

TOXIC INGESTION / EXPOSURE / OVERDOSE

CARDIOTOXIC MEDICATIONS

3-5 kg	6-7 kg	8-9 kg	10-11 kg	12-14 kg	15-18 kg	19-23 kg	24-29 kg	30-36 kg
6-11 lbs	13-15 lbs	18-20 lbs	22-24 lbs	26-31 lbs	33-40 lbs	42-51 lbs	53-64 lbs	66-81 lbs
18-24 in	24-26 in	26-29 in	29-33 in	33-38 in	38-43 in	43-48 in	48-52 in	52-57 in

Airway / Breathing

Circulation / Shock

Cardiac

Medical

Trauma

Always suspect multiple substances and treat for all identified

Therapies listed may need to all be used together in severe cases

UNIVERSAL PATIENT CARE PROTOCOL

AIRWAY PROTOCOL / OXYGEN

IV / IO PROCEDURE

DIAGNOSTIC EKG PROCEDURE and Assess Vitals

Treat Per Presenting EKG Rhythm

BLOOD GLUCOSE PROCEDURE

CAPNOGRAPHY PROCEDURE

Prophylactically apply pacing / defib pads and prepare for decompensation



Bradycardia

Potential Causes
Calcium Channel Blockers
BEAT BLOCKERS
“LOL” Drugs

Reference list on next page

TRANSCUTANEOUS PACING PROCEDURE

CALCIUM CHLORIDE
20 mg / kg IV / IO
Max 1 gram
or
CALCIUM GLUCONATE
60 mg / kg IV / IO
Max 3 grams
Over 10 min

May repeat either if available and EKG changes reoccur

IV NORMAL SALINE BOLUS
20 ml / kg

To Maintain MAP > 65
or SBP 90 if MAP Unavailable or Radial Pulses

Contact Medical Control for the use of vasopressors if failed fluid bolus

EPINEPHrine
PUSH DOSE
Make 10 mcg / ml
1 mcg / kg
Max Dose 10 mcg
2 - 5 min - slow push
Titrate to effect

May CONSIDER ATROPINE
0.02 mg / kg IV / IO
repeat every 3 - 5 minutes
Min dose 0.1 mg
Max dose 0.5 mg child
Max dose 1 mg Adolescent



AVR – R wave final part of QRS
QRS >120ms
(3 small EKG boxes)

Potential Causes
Sodium Channel Blocker / Tricyclic Anti – Depressants

Reference list on next page

SODIUM BICARBONATE
1 mEq / kg SLOW
Max 50 mEq
IV / IO

Until QRS narrows / condition improves
If no improvement,
Contact ONLINE MEDICAL CONTROL
May repeat if available and EKG changes reoccur



Potential Causes
Potassium Channel Blockers

Reference list on next page

MAGNESIUM SULFATE
25 mg / kg IV / IO
Max 2000 mg

(2 grams) in 100 ml
D5 over 20 min
To reduce risk of Torsades

Does not address the Potassium blockade
Supportive Care
Witnessed episodes of Torsades or QT > 500ms (2.5 large EKG boxes)

TRANSPORT to appropriate facility CONTACT receiving facility CONSULT Medical Control where indicated APPROPRIATE transfer of care

EMT Intervention

AEMT Intervention

PARAMEDIC Intervention

Online Medical Control

TOXIC INGESTION / EXPOSURE / OVERDOSE

CARDIOTOXIC MEDICATIONS

HISTORY	SIGNS AND SYMPTOMS	DIFFERENTIAL DIAGNOSIS
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Mental status changes Hypo / hypertension Decreased respiratory rate Tachycardia, dysrhythmias Seizures 	<ul style="list-style-type: none"> Tricyclic antidepressants (TCAs) Acetaminophen (Tylenol) Depressants Stimulants Anticholinergic Cardiac medications Solvents, alcohols, cleaning agents Insecticides (organophosphates) Respiratory depression Other organophosphates Carbamates

Common Beta Blockers (Rate Inhibiting)	Common Calcium Channel Blockers (Rate Inhibiting)	Common Potassium Channel Blockers (QT Prolonging)	Common Sodium Channel Blockers (QRS Widening)
Acebutolol	Acalas	Isoptin	Amiodarone
Atenolol	Adalat	Lacidipine	Azimilide
Betapace	Amlodipine	Lacipil	Bretylum
Betoxolol	Aranidipine	Landel	Clofilium
Bisoprolol	Atelec	Lercanidipine	Dofetilide
Brevibloc	Azelnidipine	Madipine	Ibutilide
Carvedilol	Barnidipine	Manidipine	Nifekalant
Coreg	Baylotensin	Motens	Sematilide
Corgard	Baymycard	Nicardipine	Sotalol
Esmolol	Benidipine	Nifedipine	Tedisamil
Inderal	Calan	Nilvadipine	Vernakalant
Innopran XL	Calblock	Nimodipine	
Kerlone	Calslot	Nimotop	
Labetolol	Carden SR	Nisoldipine	
Levatol	Cardene	Nitrendipine	
Lopressor	Cardif	Nitrepin	
Metoprolol	Cardizem	Nivadil	
Nadolol	Cilnidipine	Norvasc	
Nebivolol	Cinalong	Plendil	
Pindolol	Clevidipine	Pranidipine	
Propranolol	Cleviprex	Procardia	
Sectral	Coniel	Procorum	
Sotalol	Diltiazem	Sapresta	
Tenormin	Efonidipine	Siscard	
Timolol	Felodipine	Sular	
Trandate	Gallopamil	Syscor	
Zabeta	Hypoca	Verapamil	

OTHER QT PROLONGING AGENTS

Haloperidol	Droperidol	Chlorpromazine	Pimozide
Citalopram	Escitalopram	Tricyclic Antidepressants	Clarithromycin
Erythromycin	Fluoroquinolones	Fluconazole	Itraconazole
Voriconazole	Posaconazole	Pentamidine	Methadone
Cocaine	Loperamide	Ondansetron	Propofol
Arsenic Trioxide	Sunitinib	Vandetanib	

KEY POINTS

- Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro
- Do not rely on patient history of ingestion, especially in suicide attempts.
- Bring bottles, contents, and emesis to ED.
- 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.
- Depressants:** decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils.
- Stimulants:** increased HR, increased BP, increased temperature, dilated pupils, and seizures.
- Anticholinergics:** increased HR, increased temperature, dilated pupils, and mental status changes.
- Cardiac Medications:** dysrhythmias and mental status changes.
- Solvents:** nausea, vomiting, and mental status changes.
- Insecticides:** increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils.
- Consider restraints if necessary for patient's and / or personnel's protection per the [Restraint Procedure](#).
- If it can be done safely, take whatever container the substance came from to the hospital along with readily obtainable samples of medication unless this results in an unreasonable delay of transport.
- If applicable, DO NOT transport a patient to the hospital until properly decontaminated.

POISON CONTROL 1-800-222-1222