Introduction
Fixation of osteotomies or fractures may be accomplished by a variety of techniques.

Indications
Cross pin fixation may be useful for rotational, varus, valgus or combined osteotomies for common conditions such as cerebral palsy, Perthes disease, and DDH.

Solution
The osteotomy must be performed in the intertrochanteric region with a broad and stable contact surface. The distal fragment should be displaced medially to provide better fixation and promote union.

Technique
Setup
The set-up for this technique utilizes tools for the osteotomy and 1/8” Steinman. Power tools are not required.

Approach
Expose the upper femur through a short lateral approach. The procedure may be performed through a shorter incision than is usually required for osteotomies as no plate is applied.

Osteotomy
Perform the osteotomy in the upper intertrochanteric region. For varus osteotomies remove a medially based wedge of bone.

Notch bone
Select the site of entry for the distal pin and notch the bone [1].

Place first pin
Drill the lower pin through the distal fragment and osteotomy site fan into the proximal fragment. This may separate the osteotomy site [2].

Remove and replace
Withdraw pin allowing the osteotomy to close and drive the pin well into the proximal fragment [3].

Add additional pins
Place two additional pins to secure the fixation [4].

Cut pins
Cut pins subcutaneously. Leave the ends long enough to allow easy removal and yet not too long as to cause skin irritation [5].

Lesson Learned
Combined procedures
The use of cross pin fixation is especially useful when multiple procedures are performed at the same sitting, such as a Salter/varus osteomy for Perthes disease [illustration]. Because the required exposure is small, fixation is rapidly applied additional procedures are more feasible. If the fixation is to be left in place use a screw.

Pin removal
At about 6 weeks remove the pins through stab incisions. A vice grip tool maybe helpful.

Experience
The author has performed this method of fixation in over 100 cases. We found that cross pin fixation was comparable to other forms of fixation in terms of union and fixation failure.