OVERVIEW
Your child has been diagnosed as having a delta phalanx. This is sometimes called a bracketed epiphysis. This is also called a delta phalanx. It is characterized by having a triangular or trapezoidal shaped bone in the hand with a longitudinal connection between the proximal and distal growth plates. This configuration of the growth plate leads to shortening and angular deformity in that segment of the finger. The deformity can increase with growth or stay the same. If the deformity and function is acceptable, no treatment is needed. If needed, surgery can be done to remove the abnormal portion of the growth plate. If the angular deformity is significant, the bone can be straightened by cutting the bone and holding it with pins while the bone heals. Usually, the function of the hand is good with or without correction of the deformity.

BACKGROUND
The cause of a bracketed epiphysis is not known. It is mostly commonly found in the proximal phalanx of the thumb or the little finger and can occur bilaterally. This abnormality can run in families with an autosomal dominant inheritance pattern, but this is very uncommon. Whenever more than one delta bone is present in one hand, it tends to be associated with other abnormalities including hypoplastic hand or a cleft hand. It can also be found in patients with syndactyly, polydactyly, symphalangism, clubfoot, Apert’s syndrome, or Poland’s syndrome.

DIAGNOSIS
Bracketed phalanx is diagnosed by physical examination showing an angulated finger, often with some degree of shortening. Typically, x-rays are obtained to verify the bony structure.

TREATMENT
Treatment is based on the degree of deformity and functional limitations. Indications for surgery include unsightly and awkward deformity with significant deviation, which interferes with the development or normal use of the finger. Surgery should be delayed as long as possible to allow developmental size and maturity to facilitate surgery.
Treatment options include osteotomy and angular correction or simple resection of the abnormal portion of the growth plate. Resection of the abnormal portion of growth plate is done with preservation of the horizontal portions of growth plate so that longitudinal growth can continue. Depending on the growth remaining in the growth plates, it is possible for the angulation to recur. If the correction is not maintained, additional osteotomies for angular correction may be required.

EXPECTED OUTCOMES
If the surgeon maintains a careful surgical technique, the incidence of complications should be low.

MORE INFORMATION
Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at www.aaos.org and www.emedicine.com.

FEEDBACK
If you have questions or comments, please contact the office or submit them to the web site at www.pedortho.com.