Flu and Upper Respiratory Infections

Advanced Team Physician Course
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References


• Emedicine.medscape.com/article/302460-overview
Seasonal Variation

- RHINOVIRUS
- CORONAVIRUS
- ENTEROVIRUS
- ADENOVIRUS
- PIV-3
- PIV2,3
- RSV
- INFLUENZA
- MPV
- GROUP A STREPT
Cold or Flu?

**The Common Cold**
- How it is different from the flu:
  - Symptoms come on slowly
  - Low-grade fever if it occurs
  - Body aches, fatigue, cough, sore throat are mild
  - Runs its course in about a week
  - Can lead to mild inner ear infections

**What they share in common:**
- Fever
- Congestion
- Sneezing
- Cough
- Body aches
- Fatigue
- Sore Throat

**The Flu**
- How it is different from a cold:
  - Symptoms come on suddenly
  - Higher and sustained fever
  - Body aches, fatigue, cough, sore throat are more severe
  - Symptoms persist for two weeks or more
  - Can lead to pneumonia, bronchitis, and other colds or infections
Symptoms of a cold:

- Nasal congestion
- Runny nose
- Sore throat
- Headache
Rhinosinusitis

• Acute maxillary and ethmoid bacterial rhinosinusitis related to uncomplicated viral URIs
• Most resolve without antibiotics within 3-10 days with placebo
• Amoxicillin increased % who improved
• Consider tx if symptoms persist >10 days, are severe or worsen p 3-4 days

2012 IDSA Guidelines
Approach Considerations

• Most URIs are quite benign
• Reassurance, education, instructions are key
• Symptom-based therapy is tx mainstay in immunocompetent adults
• Antimicrobial or antiviral therapy is appropriate in selected patients
Adjunctive Rx

• Nasal saline irrigation
• Intranasal steroids, esp. if + hx of allergic rhinitis
• Antihistamines or decongestants NOT recommended for acute bacterial sinusitis

Clin Infect Dis. 2012 Apr. 54(8)
Symptomatic Nonpharmacologic Self-Care

- Warm, most air
- Nasal saline spray
- Saline irrigation
- Hydration
- Warm facial packs
- Avoidance of nasal irritants (smoke, air pollutants)
- Steam inhalation
- Saline gargle, lozenges
Symptomatic Pharmacologic Rx

- Decongestants
- Ipratropium bromide - anticholinergic
- Antihistamines
- Topical and systemic steroids
- Guaifenesin – weak evidence
- Topical lidocaine
- ASA, NSAIDs, Tylenol
Cough Relief

• First generation antihistamines combined with decongestant may be helpful
• Inhaled ipratropium (anticholinergic)
• Oral steroid short course if no relief
• Guaifenesin, dextromethorphan - limited evidence of effectiveness
• Codeine – effective, centrally acting in adults
Decongestants

- Anxiousness
- Insomnia
- Tachycardia and dysrhythmias
- Elevated BP
- Tremor
- Urinary retention
Antihistamines

- Histamines play no role in generating URI sx
- Non-sedating antihistamines not helpful
- 1st generation antihistamines may reduce sneezing and rhinorrhea due to anticholinergic effects but are sedating
- May thicken secretions
Steroids

• In adults with recurrent rhinosinusitis, nasal corticosteroids may decrease symptom duration and improve clinical success rates

• No evidence in children on antibiotics
Complimentary/Alternative RX

• Zinc – oral: mixed results in studies for both tx and prevention
  --nasal: FDA warning re: anosmia
• Echinacea – insufficient evidence
• Vit. C – Inconsistent results
• Honey, teas made from herbs (slippery elm bark, marshmallow root, licorice root) improved pharyngitis
Diet

- Increased fluids
- Avoid alcohol
- Antibiotics alter flora and may alter food digestion
- Yogurt with active cultures or probiotics may be helpful in flora restoration and GI sx.
Activity

• Common cold: training may be ok
• Cough, fever, severe sx restrict activity
• Mono – no contact sports for 6 wks
• Voice rest for laryngitis
• Water sports/diving – be aware of chlorine or pressure issues
3 Principles for Antibiotic Use

1. Accurate diagnosis of a bacterial infection
2. Consideration or risks vs benefits
3. Judicious prescribing strategies
   * Selection of most effective antibiotic
   * Appropriate dose
   * Shortest duration
First Line Antibiotics

- 5-7 days for adults, 10-14 days for children
- Cover most likely pathogens: S. pneumonieae, H influenzae, Moraxella catarrhalis
- Amoxicillin/cavulanate
- PCN allergic: Doxycycline, fluoroquinolones
- Macrolides, trimethorim-sulfamethozazole and cephalosporins NOT recommended (high rates of S pneumonieae resistance)

2012 IDSA Guidelines
No response or worsening p 3-5 d

- Explore for resistant pathogens, structural abnormality, non-infectious etiology
- Culture via direct sinus puncture or middle meatus endoscopy rather than with n-p swabs
Group A Strep

• Tx only after + identification
• PCN or Amoxicillin x 10 days (no resistance)
• IM PenG if concerned about compliance
• PCN allergy: 1\textsuperscript{st} gen. cephalosporin, clindamycin, clarithromycin, azithromycin
• Adjunctive Rx: pain relievers prn
Herpetic or GC Pharyngitis

- Ceftriaxone IM for GC
- Chlamydia trachomatis can rarely co-exist so may require tx
- HSV: treat with antivirals (acyclovir)
Surgical Care

• Deep tissue infections of adjacent structures
• Peritonsillar, oropharyngeal, intraorbital or intracranial abscesses
• Can compromise airway, vision or neurological function
• Immediate surgical consultation
• Consider Tonsillectomy for: 4-5 Grp A strep/yr, chronic pharyngitis with adenopathy
Prevention

• Diet: 5 servings fruits/vegetables
• Smoking cessation/avoidance
• Limit prolonged intensive training without adequate rest
• Stress reduction/life-balance
• Sleep 7-8h minimum
• Hygiene – hand washing, cover coughs/sneezes
• Cleaning of environmental surfaces
• Avoidance/Tx of symptomatic contacts
Prevention
Immunization/Immunoprophylaxis

- Tdap for adolescents
- Influenza vaccine annually
- Influenza chemoprevention
Influenza

- Prevention is most effective strategy
- Routine annual vaccination for ages 6 and over
- Enhanced surveillance
- Prompt isolation
- Bed rest
- Average recovery within 3 days, often with malaise for weeks.
Vaccination

- Based on global, virologic and epidemiologic surveillance, genetic and antigenic characterization, antiviral susceptibility and availability of candidate vaccine viruses for production
- 2 Strains of influenza A and 1 or 2 of influenza B
- Effective in 10-14 days
- Annual CDC recommendations
- 50-60% efficacy against A and 70% for B
- Hive egg allergy no contraindication – FluBlok
- Hi dose vaccine for athletes >65 y/a
- CV exercise extends seroprotection at 24 wks
Know the FLU

FACTS

FEVER
ACHES
CHILLS
TIREDNESS
SUDDEN ONSET

Symptoms of Influenza

Central
- Headache

Systemic
- Fever
  (usually high)

Muscular
- (Extreme)
tiredness

Joints
- Aches

Nasopharynx
- Runny or stuffy
  nose
- Sore throat
- Aches

Respiratory
- Coughing

Gastric
- Vomiting
Be Smart
Antiviral Pharmacologic Rx

Neuraminidase inhibitors: Effective for A and B
• Oseltamivir
• Zanamivir
• Peramivir

Adamantanes: Effective for A only
• Amantadine
• Rimantadine

For prevention: once daily x 10 d
For treatment: BID x 5 d (if start 24-48 h from onset, death rates reduced for hospitalized pts by 63%)
Prevention