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# Congenital Abnormalities of the Upper Extremity



Hand & Wrist Surgical Services





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# What are congenital abnormalities of the upper extremity?

Congenital abnormalities of the hand and upper extremity are abnormalities that are present at birth. They are also known as congenital anomalies and can range from mild to severe. The most common is webbing of the fingers. Other examples include having more than or fewer than five fingers, crooked fingers, fingers that do not bend, fingers that are too short, constriction bands on the fingers or hand, and bowed bones of the arm or forearm. Some of these differences are part of a process that involves other problems while most are isolated differences.



#### 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.

Some congenital problems are inherited just like hair traits or eye color. Some of the inherited differences may skip generations or show up only in the children of parents who each pass on a nondominant gene to the child. Some genetic problems are new occurrences where the baby is the first to have the condition but the child may pass it on to his or her children. Some drugs, such as chemotherapy agents and thalidomide, are known to cause birth defects. Recreational drugs, tobacco, and alcohol all effect the development of a baby but have not been shown to be connected with specific upper extremity problems. Congenital constriction bands cause deformities in some babies. In this condition, threads of the amniotic membrane separate from the lining and become wrapped around the fingers and/or hand. We do not know what causes the bands to form.

Congenital problems often occur without a feasible explanation as to why. For example, one of the many steps in development of the baby may have gone wrong, and a result, the hand or arm is changed. Your physician may request that you and your child visit a geneticist for more studies to help with specific diagnosis and perhaps to determine if the condition is hereditary.

## Coping with your emotions

Shock, anger, guilt, and resentment are all normal reactions after the birth of a child with a congenital abnormality. All of your dreams of a perfect baby did not happen and now each member of the family must cope with their feelings. Rarely is there anything that the parents could have done differently—yet they blame themselves and often carry a great deal of guilt.

Your newborn child is not aware that he or she is different. Your baby has all of the needs of any newborn baby. The way that your baby has formed is normal for him or her; he or she has no sense of pain or loss. After your grief has eased, questions will come. What treatments are available to treat this problem? Will my child be able to write or tie shoes? Your pediatrician and hand surgeon are good sources of information regarding support groups, therapists, and other health professionals that can help you care for your child.

### How is it treated?

The goal in treating any child with an abnormality is to allow the child to function as normally as possible. Possibilities of treatment include therapy, aids or prostheses, and sometimes surgery. Each child is an individual and care must be tailored to the specific needs of each situation to give the child the best function. Work with your hand specialty team to find answers that are best for you and your child.

Remember that your child will need your help to meet the challenges of being different, and will mirror your attitudes about his or her problems. With your love and encouragement your child can reach most any goal he or she sets his or her heart on.