

Herbal Medicine Approach to Gastrointestinal Dysfunction

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“Modern research provides support for traditional herbal approaches in treating the gastrointestinal tract as static therapy in cases of^{mi}”:

- Allergic conditions and inflammatory disease of the skin, joints and connective tissue
- Edematous and fluid retention conditions
- Migraines

Caution is necessary in applying herbal remedies to:

- Severe malabsorption and malnutrition states
- Gastric cancer
- Biliary obstruction and bile duct cancer

Antacid Herbal Medicine

- *Indications:* GERD; hyperchlorhydria
- *Contraindications:* hypochlorhydria; achlorhydria; concurrent administration of pharmaceutical antacids
- *Application:* Best taken *before* meals; medium to long-term used
- *Primary Herbal Medicine(s):* filipendula ulmaria (meadowsweet)
- *Adult Dosage Consideration:* 20 to 40 mL/week (1:2 liquid) or 1.5 to 3 grams/day (tablet)

Antihelminthic (worms and parasites) Herbal Medicine

- *Indications:* worm/parasitic infestation
- *Contraindications:* moderate to severe intestinal blockage
- *Application:* Best taken *before* meals; medium to long-term used
- When treating parasites with botanical medicine, it is recommended to use a blend of several herbs, to lengthen treatment duration (6-8 weeks) and to rotate anti-parasitic agents. In addition, household members should be evaluated for similar infestation.

- *Primary Herbal Medicine(s)*:
 - *Artemisia absinthium*/A. annua (wormwood)
 - *Allium sativum* (garlic)
 - *Juglans nigra* hulls (black walnut)
 - *Origanum vulgare* (oil of oregano) [Also check Botanical Sensitivities on Stool Analysis]
- *Adult Dosage Consideration*:
 - A. absinthium > 5 to 20 mL/week (1:5 liquid) or 300 to 600 mg/day tablet
 - O. vulgare > 230 to 440 mg/day (essential oil)
 - J. nigra > 10 to 40 mL/week (1:10 liquid)

Irritable bowel Syndrome, Bloating and Flatulence (Carminatives/Spasmolytics - relieves flatulence and cramping)

- *Indications*: colic, flatulence, IBS, mild epigastric pain; overeating; bloating
- *Contraindications*: Specific to prescribed herbal class; may be inappropriate for GERD
- *Application*: best taken immediately before meals; during or after meals or as needed; short to medium term
- *Primary Herbal Medicine(s)*:
 - *Mentha x piperita* (peppermint)
 - *Carum carvi* (caraway)
 - *Foeniculum vulgare* (fennel)
 - *Melissa officinalis* (German chamomile)
 - *Anethum graveolens* (dill)
 - *Zingiber officinale* (ginger)
 - also several other herbs
- *Adult Dosage Consideration*:
 - peppermint > 10 to 30 mL/week (1:2 liquid)
 - chamomile > 20 to 40 mL/week (1:2 liquid) or 0.9 to 1.8 g/day (tablet) or 15 to 20 mg/day (essential oil)
 - dill > 20 to 40 mL/week (1:2 liquid) or 1.2 to 2.3 g/day (tablet)
 - fennel > 20 to 40 ml/week (1:2 liquid) or 20 to 50 mg essential oil/day
 - ginger > 5 to 15 mL week (1:2 liquid) or 0.9 to 1.2 g/day (tablet)

Gastrointestinal Inflammation (gastritis and ulcers)

- *Indications*: Inflammation of the gastric mucosa (i.e. gastritis) is an acute inflammatory infiltration of the superficial gastric mucosa, predominately by neutrophils. It is generally treated with antacids and emollients (i.e. mucilage – bulk laxatives, soothing inflammation).

“The protective effect of mucilage from *Plantago major* (plantain) leaves against aspirin-induced gastric ulcer has been demonstrated in rats.”ⁱⁱ Indications for mucilage include:

- dyspeptic conditions especially with hyperacidity
- inflammatory disease of the digestive tract such as GERD, gastritis, peptic ulceration, enteritis, ileitis, and colitis.
- Demulcents (herbs that soothe inflamed surfaces such as skin and mucous membranes, of which mucilage appear to fall into this category) are generally prescribed.

“Alginate, or alginic acid, is an anionic polysaccharide distributed widely in the cell walls of brown algae including *Laminaria*, and *Ascophyllum nodosum*. Raw or dried seaweed is washed with acid to remove cross-linked ions that cause the alginate to be insoluble. It is then dissolved in alkali, typically sodium hydroxide, to produce a viscous solution of alginate. The solution is filtered to remove the cell wall debris and leave a clear alginate solution. Alginate binds with water to form a viscous gum and acts as a protective coating over the walls of the stomach and esophagus.”ⁱⁱⁱ

- *Contraindications:* specific to the herbal medicine classification; mucilage can decrease absorption of medications and some nutrients.
- *Application:* Depending on the indications, they may be taken before meals (for digestive problems of the stomach and small intestine), during (for some stomach problems) or after meals (in the case of GERD).
- *Primary Herbal Medicine(s):*
 - *Althea officinale* (marshmallow)
 - *Glycyrrhiza glabra* (licorice)
 - *Ulmus fulva/ruba* (slippery elm)
 - *Trigonella foenum-graecum* (fenugreek)
- *Adult Dosage Consideration:*
 - fenugreek > 15 to 30 ml/week (1:2 liquid)
 - licorice > 10 to 40 mL/week (1:1 liquid) or 2.0 to 3.0 g/day (tablet) or DGL (deglycyrrhized licorice root (e.g. DGL offered by Orthomolecular)
 - slippery elm > 20 to 40 mL/week (1:5 liquid)

Gastrointestinal Anti-inflammatory and Astringents (contraction of mucous membranes – tannins) – IBS, IBD, Intestinal Hyperpermeability

- *Indications:* IBS; IBD; mild gastritis, peptic or duodenal ulceration – tannins mainly used for intestinal hyperpermeability, gastric ulcer, diarrhea following gastrointestinal inflammation and ulcerative colitis
- *Contraindications:* tannins – constipation, iron deficiency anemia and malnutrition; herbal anti-inflammatory – see specific herb

- *Application:* Tannins should be taken after food in most cases. Long-term use with high doses is not recommended. Anti-inflammatories are best taken with meals for short to medium term duration
- *Primary Herbal Medicine(s):*
 - Anti-inflammatory > Andrographis panicula (andrographis)
 - Boswellia serrata (boswellia)
 - Calendula officinalis (calendula)
 - Curcuma longa (turmeric)
 - Filipendula ulmaria (meadowsweet)
 - Glycyrrhiza glabra (licorice)
 - Matricaria recutita (German chamomile)
 - Rehmannia glutinosa (rehmannia)
 - Scutellaria baicalensis (baical skullcap)
 - Smilax ornata (sarsaparilla) – Tannins > Commiphora molmol (myrrh)
 - Filipendula ulmaria (meadowsweet)
 - Hydrastis canadensis (goldenseal)
- *Adult Dosage Consideration:*
 - andrographis > 20 to 40 mL/week (1:2 liquid) or 4.0 to 6.0 g/day (tablet)
 - baical skullcap > 30 to 60 mL/week (1:2 liquid) or 2.4 to 3.2 g/day (tablet)
 - boswellia > 3.6 to 4.8 g/day (tablet)
 - calendula > 10 to 30 mL/week (1:2 liquid)
 - chamomile > 20 to 40 mL/week (1:2 liquid) or 0.9 to 1.8 g/day (tablet) or 15 to 20 mg/day (essential oil)
 - goldenseal > 15 to 30 mL/week (1:3 liquid) or 1.0 to 2.0 g/day (tablet)
 - licorice > 10 to 40 mL/week (1:1 liquid) or 2.0 to 3.0 g/day (tablet) or DGL (deglycyrrhized licorice root (e.g. DGL offered the Orthomolecular)
 - meadowsweet > 20 to 40 mL/week (1:2 liquid) or 1.5 to 3 g/day (tablet)
 - myrrh > 10 to 30 mL/week (1:5 liquid)
 - rehmannia > 30 to 60 mL/week (1:2 liquid) or 1.1 to 1.8 g/day (tablet)
 - sarsaparilla > 20 to 40 mL/week (1:2 liquid) or 1.2 to 2.4 g/day (tablet)
 - turmeric > 35 to 100 mL/week (1:1 liquid) or 4.0 to 10.0 g/day (tablet)

Digestive Stimulants and Aromatic Digestives – Bitters (stimulate digestion via the vagus nerve)

- *Indications:* dyspepsia; poor digestive function, hypochlorhydria, decreased bile flow, food intolerances and allergies, chronic gastritis, nausea. Traditional use of bitters: fever management, jaundice.
- *Contraindications:* duodenal ulcers, hyperchlorhydria
- *Application:* Best taken before meal just enough to promote a strong taste of bitterness; long term however it's better to work to a prn basis

- *Primary Herbal Medicine(s):*
 - Gentiana lutea (gentian)
 - Artemisia absinthium (wormwood)

- *Adult Dosage Considerations:* tinctures of 5-10%.

Laxatives

- *Indications:* Constipation, detoxification; stool softening. “Constipation is medically defined as a bowel frequency of less than three times per week or the need to strain more than 25% of the time during defecation.”^{iv} “The herbal treatment of constipation can be approached in the following way:
 - Improve liver function with cholaretic and cholagogue herbs (e.g. Chionanthus (fringe tree), Taraxacum (dandelion root) and Silybum).
 - Increase stool bulk through diet and with bulking herbs such as ulmus (slippery elm) and Plantago ovate (ispaghul).
 - Improve motor function with gastrointestinal spasmolytics such as Matricaria (chamomile) or Viburnum opulus (cramp bark).
 - Improve gastrointestinal lubrication. Linseeds are particularly suitable because of their oil and mucilage content.
 - Judicious use of laxative herbs beginning with general agents such as
 - Juglans cinerea (butternut)
 - Rumex (yellow dock)
 - Glycyrrhiza (licorice) and Rehmannia; otherwise a minimum quantity of Cassia (senna) or Rhamnus purshiana (cascara) can be introduced.
 - Adequate hydration.
 - Adequate exercise
 - Rule out concurrent medical conditions such as hypothyroidism.

“Various types of plant-derived laxatives are used: stimulant laxatives (purgatives), which act directly on the mucosa of the GI tract, bulk-forming laxatives, which act mainly via physicochemical effects within the lumen; and osmotic laxatives, which act by drawing water into the gut and thus softening the stool. Osmotic laxatives may be mineral in origin, for example magnesium salts, or derived from natural products such as milk sugars.”^v

“Anthraquinone compounds are famous for their laxative properties. The laxative effect of anthraquinones is caused by two independent mechanisms. The first is a changing in colonic motility, which leads to an accelerated large intestine transit. Motility changes are caused indirectly by epithelial cell demand. The second one is alteration in colonic absorption and secretion, resulting in fluid

accumulation which causes diarrhea.”^{vi} “On balance, the evidence is that these herbs are safe and effective for the short term. However, they are best used as a last resort since their effect is only symptomatic. Their tendency to cause wind and griping can aggravate the pain associated with irritable bowel syndrome and they are not at all suitable for constipation associated with bowel tension, spasm, or irritability. Also anthraquinone laxatives may become habit forming.”^{vii}

- Bulk-forming:
 - Linseed (Flax) – *Linum usitatissimum*
 - *Plantago* species – *Ispaghula*, *Plantago ovate*
 - Psyllium – *Plantago psyllium*
 - Wheat bran – *Triticum aestivum*
- Osmotic: lactulose or lactose
- Stimulant: Senna – *Cassia senna*
- *Contraindications*: specific to individual herbs; caution with IBD
- *Application*: short-term most herbs; anthraquinones may be taken in laxative doses in the evening. Lower doses can be taken with as part of a strategy to increase general bowel activity over the medium term.
- *Primary Herbal Medicine(s)*:
 - Anthraquinone-containing laxatives:
 - *Aloe barbadensis* (aloe)
 - *Juglans nigra* (butternut)
 - *Cassia senna* (senna)
 - *Rhamnus purshiana* (cascara)
 - *Rheum palmatum* (rhubarb)
 - *Rumex crispus* (yellow dock)
 - *Tabebuia avellanedae* (pau d’arco)
 - Non-anthraquinone-containing
 - *Glycyrrhiza glabra* (licorice)
 - *Tarazacum officinalis radix* (dandelion root)
- *Adult Dosage Considerations*:
 - aloe > 10 to 30 mL/week no more than 10 days (1:10 liquid)
 - butternut > 25 to 50 mL/week (1:2 liquid) short term
 - cascara 20 to 55 mL/week (1:2 liquid) or 1 to 3 g/day (tablet) short term
 - dandelion root > 20 to 40 mL/week (1:2 liquid) or 1.5 to 2.0 g/day (tablet)
 - licorice > 10 to 40 mL/week (1:1 liquid) or 2.0 to 3.0 g/day (tablet)
 - pau d’arco > 25 to 50 mL/week (1:2 liquid) or 1.5 to 2.5 g/day (tablet) short term
 - rhubarb > 10 to 30 mL/week (1:2 liquid) short term
 - senna pods > 10 to 40 mL/week (1:2 liquid) short term
 - yellow dock > 15 to 30 mL/week (1:2 liquid) or 0.8 to 2.0 g/day (tablet) short term

Intestinal Hyperpermeability; Malabsorption - Mucus Membrane Trophorestoratives (A substance that has healing and restorative action on a specific organ or tissue.)

- *Indications:* intestinal hyperpermeability; malabsorption, GI inflammation
- *Contraindications:* specific to herbal medicine
- *Application:* Best taken before meals; medium to long-term
- *Primary Herbal Medicine(s):*
 - Hydrastis canadensis (goldenseal)
 - Plantago lanceolata (plantain)

- *Adult dosage Considerations:*
 - goldenseal > 10 to 30 mL/week (1:3 liquid) or 1.0 to 2.0 g/day (tablet)

References

ⁱ Mills S, Bone K. Principles and Practice of Phytotherapy; Modern Herbal Medicine. Edinburgh: Churchill Livingstone; 2000. P. 161.

ⁱⁱ Ibid. P. 26.

ⁱⁱⁱ Heinrich M, Barnes J, Gibbons S, Williamson EM. Fundamentals of Pharmacognosy and Phytotherapy. 2nd Ed. Edinburgh: Churchill Livingstone; 2012. p. 208.

^{iv} Mills S, Bone K. Principles and Practice of Phytotherapy; Modern Herbal Medicine. Edinburgh: Churchill Livingstone; 2000. P. 179.

^v Heinrich M, Barnes J, Gibbons S, Williamson EM. Fundamentals of Pharmacognosy and Phytotherapy. 2nd Ed. Edinburgh: Churchill Livingstone; 2012. p. 204.

^{vi} Sakulpanich A, Gritsanapan W. Determination of Anthraquinone Glycoside Content in Cassia fistula Leaf Extracts for Alternative Source of Laxative Drug. Int J Biomed and Pharma Sci. 28 Oct 2009.

^{vii} Mills S, Bone K. Principles and Practice of Phytotherapy; Modern Herbal Medicine. Edinburgh: Churchill Livingstone; 2000. P. 179.