

The correction obtained (target a residual HEA < 38 degrees) is dependent on the insertion angle of the proximal guidewire. This angle should be checked with a goniometer after insertion to ensure the correction will be adequate. It is also important to remember that the proximal femur is typically in some degree of retroversion, and this must be accounted for when positioning the proximal fixation. If it is not, this fixation may be directed out of the femoral neck.

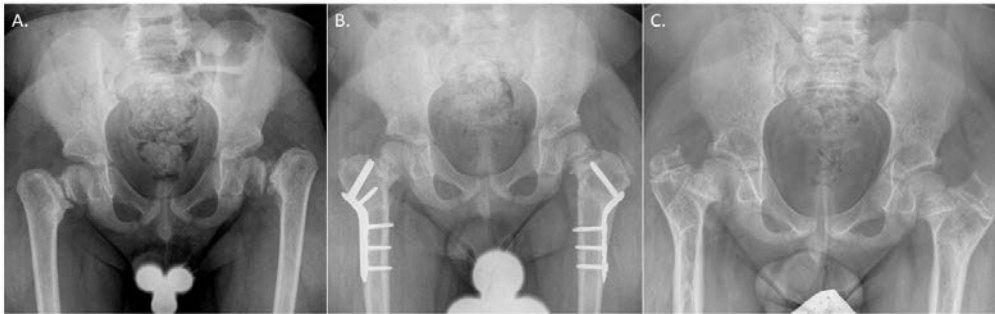


Figure 5. A) A 7-year-old boy with bilateral coxa vara. B) One-year s/p bilateral proximal femoral valgus osteotomie. C) A patient at 12 years of age after removal of proximal femoral implants. Notice correction of proximal femoral alignment but overgrowth of bilateral greater trochanters.

Postoperative Care

Immobilization, if needed, is typically used for 4-6 weeks until some initial healing is seen at the osteotomy site. Physical therapy is started after the period of immobilization. Full weight-bearing begins once there is sufficient healing on x-ray (usually about 6 weeks). Hardware removal can be done after about 1 year if needed (Figure 5).

Complications

Recurrence is the most common complication, so patients must be followed regularly. If there is recurrence, revision valgus osteotomy can be considered if the patient is symptomatic. Growth of the proximal femoral physis should be followed through maturity. Ipsilateral proximal femoral early growth arrest has been noted after osteotomy, and if this is seen, consideration is given to greater trochanter arrest or contralateral

epiphysiodesis to ensure equal limb length at maturity. In addition, overgrowth of the greater trochanter can occur, leading to recurrent abductor muscle weakness (Figure 5). Greater trochanter epiphysiodesis may be needed if overgrowth is noted.

Summary

Coxa vara is an uncommon deformity for which a proximal femur valgus osteotomy is often indicated. The proper work-up of any underlying metabolic or genetic issues is crucial before proceeding with an operative intervention. Preoperative planning can help reduce the risk of recurrence by planning for an adequate final HEA. While the approach to the proximal femur is the same as most other proximal femur osteotomies, there are some nuances in guidewire placement, femoral rotation, and plate

reduction that are worth bearing in mind. The most common complication of the valgus osteotomy is recurrence.

References

1. Herring JA, Texas Scottish Rite Hospital for Children. Tachdjian's Pediatric Orthopaedics: From the Texas Scottish Rite Hospital for Children.; 2014.
2. Beals RK. Coxa Vara in Childhood: Evaluation and Management: J Am Acad Orthop Surg. 1998;6(2):93-99. doi:10.5435/00124635-199803000-00003
3. Weinstein JN, Kuo KN, Millar EA. Congenital coxa vara. A retrospective review. J Pediatr Orthop. 1984;4(1):70-77. doi:10.1097/01241398-198401000-00015
4. Carroll K, Coleman S, Stevens PM. Coxa vara: surgical outcomes of valgus osteotomies. J Pediatr Orthop. 1997;17(2):220-224. doi:10.1097/00004694-199703000-00016