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Fever

Normal Vital Signs

Age	RR	HR
Newborn	30-60	100-160
6 mos	24-38	110-160
1 yr	22-30	90-150
3 yrs	22-30	80-125

Age	RR	HR
5 yrs	20-24	70-115
10 yrs	16-22	60-100
14 yrs	14-20	60-100
Adult	12-18	60-90

Age	Lower limit Syst. BP (mmHg)
0 - 28 days	60
1 -12 months	70
1 -10 years	70 + (2 x age)
10 yrs - Adult	90

Red Flags and Special Circumstances in Patients with Fever

Fever = T^0 ≥ 38.0^{0}C	Investigations	Management
↑HR, ↓BP (as per vitals tables above): risk of sepsis	Look for source: blood culture, UA/UC*, sputum culture, CSF culture, wound, catheter, line	ABC's, IV fluids, supplemental O2, activate EMS, empiric antibx
Newborn (0 -3 mos.)	CBC/diff, **blood culture**, UA/UC*, **CSF cultures** & gram stain, CXR if resp. symptoms/tachypnea, stool culture if diarrhea	Admission to hospital, Empiric parenteral antibx to cover meningitis
Neutropenia Risk (Chemotx, immune or hematopoetic dz)	Confirm neutropenia, look for source of infection (culture what you can, CXR)	Admission to hospital, Empiric parenteral antibx, Treat underlying cause
Diarrhea	Stool culture, consider UA/UC*	Based on results
Dysuria	UA/UC*	Based on results
Under-immunized	Be vigilant for dz's based on missing immunizations	
Tachypnea +/- cough	CXR (to R/O pneumonia)	Antibx if CXR +
Returning Traveler (R/O Malaria)	**Thick/thin blood film for malaria Q12h x 3**, CBC, diff, LFTs, UA/UC*, blood culture x 2-3, CXR	If any films +ve for malaria; consult ID
Mental status change, headache, nuchal rigidity	CBC diff, blood cultures x 2-3, CSF culture, gram stain, opening pressure, cell count	Empiric parenteral antibx based on likely organism for age group and situation
Fever ≥ 3 days	Reassessment to R/O bacterial cause, including UA/UC*	Based on results; reassess in 2 days if fever persists
Consider Kawasaki's Disease in a child with fever ≥5 days and 4 or more of clinical criteria below (emergent paeds. referral if so); may be "incomplete Kawasaki's" if <6 months old and/or only 3 criteria → will require bloodwork +/- paeds. referral) (1) Conjunctivitis (2) Truncal rash (3) Cervical lymphadenopathy >1.5cm (4) Mucosal Δ's (strawberry tongue, diffuse erythema, swelling/fissuring of lips) (5) Extremity Δ's (edema, erythema, desquamation, induration of hands/feet)		
Fever persisting > 3 weeks = FUO (Fever of Unknown Origin)	Expand investigations to include TB, HIV & immune dz, osteomyelitis, abscesses, inflamm. dz., etc	Based on + findings, refer as required, if no etiology found consider ID consult

Fever Symptom Management

*UA/UC = urinalysis & culture

Antipyretics	Pediatric	Adult
Acetaminophen	15mg/kg/dose PO/PR Q4-6h PRN **DO NOT EXCEED 2.6g/24hrs**	325-650mg PO/PR Q4-6h PRN **DO NOT EXCEED 3g/24hrs**
Ibuprofen	10mg/kg/dose PO Q6-8h PRN **DO NOT EXCEED 40mg/kg/24hrs**	200-400mg PO Q4-6h PRN
ASA	Do not use - Risk of Reye's Syndrome	325-650mg PO Q4-6h PRN
Tepid sponging with water (not alcohol) at 30°C is a useful adjunct.		

Key References: Pediatric advanced life support: 2010 American heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Pediatrics 2010; 126(5):e1361-99. Clinical policy for children younger than three years presenting to the emergency department with fever. Ann Emerg Med 2003; 42:530. Canadian Recommendations for the Prevention and Treatment of Malaria Among International Travellers. Canada Communicable Disease Report July 2009. Age Appropriate Vital Signs - https://www.cc.nih.gov/ccc/pedweb/pedsstaff/age.html