

Congenital Hand Differences

A congenital hand difference is a hand that is abnormal at birth. One in 20 children is born with some hand difference. These can be either major or minor. Some possible differences include missing parts (failure of formation), webbed or fused parts of the hand (failures of separation), extra parts in the hand (duplication), or parts that are larger or smaller than normal.

Examples of common congenital hand differences include:

- Webbed fingers, called syndactyly (Figure 1)
- An extra small finger, called polydactyly (Figure 2)
- An extra thumb, called radial polydactyly (Figure 3)

Causes

During fetal development, the upper limb is formed between four and eight weeks of pregnancy. Many steps are needed to form a normal arm and hand. If any of these steps fail, then a congenital hand difference can result. Some of these differences have genetic causes, but many of these differences occur without a known cause. Research is being done to try to understand these processes.

Signs and Symptoms

Some congenital hand differences are easy to identify, but others can be more difficult because they have more than one feature. Some differences appear similar but have different diagnoses. It is important that your child be evaluated by a hand specialist to help determine if any treatment is needed. Your hand specialist may refer you to a genetics specialist to help make an overall diagnosis for your child.

Treatment

Webbed fingers are usually separated with surgery, and extra fingers can be surgically removed. Sometimes the remaining finger or thumb requires surgery for reconstruction. All babies born with congenital hand differences should have a complete assessment by a hand specialist who treats these conditions. Sometimes a child may need hand therapy. Sometimes, no treatment is necessary.

Coping with congenital hand differences

At first, parents may feel shock, anger or guilt. These are normal emotions. Most of the time there is nothing that parents or doctors could have done differently to prevent the hand difference. Talk to your hand specialist about support groups or professionals that may be able to help you and your child adjust.

Figure 1. Syndactyly between long and ring fingers



Figure 2. Polydactyly, with an extra little finger



Figure 3. Thumb polydactyly, with duplication of the thumb

