

Initial Date: 07/19/2023

Revised Date:

Section: 9-15R

Atropine

Pharmacological Category: Anticholinergic Agent; Antidote; Antispasmodic Agent, Gastrointestinal

Routes: IV/IO

Indications:

1. Severe symptomatic bradycardia
2. Exposure to organophosphates or other nerve agents when Nerve Agent (NA) Antidote Kit is not available.

Expected effects:

1. Increased heart rate
2. Dilated pupils

Note: For Nerve Agent/Organophosphate Pesticide Exposure, when NA Antidote kit is not available, pralidoxime should also be administered in conjunction with atropine when available.

Dosing: CRASHING ADULT/IMPENDING ARREST

Indication: Bradycardia

Adults administer:

1. Atropine 1 mg IV/IO

Dosing: ADULT BRADYCARDIA

Indication: Bradycardia

Adults administer:

1. Atropine 1 mg IV/IO rapid push repeating every 3-5 minutes to a total dose of 3 mg

Dosing: PEDIATRIC BRADYCARDIA

Indication: Bradycardia

Pediatrics administer:

1. According to MI MEDIC Cards
2. If MI MEDIC Cards are not available administer:
 - a. Atropine 0.02 mg/kg IV/IO (minimum dose 0.1 mg, maximum single dose 0.5 mg).
May repeat once in 5 minutes, if effective.

Dosing: NERVE AGENT/ORGANOPHOSPHATE PESTICIDE EXPOSURE

Indication: Nerve Agent/Organophosphate Pesticide Exposure when NA Antidote Kit is not available.

See chart below for number of NA kits required based on age and symptoms.

Adults administer:

1. Atropine 2 mg IM/IV for every 1 NA kit that is required.

Pediatrics administer:

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1. According to MI MEDIC cards
2. If MI MEDIC cards are not available refer to CHART A below for atropine dosage.
3. Refer to CHART B below and administer 2 mg atropine IV/IM for every one NA Antidote kit required.

CHART A

Nerve Agent/Organophosphate Antidotes/Countermeasures

| Weight | Age | Duodote ¹ Mod-Severe Sxs | Atropen ² (1 mg) Mod- Severe Sxs | Atropine Dose (0.1 mg/kg) IM/IV/IO | Atropine Vial ² (1 mg/mL) | Cardiac Atropine ^{2,3} (1 mg/10 mL) | Midazolam ⁴ (10 mg/2 mL) IM/IV/IO |
|----------------------|--------------|---|---|--|---|--|--|
| 3-5 kg (6-11 lbs) | 0-2 months | 1 | 1 | 0.4 mg | 0.4 mL | 4 mL | 0.1 mL |
| 6-7 kg (13-16 lbs) | 3-6 months | 1 | 1 | 0.7 mg | 0.7 mL | 7 mL | 0.2 mL |
| 8-9 kg (17-20 lbs) | 7-10 months | 1 | 1 | 0.9 mg | 0.9 mL | 9 mL | 0.2 mL |
| 10-11 (21-25 lbs) | 11-18 months | 1 | 1 | 1 mg | 1 mL | 10 mL | 0.2 mL |
| 12-14 kg (26-31 lbs) | 19-35 months | 1 | 2 | 1.3 mg | 1.3 mL | 13 mL | 0.25 mL |
| 15-18 kg (32-40 lbs) | 3-4 years | 1 | 2 | 1.6 mg | 1.6 mL | 16 mL | 0.3 mL |
| 19-23 kg (41-51) | 5-6 years | 1 | 2 | 2 mg | 2 mL | 20 mL | 0.4 mL |
| 24-29 kg (52-64) | 7-9 years | 2 | 3 | 2.6 mg | 2.6 mL | 26 mL | 0.5 mL |
| 30-36 kg (65-79 lbs) | 10-14 years | 2 | 3 | 3.3 mg | 3.3 mL | 33 mL | 0.6 mL |
| Adult | >14 years | 2 to 3 | 4 to 6 | 4 to 6 mg | 4 to 6 mL | 40-60 mL | 2 mL |

¹Preferred initial autoinjector, ²May Repeat atropine every 5 minutes until airway secretions decrease (6 mg maximum), ³Not available in MEDDRUN, ⁴Patients with severe symptoms should receive midazolam even if not obviously seizing

CHART B

MCA Name Sanilac MCA
MCA Board Approval 11/28/23
MCA Implementation Date 3/1/24
MDHHS Approval: 7/19/23

Michigan
MEDICATION SECTION
ATROPINE

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| | Clinical Findings | Signs/Symptoms | Required Conditions | NA Kits To Be Delivered |
|--|------------------------------------|--|--|--|
| SELF-RESCUE | Threshold Symptoms | <ul style="list-style-type: none"> • Dim vision • Increased tearing • Runny nose • Nausea/vomiting • Abdominal cramps • Shortness of breath | Threshold Symptoms -and- Positive evidence of nerve agent or OPP on site  Medical Control Order | 1 NA Kit (self-rescue) |
| ADULT PATIENT > 8 years of age | Mild Symptoms and Signs | <ul style="list-style-type: none"> • Increased tearing • Increased salivation • Dim Vision • Runny nose • Sweating • Nausea/vomiting • Abdominal cramps • Diarrhea |  Medical Control Order | 1 NA Kit |
| | Moderate Symptoms and Signs | <ul style="list-style-type: none"> • Constricted pupils • Difficulty breathing • Severe vomiting | Constricted Pupils | 2 NA Kits |
| | Severe Signs | <ul style="list-style-type: none"> • Constricted pupils • Unconsciousness • Seizures • Severe difficulty breathing | Constricted Pupils | 3 NA Kits (If 3 NA Kits are used, administer 1 st dose of available benzodiazepine) |

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| | Clinical Findings | Signs/Symptoms | Required Conditions | NA Kits To Be Delivered |
|--------------------------------------|---|--|--|-------------------------|
| PEDIATRIC < 8 years of age | Pediatric Patient with Non-Severe Signs/Symptoms | <ul style="list-style-type: none"> • <i>Mild or moderate symptoms as above</i> | Threshold Symptoms <i>-and-</i> Positive evidence of nerve agent or OPP on site  Medical Control Order | 1 NA Kit |
| | Pediatric Patient with Severe Signs/Symptoms | <ul style="list-style-type: none"> • Constricted pupils • Unconsciousness • Seizures • Severe difficulty breathing | Severe breathing difficulty Weakness | 1 NA Kit |

Used in the Following Protocols

Crashing Adult/Impending Arrest (Section 3 Adult Treatment)

Bradycardia (Section 5 Adult Cardiac)

Pediatric Bradycardia (Section 6 Pediatric Cardiac)

Nerve Agent/Organophosphate Pesticide Exposure (Section 10 Special Operations)