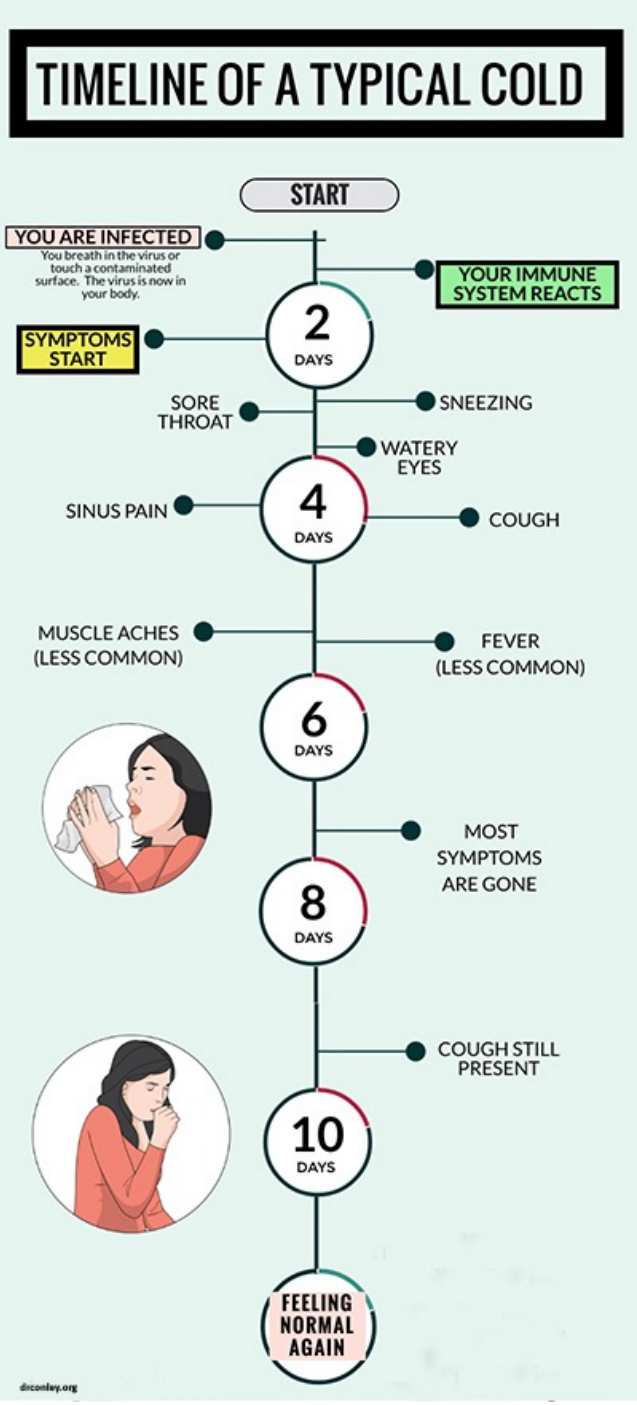
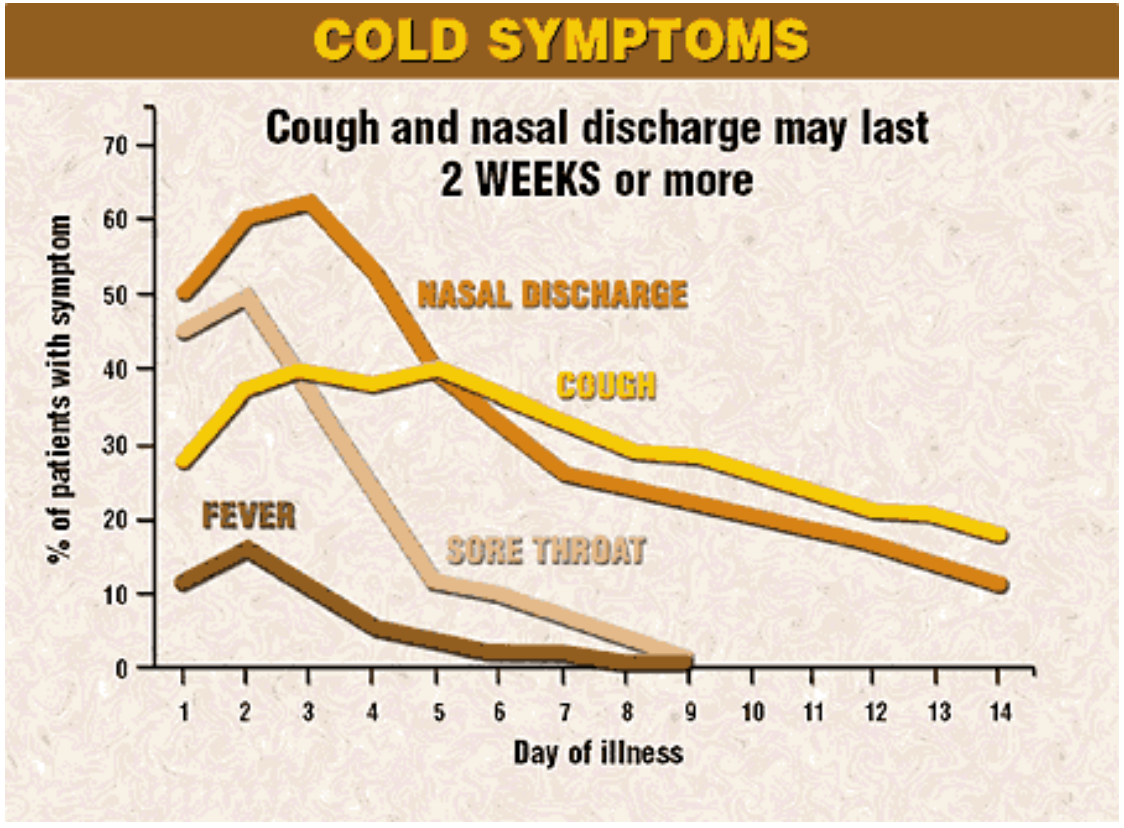
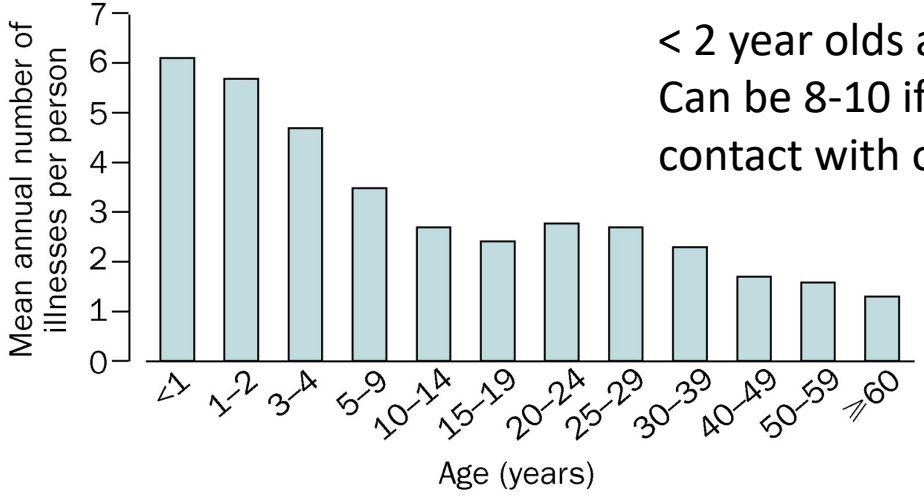




Eccles, Ron. "Understanding the Symptoms of the Common Cold and Influenza." *The Lancet Infectious Diseases*, vol. 5, no. 11, 2005, pp. 718–725.



< 2 year olds average 6 viral URIs per year
Can be 8-10 if: daycare, older siblings, frequent contact with other children

Heikkinen T, Järvinen A. The common cold. Lancet. 2003 Jan 4;361(9351):51-9

Cough and Cold – Facts and Myths for Parents

- Color of the nasal secretions is *not* correlated with bacterial vs. viral
  - As the viral infection continues, the body sends WBCs to fight off the infection, causing the mucus to become cloudier, white, yellow, or even green
- Cough can be prolonged
  - 35-40% of children have a cough lasting > 10 days with viral URI
  - 10% have a cough lasting > 25 days
- Drinking milk will not make the mucus thicker or the cough worse
- A couple of useful phrases I tell parents:
  - To combat fever phobia: ”The reason they’re called colds is that the viruses that cause them like cold temperatures, so your body makes a fever to fight the virus off”
  - “There’s no medicine that can magically take the symptoms away – if anyone invented that, they’d be rich. But you wouldn’t want to anyways – cough is an important mechanism the body uses to clear the airways and get rid of the infection.”

Cough Treatments

- Coughing children don't sleep, and then their parents don't sleep
- < 1 year: humidifier, effective nasal suctioning (to reduce post-nasal drip) +/- nasal saline, elevate the head of the crib by putting something under the crib's front legs (never put anything in the crib with the baby)
- 1-2 years: honey – either commercial product (dark honey may be more effective) or 1 tsp honey mixed with warm fluids
- 2-4 years: diphenhydramine 1-1.25 mg/kg/dose at night to dry nasal secretions and reduce post-nasal drip, topical "vaporub" is acceptable at > 2 years (caution: contains camphor and menthol, which are toxic if ingested) – unclear efficacy
- 4-6 years and older: FDA says *definitely* no OTC cough/cold meds in < 2yo, some are labelled as OK starting at 4yo, generally OK at 6yo. Throat lozenges and salt water gargling may help also
  - Cough/cold medication ingredients
  - Common cough & congestion medications next 2 slides

Oral Cough Medications

- Natural herbal medicines approved for infants (e.g. Hyland's, Mommy's Bliss) – no proven efficacy
- Products with honey (must be 1yo or older, due to risk of botulism with honey) – effective in clinical trials, dark honey more effective
- Dextromethorphan cough suppressant
  - 2-5yo: 5mg, 6-11yo: 10mg, 12yo+: 20mg, q4 hours prn
- Guaifenesin – many OTC cough/cold meds contain this ingredient, limited proven efficacy
  - Note: this is an expectorant, works by thinning secretions for cough-mediated clearance, so is not a cough suppressant; may actually increase cough as thinned secretions stimulate coughing
  - 2-3yo limited data, 4-5yo: 50-100mg, 6-11yo: 100-200mg, 12yo+ 200-400mg q4 hours prn
- Codeine – not recommended for use in children per FDA and AAP
  - Some people are rapid metabolizers (codeine is metabolized to morphine), and may become opiate toxic
- Benzonatate (Tessalon Perles) – not recommended for children $\leq$ 10 years old
  - Adolescents 100-200mg TID prn
  - Caution: serious toxicity has occurred – benzonatate is a sodium channel blocker and can cause cardiac toxicity and seizures

Congestion Medications

- < 2 years old: no medications (nasal suctioning = mainstay)
- 2-3 years old: diphenhydramine 1-1.25 mg/kg as often as every 6 hrs
  - Generally, use at bedtime to dry secretions & reduce post-nasal drip
  - Makes children sleepy, but a small subset may have paradoxical excitation
- 4 years old+: most effective = pseudoephedrine
  - Need to ask for it "behind the counter" at drugstore pharmacies (used to make meth, so regulated)
- Oral 2nd generation antihistamines limited short-term efficacy – dosing on 2nd slide
- Phenylephrine common ingredient in OTC meds – deemed by FDA as no better than placebo
  - Sudafed PE is phenylephrine, *not* pseudoephedrine
- Ipratroprium 0.03% nasal spray
  - 2-4yo limited data (may use same dose as for 5-11yo), 5-11yo: 2 sprays per nostril TID, 12yo+: 2 sprays per nostril TID-QID
- Vasoconstricting nasal sprays are not recommended due to the risks of dry mucosa and nosebleeds, and of rebound nasal congestion

Pseudoephedrine Dosing

Dosage Forms
Liquid 15mg/5mL
Tablets 30mg, 60mg
Extended release 120mg, 240mg

Age	Dose q4-6 hrs	Daily maximum
<4yo	Do not use	
4-5yo	15mg	60mg
6-11yo	30mg	120mg
12yo+	60mg	240mg
12yo+ ext release	120mg BID	240mg daily

Types of Coughs

Cough Type	Description	Cause	Treatment
Barking	Like a seal or dog barking audio May have associated stridor	Croup	Dexamethasone, Racemic Epinephrine nebulized
Staccato	Series of coughs with at least one breath in between audio	Chlamydial pneumonia	Azithromycin
Paroxysmal +/- whoop	Violent, uncontrolled coughing spasms +/- whoop audio	Pertussis	Azithromycin, admit if cyanosis w/cough
Wet	Productive cough	Pneumonia, sinusitis, protracted bacterial bronchitis	Antibiotics if chronic Sinusitis: 10-14 days of sx PBB: 4 wks of wet cough
Bronchospastic	Dry cough +/- high-pitched wheeze, worse at night, in cold air, with exercise	Reactive airways, cough-variant asthma	Albuterol MDI Inhaled steroids
Honking, Brassy	Chronic honking/brassy audio	Habit cough	Suggestion therapy (substitute behavior)
Post-viral cough	Lingering cough after viral URI (3-8 wks)	Residual inflammation, post-nasal drip	Inhaled steroids Anti-histamine or pseudoephedrine

Prolonged Cough

History and Physical Exam
- Is the cough nighttime only or day & night?
- Is it productive (wet)?
- Ask about possible foreign body episode
- Ask about Hx & FH of atopy, asthma, eczema
- Ask about GERD sx
- Check pulse oximetry
- Examine ear & remove/treat any external ear irritants

Specific cough cause supported by history & physical?

Yes → Institute appropriate therapy for suspected cause

No

Perform CXR – is it diagnostic?

Yes → Institute appropriate therapy for suspected cause

No

Reassure parents and explain sometimes cough is prolonged due to prolonged inflammation (I use bruises as an analogy – they slowly fade), maximize the therapies available to suppress cough, especially at night (to improve sleep), add albuterol MDI w/spacer if dry cough mainly at night/in cold/with exercise, recheck in 1-2 weeks

Persistent after 1-2 weeks

Dry → Trial of inhaled steroids x 4 weeks

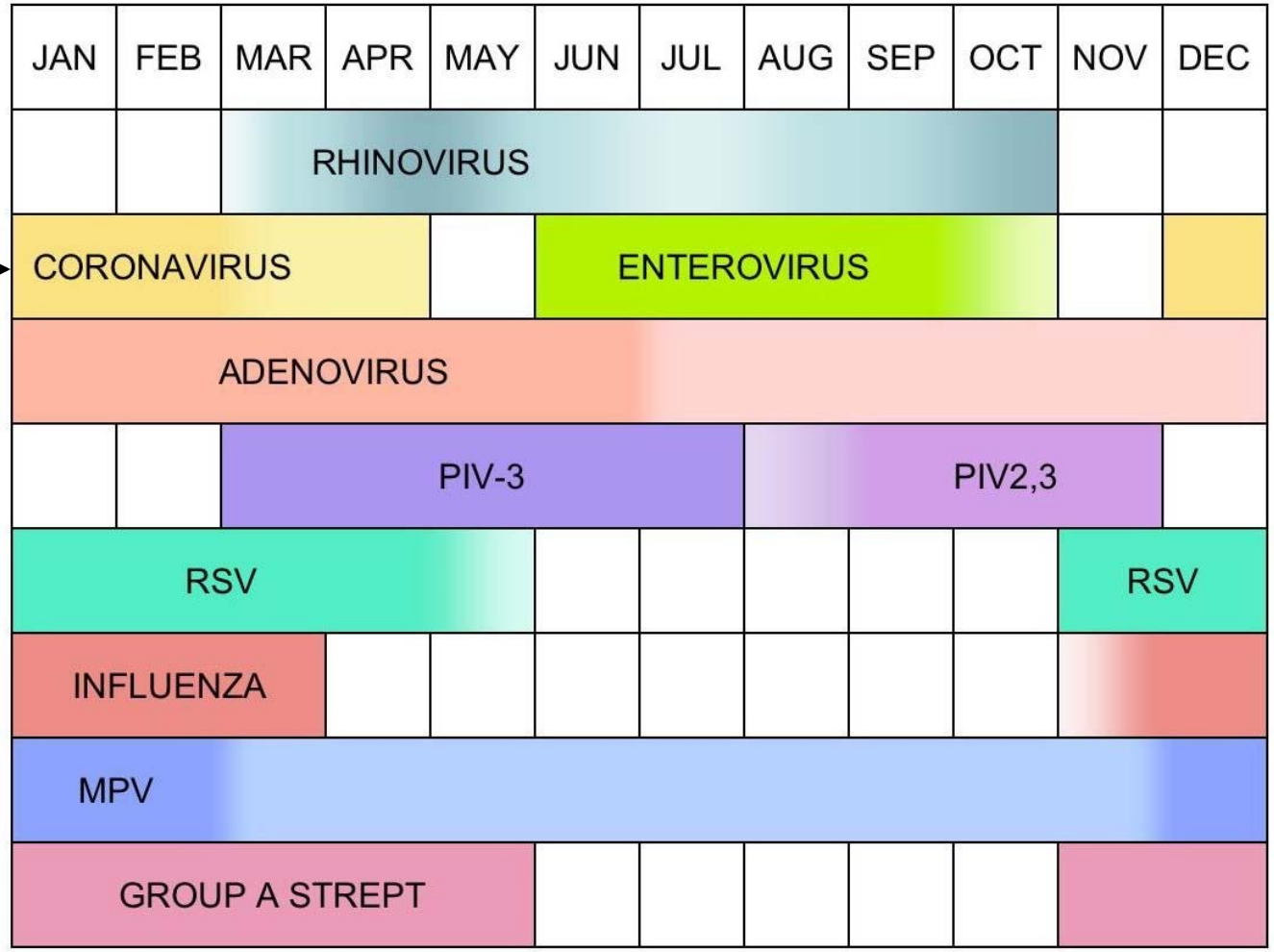
Wet → Trial of antibiotics 10-21 days

Consider serial viral URIs if patient mostly improved, then symptoms recurred, especially young school-age or in daycare / preschool

Adapted from: Goldsobel AB, Chipps BE. Cough in the pediatric population. J Pediatr. 2010 Mar;156(3):352-8

Why It's Worse in Winter

Note:
Non-COVID Coronavirus – seasonality of COVID is not yet clear



PIV = parainfluenza virus
RSV = respiratory syncytial virus
MPV = metapneumovirus