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MANAGEMENT OF FEVER UNDER 5

In Primary Care Settings

Directed to Healthcare Professionals.
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PROTOCOL FOR MANAGEMENT OF FEVER UNDER 5 IN PRIMARY CARE SETTINGS

STEP 1: ASSESS SYMPTOMS

1. ASK PARENT/CAREGIVER ABOUT SYMPTOMS[1]

Body temperature ≥ 37.5 °C	Duration of fever (> 2 days)	Signs of dehydration	Skin color	Activity levels	Normal respiration

2. IDENTIFY SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[1]

Children with fever must receive immediate medical attention if:

- the color of skin, lips, or tongue turns blue
- the child does not respond to social signs, does not wake up when roused, or has a weak, high-pitched, or continuous cry
- there is grunting or chest draws into the body
- the skin looks dry
- the child is < 3 months of age with a fever of > 37.5 °C
- the child has a colored rash, neck stiffness, or seizures.

STEP 2: IDENTIFY TREATMENT CONSIDERATIONS[2-6]

Medications limiting treatment

- Aspirin should not be used for children or adolescents ≤18 years of age.
- Paracetamol should be avoided in children with severe liver impairment.
- Ibuprofen should be avoided in children with active GI ulceration or bleeding, and in children with a history of these disorders.
- Ibuprofen should be used with caution in children with asthma

Medical conditions limiting treatment

Caution is recommended using antipyretics in chronic diseases such as pre-existing hepatic and renal impairment or in cases of diabetes, cardiac disease and severe malnutrition.

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STEP 3: RECOMMEND TREATMENT FOR MANAGEMENT OF CHILD WITH FEVER[1–4]

- Antipyretics are indicated to improve overall comfort of the febrile child.
- Consider using either paracetamol or Ibuprofen in children with fever who appear distressed
  - **Paracetamol:** 10-15 mg/kg/dose every 4 to 6 hours, MDD 60-90 mg/kg/day (4 gm total dose)
  - **Ibuprofen:** 5-10 mg/kg/dose every 6-8 hours, MDD 30-40 mg/kg/day.
- Children with fever should not be under-dressed or over-wrapped
- Tepid sponging is not recommended for the treatment of fever
- The use of alcoholic baths is not an appropriate cooling method

ADVICE FOR HOMECARE[1,6]

1. Reassure parents with anxiety about the child's fever
2. Advise parents/caregivers on right measurement of body temperature
3. Advise the parent on the management of fever at home
4. Give clear instructions on how to administer medication
5. Advise parents on the correct use of antipyretic medication
6. When to seek further help

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PROTOCOL FOR MANAGEMENT OF FEVER UNDER 5 IN PRIMARY CARE SETTINGS

STEP 1: ASSESS SYMPTOMS

TABLE 1: QUESTION TO ASK THE PARENT/CAREGIVER[6]

About the child	About the symptoms
1. Is the child older than 3 months? 2. Is the child eating and drinking normally? 3. Is the child behaving normally? 4. Is the child breathing normally?	5. Has the fever been present for more than 2 days? 6. Has the child had convulsions? 7. Are you very worried about the child's health?
A **'NO'** answer to any of the above questions indicates immediate referral to a doctor or clinic.	A **'YES'** answer to any of these questions/observations indicates immediate referral to a doctor or clinic.
All children younger than 3 months of age with a fever must be referred to a doctor	

TABLE 2: ASSESS FOR ANY POTENTIALLY LIFE-THREATENING CONDITIONS AND REFER IMMEDIATELY FOR EMERGENCY MEDICAL CARE[1-3]

- Compromised
  - Airway
  - Breathing
  - Circulation
- Decreased level of consciousness

TABLE 3: ASSESS FOR SIGNS OF DEHYDRATION

- Prolonged capillary refill time (> 3 sec)*
- Abnormal skin turgor
- Abnormal respiratory pattern
- Weak pulse
- Cool extremities

STEP 1: ASSESS SYMPTOMS CONT.

→ STEP 1: ASSESS SYMPTOMS CONT.

***How to assess capillary refilling time at the triage[7]**

Capillary refilling time: How to assess?
The 3 steps 5-second check-up

1. **PRESS** your fingers on the patient's nail bed for 5 seconds (Count the time loudly). The patient's nail bed will turn white

2. **RELEASE** your pressure

3. **COUNT** the seconds till the patient's nail bed returns pink

STEP 1: ASSESS SYMPTOMS CONT.

TABLE 4: ASSESS THE RISK OF SERIOUS ILLNESS IN FEVERISH CHILDREN UNDER 5 YEARS USING THE TRAFFIC LIGHT SYSTEM[1,3]

	Low risk	Intermediate risk	High risk
Color	Normal color of skin, lips, and tongue	Pallor reported by parent or carer	Pale, mottled, ashen, or blue
Activity	• Responds normally to social cues • Is content or smiles • Stays awake or wakes quickly • Strong normal cry or not crying	• Doesn't respond normally to social cues • Wakes only with prolonged stimulation • Decreased activity • No smile	• No response to social overtures • Appears ill to a healthcare professional Unrousable or does not stay awake if roused • Weak, high pitched, or continuous cry
Respiration	Normal	• Nasal flaring • Tachypnoea: respiratory rate >50 breaths/min (age 6-12 months) or >40 breaths/min (age >12 months) • Oxygen saturation ≤95% in air • Crackles on auscultation	• Grunting • Tachypnoea: respiratory rate >60 breaths/min (at any age) • Moderate to severe chest indrawing
Hydration	• Normal skin and eyes • Moist mucous membranes	• Dry mucous membranes • Poor feeding in infants • Capillary refill time ≥3 seconds • Reduced urine output	Reduced skin turgor
Other	No amber or red features	• Swelling of a limb or joint • Not weight bearing or not using an extremity • A new lump >2 cm	• Temperature ≥38°C (age 0-3 months); ≥39°C (age 3-6 months) • Non-blanching rash • Bulging fontanelle • Neck stiffness • Status epilepticus • Focal neurological signs • Focal seizures • Bile-stained vomiting

STEP 1: ASSESS SYMPTOMS CONT.

Look for a source of fever and check for the presence of symptoms and signs that are associated with specific diseases.

TABLE 5: ATTEMPT TO IDENTIFY A FOCUS OF INFECTION OR FEATURES OF SPECIFIC SERIOUS CONDITIONS[1,3]

Diagnosis to be considered	Symptoms and signs in conjunction with fever
Meningococcal disease	Non-blanching rash, particularly with 1 or more of the following: • an ill-looking child • lesions larger than 2 mm in diameter (purpura) • capillary refill time of more than or equal to 3 seconds • neck stiffness
Bacterial meningitis	Neck stiffness Bulging fontanelle Decreased level of consciousness Convulsive status epilepticus
Herpes simplex encephalitis	Focal neurological signs Focal seizures Decreased level of consciousness
Pneumonia	Tachypnoea (respiratory rate more than 60 breaths per minute, age 0 to 5 months; more than 50 breaths per minute, age 6 to 12 months; more than 40 breaths per minute, age more than 12 months) Crackles in the chest Nasal flaring Chest indrawing Cyanosis Oxygen saturation less than or equal to 95%
Urinary tract infection (UTI)	Painful urination (dysuria) More frequent urination New bedwetting Foul smelling (malodorous) urine Darker urine Cloudy urine Frank haematuria (visible blood in urine) Reduced fluid intake Shivering Abdominal pain or tenderness Previous history of confirmed urinary tract infection
Septic arthritis or osteomyelitis	Swelling of a limb or joint Not using an extremity Non-weight bearing
Kawasaki disease	Fever for more than five days and at least four of: • Bilateral conjunctival injection • Change in mucous membranes • Change in the extremities • Polymorphous rash • Cervical lymphadenopathy

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→ STEP 2: TREATMENT CONSIDERATIONS[2-6]

- Caution is recommended using antipyretics in chronic diseases such as pre-existing hepatic and renal impairment or in cases of diabetes, cardiac disease and severe malnutrition.
- In asthmatic children with fever, paracetamol does not seem to worsen asthma symptoms.
- Paracetamol should be avoided in children with severe liver impairment.
- Ibuprofen should be avoided in children with active GI ulceration or bleeding, and in children with a history of these disorders.
- Ibuprofen should be used with caution in children with asthma
- Ibuprofen should not be given to children who are dehydrated or who have severe renal impairment.
- Paracetamol and Ibuprofen are not recommended for the prophylactic management of fever, discomfort or pain associated with vaccines.
- Aspirin should not be used for children or adolescents ≤18 years of age. It has been associated with Reye's syndrome and may increase the risk of bleeding in infections with bleeding risk

→ STEP 3: RECOMMEND TREATMENT[1-4]

- Children with fever should not be under-dressed or over-wrapped
- Tepid sponging is not recommended for the treatment of fever
- The use of alcoholic baths is not an appropriate cooling method

PHARMACOLOGICAL TREATMENT[1-4]

- Antipyretics are indicated to improve overall comfort of the febrile child.
- **Consider using either paracetamol or ibuprofen in children with fever who appear distressed**
- Antipyretics should not be used with the aim of reducing body temperature in children with fever
- **When using paracetamol or ibuprofen in children with fever:**
  - Continue only as long as the child appears distressed
  - Consider changing to the other agent if the child's distress is not alleviated
  - Do not give both agents simultaneously
  - Only consider alternating these agents if the distress persists or recurs before the next dose is due.
  - Fever response to antipyretics is not a predictor of serious illness
  - Doses have to be calculated on weight of the child
  - Avoid combination of antipyretics and 'cough and cold medicines'

STEP 3: RECOMMED TREATMENT CONT.

TABLE 6: DOSE OF ANTIPYRETIC MEDICATION FOR INFANTS AND CHILDREN OLDER THAN 3 MONTHS OF AGE[1-4]

Antipyretic therapy	Dose	Dosing interval	Maximum dose[a]
Paracetamol	10-15 mg/kg/dose	4-6 hours	60-90 mg/kg/day (4 gm total dose)
Ibuprofen	5-10 mg/kg	6-8 hours	30-40 mg/kg/day

[a]Do not exceed this dose within a 24 h period.

ADVICE FOR HOMECARE[1,4]

Reported parental perception of a fever should be considered valid and taken seriously.

1. Reassure parents with anxiety about the child's fever

- Fever is not an illness, but a beneficial response of the body to illness.
- In most cases, the illness is due to a self-limiting viral infection.
- Most fevers are of short duration and are not harmful

2. Advise parents/caregivers on right measurement of body temperature:

- Do not routinely use the oral and rectal routes to measure the body temperature of children aged 0 to 5 years.
- In infants under the age of 4 weeks, measure body temperature with an electronic thermometer in the armpit.
- In children aged 4 weeks to 5 years, measure body temperature by one of the following methods:
  - electronic thermometer in the armpit
  - chemical dot thermometer in the armpit
  - infra-red tympanic thermometer.
- Tips for measurement:
  - Do not measure temperature directly after bathing
  - Ensure that the child's armpit is dry.
  - Place the tip of the thermometer in the armpit and lightly press the child's elbow against the chest to close the tip of the thermometer in the armpit.

Read the temperature:

- If using a digital thermometer: when the indicator sound ('beep') is heard.
- If using a glass thermometer: after 3 min.

ADVICE FOR HOMECARE CONT.

→ ADVICE FOR HOMECARE CONTD.

3. Advise the parent on the management of fever at home

- Tepid sponging is not recommended.
- Do not over-dress or under-dress the child, or wrap the child in heavy blankets.
- Offer the child regular fluids (where a baby or child is breastfed the most appropriate fluid is breast milk)
- Detect signs of dehydration by looking for the following features:
  - Sunken fontanelle
  - Dry mouth
  - Sunken eyes
  - Absence of tears
  - Poor overall appearance
- Encourage the child to drink more fluids and consider seeking further advice if they detect signs of dehydration
- Identify a non-blanching rash (rash which does not fade under pressure)
- Check their child during the night
- Keep their child away from nursery or school while the child's fever persists but to notify the school or nursery of the illness.

4. Give clear instructions on how to administer medication

- Warn parents not to exceed the prescribed dose or dosing interval.
- Shake the bottle before pouring.
- Never measure medicine using a household teaspoon or tablespoon
  - use only the measuring device provided. Unless the medicine comes with a measuring device, caregivers should be provided with an appropriate syringe or measuring spoon whenever medicine for a child is dispensed.
- Never allow children to drink medicines straight from the bottle.
- Store all medicines out of the reach of children.

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ADVICE FOR HOMECARE CONTD.

5. Advise parents on the correct use of antipyretic medication

- Antipyretics should be used to make the child more comfortable and not used routinely with the sole aim of reducing the temperature.
- Antipyretics do not prevent febrile convulsions and should not be used specifically for this purpose.
- Doses should be measured carefully to avoid over- or under-dosing.
- Antipyretic medication starts to work within 1 - 3 h.
- If the temperature does not come down after one dose, do not administer another dose immediately. Wait for the appropriate dosing interval to pass and only give another dose at the correct time.
- If the child vomits immediately after taking a dose of medicine, another dose may be given.
- Antipyretic medication will not return the body temperature to normal unless the fever was low to start with.
- Sleeping children should not be awakened solely to administer antipyretics.
- Avoid combination products and 'cough and cold medicines', which complicate dosing and may increase the risk of overdose and side-effects.
- Antipyretic medication should not be administered for longer than 2 days without consulting a doctor.

When to seek further help

Following contact with a healthcare professional, parents and carers who are looking after their feverish child at home should seek further advice if:

- the child has a fit
- the child develops a non-blanching rash (rash which does not fade under pressure)
- the parent or carer feels that the child is less well than when they previously sought advice
- the parent or carer is more worried than when they previously sought advice
- the fever lasts 5 days or longer
- the parent or carer is distressed, or concerned that they are unable to look after their child.

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