



Welcome to  
The American Herbalist's Guild's

# Professional Herbal Training Webinars






AMERICAN HERBALISTS GUILD - An Association of Herbal Practitioners

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## VASCULAR SUPPORT

Mimi Hernandez, MS, RH(AHG)

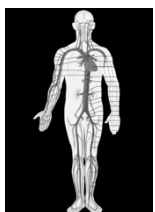
## Blood Vessels: Veins & Arteries

- Veins are blood vessels that return deoxygenated (with couple exceptions) blood from the outer parts of the body back to the heart and lungs. Blood is moved up toward the heart via valves and skeletal pump activity.

Veins have thinner walls and greater chance of permeability. Because the pump is weaker, the issues usually derived are from stasis and involve, pooling, leakiness, and clotting


Arteries are blood vessels that carry oxygenated (with couple exceptions) blood away from the heart. Blood is moved by pressure created from the heart pump.

Arteries put up with more mechanical damage due to constant beat. Their main issue is the onslaught of exogenous free radicals, the rise of lesions, and the responsive accumulation of plaques.




## Chronic Venous Insufficiency

- Impaired venous return
- Capillary permeability and easy bruising
- Compromised vein valves
- Varicose veins
- Edema, swelling, and heaviness (increased leg circumference)
- Low grade inflammation and potential ulceration, itching and irritation
- Palpable nodules due to fibrin accumulation
- Pressure and congestion in abdominal, prostatic, and uterine regions



Murray & Pizzorno, Encyclopedia of Natural Medicine

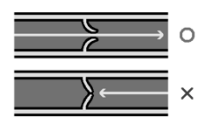
## Chronic Venous Insufficiency



Hemorrhoids are varicose veins in the rectal area.

## Chronic Venous Insufficiency

- Lack of muscle tone and tissue support lead to flaccidity of tissue
- Once veins become to distended and dilated, valves begin to malfunction under pressure
- Deep varicose veins may develop blood clots which can dislodge and lead to stroke heart attack or pulmonary embolism.



Schematic representation of venous valve.

Valves prevent backward flow of blood within the vein. They keep blood in the vein moving toward the heart.

## Chronic Venous Insufficiency

- 50 % of those with varicose veins have family history
- 4X more common in women. May be due to influence of estrogen and progesterone.
- Pregnancy- Due to hormones as well as increased blood volume and downward pressure on the pelvis and legs.
- HRT
- Prolonged sitting or standing
- Obesity and lack of tissue tone
- Inactivity (bed rest pressure points/sores)
- Chronic constipation and exertion

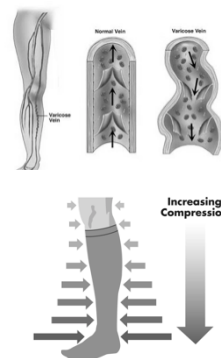


"Mrs. Collins is choosing her wall color scheme... are her varicose veins lavender or more purple?"

Professional Update to Disease - Springfield

## Lifestyle modifications:

- Get more exercise to encourage pumping and movements of muscles surrounding veins to push venous flow up legs and inhibit blood stasis. (Paleo cultures walked many miles per day)
- Elevate legs regularly.
- Avoid tight fitting clothing that inhibits blood flow.
- Compression socks help keep veins supported and discourage stasis



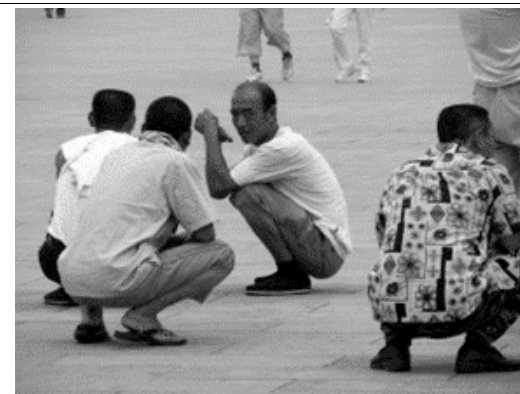
Shown here with permission

## Dietary Modifications

Eat more fiber rich foods such as vegetables, fruits, legumes, and grains. A study in the Lancet published the following results. Varicose Veins in Tropical Africa. Lancet. 1977 Apr 9;1(8015):791-2)

Culture	Varicose veins % of Population	Daily Stool Weight Indicative of Fiber Content	Dietary Habits
"Traditional" area. African Community	1-4%	490g	High Fiber Low Refined carb
"Developing" area. Tanzania Community	5%	228g	High Fiber Some Refined Carb
"Industrial" area. Michigan Community	18-30%	115g	Low Fiber High Refined carb

It is hypothesized that low fiber diets lead to smaller harder stools that are harder to pass and lead to straining during defecation. This straining puts pressure on the abdomen and on the veins and obstructs the venous return of blood leading to a higher incidence of varicose veins.



## Dietary Modifications

- Include fibrinolytic foods in the diet.
- A 1999 published article studies the effects of treatment on venous insufficiencies with a fibrinolytic agent Factor XIII. The study found that this treatment resulted in the reduction of endothelial permeability and stabilization of fibrin levels. (Treatment of venous ulcer with fibrin stabilizing factor: Experimental investigation of effects on vascular permeability. Vasa. 1999, Aug;28(3): 160-3.)
- Certain foods too are known to have a fibrinolytic effect. These are cayenne, ginger, garlic, and onions, paprika, turmeric (Murray & Pizzorno). Liberal consumption of these spices is encouraged.
- Bromelain (500-750 mg 2-3x/day between meals is also an effective fibrinolytic dose)



## Polyphenols- Flavonoids

- Flavonoids in the Diet:
- In one study, a diet high in flavonoids appeared to cut the chances of dying from heart disease by 50% in women. Another study reported a 75% drop in stroke risk for men who had the highest intake of flavonoids, compared with those who had the lowest.

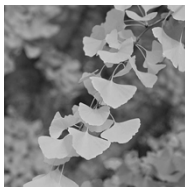


## Polyphenols- Flavonoids

Flavonoids: Water soluble plant pigments

- The human body cannot produce bioflavonoids, so they must be supplied in the diet.

- Yellow & Orange color (Fall leaves ie. Ginkgo)
- Reduce capillary permeability- Bruising, edema, venous issues
- Inversely associated with coronary disease
- Protect Cholesterol from oxidative damage
- Antihistaminic- Stabilize mast cell



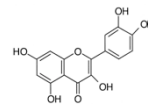
## Polyphenols- Flavonoids

- Quercetin- Most abundant and most potent flavonoid in plants.

- Onions, apples, green tea, violets, pansies, citrus.

- Quercetin may help relieve hay fever, sinusitis, and asthma because it can block allergic reactions to pollen and reduce inflammation in the airways and lungs.

- Quercetin blocks an enzyme that leads to accumulation of sorbitol, which has been linked to nerve, eye, and kidney damage in those with diabetes.



## Buckwheat

*Fagopyrum esculentum*

Family: Polygonaceae

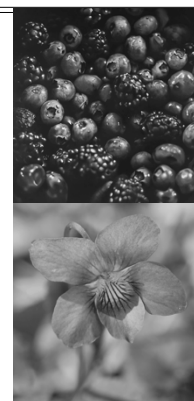
- 4-6% rutin
- Rutin is effective in treating venous edema and hypertension and in preventing deterioration of the distal venous system.
- Rutin inhibits platelet aggregation, as well as decreasing capillary permeability.
- Rutin has proved to be especially helpful in preventing recurrent bleeding caused by weakened blood vessels, preventing and treating bruises.
- Buckwheat also contains almost 86 milligrams of magnesium in a one-cup serving. Magnesium relaxes blood vessels, improving blood flow and nutrient delivery.



5-Year control and treatment of edema and increased capillary filtration in venous hypertension and diabetic microangiopathy using O-(beta-hydroxyethyl)-rutin: a prospective comparative clinical inquiry. Angiology 2008 Feb-Mar; Department of Biomedical Sciences, Chieti-Pescara University, and the San Valentino Vascular Screening Project, Italy.

## Dietary Modifications

- Eat more polyphenol rich foods, especially dark berries. ANTIOXIDANTS!!
- A study on anthocyanidins and their effects on vessel fragility showed that they improved the vessel integrity by increasing the endothelium barrier, stabilizing the membrane phospholipids, and increasing the GAG content of the connective ground substance. (seals the vessels)
- These results lead to better muscular tone in the vessels. (Anthocyanosides and the walls of the microvessels. Minerva Med. 1977; Oct 31;68(52): 3565-81).
- Grape seed extract, pine bark extracts, hawthorn, pansy, and violet, are all high in anthocyanidins and have demonstrated improvement of varicose veins.



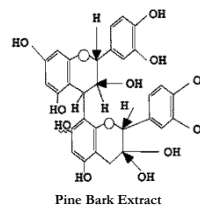
## Polyphenols- Proanthocyanidins

The main functions of proanthocyanidins are:

- antioxidant activity
- stabilization of collagen
- maintenance of elastin in connective tissue, blood vessels and muscle.
- Reduction of edema
- visual performance
- Found to cross blood brain barrier: ADD. Alzheimer's.

## Polyphenols- Proanthocyanidins

- Proanthocyanidins: OPC's- Grape seed & Skins, Pine Bark extract (pycnogenol), dark berries, bilberry, cranberry, black currant, pomegranate, green tea.



**Proanthocyanidins are condensed tannins.**  
They are small enough to be absorbed and exert their astringent effects from within.

Pine Bark Extract

## Pomegranate

*Punica granatum*      Family: *Lythraceae*


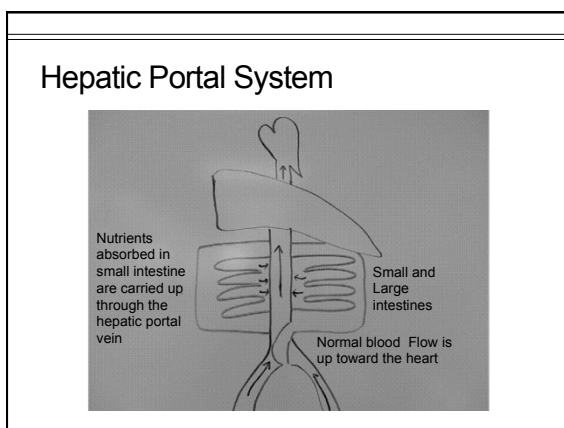
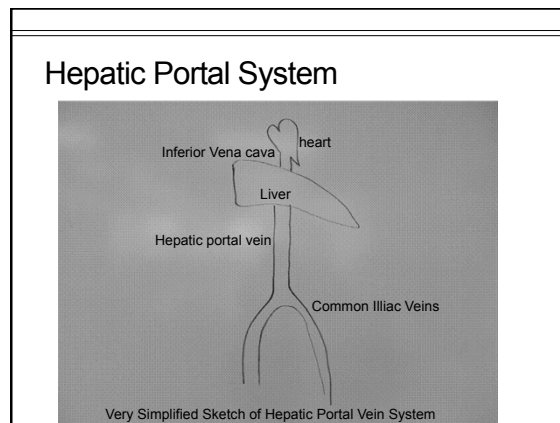
1. Pomegranate juice protects **nitric oxide** against oxidative destruction and enhances the biological actions of nitric oxide. by L.J. Ignarro, et al. *Nitric Oxide*, 2006
2. Pomegranate juice **inhibits oxidized LDL uptake and cholesterol biosynthesis in macrophages**, by B. Fuhrman, et al. *Journal of Nutritional Biochemistry*, 2005
3. Pomegranate juice consumption for 3 years by patients with carotid artery stenosis **reduces common carotid intima-media thickness and LDL oxidation**, by M. Aviram, et al. *Clinical Nutrition*, 2004
4. Pomegranate extract **inhibits androgen independent prostate cancer growth through a nuclear factor- $\kappa$ B-dependent mechanism**, by M.B. Rettig, et al. *Molecular Cancer Therapy*, 2008

Nitric oxide helps keep blood vessels elastic and open. This is a mechanism involved in prevention of ED associated with plaque and narrowing of blood vessels.

Plaque is made by LDL uptake by macrophages. Inhibiting this uptake inhibits plaque production in the blood vessels.

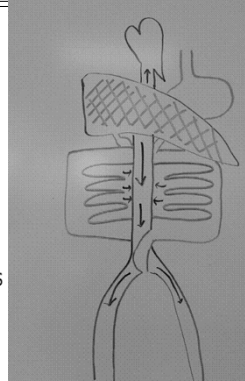
CIM thickness is associated with atherosclerosis

Pomegranate studies for prostate cancer are encouraging. Activity on NF- $\kappa$ B signifies potent antiinflammatory activity

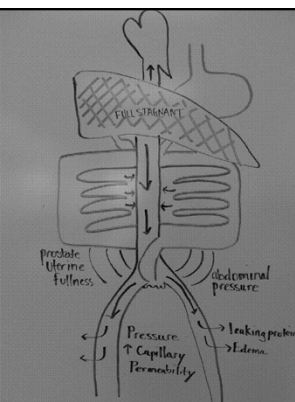
## Liver Congestion?

- Waking up feeling hung over
- Morning headaches
- Constipation
- Skin outbreaks or itchiness
- Hormonal issues
- Varicosities & abdominal bloating
- Gassiness or nausea after fatty foods
- Sugar balance issues
- Anger & Fire rising



## Hepatic Portal Congestion

- Pressure causes:
  - Hemorrhoids
  - Varicose veins
  - Leaky blood vessels
  - Fullness in abdominal organs
  - Compromised vein valves
  - Lower edema



prelate, thoracic fullness

abdominal pressure

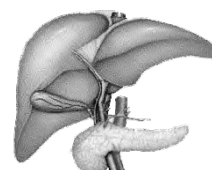
Pressure ↑ Capillary Permeability

Leaking proteins

Edema

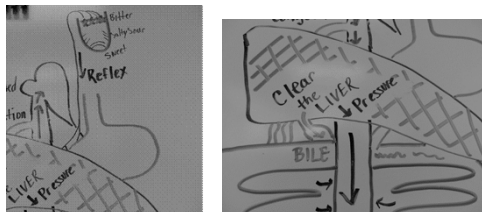
## Liver Herbs

- Dandelion Root
- Artichoke Leaf
- Turmeric root
- Yellow Dock root
- Schisandra berry
- Burdock Root
- Oregon Grape Root
- Yellowroot
- Gentian
- Milk Thistle- morning and evening

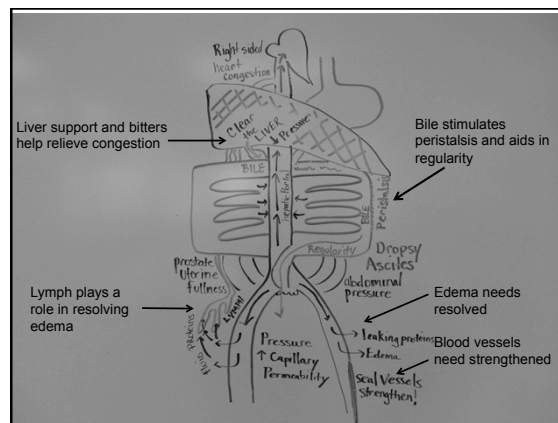




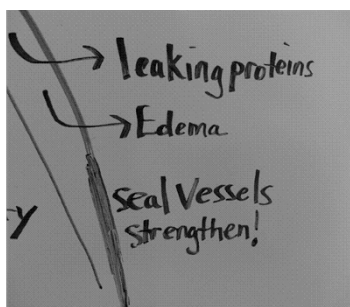
## Bitters



The bitter reflex causes bile to be released from the liver and assist in relieving congestion in the liver



## Leaking Blood Vessels



Topical  
Astringents  
  
Internal Berries  
and Polyphenol  
containing herbs  
  
Vulneraries  
  
Specifics:  
Horsechestnut  
Butcher's Broom

## Butcher's Broom

*Ruscus aculeatus*

Family: Asparagaceae

- Saponins ruscogenin and neoruscogenin are thought to be responsible. demonstrate anti-inflammatory and vasoconstrictor effects.
- Internally or topically decreases capillary permeability and strengthens flaccid blood vessels (they contract & tighten).
- With greater integrity on the inner lining of the vessels there is apt to be less platelet adhesion thus preventing clots from forming latched on to the vessel.
- A single small trial in 1996 suggested that butcher's broom might be helpful in preventing diabetic retinopathy.
- Improves circulation to extremities and decreases calf circumference.



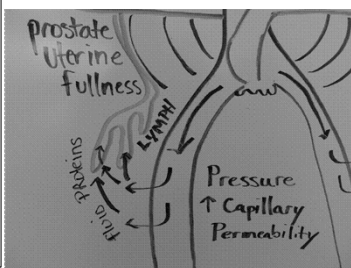
Archimowicz-Cynkowska B, Adamek B, Drożdżik M, Samochowicz L, Wójcicki J. Clinical effect of buckwheat herb, ruscus extract and trolox on retinopathy and lipids in diabetic patients. *Phytother Res*. 1996; 10(8):659-662.  
Abascal K, Yamell E. (2005). Botanical Treatments for Hemorrhoids. *Alternative & Complementary Therapies*.

## Clearing Edema and Swelling

Coumarin containing plants encourage the movement of proteins from interstitial spaces into the lymph: fluid follows.

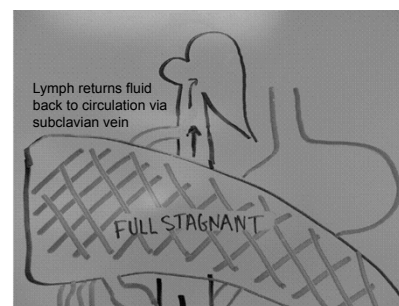
The administration of coumarin in lymphoedema stimulates the rapid enhanced breakup of interstitial protein and the removal of osmotically attracted fluid with a gradual removal of fibrotic tissue.

Horsechestnut  
Red Clover  
Sweet Clover  
Cleavers  
Ammi visnaga (Visnaga)



## Diuretics also useful to clear edema

Celery seed  
Nettles  
Dandelion leaf  
Parsley  
Stoneroot  
Cleavers  
Corn silk



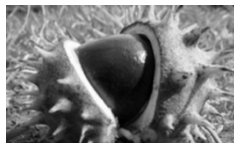
## Horsechestnut

*Aesculus hippocastanum*

Family: Hippocastanaceae

### Research Indicates that taking horsechestnut extract leads to:

- Increased venous tone and contraction
- Decrease capillary permeability
- Inhibition of the enzymes elastase and hyaluronidase in vitro
- Decreased histamine and serotonin induced capillary hyperpermeability thus decreasing inflammation
- One formal meta-analysis, and at least 3 systematic reviews in support of horse chestnut seed extract's efficacy in treating chronic venous insufficiency.
- Horse chestnut seed extract's equivalence to compression therapy has been demonstrated most significantly in the early stages of chronic venous insufficiency.



Horsechestnut is also used topically in salves for bruising and would be useful in lymphatic massage.

1-2 g of dried seed per day. 2-6ml of 1:2 liquid extract. 5-15ml of 1:5 tincture daily. Preparations containing 100mg escin per day. Horsechestnut tablets standardized to 40mg escin: 2-3 daily. Not on empty stomach. Do not apply to broken skin.

## Pattern Check...

### • Client:

- Frequently and easily bruises
- Has bleeding gums
- Complains of terrible gassiness, bloating, and diarrhea
- Eats little greens
- Has taken antibiotics
- Does not eat probiotics or yogurt



## Pattern Check...

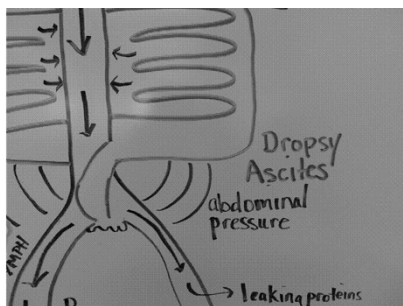
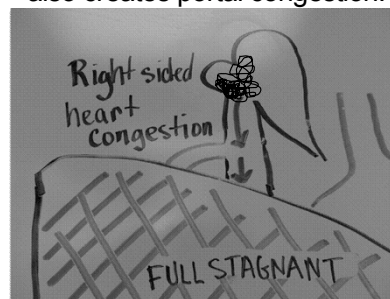
Vitamin K is a blood clotting agent necessary to prevent bleeding and easy bruising. It is present in dark leafy green vegetables.

Probiotics help our bodies to absorb Vitamin K. Lack of healthy flora can lead to gassiness bloating and diarrhea.

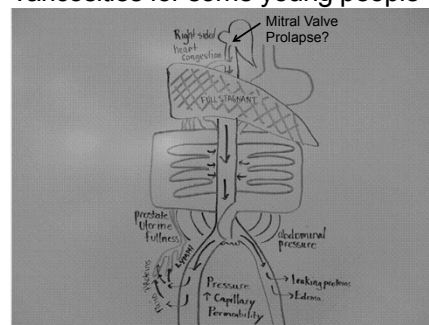
Supplementation with vitamin K has also been shown to lessen, and prevent the development of, varicose veins (Journal of Vascular Research 7/07).



Right sided heart congestion also creates portal congestion.



May explain appearance of varicosities for some young people

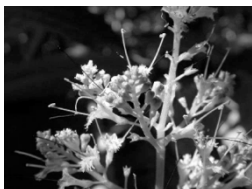


## Stoneroot

*Collinsonia canadensis*

Family: *Lamiaceae*

- It has been used to reduce venous pressure, helping prevent the progression of hemorrhoids and varicose veins.
- It has also been used for fluid retention and to alleviate PMS symptoms.
- Though to be helpful in relief of pelvic congestion.



The Eclectic Materia Medica, Pharmacology and Therapeutics  
by Harvey Wickes Felter, M.D. (1922)

## Stoneroot

*Collinsonia canadensis*

Family: *Lamiaceae*

- "Collinsonia is a remedy for venous stasis and for irritation of the mucosa. Chiefly it meets one prime condition and the many disorders dependent thereon. This is atony of the venous circulation, whether due to relaxation of the blood vessels or to lack of tone in the venous side of the heart."
- "Collinsonia acts upon the tissues and valves of the heart, relieving irritation, increasing its power to act, and regulating its contractions. Mitral regurgitation and the distressing cough of heart disease, are greatly benefited by its administration"
- "The keynote is a sense of weight and constriction in the part affected."



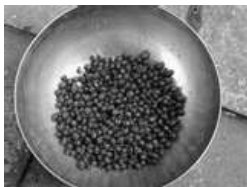
The Eclectic Materia Medica, Pharmacology and Therapeutics, 1922, by Harvey Wickes Felter, M.D.

## Hawthorn

*Crataegus spp.*

Family: *Rosaceae*

- Increases the pumping force of the heart muscle to boost cardiac output
- causes direct dilation of smooth muscle in coronary vessels thereby lowering their resistance and increasing blood flow
- vitamin C content helps to strengthen tiny capillaries
- anthocyanidins and proanthocyanidins in the herb help to stabilize collagen
- Good source of rutin and OPC's



## Gotu kola

*Centella asiatica*

Family: *Apiaceae*

Preliminary double-blind, placebo-controlled studies indicate that gotu kola extract provides improvement in major venous insufficiency symptoms, reducing swelling, pain, fatigue, sensation of heaviness, and fluid leakage from the veins.

- Improved integrity of connective tissue in veins.
- Enhances connective tissue structure and improves blood flow through affected limbs.
- Increases the integrity of the perivascular sheath, the connective tissue structure that surrounds the vein.



Balazs Gy, Grimaldi R, Quis G. Improvement of capillary permeability in patients with venous hypertension after treatment with TTECA. *Angiology*. 1990;41:533-540.  
Balazs Gy, Balazs A, Grimaldi R. Capillary filtration and ankle edema in patients with venous hypertension treated with TTECA. *Angiology*. 1990;41:12-16.  
Ceserone MR, Laurino G, De Sanctis MT, et al. The microcirculatory activity of Centella asiatica in venous insufficiency: A double-blind study [translated from Italian]. *Minerva Cardiovasc*. 1984;42:229-234.  
Pomeroy JP, Bockman H, Chiaro M, et al. Triterpene extract of Centella asiatica (TTECA) in the treatment of venous insufficiency of the lower limbs. *Angiology*. 1987;38:48-52.

## Herbal Actions- review

- Vascular tonics- horsechestnut, berries, butcher's broom, centella, hawthorn, violets, buckwheat
- Circulatory Stimulants- prickly ash, rosemary, ginkgo biloba, ginger, cayenne
- Astringents- witch hazel, yarrow, cinnamon
- Vulneraries- centella, comfrey, calendula
- Antioxidants- foods of color, pomegranate, berries, green tea, turmeric, paprika
- Antifibrinolytic- garlic, ginger, cayenne, onions, turmeric, bromelain

## Sample Protocol

- ½ cup berries a day
- 1 cup pure dark juice daily
- Liberal spices- fire cider daily
- Violet vinegar- spoonful per day
- Green tea, turmeric, paprika, garlic daily
- Topical witchhazel, pansy, violet, yarrow, horsechestnut preps. (I usually add a circulatory stimulant such as rosemary)
- Horsechestnut or Butcher's broom as needed in supplement form
- For acute topical inflammation as in hemorrhoids- topical slippery elm, potato, plantain, or others with a "drawing" reputation. Followed by astringents yarrow, witchhazel to seal the vessels.



**53rd Annual Meeting of the Society for Economic Botany**  
June 3-7, 2012  
Frostburg, MD

**Featured Symposium:**  
**Ethnobotany of Mountain Cultures**  
and the Importance of the Study of Botany in the History of the Mountain Region

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**The American Herbalists Guild**  
22nd Annual American Herbalists Guild Symposium  
**Earth Centered Clinical Herbalism**


**Keynote: Fred Horowitz, author of Mountain Running: How Wilderness Can Help Save the World**

October 21-23, 2011  
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Palm Beach, Florida

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**An Association of Herbal Practitioners**

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**AMERICAN HERBALISTS GUILD**

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- School Membership: \$150
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### Questions and Answers

- Please type your question in the box provided
- Please keep questions in line with the webinar topic
- We will try to answer as many questions as we can

