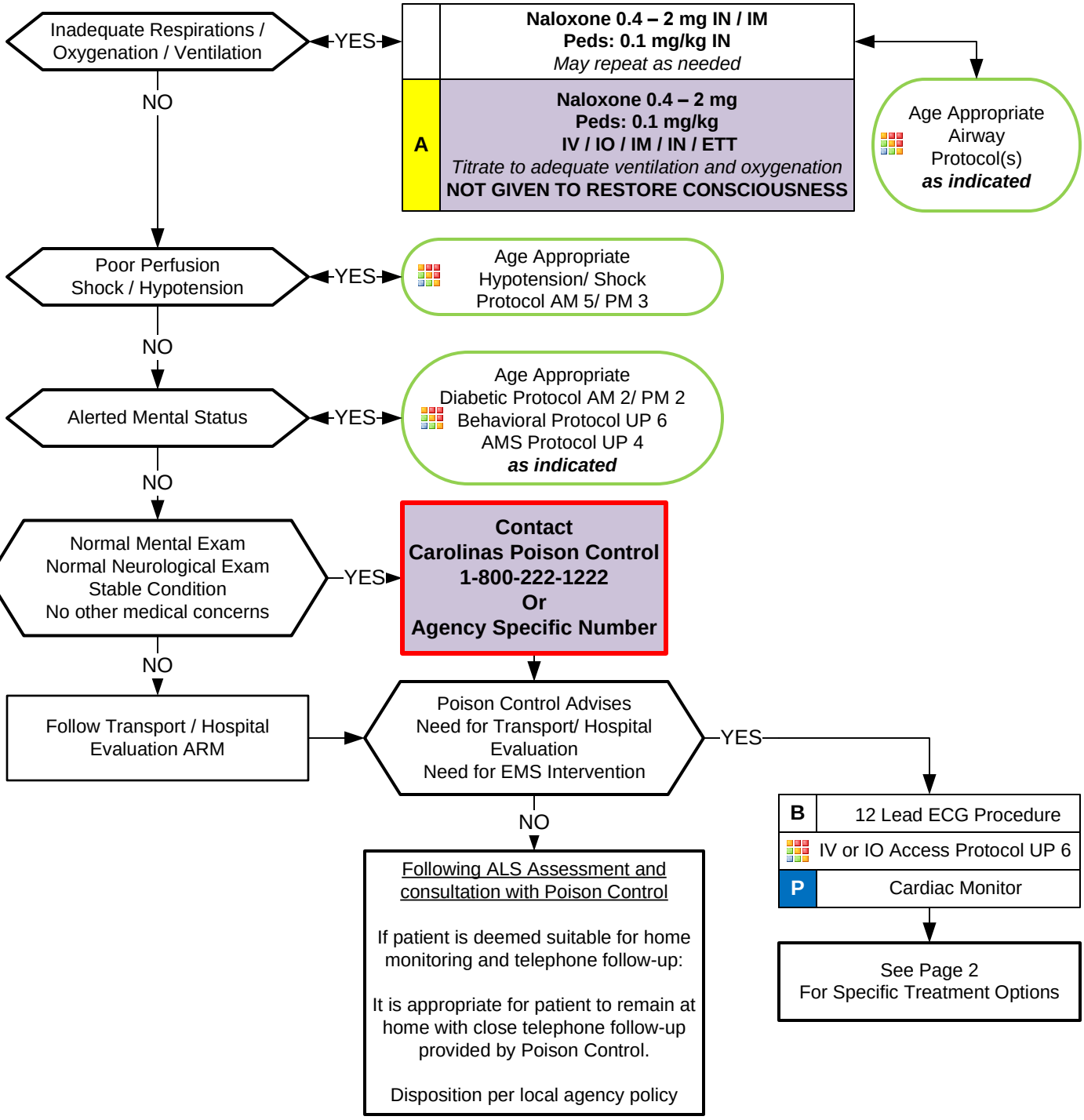
Overdose/ Toxic Ingestion

History
- Ingestion or suspected ingestion of a potentially toxic substance
- Substance ingested, route, quantity
- Time of ingestion
- Reason (suicidal, accidental, criminal)
- Available medications in home
- Past medical history, medications

Signs and Symptoms
- Mental status changes
- Hypotension / hypertension
- Decreased respiratory rate
- Tachycardia, dysrhythmias
- Seizures
- S.L.U.D.G.E.
- D.U.M.B.B.E.L.S

Differential
- Tricyclic antidepressants (TCAs)
- Acetaminophen (Tylenol)
- Aspirin
- Depressants
- Stimulants
- Anticholinergic
- Cardiac medications
- Solvents, Alcohols, Cleaning agents
- Insecticides (organophosphates)



Toxin-Environmental Protocol Section

Overdose/ Toxic Ingestion

Acetaminophen
Tylenol®
APAP Containing Product

YES → **B**
If Time of Ingestion ≤ 1 Hour
Activated Charcoal 1 gm/kg PO
Maximum 50 gm
If available

NO

Aspirin
Salicylate Containing Product

YES → **B**
If Time of Ingestion ≤ 1 Hour
Activated Charcoal 1 gm/kg PO
Maximum 50 gm
If available

NO

Beta Blocker or
Calcium Channel Blocker

YES → **B**
If Time of Ingestion ≤ 1 Hour
Activated Charcoal 1 gm/kg PO
Maximum 50 gm
If available

A
Glucagon 2 – 4 mg IV / IO / IM
Peds: 0.1 mg/kg IV / IO / IM
May repeat in 15 minutes as needed

P
Calcium Gluconate 2 g IV / IO
Pediatric: 60 mg/kg IV / IO
Or
(Calcium Chloride 1 g IV / IO)
Pediatric: 20 mg/kg IV / IO
Over 2- 3 minutes

Consider
Cardiac External Pacing Procedure for Severe Cases

Age Appropriate Hypotension/ Shock
Protocol AM 5/ PM 3
if indicated

NO

Cyanide/
Carbon Monoxide

YES → Exit to
Carbon Monoxide/ Cyanide
Protocol TE 2

NO

Organophosphate
WMD/ Nerve Agent Exposure

YES → Exit to
WMD/ Nerve Agent
Protocol TE 8

NO

Tricyclic
Antidepressant

YES → **B**
If Time of Ingestion ≤ 1 Hour
Activated Charcoal 1 gm/kg PO
Maximum 50 gm
if available

P
QRS ≥ 0.12 sec or Peds: 0.09 sec
Sodium Bicarbonate
50 mEq IV / IO
Peds: 1 mEq/kg IV / IO
Repeat in 10 minutes as needed

Sodium Bicarbonate Infusion
100 mEq in 1 L of NS or LR
150 mL/hr IV / IO
Pediatric: Follow Pediatric Maintenance formula in Pearls

Symptomatic Care
as needed

Monitor and Reassess

Notify Destination or
Contact Medical Control

Toxin-Environmental Protocol Section

Overdose/ Toxic Ingestion

Naloxone:
The primary use of naloxone is to improve respirations (oxygenation and ventilation) and not to restore consciousness.
It is not intended to be a diagnostic test for coma (not to be given for AMS or coma with no evidence or historical information suggesting an opioid overdose.)
Doses higher than 10 mg are typically not helpful and can interfere with sedation if needed later.

Poison Control:
Poison control is a valuable resource, have a low threshold to engage them with any medication or chemical exposure.
Poison control can aid with chemical or medication identification and treatment.
Poison control can prevent unnecessary emergency department visits and EMS transports:
They may instruct the patient to remain at home based on the type and nature of the ingestion or exposure.
They can follow the patient at home with repeated phone calls and reassessments.

Poison control centers are connected nationwide. When you call 1-800-222-1222, you will most often be connected with Carolinas Poison Control, however if the NC center is busy, you may be directed to any poison center in the US.

When calling 1-800-222-1222, choose option #2 at the first voice prompt, and choose option #2 at the second voice prompt.

Pearls

- **Recommended Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro**
- **Opioids and opiates may require higher doses of Naloxone to improve respiration, in certain circumstances up to 10 mg.**
- **Time of Ingestion:**
  1. **Most important aspect is the TIME OF INGESTION, the substance(s), amount ingested, and any co-ingestants.**
  2. **Every effort should be made to elicit this information before leaving the scene.**
- **Charcoal Administration:**
  The American Academy of Clinical Toxicology DOES NOT recommend the routine use of charcoal in poisonings.
  1. **Consider Charcoal within the FIRST HOUR after ingestion. If a potentially life threatening substance is ingested or extended release agent(s) are involved and ≥ one hour from ingestion, Contact Medical Control or NC Poison Control Center for direction.**
  2. **If NG would be necessary to administer Charcoal, then DO NOT administer unless known to be adsorbed, airway secured by intubation, and ingestion is less than ONE HOUR confirmed and potentially lethal.**
  3. **Charcoal in general, should only be given to a patient who is alert and awake such that they can self-administer the medication.**
- **Do not rely on patient history of ingestion, especially in suicide attempts. Make sure patient is still not carrying hiding other medications or has any weapons.**
- **Pediatric:**
  Age specific blood pressure 0 – 28 days > 60 mmHg, 1 month - 1 year > 70 mmHg, 1 - 10 years > 70 + (2 x age)mmHg and > 10 years > 90 mmHg.
  Pediatric IV Fluid maintenance rate:
  4 mL for the first 10 kg of weight +
  2 mL for the second 10 kg of weight +
  1 mL for every additional kg in weight after 20 kg

Example: 34 kg pediatric	
First 10 kg:	4 mL/kg/hr = 40 mL/hr
Second 10 kg:	2 mL/kg/hr = 20 mL/hr
Final 14 Kg:	1 mL/kg//hr = 14 mL/hr
	Total: 74 mL/hr rate

- **Bring bottles, contents, emesis to ED.**
- **S.L.U.D.G.E: Salivation, Lacrimation, Urination, Defecation, GI distress, Emesis.**
- **D.U.M.B.B.E.L.S: Diarrhea, Urination, Miosis, Bradycardia, Bronchorrhea, Emesis, Lacrimation, Salivation.**
- **Tricyclic:** 4 major areas of toxicity: seizures, dysrhythmias, hypotension, decreased mental status or coma; rapid progression from alert mental status to death.
- **Acetaminophen:** initially normal or nausea/ vomiting. If not detected and treated, causes irreversible liver failure.
- **Aspirin**: Early signs consist of abdominal pain and vomiting. Tachypnea and altered mental status may occur later. Renal dysfunction, liver failure, and or cerebral edema among other things can take place later.
- **Depressants:** decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils.
- **Stimulants:** increased HR, increased BP, increased temperature, dilated pupils, seizures.
- **Anticholinergic:** increased HR, increased temperature, dilated pupils, mental status changes.
- **Cardiac Medications:** dysrhythmias and mental status changes.
- **Solvents:** nausea, coughing, vomiting, and mental status changes.
- **Insecticides:** increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils.
- **Nerve Agent Antidote kits** contain 2 mg of Atropine and 600 mg of pralidoxime in an autoinjector for self administration or patient care. These kits may be available as part of the domestic preparedness for Weapons of Mass Destruction.
- **EMR and EMT may administer naloxone by IN / IM route only and may administer from EMS supply. Agency medical director may require Contact of Medical Control prior to administration and may restrict locally.**
- **When appropriate contact the North Carolina Poison Control Center for guidance, reference Policy 18.**
- Consider restraints if necessary for patient's and/or personnel's protection per the Restraint Procedure.