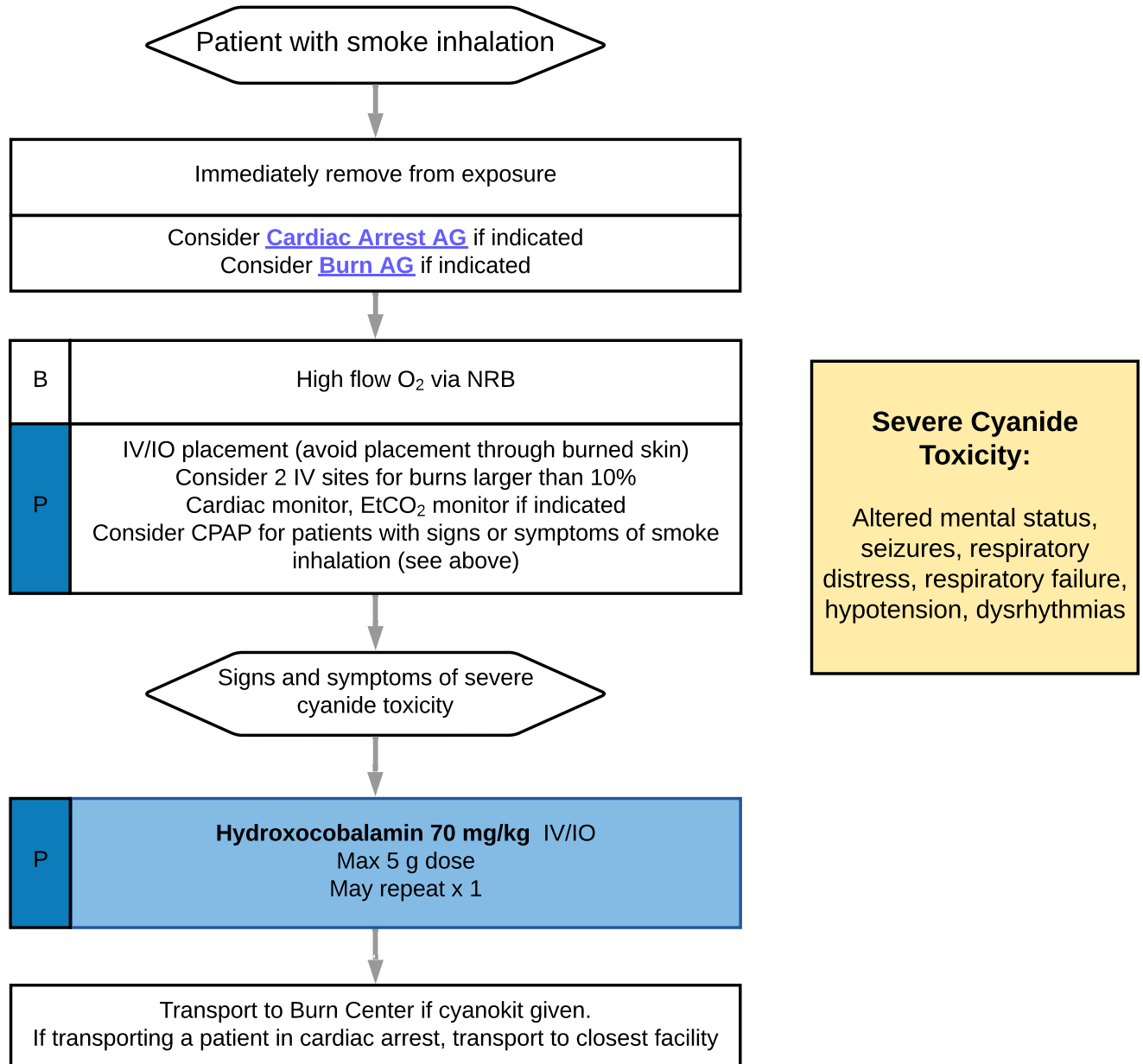




History <ul style="list-style-type: none"> Smoke inhalation Time of injury Other trauma Airway/inhalation 	Signs and Symptoms <ul style="list-style-type: none"> Altered mental status Dyspnea Syncope Chest Pain Cardiac Arrest 	Differential <ul style="list-style-type: none"> MI Trauma/head injury Other chemical exposure
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Education/Pearls:

Smoke inhalation can cause exposure to a variety of dangerous substances, including cyanide (CN), carbon monoxide (CO), and other chemicals. CN poisoning is difficult to detect, and may cause symptoms such as confusion, dyspnea, and headache; it may disable the body's ability to use oxygen, so it can be fatal despite administration of oxygen. The most common source of CN poisoning in humans arises from exposure to fire. CO poisoning also causes vague symptoms, but are generally milder with minimal exposure, and include headache, fatigue, and irritability. Persons admitted to the hospital due to fire accidents may have been exposed to CO as well as CN.

Cyanide Toxicity:

- HCN is developed from an incomplete combustion of any material containing nitrogen such as plastic, vinyl, wool, or silk.
- HCN can be produced when there are only burning embers.
- CN is a small lipid soluble molecule and penetration into cells is rapid.
- **Hydroxocobalamin** treatment is indicated for patients with evidence of CN exposure. This medication allows for harmless excretion of CN.
 - Symptoms of CN toxicity include:
 - Altered LOC, or seizures
 - Respiratory distress or respiratory failure
 - Hypotension
 - Dysrhythmias
 - Side effects are red colouring of skin and urine, urticaria (hives), rarely anaphylaxis. It may also cause tachycardia and hypertension.
 - Administration of hydroxocobalamin must not delay any other basic life support such as securing of the airways, cardiovascular support, or oxygen administration.
 - Administration instructions:
 - Reconstitute: Place the vial in an upright position. Add **200 mL** of 0.9% Sodium Chloride injection to the vial using the transfer spike. **Fill to the line.** (LR and dextrose are also compatible)
 - Mix: The vial should be repeatedly inverted or rocked, not shaken, for at least **60 seconds** prior to infusion.
 - Infuse Vial: Use vented intravenous tubing, hang and infuse over **15 minutes**. Will need to use push pull method if administering through an IO.
 - Pediatrics (70 mg/kg) is the starting dose. May round up to the nearest 1/4 of a bottle.

CPAP can be utilized in patients with evidence of inhalational injury to enhance oxygen delivery; however, the patient must be breathing spontaneously to tolerate CPAP.