Background

Cyanide is a cellular toxin; it halts respiration at the cellular level. Cyanide poisoning may be encountered in industrial areas such as electroplating facilities and metal refining facilities. It may be found in photography studios both large scale and private dark rooms. Cyanide may also be found in university laboratory facilities. This may be a common method of suicide attempt in those who have access to the substance, such as laboratory workers and chemists.

The Cyanide Kit

The kit contains the following:
A. 12 Amyl Nitrate Inhalant.
B. 2 10-ml ampules of 3% Sodium Nitrate solution.
C. 2 50 ml vials of 25% Sodium Thiosulfate.
D. 1 Sterile 10 ml syringe with needle.
E. 1 Sterile 60 ml syringe.
F. 1 20 gauge needle.
G. 1 Stomach tube.
H. 1 Non-sterile 60 cc syringe.
I. 1 tourniquet.

Scene Size-up

- As with any situation the first priority is personal safety. Scene sizeup, personal protective equipment and decontamination are necessary.
- Avoid contact with vomitus.

All Provider Levels

- Remove the patient to a non-contaminated area.
- Refer to the Patient Care Protocols.
- Administer Oxygen at 100% via non-rebreather mask.

Advanced Life Support Providers

- Institute standard ALS measures as indicated.
- Cyanide Antidote

Step 1: Amyl Nitrate Inhalant ampules.

- Use Amyl Nitrate Inhalant ampules one at a time.
• Break the Amyl Nitrate Inhalant into a gauze sponge, handkerchief or stack of 4x4’s.

• Have the patient inhale the vapors by holding the gauze in front of the patient’s nose and mouth, 15 seconds on 15 seconds off.

Note: Known cyanide ingestion (i.e. and unconscious individual near an open cyanide container in an apparent suicide attempt) does not require Medical Control or Medical Director contact for use of the kit. In instances where cyanide poisoning is suspected, contact the medical control hospital, or the medical director for on line medical direction.

Note: Amyl Nitrate Inhalation is a temporizing measure until IV access can be obtained. If an IV is already in place, go directly to Letter B - Step 2.

• If the patient is not breathing, initiate advanced airway management.
• The Amyl Nitrate soaked gauze can be placed in the reservoir bag and the patient ventilated either with bag and mask or bag and endotrachal tube (or Combitube).
• Obtain IV Access concurrently.

Step 2: 3% Sodium Nitrate Solution.

• In an Adult, inject 10 cc of the Sodium Nitrate Solution over 2 to 4 minutes.

• The Sodium nitrate may be diluted into 100 to 150 cc of normal saline and infused over 2 to 4 minutes.

Step 3: 25% Sodium Thiosulfate.

• Administer 50 cc of the Sodium Thiosulfate solution IV.

Step 4: Continue monitoring and transport.

• Frequently monitor blood pressure as the nitrates may cause the blood pressure to drop.

• Consider fluid boluses.
**Transport Decision**

- Transport to the nearest appropriate receiving facility.
- Notify the receiving facility of incoming patient.

**The Following Options are available consult Medical Control**

Dopamine infusion of 5 - 20 ug/kg/min if necessary for support of blood pressure.