# Nausea-Vomiting

### Aliases

Gastroenteritis, emesis

### Patient Care Goals

Decrease discomfort secondary to nausea and vomiting.

### Patient Presentation

### Inclusion Criteria

Currently nauseated and/or vomiting

### Exclusion Criteria

No recommendations

### Patient Management

### Assessment

1. Routine patient care (vital signs)
2. History and physical examination focused on potential causes of nausea and vomiting (e.g. gastrointestinal, cardiovascular, gynecologic, hypoglycemia, hyperglycemia)

### Treatment and Interventions

1. Administer anti-emetic medication:
    a. **Isopropyl alcohol *[ALL EMS PRACTICE LEVELS]***—allow patient to inhale vapor from isopropyl alcohol wipe 3 times every 15 minutes as tolerated
    b. **Ondansetron *[AEMT]***
        - **Adult: 4mg IV/IM/IO/PO/ODT; every 5-15 min prn, M**ax Dose 12mg
            - May consider administering 8mg IV for severe nausea/vomiting
        - Pediatric: 0.15mg/kg IV/IM/IO/PO/ODT (max dose of 4mg); every 5-15 min prn X 3
        - **CAUTION**: May cause dose-dependent QT prolongation, avoid in patients with congenital long QT syndrome, multiple medications with potential for QT prolongation, or other concerns for QT prolongation
    c. **Metoclopramide *[PARA]***
        - Adult: 5-10 mg IV/IO/IM q 15 min X 2
        - Pediatric: 0.25 mg/kg IV/IO/IM (max 10 mg)
        - Minimal effect on QT, preferred option in patient with actual or increase concern for QT prolongation
    d. **Diphenhydramine *[PARA]***
        - Adult: 25mg-50mg IM/IV/IO
        - Pediatric: 1mg/kg IM/IV/PO/IO (maximum dose of 25mg)
    e. **Droperidol [PARA]** (contraindicated for suspected or known diagnosis of prolonged QT syndrome)
        - **1.25-2.5mg IV or 2.5-5mg IM**
        - Doses greater than 2.5mg ECG or telemetry monitoring is required at least 2 hours post dose
2. Consider **benzodiazepine [PARA]** for suspected nausea secondary to anxiety
3. If signs of hypovolemia, consider isotonic IV/IO fluid bolus 20 ml/kg (normal saline or lactated Ringer's ***[AEMT]***)
    a. May repeat as indicated

**Patient Safety Considerations**

- For very young pediatric patients, ondansetron can be sedating.
- Dystonic and extrapyramidal symptoms are possible side effects of antiemetics—if encountered, consider diphenhydramine.

**Notes and Educational Pearls Key Considerations**

- Ondansetron is preferred in children for the treatment of nausea and vomiting.
- Metoclopramide has fewer adverse effects than Prochlorperazine in children.
- Prochlorperazine and metoclopramide (phenothiazines) have an increased risk of dystonic reactions.
    - Some phenothiazines also have an increased risk of respiratory depression when used with other medications that cause respiratory depression, and some phenothiazines can cause neuroleptic malignant syndrome.
    - Prochlorperazine carries a black box warning for children under 2 years old.
- **IV form of ondansetron may be given PO in same dose.**
- Nausea and vomiting are symptoms of illness—in addition to treating the patient's nausea and vomiting, a thorough history and physical are key to identifying what may be a disease in need of emergent treatment (e.g. bowel obstruction, myocardial infarction, pregnancy).
- While ondansetron has not been adequately studied in pregnancy to determine safety, it remains a treatment option for hyperemesis gravidum in pregnant patient.

**Pertinent Assessment Findings**

- Vital signs
- Risk factors for heart disease. Obtain ECG if applicable
- Pregnancy status
- Abdominal exam

**Quality Improvement**

- **Associated NEMSIS Protocol(s) (eProtocol.01)**
- 9914131—Medical-Nausea/Vomiting

**Key Documentation Elements**

- Patient age
- Patient weight and/or length-based weight measure for pediatric patients
- Medications given, including time, provider level, dose, dose units, route, response and complications
- Vital signs before and after medication administration
- History and physical with regard to etiology of nausea/vomiting
- ECG performed and interpretation documented if cardiac risk factors are present

**Performance Measures**

- In patients with nausea and vomiting, appropriate medication(s) was/were administered (including proper dosage) and the patient's response to treatment is documented.
- In any event where complications occurred, such as a dystonic reaction, event and appropriate responsive interventions were performed and documented.
- ***EMS Compass® Measure*** *(for additional information, see www.emscompass.org)*
    - *PEDS-03: Documentation of estimated weight in kilograms.* Frequency that weight or length-based estimate are documented in kilograms

**References**

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7. Warden CR, Moreno R, Daya M. Prospective evaluation of ondansetron for undifferentiated nausea and vomiting in the prehospital setting. *Prehosp Emerg Care.* 2008;12(1):87-91.