

**Accident or Abuse?**

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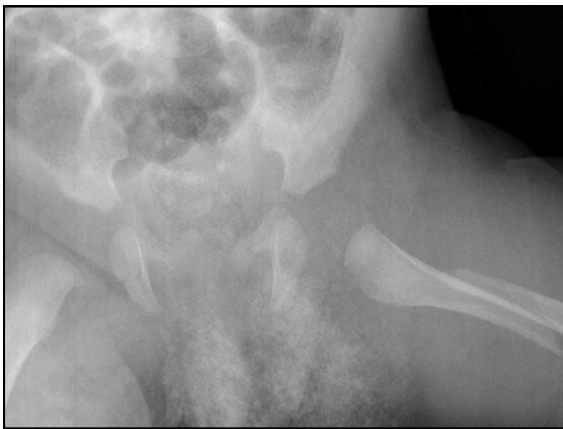
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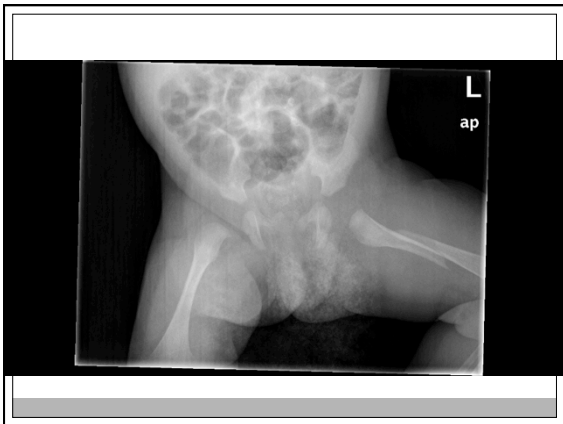
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**History**

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- 1 month-old healthy infant girl born at term was found to have left leg swelling and tenderness and was brought by her parents to the pediatrician.
- While at the doctor's office her father said he knew what happened and that he had not previously told his wife. He said the baby fell to the floor 2 days earlier after he wrapped her in a blanket, placed her on a kitchen chair and turned his back to take her bottle out of the microwave.
- She was sent to the ED where an x-ray confirmed an oblique fracture of the mid-shaft of the left femur.

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**Is there is an explanation is it plausible?**

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- Is the fracture morphology explained?
- Is the history consistent and detailed?
- Is the injury compatible with the child's development?
- Was there a delay in seeking medical care?
- Are other injuries noted?
- Are there concerning social factors?

Jenny. *Child Abuse and Neglect*. Elsevier; 2011; pp 282-3.

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**What would you want to know?**

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- When was the baby last normal?
- Did the baby exhibit symptoms (pain on passive or active movement ) or signs (leg swelling) earlier than today?
  - How did the leg look during diaper changes, bathing, dressing
- What are the other behavioral issues?
  - Colic, fussy eater, lethargic
- What are the medical issues?
  - Congenital disorders if any, vomiting or spitting, infections
- Who are caregivers? When was the last time each of them was with the child?

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### Other Questions



- Was this a planned pregnancy?
- How did family life change once the baby was born?
- How was the delivery?
- How were the mother and the baby after delivery?
- Is the baby a “good” (not cranky or irritable) baby?

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### Other Questions



- How does the family deal with the tasks needed to care for the baby and the household?
- What do caregivers do to relax?
- Are the usual household chores accomplished?
- Does primary caregiver have support from family?

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### In this case....



- Family friend helping mother with baby was flexing her legs to help relieve colonic gas.
- In an interview friend denied applying enough pressure to cause the fracture.
- The explanation of a fall made no sense because the baby had no signs or symptoms until the day she was seen by the pediatrician.

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### Workup

- Physical examination: weight, head circumference, bruises, scratches, scars, swelling, signs of congenital problems, neglect (hygiene)
- Skeletal survey
- Head CT and ophtho exam
- Alkaline phosphatase, Vit D and 25(OH) Vit D
- Urine analysis

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### Oblique vs Spiral Fracture

- Oblique - a fracture which goes at an angle to the axis
- Spiral - a fracture which runs around the axis of the bone

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### Does fracture type help decide between accident and abuse?

<u>Fx type</u>	<u>Overall</u>	<u>Investigated for abuse</u>	<u>Abuse found</u>
Transverse	38%	27%	36%
Spiral	27%	<b>39%</b>	<b>36%</b>
Oblique	17%	<b>15%</b>	<b>7%</b>
Unknown	14%	15%	21%
Greenstick	4%	4%	0

Scheri et al. Clin Orthop Pediatr Res. 2000; 376: 99-105.

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