Fever - 3 Months or Older

Schmitt-Thompson Clinical Content

DEFINITION

- Fever is a body temperature above normal.
- Fever is the child's ONLY symptom.
- Age: 3 months (12 weeks) or older
- **Included:** fever phobia
- **Triager Tip:** For fever with another symptom, go to that guideline (e.g., cough, runny nose, sore throat, earache, abdominal pain, diarrhea, vomiting) (Exception: Crying as only other symptom with fever, stay here).
- **Triager Tip:** If reported temperature is not a true fever by guideline definition and fever is the only symptom, care advice for these calls is provided under the Home Care disposition.

Fever Definitions: Fever can be defined using one of the following measurements:

- Rectal, Ear (TM) or Temporal Artery (TA) temperature: 100.4 F (38.0 C) or higher
- Oral or Pacifier temperature: 100 F (37.8 C) or higher
- Axillary (armpit) temperature: 99 F (37.2 C) or higher
- Limitation: TM temperatures are not reliable before 6 months of age
- Temporal artery and skin infrared temperatures may be reliable in young infants. (De Curtis 2008)
- Fever strips for the forehead are unreliable at any age
- **Tactile Fevers (also called "subjective" fevers):** Tactile fever means the child "feels hot" and the temperature hasn't been measured. This is the least reliable way to detect fever.
- If a thermometer is not available and the child is 3 months or older, accept a tactile fever as evidence for the presence of fever. About 80% of children with tactile fever have an actual fever when measured (Graneto, 1996).
- If the presence of fever is the only indication for being seen (such as lasting over 3 days), strongly encourage the caller to measure the temperature and call back.

Pain SEVERITY is defined as:

- **MILD:** doesn't interfere with normal activities
- **MODERATE**: interferes with normal activities or awakens from sleep
- **SEVERE**: excruciating pain, unable to do any normal activities, doesn't want to move, incapacitated
- NOTE: always consider pain as a possible cause of fussiness or crying in preverbal children

INITIAL ASSESSMENT QUESTIONS

1. FEVER LEVEL: "What is the most recent temperature?" "What was the highest temperature in the last 24 hours?"
2. MEASUREMENT: "How was it measured?" (NOTE: Mercury thermometers should not be used according to the American Academy of Pediatrics and should be removed from the home to prevent accidental exposure to this toxin.)
3. ONSET: "When did the fever start?"
4. CHILD'S APPEARANCE: "How sick is your child acting?" " What are they doing right now?" If asleep, ask: "How were they acting before they went to sleep?"
5. PAIN: "Does your child appear to be in pain?" (e.g., frequent crying or fussiness) If yes, "What does it keep your child from doing?"

- MILD: doesn't interfere with normal activities
- MODERATE: interferes with normal activities or awakens from sleep
- SEVERE: excruciating pain, unable to do any normal activities, doesn't want to move, incapacitated

6. SYMPTOMS: "Do they have any other symptoms besides the fever?"
7. VACCINE: "Did your child get a vaccine shot within the last 2 days?" "OR MMR vaccine within the last 2 weeks?"
8. CONTACTS: "Does anyone else in the family have an infection?"
9. TRAVEL HISTORY: "Has your child traveled outside the country in the last month?" (Note to triager: If positive, refer call to PCP within 24 hours. PCP will decide if this is a high risk area. If so, they can follow current CDC or local public health agency's recommendations.)
10. FEVER MEDICINE: " Are you giving your child any medicine for the fever?" If so, ask, "How much and how often?" (Caution: Acetaminophen should not be given more than 5 times per day. Reason: a leading cause of liver damage or even failure).

- Author's note: IAQ's are intended for training purposes and not meant to be required on every call.

TRIAGE ASSESSMENT QUESTIONS

Call EMS 911 Now

Shock suspected (very weak, limp, not moving, too weak to stand, pale cool skin)

FIRST AID: have child lie down with feet elevated

CA: 50, 8

Unconscious (can't be awakened)

R/O: coma. FIRST AID: Start CPR if not breathing or no pulse.

CA: 50, 8

Difficult to awaken or to keep awake (Exception: child needs normal sleep)

CA: 50, 8

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

CA: 50, 8

Bluish lips, tongue or face

R/O: cyanosis and need for oxygen

CA: 50, 8

Widespread purple (or blood-colored) spots or dots on skin (Exception: bruises from injury)

R/O: meningococcemia

CA: 50, 8

Sounds like a life-threatening emergency to the triager

CA: 50, 8

See More Appropriate Guideline

Age < 3 months (< 12 weeks)

Go to Guideline: Fever Before 3 Months Old (Pediatric)

Seizure occurred

Go to Guideline: Seizure with Fever (Pediatric)

Fever onset within 24 hours of receiving vaccine

Go to Guideline: Immunization Reactions (Pediatric)

[1] Fever onset 6-12 days after measles vaccine OR [2] 14-28 days after chickenpox vaccine

Go to Guideline: Immunization Reactions (Pediatric)

Confused talking or behavior (delirious) with fever

Go to Guideline: Confusion - Delirium (Pediatric)

Exposure to high environmental temperatures is the cause

Go to Guideline: Heat Exposure (Heat Exhaustion and Heat Stroke) (Pediatric)

Other symptom is present with the fever (Exception: Crying), see that guideline (e.g. COLDS, COUGH, SORE THROAT, MOUTH ULCERS, EARACHE, SINUS PAIN, URINATION PAIN, DIARRHEA, RASH OR REDNESS - WIDESPREAD)

Go to ED Now

Can't move neck normally

R/O: meningitis, retropharyngeal abscess

CA: 51, 3, 4, 8

Central line (e.g. PICC, Broviac) with fever

R/O: sepsis

CA: 51, 8

[1] Child is confused AND [2] present > 30 minutes

Reason: not simple febrile delirium

CA: 51, 3, 4, 8

Go to ED/UCC Now (or PCP triage)

Altered mental status suspected (not alert when awake, not focused, slow to respond, true lethargy)

R/O: increased ICP, meningitis

CA: 52, 3, 8

SEVERE pain suspected or extremely irritable (e.g., inconsolable crying)

CA: 52, 3, 4, 8

Cries every time if touched, moved or held

R/O: meningitis, acute abdomen

CA: 52, 3, 4, 8

[1] Shaking chills (severe shivering) NOW (won't stop) AND [2] present constantly > 30 minutes

R/O: serious bacterial infection

CA: 52, 19, 3, 4, 8

Bulging soft spot

R/O: meningitis

CA: 52, 3, 4, 8

[1] Difficulty breathing AND [2] not severe

R/O: pneumonia

CA: 52, 3, 4, 8

Can't swallow fluid or saliva

CA: 52, 2, 3, 8

[1] Drinking very little AND [2] signs of dehydration (decreased urine output, very dry mouth, no tears, etc.)

CA: 52, 3, 4, 8

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

R/O: serious bacterial infection

CA: 52, 31, 4, 8

Weak immune system (sickle cell disease, HIV, chemotherapy, organ transplant, adrenal insufficiency, chronic oral steroids, etc)

Note: if available, refer to established specialist.

CA: 52, 3, 4, 8

[1] Surgery within past month AND [2] triager thinks fever may be related

R/O: post-surgical infection

CA: 52, 3, 4, 8

Child sounds very sick or weak to the triager

Reason: severe acute illness or serious complication suspected

CA: 52, 3, 4, 8

See HCP (or PCP Triage) Within 4 Hours

Won't move one arm or leg

R/O: septic arthritis

CA: 53, 3, 4, 11, 8

Burning or pain with urination

R/O: pyelonephritis

CA: 53, 30, 3, 4, 11, 8

Call PCP Now

[1] Has seen PCP for fever within the last 24 hours AND [2] fever higher AND [3] no other symptoms AND [4] caller can't be reassured

CA: 59, 3, 4, 5, 13, 11, 8

See PCP Within 24 Hours

[1] Pain suspected (frequent CRYING) AND [2] cause unknown

R/O: ear infection, UTI

CA: 54, 1, 16, 2, 3, 4, 5, 12, 8

[1] Fever present > 5 days AND [2] without other symptoms (no cold, cough, diarrhea, etc.)

R/O: UTI, bacteremia

CA: 54, 16, 2, 3, 4, 5, 12, 8

[1] Age 3 months - 2 years (24 months) AND [2] fever present > 48 hours AND [3] without other symptoms (no cold, cough, diarrhea, etc.) (Exception: MMR in last 12 days or Varicella vaccine in last 28 days)

R/O: UTI, bacteremia

CA: 54, 1, 16, 2, 3, 4, 5, 12, 8

Call PCP Within 24 Hours

[1] Fever AND [2] foreign travel to a developing country in the last month

R/O malaria or other travel-related infection

CA: 60, 1, 2, 3, 4, 5, 12, 8

See PCP Within 3 Days

[1] Age 2 years or older AND [2] fever present > 3 days (72 hours) without other symptoms (no cold, cough, diarrhea, etc.) AND [3] appears well when fever improves

Reason: exam may be helpful

CA: 55, 29, 16, 2, 3, 4, 5, 13, 12, 8

Home Care

[1] Age UNDER 2 years AND [2] fever present < 48 hours AND [3] without other symptoms (no cold, cough, diarrhea, etc.)

CA: 58, 1, 16, 2, 3, 4, 5, 6, 20, 7, 8

[1] Age OVER 2 years AND [2] [2] fever present < 3 days (72 hours) AND [3] without other symptoms (no cold, cough, diarrhea, etc.)

CA: 58, 1, 16, 2, 3, 4, 5, 6, 20, 18, 8

ALSO, fever phobia concerns

CA: 58, 17, 16, 13, 8

ALSO, fast heart rate concerns

CA: 58, 14, 15, 8

[1] Age > 12 weeks AND [2] no fever per guideline definition AND [3] no other symptoms

Note: Triage is unnecessary, caller just needs reassurance

CA: 58, 9, 10, 8

ALSO, taking the temperature, questions about

CA: 58, 21, 22, 23, 24, 25, 26, 27, 28, 8

CARE ADVICE (CA) -

1. **Reassurance and Education - Fever:**
   - Having a fever means your child has a new infection.
   - It's most likely caused by a virus.
   - You may not know the cause of the fever until other symptoms develop. This may take 24 hours.
   - Most fevers are good for sick children. They help the body fight infection.
   - Antibiotics do not help if the fever is caused by a virus.
2. **Treatment For All Fevers - Encourage Extra Fluids:**
   - Fluids alone can lower the fever. Reason: being well hydrated helps the body release heat through the skin.
   - Encourage extra water or other fluids by mouth. Cold fluids are better. Until 6 months old, only give extra formula, breastmilk or Pedialyte if needed.
   - For all children, dress in 1 layer of clothing, unless shivering. Reason: Also helps heat loss from the skin.
   - For shivering (or the chills), give your child a blanket. Make them comfortable.
   - Caution: if a baby under 1 year has a fever, do not overdress or bundle up. Reason: Babies can get over-heated more easily than older children.
3. **Fever Medicine:**
   - For fevers above 102 F (39 C), give fever medicine as needed.
   - For lower fevers, medicine is not needed. Reason: Fever turns on your body's immune system. Fever helps fight the infection.
   - **Fever Medicines:** Give acetaminophen (e.g., Tylenol) every 4 hours OR ibuprofen (e.g., Advil) every 6 hours as needed (See Dosage table). Using one product alone works fine for treating almost all fevers.
   - **Ibuprofen Caution**: Ibuprofen is not approved until 6 months old. Also, do not use ibuprofen for children at risk for dehydration.
   - **Result:** fever medicine usually lowers fever 2-3 degrees F (1- 1 1/2 degrees C). It takes 1 to 2 hours to see the effect.
   - **Avoid aspirin.** Reason: risk of Reye syndrome.
   - **Pain:** If your child also has pain, treat it as needed. It may be a sore throat or muscle pain from the infection. Fever itself does not cause any pain.

4. **Note to Triager: Discourage Alternating Acetaminophen And Ibuprofen**
   - Discuss this topic only if the caller brings it up.
   - Using one product alone works fine for treating most fevers.
   - Review how fever helps the body fight infections. (Reason: fever education counteracts fever phobia). We want sick kids to run a low grade fever (up to 102 F or 39 C) because it helps them get better faster.
   - This guideline does not recommend using acetaminophen and ibuprofen together. Reason: risk of giving too much and causing poisoning. Also, the AAP does not recommend it. Exceptions are as below:
   - **Your Program's Position:** Some call centers or medical directors may choose to recommend alternating meds. Follow your call center's policy.
   - **PCP Exception:** If the child's PCP has recommended alternating meds, support the advice. Help caller use safe dosage:
   - Check the amount of each medication
   - Suggest a 3 hour dosage interval (each product only given every 6 hours).
   - Duration: Suggest returning to using only 1 product after 24 hours.
   - Have parents write down the dosing schedule and read it back to the RN.
   - **ED Advice:** If alternating fever meds has been recommended by an ED, replace it with your call center's advice.
   - **Nurse Judgment:** Call center nurses have permission to recommend for alternating fever medicines for children over 6 months of age if: [1] Fever above 104 F (40 C) and [2] unresponsive to 1 medicine alone (can't bring fever down to 102 F or 39 C) and [3] caller can't be reassured about the benefits and safety of fevers. (Reason: prevent an ED visit)

5. **Sponging with Lukewarm Water - Rarely Needed:**
   - Note to Triager: discuss only if caller brings up this topic.
   - Sponging is an option for fevers above 104 F (40 C), but rarely needed.
   - **Indication**: [1] Fever above 104 F (40 C) AND [2] doesn't come down below 104 F with correct dose of acetaminophen or ibuprofen.
   - Always give the fever medicine at least 1 hour to work before sponging.
   - How to sponge: Use lukewarm water (85-90 F). Sponge for 20-30 minutes.
   - Caution: Do not use rubbing alcohol (Reason: prolonged exposure can cause confusion or coma)
   - If your child shivers or becomes cold, stop sponging or increase the temperature of the water.

6. **Expected Course of Fever**:
   - Most fevers associated with viral illnesses fluctuate between 101 - 104 F (38.3 - 40 C).
   - They last for 2 or 3 days.

7. **Call Back If**
   - Your child looks or acts very sick
   - Any serious symptoms occur, like trouble breathing
   - Fever as only symptom lasts over 48 hours
   - Fever goes above 105 F (40.6 C)
   - Your child becomes worse

8. **Care Advice** given per Fever - 3 Months or Older (Pediatric) guideline.

9. **Reassurance and Education: Normal Temperature**
   - Your child's temperature is normal. Your child doesn't have a fever.
   - Children can feel warm for many reasons such as playing hard, crying, getting out of a warm bed, or being outside on a hot day. They are "giving off heat."
   - Their skin temperature should return to normal in 10 to 20 minutes after removing the cause.

10. **Call Back If**
   - Your child develops a true fever
   - Rectal temperature 100.4 F (38.0 C) or higher
   - Armpit temperature 99.0 F (37.2 C) or higher

11. **Call Back If**
   - Your child becomes worse

12. **Call Back If**
   - Fever goes above 105 F (40.6 C)
   - Your child becomes worse

13. **Fever Phobia Prevention:**
   - Discuss if the caller has concerns about high fevers or harmful fevers.
   - Fevers turn on the body's immune system and help the body fight infection. Fevers are one of the body's protective mechanisms.
   - Normal fevers between 100 F (37.8 C) and 104 F (40 C) are actually good for sick children and help the body fight infection.
   - Fevers from infections do not cause brain damage or any other harm to the body. (Note: only core temperatures over 108 F (42 C) can cause harm.)
   - Fevers need to be treated only if they cause discomfort. That means fevers over 102 or 103 F (39 or 39.4 C).
   - Without treatment, fevers from infection usually peak at 103 or 104 F (39.5 to 40). In addition, the brain's thermostat keeps them from going higher than 105 or 106 F (40.6 to 41.1 C).
   - With treatment, fevers usually come down 2 or 3 degrees F (1 to 1.7 degrees C), not down to normal.
   - Some viruses, however, cause high fevers for 1 or 2 days that won't come down with medicines. Whether the fever medicine lowers the temperature or not doesn't relate to the seriousness of the infection.
   - How your child looks or acts is what's important, not the exact temperature.

14. **Reassurance - Fast Heart Rate:**
   - The heart rate normally increases with fever
   - It also beats more forcefully with fever.
   - Unless your child has underlying heart disease or experiences chest pain, this is harmless.

15. **Call Back If**:
   - Heart rate doesn't return to normal after the fever is down
   - Chest pain occurs
   - Your child becomes worse

16. **Note to Triager - Fever Level and What It Means:**
    - Discuss only if caller seems very concerned about the level of fever. Discuss the line that pertains to the child and help the caller put the level of fever into perspective. Also provide reassurance.
    - 100.4°-102°F (37.8°- 39°C) Low grade fevers: Good fevers. Beneficial, desirable range. Don't treat. Needed to fight the infection.
    - 102°-104°F (39°- 40°C) Moderate fevers: Still beneficial. Treat only if causes discomfort. Fluids alone will often bring it down below 102 F.
    - 104°-105°F (40°- 40.6°C) High fevers: Always treat. Some patients need to be seen based on their symptoms. Many do not.
    - Over 105°F (40.6°C) Less than 3% of fevers go above 105°F (40.6°C). All these patients need to be examined. Reason: small risk of having a bacterial infection such as an ear infection. Parent may need reassurance by examination.
    - Over 106°F (41.1°C) Very high fever: Important to bring it down. Rare to go this high. All these patients need to be examined.
    - Over 108°F (42.3°C) Dangerous fever: Fever itself can be harmful. Extremely rare and only seen with environmental factors (such as a heat wave).

17. **Note To Triager - Fever Phobia Prevention:**
    - This section is to remind you of your important role in preventing fever phobia.
    - Fever phobia refers to the unwarranted fears that many parents have about normal fevers causing harm to their child.
    - Fever phobia drives numerous unnecessary phone calls, as well as office and ED visits.
    - Every phone call about fever is an opportunity to counteract fever phobia through fact-based reassurance.
    - Your role: educate callers about the benefits of fever. Use the terms "good fevers" and "normal fevers".
    - Do not treat low-grade fevers (100 - 102 F or 37.8 - 39 C) with fever meds. Reason: Every time we do so, we convey to parents that low-grade fevers are in some way harmful.
    - Guideline consistency: Every pediatric guideline in this set recommends fevers not be treated with fever-reducing medicines unless the fever goes above 102 F (39 C).

18. **Call Back If**:
    - Child looks or acts very sick
    - Any serious symptoms occur
    - Fever lasts over 3 days (72 hours)
    - Fever goes above 105 F (40.6 C)
    - Your child becomes worse

19. **Warm Clothes for Shivering:**
    - Shivering means your child's temperature is trying to go up.
    - It will continue until the fever medicine takes effect.
    - Dress your child in warm clothes or wrap him in a blanket until he stops shivering.

20. **Contagiousness/Return to School:**
    - Your child can return to day care or school after the fever is gone for 24 hours.

21. **Where to Take the Temperature:**

- Rectal temps are the most accurate. Forehead temps are the next most accurate. Oral and ear temps are also accurate if done properly. Temps done in the armpit are the least accurate, but can be used for screening.
- **Age under 3 months old (90 days old).** An armpit temp is the safest and is good for screening. If the armpit temp is above 99° F (37.2° C), re-check it. Use a rectal reading. Reason: If young babies have a fever, they need to consult a doctor now. New research shows that forehead temps may also be accurate under 3 months of age.
- **Age 3 months to 4 years old.** Rectal or forehead temps are accurate. An ear thermometer can be used after 6 months old. An armpit temp is good for screening if it is taken right.
- **Age 4 years and older.** Safe to take the temp orally (by mouth). Ear and forehead thermometers are also good.
- Digital (electronic) thermometers are easily found in stores. They do not cost very much. They can be used for rectal, armpit and oral temps. Most of them give an accurate temp in 10 seconds or less. The AAP suggests you replace any glass thermometer in the house with one of these products.

22. **Rectal Temperature - How to Take:**

- Age: Birth to 4 years old
- Have your child lie stomach down on your lap. Another way is on the back with the legs pulled up to the chest.
- Put some petroleum jelly on the end of the thermometer and the anus.
- Slide the thermometer gently into the anus no more than 1 inch. If your child is less than 6 months old, put it in no more than ½ inch. That means until you can no longer see the silver tip.
- Be gentle. There should not be any resistance. If there is, stop.
- Hold your child still. Leave a digital thermometer in until it beeps (about 10 seconds).
- Your child has a fever if the rectal temp is above 100.4° F (38° C).
- Warning: do not take rectal temperatures in young children with leukemia or other cancers. Also avoid in other children with weak immune systems such as organ transplant, HIV or sickle cell disease.

23. **Armpit Temperature - How to Take:**

- Age: Any age for screening
- Put the tip of the thermometer in an armpit. Make sure the armpit is dry.
- Close the armpit by holding the elbow against the chest. Do this until it beeps (about 10 seconds). The tip of the thermometer must stay covered by skin.
- Your child has a fever if the armpit temp is above 99.0° F (37.2° C). If you have any doubt, take your child's temp by rectum or forehead.

24. **Oral Temperature - How to Take:**

- Age: 4 years and older
- If your child had a cold or hot drink, wait 30 minutes.
- Put the thermometer under one side of the tongue towards the back. It's important to put the tip in the right place.
- Have your child hold the thermometer with his lips and fingers. Don't use the teeth to keep in place. Keep the lips sealed until it beeps (about 10 seconds).
- Your child has a fever if the temp is above 100° F (37.8° C).

25. **Ear Temperature - How to Take:**
    - Age: 6 months and older (not accurate before 6 months)
    - This thermometer reads the heat waves coming off the eardrum.
    - A correct temp depends on pulling the ear backward. Pull back and up if over 1 year old.
    - Then aim the tip of the ear probe between the opposite eye and ear.
    - Parents like this thermometer because it takes less than 2 seconds. It also does not need the child to cooperate. It does not cause any discomfort.
    - Caution. Being outdoors on a cold day will cause a low reading. Your child needs to be inside for 15 minutes before taking the temp. Earwax, ear infections and ear tubes do not keep from getting correct readings.

26. **Forehead Touch Temperature - How to Take:**
    - Age: Any age
    - This thermometer reads the heat waves coming off the temporal artery. This blood vessel runs across the forehead just below the skin.
    - This is the one most used in hospitals and doctors' offices.
    - Place the sensor head at the center of the forehead touching the skin.
    - Slowly slide the thermometer across the forehead toward the top of the ear. Keep it in contact with the skin.
    - Stop when you reach the hairline.
    - Read your child's temp on the display screen.
    - Note: some newer forehead thermometers don't need to slide across the forehead. (See #27). Follow the box directions on how to take the temp.
    - Used in more doctor's offices than any other thermometer.
    - Parents like this thermometer because it takes less than 2 seconds. It also does not need the child to cooperate. It does not cause any discomfort.
    - Caution: Forehead temperatures must be digital. Forehead strips are not accurate.

27. **Forehead No-Touch Temperature - How to Take:**
    - Age: any age
    - Aim the thermometer at the center of the forehead.
    - Stay less than 1 inch (2.5 cm) away. Do not touch the forehead.
    - Do not move the thermometer.
    - Press the measurement button.

28. **Call Back If:**
    - You have other questions or concerns

29. **Reassurance and Education - Fever Present More Than 3 Days:**
    - Your child does not have any serious symptoms associated with the fever.
    - The fever itself is not harmful. It helps the body fight infections.
    - Your child probably has a viral illness.
    - Your child may need to be seen. It is safe to wait until the office is open.
    - If the fever resolves and your child is better before your appointment, cancel it.

30. **Pain Medicine:**
    - For pain relief, you can give acetaminophen (such as Tylenol) OR ibuprofen. (See Dosage table.)
    - Repeat as needed.

31. **Fever Medicine:**
    - Before going in to be seen, give a dose of acetaminophen OR ibuprofen.
    - See Dosage table.

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 ED at _____ Hospital.
    - Leave now. Drive carefully.

52. **Go To ED/UCC Now (or PCP Triage):**
    - **If No PCP (Primary Care Provider) Second-Level Triage**: Your child needs to be seen within the next hour. Go to the ED/UCC at _____ Hospital. Leave as soon as you can. **Caution**: See Sources of Care below when considering where to send the patient.
    - **If PCP Second-Level Triage Required**: Your child may need to be seen. Your doctor (or NP/PA) will want to talk with you to decide what's best. I'll page the on-call provider now. If you haven't heard from the provider (or me) within 30 minutes, go directly to the ED/UCC at _____ Hospital.

    Note to Triager:
    - Use nurse judgment to select the most appropriate source of care.
    - Consider both the urgency of the patient's symptoms AND what resources may be needed to evaluate and manage the patient.
    - Do not send these patients to Retail Clinics. Retail Clinics have limited services and are not able to manage these patients.

    Sources of Care:
    - **ED:** Patients who may need surgery, need hospitalization, sound seriously ill or may be unstable need to be sent to an ED. Likewise, so do most patients with complex medical problems and serious symptoms.
    - **UCC is Open:** Some Urgent Care Centers (UCCs) can manage patients who are stable and have less serious symptoms (e.g., minor illnesses and injuries). The triager must know the UCC capabilities before sending a patient there. If unsure, call ahead.
    - **Office is Open**: If patient sounds stable and not seriously ill, consult PCP (or follow your office policy) to see if patient can be seen NOW in office.

53. **See HCP (or PCP Triage) Within 4 Hours**:

• **If Office Will Be Open:** Your child needs to be seen within the next 3 or 4 hours. Call your doctor's (or NP/PA) office as soon as it opens.

• **If Office Will Be Closed and No PCP (Primary Care Provider) Second-Level Triage:** Your child needs to be seen within the next 3 or 4 hours. A nearby Urgent Care Center (UCC) is often a good source of care. Another choice is to go to the ED. Go sooner if your child becomes worse.

• **If Office Will Be Closed and PCP Second-Level Triage Required:** Your child may need to be seen. Your doctor (or NP/PA) will want to talk with you to decide what's best. I'll page the on-call provider now. If you haven't heard from the provider (or me) within 30 minutes, call again. **Note:** If on-call provider can't be reached, send to UCC or ED.

Note to Triager:

• Use nurse judgment to select the most appropriate source of care.

• Consider both the urgency of the patient's symptoms AND what resources may be needed to evaluate and manage the patient.

Sources of Care:

• **ED:** Patients who may need surgery or hospital admission need to be sent to an ED. So do most patients with serious symptoms or complex medical problems.

• **UCC:** Some UCCs can manage patients who are stable and have less serious symptoms (e.g., minor illnesses and injuries). The triager must know the UCC capabilities before sending a patient there. If unsure, call ahead.

• **OFFICE:** If patient sounds stable and not seriously ill, consult PCP (or follow your office policy) to see if patient can be seen NOW in office.

54. **See PCP Within 24 Hours:**

• **If Office Will Be Open:** Your child needs to be examined within the next 24 hours. Call your child's doctor (or NP/PA) when the office opens and make an appointment.

• **If Office Will Be Closed:** Your child needs to be examined within the next 24 hours. A clinic or an urgent care center is often a good source of care if your doctor's office is closed or you can't get an appointment.

• **If Patient Has No PCP:** Refer patient to a clinic or urgent care center. Also try to help caller find a PCP (medical home) for future care.

Note to Triager:

• Use nurse judgment to select the most appropriate source of care.

• Consider both the urgency of the patient's symptoms AND what resources may be needed to evaluate and manage the patient.

55. **See PCP Within 3 Days**:

• Your child needs to be examined within 2 or 3 days.

• **PCP Visit:** Call your doctor (or NP/PA) during regular office hours and make an appointment. A clinic or urgent care center are good places to go for care if your doctor's office is closed or you can't get an appointment. **Note:** If office will be open tomorrow, tell caller to call then, not in 3 days.

• **If Patient Has No PCP (Primary Care Provider):** Try to help caller find a PCP for future care (e.g., use a physician referral line). Having a PCP or "medical home" means better long-term care.

56. **See PCP Within 2 Weeks**:
    - Your child needs an evaluation for this ongoing problem within the next 2 weeks.
    - **PCP Visit:** Call your child's doctor (or NP/PA) during regular office hours and make an appointment.
    - **If Patient Has No PCP (Primary Care Provider):** A primary care clinic is where you need to be seen for chronic health problems. **Note:** Try to help caller find a PCP (e.g., use a physician referral line). Having a PCP or 'medical home' means better long-term care.

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 (or NP/PA).
    - I'll page the on-call provider now. If you haven't heard from the provider (or me) within 30 minutes, call again.

60. **Call PCP Within 24 Hours:**
    - You need to discuss this with your child's doctor (or NP/PA) 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 the on-call provider 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 (or NP/PA) within the next few days.
    - Call the office when it is open.

FIRST AID

First Aid Advice for Shock: Lie down with the feet elevated.

BACKGROUND INFORMATION

Causes of Fever

- **Overview.** Almost all fevers are caused by a new infection. Viruses cause 10 times more infections than bacteria. The number of germs that cause an infection are in the hundreds. Only a few common ones will be listed.
- **Viral Infections.** Colds, flu and other viral infections are the most common cause. Fever may be the only symptom for the first 24 hours. The start of viral symptoms (runny nose, cough, loose stools) is often delayed. Parents often call at the start of a fever and want to know the cause of the fever. They need to be reassured that the cause usually can't be determined until other symptoms develop. That may take 24 hours. Roseola is the most extreme example. Fever may be the only symptom for 2 or 3 days. Then a rash appears.
- **Bacterial Infections.** A bladder infection is the most common cause of silent fever in girls. Invasive bacterial infections were uncommon among febrile infants 2 to 6 months of age. In one study of over 21,000 patient encounters over 9 years, only 0.48% had an invasive bacterial infection. (Green 2022).
- **Sinus Infection.** This is a complication of a cold. The main symptom is the return of fever after it has been gone for a few days or persistent fever. The sinus congestion also changes to sinus pain. The nasal discharge may become thick yellow.
- **Vaccine Fever.** Fever with most vaccines begins within 12 hours. It lasts 2 to 3 days. This is normal

and harmless. It means the vaccine is working.

- **Meningitis (Very Serious).** A bacterial infection of the membrane that covers the spinal cord and brain. The main symptoms are a stiff neck, headache and confusion. Younger children are lethargic or so irritable that they can't be consoled. If not treated early, can suffer brain damage.
- **Normal Overheating.** The fever is usually low grade. Can occur during heat waves or from being overdressed. The temp becomes normal in a few hours after moving to a cooler place. Can also occur during hard exercise. Fever goes away quickly with rest and drinking extra fluids. Heat stroke is a serious complication. If suspected, see that guideline.
- **Not Due to Teething.** Teething does not cause fevers.

Matching Pediatric Handouts for Callers

Printed home care advice instructions for patients have been written for this guideline. If your software contains them, they can be sent to the caller at the end of your call. Here are the names of the pediatric handouts that relate to this topic:

- Fever (Age 0-1)
- Fever (Age 1-5)
- Fever (Age 6-21)
- Fever - How to Take the Temperature
- Fever - Facts Versus Myths
- Acetaminophen (Tylenol) Dosage Table - Children
- Ibuprofen (Advil, Motrin) Dosage Table - Children

Bacteremia and Acute FWS (Fever Without a Source) In Children 3 Months to 2 Years

- Pneumococcal bacteremia became a concern for pediatricians in the 1970s.
- Acute FWS (Fever Without a Source) means a child with an unexplained fever without other symptoms. Also called acute FUO (Fever of Unknown Origin).
- Routine immunization with a pneumococcal conjugate vaccine (PCV13) has dramatically decreased the incidence of invasive pneumococcal disease such as meningitis and bacteremia.
- Therefore, automatic CBCs and blood cultures are no longer indicated. (Exception: unimmunized or underimmunized children)
- Indication for still referring these children for evaluation: The UTI rate has not decreased (7%). The UTI risk is mainly in girls. Also, a smaller risk in uncircumcised boys. Most of these children still need a UA and UC.

Urinary Tract Infections and Acute FWS (Fever Without a Source)

- UTIs are the most common bacterial cause of acute FWS.
- Prevalence of UTIs is 5-7% in febrile infants who have no source for their fever evident on history or physical exam.
- Some of them have urosepsis.
- The highest risk groups are girls, uncircumcised boys who are less than 24 months old, or children with a history of a prior UTI. Children younger than 2 years are at particular risk because they usually can't report urinary symptoms such as dysuria, urgency or suprapubic abdominal pain.
- The following triage questions meet the recommendation of the AAP's 2011 and 2016 Clinical Practice Guidelines on Urinary Tract Infections (Pediatrics 2011;128:595-610) on who needs to be seen for a urine culture:
- Burning or pain with urination (any age)
- Pain suspected (frequent CRYING) and cause unknown (any age)
- Age 3 months to 2 years with fever present > 48 hours and without other symptoms (no cold, cough, diarrhea, etc.)

• Age 2 years or older with fever present > 3 days (72 hours) and without other symptoms (no cold, cough, diarrhea, etc.)

Fever Triage After 3 Months Old: Why Associated Respiratory Symptoms Are Important

• The fever guideline is meant for patients with isolated fever as the only symptom.
• In this age group, our concern is determining the source of the fever without other localizing symptoms (such as a UTI).
• The AAP guidelines recommend children less than 24 months old with unexplained fever and no localizing symptoms be evaluated for UTI.
• While the presence of respiratory symptoms does not negate the risk for a UTI or other infection, the risk of having both is lower.
• Thus, in the cough and other respiratory guidelines, we recommend patients with fever and respiratory symptoms be seen if the fever persists greater than 3 days.
• Summary: unexplained fevers (not fevers with a source) in young children need evaluation to rule out a UTI

Non-Immunized or Under- Immunized Children with a Fever: Doesn't Change Triage

• Some physicians recommend that "nurses should routinely ask about immunization status on every phone call where the child has a fever". I disagree with this suggestion for the following reasons:
• The immunization status does NOT change after-hours or office-hours telephone triage about which children need to be seen. Serious symptoms and specific disease complications are thoroughly covered in all guidelines. Nurses also can always opt to bring in a child who sounds seriously ill based upon their professional judgment.
• The immunization status, however, may impact the medical work-up of a child who is being evaluated within the office or ED setting. It may change the differential diagnoses for the child's symptoms or what testing might be needed for a febrile child.
• Our main concern is children who have not received their “Meningitis” vaccines (Pneumo, Hib and Meningococcal vaccines). Their risk for sepsis, meningitis, pneumonia and other SBI is higher. The guidelines, however, are already structured to detect symptoms of these serious diseases and to send positive children in for evaluations. In addition, even though the bacteremia rate has gone down with vaccines, the guideline continues to include a question for detecting bacteremia, in children who have no symptoms except fever. (See Acute Fever Without a Source in the Background Information of the Fever guideline).
• The main scenario in which knowing the immunization status becomes a factor in telephone triage is for tetanus-prone wounds. This is covered in every Trauma guideline and discussed in depth in the Background Information of the Skin Trauma guideline. (see Tetanus Risk in Non- and Under-Immunized Children)
• Any child with a measles-like rash is seen whether or not they have received the MMR vaccine. Likewise, any child with varicella complications is seen whether or not they have received the Varicella vaccine.
• Any child with suspected influenza is seen if they develop any signs of complications (e.g. work of breathing or signs of dehydration), whether or not they have received the influenza vaccine
• Trying to cover over the telephone which immunizations the child may or may not have received, can be time-consuming (adding unnecessary time per call and something a parent may not automatically know without looking at a child’s immunization record). For the majority of calls, this added time will not change the disposition of the call and is largely non-essential to phone triage.
• For practices that have a different view, the call center may need to develop a separate policy for detecting and managing their partially and non-immunized children.

Assessing Pain Severity in Nonverbal Children: Crying and Other Clues

• Always consider pain as a possible cause of fussiness or crying.

- **MILD**: Up and active, not crying at time of call (or transient brief periods of crying), easy to console, will play, drinking fluids, doesn't awaken from sleep
- **MODERATE**: Intermittent crying for longer times, takes longer to console, doesn't want to play, prefers to be held constantly, irritable or more fussy overall, fluid intake may be less than normal, awakening from sleep frequently, difficult to put back to sleep. In addition to crying, may have "moaning or whimpering" due to pain.
- **SEVERE**: Unable to do normal activities, unable to sleep or will only fall asleep briefly, may have poor fluid intake or refuse fluids, miserable, incapacitated, excessive or constant crying, difficult or impossible to console. NOTE: Instead of excessive or constant crying, may also be "groaning, grunting, moaning or whimpering" due to severe pain.

Fever and Crying

- Always use the FEVER guideline (Reason: more targeted triage and Care Advice, including treatment for fever)
- Universal policy: The fever guideline is always recommended, if fever is the only symptom.
- If another symptom is present along with fever, (e.g., cough, sore throat, earache, abdominal pain, diarrhea, vomiting), that guideline is recommended (Reason: more specific triage and Care Advice). Young children cry about all of these symptoms.
- Exception: Crying with fever. Isolated fever means the child is coming down with an infection that so far is undifferentiated. Increased crying is a nonspecific symptom that is present with almost every illness. Fever narrows the diagnostic possibilities, which are different than the causes of crying without fever.
- The fever guideline contains 3 Crying questions that triages children who have crying with fever into 3 different dispositions (e.g., " SEVERE pain suspected, inconsolable crying, or cries when touched or moved" are See Now questions)
- Severe crying with fever is caused by a painful infection until proven otherwise: meningitis, pyelonephritis, otitis media, pharyngitis.

Meningitis: Difficulties in Diagnosis

- Delayed diagnosis of meningitis is the most common cause of a malpractice lawsuit in pediatric practice and telephone care
- Age: 60% of claims involved children < 2 years old
- Errors in Initial Diagnosis: viral infection/influenza 36%, ear infection 12%, gastroenteritis (vomiting) 4%, migraine 3%, febrile seizure 3%
- Presenting symptoms: fever 74%, vomiting 49%, lethargy 32%, headache 27%, influenza symptoms 25%, altered mental status 12%, neck stiffness 10%
- Classic findings of headache, neck stiffness and altered mental status are not present in most infants and toddlers.
- Index of suspicion must be high for any young child with fever, vomiting, altered mental status, or persistent irritability.
- Source: PIAA data from 1985-2006 (McAbee, Pediatrics 2009)

Level of Fevers Reported in Calls to a Pediatric Call Center

- Researcher: Teresa Hegarty, RN, while nurse manager at CHCO call center
- Source: 11,209 calls with fever.
- Of all sick child calls, 24% had a fever as one of the symptoms.
- Date: January 1 to June 30, 2018
- Call Volume (Percent of Total):
- T over 100: 2974 (26.5%)
- T over 101: 2793 (24.9%)

- T over 102: 2470 (22.0%)
- T over 103: 1822 (16.3%)
- T over 104: 833 (7.4%)
- T over 105: 261 (2.3%)
- T over 106: 43 (0.4%)
- T over 107: 13 (0.1%)
- Total calls: 11,209 (100.0%)

Indications For Seeing Patients Immediately For Fever

- Associated serious symptom with any level of fever
- Fever > 105 F (40.6 C) rectally, orally, or any route except axillary NOW OR RECURS
- Axillary fever > 104 F (40 C) NOW OR RECURS
- Reason for these cutoffs: small increased risk of serious bacterial infection especially in under-immunized children

Fever Over 105 F (40.6 C) As a Cutoff for Detecting SBI

- Premise: Physicians usually agree that how a child looks is much more important than the height of the fever. In general, these triage guidelines focus on identifying serious symptoms. However, we also need a height of fever cutoff above which we see children, even if they sound stable and mildly ill.
- Reason: Many studies from the 1970s and 1980s showed that the higher the temperature, the higher the bacteremia rate (Dr. Paul McCarthy, etc). Detecting children with occult bacteremia is important because we know they are at increased risk for progressing to SBI or Serious Bacterial Infections (e.g., meningitis, pyelonephritis, arthritis, osteomyelitis, pneumonia).
- However, since the introduction of vaccinations against HiB and pneumococcal disease, the rate of bacteremia and serious infections from these bacteria have significantly declined.
- Dilemma: What fever cutoff to use? If we use above 104 F (40 C), we end up seeing too many febrile children since over 10% of young children go above 104 F (40 C) at some point during febrile illness. These are the 2 main reasons I chose above 105 F (40.6 C) as a cutoff in 1990. Based on our experience with over 2 million calls and the lack of complaints about this, I think it has served the dual purpose of [1] preventing excessive ED referrals and [2] also avoided under-referrals and missed SBIs. In addition, most parents cannot be reassured that their child has a harmless cause for the fever without an in-person exam, if the reported temperature is above 105 F (40.6 C).

Fevers over 105 F (40.6 C): 2023 Changes

- The Fever > 105 F (40.6 C) triage question for 2023 has the words "NOW or RECURRENT" as a qualifier. We hope this will eliminate some ED over-referral just based on the fever level alone. If the fever is down below 105 F (40.6 C) at the time of the call, has only occurred once, and the child is acting okay, the nurse does not have to send in to the ED. Here is our rationale for these changes:
- The question about Fever > 105 F (40.6 C) is used over 5% in the 2022 guideline at our call center. That creates a lot of ED visits for fever alone.
- Outcome studies for this triage question at our call center found the majority of children are diagnosed with a viral illness. For example, out of 35 patients, 28 (80%) had a viral diagnosis, such as URI or herpangina. Six had an ear infection. One had a UTI. None had a serious bacterial infection (SBI) and there were no hospitalizations. (Author: Jaime Klein, RN)
- Our ED providers think that seriously ill patients (including those with a potential SBI) should be captured by other triage indicators and serious symptoms. The level of fever does not have predictive value in determining patient acuity, risk or differentials.
- Since the introduction of vaccinations against HiB and pneumococcal disease, the rate of bacteremia and serious infections from these bacteria have significantly declined.

Discussing High Fevers with Callers (including the 105 F/ 40.6 C cutoff for being seen)

- Here are some talking points when discussing "high fevers" with callers:
- How your child looks is what's important. If your child looks seriously ill, we want to see him even if the fever is low grade.
- If your child does not look that sick, most fevers don't need to be seen. It's safe to treat them at home.
- Whenever you discuss the child's current temperature, always mention that it probably will go up and down between 102 and 104 over the next 2 days. Add that this is normal with new virus infections. This information may prevent calls about the fever "going higher".
- Don't bring up the 105 F (40.6 C) number unless the caller insists on a fever cutoff for being seen or going to the ER. Always add that it's rare for temps to go that high and that you would prefer they call back first. Also add that most of the time even 105 F (40.6 C) temps are caused by a viral infection, such as the flu.
- Don't tell callers: "We don't worry unless the fever goes above 105 F (40.6 C)". That sends the wrong message. We are concerned about the child's symptoms at all levels of fever.
- Fever Education: If you're discussing fever levels with a caller, it means they probably have fever phobia and need lots of reassurance. While educating them about the benefits of fever takes time, it can prevent unnecessary calls about fever in the future. If possible, also send them a handout on Fever Facts versus Myths.

Fever Cutoffs: 104 F (40 C) vs 105 F (40.6 C)

- 105 F (40.6 C) is a nurse cutoff for referring patients in after a nurse triage call. Reason: May have slightly higher rate of bacterial infections (such as UTI).
- Also most parents want their child examined if the fever goes that high and stays there.
- 104 F (40 C) is a parent cutoff for calling their PCP or nurse to receive triage.

Fever Does Not Cause Pain

- Most discomfort with fever is not caused by the fever. It's caused by the site of infection. Examples: Pain or crying from earache or sore throat.
- Fever simply speeds up the BMR, heart rate and blood flow. Fever makes kids sleepy and wanting to rest. All of these changes are normal physiological responses to the infection. Warmth generally provides comfort. Hot tubs raise the body temperature and are generally relaxing.

Axillary Temperature Cutoff Of 104 F (40 C)

- An axillary temp cutoff for seeing patients is listed within the triage questions because parents prefer to put a thermometer in the axilla rather than the rectum. We can't change that.
- Triage nurses convinced me it needed to be on the triage screen.
- I elected to use the 1 degree F difference between rectal and axillary since it is the number that most nurses and parents remember (and it's close enough).
- Over time, more parents will be performing tympanic and temporal artery temperatures on young children and the cutoff for those are the same as for rectal temps (105 F or 40.6 C).

Tactile Fever

- Tactile fever means the child feels hot and the temperature hasn't been measured.
- Since 84% of mothers can accurately predict the presence of a fever (Graneto reference), these reports should be acceptable for most telephone advice if age > 12 weeks.
- If the exact level of fever or the duration of fever is important for decision making, ask the caller to borrow or buy a thermometer and call back if it's a fever.

• This is especially important for subjective fevers that have allegedly been present more than 3 days.

Normal Variation of Temperature

• Daily temperature can normally go up or down 0.9F (0.5 C). It is lowest in the early morning (4-6 AM) and highest in the late afternoon (5-7 PM). In some children, it can range plus or minus 1.8 F (1 C). One study found that the peak daily rectal temperature in healthy 18-month-old children exceeded 100 F (37.8 C) in 50% of the children (Iliff 1952).
• **Rectal:** A reading of 98.6 F (37 C) is just the average rectal temperature. It normally can change from 96.8 F (36 C) in the morning to a high of 100.3 F (37.9 C) in the late afternoon.
• **Oral:** A reading of 97.6 F (36.5 C) is just the average oral temperature. It normally can change from a low of 95.8 F (35.5 C) in the morning to a high of 99.9 F (37.7 C) in the late afternoon.
• Calls from overconcerned parents about normal variations of temperature (i.e., children without fever or any symptoms) can be documented in this guideline by going directly to the Home Care section. The fever triage questions are not relevant and can be skipped.

With Fever versus Without Fever: What does it mean in triage questions?

• With fever means the child has a febrile illness.
• With fever includes tactile fevers.
• The child may or may not have a fever at the time of the call. It may currently be within normal range due to receiving a recent antipyretic.
• But "with fever" does require that the child had a fever recently, at a minimum within the last 24 hours.
• This clarification is important for separating infection from noninfectious diseases that cause the same symptoms.
• It applies to these 2 similar triage questions in many guidelines:
• [1] Symptom AND [2] fever
• [1] Symptom AND [2] no fever

Recording Temperatures In Presenting Problem

• Record the actual temperature the parent gives you and the way they took it, e.g. 102 F (R) or (O) or (TM) or (TA) or (AX).
• Don't add a degree to convert axillary temperatures to rectal temperatures (actually would need to add 1.4 F or 0.8 C) (Reason: causes confusion.)

Infrared Skin Thermometer

• Mechanism: infrared sensor positioned ¼ inch (5mm) from center of forehead or navel.
• Advantage: no skin contact and can be performed on sleeping child.
• Study from Italy (De Curtis, 2008) on 107 infants in newborn nursery found excellent concordance with simultaneous rectal temperatures.
• Average age of infants: 17 days (range 1-93 days)
• Fever cutoff: equal or greater than 100.4 F (38.0 C) (same as rectal).
• Operator variability: very low (i.e., reliable)
• Conclusion: probably an accurate thermometer; even for newborns. Accept the temperature reported using this new device.

Fever Does Not Cause Tachypnea (Increased Respiratory Rates)

• Tachypnea should not be attributed to fever.
• Tachypnea is caused by lung disease (such as pneumonia or bronchiolitis) until proven otherwise.

It's often the earliest sign of mild respiratory distress and often hypoxia.

- In infants, significant nasal congestion can lead to tachypnea which can be resolved by suctioning. In young infants, obligate nasal breathing can be a factor.
- It can also be caused by metabolic acidosis, such as DKA..
- Evidence: In a cohort of over 235,000 pediatric patients presenting to emergency and urgent care, there was no association between elevated temperature and changes in respiratory rate.
- Reference: Heal C, Harvey A, Brown S, et al. The association between temperature, heart rate, and respiratory rate in children aged under 16 years attending urgent and emergency care settings. Eur J Emerg Med. 2022 Sep 6;29(6):413-416.

RR with Fever Assessment by Optional Follow-up Call

RR is difficult to assess over the phone. Caller reports of "fast breathing" are often unreliable unless measured. If a triager is unsure of the RR in a febrile child, consider the following approach.

- If the fever is above 103 F (39.5 C) and the RR is slightly increased above abnormal (and not associated with any increased work of breathing or trouble feeding), a nurse may elect to provide a follow-up call in 1 hour. During that time, the caller will be instructed on how to lower the fever and how to better count the RR. In infants, nasal suctioning may also improve respiratory rate. Again, if in doubt or if time-consuming, refer the patient in for a lung exam and pulse oxygen saturation check.
- This recommendation was reviewed and approved by 4 pediatric pulmonologists at CHCO in 2019.

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 11 years: > 30 breaths per minute
- 12 years or older: > 20 breaths per minute

Fever Causes Tachycardia (Increased Heart Rates)

- Fever in children contributes to tachycardia.
- Every 1°C increase in body temperature had a mean increase in heart rate of 12 bpm. That is equivalent to about 7 bpm for every 1°F increase in body temperature.
- If the heart rate does not improve with decline in fever, there may be other contributing factors including dehydration, pain, or more serious illness (such as myocarditis).
- This correlation is from a cohort of over 235,000 pediatric patients presenting to emergency and urgent care,
- Reference: Heal C, Harvey A, Brown S, et al. The association between temperature, heart rate, and respiratory rate in children aged under 16 years attending urgent and emergency care settings. Eur J Emerg Med. 2022 Sep 6;29(6):413-416.

Shaking Chills In Febrile Children

- Shaking chills (severe shivering) mainly indicates a rapid rise of fever.
- One study compared 100 children with shaking chills (rigors) to 334 febrile children without chills (Tal 1997). The positive blood culture (bacteremia) rate in children with chills was 4 times higher overall. This partially justifies the fact that this guideline uses shaking chills lasting greater than 30 minutes present now (won't stop) as an indication for referring a child in immediately for an evaluation.
- The more recent widespread use of HIB, Pneumococcal and Meningococcal vaccines may lessen the association of shaking chills with bacterial infections.

Definition of a Lethargic Child (Altered Mental Status in Young Infant or Toddler)

Lethargy must be differentiated from weakness. To physicians and nurses, lethargy is a serious, abnormal symptom usually due to a serious illness (e.g. sepsis). Lethargy with fever can be a sign of meningitis, sepsis, or other serious bacterial infection in younger children. Lethargic children need to be seen immediately. The following are signs of true lethargy:

- Not alert when awake
- Little spontaneous movement
- Little facial expression; won't smile
- Decreased eye contact
- Can't seem to focus
- Doesn't seem to recognize the parent; minimal response to stimulation or touch
- Doesn't interact with the parent or environment; does not play
- Decreased spontaneous talking or babbling
- Doesn't respond to questions
- Doesn't follow simple commands

Callers, however, use the term lethargy to mean many different things. Complaints of lethargy, listless, sluggish, acting strange, eyes are glassy, looks "sad", or sleeping a lot always need to be explored and clarified.

Assessment of a Lethargic Child

Ask the following questions to clarify the status of the child:

- "What do you mean by lethargic?" (or listless)
- "Is she difficult to awaken or unresponsive?"
- "How does she act when she's awake?"
- "Does she know who you are?"
- **ALERT** means up and about, able to play, good eye contact, recognizes parent, thinking clearly versus **LETHARGIC** means little movement, stares into space, doesn't interact, altered mental status (see prior list)
- For young infants: "How are feedings going?" (i.e. strong suck, normal length)
- If the child acts very sleepy, is it after the child's normal bedtime or after the child missed a nap? (i.e. normal sleepiness)
- If the child has developmental delays or is severely disabled, ask about the child's normal baseline behavior and ability to communicate. Then ask, "What's changed?"

Holding Antipyretics Until Temperature > 102 F (39 C) or Higher

A common question is why these guidelines tell callers not to use acetaminophen or ibuprofen until the temperature reaches 102 F (39 C). The main reason is to try to counteract fever phobia. Treating low grade fevers conveys to parents that low grade fevers are in some way harmful (of course, they are not). Fever phobia drives numerous unnecessary phone calls and office/ED visits. Parents need to hear over and over again that fever is beneficial by turning on the body's the immune system. Research also shows untreated fever speeds recovery. (Reference: Schmitt and Offit 2020). Of course, this education will only take with some parents and the others will initiate medicine anyway.

Alternating Acetaminophen And Ibuprofen

Our program and this guideline discourages treating all fevers this way for the following reasons:

- The American Academy of Pediatrics has never recommended alternating antipyretics (see Mayoral reference)

• Alternating antipyretics can cause confusion and dosage errors. Also poisoning can occur if the parent converts to giving just 1 drug but at the more frequent intervals.
• Since it is an attempt to "control fever", the practice increases the parent's level of fever phobia and sense of vulnerability.
• Since the recommendation is driven by fever phobia, we need to counteract it by reassuring parents that fever is beneficial for fighting infections.
• Research that supports alternating antipyretics: A study on alternating acetaminophen and ibuprofen q 4 hours for fever found statistical benefits over monotherapy. (Sarrell 2006) They report a mean daily temperature approximately 1 C (1.8 F) lower with the alternating regimen.
• This guideline continues to be opposed to using this regimen routinely in telephone care. The risk for dosage errors and poisoning due to caller confusion remains real on the telephone. Telephone medicine is not practiced at research pace. This study had many safeguards: all patients were seen, written instructions on how to dose the 2 antipyretics (including the initial loading dose) were provided, and a pharmacist reinforced these instructions.
• Let's continue our efforts to teach parents that fever is beneficial and generally not harmful.

Indications For Alternating Antipyretics
1. Caller states they were instructed by their PCP to alternate both products and is calling to check the dosages or dosing intervals. If possible, encourage only using for fevers > 104 F (40 C).
2. The fever is > 104 F (40 C) AND unresponsive to 1 medicine alone AND caller can't be reassured about fever. (Reason: prevent ED visit)

How to implement alternating antipyretics:

• Check the dosage of each medicine and have the caller write them down and read them back.
• Recommend giving one fever medicine q 3 hours (acetaminophen q 6 hours and ibuprofen q 6 hours)
• Duration: use alternating meds for 24 hours in most cases (**Exception**: prolonged high fevers as with some influenza viruses)

Ibuprofen Use Before 6 Months of Age

• Ibuprofen has not been approved for infants less than 6 months of age.
• We address that in the ibuprofen dosage chart.
• However, we do not include it within the brief care advice for treating fever found in many guidelines. We do not mention it there for many reasons:
• It's common knowledge. Triage nurses should know this.
• It's not an issue for the birth to 3 month old age group, because those patients are referred in for an evaluation and told not to take an antipyretic in advance.
• The risk for using ibuprofen at correct dosage in young infants is relatively low. However a risk of causing acute kidney injury (AKI) does exist. Reason: Renal blood flow increases during the first year of life and is not mature until 6 months. As you know, we also avoid water supplements during the first 6 months.
• Beyond 6 months of age, ibuprofen should be tolerated assuming the patient is well hydrated. With dehydration, however, ibuprofen administration may result in fulminant renal failure, regardless of patient age.
• Key Points:
• Continue to recommend against the use of ibuprofen in healthy infants less than 6 months of age. Premature infants merit additional caution until they reach a corrected age of 6 months.
• Regardless of age, ibuprofen should be avoided in any patient with a history of an acute illness that puts them at risk for dehydration (poor oral intake, vomiting, diarrhea, polyuria).
• Regardless of age, ibuprofen is contraindicated in patients with underlying chronic kidney disease or in patients who may have a urinary concentrating defect.

• Consultant Specialist for this question: Danielle E. Soranno MD, Pediatric Nephrology/The Kidney Center, Children's Hospital Colorado

Acetaminophen Suppository Dosage

This guideline recommends that the rectal dose of acetaminophen be kept the same as the oral dose: 15 mg/kg/dose or 7 mg/lb/dose given every 4-6 hours as needed. (Caution: not to exceed 5 doses per 24 hours). Acetaminophen suppositories are available OTC in 120, 325 and 650 mg sizes. Previous research (Birmingham 1997) did find that to attain therapeutic serum levels the rectal dose needed to be twice the oral dose. However, newer research from the Hospital for Sick Children in Toronto (Scolnik 2002) found that a double (30/kg) dose rectally did not bring the fever down any faster or lower than a regular (15/kg) dose rectally. Higher dosages also carry the potential risk of liver toxicity if completely absorbed.

Naproxen for Fever: Not in Pediatrics

• Naproxen is an ibuprofen-like antipyretic and analgesic that is available OTC.
• It's currently being heavily marketed.
• Advantage: can be given twice a day, rather than every 8 hours for ibuprofen.
• Disadvantage: 12% get side effect of photodermatitis (with skin blistering) following sun exposure.
• FDA-approved only for over age 12 years.
• Decision: will not add to pediatric guidelines (Exception: Menstrual Cramps guideline).
• Reason: It is not the standard of care and current medicines (ibuprofen and acetaminophen) are effective.

Fever Phobia Prevention

• Fever phobia refers to the unwarranted fears that many parents have about fever causing harm to their child.(Note: Fever phobia drives numerous unnecessary phone calls and office/ED visits. Every phone call about fever is an opportunity to counteract fever phobia.) All of these guidelines attempt to nullify "fever phobia". Reassure callers:
• Fever turns on the body's immune system and slows down viruses. It fights infections and protects the body.
• Fevers from infections do not cause brain damage or any other harm to the body. (Note: only core temperatures over 108 F (42 C) can cause brain damage.)
• Fevers need to be treated only if they cause discomfort. That means fevers over 102 F (39 C) or 103 F (39.4 C). (Note: treating low-grade fevers conveys to parents that low-grade fevers are in some way harmful. That's why we don't recommend it.)
• Without treatment, fevers from infection usually peak at 103 or 104 F (39.5 to 40 C). (Note: In addition, the brain's thermostat keeps them from going higher than 105 or 106 F [40.6 to 41.1 C]).
• With treatment, fevers usually come down 2 or 3 degrees F (1.1 or 1.7 degrees C), not down to normal.
• Whether the fever medicine lowers the temperature or not doesn't relate to the seriousness of the infection. Some viruses cause high fevers that won't come down for a few days.
• How your child looks is what's important, not the exact temperature.

International Travel and Fever

• Illness during and after travel is common. Common viral illnesses are easily transmitted during travel from respiratory and contact transmission. Most are colds and vomiting/diarrheal illnesses. Their acuity and clinical course are similar is seen with local transmission.
• Rarely, people can acquire more serious illnesses that is endemic to their area of travel, such as malaria, typhoid fever, etc. These infections cannot be predicted in advance or suspected at the onset of fever.

- These patients will be identified if they develop more serious symptoms or prolonged fevers.
- It would be difficult to list all high-risk countries and endemic diseases that exist in these countries for phone triage.
- Thus, if no serious symptoms exist that are captured in higher acuity questions, a call to the PCP can better triage their needs based on country of travel, infection risks, and symptoms.

International Travel Advisories for Contagious Outbreaks

- **US:** https://wwwnc.cdc.gov/travel/notices
- **Canada:** https://travel.gc.ca/travelling/advisories

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- Joseph A Grubenhoff MD, Pediatric Emergency Medicine, Medical Director, Diagnostic Safety Program, Children's Hospital Colorado, Aurora, Colorado.
- The author is extremely grateful for these critical reviews.

REFERENCES

1. AAP Committee on Quality Improvement: Subcommittee on Urinary Tract Infection. Practice parameter: The diagnosis, treatment, and evaluation of the initial urinary tract infection in febrile infants and young children. Pediatrics. 1999;103:843-852.
2. AAP Subcommittee on Urinary Tract Infection: Urinary tract infection: AAP Clinical practice guideline for the diagnosis and management of the initial UTI in febrile infants and children 2 to 24 months. Pediatrics 2011;128:595-610.
3. Adam HM. Fever: Measuring and managing. Pediatr Rev. 2013 Aug;34(8):368-370.
4. Adam, HM. Fever is Your Friend. Pediatr Rev. 2023 Dec 1;44(12):701-705.
5. Antonyrajah B, Mukundan D. Fever without apparent source on clinical examination. Curr Opin Pediatr. 2008;20(96):102.
6. Antoon JW, Potisek NM, Lohr JA. Pediatric fever of unknown origin. Pediatr Rev. 2015 Sep;36(9):380-390.
7. Argentieri J, Morrone K, Pollack Y. Acetaminophen and ibuprofen overdosage. Pediatr Rev. 2012;33(4):188-189.
8. Arguello SL, Steele RW: Febrile illnesses acquired from animals. Pediatr Ann 2011;40:31-38.
9. Avner JR. Acute fever. Pediatr Rev. 2009;30(1):5-12.
10. Bahorski J, Repasky T, Ranner D, et al. Temperature measurement in pediatrics: a comparison the rectal method versus the temporary artery method. J Pediatr Nurs. 2012;27(3):243-247.
11. Baraff LJ. Management of fever without source in infants and children. Pediatr Ann. 2008;37(10):673-679.
12. Baskin MN, Goh XL, Heeney MM, Harper MB. Bacteremia risk and outpatient management of febrile patients with sickle cell disease. Pediatrics. 2013 Jun;131(6):1035-1041.

13. Batra P, Goyal S. Comparison of rectal, axillary, tympanic, and temporal artery thermometry in the pediatric emergency room. Pediatr Emerg Care. 2013 Jan;29(1):63-66.

14. Birmingham PK, Tobin MJ, Henthorn TK, et al. Twenty-four hour pharmacokinetics of rectal acetaminophen in children: an old drug with new recommendations. Anesthesiology. 1997;87:244-252.

15. Bonadio WA. The history and physical assessments of the febrile infant. Pediatr Clin North Am. 1998;45(1):65-77.

16. Bragg L, Alvarez A. Endocarditis. Pediatr Rev. 2014 Apr;35(4):162-168.

17. Colvin JM, Muenzer JT, Jaffe DM, et al. Detection of viruses in young children with fever without an apparent source. Pediatrics 2012:130(6):e1455-e1462.

18. Crocetti MT, Serwint JR. Fever: separating fact from fiction. Contemp Pediatr. 2005;22(1):34-42.

19. Dang R, Patel AI, Marlow J, et al. Frequency and consequences of routine temperature measurement at well-child visits. Pediatrics. 2022 Jan 1;149(1):e2021053412.

20. De la Cruz-Mena JE, Veroniki AA, Acosta-Reyes J, et al. Short-term Dual Therapy or Mono Therapy With Acetaminophen and Ibuprofen for Fever: A Network Meta-Analysis. Pediatrics. 2024;154(4):e2023065390.

21. Enarson MC, Ali S, Vandermeer B, et al. Beliefs and expectations of Canadian parents who bring febrile children for medical care. Pediatrics. 2012 Oct;130(4):e905-912.

22. Finklestein JA, Christiansen CL, Richard Platt. Fever in pediatric primary care: Occurrence, management and outcomes. Pediatrics. 2000;105:260-266.

23. Graneto JW et al. Maternal screening of childhood fever by palpation. Pediatr Emerg Care. 1996;12(3):183-184.

24. Green RS, Sartori LF, Lee BE. Prevalence and Management of Invasive Bacterial Infections in Febrile Infants Ages 2 to 6 Months. Ann Emerg Med. 2022 Dec;80(6):499-506.

25. Greenes DS and Fleisher GR. Accuracy of a noninvasive temporal artery thermometer for use in infants. Arch Pediatr Adolesc Med. 2001;155:376-381.

26. Greenhow TL, Hung YY, Herz A, et al. Bacteremia in children 3 to 36 months old after introduction of conjugated pneumococcal vaccines. Pediatrics. 2017 Apr;139(4). pii: e20162098.

27. Hamilton JL, John SP. Evaluation of fever in infants and young children. Am Fam Physician. 2013;87(4):254-260.

28. Hay AD, Costelloe C, Redmond NM, et al. Paracetamol plus ibuprofen for the treatment of fever in children (PITCH): randomized controlled trial. BMJ. 2008; 337:a1302.

29. Heal C, Harvey A, Brown S, et al. The association between temperature, heart rate, and respiratory rate in children aged under 16 years attending urgent and emergency care settings. Eur J Emerg Med. 2022;29(6):413-416.

30. Ishimine P. Fever without source in children 0 to 36 months of age. Pediatr Clin North Am. 2006;53(2):167-194.

31. Kanegaye JT, Jones JM, Burns JC, et al. Axillary, oral and rectal routes of temperature measurement during treatment of acute kawasaki disease. Pediatr Infect Dis J. 2016 Jan;35(1):50-53.

32. Malya RR. Does combination treatment with ibuprofen and acetaminophen improve fever control? Ann Emerg Med. 2013 May;61(5):569-570.

33. Maruncic A, Zimmerman M, Glatz J. Infective Endocarditis. Pediatr Rev. 2023 Oct 1;44(10):601-603.

34. Mayoral CE, Marino RV, Rosenfeld W, Greensher J. Alternating antipyretics: Is this an alternative? Pediatrics. 2000;105:1009-1012.

35. McAbee GN, Donn SM, Mendelson RA, et al. Medical diagnoses commonly associated with pediatric malpractice lawsuits in the United States. Pediatrics. 2008;122:e1282-e1286.

36. McCarthy PL. Fever. Pediatr Rev. 1998;19:401-407.

37. Miller AA. Alternating acetaminophen with ibuprofen for fever. Pediatr Ann.2007;36(7):384-388.

38. Newman TB, Bernzweig JA, Takayama JI, Finch SA, Wasserman RC, Pantell RH. Urine testing and urinary tract infections in febrile infants seen in office settings. Arch Pediatr Adolesc Med. 2002;156:44-54.

39. Newman TB: The new American Academy of Pediatrics urinary tract infection guideline. Pediatrics 2011;128:572-575.

40. Nijman RG, Tan CD, Hagedoorn NN, et al. Are children with prolonged fever at a higher risk for serious illness? A prospective observational study. Arch Dis Child. 2023 Aug;108(8):632-639.

41. Paul IM, Sturgis SA, Yang C. et al. Efficacy of standard doses of ibuprofen alone, alternating and combined with acetaminophen for the treatment of febrile children. Clini Ther. 2010:32;2433-2440.

42. Pehlivanturk-Kizilkan M, Ozsezen B, Batu ED. Factors affecting nonurgent pediatric emergency department visits and parental emergency overestimation. Pediatr Emerg Care. 2022 Jun 1;38(6):264-268.

43. Press S, Quinn BJ. The pacifier thermometer. Arch Pediatr Adolesc Med. 1997;151:551-554.

44. Purssell E, Collin J. Fever phobia: The impact of time and mortality--a systematic review and meta-analysis. Int J Nurs Stud. 2016 Apr;56:81-9.

45. Rideout ME, First LR. Fever: measuring and managing a sizzling symptom. Contemp Pediatr. 2001;18(5):42-50.

46. Roberts KB. Young febrile infants. JAMA. 2004;291(10):1261-1262.

47. Rosenfeld-Yehoshua N, Barkan S, Abu-Kish, et al. Hyperpyrexia and high fever as a predictor for serious bacterial infection (SBI) in children-a systematic review. Eur J Pediatr. 2018 Mar;177(3):337-344.

48. Sarrell EM, Wielunsky E, Cohen HA. Antipyretic treatment in young children with fever. Arch Pediatr Adolesc Med. 2006;160:197-202.

49. Scaggs Huang, FA; Schlaudecker, E. Fever in the returning traveler. Infect Dis Clin North Am. 2018 Mar;32(1):163-188.

50. Schlapbach LI, Watson RS, Sorce LR, et al. International Consensus Criteria for Pediatric Sepsis and Septic Shock. JAMA. 2024;331(8):665-674.

51. Schmitt BD, Offit P. Could fever improve COVID-19 outcomes? Contemp. Pediatr. 2020; July: 9-10.

52. Schmitt BD. Fever phobia: misconceptions of parents about fevers. Am J Dis Child 1980;134:176-181.

53. Schuman AJ. Clinical thermometry: an update and review. Contemp Pediatr 2016; March: 37-40.

54. Scolnik D et al. Comparison of oral versus normal and high-dose rectal acetaminophen in the treatment of febrile children. Pediatrics. 2002;110:553-556.

55. Selmek K, Harding M. Kawasaki Disease. Pediatr Rev. 2024;45(7):425-427.

56. Shaikh N, Hoberman A, Hum SW, et al. Development and validation of a calculator for estimating the probability of urinary tract infection in young febrile children. JAMA Pediatr. 2018 Jun 1;172(6):550-556.

57. Shaikh N, Morone NE, Bost JE, et al: Prevalence of urinary tract infection in childhood: a meta-analysis. Pediatr Infect Dis J 2008;27:302.

58. Shaikh N, Morone NE, Lopez J, et al. Does this child have a urinary tract infection? JAMA. 2007; 298(24):2895-2904.

59. Shann F. Comparison of rectal, axillary and forehead temperatures. Arch Pediatr Adolesc Med. 1996;150: 74-78.

60. Son MBF, Newburger JW. Kawasaki disease. Pediatr Rev. 2013 Apr;34(4):151-162.

61. Stevens JP, Lively A, Jerris R, et al. Recognition and Outcomes of Pneumococcal Meningitis in 2 Tertiary Pediatric Hospitals Since the Introduction of the 13-Valent Pneumococcal Conjugate Vaccine. Pediatr Emerg Care. 2022 Jan 1;38(1):e354-e359.

62. Tal Y, Even L, Kugelman A, et al. The clinical significance of rigors in febrile children. Eur J Pediatr. 1997; 156:457-459.

63. Trainor JL, Stamos JK: Fever without a localizing source. Pediatr Ann 2011;40:21-30.

64. Trautner BW, Caviness C, Gerlacher G, et al. Prospective evaluation of the risk of serious bacterial infection in children who present to the emergency department with hyperpyrexia. Pediatrics. 2006;118(1):34-40.

65. Vaz LE. Meningococcal disease. Pediatr Rev 2017:38(4):158-169.

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