

Herbal Interactions


All cultures on all continents have herbal healing traditions. Until the 20th century, most people everywhere had close contact with foods and herbs where they were grown. Through the 1930s, MDs in US studied and relied on plant drugs as primary medicines. Medical schools taught plant taxonomy and medicinal plant therapeutics (pharmacognosy). In 1870, the US Pharmacopeia listed 636 herbal entries. The 1990 edition listed 58. Some were found unsafe, most were replaced by pharmaceuticals.

Dietary Supplement Health and Education Act of 1994 (DSHEA) allows 4 types of statements:

1. Role of nutrient in affecting “structure and function” in humans.
2. Documented mechanism that supplement acts on to affect “structure and function”.
3. Benefits due to dietary deficiency-must report the prevalence of disease in USA.
4. Statements of general well-being from consumption of the supplement.

Depression Example:	Treat depression	No
	Elevate mood	Yes
Vitamin A is essential to proper eye function		Yes
Calcium is essential for bone health		Yes
Saw palmetto promotes prostate health		Yes

Herbal Practitioners Today

- In US today, herbal practice can include:
 - Herbalists in family or cultural traditions
 - Native American medicine men and women
 - Latino Curanderos
 - American Herbalist Guild members
 - Self-taught lay herbalists
 - Naturopathic physicians
 - L.Acs with training in Chinese herbs
 - Licensed Acupuncturists
 - MDs, DOs, DCs with specific interest in herbs
 - Ayurvedic doctors
 - The God of Ayurveda Dhanvantari → 
 - Self-prescribers

But “disease” claims not permitted:

Saw palmetto cures or relieves BPH: Not OK
 CardioHealth: OK, Hepaticure: Not OK
 “Reduces the stiffness of arthritis” not permitted
 “Promotes joint health” is permitted

Depending on state law, these kinds of distinctions may also apply to health care practitioners such as chiropractors. Any structure/function claims must also include:

“This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease”

Under the US Dietary Supplement Health and Education Act of 1994, the FDA can:

- Promulgate good manufacturing practices.
- Refer for criminal action the sale of toxic products.
- Obtain injunction against false claims.
- Seize products that pose unreasonable risk
- Sue company making claims of cure or treating disease.

The FDA cannot regulate supplements as drugs, requiring the same level of proof of efficacy in order for the supplements to be marketed (this applies to vitamins, minerals, herbs, nutraceuticals etc.). The FDA is therefore developing the National Center for Complementary and Alternative Medicine (NCCAM) which can deal with issues of safety, labeling, enforcement, science based research so that some self-regulation/standards exist.



Other Notes or Questions to Ask:

Up to 42% of Americans are using some sort of dietary supplement for both prevention and therapeutic purposes, 26.8 billion dollar industry in 2018.

1. General Health
2. Colds
3. Arthritis
4. Energy Enhancement
5. Cholesterol Lowering
6. Cancer Prevention
7. Allergies
8. Weight Management


Many conventional medications are derived from herbs:

- 35% prescription drugs
- 60% OTC drugs

Over 50 population: average of 7 or more supplements. Someone turns 50 every 10 seconds in the US.

Differences Between Herbs and Drugs

<u>Drug</u>	<u>Herbals</u>
Dose established	Usually some guidelines
Efficacy proof	Proof of efficacy not required
Monosubstance	Complex compound
FDA-approval before marketing	No FDA pre-approval post-marketing Notification for structure-function claims
Patentable	Not patentable
Potency standardized	Potency varies



Top 20 Selling Herbs (Mass Market HerbalGram)

Common Name	Latin Name
1. Garlic	1. Allium sativum
2. Echinacea	2. Echinacea spp.
3. Saw palmetto	3. Serenoa repens
4. Ginkgo	4. Ginkgo biloba
5. Cranberry	5. Vaccinium macrocarpon
6. Soy	6. Glycine max
7. Ginseng	7. Panax ginseng
8. Black cohosh	8. Actaea racemosa
9. St. John's wort	9. Hypericum perforatum
10. Milk thistle	10. Silybum marianum
11. Green tea	11. Camellia sinensis
12. Evening primrose	12. Oenothera biennis
13. Valerian	13. Valeriana officinalis
14. Horny goat weed	14. Epimedium spp.
15. Grape seed extract	15. Vitis vinifera
16. Bilberry	16. Vaccinium myrtillus
17. Red clover	17. Trifolium pratense
18. Yohimbine	18. Pausynstalia johimbe
19. Horse chestnut seed extract	19. Aesculus hippocastanum
20. Ginger	20. Zingiber officinalis

Top 20 Selling Herbs (Mass Market HerbalGram)

1. Garlic	11. Green tea
2. Echinacea	12. Evening primrose
3. Saw palmetto	13. Valerian
4. Ginkgo	14. Horny goat weed
5. Cranberry	15. Grape seed extract
6. Soy	16. Bilberry
7. Ginseng	17. Red clover
8. Black cohosh	18. Yohimbine
9. St. John's wort	19. Horse chestnut seed ext.
10. Milk thistle	20. Ginger

Herbals and Dentistry: What are we really worried about?

1. Bleeding / Hemostasis (Patients on Anticoagulants)
2. Thromboembolism (Patients on Blood Thinners)
3. CNS Interactions (Patients who may receive Sedatives)
4. Blood Pressure Issues (Patients who may be receiving Antihypertensives)

Other Notes or Questions to Ask:

Top 20 Selling Herbs that may affect Bleeding / Hemostasis (Patients on Anticoagulants)

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|--------------------|------------------------------|
| 1. Garlic | 11. Green tea |
| 2. Echinacea | 12. Evening primrose |
| 3. Saw palmetto | 13. Valerian |
| 4. Ginkgo | 14. Horny goat weed |
| 5. Cranberry | 15. Grape seed extract |
| 6. Soy | 16. Bilberry |
| 7. Ginseng | 17. Red clover |
| 8. Black cohosh | 18. Yohimbine |
| 9. St. John's wort | 19. Horse chestnut seed ext. |
| 10. Milk thistle | 20. Ginger |

Honorable mentions: Alfalfa, Beer, Danshen, Dong Quai, EDTA, Glucosamine, Licorice, Policansol, Vitamin K, Willow Bark, Wintergreen.

Top 20 Selling Herbs that may affect Thromboembolism (Patients on Blood Thinners)

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|--------------------|------------------------------|
| 1. Garlic | 11. Green tea |
| 2. Echinacea | 12. Evening primrose |
| 3. Saw palmetto | 13. Valerian |
| 4. Ginkgo | 14. Horny goat weed |
| 5. Cranberry | 15. Grape seed extract |
| 6. Soy | 16. Bilberry |
| 7. Ginseng | 17. Red clover |
| 8. Black cohosh | 18. Yohimbine |
| 9. St. John's wort | 19. Horse chestnut seed ext. |
| 10. Milk thistle | 20. Ginger |

Honorable mentions: Danshen, Dong Quai, Policansol, Willow Bark

Top 20 Selling Herbs that may affect Blood Pressure (Patients on Antihypertensives)

- | | |
|--------------------|------------------------------|
| 1. Garlic | 11. Green tea |
| 2. Echinacea | 12. Evening primrose |
| 3. Saw palmetto | 13. Valerian |
| 4. Ginkgo | 14. Horny goat weed |
| 5. Cranberry | 15. Grape seed extract |
| 6. Soy | 16. Bilberry |
| 7. Ginseng | 17. Red clover |
| 8. Black cohosh | 18. Yohimbine |
| 9. St. John's wort | 19. Horse chestnut seed ext. |
| 10. Milk thistle | 20. Ginger |

Honorable mentions: Dolomite, Hawthorn, Indian Snakeroot, Oleander, Thuja, Yellow Dock

Top 20 Selling Herbs that may affect Cognition (Patients on Sedatives)

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|--------------------|------------------------------|
| 1. Garlic | 11. Green tea |
| 2. Echinacea | 12. Evening primrose |
| 3. Saw palmetto | 13. Valerian |
| 4. Ginkgo | 14. Horny goat weed |
| 5. Cranberry | 15. Grape seed extract |
| 6. Soy | 16. Bilberry |
| 7. Ginseng | 17. Red clover |
| 8. Black cohosh | 18. Yohimbine |
| 9. St. John's wort | 19. Horse chestnut seed ext. |
| 10. Milk thistle | 20. Ginger |

Honorable mentions: 5-HTP, Ergot, Hawaiian baby woodrose, Kava Kava, L-tryptophan, Lithium, SAME, Thuja

Top Selling Herbs that are Most Prone to Drug Interactions - Indications

- Garlic – Atherosclerosis; Colorectal & Gastric Cancer; HT
- Echinacea – Common Cold; Vaginal Candidiasis
- Ginkgo – Memory; Dementia; Retinopathy; Glaucoma; PMS
- Soy – Breast CA; Diabetes; Hyperlipidemia; Menopausal symptoms; Osteoporosis
- Ginseng – Diabetes; Respiratory tract infections
- St. John's wort - Depression
- Evening primrose – Mastalgia; Osteoporosis
- Horny goat weed - Osteoporosis
- Yohimbine – Erectile Dysfunction (ED); sexual dysfunction

Other Notes or Questions to Ask:

Top Selling Herbals that are Most Prone to Drug Interactions - EBM

Garlic – Atherosclerosis; HT
Echinacea – No Evidence
Ginkgo – No Evidence
Soy – Possibly Effective
Ginseng – No Evidence
St. John's wort - Depression
Evening primrose – Possible Effective
Horny goat weed – No Evidence
Yohimbine – Possibly Effective

The H.E.R.B.A.L. Mnemonic

- H ear the Patient out with respect
- E ducate the patient
- R ecord and document
- B eware
- A gree to discuss
- L earn about new & popular supplements

Web Resources on Herbs

- American Herbalists Guild:
www.americanherbalistsguild.com
- Herb Research Foundation
www.herbs.org
- Natural Medicines Comprehensive Database
www.naturaldatabase.com
- National Center for Complementary and Alternative Medicine
www.nccam.nih.gov
- Office of Dietary Supplements
www.ods.od.nih.gov

Which Drugs Do You REALLY Have to Worry About?

Warfarin, Cyclosporine, Digoxin, HIV protease inhibitors, Theophylline, Carbamazepine, Lithium, Thyroid medications, Opioids

Steps for Detecting and Advising on Herbal/Drug Interactions

- Is the patient taking any herbal supplements?
- Does the herbal have efficacy for the intended use?
- Is the product reliable? (i.e., what are they REALLY taking?)
- Is the Rx drug one with a narrow therapeutic margin (warfarin, cyclosporine, digoxin, HIV protease inhibitors, theophylline, carbamazepine, lithium, thyroid medications, opioids)?

General Guidelines on Use of Herbal Medicines

- Take a good history of patient use of herbs and supplements.
- Diagnosis needed before using herbs for symptomatic treatment.
- Natural does not equal safe.
- Generally avoid herbs during pregnancy and lactation.
- In children, pay close attention to dosage according to weight.

Other Notes or Questions to Ask:
