Skeletal Injuries Supplement

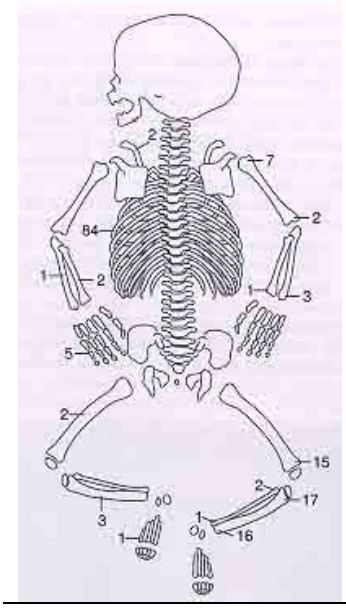
Adapted from: Kleinman, PK. *Diagnostic Imaging of Child Abuse*. 2nd Ed. St. Louis: Mosby, Inc., 1998

Specificity of Radiologic Findings for Inflicted Injury:

High Specificity	Moderate Specificity	Low Specificity
Classic metaphyseal lesions	Multiple fractures, especially bilateral	Subperiosteal new bone formation
Rib fractures, especially posterior	Fractures of different ages	Clavicular fractures
Scapular fractures	Epiphyseal separations	Long bone shaft fractures
Spinous process fractures	Vertebral body fractures & subluxations	Linear skull fractures
Sternal fractures	Digital fractures	
	Complex skull fractures	

*Highest specificity applies in infants

Distribution of Inflicted Fractures:



Distribution of 165 inflicted fractures in 31 infant fatalities. Single vertebral fracture is not shown. The skull fractures in 13 infants are not included in the analysis.

From Kleinman, PK, Marks SC Jr, Richmond JM, Blackbourne BD. Inflicted skeletal injury: a postmortem radiologic-histopathologic study in 31 infants. *AJR* (1995) 165:647-650.

Timetable of Radiologic Changes in Children's Fractures:

Category:	Early	Peak	Late
1. Resolution of soft tissues	2-5 days	4-10 days	10-21 days
2. Subperiosteal new bone formation	4-10 days	10-14 days	14-21 days
3. Loss of fracture line definition	10-14 days	14-21 days	
4. Soft callus	10-14 days	14-21 days	
5. Hard callus	14-21 days	21-42 days	42-90 days
6. Remodeling	3 months	1 year	2 years to physeal closure

*Repetitive injuries may prolong categories 1, 2, 5, and 6.

Is it OI?

Algorithm to establish the diagnosis of osteogenesis imperfecta in a patient with probably inflicted trauma: