



References

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The Science Behind our Products

Cascara sagrada

Cascara sagrada is widely used by the public as an all-purpose laxative and it is also recommended by physicians for bowel evacuation prior to diagnostic radiographs.¹ When taken orally, the C-glycosides present in cascara sagrada are able to pass unabsorbed through the gastrointestinal track to the colon wall where it increases motility and exerts a laxative effect.² The active components (aloin and ^{1,8} dioxanthraquinone) have been shown to stimulate production of prostaglandins in the colon, which researchers suspect is partly responsible for its laxative properties.³ The laxative effects of cascara sagrada are so impressive that in one study despite pre-treatment with the drug indomethacin, a potent inhibitor of prostaglandin production, the laxative action of cascara sagrada was not affected.⁴ More recent scientific evidence indicates cascara sagrada's ability to increase nitric oxide (NO) activity may play a significant role in its laxative effect.^{1,5}

Psyllium seed husk (*Plantago psyllium*)

Psyllium seed husk is well-known as a laxative. Like other fiber-based laxatives, psyllium increases stool weight.⁶ In addition, psyllium is known to normalize bowel movements and gastrointestinal transit time.⁷ Unlike most other fibers that affect large bowel physiology, psyllium increases the concentration of water in the stool and produces a stool that is easy to pass.⁸⁻¹² Psyllium seed husk is also an atypical fiber laxative because it is largely a soluble fiber. Most soluble fibers are completely fermented in the colon¹ and have little effect on stool weight and stool softening.¹ Moreover, fermentation of the soluble non-starch polysaccharides from psyllium seed results in the production of the beneficial short-chain fatty acids acetate, propionate, and butyrate in the intestines.¹³ Several clinical studies have demonstrated positive effects of butyrate in inflammatory bowel diseases.¹⁴⁻¹⁶

Marshmallow (*Althaea officinalis*)

Marshmallow has been used in traditional European medicine for more than 2,000 years, and its therapeutic use was first recorded in the 9th century. It was widely used in Greek medicine and later its use spread to Arabian medicine. Marshmallow root and leaf (unpeeled and peeled) is used in many commercial herbal formulations and regarded as safe.¹⁷ In Italy, an elixir of the dried root is taken orally for constipation and for its gastroprotective effects.^{18,19} Marshmallow roots are known to contain a somewhat high mucilage content. The mucilage is composed of complex polysaccharides with a broad range of physicochemical properties which are responsible for the biological activities of this herb.²⁰



Chinese cinnamon (Cinnamomum cassia)

Chinese cinnamon is a potent antioxidant that has been traditionally used as treatment for improving stomach function.^{21,22} Scientific research has shown that when the two active compounds (cinnamomum cassia and O-glucoside) were administered orally or parenterally they inhibited gastric ulcers and promoted gastric blood flow. Animal research indicates the antiulcerogenic properties of Chinese cinnamon are the result of reduced gastric secretion and pepsin output.²³

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