

HAND, WRIST & UPPER LIMB
SURGERY

COMMON HAND PROBLEMS IN CHILDHOOD

Learn about three common hand problems in childhood, and how they can be treated.



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Trigger finger

Similar to the condition in adult, trigger digits can occur in children. However, it differs by occurring more commonly in the thumb and triggering is seldom encountered. The digit is, instead, often held extended or held flexed. The condition is relatively common among hand conditions in childhood. Trigger finger occurs in approximately three out of 1,000 children at one year of age. The cause is unknown.

It may occur at birth or in childhood, most commonly in the first year of life. The condition is usually painless. Often, the parents notice that the thumb is held bent at the interphalangeal joint and there is a large swelling at the base of the thumb, called Notta's node. Attempting to straighten the joint will cause some discomfort or pain in the affected thumb. There may also be a 'pop' or 'click'. The thumb is the most common digit affected. It may affect multiple digits as well.

Trigger thumb may resolve on its own in three out of 10 children before they reach one year old. Splinting of the thumb in full extension will be helpful but the splint will need to be worn for a long period of time. Furthermore, wearing a splint may not be well tolerated by a young child. Surgery will be needed in severe or resistant cases that have not responded to treatment.

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Surgery is ideally done when the child is between one and three years of age. General anaesthesia is required. During the procedure, the hand surgeon will release the A1 pulley to free the swelling in the tendon. Possible complications of the procedure are hypertrophic scarring and injury to the digital nerve. Recurrence of the condition is very rare after surgery. Delayed treatment after four years of age may result in permanent contracture of the joint.

Polydactyly

Polydactyly refers to the duplication of digits. The incidence varies among different populations. It is the most common congenital hand anomaly among Orientals and African Americans. When the thumb is involved, it



be sporadic, autosomal dominant inheritance or associated with well-known syndromes in childhood. In simple syndactyly, only the skin of the fingers are fused. In complex syndactyly, the bones are fused. It may involve the whole length of the fingers (complete syndactyly), or it may only be joined partially (incomplete syndactyly).

Treatment usually requires surgery to separate the fingers. There is always a shortage of skin, and skin grafts are always needed to fill in the areas between the separated fingers. Skin grafts are usually taken where there is excess skin, such as the groin, wrist or elbow. Another method to avoid using skin graft (graftless method) is to use skin from the back of the hand and pull it into the web space between the separated fingers. Surgery is usually done early in life, especially with digits of different lengths,

such as the thumb and index finger, or little and ring fingers. This is to prevent more severe deformities of the joints from developing due to their differing growth. Early separation of the thumb also allows early use of the thumb when the child is developing.

Possible complications of surgery include scarring and keloid formation, vascular problems, pigmentation of the skin grafts, loss of skin grafts, and web creep. Web creep occurs when the web between the fingers appear to move further distally. In some cases, a second surgery is needed to correct web creep.

Generally, early consultation with a hand surgeon is important if your child has the above conditions, so that therapy, reconstructive surgery and/or prosthetic devices can be instituted early. 

is known as radial polydactyly or duplicate thumb. Ulnar polydactyly is when it involves the little finger. Most cases are sporadic and occur randomly; some are autosomal dominant inheritance. The extra digit (duplicate) may be well-formed and functional, resembling a normal-looking but smaller digit, or it may just consist of skin with a small nail and attached to the hand by a skin pedicle.

Surgery is usually advised, although some parents may refuse surgery for religious or cultural reasons. The purpose of surgery is to reconstruct a functional digit by either removal of the duplicate or by combining both into one digit. It is not always possible to recreate a normal digit. Surgery may be very complex, requiring realignment of bones and joints as well as reattachment of tendons, muscles and ligaments. In general, surgery is done when the child is around one year of age, although excision of pedunculated duplicates can be done earlier. Possible complications of surgery include joint instability, joint stiffness, growth problem, scar formation and nail deformity.

Syndactyly

Syndactyly occurs when two or more fingers are fused together. About half of all such cases involve both hands. This condition can

