

HERBAL MEDICINES

ROLE OF HERBS IN MODERN MEDICINE

- **Extreme views are held about the role of herbs in medicine-some feel they are the only true source of medicinal health others feel they are quackery.**
- **Biological activity is unrelated to source.**
- **Several herbs have been shown to be beneficial.**
- **One must be skeptical about the claims.**

DIETARY SUPPLEMENT ACT (DSHEA)

- **Requires no proof of efficacy.**
- **Requires no proof of safety.**
- **No standards for quality control.**

DIETARY SUPPLEMENT ACT

- **Supplements may carry “structure/function” claims---claims that a product may affect the structure or function of the body---but not claims that they can treat, diagnose, cure or prevent a disease.**

DIETARY SUPPLEMENT ACT

- **If questions arise the burden lies with the FDA to prove a product unsafe rather than a company proving its product safe.**
- **Mfger must put a message on the label stating that claims have not been reviewed by the FDA, but this statement can be subtle.**

DIETARY SUPPLEMENT ACT

- **Difficult to determine if an herbs' active ingredients are actually in the product, if the ingredient is bioavailable, if the dosage is appropriate, if the next bottle they buy will have the same components or what else is in it besides the claimed ingredients.**

HERBAL MEDICINES

- **Sold as herbs, teas, health foods, food supplements, nutritional products etc.**

1999-LABELING CHANGE

- **Now labeled with a section on supplemental facts. This includes on the label the herbs common name, botanical name, the part of the plant used, mfgers. suggested serving size and nutrients contained.**

NEW FEDERAL REGULATION –July 2007

- **Dietary Supplements must be made using GMP (Good Manufacturing Practice). Designed to prevent contamination and inclusion of the wrong ingredients and too much or too little of a dietary ingredient.**

NEW LAW AS OF DEC 2007

- **Makers and distributors of supplements and o-t-c drugs must report all serious adverse events to the FDA within 15 days.**

OTHER COUNTRIES

- **Several countries (e.g. Germany, France, Sweden and Australia) have implemented strategies for licensing herbal remedies.**
- **Canada-in between-"traditional medicines" labelled to inform the consumer regarding therapeutic use of the product and proper dose.**

GARLIC



GARLIC

- **Active component derived from the bulb.**

TRADITIONAL USES

- **Bulbs and occasionally the leaves have been used since ancient times as food and medicine.**
- **One of the most extensively studied medicinal herbs.**
- **Over 125 different uses have been attributed to it.**

CURRENT USES

- **To lower cholesterol and blood pressure.**
- **Atherosclerosis.**
- **Anticancer effect.**
- **Antiinfective.**

CURRENT USES

- **Random control trials (RCT's) suggest possible small, short-term benefits on some lipid and antiplatelet factors.**
- **Effects on blood pressure are mixed and small.**
- **Methodologic problems in many studies so additional trials are needed.**

GARLIC

- **Converted to active form by enzyme.**

GARLIC

- **Garlic is available commercially as oil-filled capsules, as capsules containing deodorized oil and as tablets (often with parsley to decrease odor).**

PHARMACOLOGY- Cardiovascular Effects

- **Anticoagulant activity.**
- **Reduces cholesterol and LDL-cholesterol.**
- **Reduces blood pressure.**

PHARMACOLOGY

- **Antimicrobial and antifungal effects**
- **Anticancer effects**

SIDE EFFECTS

- **Breath and body odor (decreased with enteric-coated tablets).**
- **Nausea, heartburn, flatulence and sweating.**
- **Allergies and contact irritation.**

PRECAUTIONS

- **Discontinue at least 7 days before surgery (reported to cause postoperative bleeding).**
- **Pregnancy or lactation.**
- **Allergies to plants in the Lily family.**

DRUG INTERACTIONS

- **Anticoagulants**
- **Insulin and antidiabetic medications.**

GINSENG



GINSENG (*Panax ginseng*)

- **Derived from the root-the common name ginseng (“man-root”) stems from a belief that because this root is humanoid in appearance it can benefit all aspects of the human body.**
- **Ginseng is one of the most popular and expensive herbs in the world.**



TRADITIONAL USES

- **Used for centuries in the Orient as a cure all.**
- **At least 6 million Americans use the root.**
- **In the U.S. ginseng products may contain one of the three different ginsengs: Chinese or Korean ginseng, American ginseng and Siberian ginseng or combinations of all 3.**

CURRENT USES

- **Tonic -enhances physical performance, promotes vitality, and increases resistance to stress and aging .**

CURRENT USES

- **Performance enhancer-athletes use it to counter fatigue, increase energy and improve stamina.**
- **Adaptogen- counters damage from emotional and physical stress, prevents the depletion of stress-fighting hormones, and enhances memory.**

MECHANISM OF ACTION

- **Exact mechanism is unknown. Studies differ widely in the species used, ginsenosides studied , purity and their results.**
- **Steroid hormone action (estrogenic and corticosteroid actions).**

MECHANISM OF ACTION

- **Stimulatory and inhibitory effects on the nervous system.**
- **Inhibits platelet aggregation.**

SIDE EFFECTS

- **Weak estrogenic properties-vaginal bleeding and mastalgia.**
- **“Ginseng abuse syndrome” (hypertension, nervousness, sleeplessness, skin eruptions and morning diarrhea).**

SIDE EFFECTS

- **Nervousness and excitement are common.**
- **Lowers blood sugar.**

PRECAUTIONS AND CONTRAINDICATIONS

- **Pregnancy or lactation.**
- **Diabetes.**
- **Before and after surgery.**

DRUG INTERACTIONS

- **Insulin or oral antidiabetic agents.**
- **Anticoagulants.**



ST JOHNS WORT



ST John's Wort (*Hypericum perfoliatum*)

- **5 petalled yellow flower growing wild in much of the world.**
- **Named after St. John the Baptist because it blooms around his feast day and exudes a red color symbolic of his blood.**
- **Active drug derived from the aerial parts of the plant.**

TRADITIONAL USES

- **Described and recommended as a useful remedy in all of the herbals down through the middle ages.**
- **Historically used to treat neurologic and psychiatric disturbances.**

CURRENT USES

- **Depression, seasonal affective disorders and anxiety.**
 - **Treatment of mild-moderate depression is common practice in Germany and other European countries.**
 - **Prescribed like the traditional antidepressants fluoxetine (Prozac) and desipramine.**

CURRENT USES

- **Systematic reviews suggest that it is more efficacious than placebo for short-term treatment of mild-moderate depression (not a substitute for conventional antidepressants in patients with moderately severe or severe major depression).**

MECHANISM OF ACTION

- **Antidepressant action-** a number of possible mechanisms have been postulated . Decreases levels of brain neurotransmitters.

SIDE EFFECTS

- **Allergic reactions.**
- **GI Symptoms (dry mouth and constipation) and fatigue.**
- **Serotonin syndrome (anxiety, confusion, hypertension).**

SIDE EFFECTS

- **Dizziness and confusion.**
- **Mania induction (distorted thoughts, irritability and hostility).**

CONTRAINDICATIONS AND PRECAUTIONS

- **Avoid during pregnancy or nursing.**
- **Prior to surgery and chemotherapy (discontinue 1 week prior).**

DRUG INTERACTIONS

- **Other psychoactive agents- potential for additive toxicity in patients taking other antidepressants.**
- **Selective serotonin uptake inhibitors (potential for serotonin syndrome-like adverse effects: anxiety, confusion, hypertension).**

DRUG INTERACTIONS

- **Induces drug metabolizing enzymes. Potential for interaction with several drugs (anticoagulants, protease inhibitors, anti AIDS drugs, oral contraceptives, anticancer agents, cyclosporine, triptans, antidepressants).**

ECHINACEA



ECHINACEA

- **Purple coneflower, native to central U.S.**
- **Altogether 9 species grow in the U.S.**
- ***E.Purpurea* is now the most commonly utilized species.**
- **Active form is derived from the fresh or dried roots or fresh or dried above ground parts.**

TRADITIONAL USES

- **Historically used by the American Indians for a variety of ailments.**
- **In 1885 it was used as an antiinfective. It fell into disuse with the advent of the sulfa drugs.**

CURRENT USES

- **Prevention and treatment of common cold.**
 - **Commercial products vary widely in composition.**
 - **Studies have reported both positive and negative findings.**

CURRENT USES

- **Prophylaxis and treatment of viral upper respiratory tract infections and as an adjunct for more severe infections.**

MECHANISM OF ACTION

- **Stimulates the immune response (short term exposure) while long term exposure may inhibit it.**

SIDE EFFECTS

- **Allergies (particularly with patients allergic to plants of sunflower family).**
- **Oral formulations have an unpleasant taste and cause some GI upset.**
- **Flu-like symptoms following injection.**

PRECAUTIONS

- **Avoid in patients with autoimmune disorders and patients taking immunosuppressants.**
- **Pregnancy and lactation.**

DRUG INTERACTIONS

- **Drugs depressing the immune response.**

SAW PALMETTO



SAW PALMETTO

- **Dwarf palm tree that grows in the southeastern U.S.**
- **Extracts from the fruit (berry) have been used historically to treat urogenital problems.**

CURRENT USES

- **Benign prostatic hypertrophy.**
 - **May improve prostate health and urinary flow.**

BPH

- **BPH is a noncancerous, abnormal overgrowth of the prostate gland experienced by about 60% of men between 40 and 59 yrs.**
- **Believed to be due to increases in dihydrotestosterone with age.**

CURRENT USES

- **Studies suggested improvement in urinary symptoms and urinary flow.**
- **Recent study in NEJM found it did not improve symptoms or objective measures of BPH.**

MECHANISM OF ACTION

- **Inhibition of conversion of testosterone to dihydrotestosterone.**
- **Antiinflammatory effects.**

SIDE EFFECTS

- **GI complaints.**
- **Bleeding and hemorrhage.**
- **Some men report difficulty with erections, testicular discomfort, breast tenderness and changes in sexual desire.**

PRECAUTIONS AND CONTRAINDICATIONS

- **Pregnancy and lactation.**
- **May increase bleeding time.**

DRUG INTERACTIONS

- **Anticoagulants.**
- **Androgenic drugs and antiandrogenic agents.**

GINKGO



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GINKGO-TRADITIONAL USES

- **Leaf extract has been the source of herbal remedies in China for thousands of years.**
- **Traditional Chinese medicine has used ginkgo to treat brain disorders.**

CURRENT USES

- **Dementia-** a concentrated standardized *Ginkgo biloba* extract (GBE) very popular in Europe for beneficial effects on the circulatory system (peripheral and cerebral circulatory disturbances) including memory impairment.

CURRENT USES

- **In U.S. studies have found it to stabilize and in some cases improve cognition and social functioning in patients with mild to moderate dementia (Alzheimer's disease).**
 - **Studies suggest superiority to placebo.**

CURRENT USES

- **Antidementia effects are similar to that of the drugs donepezil and tacrine.**
- **Effects are modest .**

CURRENT USES

- **Peripheral vascular diseases (intermittent claudication, diabetes).**

MECHANISM OF ACTION

- **Cardiovascular effects/antiasthmatic effects**
 - **Increases blood flow and reduces blood viscosity, reduces blood pressure.**
 - **Reduces blood cholesterol.**

MECHANISM OF ACTION

- **Antioxidant/neuroprotective effects (free radical scavenger).**
- **CNS Effects-modification of CNS receptors and neurotransmitters.**

SIDE EFFECTS

- **Nausea, headache, dizziness, stomach upset, diarrhea, allergy, palpitations, anxiety and insomnia (common).**
- **Seizures.**
- **Toxic syndrome-seeds have caused fatal neurologic and allergic reactions and are not used medicinally.**

PRECAUTIONS

- **Pregnancy and lactation.**



CHAMOMILE

CHAMOMILE (*Matricaria recutita*)

- **Daisylike, apple-scented flower that has been used medicinally for thousands of years.**
- **Folk remedy useful in treating digestive disorders, cramps, various skin conditions and minor infectious ailments.**
- **Active component derived from the chamomile flower heads.**

CURRENT USES

- **Sedative (in teas), GI complaints, anti-inflammatory (skin inflammation).**

MECHANISM OF ACTION

- **Anxiolytic and mild sedative effects.**
- **Protects against gastric ulcers induced by medications, stress and alcohol.**
- **Antiinflammatory actions.**

SIDE EFFECTS

- **Allergic reactions are common.**
- **Nausea and vomiting.**

PRECAUTIONS AND CONTRAINDICATIONS

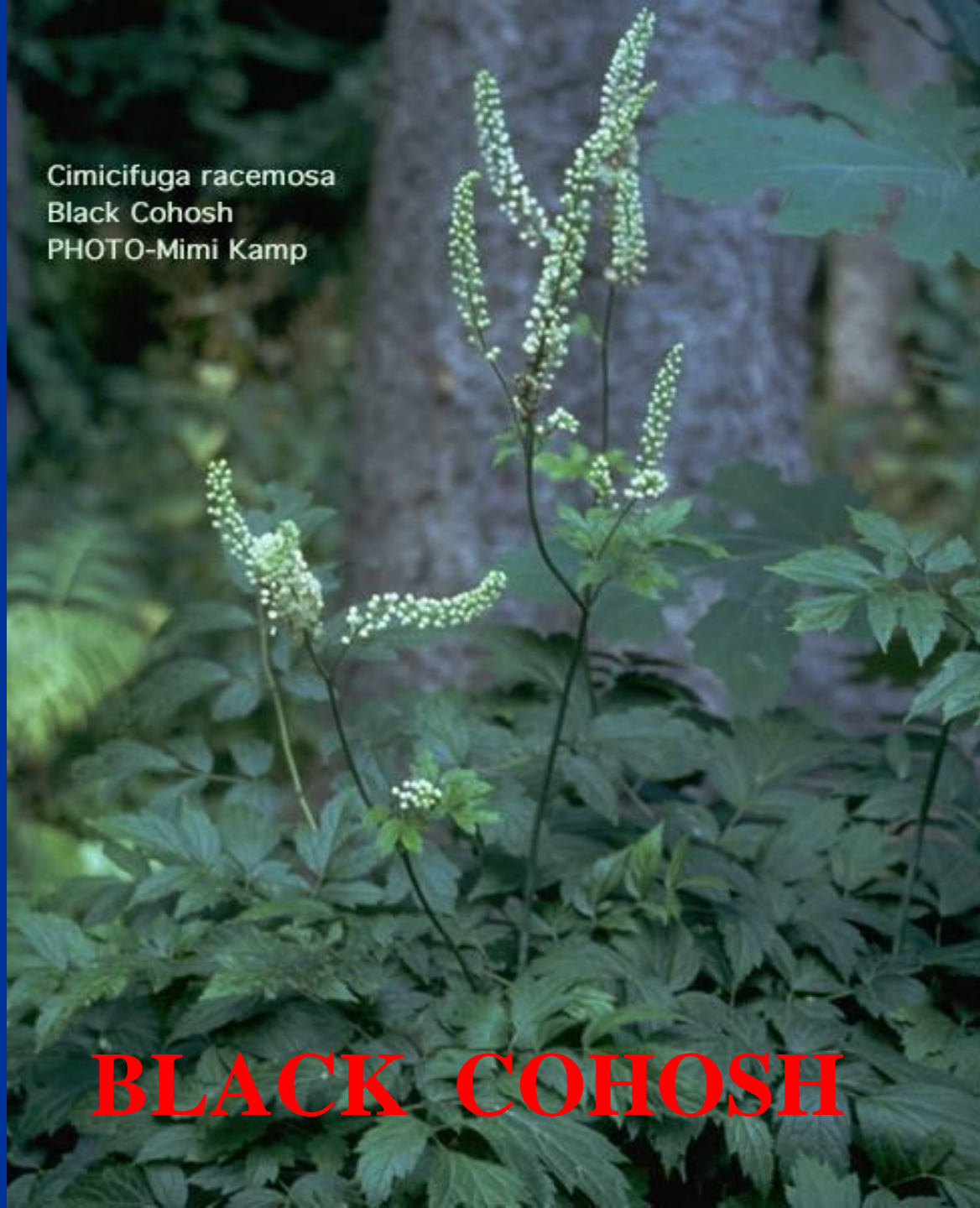
- **Allergenicity to members of sunflower family.**
- **Pregnancy and lactation.**

DRUG INTERACTIONS

- **Additive effect when combined with other CNS depressants such as alcohol, kava and valerian.**

Cimicifuga racemosa
Black Cohosh
PHOTO-Mimi Kamp

BLACK COHOSH



BLACK COHOSH

- **Active component obtained from the dried rhizomes of *Cimicifuga racemosa*.**
- **Used as a female tonic since it was first introduced by the American Indians. Used for its analgesic effects to treat dysmenorrhea, labor pain and arthralgias.**

CURRENT USES

- **To alleviate perimenopausal and postmenopausal symptoms including hot flashes, depression, emotional lability profuse sweating and sleep disturbances.**

CURRENT USES

- **German commission E has approved it as a nonprescription medication for premenstrual discomfort, dysmenorrhea, or menopausal ailments.**

MECHANISM OF ACTION

- **A phytoestrogen but its mechanism is unknown.**
- **Originally thought to reduce pituitary hormones (but estrogen, follicle stimulating hormone and prolactin levels are not altered).**
- **CNS effects, more likely.**

SIDE EFFECTS

- **GI complaints (nausea and vomiting).**
- **Headache, dizziness, weight gain.**
- **Hypotension.**
- **Allergic reactions.**

PRECAUTIONS

- **Do not confuse with blue cohosh.**
- **Avoid in pregnancy and during lactation because of possible untoward effects on the infant.**

DRUG INTERACTIONS

- **Drugs lowering blood pressure.**