified roots found in capsules. With the cost of Ginseng, tinctures are the most bioavailable form.

**\*PANAX QUINQUEFOLIUM (American Ginseng)**

ROOT. Tincture [1:5, 70% alcohol]. WILD ROOTS (morally objectionable), 5-10 drops. WOODSGROWN ROOTS. 10-20 drops. CULTIVATED ROOTS. 20-40 drops. CULTIVATED RED ROOTS (Michigan and Wisconsin cured roots), 15-30 drops. Any other "American Red Ginseng" is a blatant fake. LEAVES. 30-60 drops, Cold Infusion, 2-4 ounces. All above forms to 3X a day.

**PASSIFLORA (Passion Flower)**

WHOLE HERB. Tincture [Fresh Plant 1:2, Dry Herb, 1:5, 50% alcohol] 1/2 to 1 1/2 teaspoon. Fluidextract [1:1, 45% alcohol], 30-60 drops. Standard Infusion of recent herb, 2-6 ounces, all forms to 4X a day.

**\*PEGANUM HARMALA (Syrian Rue)**

SEEDS and ROOT. Tincture [1:5, 60% alcohol] 10-30 drops, to 3X a day.

LEAVES. Standard Infusion for topical use.

**PAULLINIA (Guarana)**

SEED. Capsule, #00, 2-4. Fluidextract [1:1, 50% alcohol, 10% glycerin], 20-60 drops. Tincture [1:5, 65% alcohol], 1/4 to 1 teaspoon.

**PEDICULARIS (Betony, Lousewort, Elephant Head, Parrot's Beak, Indian Warrior)**

HERB in FLOWER. Standard Infusion, 4-8 ounces. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol] 1-2 teaspoons, all to 3X a day.

**PETASITES (Western Coltsfoot)**

HERB. Standard Infusion, 2-4 ounces, to 4X a day. Fresh Tincture [1:2], 30-60 drops. ROOT. Strong Decoction, 2-3 ounces to 3X a day.

**\*PETROSELINUM (Parsley)**

ROOT. Tincture [1:5, 60% alcohol, 30-60 drops in warm water, to 3X a day.

**\*PHYTOLACCA (Poke)**

ROOT and BERRIES. Fresh Tincture, (Root or Berries), [1:2], 2-10 drops. Dry Root Tincture [1:5, 50% alcohol] 5-15 drops. USE WITH CARE.

**PICRAENA (Picrasma, Quassia)**

WOOD. Cold Infusion, 2-4 ounces. Tincture [1:5, 50% alcohol] 30-60 drops, to 3X a day. Cold Infusion, 4-8 ounces, as a retained enema, once a week for 4-6 weeks for pinworms/threadworms.

**\*PILOCARPUS (Jaborandi)**

LEAVES. Tincture [1:5, 60% alcohol] 15-30 drops in warm water. Standard Infusion, 2-3 ounces as a hair rinse.

**PIMENTA (Allspice)**

SEED. The tea as a simple infusion.

**PINUS (Pine)**

NEEDLES. Standard Infusion, 2-4 ounces, to 3X a day. PITCH. Pea-sized piece chewed and swallowed as expectorant.

**PIPER ANGUSTIFOLIA (Matico)**

LEAVES. Tincture [1:5, 50% alcohol], 1/2 to 1 teaspoon in cup of warm water, to 4X a day.

**PIPER METHYSTICUM (Kava Kava, Ava)**

ROOT. Tincture [Fresh Root 1:2, Recent Dry Root 1:5, 60% alcohol] 30-90 drops to 4X a day. Fluidextract [1:1, 55% alcohol] 10-30 drops. Cold Infusion, 2-6 oz. all to 4X a day.

**PIPER NIGRUM (Black Pepper)**

PEPPERCORNS. Tincture [1:5, 65% alcohol] 5-15 drops.

**PISCIDIA (Jamaica Dogwood, Jabin)**

TREE and ROOT BARK. Tincture [1:5, 60% alcohol] 10-90 drops. USE WITH CARE. Response is highly individual, so start with a low dose.

**PLANTAGO MAJOR (Plantain)**

FRESH LEAF. Fresh or frozen juice, 1-2 tablespoons to 4X a day.

**PLANTAGO OVATA (Psyllium Seed)**

SEED. Whole seeds, 2-3 tablespoons in 12 ounces warm water or fruit juice.

HUSKS. 1-2 tablespoons in same, both to 3X a day, usually only once.

**PLUCHEA CAMPHORATA (P. purpurascens, Marsh Fleabane, Camphorweed)**

FLOWERING TOPS. Standard Infusion 2-4 ounces. Brewed with isotonic water for use as eyewash. Tincture [1:5, 60% alcohol] 30-90 drops.

**\*PODOPHYLLUM. (American Mandrake)**

ROOT. Tincture [1:5, 95% alcohol] 10-20 drops. Use carefully, and never with overt disease or in physical depression.

**\*POLYGALA SENEGA (Senega Snakeroot, Milkwort)**

ROOT and HERB. Tincture [Fresh Plant 1:2, Dry Root 1:5, 65% alcohol], 10-45 drops, to 4X a day. Small frequent doses are best.

**POLYGONATUM (Solomon's Seal)**

ROOT. Strong Decoction 1-4 ounces to 3X a day.

**POLYGONUM BISTORTA (Bistort Root)**

ROOT, Strong Decoction 1-4 ounces. Tincture [1:5, 50% alcohol, 10% glycerin] 30-90 drops, both to 3X a day. The decoction and the diluted tincture as needed for topical use, mouthwash or gargle.

**POLYGONUM HYDROPIPER (Smartweed, Water Pepper)**

HERB. Standard Infusion 2-4 ounces as needed.

**\*POLYMNIA UVEDALIA (Bearsfoot, Leafcup)**

STEM and ROOT. Tincture [Fresh plant 1:2, Dry Root 1:5, 75% alcohol] 10-50 drops, to 3X a day. Small, frequent doses are preferable.

**POLYPODIUM GLYCYRRHIZA (Licorice Fern)**

ROOT/RHIZOME. Strong Decoction, 2-4 ounces, to 3X a day.

**POPULUS CANDICANS and BALSAMIFERA (Balsam Poplar, Balm of Gilead)**

EARLY SPRING LEAF BUDS. Tincture [Fresh, 1:2, Dry, 1:5, 75% alcohol] 15-30 drops. Infused oil [1 part buds to 10 parts oil] for topical use.

**POPULUS TREMULIODES (Aspen)**

BARK. Strong Decoction, 2-4 ounces, up to 4X a day when condition is acute.

**POTENTILLA (Cinquefoil, Silverweed)**

HERB. Any infusion as needed.

**PRINOS (*Ilex verticillatus*, Black Alder)**

RECENT BARK and BERRIES. Strong Decoction, 3-4 ounces to 3X a day. Tincture [1:5, 65% alcohol] 10-30 drops.

**PROPOLIS (Hive scrapings, gathered from trees)**

Tincture [1:5, 95% alcohol] 5-15 drops in a little honey for internal use, mixed with water or a little oil for external use. THOSE WITH BEE ALLERGIES MAY NOT BE ABLE TO USE PROPOLIS.

**PRUNELLA (Self Heal, Heal All)**

FRESH PLANT. Poultice as needed. Fresh Plant Tincture, [1:2], as needed,

**PRUNUS (Wild Cherry, Choke Cherry)**

SUMMER or FALL BARK. Cold Infusion 2-6 ounces, to 3X a day. Tincture [1:5, 60% alcohol, 10% glycerin] 30-90 drops, to 4X a day.

**PTELEA (Wafer Ash, Hop Tree)**

BARK, SEEDS and LEAVES. Tincture [1:5, 65% alcohol] 10-30 drops. Strong Decoction (Seeds and Bark), 1-3 ounces, both up to 3X a day.

**\*PTYCHOPETALUM (*Liriosma*, Muirapuama, Potency Wood, Raiz del Macho)**

BARK, RESINOUS BARK. Tincture [1:5, 70% alcohol] 30-60 drops. Cold Infusion, 3-4 ounces, preferably in morning.

**PYROLA (Shinleaf)**

Same as *Chimaphila*

**QUERCUS (Oak)**

Same as *Geranium*

**RHAMNUS CALIFORNICA (California Buckthorn, Coffeeberry)**

AGED BARK. Cold Infusion 2-6 ounces. Tincture [1:5, 50% alcohol], 1-2 teaspoons. Fluidextract, [1:1, 50% alcohol] 1/2 to 1 teaspoon.

**RHAMNUS FRANGULA (Buckthorn)**

See *Frangula*

**RHAMNUS PURSHIANA (Cascara Sagrada)**

AGED BARK. Same as *Rhamnus californica*

**RHEUM (Rhubarb, Chinese or Turkey Rhubarb)**

ROOT. Tincture [1:5, 50% alcohol, 10% glycerin] 15-30 drops, to 4X a day. Too much too frequently can induce rebound constipation.

**RHUS AROMATICA (Sweet Sumach)**

BARK, ROOT BARK. Cold Infusion, 1-2 ounces. Tincture [1:5, 50% alcohol, 10% glycerin] 20-40 drops, both to 4X a day.

**RHUS GLABRA (Smooth Sumach)**

LEAVES, FRUIT. Same as previous. Powdered leaves for topical use.

**ROSA (Rose Buds, Rose Petals)**

FLOWERS. Standard Infusion, 2-4 ounces. Make w/isotonic water for eyes.

**ROSMARINUS (Rosemary)**

LEAVES. Standard Infusion 2-4 ounces, to 14X a day or for a topical wash.  
ESSENTIAL OIL. Capsule, 3-6 drops in a binder, with water.

**RUBUS IDAEUS (Raspberry)**

LEAVES. Infusion as needed.

**RUBUS VILLOSUS (Blackberry)**

ROOT BARK. Strong Decoction, 2-4 ounces, to 4X a day.

**RUMEX CRISPUS (Yellow Dock)**

ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 50% alcohol], 30-75 drops, to 3X a day. Capsules, #00, 1-2 to 2X a day. Use with moderation in pregnancy. In all cases it works best in sub-laxative doses.

**RUMEX HYMENOSEPALUS (Cainagre, Red Dock)**

ROOT. Strong Decoction or powder for external use, 1-2 ounces for mouth-wash. LEAVES. Fresh Tincture [1:2] for topical anti-inflammatory use.

**\*RUTA GRAVEOLENS (Rue, Ruda)**

HERB. Tincture [1:5, 65% alcohol] 5-20 drops. A poultice with the powdered leaves for a counterirritant poultice.

**SALIX (Willow)**

BARK. Strong Decoction, 2-4 ounces to 4X a day.

**SALVIA (Sage)**

FLOWERING HERB. Tincture [Fresh, 1:2, Dry, 1:5, 50% alcohol] 30-60 drops, in hot water (diaphoretic) or cold water (tonic). Cold Infusion or Strong Decoction 2-4 ounces.

**SAMBUCUS (Elder)**

FLOWERS, LEAVES. Flowers, Standard Infusion 2-4 ounces. Leaves, Cold Infusion 1-2 ounces, both to 3X a day.

**\*SANGUINARIA (Bloodroot)**

ROOT. Tincture [1:5, 60% alcohol] 10-15 drops. Dilute with 2X water for tinea application.

**SANTALUM (Santal, White Sandalwood)**

WOOD, OIL. Wood Tincture [1:5, 80% alcohol] 25-50 drops. The oil in capsule 5-10 drops, with food, to 2X a day.

**SAPINDUS SAPONARIA (Soapberry)**

LEAVES and STEMS. Standard Infusion, 2-4 ounces to 3X a day.  
BERRIES. Crushed or pureed for soap.

**SASSAFRAS**

BARK OF ROOT. Strong Decoction, as needed. LEAVES. Standard Infusion, as needed. ESSENTIAL OIL. Diluted with alcohol and applied to fresh Poison Ivy contact.

**SATUREJA DOUGLASII (California Yerba Buena)**

LEAVES. The tea as needed.

**\*SCOPARIUS (Cytisus scoparius, Broom Tops)**

FLOWERING BRANCHES. Standard Infusion 1-2 ounces to 3X a day. Tincture [1:5, 50% alcohol] 20-40 drops to 4X a day.

**SCROPHULARIA (Figwort)**

HERB. Standard Infusion, 2-4 ounces, to 3X a day.

**SCUTELLARIA (Skullcap)**

HERB. Tincture [Fresh Plant, 1:2, Recent Dry Plant, 1:5, 50% alcohol] 20-60 drops. Standard Infusion of recent herb, 2-6 ounces, all to 3X a day.

**\*SENECIO AUREUS (Life Root, Squaw Weed)**

HERB. Standard Infusion, 1-4 ounces. Tincture [1:5, 50% alc.], 30-90 drops,

**\*SENNA (Cassia angustifolia, Egyptian Senna, etc.)**

LEAVES. Strong Decoction, 2-4 ounces. PODS. 10-20, steeped for an hour in a cup of water. Take both in evening. See also *Cassia marilandica*.

**SERENOA (Saw Palmetto, Sabal)**

BERRIES. Tincture [Fresh Berry, 1:2, Dry Berries, 1:5, 80% alcohol] 30-90 drops.  
Standard Infusion, 2-4 ounces, all forms to 3X a day.

**SILYBUM MARIANUM (Milk Thistle)**

SEEDS. Capsules, #00, 2 at a time, to 3X a day. Fluidextract [1:1, 60% alcohol],  
20-40 drops to 5X a day. Strong Tincture [1:3, 70% alcohol], 1/2 to 1 teaspoon,  
to 4X a day.

**SIMMONDSIA (Jojoba, Goatnut)**

LEAVES. Standard Infusion, 2-4 ounces as needed. OIL. Applied topically or  
mixed with Castor Oil.

**SINAPIS (Mustard)**

SEED. PLASTER: mix 1 part powdered seed and one part flour, add enough  
water to form a spreadable paste, place between two layers of gauze and apply  
to desired area until skin turns pink...NOT RED (by then it will blister).

Remove plaster and wash skin.

**SMILACINA RACEMOSA (False Solomon's Seal)**

ROOT. Steep a teaspoon of ground root in cup of hot water. Mix with some  
hot water for a poultice. The fresh root can be used as a poultice.

**SMILAX (Sarsaparilla)**

ROOT and RHIZOME. Cold Infusion or Strong Decoction, 1-4 ounces, to 3X  
a day. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 60% alcohol] 30-90 drops to 3X  
a day.

**SOLANUM CAROLINENSE (Horse Nettle, Bull Nettle)**

ROOT. Tincture [1:5, 60% alcohol] 10-40 drops, for occasional use.

**\*SOLANUM DULCAMARA (Bittersweet Twigs)**

STEMS. Tincture [Fresh Stems 1:2, Dry Stems, 1:5, 60% alcohol] 10-20 drops.  
This is best used in formulas. USE WITH MODERATION.

**SPHAERALCEA (Scarlet Globemallow, Yerba de la Negrita)**

FLOWERING HERB. Standard Infusion as needed. Powdered herb, mixed  
with hot water for poultice. The tea is a widely used hair rinse.

**\*SPIGELIA (Pink Root)**

ROOT. Strong Decoction 2-4 ounces morning and evening for three or four  
days, followed by Senna Pods or a moderate saline purgative.

**STACHYS (Hedge Nettle, Woundwort)**

FLOWERING HERB. Tincture [Fresh Plant, 1:2, Dry Plant, 1:5, 50% alcohol],  
1/2 to 1 teaspoon, to 4X a day. Standard Infusion, as needed, and topically as  
a poultice.

**STELLARIA MEDIA (Chickweed)**

HERB. Fresh plant juice or bruised whole plant as a poultice. Tincture [Fresh  
Herb, 1:2, Recent Dry Herb 1:5, 50% alcohol] as needed.

**STICTA (Lobaria pulmonaria, Lungwort Moss)**

LICHEN. Tincture [1:5, 60% alcohol], 20-30 drops, to 4X a day. Standard or Cold  
Infusion, 1-4 ounces, to 3X a day.

**STILLINGIA SYLVATICA (Queen's Root)**

ROOT. Tincture [Fresh root, 1:2, Recent Dry Root, 1:5, 50% alcohol] 10-30 drops,  
preferably in small frequent doses.

**SUMBUL (Ferula sumbul, Musk Root, Jatamansi)**

ROOT. Tincture [1:5, 95% alcohol] 5-20 drops. Cold Infusion, 1-4 oz., to 3X a day

**SWERTIA RADIATA (Green Gentian, Cebadilla, American Columbo)**

ROOT. Tincture [Fresh Root, 1:2, Dry Root, 1:5, 50% alcohol] 5-20 drops, taken  
just before meals.

**SYMPHYTUM (Comfrey)**

LEAF and ROOT. Leaf, Standard Infusion 2-6 ounces. Root, Cold Infusion, 1-4 ounces, both to 3X a day, for short term use. Constant use can irritate the liver.

**TABEBUIA (Lapacho, Pau D'Arco, Ipe Roxo, Amapa)**

TREE BARK. Cold Infusion, 2-4 ounce to 3X a day. Fluidextract [1:1, 50% alc.] 15-30 drops to 5X a day. Tincture [1:5, 50% alcohol] 1/2 to 1 teaspoon to 4X a day

**\*TANACETUM (Tansy)**

FLOWERING HERB. Standard Infusion 1-4 ounce. For short term use only.

**TARAXACUM (Dandelion)**

ROOT or LEAF. Root Fluidextract [1:1, 45% alcohol] 30-60 drops up to 4X a day. Tincture [Fresh Root, 1:2] 1/2 to 1 teaspoon. Strong Decoction, 2-4 ounces, to 4X a day. Leaf as Standard Infusion, 3-6 ounces as needed.

**TECOMA STANS (Tronadora, Trumpet Flower)**

WHOLE PLANT. Standard Infusion, 3-4 ounces. Capsules, #00, 6-10 a day. The Rootbark and stem is used the same as its relative *Tabebuia*.

**THALICTRUM (Meadow Rue, Ruda de la Sierra)**

HERB. Standard Infusion 2-3 ounces.

**THELESPERMA (Cota, Navajo Tea)**

FLOWERING HERB. A simple tea, as needed.

**\*THUJA (Arbor Vitae, Flat, Red or Yellow Cedar)**

HERB. Fresh Plant Tincture [1:2] for topical use; 5-15 drops in water, to 4X a day. Cold Infusion, 2-3 ounces, to 3X a day.

**THYMUS (Thyme)**

HERB. Standard Infusion, 2-4 ounces, to 4X a day; the tea topically as needed. ESSENTIAL OIL. Diluted with 2 parts vegetable oil as a topical antimicrobial.

**\*TRIBULUS (Puncture Vine, Goat's Head)**

HERB and SEEDS. 1/2 to 1 teaspoon of the powdered plant in tea, to 2X a day. Tincture [1:5, 60% alcohol] 30-40 drops, 2X a day.

**TRIFOLIUM PRATENSE (Red Clover)**

FLOWERING HERB. Standard Infusion or Strong Decoction, 4-6 ounces to 3X a day.

**TRILLIUM (Beth Root)**

WHOLE PLANT. Fresh Plant Tincture [1:2] 15-25 drops to 3X a day.

**\*TURNERA DIFFUSA (Damiana)**

FLOWERING HERB. Fresh Plant Tincture [1:2] 20-30 drops. Standard Infusion 2-4 ounces. Dry Plant Tincture [1:5, 60% alcohol] 30-60 drops, all to 3X a day.

**TUSSILAGO (Coltsfoot)**

HERB. Standard Infusion, 2-6 ounces, sipped slowly. Unlike its antispasmodic relative, *Petasites*, which can irritate the liver when used excessively, this is a simple and safe cough therapy.

**ULMUS FULVA (Slippery Elm)**

BARK. Cold Infusion of bark or shredded pieces, as needed. The powdered bark is used for making poultices.

**UMBELLULARIA (California Bay, Pepperwood, Oregon Myrtle)**

LEAF. Tincture [Fresh Leaf, 1:2, Recent Dry Leaf, 1:5, 65% alcohol] 10-20 drops to 3X a day, or inhaled from a saturated cotton ball.

**URTICA (Nettles)**

WHOLE HERB. Cold or Standard infusion, as needed.

**USNEA (Hair Moss, Old Man's Beard)**

LICHEN. Tincture [1:5, 50% alcohol] 30-60 drops to 4X a day. Moisten the herb with a little alcohol and make a Strong Decoction, 2-6 ounces, to 3X a day, or



- use the tea for topical application.
- \*USTILAGO (Corn Smut)**  
FUNGUS. Fresh Fungus Tincture [1:5] 10-40 drops to 3X a day.  
USE WITH CARE.
- VACCINIUM (Blueberry, Huckleberry, Bilberry, Whortleberry, etc.)**  
LEAVES. Standard Infusion of recent herb, 3-4 ounces, to 3X a day.
- VALERIANA (Valerian)**  
PLANT. Tincture [Fresh Whole Plant 1:2, Dry Root, 1:5, 70% alcohol], 30-90 drops, to 3X a day. Capsules (root), #00, 2-3. Constant use of the dry root can induce mental agitation.
- \*VERATRUM (Green, False or American Hellebore)**  
ROOT. Tincture [1:10, 95% alcohol] 3-10 drops to 3X a day.  
DANGEROUS IN MODERATE, POISONOUS IN LARGER AMOUNTS.
- VERBASCUM (Mullein)**  
LEAVES. Standard Infusion, 2-4 ounces. FLOWERS. Tincture [Fresh Flowers, 1:2, Dry Flowers, 1:5, 60% alcohol] 30-90 drops, ROOT. Strong Decoction, 2-3 ounces. All forms to 4X a day.
- VERBENA (Blue Vervain)**  
FLOWERING HERB. Standard Infusion, 2-5 ounces, to 3X a day. Tincture [1:5, 60% alcohol] 30-90 drops, to 4X a day.
- VIBURNUM (V. opulus, V. prunifolium, Cramp Bark, Black Haw)**  
ROOTBARK and BARK. Cold Infusion or Strong Decoction, 3-4 ounces to 4X a day. Tincture [1:5, 50% alcohol] 30-90 drops to 4X a day.
- \*VINCA MAJOR (Periwinkle)**  
HERB. Tincture [Fresh Herb 1:2, Dry Herb, 1:5, 50% alcohol] 20-40 drops, to 2X a day.
- VIOLA ODORATA (Violet)**  
HERB. Standard Infusion 2-5 ounces to 3X a day. Tincture [Fresh Plant, 1:2] 1-2 teaspoons to 2X a day.
- \*VISCUM ALBUM (European Mistletoe)**  
HERB. Tincture [1:5, 50% alcohol] 15-30 drops. Standard infusion, 2-3 ounces both to 3X a day. Use in moderation.
- \*VITEX AGNUS-CASTUS (Chaste Tree Berries, Monk Peppers)**  
SEEDS. Tincture [1:5, 65% alcohol] 30-60 drops. Ground Berries, 1/2 to 1 tspn. in tea, both once in the morning. As it strengthens the progesterone phase of the estrus cycle, it usually works best the two weeks before menses.
- XANTHIUM (Cocklebur)**  
PODS. 2-3 pods as infusion. HERB. Strong Infusion 2-3 ounces, to 2X a day.
- XANTHOXYLUM (Prickly Ash)**  
BARK/BERRIES. Tincture [1:5, 65% alcohol] 10-30 drops, before meals.
- YUCCA (Amole, Spanish Bayonet)**  
ROOT. Capsules, #00, 2-3, morning and evenings.
- ZEA MAYS (Corn Silk)**  
STIGMAS. Standard Infusion, 4-6 ounces to 3X a day. Fresh Silk Tincture, [1:2], 1/2 to 1 1/2 teaspoons in 8 ounces water.
- ZINGIBER (Ginger Root)**  
ROOT. Fresh Root Tincture [1:2] 10-20 drops in warm water. Strong Decoction 1-2 ounces, both as needed.

## FORMAT DESCRIPTION

\* **LATIN NAME.** These plants are not appropriate in pregnancy, either because of their effect on the uterus, their effects on the hypothalamus/pituitary axis, their toxic potential, or my own conservative attitude about herbs in pregnancy. Several plants, such as *Podophyllum*, may actually cause birth defects.

**LATIN NAME.** This is the primary listing, and reflects a combination of current botanical usage, older pharmaceutical Latin names, and common usage. *Leptandra* is called *Veronicastrum* in current botany, but the first name still is widely used by herbalists and is how I list it here. Many plants are listed simply by genus (such as *Arnica*) because I feel so many species in North America are the equivalent of the official one. Others are carefully specified by species because of distinctly different aspects between them. Tarragon and Sagebrush are both *Artemisias* but I would hate to taste Sagebrush Chicken. Some plants are so singular, like *Anemopsis*, that I only use one name to define them.

**OTHER NAMES.** These are other Latin names and common names still in use, and are completely indexed in the back.

**PARTS USED.** These are listed in UPPER CASE. The herb is presumed to be used dry. All fresh plant uses are specified. An Infusion or Decoction is always presumed to be from a dry botanical.

**PREFERENCES:** Under each plant part, I list each method of use in the descending order of their value. Some herbs are better used as an infusion, and I list that first. I list fresh tincture ahead of dry tinctures most of the time (if both forms are appropriate for the herb) based on my own experience, although they may not always be available in commerce. My preferences also tilt towards those methods of using herbs that makes the greatest use of the least amount of plant mass. I have gathered many of these plants and have developed preferences about their use. When you have picked or grown your herbs, you quickly learn how to get the most from the least. Some botanicals are only available in commerce, and I rely on the many sources for extraction principles: older Pharmacopeas, Formularies and Dispensatories. For plants never listed, their constituents (and use) give clear indications for solubilities and media. Whenever in doubt, I have followed my own inclinations or the observations of the best plant pharmacist of the last two centuries, John Uri Lloyd.

**DOSAGE:** These are all given for ADULTS; give kids simple stuff. Be conservative with older folks, the chronically ill, and nursing mothers. Always honor the basic premise of using herbal medicines; they work best on acute self-limiting problems and subacute or sub-clinical disease. I have also been free with warnings, contra- indications and observations. I have used and picked most of these plants and when I haven't, I have gone by the book.

## **OUTLINE OF PREPARATION METHODS**

### **COLD INFUSION**

After pre-moistening a bit, wrap one part herb (dry weight) in cloth and suspend it in 32 parts of water (by volume) at room temperature, overnight. Squeeze out the herb into the tea in the morning, and add enough water to bring it back to 32 parts.

### **STANDARD INFUSION**

Boil 32 parts of water, remove from heat, and steep one part (by weight) of the herb in the water for 20-30 minutes. Strain, and pour sufficient water through the herb in the strainer to return the volume of tea to 32 parts.

### **STRONG DECOCTION**

Combine 32 parts of water with one part of herb (by weight), bring slowly to a boil, continue for ten minutes, cool until warm, and strain. Pour additional water through the herb to return the volume to 32. A **WEAK DECOCTION** is the same, but using half as much herb in the same volume of water.

**COMMENTS.** Except for the weak decoction, the above teas end up with an ounce having the constituents of a gram of herb. If the dosage recommends 4 ounces of Strong Decoction, and you only want a single batch, use 4 grams of herb, or divide an ounce of herb into eight equal parts and use one part for the tea. (Yes, they aren't quite equal...4 grams and an eighth of an ounce...but these are HERBS...lighten up already). **DO NOT MAKE MORE THAN A DAY'S WORTH OF TEA AT ONE TIME.**

### **EYEWASH and DOUCHE**

Make an isotonic water by adding a slightly rounded teaspoon of salt to a quart of clean water (1/2 teaspoon per pint, 1/4 teaspoon per cup), and make the tea with this solution as per the recommended strength. Make a fresh batch every 5-6 hours.

### **FRESH PLANT TINCTURE**

One part by weight of the fresh, chopped herb is steeped for 7-10 days in two parts by volume of grain alcohol (190 proof or 95% ethanol), and pressed or squeezed out. There is no reason to blend or shake this maceration; the tincture is formed passively as a result of dehydration. Ethanol draws out all plant constituents that contain water, leaving only cellulose and dead tissue behind.

### **DRY PLANT TINCTURE**

**Maceration.** If the Materia Medica calls for a [1:5, 60% alcohol] tincture, it means this: your solvent is 60% alcohol and 40% water (the water is presumed), and one part of herb by weight has been invested in five parts of solvent by volume. Let me run you through one. You have four ounces of dried Blue Cohosh roots, which you then grind and sift down to a fairly consistent coarse powder. The four ounces (1) must be mixed with 20 ounces of solvent (5). The solvent is 60% alcohol, the rest water, so you mix 12 ounces of ethanol and 8 ounces of water to get the final volume. Mix both together in a closed jar, and shake the mixture up for a couple of minutes twice a day. After 10-14 days of this, let it set another day, pour off the clear tincture from the top, and squeeze as much out of the sediment as your press or wrists allow. The 20 ounces of solvent (called menstruum) and 4 ounces of herb, may yield up 13-14 ounces of tincture (by wrist) and up to 17 ounces (by press); the rest is immutably held in the sediment (called marc). This remnant moisture is full strength tincture, and eventually this knowledge drives one out of four herbalists stark raving nuts. The resultant attempts to constantly upgrade hydraulic presses rivals the feeding frenzy at computer hardware

conventions.

### **DRY PLANT TINCTURE**

**Percolation.** This is a method that needs physical demonstration and hands-on practice. That being said, this is a brief run down of the process. The same Blue Cohosh has been freshly ground as before. Pack it into a measuring cup to check its compressed volume...probably about six ounces. The menstruum will need to be the 20 ounces PLUS the 6 ounce volume the ground dry herb takes up. The proportion is the same; 60% alcohol and 40% water. 60% of 26 ounces is 15.6 fluid ounces (the alcohol), 40% is 10.4 (water). This gives you your 26 ounces of 60:40 menstruum. Place the powdered herb in a little mixing bowl with a top, add about two-thirds as much menstruum as the herb took up in volume. It took up six ounces in volume, so add four ounces of menstruum to the herb, and mix it thoroughly, then cover it. This may be confusing; the herb WEIGHS 4 ounces, but FILLS 6 ounces of volume. The reason for checking its VOLUME will become apparent. Anyway, the menstruum-moistened herb needs to stay covered and digesting for at least 12, preferably 24 hours.

Now you will need a percolating cone...didn't I mention that? Me and my students find that a large Perrier bottle with its bottom removed sits upside-down inside a large-mouthed Mason jar very nicely, and the screw cap can be used to control the rate of drip out of the bottom (former top). Anyway, you will need to place some moistened herb inside a coffee filter cone, slide it into the neck of the cone, and gradually add the moistened herb on top. It needs to be compressed and compacted onto the first batch, until you have an evenly distributed column of herb inside the cone. Place a filter on the level herb-column, and pour some menstruum slowly on top. The menstruum should descent evenly down the herb column, and drip from the bottom at about one drip per second. If it never drips out the bottom, you packed too tight. If it drips too quickly (drools is a better word), lift the cone out of the Mason jar, and screw the cap on until the drool becomes a slow drip. Keep fresh menstruum covering the top of the herb until it all drips through. This can take one or two hours (or more). When it has finished, there will be 20 ounces of tincture in the Mason jar, and the last six ounces of menstruum (virtually inert) will stay in the herb column, like a moist sponge. Toss it. Now you see why you need to measure the dry herb volume; you make just enough menstruum for that batch of tincture, and you won't have little jars with left-over excess menstrooms that are impossible to compute into another batch with different proportions. Every Pharmacist has a copy of Remington's Pharmaceutical Sciences, which describes the process in great detail, and explains why you get better tinctures when percolating. **FLUIDEXTRACT**

Briefly, take 8 ounces of Tabebuia (Pau D'Arco), grind it, make up an arbitrary amount of menstruum (let's say four times as much, or 32 ounces). The tincture lists a 50% strength; make your fluidextract menstruum 20% higher in alcohol content (i.e. 70%). Mix 22.4 ounces of alcohol with 9.6 ounces of water to get a quart of 70% alcohol menstruum. Take the Tabebuia, moisten it, digest it for TWO days, pack a larger cone with it, and drip (very slowly) a first batch of tincture that is only 75% of the volume as the original dry herb weighed. This means after you have dripped 6 fluid ounces, take it away, and continue dripping everything else into a second jar. As the rest of the menstruum finally starts to sink below the top of the herb column, start adding water into the cone. This second drip can be any amount you wish...a quart, two quarts, whatever. You will need to evaporate it all in a double boiler until it is reduced to 25% in volume of the herb weight...2 ounces in this case. Add the vile remnant of the second percolation to the 6 ounces from the first percolation, and you now have 8 ounces of fluidextract, made from 8 ounces of Tabebuia Bark. A Fluidextract is by definition 1:1 in strength. Now clean up.

## INDEX

ALTERNATE NAME -- LISTED NAME

Acanthopanax.....	Eleutherococcus	Birch.....	Betula
Aconite.....	Aconitum	Biscuit Root.....	Lomatium
Actea arguta.....	Actea rubra	Bistort.....	Polygonum bistorta
African Bird Ppr....	Capsicum	Bittersweet.....	Solanum dulcamara
Agothasma..	Barosma	Black Cohosh.....	Cimicifuga
Alder.....	Alnus	Black Haw.....	Viburnum
Alder, Black.....	Prinos	Black Root.....	Leptandra
Alder, Buckthorn..	Frangula	Black Sampson.....	Echinacea angustifolia
Alegria.....	Amaranthus	Black Walnut.....	Juglans major
Alfalfa.....	Medicago	Blackberry....	Rubus villosus
Alfilerillo.....	Erodium	Bladderwrack.....	Fucus
Algerita.....	Mahonia	Blazing Star.....	Liatris
Allspice.....	Pimenta	Bleeding Heart.....	Dicentra formosa
Aloes Socrotine.....	Aloe	Blessed Thistle.....	Cnicus
Alum Root..	Geranium	Bloodroot.....	Sanguinaria
Alum, American....	Heuchera	Blue Cohosh.....	Caulophyllum
Amapa.....	Tabebuia	Blue Flag.....	Iris
Amer. Aloe.....	Agave	Blueberry.....	Vaccinium
Amer. Sarsaparilla..	Aralia nudicaulis	Boneset.....	Eupatorium perfoliatum
Amole.....	Yucca	Brahmi.....	Centella
Amole Lily.....	Chorogalum	Bricklebush.....	Brickellia
Anemone hepatica	Hepatica	Broom Tops.....	Scoparius
Anemone pulsatilla....	A. hirsutissima	Broomrape.....	Orobanche
Anise, Star... ..	Illicium	Buchu.....	Barosma
Aniseed.....	Anisum	Buckbean.....	Menyanthes
Antelope Horns.....	Asclepias asperula	Buckeye.....	Aesculus glabra
Arabic Gum.....	Acacia senegal	Buckeye, Cal.....	Aesculus californica
Arbor Vitae.....	Thuja	Buckthorn.....	Frangula
Arbutus, trailing....	Epigea	Buckthorn, Cal.....	Rhamnus californica
Arnica, Mexican....	Heterotheca	Buckwheat Bush...	Eriogonum
Artichoke.....	Cynara	Bugleweed... ..	Lycopus
Ash.....	Fraxinus	Bunchberry..	Cornus
Ash, Prickly. ....	Xanthoxylum	Burdock.....	Arctium
Ash, Wafer..	Ptelea	Burning Bush.....	Euonymus
Aspen.....	Populus tremuloides	Bursage.....	Ambrosia
Avens.....	Geum	Butter-and-eggs.....	Linaria
Balm of Gilead.....	Populus candicans	Butterfly Milkweed.....	Asclepias tuberosa
Balmony.....	Chelone	Butternut....	Juglans cineria
Balsam Root.....	Balsamorhiza	Button Bush.....	Cephalanthus
Baneberry.....	Actea	Cachana.....	Liatris
Barberry.....	Berberis	Cactus.....	Cereus, Opuntia
Bayberry.....	Myrica	Calamus.....	Acorus Calamus
Bearberry.....	Arctostaphylos uva-ursi	California Buckeye.....	Aesculus californica
Bearsfoot.....	Polymnia	California Poppy....	Eschscholtzia
Bedstraw.....	Galium	California Slippery Elm.....	Fremontia
Berberis aquifolium.....	Mahonia	California Snakeroot.....	
Bethroot.....	Trillium	.....	Aristolochia californica
Betony.....	Pedicularis	Camphor Weed.....	Heterotheca, Pluchea
Bilberry.....	Vaccinium	Canada Balsam.....	Abies
		Canadian Fleabane.....	Erigeron
		Canadian Hemp....	Apocynum

Canadian Snakeroot.....	Asarum	Conopholis.....	Orobanche
Canaigre.....	Rumex hymenosepalus	Conyza.....	Erigeron
Canela.....	Cinnamomum	Copaiba.....	Copaifera
Canutillo.....	Ephedra viridis	Coral Root.....	Coralorrhiza
Caraway.....	Carum	Corn Silk.....	Zea Mays
Cardinal Flower.....	Lobelia cardinalis	Corn Smut.....	Ustilago
Cardo Santo.....	Argemone	Corydalis canadensis.....	Dicentra
Carrot.....	Daucus	Cota.....	Thelesperma
Cascara Sagrada....	Rhamnus purshiana	Cotton Root.....	Gossypium
Cassia angustifolia.....	Senna	Couchgrass.....	Agropyron
Cat's Paw.....	Antennaria	Cow Parsnip.....	Heracleum
Cataria.....	Nepeta	Cramp Bark.....	Viburnum
Catclaw Acacia.....	Acacia greggii	Cranesbill.....	Geranium
Catnip.....	Nepeta	Crawley.....	Coralorrhiza
Cayenne.....	Capsicum	Creosote Bush.....	Larrea
Cebadilla.....	Swertia	Cuauchichic.....	Garrya
Celandine.....	Chelidonium	Cudweed.....	Gnaphalium
Celery.....	Apium	Culver's Root.....	Leptandra
Cenizo.....	Leucophyllum	Cypress.....	Cupressus
Centaury.....	Centaurium	Cytisus.....	Scoparius
Century Plant.....	Agave	Damiana.....	Turnera
Chamomile.....	Matricaria	Dandelion.....	Taraxacum
Chamomile, Roman.....	Anthemis	Desert Anemone....	Anemone Tuberosa
Chaparral.....	Larrea	Desert Lavender....	Hyptis
Chaparro Amargosa.....	Castela	Desert Tea.....	Ephedra viridis
Chastetree Berries...	Vitex Agnus-Castus	Desert Willow.....	Chilopsis
Cheeseplant.....	Malva	Devil's Claw.....	Harpagophytum
Cherry, Wild.....	Prunus	Devil's Club.....	Oplopanax
Chestnut.....	Castanea	Devil's Dung.....	Asafetida
Chestnut, Horse.....	Aesculus hippocast.	Devil's Walkingstick.....	Aralia hispida
Chickweed... ..	Stellaria Media	Dodder.....	Cuscuta
Chicory.....	Cichorium	Dogbane.....	Apocynum
Chilcuan.....	Heliopsis	Doggrass.....	Agropyron
Chimaja.....	Cymopterus	Dogwood.....	Cornus
Cilantro.....	Coriandrum	Dogwood, Jamaican.....	Piscidia
Cinquefoil.....	Potentilla	Dong Quai.....	Angelica sinensis
Cistus.....	Helianthemum, Cistus	Dryopteris....	Aspidium
Cleavers.....	Galium	Dugaldia.....	Helenium
Clover, Red.....	Trifolium pratens	Dusty Miller.....	Cineraria
Clover, Sweet.....	Melilotus	Elder.....	Sambucus
Clover, Yellow.....	Melilotus	Elder, Dwarf.....	Aralia hispida
Cloves.....	Caryophyllus	Elecampane.....	Inula
Cocklebur.....	Xanthium	Elephant Head.....	Pedicularis
Coffee.....	Caffea	Elephant Tree.....	Bursera
Cohosh, Black.....	Cimicifuga	Epazote.....	Chenopodium
Cohosh, Blue.....	Caulophyllum	Eryngo.....	Eryngium
Coltsfoot.....	Tussilago	Escoba de la Vibora.....	Gutierrezia
Coltsfoot, Western.....	Petasites	Everlasting.....	Gnaphalium
Columbo, American.....	Swertia	Eyebright.....	Euphrasia
Comfrey.....	Symphytum	False Aloe....	Agave
Coneflower.....	Echinacea, all	False Solomons Seal.....	Smilacina

Fennel.....	Foeniculum	Holacantha.. ..	Castela
Fern, Maidenhair...	Adiantum	Hollyhock....	Althea
Fern, Male.....	Aspidium	Holy Thistle.....	Cnicus
Ferula asafetida.....	Asafetida	Hop Tree.....	Ptelea
Ferula sumbul.....	Sumbul	Hops.....	Humulus
Feverfew.....	Chrysanthemum parth.	Horehound.....	Marrubium
Figwort.....	Scrophularia	Horehound, Water.....	Lycopus
Fireweed.....	Epilobium, Erechites	Horse Balm.....	Collinsonia
Flag, Blue.....	Iris	Horse Chestnut.....	Aesculus hippocast.
Flag, Sweet.....	Acorus Calamus	Horse Nettle.....	Solanum carolinense
Flax.....	Linum	Horsemint... ..	Monarda
Fleabane.....	Erigeron	Horsetail.....	Equisetum
Fo-Tzu.....	Aconitum carmichaeli	Hound's Tongue.....	Cynoglossum
Fringetree.....	Chionanthus	Huang Chi... ..	Astragalus
Frostwort.....	Helianthemum	Huckleberry. ....	Vaccinium
Fu-tze.....	Aconitum carmichaeli	Hydrocotyle. ....	Centella
Garlic.....	Allium sativum	Hyssop.....	Hyssopus
Gay Feather.....	Liatris	Ilex verticillatus.....	Prinos
Gentian.....	Gentiana	Incienso.....	Brickellia
Gentian, Green.....	Swertia	Indian Root. ....	Aristolochia watsonii
Giant Willow Herb.....	Epilobium	Indian Warrior.....	Pedicularis
Ginger.....	Zingiber	Indigo, Wild.....	Baptisia
Ginger, Wild.....	Asarum	Inmortal.....	Asclepias asperula
Ginseng.....	Panax	Ipe Roxo.....	Tabebuia
Ginseng, Siberian.....	Eleutherococcus	Jabin.....	Piscidia
Goat's Head. ....	Tribulus	Jaborandi.....	Pilocarpus
Gold Thread.....	Coptis	Jack-in-the-Pulpit.....	Arisaema
Golden Seal. ....	Hydrastis	Jamaica Dogwood.....	Piscidia
Golden Smoke.....	Corydalis aureus	Jasmine, Yellow.....	Gelsemium
Gotu Kola.....	Centella	Jatamansi.....	Sumbul
Gravel Root.....	Eupatorium purpureum	Jersey Tea.....	Ceanothus
Guarana.....	Paullinia	Jewel Weed.....	Impatiens
Guayacan.....	Guaiacum angustifolium	Jimson Weed.....	Datura
Gum Arabic.....	Acacia senegal	Jojoba.....	Simmondsia
Gumweed....	Grindelia	Juniper.....	Juniperus
Habin.....	Piscidia	Kava Kava... ..	Piper methysticum
Hair Moss.....	Usnea	Kinnikinnick.....	Arctostaphylos uva-ursi
Hamula.....	Brickellia	Kola.....	Cola
Hawthorn... ..	Crataegus	Labrador Tea.....	Ledum
Heal All.....	Prunella	Ladies Mantle.....	Alchemilla
Hedge Nettle.....	Stachys	Lady Slipper.....	Cypripedium
Hediondilla. ....	Larrea	Lapacho.....	Tabebuia
Helianthemum....	Cistus, Helianthemum	Lappa.....	Arctium
Hellebore, American.....	Veratrum	Larkspur.....	Delphinium
Hellebore, False.....	Veratrum	Laurel, California.....	Umbellularia
Hellebore, Green... ..	Veratrum	Lavender.....	Lavandula
Helleborine.....	Epipactis	Leafcup.....	Polymnia
Hemlock Spruce.....	Abies	Lechuguilla.....	Agave
Hemp.....	Cannabis	Lemon.....	Limon
Henbane.....	Hyocyamus	Lemon Balm.....	Melissa
Hercules Club.....	Aralia spinosa	Leptotania.....	Lomatium

Lettuce, Wild.....	Lactuca	Mugwort.....	Artemisia vulgaris
Licorice.....	Glycyrrhiza	Muirapuama.....	Ptychopetalum
Licorice Fern.....	Polypodium	Mullein.....	Verbascum
Liferoot.....	Senecio	Musk Root.....	Sumbul
Lignum Vitae.....	Guaiacum	Mustard.....	Sinapis
Lily of the Valley....	Convallaria	Myroxylum pereirae.....	Balsam of Peru
Lily, Tiger.....	Lilium tigrinum	Myroxylum toluiferum....	Balsam of Tolu
Liriosma.....	Ptychopetalum	Myrrh.....	Commiphora
Liverwort.....	Hepatica	Navajo Tea.....	Thelesperma
Lizard Tail.....	Anemopsis	Nerve Root.....	Cypripedium
Lobaria.....	Sticta	Nettles.....	Urtica
Logwood.....	Hematoxylon	New Jersey Tea.....	Ceanothus
Lotebush.....	Condalia	Night-Blooming Cereus.....	Cereus
Lousewort.....	Pedicularis	Nutmeg.....	Myristica
Lungwort Moss.....	Sticta	Oak.....	Quercus
Ma Huang.....	Ephedra vulgaris	Oats.....	Avena
Macrotys.....	Cimicifuga	Ocotillo.....	Fouqueria
Madrone.....	Arbutus	Odontotrichum.....	Cacalia
Maguey.....	Agave	Ohio Buckeye.....	Aesculus glabra
Maidenhair Fern....	Adiantum	Old Man's Beard....	Usnea
Maidenhair Tree....	Ginkgo	Orange Sneezeweed.....	Helenium
Mandrake, Amer.....	Podophyllum	Oregon Myrtle.....	Umbellularia
Manzanilla..	Matricaria	Oxe-Eye Daisy.....	Leucanthemum
Manzanita.....	Arctostaphylos	Parrot's Beak.....	Pedicularis
Maravilla....	Mirabilis	Parsley.....	Petroselinum
Marigold, European.....	Calendula	Pasque Flower.....	Anemone hirsutissima
Marijuana.....	Cannabis	Passion Flower.....	Passiflora
Marsh Fleabane.....	Pluchea	Pau D'Arco..	Tabebuia
Marshmallow.....	Althea	Pausinystalia.....	Corynanthe
Matico.....	Piper angustifolia	Peach Tree.....	Amygdalus
Maturin.....	Cacalia	Pearly Everlasting..	Anaphalis
Maturique.....	Cacalia	Peniocereus. ....	Cereus
May Apple... ..	Podophyllum	Pennyroyal.....	Hedeoma
Mescal Buttons.....	Lophophora	Pennyroyal, European....	Mentha pulegium
Mesquite.....	Prosopis	Peony.....	Paeonia
Milfoil.....	Achillea	Pepper, Black.....	Piper nigrum
Milk Thistle.....	Silybum	Pepper, Cayenne....	Capsicum
Milkweed, Butterfly....	Asclepias tuberosa	Peppermint.....	Mentha piperita
Mikweed, Common....	Asclepias cornuta	Periwinkle... ..	Vinca major
Milkweed, Desert... ..	Asclepias subulata	Peruvian Balsam....	Balsam of Peru
Milkweed, Spider.....	Asclepias asperula	Peruvian Bark.....	Cinchona
Milkweed, Swamp....	Asclepias incarnata	Peyote.....	Lophophora
Mimbre.....	Chilopsis	Picrasma.....	Picraena
Mistletoe.....	Viscum	Pigweed.....	Amaranthus
Monks Pepper.....	Vitex agnus-castus	Picture Vine.....	Tribulus
Monkshood.....	Aconitum	Pine.....	Pinus
Mormon Tea.....	Ephedra viridis	Pinkroot.....	Spigelia
Motherwort.....	Leonurus	Piper cubeba.....	Cubeba
Mountain Everlasting.....	Antennaria	Pipsissewa.....	Chimaphila
Mountain Laurel....	Kalmia	Plantain.....	Plantago
Mountain Mahogany.....	Cercocarpus	Pleurisy Root.....	Asclepias tuberosa



Plumajillo.....	Achillea	Sandalwood.....	Santalum
Poke Root, Berries.....	Phytolacca	Sangre de Drago.....	Jatropha cinerea
Poleo.....	Mentha arvensis	Sarsaparilla.....	Smilax
Poleo Chino.....	Hedeoma	Sarsaparilla, American.....	Aralia nudicaulis
Pomegranate.....	Granatum	Saw Palmetto.....	Serenoa
Ponil.....	Cercocarpus	Scarlet Globemallow.....	Sphaeralcea
Poplar Buds.....	Populus candicans	Scarlet Pimpernel..	Anagallis
Porlieri.....	Guaiacum angustifolium	Scouring Rush.....	Equisetum
Prickly Ash.....	Xanthoxylum	Screwbean.....	Prosopis
Prickly Pear.....	Opuntia	Selenicereus .....	Cereus
Prickly Poppy.....	Argemone	Self Heal.....	Prunella
Privet.....	Ligustrum	Senecio cineraria...	Cineraria
Prodigiosa....	Brickellia	Senega Snakeroot..	Polygala
Psyllium.....	Plantago ovata	Senna.....	Cassia, Senna
Pterocarpus....	Kino	Serpentaria.....	Aristolochia serpentaria
Pulsatilla.....	Anemone hirsutissima	Seven Barks.....	Hydrangea
Punica.....	Granatum	Shavegrass.....	Equisetum
Purple Sage.....	Leucophyllum	Shepherd's Purse...	Capsella
Pussy Toes.....	Antennaria	Shinleaf.....	Pyrola
Pyrethrum parthenium....		Silk Tassel.....	Garrya
.....	Chrysanthemum parth.	Skullcap.....	Scutellaria
Quassia.....	Picraena	Skunk Cabbage.....	Dracontium
Quebracho.....	Aspidosperma	Skunk Cab, West....	Lysichiton
Queen of the Meadow.....		Smartweed.....	Polygonum hydropiper
.....	Eupatorium purpureum	Snakeroot, Button..	Eryngium, Liatris
Queen's Root.....	Stillingia	Snakeroot, Canadian.....	Asarum
Quinine Bark.....	Cinchona	Snakeroot, Kansas..	Echinacea angustifolia
Quinine Bush.....	Garrya	Snakeroot, Missouri....	Echinacea purpurea
Ragweed.....	Ambrosia	Snakeroot, Senega..	Polygala
Ragwort.....	Senecio	Snakeroot, Virg.....	Aristolochia serpentaria
Raiz del Indio....	Aristolochia watsonii	Soapberry.....	Sapindus
Raiz del Oro.....	Heliopsis	Solomon's Seal.....	Polygonatum
Raspberry.....	Rubus idaeus	Sourwood.....	Oxydendron
Rattlesnake Master.....	Eryngium	Spearmint.....	Mentha viridis
Red Osier.....	Cornus	Spikenard.....	Aralia racemosa
Red Root.....	Ceanothus	Squaw Vine.....	Mitchella
Rhatany.....	Krameria	Squaw Weed.....	Senecio
Rheumatism Root.....	Jeffersonia	St. John's Wort.....	Hypericum
Rhubarb.....	Rheum	Star Grass.....	Aletris
Rock Rose....	Cistus, Helianthemum	Stavesacre....	Delphinium
Roman Chamomile.....	Anthemis	Stinkasant.....	Asafetida
Rue.....	Ruta graveolens	Stone Root.....	Collinsonia
Rue, Goats.....	Galega	Storksbill.....	Erodium
Rue, Meadow.....	Thalictrum	Stramonium.....	Datura
Rue, Syrian.....	Peganum harmala	Strawberry.....	Fragaria
Sabal.....	Serenoa	Stream Orchid.....	Epipactis
Safflowers....	Carthamus	Sumach, Fragrant..	Rhus aromatica
Saffron.....	Crocus	Sumach, Smooth...	Rhus glabra
Saffron, American.....	Carthamus	Sumach, Sweet.....	Rhus aromatica
Sage.....	Salvia	Sundew.....	Drosera
Sagebrush.....	Artemisia tridentata	Sweet Cicely.....	Osmorhiza

Sweet Clover.....Melilotus  
 Sweet Flag.....Acorus Calamus  
 Sweet Root.....Osmorhiza  
 Sweetgum.....Liquidamber  
 Symplocarpus..... Dracontium  
 Syrian Rue.....Peganum harmala  
 Tag Alder..... Alnus  
 Taheebo.....Tabebuia  
 Tang Kwei.....Angelica sinensis  
 Tansy.....Tanacetum  
 Te de Coral.....Bidens  
 Teasel.....Dipsacus  
 Tecomplate.. .....Condalia  
 Texas Ranger.....Leucophyllum  
 Thlaspi.....Capsella  
 Tickseed.....Bidens  
 Toadflax.....Linaria  
 Tobacco.....Nicotiana  
 Tobacco, Indian.....Lobelia inflata  
 Toluifera..... Balsam of Peru  
 Torote.....Bursera  
 Trailing Arbutus... Epigea  
 Tree of Heaven.....Ailanthus  
 Triticum.....Agropyrons  
 Trumpet Creeper.....Campsis  
 Trumpet Flower.... Tecoma  
 Tsuga..... Abies  
 Turkey Corn.....Dicentra  
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 Wafer Ash... .....Ptelea  
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 Water Eryngo..... Eryngium  
 Water Horehound.....Lycopus  
 Water Pepper..... Polygonum hydropiper  
 Western Coltsfoot.....Petasites  
 Wild Ginger .....Asarum  
 Wild Indigo.....Baptisia  
 Wild Lettuce.....Lactuca  
 Wild Yam.... .....Dioscorea  
 Wintergreen.....Gaultheria  
 Witch Hazel .....Hamamelis

Sundew..... Drosera  
 Sweet Cicely.....Osmorhiza  
 Wolf Berry.....Lycium  
 Wormseed.....Chenopodium  
 Wormwood.....Artemisia absinthium  
 Woundwort .....Stachys  
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 Yellow Dock .....Rumex crispus  
 Yellow Jasmine.....Gelsemium  
 Yellow Parilla.....Menispermum  
 Yellow Pond Lily.... Nuphar  
 Yerba de la Negrita.Sphaeralcea  
 Yerba del Lobo.....Helenium  
 Yerba del Sapo.....Ambrosia  
 Yerba Mansa.....Anemopsis  
 Yerba Reuma.....Frankenia  
 Yerba Santa.....Eriodictyon

## KIDNEY RESPONSE in ADRENALIN STRESS TYPES

### NORMAL BP SCENARIO

Sympathetic adrenergic dominance results in constriction of renal artery, and afferent and efferent arterioles in each nephron



As the effect of constriction on efferent arteriole is greater than on afferent, pressure in glomerulus is greater. BP is monitored by renin-secreting cells in afferent, back-pressure induces sense of slightly higher BP, renin levels unaffected, but aldosterone is slightly elevated (pituitary)



Increased glomerular pressure results in increased volume of filtrate in tubule.

Reabsorption of filtrate in the proximal tubule back into blood is normal (80%+)

Adrenergic stress increases the levels of ADH from pituitary.



ADH increases distal tubule absorption of water, aldosterone increases sodium retention, less urine exits into kidney pelvis



Kidneys control blood volume with renins, they are slightly elevated, CVS response slightly exaggerated, pressure elevates, ADH lessens, pressure stays within normal limits or may be slightly reactive and elevated in some individuals.



Kidneys tend to make less urine during the stress hours, accomodates afterwards by increasing urine volume, often at night.



Water and sodium retention during day, slightly elevated BP, reversing at night, all-exaggerated in women premenstrually.

### LOW BP SCENARIO

Sympathetic adrenergic dominance results in constriction of renal artery, and afferent and efferent arterioles in each nephron



As the effect of constriction on efferent arteriole is greater than on afferent, pressure in glomerulus is greater. BP is monitored by renin-secreting cells in afferent, back pressure induces sense of higher BP, renin unaffected (should be elevated), aldosterone stays same, should be elevated (low anabolic energy)



Increased pressure, with slightly low blood protein results in greater volume of filtrate

Vascular excitability in the brain lessens the ADH reflex by pituitary.



Less ADH lessens distal tubule absorption of water, aldosterone is not elevated, larger amount of dilute urine exits, higher in both water and sodium.



Kidneys can normally control blood volume imbalance automatically with renins, but they are lower than they should be. Kidneys can control its own imbalances with prostaglandins, but, with impaired lipid metabolism in general, particularly GLA, their synthesis is impaired..



Kidneys' ability to moderate imbalance is impaired a bit, maintained blood volume is lower than ideal, vascular accomodation is less efficient.



### THIS RESULTS IN:

Slight sodium deficit body-wide, local sodium and water conservation in skin and mucosa, slightly lowered blood volume and blood pressure, high volume urine, day and night, vessels more reactive locally, with flushing, hot and cold, etc. Poor accomodation to temperature changes, orthostatic hypotension, water and salt cravings.

# KIDNEY RESPONSE IN ADRENOCORTICAL STRESS TYPES

## GIVEN THE FOLLOWING:

Moderately elevated gonad hormones and adrenocortical androgens and minerocorticoids

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Normal or slightly lowered aldosterone (adjusted for HBP)

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Elevated ADH (from thick blood)

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Normal or slightly lowered renins (adjusted for HBP)

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Filtrate volume from glomerulus is normal



Proximal tubular filtrate reabsorption is normal



Increased water absorption in distal tubule from elevated ADH



Increased sodium reabsorption in distal tubule, greater than appropriate, since aldosterone is normal or low but the EFFECT is increased in the presence of higher levels of gonad steroids and cortical steroids



Waste products secreted into distal tubule remains same, volume of filtrate still remaining to carry out the waste products as urine is smaller, so urine is less, contains more waste products than normal in the same volume, is denser, and more acidic.

## THIS RESULTS IN:

There is a constant moderately excess loss of potassium, bicarbonate and phosphorus (due to urine concentration) slow buildup of sodium and water in the blood and intestinal fluids, resulting in moderate, non-labile high blood pressure, increased blood volume, and locally induced increased sodium and water excretion in skin and mucosa