

MEDI  HERB<sup>®</sup>

Herb Safety Information



*Passiflora incarnata*

Quality is our Passion

# Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Achillea millefolium</i> <b>Yarrow</b>	Use with caution during pregnancy and lactation.	Known sensitivity to Yarrow or <i>Compositae</i> .	Avoid in patients with known allergy to <i>Compositae</i> and other plants containing sesquiterpene lactones. Discontinue 3 days prior to anaesthesia.	Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> . Prolonged use may cause headache and vertigo.	No information available. No adverse effects expected.	None known.			
<i>Aesculus hippocastanum</i> <b>Horsechestnut</b>	Use with caution during pregnancy and lactation.	None known.	Use with caution in patients with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations. Do not apply to ulcerated or broken skin.	Occasional gastrointestinal complaints, dizziness, nausea, headache and pruritus. Herbs rich in saponins taken orally may cause irritation of the gastric mucous membranes and reflux.	No adverse effects expected.	None known.			
<i>Albizia lebbek</i> <b>Albizia</b>	May be used during pregnancy and lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known within recommended dosages. Prolonged use may cause nausea and vomiting.	No information available.	None known.			
<i>Allium sativum</i> <b>Garlic</b>	Safe for use during pregnancy and breastfeeding.	With known sensitivity to Garlic. With warfarin when doses exceed 5g/day fresh garlic.	Use with caution with antiplatelet drugs. Caution is advised for patients taking HIV protease inhibitors such as saquinavir. Discontinue 10 days before surgery and 3 days prior to anaesthesia.	Typically include allergy, contact dermatitis, skin reactions, increased body odour and minor gastrointestinal symptoms. Increased bleeding tendency has been reported for prolonged, high intake of garlic.	No information available. Adverse effects are not expected except possible mild gastrointestinal discomfort. Garlic should not be administered to children younger than 3 years.	<b>Aspirin</b>	Could increase bleeding time. <sup>1</sup>	Case reports of increased bleeding tendency with high garlic intake. <sup>2,3,4</sup>	<b>Monitor</b> at doses equivalent to > 5 g/day fresh garlic.
						<b>HIV protease inhibitors</b> e.g. saquinavir	Decreased serum levels of saquinavir. <sup>5</sup>	Clinical study.	<b>Monitor</b> (medium level of risk).
						<b>Warfarin</b>	May potentiate effect of drug: increased INR observed. <sup>6</sup> Large doses could increase bleeding tendency.	Case reports of possible interaction <sup>6</sup> and increased bleeding tendency. <sup>2,3,4</sup>	<b>Contraindicated</b> for doses equivalent to > 5 g/day fresh garlic unless under close supervision.
<i>Althaea officinalis</i> <b>Marshmallow Root</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known. Prolonged use may cause stomach irritation.	No information available. No adverse effects expected.	<b>Prescribed medication</b>	May slow or reduce absorption of drugs.	Theoretical concern based on absorbent properties of marshmallow root.	<b>Take</b> at least 2 hours <b>away</b> from medication.
<i>Andrographis paniculata</i> <b>Andrographis</b>	Use with caution during pregnancy, but avoid during early pregnancy. Safety in lactation is unknown.	With immunosuppressant medication. Theoretically bitters are contraindicated in states of hyperacidity, especially gastric and duodenal ulcers. Use with caution in oesophageal reflux.	Discontinue 3 days prior to anaesthesia.	Urticaria, headache and chest discomfort occur rarely. High doses may cause gastric discomfort, poor appetite and emesis.	No adverse effects expected.	<b>Immunosuppressant medication</b>	May decrease effectiveness of drug.	Theoretical concern based on immune-enhancing activity of Andrographis. No adverse events reported.	<b>Contraindicated.</b>
						<b>Warfarin</b>	May potentiate effect of drug.	Clinical study: <i>ex vivo</i> inhibition of platelet aggregation. <sup>7</sup>	<b>Monitor</b> (low level of risk).
<i>Angelica sinensis</i> <i>Angelica polymorpha</i> <b>Dong Quai</b>	Contraindicated during pregnancy. Safe for use during lactation.	In diarrhoea caused by weak digestion haemorrhagic disease and acute viral infections (common cold & influenza).	Do not prescribe concomitantly with warfarin. Discontinue 3 days prior to anaesthesia.	One case of gymnecomastia was reported.	No information available. No adverse effects expected.	<b>Warfarin</b>	May potentiate effect of drug: increased INR and PT; <sup>8</sup> increased INR and widespread bruising. <sup>9</sup>	Case reports.	<b>Monitor</b> (low level of risk).

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<i>Apium graveolens</i> <b>Celery Seed</b>	Use with caution during pregnancy and lactation.	In patients with known sensitivity to birch or mugwort families.	Use with caution in kidney disorders. Discontinue 3 days prior to anaesthesia.	Allergic reactions are found in individuals with sensitivity to birch or mugwort pollen. Phototoxicity has rarely been reported.	No information available.	<b>Thyroxine</b>	Reduced serum levels of thyroxine. <sup>10</sup>	Case reports.	<b>Monitor</b> (very low level of risk).
<i>Arctium lappa</i> <b>Burdock</b>	May be used during pregnancy. Safe for use during lactation.	Known sensitivity to <i>Compositae</i> family.	Avoid in patients with known allergy to <i>Compositae</i> and other plants containing sesquiterpene lactones. Depuratives can be provocative to skin disease - care is needed to reduce potential exacerbations. Discontinue 3 days prior to anaesthesia.	Occasional allergic contact dermatitis. Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> .	No information available. No adverse effects expected.	None known.			
<i>Arctostaphylos uva-ursi</i> <b>Bearberry</b>	Contraindicated during pregnancy and lactation.	In kidney disease. In principle, herbs high in tannins are contraindicated in constipation, iron deficiency anaemia and malnutrition.	Long term use should be avoided. Use with caution in highly inflamed or ulcerated conditions of the gastrointestinal tract. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Allergic contact dermatitis occurs occasionally from topical use. Theoretically high doses of tannins may cause irritation of the mouth and GIT. May cause nausea and vomiting in sensitive persons.	Not recommended in children under 12 years of age.	<b>Refer to Tannin-containing herbs.</b>			
<i>Artemisia annua</i> <b>Qing Hao</b>	Contraindicated during pregnancy and lactation.	See pregnancy and lactation.	Discontinue 3 days prior to anaesthesia.	Gastrointestinal symptoms have been reported in a small percentage of patients.	No information available.	None known.			
<i>Asparagus racemosus</i> <b>Shatavari</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Use with caution with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations and topically to open wounds. Discontinue 3 days prior to anaesthesia.	Herbs rich in saponins may cause irritation of the gastric mucous membranes and reflux. Allergic contact dermatitis occurs rarely.	No adverse effects expected.	None known within recommended dosages.			
<i>Astragalus membranaceus</i> <b>Astragalus</b>	May be used during pregnancy. Safety in lactation is unknown.	Not advisable in acute infections.	Discontinue 3 days prior to anaesthesia.	None known within recommended dosages.	No information available. No adverse effects expected.	<b>Cyclophosphamide</b>	May reduce effectiveness of drug.	Theoretical concern based on <i>in vivo</i> animal studies. <sup>11,12</sup>	<b>Monitor</b> (low level of risk).
<i>Bacopa monnieri</i> <b>Bacopa</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Use with caution in patients with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations. Discontinue 3 days prior to anaesthesia.	Herbs rich in saponins may cause irritation of the gastric mucous membranes and reflux. Weakness, loss of concentration and dizziness is rarely reported.	No adverse effects expected.	None known.			
<i>Barosma betulina</i> <b>Buchu</b>	Use with caution during pregnancy and lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			

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<i>Berberis vulgaris</i> <b>Barberry</b>	Contraindicated during pregnancy and lactation.	In jaundiced neonates.	Use with caution in unconjugated hyperbilirubinaemia, acute or severe hepatocellular disease, septic cholecystitis, intestinal spasms or ileus and liver cancer. Discontinue 3 days prior to anaesthesia.	None known within recommended dosages.	No adverse effects expected.	None known.			
<i>Bupleurum falcatum</i> <b>Bupleurum</b>	May be used during pregnancy. Safe for use during lactation.	None known.	Use with caution in patients with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations and topically to open wounds. Discontinue 3 days prior to anaesthesia.	May have a sedative effect in some patients. Large doses may cause sedation, bowel movements and flatulence. Herbs rich in saponins may cause irritation of the gastric mucous membranes and reflux.	No information available.	None known.			
<i>Calendula officinalis</i> <b>Calendula</b>	Use with caution during pregnancy. Safe for use during lactation.	Known sensitivity to <i>Calendula</i> .	Use with caution with known sensitivity to <i>Compositae</i> . Discontinue 3 days prior to anaesthesia.	Occasional allergic contact dermatitis. Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> .	No information available. No adverse effects expected.	None known.			
<i>Capsicum</i> spp. <b>Cayenne (Chilli Pepper)</b>	May be used during pregnancy. Safe for use during lactation, although caution is advised if taking at high doses.	Known allergy.	Use with caution in patients with gastric hyperacidity, reflux, and peptic ulceration. Use with caution with theophylline as <i>Capsicum</i> may increase absorption and bioavailability of the drug. Use with caution with ACE inhibitors. Discontinue 3 days prior to anaesthesia.	Rare cases of sensitization have been reported.	No information available. Adverse effects are not expected except possible mild gastrointestinal discomfort. <i>Capsicum</i> should not be administered to children younger than 3 years.	<b>ACE inhibitor</b>	Cough induced by topical capsaicin. <sup>13</sup>	Theoretical concern since capsaicin depletes substance P.	<b>Monitor</b> (very low level of risk).
						<b>Theophylline</b>	Increased absorption and bioavailability. <sup>14</sup>	Clinical study.	<b>Monitor</b> (low level of risk).
<i>Centella asiatica</i> <b>Gotu Kola</b>	May be used during pregnancy. Safe for use during lactation.	Known allergy to <i>Centella</i> .	Use with caution with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations and topically to open wounds. Discontinue 3 days prior to anaesthesia.	Allergic contact dermatitis occurs rarely. Herbs rich in saponins taken orally may cause irritation of the gastric mucous membranes and reflux. Prolonged use may cause headache, giddiness or tendency to low blood pressure.	No adverse effects expected.	None known within recommended dosages.			
<i>Cimicifuga racemosa</i> <b>Black Cohosh</b>	Traditionally contraindicated during the first and second trimesters. Not to be taken during lactation.	With oestrogen-dependent tumours.	Use with caution in patients with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations and topically to open wounds. Discontinue 3 days prior to anaesthesia.	Occasional gastric discomfort or mild gastrointestinal upset. Hepatotoxic response is rare. Herb rich in saponins may cause reflux.	No information available. No adverse effects expected.	None known.			

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<i>Codonopsis pilosula</i> <b>Codonopsis</b>	May be used during pregnancy. Safe for use during lactation.	None known.	Incompatible with <i>Veratrum nigrum</i> rhizome and root. Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Coleus forskohlii</i> <b>Coleus</b>	May be used during pregnancy and lactation.	In hypotension.	Use with caution with peptic ulcers and in patients taking prescribed medication. Discontinue 3 days prior to anaesthesia.	None known within recommended dosages.	No information available.	<b>Antiplatelet medication</b>	May potentiate effects of drug.	Theoretical concern based on <i>in vivo</i> animal studies of standardised coleus extract and the active constituent forskolin. <sup>15</sup>	<b>Monitor</b> (low level of risk).
						<b>Hypotensive medication</b>	May potentiate effects of drug.	Theoretical concern based on ability of forskolin to lower blood pressure <i>in vivo</i> . <sup>16</sup>	<b>Monitor</b> (low level of risk).
						<b>Prescribed medication</b>	May potentiate effects of drug.	Theoretical concern based on ability of forskolin to activate increased intracellular cyclic AMP <i>in vitro</i> . <sup>17</sup>	<b>Monitor</b> (low level of risk).
<i>Commiphora molmol</i> <b>Myrrh</b>	Do not use during pregnancy. Use with caution during lactation.	Known allergy to <i>Commiphora</i> .	Should not be taken for prolonged periods (> a few weeks). Discontinue 3 days prior to anaesthesia.	May cause contact dermatitis or allergy in sensitive individuals.	No information available. No adverse effects expected.	None known.			
<i>Crataegus monogyna</i> <i>Crataegus laevigata</i> ( <i>Crataegus oxyacantha</i> ) <b>Hawthorn</b>	May be used during pregnancy. Safe for use during lactation.	None known.	Use with caution with heart and blood pressure medication. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Rare, mild cases of rash, headache, sweating, dizziness, palpitations, sleepiness, agitation and gastrointestinal symptoms. Theoretically high doses of tannins may cause irritation of the mouth and GIT.	No information available. No adverse effects expected.	<b>Beta-blockers</b> and other hypotensive drugs	May increase effectiveness of drug.	Clinical studies demonstrate hawthorn causes a slight reduction in blood pressure in patients with heart conditions. <sup>18</sup>	<b>Monitor</b> (low level of risk).
						<b>Digitalis glycosides</b>	May increase effectiveness of drug.	Clinical studies indicate a (beneficial) synergistic effect. <sup>19,20</sup>	<b>Monitor</b> (low level of risk).
						<b>Refer to Tannin-containing herbs</b>			
<i>Crataeva nurvala</i> <b>Crataeva</b>	Use with caution during pregnancy and lactation.	None known.	Theoretically the stated dose should not be exceeded for long term treatment. Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Curcuma longa</i> <b>Turmeric</b>	Safe for use during pregnancy and lactation.	With obstruction of the biliary tract.	Do not prescribe high doses (>15g/day) concomitantly with antiplatelet or anticoagulant medication. Do not prescribe high doses long term. Patients applying topical doses should not be exposed to excessive sunlight. Discontinue 3 days prior to anaesthesia.	Contact dermatitis, frequent bowel movements and mild gastric discomfort have been reported. Prolonged use may be harmful to cardiac functions.	No information available. No adverse effects expected.	<b>Antiplatelet or anticoagulant medications</b> e.g. aspirin and warfarin	May potentiate effects of drug.	Theoretical concern based on <i>in vitro</i> and <i>in vivo</i> studies mainly of the active constituent curcumin demonstrating antiplatelet activity. <sup>18</sup>	<b>Monitor</b> (low level of risk at normal doses). Contraindicated in high doses (> 15 g/day dried tuber).

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<i>Cynara scolymus</i> <b>Globe Artichoke</b>	Use with caution during pregnancy. Safe for use during lactation.	With obstructed bile ducts. With known sensitivity to <i>Cynara</i> .	Use with caution with unconjugated hyperbilirubinaemia, acute or severe hepatocellular disease, septic cholecystitis, intestinal spasm or ileus, liver cancer and in patients with known allergy to <i>Compositae</i> and other plants containing sesquiterpene lactones. Discontinue 3 days prior to anaesthesia.	Infrequently: flatulence, feeling of weakness and hunger, contact dermatitis and urticaria-angioderma. Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> .	No information available. No adverse effects expected.	None known.			
<i>Dioscorea villosa</i> <b>Wild Yam</b>	May be used during pregnancy and lactation.	None known.	The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations and topically to open wounds. Discontinue 3 days prior to anaesthesia.	Oral use of saponin-containing herbs may cause irritation of the gastric mucous membranes and reflex.	No information available.	None known.			
<i>Echinacea angustifolia</i> <i>Echinacea purpurea</i> <b>Echinacea</b>	Safe for use during pregnancy and lactation.	With immunosuppressant medication (including transplant patients). Short term therapy only is suggested.	Use with caution with known sensitivity to <i>Compositae</i> or <i>Echinacea</i> aerial parts. Discontinue use 3 days prior to anaesthesia.	Unpleasant taste, digestive upsets, allergic skin reactions are found mainly with aerial parts. Leucopenia and erythema nodosum have been reported. Allergic reactions may occur rarely in individuals with sensitivity to <i>Compositae</i> .	No information available. No adverse effects expected.	<b>Immunosuppressant medication</b>	May decrease effectiveness of drug. <sup>18,21</sup>	Theoretical concern based on immune-enhancing activity of <i>Echinacea</i> . No adverse events reported.	<b>Contraindicated.</b>
<i>Eleutherococcus senticosus</i> <b>Siberian Ginseng</b>	May be used during pregnancy. Safe for use during lactation.	In acute phases of infections and possibly hypertension.	The recommended regime for healthy people is a course of 6 weeks followed by a 2 week break. For treatment of specific illnesses, continuous use is preferable. Discontinue 3 days prior to anaesthesia.	Insomnia, palpitations, headache, tachycardia, pericardial pain and hypertension have been reported in patients with cardiovascular disorders.	No information available. No adverse effects expected.	<b>Digoxin</b>	Apparently raised serum concentrations. <sup>22</sup>	Herb probably interfered with digoxin assay (patient had unchanged ECG despite apparent digoxin concentration of 5.2 nmol/L).	<b>Monitor</b> (very low level of risk).
<i>Epilobium parviflorum</i> <b>Willow Herb</b>	Use with caution during pregnancy. Safety during lactation is unknown.	In principle, herbs high in tannins are contraindicated in constipation, iron deficiency anaemia and malnutrition.	Long term use should be avoided. Use with caution in highly inflamed or ulcerated conditions of the gastrointestinal tract. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Theoretically high doses of tannins may cause irritation of the mouth and GIT.	No information available. No adverse effects expected within recommended dosages.	<b>Refer to Tannin-containing herbs.</b>			
<i>Equisetum arvense</i> <b>Horsetail</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Copious fluid intake is not recommended with oedema from impaired cardiac or renal function. Discontinue 3 days prior to anaesthesia.	A rare allergic reaction is possible in patients susceptible to nicotine as a hapten.	No information available.	None known.			

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<i>Euphrasia officinalis</i> <b>Eyebright</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Do not apply directly to the eyes due to alcohol content. Topical eye preparations should be sterile. Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Filipendula ulmaria</i> <b>Meadowsweet</b>	Use with caution during pregnancy and lactation.	With hypersensitivity to salicylates. In principle, herbs high in tannins are contraindicated in constipation, iron deficiency anaemia and malnutrition.	Use with caution with salicylate sensitivity, bleeding disorders, glucose-6-phosphate deficiency and highly inflamed or ulcerated conditions of the GIT. Long term use should be avoided. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Theoretically high doses of tannins may cause irritation of the mouth and GIT.	It is unknown whether the salicylates in meadowsweet are capable of causing Reye's syndrome.	<b>Warfarin</b>	May potentiate effects of drug.	Theoretical concern based on <i>in vivo</i> animal studies demonstrating anticoagulant activity. <sup>23</sup>	<b>Monitor</b> (low level of risk).
						<b>Refer to Tannin-containing herbs</b>			
<i>Foeniculum vulgare</i> <b>Fennel</b>	Use with caution during pregnancy. Safe for use during lactation.	Known allergy to fennel and/or other members of the <i>Umbeliferae</i> species.	Discontinue 3 days prior to anaesthesia.	Occasional allergic or hypersensitivity reactions have been reported, especially affecting skin and respiratory system.	Apart from rare cases of allergic reactions, no adverse reactions are expected.	None known within recommended dosages.			
<i>Fucus vesiculosus</i> <b>Bladderwrack</b>	Use recommended doses with caution during pregnancy and not to be taken in high or prolonged doses. Use with caution during lactation.	In hyperthyroidism and associated cardiac problems.	Avoid in patients with known hypersensitivity to iodine and those with underlying thyroid disorders not resulting from iodine deficiency or low thyroid function. Discontinue 3 days prior to anaesthesia.	Reactions reported for seaweed (not necessarily bladderwrack): hyperthyroidism, hypothyroidism with underlying thyroid disease, raised thyroid stimulating hormone and acneiform eruptions.	No information available.	<b>Hyperthyroid medication</b> e.g. carbimazole	May decrease effectiveness of drug due to natural iodine content. <sup>24</sup>	Theoretical concern, no cases reported.	<b>Contraindicated</b> unless under close supervision.
						<b>Lithium carbonate</b>	May potentiate effect of drug.	Theoretical concern based on iodine content. <sup>24</sup> Case reports have linked lithium carbonate alone to hyperthyroidism. <sup>25</sup>	<b>Monitor</b> (very low level of risk).
						<b>Thyroid replacement therapies</b> e.g. thyroxine	May add to effect of drug.	Theoretical concern linked to a case report where "kelp" caused hyperthyroidism in a person not taking thyroxine. <sup>26</sup>	<b>Monitor</b> (low level of risk).
<i>Galium aparine</i> <b>Clivers</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Depuratives can be provocative to skin disease - care is needed to reduce potential exacerbations. Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Gentiana lutea</i> <b>Gentian</b>	Use with caution during pregnancy. Safe for use during lactation.	See warnings.	Use with caution with gastric or duodenal ulcers and gastric conditions associated with hyperacidity. Discontinue 3 days prior to anaesthesia.	Occasional headaches may occur in sensitive persons.	No information available. No adverse effects expected.	None known.			

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<i>Ginkgo biloba</i> <b>Ginkgo</b>	May be used during pregnancy. Safety in lactation is unknown.	With warfarin unless under close supervision. With known sensitivity to <i>Ginkgo</i> .	Use with caution with coagulation disorders. High doses of alkyl phenols may cause allergic reactions. Suspend treatment 3 days prior to surgery.	Occasional mild gastrointestinal complaints, headache, dizziness, allergic skin reactions and palpitations are known. Spontaneous cerebral or extracerebral bleeding, seizure, manic psychosis and Stevens-Johnson syndrome have been attributed to <i>Ginkgo</i> use.	No adverse effects expected within recommended dosages.	<b>Anticonvulsant medication</b> e.g. sodium valproate, carbamazepine.	May decrease the effectiveness of drug.	Theoretical concern based on <i>in vivo</i> animal studies. <sup>27</sup> Two case reports. <sup>28</sup>	<b>Monitor</b> (medium level of risk).
						<b>Antiplatelet and anticoagulant drugs</b> e.g. aspirin, warfarin	Increased bleeding tendency. <i>Ginkgo</i> extract could have clinical antiplatelet activity.	Rare case reports of spontaneous bleeding, including concomitant intake of aspirin or warfarin. <sup>29,30,31</sup> Interactions with warfarin and aspirin are not supported by clinical studies. <sup>32,33</sup>	Aspirin: <b>Monitor</b> (low level of risk). Warfarin: <b>Monitor</b> (medium level of risk).
						<b>Haloperidol</b>	May potentiate the efficiency of haloperidol in patients with schizophrenia. <sup>34</sup>	Randomised, controlled trial.	Prescribe cautiously. <b>Reduce</b> drug if necessary in conjunction with prescribing physician.
<i>Glycyrrhiza glabra</i> <b>Licorice</b>	At the recommended dosage may be used during pregnancy and lactation - except in women with hypertension in pregnancy.	In high blood pressure, lowered blood potassium, anorexia nervosa, cholestatic and cirrhotic liver disease, kidney failure, oedema and congestive heart failure.	Special precautions are necessary when high doses are prescribed for prolonged periods to avoid mineralocorticoid imbalances, sodium and water retention and potassium loss. Use with caution in the elderly and those with hypertension or cardiac, renal or hepatic disease. Discontinue 3 days prior to anaesthesia.	Large doses may cause electrolyte imbalance, sodium and water retention and potassium loss and high blood pressure.	Avoid excessive exposure to licorice.	<b>Antihypertensive medications</b>	May decrease effectiveness of drug when consumed in high doses. Licorice can cause pseudoaldosteronism which includes oedema and high blood pressure. <sup>18</sup>	Theoretical concern based on case reports of hypertension following intake of licorice-containing candy. <sup>18</sup>	<b>Avoid</b> long-term use at doses > 100 mg/day glycyrrhizin unless under close supervision. Place patients on a high potassium diet.
						<b>Cortisol</b>	Potentiation of drug possible by inhibition of drug metabolism.	Theoretical concern based on pharmacological studies and one early clinical study with the constituent (glycyrrhizin). No observed cases. <sup>18</sup>	<b>Monitor</b> (low level of risk).
						<b>Digoxin</b>	Excessive licorice intake causes hypokalaemia which can potentiate the toxicity of the drug. <sup>35</sup>	Clinical studies of active constituents and case reports of hypokalaemia from candy intake (large doses). <sup>18</sup> One case report of ingestion of herbal laxative containing licorice (1.2 g/day) and rhubarb (4.8 g/day). <sup>36</sup>	<b>Avoid</b> long-term use at doses > 100 mg/day glycyrrhizin unless under close supervision. Place patients on a high potassium diet.
						<b>Prednisolone</b>	Increases levels of drug by decreasing drug metabolism. <sup>18</sup>	Theoretical concern based on clinical studies of oral administration of active constituent glycyrrhizin. <sup>37,38</sup>	<b>Monitor</b> (low level of risk).
						<b>Thiazide diuretics</b> and other potassium depleting drugs	The combined effect of licorice and the drug could result in excessive potassium loss. <sup>35</sup>	Clinical studies of active constituents and case reports from candy intake (large doses). <sup>18</sup>	<b>Avoid</b> long-term use at doses > 100 mg/day glycyrrhizin. Place patients on a high potassium diet.
						<b>Refer also to Laxative-containing herbs (potassium depleting agents entry).</b>			



## Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Gymnema sylvestre</i> <b>Gymnema</b>	Use with caution during pregnancy. Safety during lactation is unknown.	None known.	Use with caution with pre-existing cholestasis. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations, and topically to open wounds. Discontinue 3 days prior to anaesthesia.	Herbs rich in saponins taken orally may cause irritation of the gastric mucous membranes and reflux.	No information available. No adverse effects expected.	<b>Refer to Hypoglycaemic herbs.</b>			
<i>Harpagophytum procumbens</i> <b>Devil's Claw</b>	Use with caution during pregnancy. Safe for use during lactation.	Theoretically bitters are contraindicated in states of hyperacidity, especially gastric and duodenal ulcers. Use with caution in oesophageal reflux.	Use with caution with prescribed analgesics, pain in children, neurological disease (depression and psychosis), liver and kidney disease and history of allergic or anaphylactic reactions. Long term therapy is not advised. Discontinue 3 days prior to anaesthesia.	Of the small number of adverse events reported, mild gastrointestinal complaints are most common with allergic skin reactions, conjunctivitis, rhinitis and asthma also reported.	No information available. No adverse effects expected.	<b>Warfarin</b>	Purpura <sup>39</sup> possibly due to increased bleeding tendency.	One case report with very few details. Unlikely to occur.	<b>Monitor</b> (very low level of risk).
<i>Humulus lupulus</i> <b>Hops</b>	Use with caution during pregnancy and lactation.	See warnings.	In principle, herbal sedatives are best avoided in depression and insomnia with restlessness during the early morning. Short term therapy only is recommended. Discontinue 3 days prior to anaesthesia.	Contact dermatitis is rarely found.	No information available. No adverse effects expected.	None known.			
<i>Hydrastis canadensis</i> <b>Golden Seal</b>	Contraindicated during pregnancy. Not to be taken during lactation.	In jaundiced neonates.	Discontinue 3 days prior to anaesthesia.	None known.	No adverse effects expected.	None known.			

# Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Hypericum perforatum</i> <b>St John's Wort</b>	May be used during pregnancy. Use with caution in lactation.	Severe depression. With immune suppressants (e.g. cyclosporin), cardiac glycosides, HIV nonnucleoside reverse transcriptase inhibitors and other protease inhibitors, chemotherapeutic agents (e.g. irinotecan) and anticoagulant drugs. Avoid in known photosensitivity.	Recommend against excessive exposure to full sun or ultraviolet irradiation. Seek alternative treatment if significant clinical response in depression is not apparent after 6 weeks. Caution is advised with photosensitising agents, selective serotonin reuptake inhibitors and other serotonergic agents, low-dose oral contraceptive pill, fexofenadine, midazolam, theophylline, simvastatin and phenytoin. Discontinue 3 days prior to anaesthesia.	Gastrointestinal symptoms are reported. Rarely, erythroderma, photosensitivity and delayed emergence from anaesthesia.	No adverse effects expected.	<b>Amitriptyline</b>	Decreases drug levels. <sup>40</sup>	Clinical study.	<b>Monitor</b> (medium level of risk).
						<b>Anticonvulsants</b> e.g. phenytoin, carbamazepine, phenobarbitone	May decrease drug levels via CYP induction. <sup>41,42,43</sup>	Theoretical concern. An open clinical trial demonstrated no effect on carbamazepine pharmacokinetics in healthy volunteers. <sup>44</sup>	<b>Monitor</b> (low level of risk).
						<b>Antihistamine</b> e.g. fexofenadine	Decreases drug levels. <sup>45</sup>	Clinical study.	<b>Monitor</b> (medium level of risk).
						<b>Benzodiazepines</b> e.g. midazolam	Decreases drug levels. <sup>46</sup>	Clinical study.	<b>Monitor</b> (medium level of risk).
						<b>Chemotherapeutic drugs</b> e.g. irinotecan	Decreases drug levels. <sup>47,48</sup>	Clinical studies.	<b>Contraindicated.</b>
						<b>Combined oral contraceptives</b>	Breakthrough bleeding reported which was attributed to increased metabolism of drug. <sup>49,50</sup>	Clinical significance unclear. Cases of unwanted pregnancies have been reported. <sup>51,52</sup>	<b>Monitor</b> (low level of risk).
						<b>Digoxin</b>	Decreases drug levels, <sup>53,54,55</sup> but is dependent upon dose of herb. <sup>54</sup>	Clinical studies.	<b>Contraindicated</b> at doses > 1 g/day dried herb.
						<b>HIV non-nucleoside transcriptase inhibitors</b> e.g. nevirapine	Decreases drug levels. <sup>56</sup>	Case report.	<b>Contraindicated.</b>
						<b>Immunosuppressives</b> e.g. cyclosporin	Decreases drug levels.	Case reports, <sup>49,57,58,59,60,61,62,63,64</sup> and case series. <sup>65,66</sup>	<b>Contraindicated.</b>
						<b>Other HIV protease inhibitors</b> e.g. indinavir	Decreases drug levels. <sup>67</sup>	Clinical study.	<b>Contraindicated.</b>
						<b>Phenprocoumon</b>	Decreases plasma drug levels. <sup>68</sup>	Clinical study.	<b>Contraindicated.</b>
						<b>Simvastatin</b> <sup>2</sup>	Decreases drug levels. <sup>69</sup>	Clinical study.	<b>Monitor</b> (medium level of risk).
						<b>SSRIs</b> e.g. paroxetine, trazodone, sertraline <b>and other serotonergic agents</b> e.g. nefazodone, venlafaxine	Potential effects possible in regard to serotonin levels. <sup>70,71,72,73,74,75</sup>	Clinical significance of case reports unclear.	<b>Monitor</b> (very low level of risk).
						<b>Theophylline</b>	Decreases drug levels. <sup>76</sup>	Case report.	<b>Monitor</b> (low level of risk).
<b>Warfarin</b>	Decreases drug levels and INR. <sup>50</sup>	Case reports.	<b>Contraindicated.</b>						
<b>Refer to Tannin-containing herbs</b>									

# Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<b>Hypoglycaemic herbs</b>	<b>See individual species.</b> e.g. <i>Gymnema sylvestre</i> , <i>Panax ginseng</i> (Korean Ginseng), <i>Trigonella foenum-graecum</i> (Fenugreek)					<b>Hypoglycaemic drugs and insulin</b>	Enhanced reduction of blood glucose.	Theoretical concern, no documented case histories.	Prescribe cautiously and monitor blood sugar regularly. <b>Warn</b> patient about possible hypoglycaemia. <b>Reduce</b> drug if necessary in conjunction with prescribing physician.
<i>Inula helenium</i> <b>Elecampane</b>	Use with caution during pregnancy. Not to be taken during lactation.	Known sensitivity to <i>Compositae</i> family.	Avoid in patients with known allergy to <i>Compositae</i> and other plants containing sesquiterpene lactones. Discontinue 3 days prior to anaesthesia.	Occasional allergic contact dermatitis. Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> .	No information available.	None known.			
<b>Laxative (anthraquinone-containing) herbs</b>	<b>See individual species.</b> e.g. <i>Glycyrrhiza glabra</i> (Licorice), <i>Rhamnus purshiana</i> (Cascara), <i>Rumex crispus</i> (Yellow Dock)					<b>Antiarrhythmic agents</b>	May affect activity if potassium deficiency resulting from long-term laxative abuse is present.	German Commission E and ESCOP recommendation. <sup>35,77</sup>	<b>Avoid</b> excessive doses of laxatives. Maintain patients on a high potassium diet.
						<b>Cardiac glycosides</b>	May potentiate activity, if potassium deficiency resulting from long-term laxative abuse is present.	German Commission E and ESCOP recommendation. <sup>35,77</sup>	<b>Monitor</b> (low level of risk at normal doses).
						<b>Potassium depleting agents</b> e.g. thiazide diuretics, corticosteroids, licorice root ( <i>Glycyrrhiza glabra</i> )	May increase potassium depletion.	German Commission E and ESCOP recommendation. <sup>35,77</sup>	<b>Avoid</b> excessive doses of laxatives. Maintain patients on a high potassium diet.
						<b>Prescribed medication</b>	May slow or reduce absorption of drugs.	Theoretical concern based on pharmacology of stimulating laxatives.	<b>Take</b> at least 2 hours away from medication.
<i>Leonurus cardiaca</i> <b>Motherwort</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	May cause contact dermatitis in sensitive individuals.	No information available.	None known.			
<i>Lycopus virginicus</i> <i>Lycopus europaeus</i> <b>Bugleweed</b>	Contraindicated during pregnancy and lactation.	With thyroid hypofunction and enlargement of the thyroid without functional disorder.	Caution is advised in women wishing to conceive.	Prolonged, high doses have been associated with enlarged thyroid, increase in thyroid symptoms and headache. Headache may be avoided by reducing dosage.	No information available. Caution is advised due to antithyroid activity.	<b>Radioactive iodine</b>	May interfere with administration of diagnostic procedures using radioactive isotopes. <sup>78</sup>	Case report.	<b>Contraindicated.</b>
						<b>Thyroid hormones</b>	Should not be administered concurrently with preparations containing thyroid hormone. <sup>35</sup>	Theoretical concern based on deliberations of German Commission E.	<b>Contraindicated.</b>
<i>Matricaria recutita</i> <b>Chamomile</b>	Safe for use during pregnancy and lactation.	Known sensitivity to <i>Compositae</i> family.	Should not be taken simultaneously with iron supplements, especially in anaemia and where iron supplementation is required. Discontinue 3 days prior to anaesthesia.	Allergic reactions may occur in individuals with sensitivity to birch or mugwort pollen. Phototoxicity has rarely been reported.	No adverse effects expected.	<b>Refer to Polyphenolic and Flavonoid-containing herbs.</b>			

## Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Medicago sativa</i> <b>Alfalfa</b>	May be used during pregnancy and lactation at the recommended dosage.	None known.	Alfalfa preparations (probably the seed or spouted seed) have induced or reactivated systemic lupus erythymatosis-like manifestations and other skin reactions in humans. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations. Discontinue 3 days prior to anaesthesia.	Allergic reaction is very unlikely. Phototoxicity has not been reported in humans.	No information available. No adverse effects expected.	<b>Anticoagulant drugs</b>	Very high doses may decrease effectiveness of drug.	Theoretical concern based on the presence of vitamin K in alfalfa leaf, no cases reported.	<b>Contraindicated.</b>
						<b>Chlorpromazine</b>	May potentiate effect of chlorpromazine-induced photosensitivity.	Theoretical concern. Photosensitivity has occurred in animals ingesting alfalfa feed. <sup>79</sup> Chlorpromazine causes photosensitivity in humans. No cases reported of interaction between chlorpromazine and alfalfa leaf.	<b>Monitor</b> (very low level of risk).
<i>Melissa officinalis</i> <b>Lemon Balm</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	An incidence of allergy to topical use has been reported.	No information available. No adverse effects expected.	None known.			
<i>Mentha x piperita</i> <b>Peppermint</b>	Use with caution during pregnancy and lactation.	In gastrointestinal reflux, occlusion of the gallbladder passages, cholecystitis and severe liver disease. In principle, herbs high in tannins are contraindicated in constipation, iron deficiency anaemia and malnutrition.	Long term use should be avoided. Use with caution in highly inflamed or ulcerated conditions of the gastrointestinal tract. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Theoretically high doses of tannins may cause irritation of the mouth and GIT.	No adverse effects expected.	<b>Refer to Tannin-containing herbs.</b>			
<i>Olea europaea</i> <b>Olive Leaves</b>	May be used during pregnancy and lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Paeonia lactiflora</i> <b>Paeonia</b>	May be used during pregnancy and lactation.	None known.	Incompatible with <i>Veratrum nigrum</i> rhizome and root.	Allergic reactions have been reported.	No information available. No adverse effects expected.	None known.			

# Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Panax ginseng</i> <b>Korean Ginseng</b>	Safe for use during pregnancy and lactation.	With monoamine oxidase inhibitors. Avoid during acute infections and in patients with hypertension. Traditionally contraindicated in acute asthma, signs of heat, excessive menstruation and nose bleeds.	Avoid concurrent use of stimulants (caffeine and amphetamines). Discontinue 3 days prior to anaesthesia.	Overstimulation may occur at higher doses. Rare side effects include mania, cerebral arteritis, oestrogenic effects and Stevens-Johnson syndrome.	No information available. No adverse effects expected.	<b>Antihypertensive medications</b>	May decrease effectiveness of drug.	Theoretical concern since hypertension is a feature of GAS. Clinical significance unclear. <sup>18</sup>	<b>Monitor</b> (very low level of risk).
						<b>CNS stimulants</b>	May potentiate effects of drug. <sup>18</sup>	Theoretical concern since CNS stimulation is a feature of GAS. Clinical significance unclear.	<b>Monitor</b> (low level of risk).
						<b>Hypoglycaemics</b>	May potentiate hypoglycaemic activity of drug. <sup>21</sup>	Theoretical concern based on clinically observed hypoglycaemic activity of ginseng. <sup>80</sup> Clinical significance unclear.	<b>Monitor</b> (very low level of risk).
						<b>MAO inhibitors</b> e.g. phenelzine	Headache and tremor, mania.	Case reports. <sup>81,82</sup>	<b>Contraindicated.</b>
						<b>Sildenafil</b>	Potential of drug possible.	Theoretical concern based on <i>in vitro</i> studies which show ginseng increases nitric oxide release from corpus cavernosum tissue. <sup>83,84</sup>	<b>Monitor</b> (very low level of risk).
						<b>Warfarin</b>	May decrease effectiveness of drug: decreased INR reported. <sup>85</sup>	One case reported <sup>85</sup> but clinical significance unclear.	<b>Monitor</b> (low level of risk).
<i>Passiflora incarnata</i> <b>Passionflower</b>	May be used during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	Side effects occur rarely and are mainly of an allergic nature.	No information available. No adverse effects expected.	None known.			
<i>Plantago ovata</i> <i>Plantago psyllium</i> <b>Psyllium</b>	Safe for use during pregnancy and breastfeeding.	In known allergy, faecal impaction, undiagnosed abdominal symptoms, sudden change in bowel habit that persists for more than 2 weeks, rectal bleeding, intestinal obstruction, megacolon, unstable diabetes mellitus.	Consume with a sufficient volume of water.	In case cases allergic reactions may occur.	No information available. No adverse effects expected.	<b>Carbamazepine</b>	Decreases plasma concentration of drug.	Clinical study (psyllium). <sup>86</sup>	<b>Take</b> at least 2 hours <b>away</b> from medication.
						<b>Lithium</b>	May decrease absorption of drug.	Case report (psyllium). <sup>87</sup> Hydrophilic psyllium may prevent lithium from ionising.	<b>Take</b> at least 2 hours <b>away</b> from medication.
						<b>Prescribed medication</b>	May slow or reduce absorption of drugs.	Theoretical concern based on absorbent properties of psyllium.	<b>Take</b> at least 2 hours <b>away</b> from medication.
<b>Polyphenolic-# and flavonoid-containing herbs</b>	<b>See individual species.</b> e.g. <i>Matricaria recutita</i> (Chamomile), <i>Rosmarinus officinalis</i> (Rosemary), <i>Tilia cordata</i> (Lime Flowers), <i>Verbena officinalis</i> (Vervain)					<b>Iron</b>	Inhibition of non-haem ironD absorption.	Clinical studies: <sup>88,89,90,91,92</sup> (polyphenols per serving: approx. 30 mg <sup>89</sup> and 50-200 mg <sup>88</sup> ).  Results for green tea have been conflicting. <sup>93,94,95</sup>	In anaemia and where iron supplementation is required, <b>do not take simultaneously</b> with meals or iron supplements.
						<b>Refer to Tannin-containing herbs.</b>			
<i>Rehmannia glutinosa</i> <b>Rehmannia</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	Mild oedema, diarrhoea, abdominal pain, dizziness, fatigue and palpitations have been infrequently reported.	No adverse effects expected within recommended dosages.	None known.			

# Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Rhamnus purshiana</i> <b>Cascara</b>	Not recommended during pregnancy, especially during first trimester. Use with caution in lactation.	In diarrhoea, inflammation or other disease of the colon, small intestine or appendix and including intestinal obstructions, ulcerative colitis, spastic colon, Crohn's Disease and abdominal pain of unknown origin. Avoid with digoxin, antiarrhythmic drugs and heart medications combined with diuretics.	Should not be used for long periods (>1 - 2 weeks). Discontinue 3 days prior to anaesthesia.	Gripping colic, diarrhoea, electrolyte disturbances, potassium and fluid loss, possible hepatic lesions. One case of IgE-mediated occupational asthma and rhinitis is documented.	Not to be taken by children under 10 years.	<b>Refer to Laxative (anthraquinone-containing) herbs.</b>			
<i>Rosmarinus officinalis</i> <b>Rosemary</b>	May be used during pregnancy. Safe for use during lactation.	None known.	Should not be taken simultaneously with iron supplements, especially in anaemia and where iron supplementation is required. Discontinue 3 days prior to anaesthesia.	Allergic contact dermatitis has been reported.	No information available.	<b>Refer to Polyphenolic and Flavonoid-containing herbs.</b>			
<i>Rubus idaeus</i> <b>Raspberry Leaves</b>	Safe for use during pregnancy and lactation.	In principle, herbs high in tannins are contraindicated in constipation, iron deficiency anaemia and malnutrition.	Long term use should be avoided. Use with caution in highly inflamed or ulcerated conditions of the gastrointestinal tract. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Theoretically high doses of tannins may cause irritation of the mouth and GIT.	No information available. No adverse effects expected within recommended dosages.	<b>Refer to Tannin-containing herbs.</b>			
<i>Rumex crispus</i> <b>Yellow Dock</b>	Use with caution during pregnancy and lactation.	In ileus (intestinal obstruction).	Depuratives can be provocative to skin disease - care is needed to reduce potential exacerbations. Discontinue 3 days prior to anaesthesia.	Long term laxative use may cause disturbances of electrolyte balance especially potassium deficiency	No information available. No adverse effects expected.	<b>Refer to Laxative (anthraquinone-containing) herbs.</b>			
<i>Salix alba</i> <i>Salix daphnoides</i> <i>Salix purpurea</i> <i>Salix fragilis</i> <b>Willow Bark</b>	May be used during pregnancy. Use with caution during lactation.	With known allergy or hypersensitivity to salicylates and in glucose-6-phosphate dehydrogenase deficient patients. In principle, herbs high in tannins are contraindicated in constipation, iron deficiency anaemia and malnutrition.	Use with caution with warfarin, in neurological disease, depression, psychosis, liver and kidney disease, and with a history of allergic or anaphylactic reactions. Long term use should be avoided. Use with caution in highly inflamed or ulcerated conditions of the gastrointestinal tract. Take 2 hours away from oral thiamine, mineral supplements and alkaloid-containing drugs. Discontinue 3 days prior to anaesthesia.	Mild adverse reactions have been reported in a small percentage of patients and include stomach ache, nausea, headache, dizziness, tiredness, sweating, skin rash and allergic reactions. Theoretically high doses of tannins may cause irritation of the mouth and GIT.	It is unknown whether the salicylates in Willow Bark are capable of causing Reye's syndrome.	<b>Warfarin</b>	May potentiate effects of drug.	Clinical study observed very mild but significant antiplatelet activity. <sup>96</sup>	<b>Monitor</b> (low level of risk).
						<b>Refer to Tannin-containing herbs</b>			

## Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Salvia miltiorrhiza</i> <b>Dan Shen</b>	Contraindicated during pregnancy. Safety during lactation is unknown.	With anticoagulant drugs, and in those with a bleeding tendency. See pregnancy and lactation.	Discontinue 3 days prior to anaesthesia.	Side effects from Dan Shen and its compound preparations have occurred in a small number of patients and include dry mouth, gastrointestinal symptoms, dizziness, headache, weakness, numbness, cardiovascular symptoms and allergic reactions.	No information available.	<b>Warfarin</b>	May potentiate effect of drug: increased INR, <sup>97,98,99</sup> prolonged APTT.	Case reports.	<b>Contraindicated.</b>
<i>Salvia officinalis</i> <b>Sage</b>	Contraindicated during pregnancy and lactation.	See pregnancy and lactation.	Do not exceed the stated dose and avoid long term treatment (except for low thujone varieties). Discontinue 3 days prior to anaesthesia.	Side effects are almost unknown at moderate doses. Occasional allergic reactions have been recorded after topical contact.	No information available. No adverse effects expected within recommended dosages.	None known.			
<i>Sambucus nigra</i> <b>Elder Flowers</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	There are documented cases that large doses may produce nausea, diarrhoea and polyuria.	No information available.	None known within recommended dosages.			
<i>Schizandra chinensis</i> <b>Schisandra</b>	In traditional Chinese medicine contraindicated in pregnancy except to assist in childbirth. Safety in lactation is unknown.	From traditional Chinese medicine: in early states of cough or rash, in excess heat patterns, peptic ulcer, epileptic seizure, increased intracranial pressure, mental excitement and hypertension.	Discontinue 3 days prior to anaesthesia.	Mild gastrointestinal symptoms, headache and anorexia have been reported in a small number of patients.	No adverse effects expected.	<b>Prescribed medication</b>	May accelerate clearance from the body.	Theoretical concern based on in vivo studies demonstrating enhanced phase I/II hepatic metabolism. <sup>100,101</sup>	<b>Monitor</b> (medium level of risk).
<i>Scutellaria baicalensis</i> <b>Baical Skullcap</b>	May be used during pregnancy and lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known within recommended dosages.	No adverse effects expected.	None known.			
<i>Scutellaria lateriflora</i> <b>Skullcap</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No adverse effects expected within recommended dosages.	None known.			
<i>Serenoa serrulata</i> <b>Saw Palmetto</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	May mask the symptoms of prostate cancer and this diagnosed should be excluded before starting treatment. Discontinue 3 days prior to anaesthesia.	Minor gastrointestinal effects (nausea, stomach upsets) have been recorded.	No information available. No adverse effects expected.	<b>Warfarin</b>	May potentiate effect of drug: increased INR.	Case report. <sup>102</sup>	<b>Monitor</b> (low level of risk).
<i>Silybum marianum</i> <b>Milk Thistle</b>	May be used during pregnancy. Safe for use during lactation.	Known allergy to <i>Silybum</i> .	Use with caution with known sensitivity to <i>Compositae</i> . Discontinue 3 days prior to anaesthesia.	A laxative effect and mild gastrointestinal complaints are occasionally reported. Rare cases of anaphylaxis have been reported.	No information available. No adverse effects expected.	None known.			
<i>Smilax ornata</i> <b>Sarsaparilla</b>	May be used during pregnancy and lactation.	None known.	Do not take simultaneously with drug medications. Discontinue 3 days prior to anaesthesia.	Theoretically may cause gastric irritation or temporary kidney impairment.	No information available.	None known.			

# Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Solidago virgaurea</i> <b>Golden Rod</b>	Use with caution during pregnancy. Safe for use during lactation.	Known allergy to <i>Solidago</i> .	Copious fluid intake is not recommended with oedema from impaired cardiac or renal function. Discontinue 3 days prior to anaesthesia.	Allergic reactions are found in sensitive individuals.	No information available. No adverse effects expected.	None known.			
<i>Tabebuia avellanedae</i> <b>Pau d'Arco</b>	Contraindicated in pregnancy. Use with caution during lactation.	With anticoagulant therapy.	Use with caution in women trying to conceive. Discontinue 3 days prior to anaesthesia.	Allergic contact dermatitis has been reported.	No adverse effects expected.	<b>Anticoagulants</b>	May potentiate effect of drug.	Theoretical based on prolonged prothrombin time observed in clinical trial of lapachol (> 2 g/day). No toxicity seen at doses < 1.5 g. <sup>103</sup>	<b>Monitor</b> (low level of risk).
<b>Tannin - or OPC-containing herbs</b>	<b>See individual species.</b> e.g. <i>Arctostaphylos uva-ursi</i> (Bearberry), <i>Crataegus</i> spp. (Hawthorn), <i>Epilobium parviflorum</i> (Willow Herb), <i>Filipendula ulmaria</i> (Meadowsweet), <i>Hypericum perforatum</i> (St John's wort), <i>Mentha piperita</i> (Peppermint), <i>Rubus idaeus</i> (Raspberry Laves), <i>Salix</i> spp. (Willow Bark)  <b>(See also Polyphenol-containing herbs)</b>					<b>Minerals</b> , especially iron	May reduce absorption of non-haem iron from food.	Clinical studies <sup>88,104-108</sup> (black tea 2.5 g/150 mL). <sup>104</sup> Cases of iron deficiency/reduced iron absorption: heavy black tea drinkers <sup>109,110</sup> and those ingesting sorghum <sup>®</sup> (0.15% tannins). <sup>111</sup> In a clinical study tea consumption showed a small, non-significant adverse effect on zinc bioavailability. <sup>112</sup>	<b>Take</b> at least 2 hours <b>away</b> from medication.
<i>Taraxacum officinale</i> <b>Dandelion Leaves</b>	Use with caution during pregnancy. Safe for use during lactation.	Known sensitivity to <i>Taraxacum</i> . With obstruction of the bile ducts, gall bladder empyema and ileus.	Use with caution with known sensitivity to <i>Compositae</i> . Discontinue 3 days prior to anaesthesia.	Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> . Discomfort due to gastric hyperacidity.	No information available. No adverse effects expected.	None known.			
<i>Taraxacum officinale</i> <b>Dandelion Root</b>	Use with caution during pregnancy. Safe for use during lactation.	Known sensitivity to <i>Taraxacum</i> . With obstruction of the bile ducts, gall bladder empyema and ileus.	Use with caution with gallstones and known sensitivity to <i>Compositae</i> . Discontinue 3 days prior to anaesthesia.	Allergic reactions may occur in individuals with sensitivity to <i>Compositae</i> . Discomfort due to gastric hyperacidity.	No information available. No adverse effects expected.	None known.			
<i>Thuja occidentalis</i> <b>Thuja</b>	Contraindicated in pregnancy and lactation.	See pregnancy and lactation.	Do not exceed the recommended dosage. Caution is advised for patients with underlying defects in hepatic haem synthesis and for those with epilepsy. Discontinue 3 days prior to anaesthesia.	May cause headache in high doses. Contact allergy and erythema multiforme-like reactions have rarely been reported at high doses.	No information available. Use should be restricted to the recommended dosages.	None known.			
<i>Thymus vulgaris</i> <b>Thyme</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	Allergic reactions have been rarely reported.	No adverse reactions are expected.	None known.			
<i>Tilia cordata</i> <b>Lime Flowers</b>	Use with caution during pregnancy. Safe for use during lactation.	In patients with known allergy to <i>Tilia</i> .	Should not be taken simultaneously with iron supplements, especially in anaemia and where iron supplementation is required. Discontinue 3 days prior to anaesthesia.	Allergic reactions are rarely reported.	No information available.	<b>Refer to Polyphenolic and Flavonoid-containing herbs</b>			



## Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Trifolium pratense</i> <b>Red Clover Flowers</b>	May be used during pregnancy and lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No information available.	None known.			
<i>Trigonella foenum-graecum</i> <b>Fenugreek</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Use with caution with pre-existing cholestasis. Use high doses (>20g/day) with caution in low thyroid activity. Avoid with known spice allergies. The use of herbs rich in saponins may be inadvisable in coeliac disease, fat malabsorption and some upper digestive irritations and topically to open wounds. Discontinue 3 days prior to anaesthesia.	None expected within recommended dosages taken orally. Herbs rich in saponins taken orally may cause irritation of the gastric mucous membranes and reflux.	No information available. No adverse effects expected.	<b>Iron</b>	Inhibition of iron absorption.	Epidemiological study of preschool children in Ethiopia (plant part and quantity ingested undefined). <sup>113</sup>	In anaemia and where iron supplementation is required, <b>do not take simultaneously</b> with meals or iron supplements
						<b>Refer also to Hypoglycaemic herbs</b>			
<i>Turnera diffusa</i> <b>Damiana</b>	Use with caution during pregnancy. Safety during lactation is unknown.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Ulmus rubra</i> <b>Slippery Elm Bark</b>	May be used during pregnancy and lactation.	Intestinal obstruction.	If consuming as a tablet or capsule take with plenty of water to reduce the risk of oesophageal obstruction. Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	<b>Prescribed medication</b>	May slow or reduce absorption of drugs.	Theoretical concern based on absorbent properties of slippery elm.	<b>Take</b> at least 2 hours <b>away</b> from medication.
<i>Uncaria tomentosa</i> <b>Cat's Claw</b>	Contraindicated in pregnancy and in women trying to conceive. Use with caution during lactation.	Should not be taken by anyone who has recently or is planning on receiving bone marrow or organ transplantation. Should not be given concurrently with immunosuppressive agents, passive vaccines of animal sera, intravenous hyperimmunoglobulin therapy, intravenous thymic extracts hormone therapies with animal hormones, cryoprecipitates or fresh blood plasma.	Discontinue 3 days prior to anaesthesia.	Temporary diarrhoea, constipation, indigestion, lymphocytosis, erythrocytosis and aggravation of acne have been reported in a few patients.	Not to be taken by children under 3 years.	<b>Immunosuppressant medication</b>	May decrease effectiveness of drug.	Theoretical concern based on immune-enhancing activity of Cat's Claw. No adverse events reported.	<b>Contraindicated.</b>
<i>Urtica dioica</i> <b>Nettle Leaf</b>	Use with caution during pregnancy. Safe for use during lactation.	Topical use: Known allergy to <i>Urtica</i> leaf.	Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Urtica dioica</i> <b>Nettle Root</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Use in BPH should include monitoring of the state of the prostate. Discontinue 3 days prior to anaesthesia.	Mild side effects affecting the gastrointestinal tract are infrequently reported.	No information available. No adverse effects expected.	None known.			

## Safety Data for Commonly Used Herbs\*

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Vaccinium myrtillus</i> <b>Bilberry</b>	Safe for use during pregnancy and lactation.	None known.	Use high doses with caution in patients with haemorrhagic disorders and those taking warfarin or antiplatelet drugs. Discontinue 3 days prior to anaesthesia.	Mild side effects affecting the gastrointestinal, skin and nervous systems have been reported.	No adverse effects expected.	<b>Warfarin</b>	Potential interaction possible at very high bilberry doses.	Antiplatelet activity observed for high doses of bilberry in human volunteers. <sup>114</sup>	<b>Monitor</b> at high doses (> 100 mg/day anthocyanins, low level of risk).
<i>Valeriana officinalis</i> <b>Valerian</b> <i>Valeriana edulis</i> <b>Mexican Valerian</b>	May be used during pregnancy. Use with caution during lactation.	None known.	In principle, herbal sedatives are best avoided in depression and insomnia with restlessness during the early morning. Short term therapy only is recommended. May slightly reduce vigilance. Discontinue 3 days prior to anaesthesia.	Minor adverse effects have been reported.	No information available. Should be avoided in children under 3 years of age.	<b>CNS depressants or alcohol</b>	May potentiate effects of drug.	Theoretical concern expressed by US Pharmacopeial Convention. However a clinical study indicated no potentiation with alcohol. <sup>115</sup>	<b>Monitor</b> (very low level of risk).
<i>Verbascum thapsus</i> <b>Mullein</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	May cause occupational dermatitis in sensitive individuals.	No information available. No adverse effects expected.	None known.			
<i>Verbena officinalis</i> <b>Vervain</b>	May be used during pregnancy and lactation.	None known.	Should not be taken simultaneously with iron supplements, especially in anaemia and where iron supplementation is required. Discontinue 3 days prior to anaesthesia.	None expected within recommended dosages.	No information available.	<b>Refer to Polyphenolic and Flavonoid-containing herbs</b>			
<i>Viburnum opulus</i> <b>Cramp Bark</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			
<i>Vitex agnus-castus</i> <b>Chaste Tree</b>	Use with caution during pregnancy, and only in the early stages for insufficient corpus luteal function. Safe for use during lactation.	None known.	Best not taken with progesterone drugs, contraceptive pill or HRT. May aggravate pure spasmodic dysmenorrhoea not associated with PMS. Discontinue 3 days prior to anaesthesia.	Mainly gastrointestinal disturbances, nausea, skin conditions (acne, pruritus & rashes) and headache in a small number of patients.	No information available.	None known.			
<i>Withania somnifera</i> <b>Withania</b>	May be used during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	High doses have been associated with gastrointestinal upset, diarrhoea and vomiting.	No adverse effects expected.	None known.			
<i>Zanthoxylum clavaherculis</i> <b>Prickly Ash</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Discontinue 3 days prior to anaesthesia.	None known.	No information available. No adverse effects expected.	None known.			

## Safety Data for Commonly Used Herbs<sup>3</sup>

Herb	Pregnancy & Lactation	Contraindications	Warnings & Special Precautions	Side Effects or Adverse Reactions	Safety in Children	Potential Herb-Drug Interactions			
						Drug	Potential Interaction	Basis of Concern	Recommended Action
<i>Zingiber officinale</i> <b>Ginger</b>	Use with caution during pregnancy, do not exceed 2 g dried ginger/day. Safe for use during lactation.	With blood thinning drugs at doses > 4 g dried ginger per day.	Use with caution with gastric disease, peptic ulceration and gallstones. Discontinue 3 days prior to anaesthesia.	Mild gastrointestinal reactions (including heartburn) are known. Occasional cases of spice allergies occur.	Generally considered safe for children.	<b>Antacids</b>	May decrease effectiveness of drug.	Theoretical concern since ginger increases gastric secretory activity. <sup>18</sup>	<b>Monitor</b> (low level of risk).
						<b>Warfarin</b>	Increased risk of spontaneous bleeding.	Inhibits platelet aggregation and thromboxane after high doses (5 g/day) in volunteers. No effect at 2 g/day. Mechanism reportedly involves inhibition of platelet cyclooxygenase. <sup>18</sup> No cases of adverse interactions reported. <sup>116</sup>	<b>Monitor</b> at doses < 4 g/day dried ginger. <b>Contraindicated</b> unless under close supervision at doses > 4 g/day dried ginger.
<i>Zizyphus spinosa</i> <b>Zizyphus</b>	Use with caution during pregnancy. Safe for use during lactation.	None known.	Use with caution with severe diarrhoea. Discontinue 3 days prior to anaesthesia.	Chills, fever and joint pain have been reported.	No information available. No adverse effects expected.	None known.			

**CODE** **Contraindicated:** Do not prescribe the indicated herb.

**Monitor:** Can prescribe the indicated herb but maintain close contact and review the patient's status on a regular basis. Note that where the risk is assessed as medium, self-prescription of the herb in conjunction with the drug is not advisable.

\* **Note:** This chart contains information the authors believe to be reliable or which have received considerable attention as potential issues. However, many theoretical concerns expressed by other authors have not been included.

# The word tannin has a long established and extensive usage although it is considered in more recent years to lack precision. Polyphenol is the preferred term when considering the properties at a molecular level. Plant polyphenols are broadly divisible into proanthocyanidins (condensed tannins) and polyesters based on gallic and/or hexahydroxydiphenic acid and their derivatives (hydrolyzable tannins).<sup>106</sup>

ξ Haem iron is derived from haemoglobin and myoglobin mainly in meat products. Non-haem iron is derived mainly from cereals, vegetables and fruits.

∑ Plasma concentration of pravastatin not effected.

⊗ Sorghum also contains phytate. Both phytate and polyphenol inhibit nutrients such as iron.<sup>117,118</sup>

**Abbreviations:** **AMP:** adenosine monophosphate; **APTT:** activated partial thromboplastin time; **CNS:** central nervous system; **CYP:** cytochrome P-450; **ECG:** electrocardiogram/graph; **GAS:** ginseng abuse syndrome; **INR:** international normalized ratio; **PT:** prothrombin time; **SSRI:** selective serotonin reuptake inhibitors; **>:** greater than; **<:** less than.

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