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Section: 9-34R

Midazolam

Pharmacological Category: Antiseizure Agent, Benzodiazepine; Benzodiazepine

Routes: IV/IO/IM/IN

Indications:

1. Adult or pediatric seizures
2. Procedural Sedation
3. Severe agitation that prohibits essential assessment and/or treatment

Contraindications:

1. Shock

Precautions:

1. Consider lower range of dosing for Geriatric patients

Expected effects:

1. Seizure cessation
2. Sedation

Side effects:

1. Respiratory depression
2. Hypotension

Dosing: ADULT SEIZURES

Indication: Actively seizing adult patient.

Adults administer:

1. Midazolam 10 mg IM prior to IV start
2. If IV established prior to the need for medication administration, midazolam 5 mg IV/IO
3. If seizure persists repeat midazolam 5mg IV/IO/IM/IN

Dosing: HYPERACTIVE DELIRIUM SYNDROME

Indication: Patients who are uncontrollably agitated despite de-escalation techniques

Adults administer:

1. Midazolam 10 mg IM/IN

Dosing: PEDIATRIC SEIZURES

Indication: Actively seizing pediatric patient.

Pediatrics administer:

1. Midazolam according to MI MEDIC cards
2. If MI MEDIC cards are not available administer:
 - a. Midazolam 0.1 mg/kg IM, maximum individual dose 10 mg.

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- b. If IV established prior to the need for medication administration, administer midazolam 0.05 mg/kg IV/IO. Maximum single dose of 5 mg.
- c. If seizures persisting 10 minutes after initial dose (and correction of low blood glucose if applicable) repeat midazolam one time
 - i. Midazolam 0.1 mg/kg IM. Maximum single dose 10 mg
 - OR**
 - ii. If IV available midazolam 0.05 mg/kg IV/IO maximum single dose of 5 mg.

Dosing: PATIENT RESTRAINT

Indication: when soft restraint placement alone would pose a safety risk or is ineffective in calming the patient

Adults administer:

1. Midazolam 0.1 mg/kg IM/IN. Maximum dose of 10 mg

Pediatrics administer:

1. Midazolam according to MI MEDIC cards
2. If MI MEDIC cards are not available administer Midazolam 0.1 mg/kg IM. Maximum single dose 5mg.

Dosing: PATIENT PROCEDURAL SEDATION

Indication: Sedation titrated to minimum amount necessary for patients requiring a painful medical procedure (i.e., cardioversion, transcutaneous pacing), post intubation sedation, CPAP, or HFNC.

Adults administer:

1. Midazolam 1-5 mg (maximum dose of 0.05 mg/kg) IV/IO titrated slowly or IN. May repeat once in 5 minutes. Maximum total dose 0.1 mg/kg. Titrate to minimum amount necessary.

Pediatrics administer:

1. Midazolam according to MI MEDIC cards
2. If MI MEDIC cards are not available administer Midazolam 0.05 mg/kg IV/IO titrated slowly or IN. May repeat once in 5 minutes to a maximum of 0.1 mg/kg. Titrate to minimum amount necessary.

Used in the Following Protocols:

Seizures (Section 3 Adult Treatment)

Hyperactive Delirium Syndrome (Section 3 Adult Treatment)

Pediatric Seizures (Section 4 Obstetrics and Pediatrics)

Patient Restraint (Section 7 Procedures)

Patient Procedure Sedation (Section 7 Procedures)

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Morphine

Pharmacological Category: Analgesic, Opioid

Indications:

1. Pain

Routes: IV/IO/IM

Contraindications:

1. Hypotension
2. Children $\leq$ 18 months old

Expected effects:

1. Decreased pain

Side effects:

1. Respiratory depression
2. Hypotension

Dosing: PAIN MANAGEMENT

Adults administer:

1. Morphine 0.1 mg/kg IV/IO. Maximum single dose 5 mg. May repeat three times. Total dose may not exceed 20 mg.

Pediatrics (patients > 18 months of age) administer:

1. Morphine according to MI MEDIC cards
2. When MI MEDIC cards are not available administer Morphine 0.1 mg/kg IV/IO. Maximum single dose 5 mg. May repeat three times. Total dose may not exceed 20 mg.

Used in the Following Protocol(s):

Pain Management (Section 7 Procedures)