Childhood Injuries & Physical Abuse

1 Physical Abuse

Physical abuse is a cause of significant morbidity and mortality in children, especially in babies and infants who are at highest risk of death and serious injury. Those who are not independently mobile, unable to tell someone what is happening and children with disabilities are more vulnerable to abuse.

Practitioners should use professional curiosity in assessing injuries in children and refer for a further opinion if needed. Cases where explanations given do not fit with developmental abilities, injuries or presenting problems are of particular concern.

Understanding of research on injuries and physical abuse in children is important in developing professional knowledge, leading to improved recognition and service responses in this field.

2 Bruising

Bruising is strongly related to mobility. Once mobile and walking independently, children can sustain bruises from everyday activities, but bruises are the commonest presenting feature of inflicted injury in childhood.

Be concerned about any bruising in babies and children who are not independently mobile.

Abusive bruises can be anywhere but are found predominantly on the face, head, neck, ear and cheeks, and also on the trunk, buttocks and arms, away from bony prominences. Abusive bruises may reflect imprints of an item used, be found in clusters, or have **petechiae** (pin-prick bruises).

Bruises cannot be aged by visual assessment or colour and this should not be attempted.

3 Fractures

Fractures occur in up to a third of physical abuse cases. Most abusive fractures are in babies and young children, with 80% occurring in children under 18 months old.

Abusive fractures are often occult, meaning there may be few or no outward signs of injury. Symptoms in young children can be minimal or non-specific and easily mistaken for other problems.

Skeletal imaging guidance allows for increased investigation in young children where physical abuse is suspected.

Abusive fractures can be multiple and of different ages. Specialised medical tests are needed to diagnose them accurately.

4 Abusive Head Trauma

Abusive Head Trauma (AHT) is the commonest cause of death in child abuse, with a mortality rate of 30% and residual morbidity in 50% of survivors, including cerebral palsy, epilepsy, visual impairment, learning difficulties and behavioural problems.

Presentation can be clinically indistinct and medical tests are needed to detect and exclude AHT. These may include neuroimaging, skeletal survey, blood tests and specialist eye examination.

5 Burns and Scalds

Most burns and scalds in children result from unintentional injury, often involving varying degrees of parental inattention. An estimated 10% are associated with maltreatment, with the majority thought to be due to neglect.

Seventy per cent of intentional burns and scalds occur in children under three years of age. Scalds are the most common intentional burn injury.

Research shows particular burn patterns associated with physical abuse. Specialist clinical assessments and further medical and radiological investigations may be required. Some skin disorders may mimic intentional burns.

6 Internal Organ Injury

Internal organ injuries are the second most common cause of fatal physical abuse in children after Abusive Head Trauma.

History, symptoms and external clinical signs may be minimal or non-specific. The absence of bruising does not preclude serious internal injury.

Clinicians should have a low index of suspicion in young or unconscious children where abuse is suspected. Specialist medical tests and imaging should be considered. Almost every organ of the body has been reported as being injured due to physical abuse.

7 Other Injuries

Physical abuse can also present with injuries to the mouth, lips, tongue and teeth. Human bites are always inflicted injuries, although they may not always be abusive in nature. Many human bites are not recognised and may be mistaken for bruises or other injuries. Human bites may offer opportunities to identify a perpetrator through salivary DNA or dental characteristics.

Nosebleeds are a rare presentation in children under two years of age but are significantly associated with asphyxiation, either intentional or unintentional. Young children presenting with asphyxia may have no symptoms or may show altered skin colour, respiratory distress, altered heart rate, an Apparent Life-Threatening Event (ALTE) or a Brief Resolved Unexplained Event (BRUE).