



Syndactyly of the Hand



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What is it?

This is a congenital condition in which the fingers are joined from birth. Syn means together, and dactyly is finger. The fingers share skin and sometimes other tissues as well. The deformity may be simple which implies that only skin is shared between the digits or complex, which means that some other tissue is shared by the joined fingers such as bone, nerve, blood supply, tendon, or fingernail. The syndactyly can be incomplete, which by definition is only part of the fingers or complete which involves the digits all the way out to the tips of the fingers.

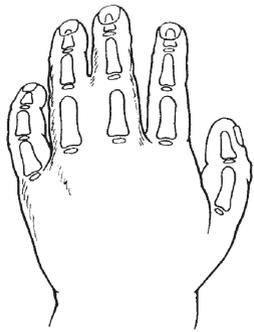


Diagram 1
Simple, incomplete syndactyly



Diagram 2
Complex syndactyly

What causes it?

Many things may cause congenital anomalies. Some can be explained while others will have no known cause. The process of development of a child from a fertilized egg involves many complicated steps that may go wrong to cause a defect or difference. The upper extremities form between the fourth and sixth week of pregnancy while the baby is approximately an inch long yet appears much like a miniature baby. It has been estimated that one in twenty babies will have some imperfection.

It is thought that syndactyly occurs when normal separation of the fingers does not occur by preprogrammed cell death that normally occurs. Syndactyly may be part of a genetic disorder that can be passed on to other generations. It also may be part of a complex of abnormalities that has been noted and may have a specific name. However, most are isolated findings and cause cannot be determined.

How is it treated?

The goal in treating syndactyly has two parts-function and cosmesis. Function and use are of paramount importance to the hand. Having the hand appear as normal as possible is also important for the child's psychological development.

Timing of surgery is important and should be discussed with your surgeon. Most incomplete types of syndactyly can wait until the baby is about two years old. This allows the hand time to grow-this makes the operation easier for the surgeon since the hand is larger. It also is safer from an anesthetic standpoint. Surgery at an earlier age may be recommended however, if border digits such as the small finger are involved and are preventing growth of the attached finger and causing secondary deformity.

The surgery involves creating flaps of skin to best cover the fingers once separated. Skin grafts are almost always needed because of the geometry of the digits. Full thickness grafts are usually taken from the groin crease since this leaves minimal scarring. A long arm cast is placed to hold the dressings in place and if all goes well after surgery the cast is left in place for two weeks prior to removal. If no complications arise, the grafts and wounds are healed enough at two weeks to allow the hand to be used without further dressings or special care. In cases of complex syndactyly special splinting or other measures may be recommended by the surgeon and therapist to maximize hand function.

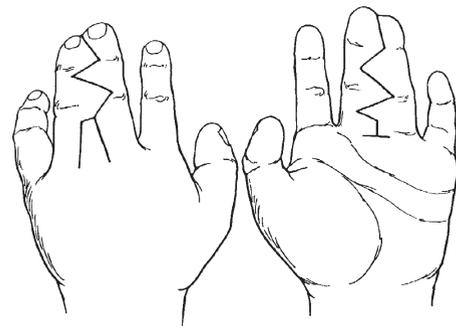


Diagram 3
Local flap design for finger and webspace reconstruction