

**NOTE:** Poison Control may be contacted [1-800-222-1222] for **INFORMATION ONLY**. Treatment modalities must utilize these guidelines, or may be received through online Medical Control.

**Poisonous Plants**

Notes:

- Localized dermatitis is the most common finding after plant exposure.
- For ingestions, gastric irritation similar to mushroom ingestion is the most common complaint.
- Treatment for all plant ingestions/exposure is generally supportive (few exceptions as noted below).

Substance/Toxin	Notes
<p><b>Antimitotic Alkaloids</b>  <i>Autumn Crocus (Colchicum autumnale)</i>  <i>Glory Lily (Gloriosa superba)</i>  <i>Mayapple (Podophyllum peltatum)</i>  <i>Wild mandrake (Podophyllum emodi)</i>  <i>Madagascar periwinkle (Catharanthus roseus)</i></p>	<ul style="list-style-type: none"> <li>• Colchicine (autumn crocus &amp; glory lily - all parts of the plant) and podophyllin (roots of the mayapple) halt cellular mitosis by inhibiting microtubule formation.</li> <li>• Symptoms: <b>gastroenteritis</b>, which may be delayed (2 to 24 hours), with potential multisystem organ failure/death.</li> </ul>
<p><b>Belladonna Alkaloids</b>  <i>Deadly Nightshade (Atropa belladonna)</i>  <i>Jimsonweed (Datura spp.)</i>  <i>Henbane (Hyoscyamus niger)</i>  <i>Mandrake (Mandragora officinarum)</i></p>	<ul style="list-style-type: none"> <li>• Contain <b>atropine/atropine-like alkaloids</b>, such as hyoscyamine and scopolamine.</li> <li>• <b>Anticholinergic</b>: results in antimuscarinic effects: tachycardia, hyperthermia, mydriasis, urinary retention, altered mental status, <b>hallucinations</b>, and dry/flushed skin.</li> <li>• Severe = seizures, coma, and death</li> </ul>
<p><b>Cardioactive Steroids (Cardiac Glycosides)</b>  <i>Foxglove (Digitalis spp.)</i>  <i>Oleander (Nerium spp.)</i>  <i>Christmas rose (Helleborus niger)</i>  <i>Dogbane (Apocynum cannabinum)</i>  <i>Lily of the Valley (Convallaria majalis)</i>  <i>Milkweed (Asclepias spp.)</i>  <i>Squill (Urginea spp.)</i>  <i>Yellow oleander (Thevetia peruviana)</i></p>	<ul style="list-style-type: none"> <li>• Mechanism: inhibit the sodium/potassium–adenosine triphosphatase pump.</li> <li>• <b>Toxicity closely resembles digoxin</b> (see above), and includes early GI effects followed by cardiac dysrhythmias (e.g. bradycardia and AV blocks)</li> <li>• <b>ED Treatment = Digibind</b> (digoxin immune Fab fragments) after an acute overdose or any cardiac dysrhythmia</li> </ul>
<p><b>Convulsants</b>  <i>Water hemlock (Cicuta maculata)</i></p>	<ul style="list-style-type: none"> <li>• Often mistaken for wild parsnip, turnip, or parsley.</li> <li>• All parts of the plant are poisonous, with the highest</li> </ul>

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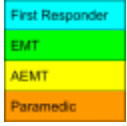
<p><i>Western water hemlock (Cicuta douglasii)</i> <i>Hemlock water dropwort (Oenanthe crocata)</i></p>	<p>concentration of cicutoxin in the tuber (root).</p> <ul style="list-style-type: none"> <li>● Mild (most common) effects = GI</li> <li>● More severe = bradycardia, hypotension, respiratory distress, seizures</li> </ul>
<p><b>Cyanogenic (Cyanide-Like)</b> <i>Prunus species (including Pears, Apples, Plums, Peaches, &amp; Apricots)</i> <i>Cassava/Tapioca (Manihot esculenta)</i> <i>Hydrangea (Hydrangea macrophylla)</i></p>	<ul style="list-style-type: none"> <li>● Ingestion can result in the liberation of <b>hydrogen cyanide</b> from amygdalin (found in the leaves, bark and seeds/pits) in the GI tract.</li> <li>● Linamarin and lotaustralin are present in cassava, and similarly liberate hydrogen cyanide if not prepared correctly.</li> <li>● Rapid progression of toxicity from tissue hypoxia can occur.</li> </ul>
<p><b>Dermatitis</b> (Direct Irritation of Skin/Mucous Membranes)</p>	<ul style="list-style-type: none"> <li>● Specialized plant structures can directly injure the dermis: <ul style="list-style-type: none"> <li>○ Needleshaped crystals (e.g calcium oxalate) are found in a number of common plants, including: <ul style="list-style-type: none"> <li>■ <i>Dumbcane (Dieffenbachia spp.)</i></li> <li>■ <i>Philodendron (Philodendron spp.)</i></li> <li>■ <i>Caladium (Caladium spp.)</i></li> <li>■ <i>Jack in the pulpit (Arisaema triphyllum)</i></li> <li>■ <i>Elephant's ear (Colocasia spp.)</i></li> <li>■ <i>Rhubarb (Rheum raponticum)</i></li> </ul> </li> <li>○ Needles of <i>pineapples (Bromeliaceae spp.)</i></li> <li>○ Hairs of <i>stinging nettles (Urtica dioica)</i></li> </ul> </li> <li>● Chemicals within the plant may directly irritate the skin, mucous membranes, eyes or GI tract: <ul style="list-style-type: none"> <li>○ <i>Spurge (Euphorbiaceae spp.)</i></li> <li>○ <i>Poinsettia (Euphorbia pulcherrima)</i></li> </ul> </li> <li>● Chemicals/resins from the plant may act as an antigen eliciting an allergic contact dermatitis (T-cell mediated response): <ul style="list-style-type: none"> <li>○ <i>Poison ivy, poison oak, and poison sumac (Toxicodendron spp.)</i></li> <li>○ <i>Ginkgo (Ginkgoaceae)</i></li> <li>○ <i>Mango (Mangifera indica)</i></li> <li>○ <i>Pistachio (Pistacia vera)</i></li> <li>○ <i>Cashew (Anacardium occidentale)</i></li> <li>○ <i>Tulips (Tulipa spp.)</i></li> <li>○ <i>Daffodils (Narcissus spp.)</i></li> </ul> </li> <li>● Ingestion results in <i>immediate</i> oropharyngeal pain and swelling—usually limits the amount of plant ingested.</li> </ul>

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	<ul style="list-style-type: none"> <li>Severe = upper airway swelling/obstruction and respiratory compromise.</li> </ul>
<p><b>Demyelinating Anthracenones</b> <i>Buckthorn/Coyotillo (Karwinskia humboldtiana)</i></p>	<ul style="list-style-type: none"> <li>Found in the southwestern US, Mexico, Central America and the Caribbean</li> <li>Leads to progressive muscle weakness—<b>resembles Guillain-Barré syndrome</b></li> </ul>
<p><b>Gastrointestinal (GI) Toxins</b></p>	<ul style="list-style-type: none"> <li><b>Unripe Eggplant, green Potatoes, and their sprouts (Solanum spp.)</b> <ul style="list-style-type: none"> <li>Contain a small amount of glycoalkaloids.</li> <li>Ingestion may cause GI effects, which can be delayed as long as 24 hours, as well as CNS symptoms such as hallucinations, delirium, and obtundation.</li> </ul> </li> <li><b>Pokeweed (Phytolacca americana)</b> <ul style="list-style-type: none"> <li>Contains phytotoxins in the leaves and roots. The mature berries are less toxic.</li> <li>May be mistaken for other non-toxics such as parsnips or horseradish.</li> <li>Often prepared in poke salad or pokeroot tea where toxicity is avoided by parboiling young greens.</li> <li>Sxs = GI upset and hemorrhagic gastritis from direct mucosal irritation. May last for 48 hours</li> </ul> </li> <li><b>Ackee Fruit</b> <ul style="list-style-type: none"> <li>Common ingredient in West African and Jamaican cuisine. Unripe fruit contains the heat-stable toxins</li> <li>“<i>Jamaican Vomiting Sickness</i>” = characterized by severe vomiting and <b>hypoglycemia</b>.</li> </ul> </li> <li><b>Litchi or Lychee Fruit (Sapindaceae species)</b> <ul style="list-style-type: none"> <li>Similar toxin to Ackee Fruit, causing life-threatening hypoglycemia</li> </ul> </li> <li><b>Holly (Ilex spp.)</b> <ul style="list-style-type: none"> <li>Berries contain a mixture of toxins (leaves are nontoxic)</li> </ul> </li> </ul>
<p><b>Mushrooms</b> <i>No accurate way to differentiate poisonous versus non-poisonous mushrooms.</i></p>	<ul style="list-style-type: none"> <li>Most common = direct GI irritation → nausea, vomiting and diarrhea that can be associated with GI bleeding</li> <li>Some can cause: <ul style="list-style-type: none"> <li>CNS excitation and/or psychogenic effects</li> <li><b>Delayed hepatic (liver) injury (e.g. Aminta)</b></li> </ul> </li> </ul>

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	<p><i>spp.</i>)</p> <ul style="list-style-type: none"> <li>○ Muscarinic effects, such as salivation, vomiting &amp; diarrhea, etc.</li> </ul>
<p><b>Nicotinic (Nicotine-like) Toxins</b>  <i>Tobacco (Nicotiana spp.)</i>  <i>Poison hemlock (Conium maculatum)</i>  <i>Golden chain (Laburnum anagyroides)</i>  <i>Blue cohosh (Caulophyllum thalictroides)</i>  <i>Lupin (Lupinus spp.)</i></p>	<ul style="list-style-type: none"> <li>● Mechanism: overstimulation of nicotinic cholinergic receptors</li> <li>● Mild = nervousness and tremor</li> <li>● Severe = paralysis/respiratory failure</li> </ul>
<p><b>Sodium Channel Toxins</b>  <i>Azalea and Rhododendron (Rhododendron spp.)</i>  <i>Mountain Laurel (Kalmia latifolia)</i>  <i>Yew (Taxus spp.)</i>  <i>False or green hellebore (Veratrum spp.)</i>  <i>Larkspur (Delphinium spp.)</i>  <i>Monkshood (Aconitum spp.)</i></p>	<ul style="list-style-type: none"> <li>● Findings after ingestion/inhalation are variable from vague neurological symptoms to muscle weakness, seizures, respiratory failure and death.</li> <li>● Cardiac dysrhythmias, hypotension and cardiovascular collapse are possible.</li> </ul>
<p><b>Toxalbumins</b>  <i>Castor Bean (Ricinus communis)</i>  <i>Rosary Pea (Abrus precatorius)</i>  <i>American Mistletoe (Phoradendron flavescens)</i>  <i>European Mistletoe (Viscum album)</i>  <i>Pokeweed (Phytolacca americana)</i>  <i>Black locust (Robinia pseudoacacia)</i>  <i>Black vomit nut (Jatropha curcas)</i></p>	<ul style="list-style-type: none"> <li>● Mechanism: inhibits protein synthesis</li> <li>● <b>Ricin</b> <ul style="list-style-type: none"> <li>○ Extracted from the castor bean, and is a <b>potential biologic weapon</b> and has been implicated in a number of attempted assassinations.</li> <li>○ Inhalation = rapidly progressive, life-threatening respiratory failure, circulatory collapse, and death within 36 hours.</li> </ul> </li> <li>● <b>Mistletoe</b> <ul style="list-style-type: none"> <li>○ The leaves, stems and <b>berries</b> contain phoratoxin and viscumin– less potent than ricin.</li> <li>○ Most commonly result in gastroenteritis following large doses. Significant morbidity is rare.</li> </ul> </li> </ul>