Otitis Media
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Definition

- **Acute Otitis Media (AOM)**
  - “acute onset of symptoms, evidence of a middle ear effusion, and signs or symptoms of middle ear inflammation.”

- **Otitis Media with effusion (OME)**
  - “Presence of MEE without signs or symptoms of infection, previously named: secretory, serous, or glue ear.”
Difficult to treat AOM (20%)

- Recurrent AOM: three or more episodes in the previous six months or four or more in the preceding twelve months.

- Treatment failure AOM: a lack of improvement in sign and symptoms within 48-72 hours of AB treatment.
Definitions:

- **Chronic Otitis media with effusion (OME)**: that persists beyond three months.

- **COM**: purulent otorrhea that persists for more than six weeks despite appropriate treatment for AOM.
Pathophysiology

- Eustachian tube obstruction
  - Length: shorter in children
  - Angle: $10^\circ$ children vs. $45^\circ$ adult
- Decreased immunocompetence
- Follows upper respiratory infection (URI)
Risk factors

- Age <2 years
- Chronic sinusitis
- Cleft palate and craniofacial anomalies
- Down syndrome and other genetic conditions
- First episode of AOM when younger than 6 months of age
- Immunocompromising conditions
Diagnosis: Clinical Manifestations

- **Specific**
  - Otalgia
  - Otorrhea
  - Dizziness
  - Hearing loss

- **Non-specific**
  - Fever (50%)
  - Vomiting/diarrhea
  - Anorexia
  - Irritability
Diagnosis: Clinical Findings

- Otoscopic findings
  - Bulging TM
  - Yellow, white, or bright red color
  - Impaired visibility of ossicular landmarks
  - Squamous exudate
Pathogens

**Bacterial**
- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Moraxella catarrhalis*

**Viral**
- Influenzae A & B
- Parainfluenzae 1, 2, & 3
- Rhinovirus
- Adenovirus
- Enterovirus
- Coronavirus
Potential Complications

- Hearing loss
- Acute mastoiditis

Rare:
- Meningitis
- Subdural/extradural abscess
Treatment Options

- AOM spontaneously resolves 40 - 60%
- Symptomatic therapy
  - Applied heat, analgesics, antipyretics & topical anesthetic
- Adjunctive therapy
  - Decongestants, antihistamines, & corticosteroids
- Who to treat with antibiotics?
  - < 2 yo
  - AOM s/sx ≥ 3 days
  - Ill-appearing patients
Judicious Antibiotic Use

- Proper diagnosis of AOM or OME before committing to antibiotic therapy
  - Diagnosis of AOM requires evidence of local inflammation & systemic symptoms
    - Erythema alone is not sufficient
    - Thickened, bulging and opaque TM
    - Pain
  - OME does not need immediate antibiotic therapy
    - Commonly seen with acute URI
    - Little or no benefit of antibiotic therapy
    - Persistent effusion expected for 2-3 months following therapy for AOM, but if persists > 3 months consider re-treatment
Assessment of symptoms includes asking the patient for subjective data using the WHAT’S UP?
The external ear should be inspected and palpated to obtain objective data.

The tympanic membrane is the only middle ear structure that can be directly visualized by the experienced practitioner with an otoscope.
Objective assessment should also include vital signs, noting any elevation in temperature.

Hearing acuity should be screened by the experienced practitioner using the whisper voice, Rinne, and Weber tests.

Any drainage from the ear should be noted and described.
NURSING DIAGNOSIS.

- Risk for infection related to broken skin, pressure necrosis, chronic disease, or surgical procedure
- Disturbed sensory perception: auditory related to altered sensory reception
- Acute pain related to fluid accumulation, inflammation, or infection
- Fear related to hearing loss and lack of information
- Deficient knowledge related to lack of exposure to information due to no prior experience
Planning and expected outcome:-

- Exhibits no signs of infection (no drainage from ear, no tenderness over mastoid, negative culture, afebrile)
- States that no pain is present or pain is decreased
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- Verbalizes care of ears, methods to prevent further infection;
- describes signs requiring medical attention
- Verbalizes rationale and outcome for any upcoming surgery