

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>Antimitotic Alkaloids <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"> • Colchicine (autumn crocus & glory lily - all parts of the plant) and podophyllin (roots of the mayapple) halt cellular mitosis by inhibiting microtubule formation. • Symptoms: gastroenteritis, which may be delayed (2 to 24 hours), with potential multisystem organ failure/death.
<p>Belladonna Alkaloids <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"> • Contain atropine/atropine-like alkaloids, such as hyoscyamine and scopolamine. • Anticholinergic: results in antimuscarinic effects: tachycardia, hyperthermia, mydriasis, urinary retention, altered mental status, hallucinations, and dry/flushed skin. • Severe = seizures, coma, and death
<p>Cardioactive Steroids (Cardiac Glycosides) <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"> • Mechanism: inhibit the sodium/potassium–adenosine triphosphatase pump. • Toxicity closely resembles digoxin (see above), and includes early GI effects followed by cardiac dysrhythmias (e.g. bradycardia and AV blocks) • ED Treatment = Digibind (digoxin immune Fab fragments) after an acute overdose or any cardiac dysrhythmia
<p>Convulsants <i>Water hemlock (Cicuta maculata)</i></p>	<ul style="list-style-type: none"> • Often mistaken for wild parsnip, turnip, or parsley. • All parts of the plant are poisonous, with the highest

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

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

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	<p><i>spp.</i>)</p> <ul style="list-style-type: none"> ○ Muscarinic effects, such as salivation, vomiting & diarrhea, etc.
<p>Nicotinic (Nicotine-like) Toxins <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"> ● Mechanism: overstimulation of nicotinic cholinergic receptors ● Mild = nervousness and tremor ● Severe = paralysis/respiratory failure
<p>Sodium Channel Toxins <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"> ● Findings after ingestion/inhalation are variable from vague neurological symptoms to muscle weakness, seizures, respiratory failure and death. ● Cardiac dysrhythmias, hypotension and cardiovascular collapse are possible.
<p>Toxalbumins <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"> ● Mechanism: inhibits protein synthesis ● Ricin <ul style="list-style-type: none"> ○ Extracted from the castor bean, and is a potential biologic weapon and has been implicated in a number of attempted assassinations. ○ Inhalation = rapidly progressive, life-threatening respiratory failure, circulatory collapse, and death within 36 hours. ● Mistletoe <ul style="list-style-type: none"> ○ The leaves, stems and berries contain phoratoxin and viscumin– less potent than ricin. ○ Most commonly result in gastroenteritis following large doses. Significant morbidity is rare.