Toddler's Fracture

These low-energy tibial shaft fractures are often spiral and non-displaced, and arise from low energy falls in newly walking toddler; they are almost always treated non-operatively. If they are seen in younger children who are not yet walking, they can be suspicious of possible child abuse.

History

Is the child walking independently? For how long?
Has the child had preceding leg pain or been walking with a limp before this injury?
Does the child (or anyone in the family) have metabolic bone disease?
Has the child had a fever?
Has the child had any recent trauma to the hip or legs, or any recent falls?

Physical Exam

Assess for bruising, tenderness, swelling along leg
Ambulation with limp, or refusal to bear weight
Rule out compartment syndrome—low likelihood as compared to traumatic fractures of the tibia and/or fibula
Rule out infection in hip and lower extremity joints and bones, and check for painless passive range of motion of joints

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Fig. 1 Toddler's fracture

Diagnosis

Rule out underlying metabolic bone disease (i.e., osteogenesis Imperfecta, metaphyseal dysplasia, phosphate metabolism disorders)

Imaging

XR tibia–fibula (Fig. 1)

Spiral, non-displaced
May appear very faint and almost unnoticeable on plain XR
Often distal ½ of tibia—proximal tibia fracture suspicious of abuse!

XR ankle, knee

Treatment Plan

Nonoperative

Long leg cast for alignment and rotational control
Non-weight bearing
3–4 weeks

Surgery

Rare for Toddler's fractures
Indicated for traumatic tibia fractures that are:

- Open
- Associated with compartment syndrome
- Have unacceptable shortening or angulation after closed reduction

Reference

Mashru RP, Herman MJ, Pizzutillo PD. Tibial shaft fractures in children and adolescents. J Am Acad Orthop Surg. 2005;13(5):345–52.