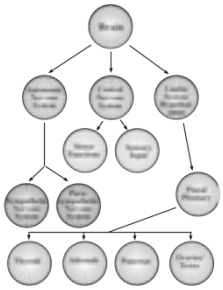
Herbs for the Glandular System

- With Steven Horne, RH(AHG) and Thomas Easley, RH(AHG)

The Control System



The Endocrine System

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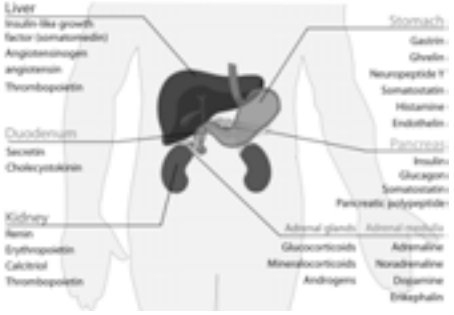
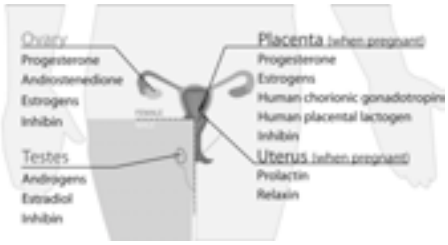


The Endocrine System



Primary Endocrine Hormones

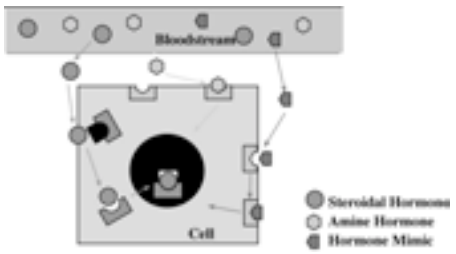
Amino Acid Based

- Pineal
  - Melatonin
- Pituitary
  - FSH, LH, ACTH
  - Growth Hormone
- Thyroid
  - Thyroxin
- Pancreas
  - Insulin and Glucagon
- Adrenal Medula
  - Epinephrine and norepinephrine

Cholesterol (Steroidal) Based

- Adrenal Cortex
  - Aldosterone
  - Cortisol
  - DHEA
  - Pregnenalone
- Ovaries
  - Estrogen
  - Progesterone
- Testes
  - Testosterone

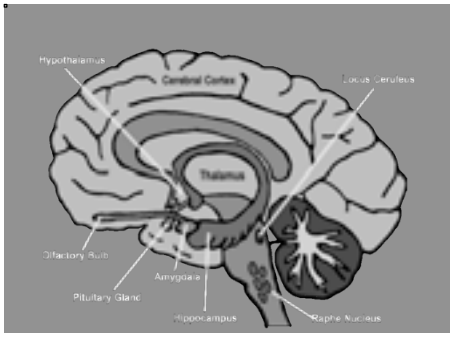
Receptor Sites



Altering Hormones

- Drugs, compounds from herbs and nutrients can affect hormones in numerous ways
  - They can stimulate or inhibit production of hormones, typically by affecting the enzymes that create them
  - They can stimulate or inhibit the release of hormones
  - They can inhibit the enzymes that break down hormones
  - They may directly mimic hormones and attach to receptor sites, either stimulating or inhibiting them
  - They can provide nutritive building blocks needed to produce hormones
  - They can feed and strengthen the glands that produce the hormones

The Brain



The Hypothalamus

- The hypothalamus is located right above the pituitary gland, to which it is attached.
- The hypothalamus is where neurological energy is translated into chemical energy, and functions as the "thermostat" of the endocrine system.
- Neurological information received by the hypothalamus helps determine what hormones will be released throughout the endocrine system.

Hypothalamus

- The hypothalamus constantly monitors circulating hormones produced by tissues throughout the endocrine system.
- Sight, smell, taste, hearing, balance - in fact, all cranial nerve activity - influences hypothalamic secretions.
- The hypothalamus also helps regulate hunger and food intake by monitoring the hormone leptin.
- It also regulates body temperature and fluid balances, making it an important part of the immune response.
- The hormones released by the hypothalamus cause the pituitary gland to release hormones that affect our emotions and maintain biochemical balance throughout the body.

Hypothalamic Temperature Control

- A pyrogen is a substance that induces fever.
- Pyrogens can be introduced from outside the body or be made by the body.
- A substance in the cell walls of some bacteria known as lipopolysaccharide, is known to induce fevers.
- However most increases in body temperature are caused by cytokines and prostaglandins.
- In response to certain bacteria and inflammatory hormonal signals your hypothalamus increases body temperature.
- It does this by increasing muscle tension, shivering, and by releasing hormones like epinephrine that stimulate organ function.
- You body also prevents heat loss by constricting peripheral capillaries.

Fever

- Fever is an important part of the immune response.
- An elevation of body temperature inhibits the reproduction of bacteria and viruses.
- PGE2 is a prostaglandin released in response to cell injury. Body temperature does not return to normal until PGE2 dissipates.
- PGE2 is made from the COX2 enzyme system.

How to Break a Fever

- Substances that inhibit the COX2 enzyme can lower a fever. These substances include aspirin, willow and meadowsweet among others.
- But by taking these things we inhibit an important body function.
- So the question becomes how do we support the body's process?

How to Break a Fever

- By increasing the body's temperature we can speed up the natural immune response to cell injury.
- This was the method of treating fevers from the ancient Greeks all the way to Samuel Thomson.
- Hot teas, sweat baths and blankets were all used along with a class of herbs called diaphoretics to break fevers.
- One of the primary diaphoretics was yarrow.

Yarrow

- Family: Asteracea (Compositae)
- Species: *Achillea millefolium*
- Other names: Wound wort, soldiers herb

Photo: Stephen Foster

History

- Latin name Achillea comes from Achilles, the famous Greek warrior. Milliflorium refers to its finely divided leaves
- Yarrow has a long and rich history. It was in common use by the time off the ancient Roman centurions, who called it the Herba Militaris, the military herb.
- Later it was called Soldier's Woundwort and Carpenter's Weed.
- Yarrow was used in military medicine as late as the American Civil War.

Constituents

- Volatile oil
  - Monoterpenes (linalool, camphor, borneol, eucalyptol) – antimicrobial and antioxidant
  - Sesquiterpenes (chamazulene) – anti-inflammatory
- Sesquiterpenoid lactones (achillicin, achillin, achillifolin and others) – anti-inflammatory
- Alkaloids (stachydrine, achilleine) – hemostatic
- Tannins (3-4%)
- Coumarins
- Flavonoids (apigenin, artemetin, casticin, luteolin, rutin) - antipasmodic
- Proline betaines
- Polyacetylenes
- Phenolic acids

Yarrow Signatures

- Latin name comes from Achilles, the Greek warrior who conquered Troy
- Lacy, finely divided "saw teeth" of leaves actually ribs and veins of a single leaf that has been cut back.
- White head of blossoms form a protective "umbrella"

Energetics

- Flowers: Aromatic, acrid, diffusive, bitter
- Leaves: Bitter, astringent
- Degree: 3rd
- Tissue states: Excitation, relaxation, depression.
- "Master of the blood:" regulates blood flow via clotting, unclotting, neurovascular control, flavonoids
- "Master of fever:" moves blood to and or from the surface to preserve heat and regulate fluids

Styptic for Bleeding

- Wounds
  - Lacerations and cuts
  - Arterial bleeding
  - Cuts with bruises
- Nosebleeds
- Heavy menstrual bleeding
- Helpful for internal bleeding
  - Lungs, bowels or kidneys
  - Bleeding hemorrhoids or anal fistulae
  - Cerebral thrombosis
  - Stroke and head injuries

Fever Reducer

- High fever
- Fever with sudden onset
- Fever during chicken pox, measles, etc.
- Promotes sweating
- Fever with or without chills
- Tongue bright red and elongated
- By normalizing circulation to the periphery, yarrow is able to induce sweating.

Female Problems

- Lack of menstrual flow
- Difficult to start
- Heavy, hemorrhagic flow, hard to stop, excessive bleeding
- Heavy menstrual flow
- Endometriosis
- Uterine fibroids with bright red bleeding
- Vaginal discharge
- Uterine prolapse
- Bleeding and pain after childbirth
- Sore nipples in nursing

Yarrow Personality Profile

- Wounded Warrior/ Wounded Healer
- People who put out fires and get emotionally wounded
- People who take on other people's problems and feel responsible for them
- Lymphatic tophi (iridology)
- Sensitive, easily hurt
- Red skin with blue veins

Specific indications

- Robust, sanguine persons with red, full-blooded complexion; and sensitive persons, easily hurt.
- Complexion of skin red with blue veins showing through on the arms and legs; bruises are red and blue.
- Tongue elongated, pointed, red, but blue in the center.
- Clumsy feeling just before the onset of the period.
- Uterine fibroids; with bright red hemorrhage (bath).
- Irritative conditions of the urinary apparatus, strangury, and suppression of urine (infusion).
- Lacerations, bruises.

Modern Uses

- Good anti-inflammatory indicated in cases of inflammatory bowel disease and irritation of the bladder and urethra.
- Diaphoretic useful for colds and flu.
- Astringent and styptic useful for menorrhagia, leucorrhea, hemoptysis, gastric disorders and hemorrhoids.
- Useful tonic for prolapsed uterus or rectum, colitis, and chronic diarrhea.

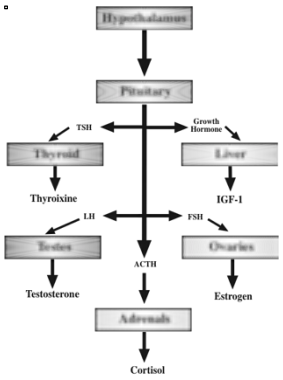
Dosage

- Fresh: Crush leaves and apply topically to wounds, insect bites, etc.
- Oil: Yarrow infused oil is a topical anti-inflammatory. It moves blood, reduces stagnation and is useful for sore muscles, scaly skin conditions and arthritis.
- Tea: 1-2 teaspoons of flowers to 8 oz of water. Steep covered 40 minutes (D Winston) or steep covered 13 minutes, steeping longer changes the properties (M Wood). Drink 2-3 cups peer day for chronic conditions, or a cup every hour in fevers.
- Tea is better tasting when mixed with peppermint

Dosage and Cautions

- Tincture: Fresh 1:2, Dry 1:5; 50% alcohol. 30-50 drops (1.5-2.5 mL or ½ teaspoon) 3 times a day (D Winston); or 1-3 drops 1-3 times a day (M Wood).
- Yarrow combines well with elderflower, peppermint, chamomile and boneset for flu, fever, etc.
- Yarrow should not be taken in large internal doses during pregnancy.

Pituitary: The Master Gland



Oxytocin

- Causes uterine contractions during childbirth (The drug pitocin is a synthetic version of oxytocin)
- Causes lactiferous duct contraction to release breast milk ("let-down")
- Causes menstrual cramps
- Released during orgasm
- Causes emotional bonding, increases empathy and compassion
- Promotes feelings of contentment, reductions in anxiety, and feelings of calmness and security

Oxytocin

Enhancers

- Herbs
  - Cotton Root
  - Blue cohosh
  - Scotch broom
  - Shepherd's Purse
  - Lady's mantle
  - Chocolate
  - Goldenseal
  - Cannabis (Marijuana)
- Touch/nipple stimulation
- Drugs
  - Pitocin
  - Ecstacy

Inhibitors

- Herbs
  - White willow
  - Pasque flower
  - Cramp bark
- Essential Oils
  - Myrrh
  - Lavender
  - Jasmine.

Cacoa

- Cacao was named Theobroma by Linnaeus, the word meaning "food of the gods"
- In Central America during the time of the Aztec the small seeds were utilized as coins for small transactions
- According to Dr. William Hughes, an English physician in 1672, "Chocolate nourishes and preserves health entire, yet causes a pleasant and natural sleep and rest. Drunk twice a day, a man may very well subsist therewith, not taking anything else at all."

Cacoa

- In 1529, Cortes wrote to King Carlos I of Spain that he had found a "drink that builds up resistance and fights fatigue."
- After Cortes returned to Europe with trunk loads of cacao beans chocolate swept Europe because of its reputed medicinal qualities.
- A drink of chocolate was viewed as a cure-all, a restorative, and vital for treating everything from anemia to digestion problems.

.Three Consistent Uses

- Cocao was consistently used for three purposes:
  - to treat emaciated patients to gain weight
  - to stimulate nervous systems of exhausted or feeble patients
  - to improve digestion and elimination where cacao/ chocolate countered the effects of stagnant or weak stomachs, stimulated kidneys and improved bowel function.

Additional Uses

- Anemia
- Poor appetite
- Mental fatigue
- Poor breast milk production
- Consumption/ tuberculosis
- Fever
- Gout
- Kidney stones
- Low virility.

- In addition to cacao beans, preparations of cacao bark, oil (cacao butter), leaves and flowers have been used to treat burns, bowel dysfunction, cuts and skin irritations.

.Cacoa

- America's founding fathers were also captivated by chocolate. Thomas Jefferson is quoted as saying: "The superiority of chocolate, both for health and nourishment, will soon give it the preference over tea and coffee in America which it has in Spain."
- Milton Hershey, founder of Hershey Chocolate Company, knew full well the health value of the bars he made famous. "Hershey's: More Sustaining Than Meat." read one of his early advertisements for a milk chocolate bar.
- But as sugar and milk were added to chocolate in later centuries, much of its medicinal value was forgotten.

.Cacoa is an Antioxidant King

- The kinds of antioxidants found in chocolate are called polyphenols, a large class of molecules found in fruits and vegetables like oranges, soybeans and berries.
- Dark chocolate and cocoa are particularly high in a sub-class of those compounds called flavanols, which are also found in red grapes and tea, hence the well-known benefits of red wine and green tea.
- The reason dark chocolate and cocoa rank so high is that the antioxidants are very concentrated. More than 10 percent of the weight of the dry raw cacoa beans consists of polyphenols alone.

.Cacao Makes You Feel Great

- Eating chocolate stimulates the release of mood-affecting chemicals such as endorphins and serotonin.
- These feel good chemicals may also explain why women crave chocolate when they are suffering from PMS. Serotonin levels often drop in the days before menstruation begins, so eating chocolate can help boost those levels and improve one's mood

Cacao Lowers Your Blood Pressure

Researchers compared the blood pressure-lowering effects of cocoa and tea in previously published studies and found eating cocoa-rich foods was associated with an average 4.7-point lower systolic blood pressure (the top number in a blood pressure reading) and 2.8-point lower diastolic blood pressure (the bottom number).

Eating about 3 1/2 ounces of dark chocolate helped relax people's blood vessels in a recent study

Effect of dark chocolate on arterial function in healthy individuals. Vlachopoulos, C., Aznaouridis, K., Alexopoulos, N., Economou, E., Andreadou, I., Stefanadis, C., *American Journal of Hypertension* 2005 Jun; 18(6):785-791.

Cacoa is Nutritious

- 3oz of 80% Cacao Contains
  - Calcium 73.7mg, 7% RDA
  - Iron12.0mg, 67% RDA
  - Magnesium 230mg, 58% RDA
  - Phosphorus 311mg, 31% RDA
  - Potassium 722mg, 21% RDA
  - Sodium 20.2mg, 1% RDA
  - Zinc 3.3mg, 22% RDA
  - Copper 1.8mg, 89% RDA
  - Manganese 2.0mg, 98% RDA
  - Selenium6.9mcg, 10% RDA
- Along with small amounts of
  - Vitamin A
  - Vitamin B1
  - Vitamin B2

.Cacoa

- When you go out and stock up on chocolate, take the following factors into consideration:
- The chocolate should have only minimal amounts of added sugar, and it should have as much cocoa in it as possible.
- Many of the dark chocolates that are on the market today specify the content of cocoa on the label. You should aim for at least 70 percent cocoa content.
- In addition, keep in mind that even this special kind of dark chocolate should be eaten in moderation, about two to three ounces a day.
- You can also try cocoa nibs -- roasted, unprocessed, whole cocoa beans. They are crunchy, delicious, and full of polyphenols and OEA, a special fat that helps you burn fat.

Theobromine vs. Caffeine

Theobromine	Caffeine
gentle	intense
mild effect	strong effect
very slow onset	fast acting
long lasting	rapid dissipation
50% in bloodstream after 6 to 10 hrs	50% in bloodstream after 2 to 5 hrs
increases feeling of well being	increases alertness
mild antidepressant	increases emotional stress
gentle, smooth, sensual stimulation	jagged, nervous stimulation
mild effect on central nervous system	strong effect on CNS
not addictive	physically addictive
no withdrawal symptoms	many proven withdrawal symptoms
mild diuretic	extreme diuretic
	requires large intake of fluids to balance the diuretic effect

.Theobromine VS. Caffeine

- There are a number of serious health problems associated with caffeine, most of which have not been associated with Theobromine:
- Large quantities of Caffeine have shown decreased sperm counts in rats.
- Well controlled studies have suggested that 2% of miscarriages could be due to Caffeine in coffee.
- Dehydration headaches -- Most headaches (estimates range from 50% to 90%) are caused by dehydration, and one of the primary causes of dehydration in the USA is the large quantity of Caffeine that most people consume.

.Cacao Recipes

- For a quick chocolate fix, mix 1 teaspoon cocoa (or to taste) with yogurt and sliced fruit.
- Stir up a smoothie by blending cocoa with fruit and milk, almond milk, or frozen yogurt.
- Brew up a chocolate coffee substitute, using coarsely ground, roasted cocoa beans. Using approximately the same amount of ground cocoa as you would coffee, brew in a drip coffee maker for a bitter beverage much like modern coffee.

Antidiuretic Hormone

- Inhibits formation of urine
- Constricts blood vessels to increase blood pressure
- Inhibited by alcohol
- Probably enhanced by licorice root

Anterior Pituitary Hormones

- Follicle Stimulating Hormone (FSH)
- Adrenocorticotrophic Stimulating Hormone (ACTH)
- Thyroid Stimulating Hormone (TSH)
- Lutenizing Hormone (LH)
- Prolactin
- Melanocyte Stimulating Hormone
- Somatotrophin (Growth Hormone)

Pituitary Herbs

- Alfalfa
- Barley Grass
- Bee Pollen
- Blue-Green Algae
- Eleuthero

Alfalfa

- Family: Leguminosae
- Genus and Species: *Medicago sativa*
- Other names: Spanish Clover, California Clover
- Part(s) Used: roots, leaves

Photo from wikipedia

History and Interesting Facts

- Palladius, an ancient Greek writer, called alfalfa "medica", a name that referred to the Medes, a people who lived in ancient Iran.
- In ancient Spain, the Arabic name "al-fisfisa" mutated into the Spanish name "alfalfa".

1919: Ellingwood

- There is an increased secretion of the kidneys from this agent and in the female, of the milk glands; increased peristaltic action of the bowels; increased appetite; increased assimilation of food, and increased weight. In one case there was a disappearance of swelling of the milk glands.

1919: Ellingwood

- Alfalfa a superlative restorative tonic, but it does not act as a stimulant, after the manner of alcohol, cocaine or other habit-forming drugs. It rejuvenates the whole system by increasing the strength, vim, vigor, and vitality of the patient. In al cases, the ever-marked condition calling for the remedy is despondency, along with loss of flesh, whether the case is one of stomach trouble, such as indigestion, dyspepsia, general and nervous debility, anaemia, marasmus, loss of appetite and poor assimilation, as shown by loss of flesh and constipation, with the always accompanying condition, depression.

Constituents

- Protein (18%)
- Calcium
- Iron
- Trace minerals
- vitamin A
- vitamin C
- vitamin E
- vitamin K
- Phytoestrogens (spinosterol)
- Isoflavones: biochanin A, daidzein, formononetin and genistein

Energetics

- Taste: Salty
- Degree: 1st
- Tissue States: Atrophy, Stagnation
- Properties: nutritive tonic

Photo from Wikipedia

Modern Uses

- Digestive tonic
- Kidney tonic
- Nutrient dense super food
- Increases breast milk production
- Utah herbalist LaDean Griffin discovered that alfalfa was beneficial for pituitary problems when praying for answers concerning a daughter with a pituitary disorder. Many herbalists since that time have confirmed that alfalfa does seem to regulate the pituitary

Preparations and Doses

- Harvest: Harvest leaves anytime during the growing season
- Dosages
  - Capsules: 2-10 a day.
  - Tea: 1 tsp simmered for 20 min a 2 cups of water. 1 cup, 3 x day.
- Contraindications: Use with caution in women or men with fertility problems. It is contraindicated in pregnancy.

Herbs for the Glandular System

- Classes will cover:
  - Class One (Jan 17): Pancreatic Regulators
  - Class Two (Jan 31): Thyroid Regulators
  - Class Three (Feb 7): Adrenal Regulators
  - Class Four (Feb 21): Female Regulators
  - Class Five (Feb 28): Male Regulators
- Time: 6:30-8:30 Mountain Standard Time
- Cost: $127 if pre-registered by Jan 10, $157 thereafter (TOL Members get an additional $30 off)
- Register at: www.treelite.com or by calling 800-416-2887

Other Upcoming Classes

- Emotional Anatomy Class
  - Free Preview (Jan 18)
  - Class Dates: Feb 8, 22, Mar 21, Apr 4, 18, May 2, 23
  - Cost: $97 (webinar only), when manual is complete you will be able to purchase it and certify for an extra $50
- Botany Class
  - Free Preview (Mar 20)
  - Apr 3, 17, May 1, 15, 29
- Herb Walk (Utah)
  - Salt Lake City, Utah
  - July 20-21

Question and Answer Time