

Tots Too Hot!



The Cute, The Bad & The Ugly
of Pediatric Fever

Pediatric Fever



Critical



**Not
Critical**

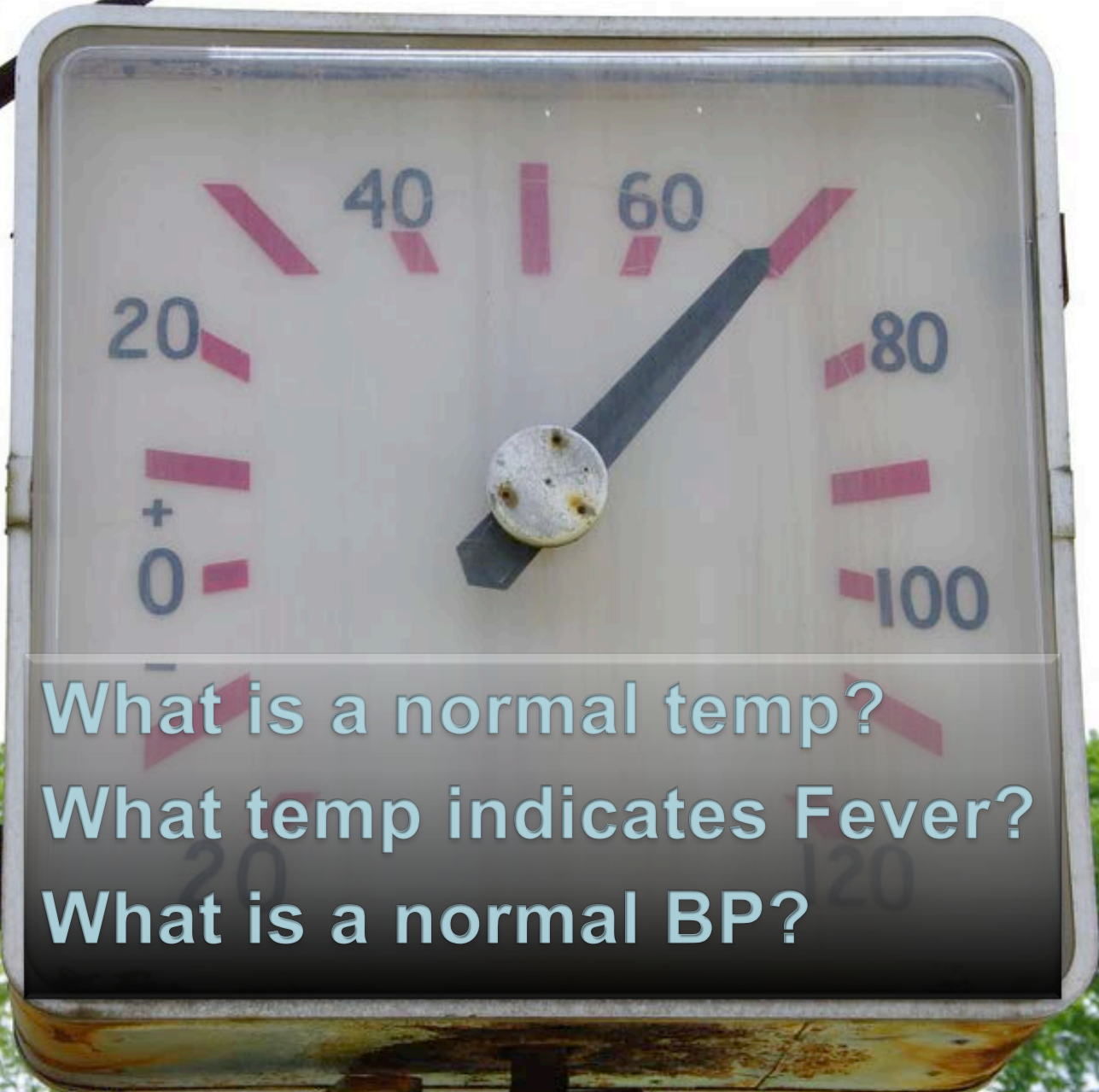
What's the problem?



Is this
inconvenient
or
something
more?



**The Body's
Thermostat
is the
Hypothalamus**



What is a normal temp?
What temp indicates Fever?
What is a normal BP?



Normal Range 35.6 (96.0) – 38.2 (100.8)

FEVER = Rectal temperature $>38^{\circ}\text{C}$ (100.4°F)

FEVER = Oral temperature $>37.2^{\circ}\text{C}$ (99.0°F)

American College of Emergency Physicians. Clinical policy for the initial approach to children under the age of 2 years presenting with fever. *Ann Emerg Med* 22(3):628–637, 1993.

Immune Response

A microscopic view of an immune response. In the foreground, a large, green, textured spherical cell (likely a macrophage) is prominent on the left. To its right, a smaller, yellowish, spherical cell is visible. The background shows a network of blood vessels and various smaller cells, including some green spheres and a larger, more complex structure. The overall scene is set against a light blue and pinkish background, suggesting a biological environment.

Pathogen invades.

Pathogen releases endotoxins.

Endotoxins attract
macrophages.

Macrophages eat the
pathogens.



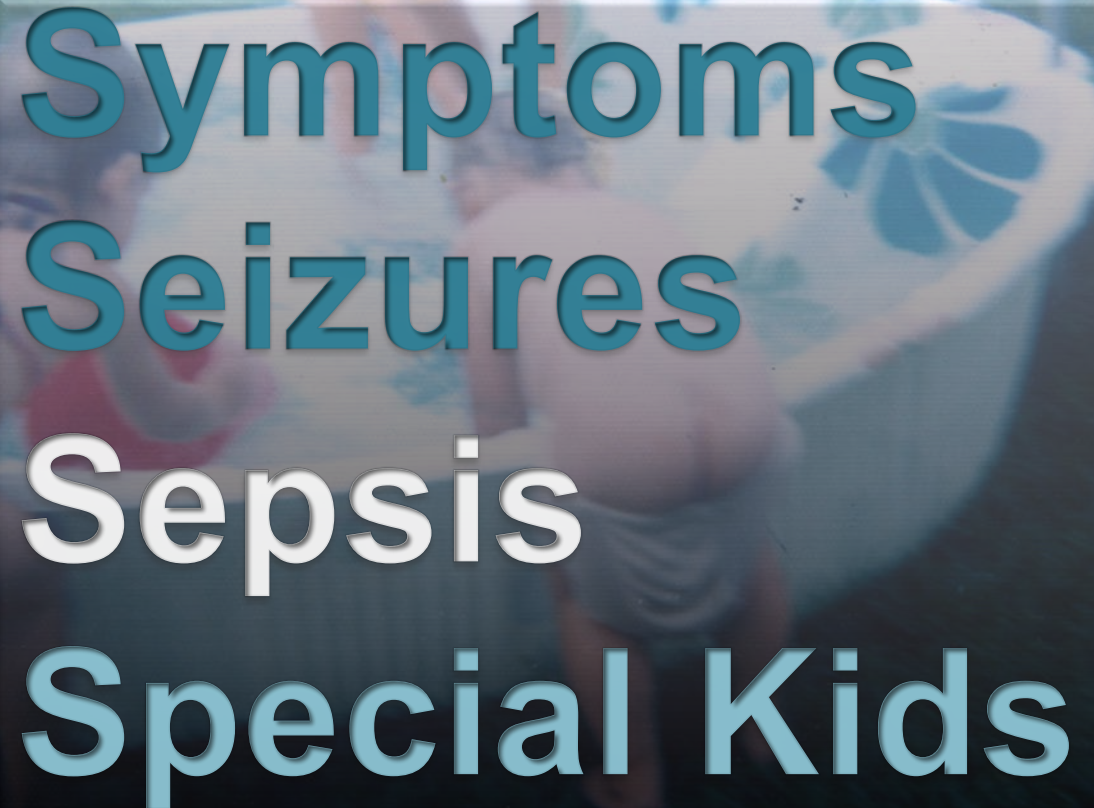
Fever Response

- ① Macrophages exude cytokines.
- ② Cytokines (through a series of reactions) resets hypothalamus.
- ③ More difficult for temperature sensitive pathogens to replicate.
- ④ Increases activity & mobility of macrophages and immune system.



= FEVER

**Butt
wait,
there's
more...**



**Symptoms
Seizures
Sepsis
Special Kids**

Symptoms



S/Sx of dehydration

Unaffected by mild cooling / antipyretics

Evaluated by a pediatrician

Vitals

ABC = Critical

BP, Pulse, Resp out of range

SpO₂ < 94%

etCO₂ < 32

Glucose < 60

Temp > 100.4

History

- Recent infections from
 - Parents / Caregivers
 - Siblings / Peers
- Antibiotic Use
- Recent Hospital Stays
- Immunization Status



History



Food & Fluid Intake
Food & Fluid Output



Seizures

Febrile Seizure

VS

Seizure with Fever



Seizures w/ Fever



Most resolve without anticonvulsants.
Not all seizures with fever are febrile seizures.
Kids with seizure disorders tend to have more seizures when febrile.
Even well controlled kids may be "reset" when febrile.

Febrile Seizures

There is no set Seizure temp.
Even with the same child.
Dropping temp neither stops
nor prevents seizures.
F.S. has a genetic component.

Seizures

A young boy with dark hair is lying on a couch, wearing a white t-shirt. He has a clear oxygen mask over his nose and mouth, secured with green straps. A medical professional's hands, wearing white gloves, are visible near his arm, which has a white bandage. The background consists of a brown couch and a green corduroy pillow.

Treatment for Seizure with Fever?
Treatment for Febrile Seizure?



T

TEMPERATURE
higher or lower
than normal

I

INFECTION
may have signs
and symptoms of
an infection

M

MENTAL DECLINE
confused, sleepy,
difficult to rouse

E

EXTREMELY ILL
"I feel like I might
die," severe pain
or discomfort

Special Kids



Immunocompromised

Immunotherapy

Chemotherapy

Steroids

AIDS

Special Kids

A close-up photograph of a young child with dark skin and hair, looking thoughtfully to the side with their hand near their chin. The child is wearing a medical device on their head, which appears to be a head-mounted oxygenator or similar respiratory support. The background is slightly blurred, showing what might be a hospital bed or a similar setting.

Sickle Cell

Cystic Fibrosis

Premature Birth

Poor Respiratory Function

Poor Cardiac Reserves

Significant Burns

Liver or Splenic dysfunction

Indwelling devices

Special Kids



Under 3 months old

Treatment



ABC's

Treatment

A collection of medical supplies is arranged on a surface. In the foreground, there is a green sippy cup with a white straw, a blue water bottle with a green lid, and a white digital thermometer. In the background, there are several bottles of medicine, including a white bottle of acetaminophen with a label that reads "dye free children's acetaminophen oral suspension liquid". The scene is lit with warm, golden light, suggesting a home or clinical setting.

Reasons to Treat Fever

Interferes with activities

Patient Comfort

Parent Comfort

Treatment

A close-up photograph of a polar bear's head and front paws. The bear is in water, and its fur is wet and matted. The bear's mouth is slightly open, and it appears to be shivering or in distress. The water is dark and splashing around the bear's head.

Trying to drop body temp while pt. is shivering is no good.

Passive Cooling: Exposure

Active Cooling: Water

Treatment

Childrens
Acetaminophen
Oral Suspension
Ibuprofen
AGERS 2-11

grape

3.1 FL OZ (100ml)

10 mg per 5.1 teaspoons (100 mg per 20 mL)

Tylenol or Motrin

Approx 30 minutes

Until they feel better, not until afebrile

Not Aspirin!

-3 tsp-

-2 tsp-

-1 tsp-

-2½ tsp-

-1½ tsp-

-½ tsp-

Treatment



Fluids

20cc/kg

Glucose


>60 mg/dL

Patient Hand-Off



Patient Hand-Off



A photograph of a baby crawling on a carpeted floor. The baby is looking towards the camera with a curious expression. In the background, there is a dark headboard with a brass door pull. To the left, there is a wooden post and some blue fabric. The text is overlaid on the left side of the image.

Symptoms
Seizures
Sepsis
Special Kids

Pediatric Fever



The Cute

Pediatric Fever Typically Ain't So Bad

Pediatric Fever



The Bad

Except when it is!

Pediatric Fever

A photograph of a baby lying in a hospital bed. The baby is wearing a white hospital gown and is looking towards the camera with a slightly distressed expression. The baby's right hand is raised near their face. A large, white stuffed rabbit is positioned behind the baby's head, partially obscured by the bed's headboard. The bed has white linens and a yellow headboard. The overall scene is dimly lit, typical of a hospital room.

The Ugly

So we have to know the difference.





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