

Irritability

Definition / Supporting Information

Irritability describes excessive response to a stimulus. This is a difficult symptom to quantify. Examples of irritability may be episodes of crying and / or fussiness despite attempts to comfort in a baby or small child, or grumpiness and / or moodiness in an older child.

Irritability may result from:

- An emotional state (eg, anger, frustration)
- Lack of vital nutrients (eg, oxygen, glucose)
- Presence of noxious stimuli (eg, pain, toxins)

Essential History

Ask about:

- Age
- Length of symptoms
- Fever
- Gastrointestinal symptoms
- Feeding and sleep history
- Perinatal history, including maternal drug use
- Previous medical history
- Social circumstances

'Red Flag' Symptoms and Signs

Acute irritability may be associated with life-threatening illnesses requiring urgent intervention and stabilisation before a search for the cause can begin.

Evaluation should progress only after the ABCs (airway, breathing, and circulation) of resuscitation have been addressed.

Ask about:

- Symptoms suggesting meningitis or raised intracranial pressure (see Bacterial meningitis and meningococcal septicaemia: Management of bacterial meningitis and meningococcal septicaemia in children and young people younger than 16 years in primary and secondary care [[NICE clinical guideline 102](#)])
 - Vomiting
 - High-pitched cry

- Poor feeding (see Appetite Loss)
- Bulging fontanelle
- Drowsiness / lethargy
- Headache
- Ataxia
- Fever suggesting bacterial infection (see Feverish illness in children: Assessment and initial management in children younger than 5 years [[NICE clinical guideline 160](#)])
- History of trauma
 - Consider child maltreatment (see When to suspect child maltreatment [[NICE clinical guideline 89](#)])

Look for:

- Fever, tachycardia, tachypnoea, mottled skin, cool peripheries
- Rash
- Toxic-looking child
- Signs of increased intracranial pressure
 - Reduced conscious level (see Altered Conscious Level)
 - Irregular respirations
 - Hypertension
 - Bradycardia
- **Any** abnormality on detailed neurological assessment
- Abdominal distension and / or tenderness
- Limb / joint pain or limp
- Soft tissue infection (eg, cellulitis)
- Evidence of trauma, bruising (see Petechiae and Purpura)
 - Inflicted injuries are more difficult to diagnose
 - Look for fractures or dislocations

Differential Diagnosis / Conditions

Irritability in an unwell child

- Infections
 - Meningitis
 - Infants with meningitis may have irritability, lethargy, and poor feeding.
 - Osteomyelitis
 - Irritability and decreased movement of a limb
 - Septic arthritis
 - Joint pain, fever, and irritability

- Occult sepsis, urinary tract infections, and pneumonia can produce irritability, with fever and other signs that cause a patient to appear toxic.
- Trauma
 - ‘Shaken baby syndrome’
 - Child maltreatment (see [When to suspect child maltreatment \[NICE clinical guideline 89\]](#))
 - Clinical signs may be poor feeding (see [Appetite Loss](#)), vomiting, lethargy, or irritability
 - Occult fracture, such as rib fractures
 - In children with spastic quadriplegia, pathological fractures may occur and should actively be sought.
- Acute abdomen / surgical
 - Intussusception
 - The child appears colicky, cries, and may draw the knees upward towards the chest; this may last a few minutes and then subside.
 - The child often looks better between episodes; irritability gradually increases and vomiting becomes more frequent and sometimes bilious.
 - Malrotation with midgut volvulus
 - Appendicitis
 - Necrotising enterocolitis
 - Inguinal hernia, incarcerated
 - Scrotal pain from epididymitis, torsion of the testis, or torsion of the appendix testis
- Central nervous system
 - Increased intracranial pressure (ICP) from a brain tumour, head trauma, or hydrocephalus
 - Diagnosis may be delayed in young children because their symptoms are subtle (eg, headache, irritability, or drowsiness) or similar to those of more common illnesses, such as gastrointestinal disorders (eg, vomiting).
 - Non-convulsive status epilepticus
- Cardiac system
 - Acute myocarditis
 - May be associated with chest pain
 - Supraventricular tachycardia
 - Anomalous left coronary artery originating from the pulmonary artery
- Neoplasms
 - Leukaemia (eg, with bone pain)
 - Cancers of all sorts may have a component of irritability among their symptoms and must be considered carefully when no other diagnosis is forthcoming.

- Hypoxic or ischaemic events
 - Carbon monoxide (CO) poisoning and methaemoglobinaemia
 - Sick cell anaemia
 - Ischaemia may cause a painful vaso-occlusive crisis
- Metabolic derangements
 - Hypoglycaemia, hypo- or hypernatraemia, hypo- or hypercalcaemia, hypomagnesaemia, and inborn errors of metabolism can all cause irritability.
- Toxins and drugs
 - Substance use or withdrawal in a neonate or adolescent
 - Intentional or accidental poisoning

Irritability in a well looking child

- Foreign body in the ear or nose
- Corneal abrasion
- Hair tourniquet (hair wrapped around a digit or penis)
- Nappy rash
- Non-specific vaginitis
- Balanitis
- Insect bites or stings
- Vaccination pain
- Dental caries

'Chronic' irritability

- Significant problems with familial relationships and ability to master the environment.
- Psychiatric problem, such as depression, psychosis, autism, post-traumatic stress disorder, or substance abuse in the older child / adolescent

Other

- Infantile colic
 - Criteria for diagnosis
 - Crying for ≥ 3 h per day
 - For ≥ 3 days per week
 - Over > 3 weeks
 - Typically peaks at 6 weeks and abates by 3–4 months
- Gastro-oesophageal reflux
- Constipation
- Food allergy
 - The most common food allergens include cow's milk, eggs, peanuts, wheat, and shellfish.

- Sleep disturbance
 - Night terrors
 - Nightmares
- Severe cognitive impairment
 - Children cannot verbalise what they are experiencing.
 - Although caregivers are usually adept at reading body language and behaviours to know when the child is in pain, they often cannot identify the specific cause.
 - These children are likely to experience pain from the same sources as unimpaired children (eg, teething, sore throat, headache, minor trauma) but are at risk for additional sources of pain and discomfort.
 - Constipation, muscle spasms, and irritation from feeding tubes are frequent causes of irritability.
- Hormonal effects associated with adolescence in both boys and girls can cause moodiness and irritability.

Investigations

To be undertaken by non-specialist practitioners (eg, General Practitioner (GP) Team):

- A thorough head-to-toe examination, including special attention to the eyes, ears, mouth, digits, and genitalia, is essential to establish a diagnosis.
- The skin should be examined for presence of a petechial rash.
- The urine may be examined in non-urgent cases for presence of urinary infection.

To be undertaken by specialist practitioners (eg, Emergency Department / Paediatric Team(s)) or by non-specialist teams if available:

- Laboratory evaluation
 - Infection
 - Cultures
 - Full blood count
 - Erythrocyte sedimentation rate
 - C-reactive protein
- Metabolic system
 - Glucose
 - Electrolytes including magnesium and calcium
 - Anion gap calculation
 - Ammonia
- Toxins and drugs (see Drug Overdose and Poisoning)
 - Blood and urine screening
- Acute myocarditis
 - Serum troponin concentration

- Carbon monoxide poisoning
 - Arterial measurement of carboxyhaemoglobin
- Imaging
 - Computed tomography of the head for unexplained irritability or lethargy, a scalp haematoma in an irritable child, protracted vomiting, neurological deficits, or suspicion of non-accidental injury
 - Plain films, ultrasonography, magnetic resonance imaging, and bone scanning can be helpful in the evaluation of:
 - Suspected bone abnormalities (fractures, osteomyelitis, infarction in sickle cell disease)
 - Joint processes (septic arthritis, particularly of the hip, or trauma)
 - Plain films of the abdomen can be helpful in diagnosing:
 - Necrotising enterocolitis (pneumatosis intestinalis)
 - Malrotation with midgut volvulus
 - Ultrasonography and computed tomography can be helpful with intra-abdominal processes
 - Appendicitis
 - Intussusception
 - Pyloric stenosis
 - Blunt abdominal trauma
 - ECG for supraventricular tachycardia
 - Echocardiography for acute myocarditis
 - Chest radiography for cardiomegaly in anomalous left coronary artery originating from pulmonary artery

Treatment Approach

To be undertaken by non-specialist or specialist practitioners (eg, GP / Paediatric Team(s)):

- Treatment is based on the cause of irritability.

When to Refer

Refer urgently to specialist practitioners (eg, Emergency Department / Paediatric Team(s)) if:

- Suspected life-threatening condition, such as meningitis or brain tumour, that causes irritability
 - Arrange emergency transfer
 - See Bacterial meningitis and meningococcal septicaemia: Management of bacterial meningitis and meningococcal septicaemia in children and young

- people younger than 16 years in primary and secondary care [[NICE clinical guideline 102](#)]
- See also [Traffic light system for identifying serious illness](#) (pdf) from NICE clinical guideline 160.
- Any 'red flag' symptoms or signs
- Infants < 3 months who are irritable, for evaluation and observation
- Suspected child maltreatment (see [When to suspect child maltreatment](#) [[NICE clinical guideline 89](#)])

'Safety-Netting' Advice

- Advise parents or carers to seek urgent medical attention if 'red flag' symptoms develop.
- If no cause is found, advise parents or carers on how to comfort the baby or child.
- Advise parents when to seek further medical attention if irritability continues.
- Consider giving an advice leaflet depending on features found, such as a written advice leaflet for fever.

Parent / Carer Information

****Please note: whilst these resources have been developed to a high standard they may not be specific to children.***

- [Colic](#) (Web page), the NHS website
- [Does your child have a serious illness?](#) (Web page), the NHS website
- [How to calm my crying baby](#) (Web page), the NHS website

Resources

National Clinical Guidance

[When to suspect child maltreatment](#) (Web page), NICE clinical guideline CG89, National Institute for Health and Care Excellence.

[Bacterial meningitis and meningococcal septicaemia: Management of bacterial meningitis and meningococcal septicaemia in children and young people younger than 16 years in primary and secondary care](#) (Web page), NICE clinical guideline CG102, National Institute for Health and Care Excellence.

[Traffic light system for identifying serious illness](#) (pdf), from [Feverish illness in children](#), NICE clinical guideline CG160, National Institute for Health and Care Excellence.

[Nausea and vomiting](#) (Web page), [HeadSmart: be brain tumour aware](#), RCPCH, The Brain Tumour Charity, CBTRC, The University of Nottingham, The Health Foundation.

[Gastro-oesophageal reflux disease in children and young people:diagnosis and management](#) (Web page), NICE clinical guidance NG1, National Institute for Health and Care Excellence

[Urinary tract infection in children and management](#) (Web page), NICE clinical guidance CG54, National Institute for Health and Care Excellence

Medical Decision Support

[Recognition of Physical Abuse](#) (Web page), RCPCH Child Protection Companion

[Rash](#) (Web page – requires log-in), Spotting the Sick Child

[Head Injury](#) (Web page – requires log-in), Spotting the Sick Child

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