

Cough

Pediatric After-Hours Version

- DEFINITION -

- * A cough is the sound made when the cough reflex suddenly forces air and secretions from the lungs.
- * A coughing spasm is over 5 minutes of continuous coughing. Paroxysmal coughing is even more prolonged and intense.
- * The cough reflex protects the airways from infection.

- INITIAL ASSESSMENT QUESTIONS -

1. ONSET: "When did the cough start?"
2. SEVERITY: "How bad is the cough today?"
3. COUGHING SPASMS: "Does he go into coughing spells where he can't stop?" If so, ask: "How long do they last?"
4. CROUP: "Is it a barking, croupy cough?"
5. RESPIRATORY STATUS: "Describe your child's breathing. What does it sound like?" (eg wheezing, stridor, grunting, weak cry, unable to speak, retractions, rapid rate, cyanosis)
6. CHILD'S APPEARANCE: "How does your child look?" "What is he doing right now?"
7. FEVER: "Does your child have a fever?" If so, ask: "What is it, how was it measured, and when did it start?"
8. CAUSE: "What do you think is causing the cough?" Age 6 months to 4 years, ask: "Could he have choked on something?"

- BACKGROUND INFORMATION -

CAUSES

- * Main Cause: part of a cold, a viral infection of the large airway (viral bronchitis)
- * Other Common Causes: croup, bronchiolitis, asthma, allergic cough.
- * Whooping cough (pertussis) causes 2 - 6 weeks of paroxysmal coughing with post-tussive emesis. The pertussis cough has distinguishing features. The child appears to be choking or suffocating. Ten or more coughs occur for each breath. The choking lasts for 1 to 2 minutes. In 50% of cases, the coughing attack ends with a whoop (like stridor). Between the coughing attacks, the child acts perfectly well. To teach pertussis recognition, go to the sound files on www.whoopingcough.net under symptoms (and sounds).
- * Cough Variant Asthma: Asthma is the most common cause of a chronic cough. Some 25% of children with asthma only cough and never wheeze (called cough variant asthma). They respond best to antihistamines or inhaled steroids.

WHOOPING COUGH: HOW IT'S DETECTED IN THIS GUIDELINE

- * Signs of respiratory distress (Go to ED Now)
- * Lips turn bluish during coughing spasms (See within 4 hours)
- * Continuous severe cough and < 1 y o (See within 4 hours)
- * Continuous severe cough and > 1 y o (See within 24 hours)
- * Cough present > 3 weeks (See in office within 3 days)

RETURN TO SCHOOL

- * Your child can return to day care or school after the fever is gone and your child feels well enough to participate in normal activities. For practical purposes, the spread of coughs and colds cannot be prevented.

SPUTUM OR PHLEGM

- * Yellow or green phlegm is a normal part of the healing process of viral tracheitis or bronchitis.
- * This means the lining of the trachea was damaged by the viral infection and is being coughed up as new mucosa replaces it.
- * Bacteria do not cause tracheitis or bronchitis in healthy children. Antibiotics are not indicated for the viral bronchitis seen with colds.
- * The main treatment of a productive cough is to facilitate it with good fluid intake, a humidifier (if the air is dry) and warm chicken broth or apple juice for coughing spasms (if over age 1).
- * Cough accounts for more visits to HCPs than any other symptom. Needless worry about productive coughs may be the underlying cause of these unnecessary visits.

RESPIRATORY DISTRESS (BREATHING DIFFICULTY): ESTIMATION BY TELEPHONE

- * **MILD RESPIRATORY DISTRESS:** usually manifested by a rapid respiratory rate (tachypnea) (defined below). Mild stridor or wheezing may also be present. (Response: See Within 24 Hours, urgency varies)
- * **MODERATE RESPIRATORY DISTRESS:** manifested by labored breathing with some retractions and nasal flaring. If present, stridor and wheezing are now audible, tight and persistent (i.e. can hear over the telephone). (Disposition: Go to ED Now by car)
- * **SEVERE RESPIRATORY DISTRESS:** marked respiratory effort (struggling to breathe) and severe retractions. Cyanosis may occur. Breathing may stop (apnea). The other extreme is the slow, weak breathing (agonal breathing) that precedes apnea. (Disposition for all of these: Call EMS 911 Now)

LIFE-THREATENING TYPES OF SEVERE RESPIRATORY DISTRESS

- * **APNEIC EPISODES:** Apnea means that breathing stops for 15 seconds or longer. Prolonged apnea leads to loss of consciousness (hypoxic syncope) and is always a very serious symptom. All of these children need to be referred immediately via 911. Most of them are infants or young toddlers. Many of them have a viral respiratory infection. Etiologies commonly associated with apneic spells are RSV, pertussis, and Chlamydia.
- * **SLOW, WEAK, SHALLOW BREATHING:** This type of breathing precedes apneic spells. It is also called agonal breathing. It is seen in children with respiratory failure following prolonged dyspnea. It is also seen with sepsis, increased intracranial pressure, poisoning and drug overdose.
- * **STRIDOR:** Stridor is a harsh, raspy, low-pitched sound heard during inspiration (breathing in). It's commonly associated with retractions and great effort at trying to breathe in. The abrupt onset of stridor (upper airway obstruction) is seen with laryngeal foreign bodies, epiglottitis and anaphylaxis, as well as croup.

RAPID RESPIRATORY RATES (RR) DUE TO MILD RESPIRATORY DISTRESS

- * Tachypnea is usually the earliest sign of respiratory distress.
- * Normal RR for children depend on their age.
- * RR apply to children who are not crying. When upset or crying, RR normally go up 10 to 20 breaths per minute.
- * If the RR is high and the child seems well, recheck the RR while he is asleep.
- * The following RR are abnormally fast:
 - * 2 months or younger: > 60 breaths per minute
 - * 2 to 12 months: > 50 breaths per minute
 - * 1 to 5 years: > 40 breaths per minute
 - * 6 to 12 years: > 30 breaths per minute
 - * 12 years or older: > 20 breaths per minute

RAPID RESPIRATORY RATES (RR) ARE NOT CAUSED BY FEVER

When children have a fever, RR only rises by 2 breaths per minute for each degree F above normal (or 4 breaths per minute for each degree C). If the RR is slightly raised and not associated with dyspnea (increased work of breathing), the child probably does not have a breathing problem. The main clinical lesson is not to attribute significant tachypnea to fever and thereby miss true respiratory

distress.

COUGHS AND HOW THEY SOUND

Caution: Cough characteristics generally are not helpful at telling us if the cause is serious. Asking about difficulty breathing or respiratory distress is the only way to determine seriousness. Coughs are also not helpful at determining etiology, except the barky cough of croup is fairly distinctive. The sound of the cough in patients can vary greatly over the course of the day. A rattly cough is simply a productive cough. The chest wall usually vibrates if you feel it during a bout of coughing. Describing the cough itself does not usually help with decision making.

COUGH AND COLD MEDICINES: FDA RECOMMENDATION (JANUARY 2008)

In October 2007, the AAP and other experts testified before the FDA about the safety of cough and cold medicines for young children. According to FDA data from 1969 to 2006, adverse reactions included 54 deaths from decongestants and 69 deaths from antihistamines. To put this in perspective, that's 3.3 reported deaths per year. The majority occurred in children younger than 2 years of age. In January 2008, the FDA issued a strong recommendation that parents 'not use OTC cough and cold products to treat infants and children less than 2 years of age'. These recommendations have been implemented within the related guidelines. In addition, the information has been added to all the Dosage Tables for OTC medicines.

* Under 2 years of age: advise callers that OTC cough and cold medicines should never be used in this age group because of potential serious side effects. They also lack efficacy. (FDA recommendation)

* From 2 to 6 years of age: advise callers that cough and cold medicines are not recommended for this age group because they do not have any proven efficacy for relieving cough and cold symptoms. (FDA advisory panel recommendation). However, if a parent insists on using them, help them calculate a safe dosage.

* Over 6 years of age: advise callers that the best treatment for coughs is honey or cough drops. The best treatment for nasal congestion is nasal washes with saline drops or spray. However, if a parent wants to use a cough or cold medicine, help them calculate a safe dosage. (FDA advisory panel has no recommendation at this time)

* For all ages, discourage the use of multiple-ingredient cough and cold medicines. (Reason: risk of overdose).

HONEY AS A COUGH SYRUP

* A recent study compared the efficacy of honey to DM to no treatment for nocturnal coughing.

* Honey consistently scored the best for reducing cough frequency and cough severity. It also scored best for improving sleep.

* DM did not score significantly better than no treatment at all.

* The study group contained 105 children age 2 to 18 years.

* The dose of honey used was ½ tsp (2 ml) for 2-5 year-olds, 1 teaspoon for 6 to 11 year-olds, and 2 tsp for 12 to 18 year-olds. A single dose was given at bedtime.

* One explanation for how honey works is that sweet substances naturally cause reflex salivation and increased airway secretions. These secretions may lubricate the airway and remove the trigger (or tickle) that causes a dry, nonproductive cough.

* Paul IM. Arch Pediatr Adolesc Med. 2007; 161(12):1140-1146.

DEXTROMETHORPHAN COUGH MEDICINES FOR COUGH

* The most common cough suppressant in OTC cough medications is dextromethorphan. Usually the letters 'DM' appear in the name. An example is Robitussin DM.

* Some recent research (Kelly 2004) suggests that dextromethorphan is no better than placebo at reducing the severity and frequency of coughing in children.

* The care advice in these guidelines continues to recommend DM containing cough syrups for

children over 2 years of age with SEVERE COUGHS if the caller insists on using one. The rationale for this is: patients may benefit from the placebo effect of DM, many parents demand a recommendation for a cough syrup even after being told about honey, and generally DM has no side effects.

* Cough drops can often be substituted for cough syrups after age 6. While some would consider them a placebo similar to cough medicines, they may actually reduce coughing by soothing an irritated throat. In addition they have the advantage of portability. While cough drops with DM are available, they offer no advantage over plain cough drops and are not worth the added expense.

* It is important to note that dextromethorphan has become a drug of abuse. This problem has been seen most commonly in the adolescent population. Overdose symptoms can range from giggling, euphoria, to hallucinations or coma. (See Substance Abuse guideline for details)

AROMATIC MENTHOL PRODUCTS MAKE COUGHS WORSE

Some Menthol-containing products such as Vick's Vapor Rub (OTC) are sold to be added to vaporizers. Others are rubbed on the chest wall. Menthol fumes tend to make coughs worse. They definitely can worsen an asthma attack. Since they have no proven benefits, caller should be told to avoid them. Also when applied to the chest of a young child, they block the sweat glands and can cause a secondary heat rash in this area.

CORN SYRUP AND BOTULISM: UNLIKELY RISK

Some physicians and nurses have been concerned that corn syrup may cause infantile botulism. We need to keep in mind that all infants who were not breastfed between 1940 and approximately 1970 received evaporated milk formulas that included corn syrup in their preparation (13 oz. EM, 19 oz. water and 2 Tbsp. corn syrup). Also, dark corn syrup has been used to treat constipated infants for generations.

Approximately 10% of cases of infantile botulism are associated with honey. The other 90% are either idiopathic or associated with blowing dust (especially in areas of active housing development). Botulism spores are found ubiquitously in all soil. They are also present fairly uniformly in vacuum cleaner contents.

The 1997 AAP Red Book stated on page 175: Light and dark corn syrups are not potential sources of *C. botulinum*. The 2000 AAP Red Book states on page 213: 'Light and dark corn syrups may be contaminated by *C. botulinum* spores.' On page 771, they advise us not to give honey or corn syrup to infants. (This precaution was taken despite the absence of any cases of infantile botulism ever proven to be associated with corn syrup.) Therefore, corn syrup is no longer recommended in this guideline as a cough syrup substitute for children less than 12 months of age.

The 2003 AAP Red Book on page 244 states, 'Light and dark corn syrups are manufactured under sterile conditions, but the products are neither packaged under aseptic conditions nor terminally sterilized. The manufacturers cannot ensure that any given product will be free of *C. botulinum* spores'. On page 245 under Control Measures, the Red Book continues to recommend avoiding honey under 12 months of age, but doesn't mention corn syrup in this edition. The 2006 AAP Red Book has the same quote as the 2003 edition. It goes on to state on page 258, however, "no case of infant botulism has proved to be attributable to consumption of corn syrup".

Despite this softening of concerns, corn syrup will not be recommended for any symptom in these triage guidelines during the first 12 months of life. (Reason: to prevent confusion on this topic for parents).

FIRST AID

N/A

REFERENCES

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SEARCH WORDS

BRONCHITIS

CHEST

COUGH

COUGHING

COUGHING SPASMS

COUGHING SPELLS

COUGHING UP MUCUS

CROUP

DRY COUGH

LRI

LUNGS

PEDIATRIC

PERTUSSIS

PHLEGM

RESPIRATIONS

RESPIRATORY TRACT

SPUTUM

WET COUGH

WHOOPING COUGH

- TRIAGE -

Call EMS 911 Now

[1] Difficulty breathing AND [2] severe (struggling for each breath, unable to speak or cry, grunting to push air out, severe retractions)

CA: 50, 9

Slow, shallow, weak breathing

R/O: *respiratory depression with impending apnea*

CA: 50, 9

Passed out

R/O: *apnea, anaphylaxis, cough syncope*

CA: 50, 9

[1] Bluish lips, tongue or face now AND [2] persists when not coughing

R/O: *cyanosis and need for oxygen*

CA: 50, 9

[1] Age < 1 year AND [2] very weak (doesn't move or make eye contact)

R/O: *sepsis or shock*

CA: 50, 9

Sounds like a life-threatening emergency to the triager

CA: 50, 9

See More Appropriate Guideline

Hoarse voice and deep barking cough

Go to Guideline: Croup (Pediatric)

Choked on a small object or food that could be caught in the throat

Go to Guideline: Choking - Inhaled Foreign Body (Pediatric)

Previous asthma attacks or use of asthma medicines

Go to Guideline: Asthma Attack (Pediatric)

Wheezing is present, but no previous diagnosis of asthma

Go to Guideline: Wheezing - Other Than Asthma (Pediatric)

Bronchiolitis or RSV is present

Go to Guideline: Bronchiolitis Follow-up Call (Pediatric)

Whooping cough (pertussis) has been diagnosed

Go to Guideline: Whooping Cough Follow-up Call

Avian flu suspected

Go to Guideline: Avian Influenza Exposure (Pediatric)

SARS exposure within 10 days before onset of cough

Go to Guideline: SARS Exposure (Pediatric)

Go to ED Now

[1] Coughed up blood AND [2] large amount

CA: 51, 9

[1] Age < 12 weeks AND [2] fever > 100.4 F (38.0 C) rectally

R/O: sepsis

CA: 51, 16, 9

Go to ED Now (or PCP triage)

[1] Difficulty breathing (< 1 year old) AND [2] not severe AND [3] not relieved by cleaning out the nose

CA: 52, 9

[1] Difficulty breathing (> 1 year old) AND [2] not severe AND [3] still present when not coughing

CA: 52, 9

[1] Age < 3 years AND [2] continuous coughing AND [3] sudden onset today AND [4] no fever or symptoms of a cold

R/O: airway FB

CA: 52, 9

Rapid breathing (Breaths/min > 60 if < 2 mo; > 50 if 2-12 mo; > 40 if 1-5 years; > 30 if 6-12 years; > 20 if > 12 years old)

R/O: respiratory distress

CA: 52, 9

[1] Chest pain AND [2] severe

R/O: pleurisy

CA: 52, 9

[1] Fever AND [2] > 105 F (40.6 C) by any route OR axillary > 104 F (40 C)

R/O: serious bacterial infection

CA: 52, 18, 9

Child sounds very sick or weak to the triager

CA: 52

See Physician within 4 Hours (or PCP triage)

[1] Lips or face have turned bluish BUT [2] only during coughing spasms

R/O: bronchiolitis, FB or pertussis

CA: 53, 17, 9

[1] Age < 1 year AND [2] continuous coughing keeps from playing and sleeping AND [3] no improvement using cough treatment per guideline

R/O: respiratory distress

CA: 53, 17, 9

See Physician within 24 Hours

Age < 1 month old (EXCEPTION: coughs a few times)

R/O: pneumonia

CA: 54, 29, 30, 5, 6, 28, 9

[1] Age 1 to 3 months AND [2] cough has been present > 3 days

R/O: Chlamydia, pertussis

CA: 54, 29, 30, 5, 6, 28, 9

[1] Blood-tinged sputum has been coughed up AND [2] more than once

R/O: pneumonia, foreign body, TB

CA: 54, 2, 3, 4, 5, 6, 17, 9

[1] Age > 1 year AND [2] continuous coughing keeps from playing and sleeping AND [3] no improvement using cough treatment per guideline

R/O: pertussis, asthma

CA: 54, 3, 4, 20, 5, 6, 17, 9

Earache is also present

R/O: ear infection

CA: 54, 1, 2, 3, 4, 5, 6, 21, 22, 17, 9

[1] Age > 5 years AND [2] sinus pain (not just congestion) is also present

R/O: cough triggered by sinusitis

CA: 54, 1, 2, 3, 4, 5, 6, 24, 25, 21, 17, 9

Fever present > 3 days (72 hours)

R/O: pneumonia

CA: 54, 2, 3, 4, 5, 6, 19, 17, 9

See PCP When Office is Open (within 3 days)

[1] Child also has nasal allergies AND [2] they are acting up

R/O: allergic cough or asthma

CA: 55, 1, 2, 3, 4, 5, 6, 26, 17, 9

[1] Coughing has caused chest pain AND [2] present even when not coughing

R/O: pleurisy

CA: 55, 27, 2, 3, 4, 5, 6, 17, 9

Cough only occurs with exercise

R/O: exercise-induced bronchospasm

CA: 55, 1, 2, 3, 4, 6, 17, 9

[1] Coughing has kept home from school AND [2] absent 3 or more days

CA: 55, 2, 3, 4, 5, 6, 17, 9

Cough has been present for > 3 weeks

R/O: asthma, foreign body, pertussis, smoking teens

CA: 55, 1, 2, 3, 4, 5, 6, 17, 9

Home Care

Cough with no complications (all triage questions negative)

CA: 58, 1, 2, 3, 4, 5, 6, 19, 7, 8, 9

ALSO, cough-induced vomiting is present

CA: 58, 15, 10, 9

ALSO, mild cold symptoms are present

CA: 58, 11, 12, 13, 14, 9

- CARE ADVICE (CA) -

1. **REASSURANCE:** It doesn't sound like a serious cough. Coughing up mucus is very important for protecting the lungs from pneumonia. We want to encourage a productive cough, not turn it off.
2. **HOMEMADE COUGH MEDICINE:**
 - Before 1 year of age, only use warm clear fluids (e.g., water or apple juice) to treat the cough. Dosage: 1-3 teaspoons (5-15 ml) four times per day when coughing. Avoid honey.
 - After 1 year of age, use HONEY 1/2 to 1 tsp (2 to 5 ml) as needed as a homemade cough medicine. It can thin the secretions and loosen the cough. (If not available, can use corn syrup.)
 - After 6 years of age, use COUGH DROPS to coat the irritated throat. (If not available, can use hard candy.)
3. **OTC COUGH MEDICINE: DM**
 - OTC cough medicines are not recommended. (Reason: no proven benefit for children)
 - Honey has been shown to work better.
 - If the caller insists on using one AND the child is over 2 years old, help them calculate the dosage.
 - Use one with dextromethorphan (DM) that is present in most OTC cough syrups.
 - Indication: Give for severe coughs that interfere with sleep, school or work.
 - DM Dosage: See Dosage table. Teen dose 20 mg. Give every 6 to 8 hours.
 - Don't use under 2 years of age. (Reason: cough is a protective reflex)
4. **COUGHING SPASMS:**
 - Expose to warm mist (e.g., foggy bathroom).
 - Give warm fluids to drink (e.g., warm water or apple juice) if over 1 month old.
 - Amount: If under 1 year of age, give warm fluids in a dosage of 1-3 teaspoons (5-15 ml) four times per day when coughing. If over 1 year of age, use unlimited amounts as needed.
 - Reason: both relax the airway and loosen up the phlegm
5. **HUMIDIFIER:** If the air is dry, use a humidifier in the bedroom. (Reason: dry air makes coughs worse). Avoid menthol vapors (Reason: makes coughs worse)
6. **AVOID TOBACCO SMOKE:** Active or passive smoking makes coughs much worse.
7. **EXPECTED COURSE:** Viral bronchitis causes a cough for 2 to 3 weeks. Sometimes the child coughs up lots of phlegm (mucus). The mucus can normally be gray, yellow or green. Antibiotics are not helpful.
CONTAGIOUSNESS: Your child can return to daycare or school after the fever is gone and your child feels well enough to participate in normal activities. For practical purposes, the spread of coughs and colds cannot be prevented.
8. **CALL BACK IF**
 - Continuous cough persists > 2 hours after cough treatment
 - Signs of respiratory distress
 - Wheezing occurs
 - Cough lasts > 3 weeks
 - Your child becomes worse

9. CARE ADVICE given per Cough (Pediatric) guideline.
10. VOMITING with COUGHING SPASMS: Refeed your child after this type of vomiting. Offer smaller amounts with each feeding to reduce the chances of repeated vomiting (e.g. give 2 ounces less formula per feeding in infants.) (Reason: vomiting more likely with a full stomach)
11. RUNNY NOSE with profuse clear discharge: BLOW OR SUCTION the nose.
 - Reassure the parent that the nasal mucus is washing viruses and bacteria out of the nose and sinuses
 - Blow or suction the nose
 - Apply petroleum jelly to the nasal openings to protect them from irritation
 - Antihistamines are not helpful unless the child has nasal allergies.
 Also, drying up the nose may be harmful since the discharge is the nose's way of ridding itself of viruses.
12. MEDICINES FOR COLDS
 - COLD MEDICINES are not recommended at any age. (Reason: they are not helpful. They can't remove dried mucus from the nose. Nasal washes can.)
 - ANTIHISTAMINES are not helpful, unless your child also has nasal allergies.
 - DECONGESTANTS: OTC oral decongestants (Pseudoephedrine or Phenylephrine) are not recommended. Although they may reduce nasal congestion in some children, they also can have side effects.
 - AGE LIMIT: Before 2 years, never use any cold medicines. (Reason: unsafe and not approved by FDA) After 2 years, don't recommend them, but if the parent insists on using a one, help them calculate a safe dosage based on the drug dosage tables. (Avoid multi-ingredient products.)
 - NO ANTIBIOTICS: Antibiotics are not helpful, unless your child develops an ear or sinus infection.
13. BLOCKED NOSE: use NASAL WASHES
 - Use warm water or saline nosedrops to wash dried mucus or pus out of the nose. Follow this with nose-blowing or nasal suction. Do these nasal washes at least 4 times per day or whenever your child can't breathe through the nose.
 - Warm tap water or saline nose drops are better than any medicine you can buy when it comes to loosening up mucus so suctioning can work.
 - Saline nosedrops-add 1/2 teaspoon of salt to 1 cup of warm water.
 - Importance: a young infant can't nurse or drink from a bottle unless the nose is open
14. CALL BACK IF
 - Fever lasts > 3 days
 - Clear nasal discharge lasts > 14 days
 - Your child becomes worse
15. REASSURANCE: Hard coughing commonly triggers vomiting, especially in young children or those with reflux.
16. FEVER AND < 3 MONTHS OLD: Don't give any acetaminophen before being seen. Need accurate documentation of temperature in medical setting to decide if fever is really present. (Reason: may require septic work-up)
17. CALL BACK IF
 - Your child becomes worse

18. FEVER: To bring down the fever, give acetaminophen every 4 hours OR ibuprofen every 6 hours (See Dosage table)
19. FEVER:
 - For fever > 102 F (39 C) or child uncomfortable, give acetaminophen every 4 hrs OR ibuprofen every 6 hours (See Dosage table)
 - FOR ALL FEVERS: Give cold fluids in unlimited amounts. Avoid excessive clothing or blankets (bundling).
20. BENADRYL for COUGHING SPASMS: If swallowing warm fluids and breathing warm mist doesn't help AND age > 2 years, give a single dose of Benadryl (see Dosage Table). (Reason: Benadryl may help the child relax enough to stop the coughing cycle.) (Avoid if age under 2).
21. PAIN: For pain relief, give acetaminophen every 4 hours OR ibuprofen every 6 hours as needed. (See Dosage Table)
22. LOCAL COLD: Apply a cold pack or a cold wet washcloth to the outer ear for 20 minutes. (Note: some children prefer heat for 20 minutes.)
23. N/A
24. NASAL WASHES for a BLOCKED NOSE: Use warm water or saline nose drops to wash dried mucus or pus out of the nose. Follow this with nose-blowing or nasal suction. Do these nasal washes at least 4 times per day or whenever your child can't breathe through the nose. (For saline nosedrops add 1/2 teaspoon of salt to 1 cup of warm water)
25. DECONGESTANT NOSE DROPS or spray (OTC).
 - Use this only if the sinus still seems blocked up after nasal washes AND age 6 or older.
 - Use the long-acting type.
 - Dosage: 1 drop or spray/side 2 times/day.
 - Always clean out nose before using.
 - Use routinely for 3 days, thereafter only for symptoms.
 - Don't use for more than 5 days. (Reason: rebound congestion)
26. ANTIHISTAMINES:
 - Chlorpheniramine (CTM) products are effective and OTC. (Any antihistamine available will do)
 - The bedtime dosage is especially important for repairing the lining of the nose.
 - Long-acting products (less dosages per day) and combination antihistamine-decongestant products (less-sedating) may be more helpful. (See Dosage table)
 - Teen dose for CTM 4 mg every 6-8 hours.
27. PAIN: To relieve chest pain, give acetaminophen every 4 hrs OR ibuprofen every 6 hours (See Dosage table)
28. CALL BACK IF
 - Fever occurs (rectal temp > 100.4 F or 38.0 C)
 - Cough becomes worse
29. COUGH MEDICINES: Cough medicines should not be used until your child is at least 2 years of age.
30. WARM MIST: For coughing spasms, expose to warm mist (eg in foggy bathroom). (Reason: relaxes the airway and loosens the phlegm).

50. CALL EMS 911 NOW: Your child needs immediate medical attention. You need to hang up and call 911 (or an ambulance). (Triager Discretion: I'll call you back in a few minutes to be sure you were able to reach them.)
51. GO TO ED NOW: Your child needs to be seen in the Emergency Department immediately. Go to the ER at _____ Hospital. Leave now. Drive carefully.
52. GO TO ED NOW (or PCP triage)
 IF NO PCP TRIAGE: Your child needs to be seen within the next hour. Go to the ER/UCC at _____ Hospital. Leave as soon as you can.
 IF PCP TRIAGE REQUIRED: Your child may need to be seen. Your doctor will want to talk with you to decide what's best. I'll page him now. If you haven't heard from the on-call doctor within 30 minutes, or your child becomes worse, go directly to the ER/UCC) at _____ Hospital.
53. SEE PHYSICIAN WITHIN 4 HOURS (or PCP triage)
 IF NO PCP TRIAGE: Your child needs to be seen. Go to _____ (ED/UCC or office if it will be open) within the next 3 or 4 hours. Go sooner if your child becomes worse.
 IF PCP TRIAGE REQUIRED: Your child may need to be seen. Your doctor will want to talk with you to decide what's best. I'll page him now. If you haven't heard from the on-call doctor within 30 minutes, call again. (Note: If PCP can't be reached, send to ED/UCC or office.)
54. SEE PHYSICIAN WITHIN 24 HOURS
 IF OFFICE WILL BE OPEN: Your child needs to be examined within the next 24 hours. Call your child's doctor when the office opens, and make an appointment.
 IF OFFICE WILL BE CLOSED AND NO PCP TRIAGE:
 Your child needs to be examined within the next 24 hours. Go to _____ at your convenience.
 IF OFFICE WILL BE CLOSED AND PCP TRIAGE REQUIRED:
 Your child may need to be seen within the next 24 hours. Your doctor will want to talk with you to decide what's best. I'll page him now. (EXCEPTION: from 10 pm to 7 am. Since this isn't serious, we'll hold the page until morning.)
55. SEE PCP WITHIN 3 DAYS: Your child needs to be examined within 2 or 3 days. Call your child's doctor during regular office hours and make an appointment.
56. SEE PCP WITHIN 2 WEEKS: Your child needs an evaluation for this ongoing problem within the next 2 weeks. Call your child's doctor during regular office hours and make an appointment.
57. FOLLOW-UP: Discuss _____ with your child's doctor at the next regular office visit (Call sooner if you become more concerned.)
58. HOME CARE: You should be able to treat this at home.
59. CALL PCP NOW: You need to discuss this with your child's doctor. I'll page him now. If you haven't heard from the on-call doctor within 30 minutes, call again.
60. CALL PCP WITHIN 24 HOURS: You need to discuss this with your child's doctor within the next 24 hours.
 IF OFFICE WILL BE OPEN: Call the office when it opens tomorrow morning.
 IF OFFICE WILL BE CLOSED: I'll page him now. (EXCEPTION: from 9 pm to 9 am. Since this isn't urgent, we'll hold the page until morning.)

61. CALL PCP WHEN OFFICE IS OPEN: You need to discuss this with your child's doctor within the next few days. Call him/her during regular office hours.

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