

# Diagnostic Imaging's Role in the Diagnosis of Child Abuse

## Skeletal Survey

X-ray uses a study called a skeletal survey. This is a series of x-rays that helps find any unusual fractures in children. Some of the most common fractures that are common in child abuse cases are the corner/bucket, ribs, long bones, and skull fractures. These types of fractures are rarely caused by accidental injury. Therefore, when these are found in a skeletal survey it is the first step into diagnosing a case of child abuse. (Robben, 2006)

## Skeletal Survey Series

- Chest
  - Skull
  - Humeri
  - Forearms
  - Hands
  - Pelvis
  - Femurs
  - Lower Legs
  - Ankles
  - Feet
- (Robben, 2006)

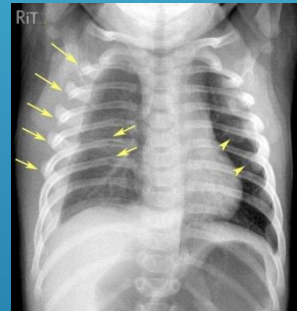
## Types of Fractures Associated with Child Abuse



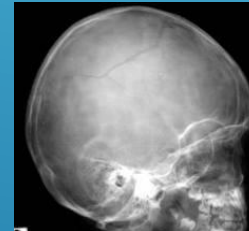
Corner/Bucket



Long Bone



Ribs



Skull

(Johnson, 2017)

## Pathologies that Resemble Child Abuse

- Osteogenesis Imperfecta
  - Menke's Disease
  - Metaphyseal Dysphagia
  - Caffey's Disease
- (Eisenberg & Johnson, 2006)

Radiologists need to determine if the cause of the fractures are from abuse, an accidental injury, or a bone pathology. This is determined by performing a skeletal survey. Then, they study the fractures found, and decide if those fractures are a common accidental fracture, or a sign of child abuse. The radiologist also needs to be careful that the fractures were not caused by some pathological condition and is a true case of child abuse. (Eisenberg & Johnson, 2006)

## References:

- Robben, Simon. (2006). Diagnostic Imaging in Child Abuse Nonaccidental Trauma. (n.d.). Retrieved from <http://www.radiologyassistant.nl/en/p43c63c41ef792>
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- Johnson, M. M., Med, R.T. (R). (2017, September/October). Imaging and Diagnosis of Physical Child Abuse. *Radiologic Technology*, 89(1), 45-62.
- Radiology, S. O. (2000, June 01). Diagnostic Imaging of Child Abuse. Retrieved from <http://pediatrics.aappublications.org/content/105/6/1345>