

# Gallstones

Joseph E. Pizzorno ND, ... Herb Joiner-Bey ND, in [The Clinician's Handbook of Natural Medicine \(Third Edition\)](#), 2016

## Nutritional factors

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Lecithin (phosphatidylcholine): main cholesterol solubilizer in bile. Low lecithin in bile may be a causative factor. A pure bile salt micelle requires 50 molecules to enclose a single molecule of cholesterol; a mixed bile salt–phospholipid micelle requires only seven molecules. Taking only 100 mg lecithin t.i.d. increases lecithin in bile, and larger doses (up to 10 g) provide greater increases. Increased lecithin content of bile usually increases solubility of cholesterol. No significant effects on gallstone dissolution are obtained by using lecithin alone.

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Nutrient deficiencies: deficiencies of either vitamin E or vitamin C caused gallstones in animal studies.

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**Olive oil**: olive oil “liver flush” is undesirable for patients with gallstones; consuming large quantities of any oil induces contraction of GB, increasing risk of stone blocking bile duct and causing a surgical emergency. Oleic acid increases development of gallstones in laboratory animals by increasing cholesterol in the GB.

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**Fish oils**: in animal studies, fish oil increased biliary phospholipid secretion and reduced cholesterol concentration in the GB and rate of gallstone formation. Omega-3 eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) inhibit gallstone formation and decrease biliary calcium and total protein. Omega-3 fatty acids enhance stability of biliary phospholipid-cholesterol vesicles.

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Lipotropic factors and botanical choleretics: lipotropic factors are substances that hasten removal or decrease deposition of fat in the liver by interaction with fat metabolism. Lipotropic agents—choline, methionine, betaine, folic acid, and vitamin B<sub>12</sub>—are used with herbal cholagogues and choleretics. Cholagogues stimulate GB contraction, whereas choleretics increase bile secretion by liver. Herbal choleretics have favorable effect on solubility of bile. Choleretics appropriate to gallstones are *Taraxacum officinale* (dandelion root), silymarin from *Silybum marianum* (milk thistle), *Cynara scolymus* (artichoke), *Curcuma longa* (turmeric), and *Peumus boldus* (alkaloid boldine helps treat gallstones).