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# Congenital Hand Differences



## What is a congenital difference in the hand?

Congenital hand defect is a difference in the typical configuration of the infant's hand that is noticeable at the time of birth. In some cases, diagnosis is made before birth using ultrasound.

## What are types of congenital differences in the hand?

Depending on the type of malformation, congenital hand defects can be categorized as following:

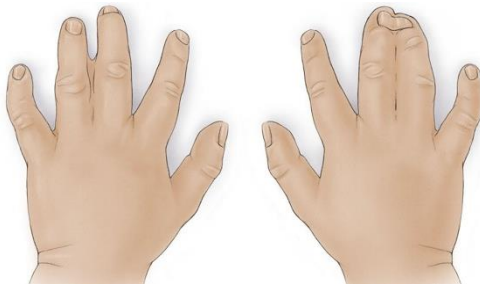
- Issues with the formation of the entire arm or hand.
- The hand parts can't separate.
- Polydactyly.
- Overgrowth or undergrowth in the thumb, fingers, or hand.
- Trigger thumb.



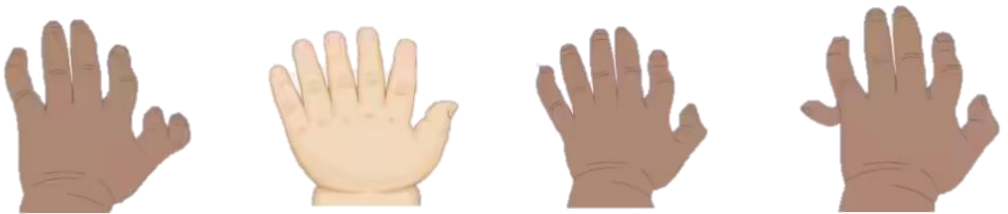
# What are the common variations of the hand?

- Syndactyly:

It may be just a simple skin adhesion or it may be more complex and involve bones, tendons, and blood vessels.



- Polydactyly:



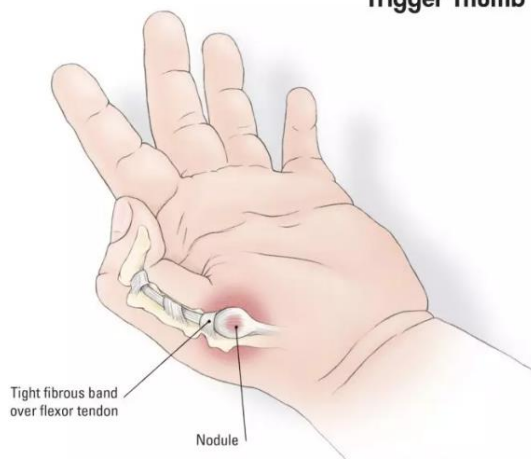
# What are the common variations of the hand?

## hand?

- Trigger thumb

It is a defect in the finger tendon that affects children from birth, but parents usually do not discover it until after a period of time. This defect results from a narrowing of the canal through which the tendon passes, or due to a knot or increased thickness of the tendon in the area of the entrance to the canal at the base of the finger. It causes the finger to bend or the child neglects to use this finger.

**Trigger Thumb**



## What causes congenital hand differences?

Between the fourth and sixth weeks of pregnancy, the fetus's hands and arms begin to develop. A congenital difference in the hand may result from any disruption to this process. The growth of the human hand can be affected by numerous factors:

- Genetic factors:

Children inherit their parents' genes, which can occasionally result in various abnormalities.

The majority of these variations typically happen for no apparent reason. Family-related changes are less common.



## What causes congenital hand differences?

- Environmental factors:

Infection and using some medications are examples of environmental factors. Such as thalidomide (a medicine used for nausea) and chemotherapy. These factors explain part of the defects in hand. There is no known cause for some defects. Hand deformity can occur on its own in certain situations. Sometimes it's a symptom of a syndrome.



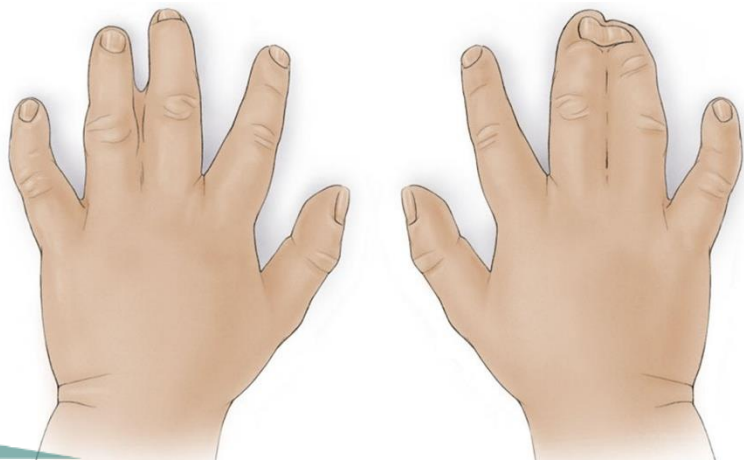
## What are the complications of congenital hand differences?

Depending on the defect type and degree, people with hand defect may not have any trouble to work and adjust some of the complications:

Delay growth

Difficulties doing daily activities and basic self-care

- Limitations on some sports and other physical activities.
- Social and emotional issues.



## **How are congenital differences in the hand diagnosed?**

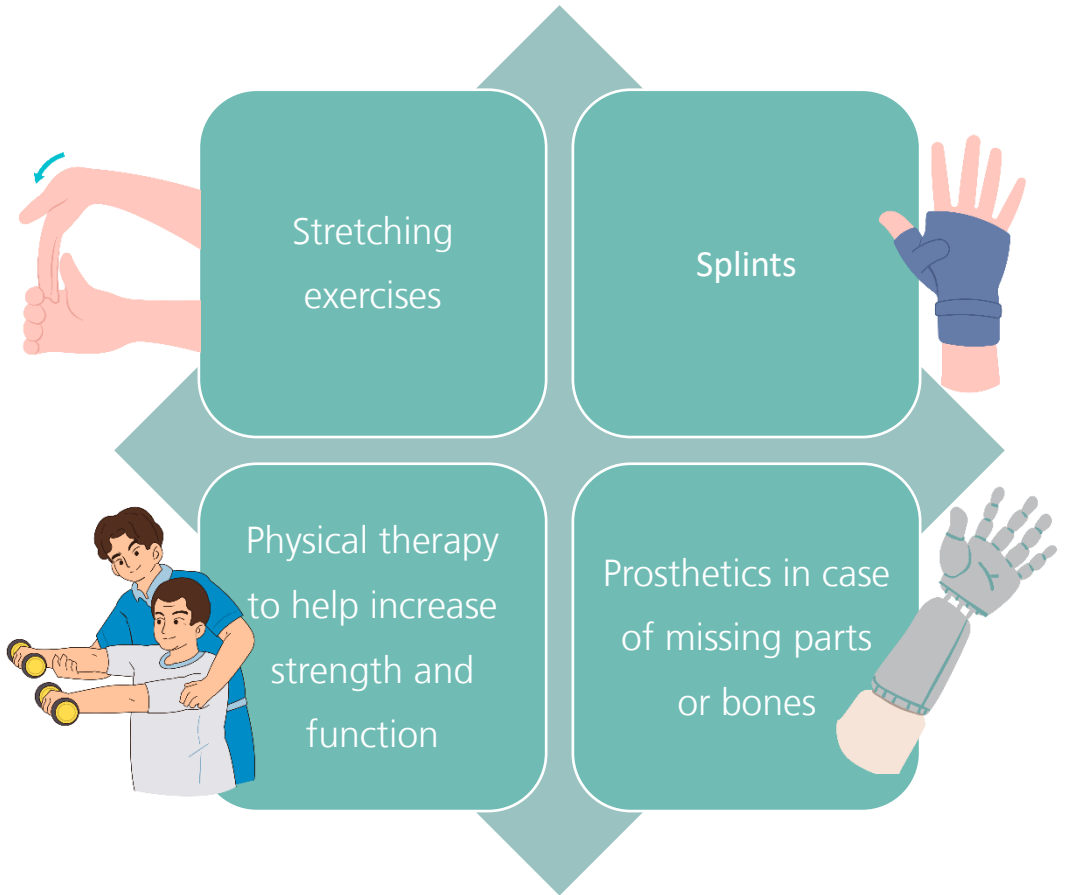
It is typically diagnosed clinically at birth or soon after. yet, the physician treating your child might choose to do X-rays. The degree of bone and tissue involvement can be determined with imaging, the physician will be able to determine whether the hand difference is simple or complicated.

## **What are the benefits of treating hand differences?**

Every child's hands are different from one another. The treatment approach is based on child's needs. The primary objective and advantage of the therapy is to enhance your child's ability to work with hand differences. Enhancing the look of their hands and improving your child's self-esteem as well.



# What are the common treatment options for hand defects?



## What are the common treatment options for hand deformities?

➤ Surgical operations:

- **Syndactyly:** Treatment by surgically separating the fingers. Skin grafts are necessary because additional skin may be needed to cover the fingers. In more complicated cases, the doctor might additionally advise physical therapy in addition to splints. After the surgery, these therapy options will assist in maximize your child's hand functions.
- **Polydactyly:** it is treated by removing them surgically and straightening the adjacent fingers if necessary.
- **Trigger thumb:** It is initially treated with stretching exercises and splints in the first year of a child's life. The tendon is surgically released if conservative treatments fail after the age of one year.

## What are the most important notes?

- Remind yourself that therapy won't "cure" the hand difference in your child. However, it can help your child's hand look and work better. For treatment to be successful and for your child's development to be healthy, you need to have a positive attitude and accept you're child differences.
- The appropriate timing for any surgical procedure depends on the type of congenital difference and whether it involves the thumb or several fingers, it is preferable to perform thumb surgeries in the first 18 months of a child's life, while they can be delayed if they involve other fingers.







Sources and references:

All illustrations from:

Canva.com - Momjunction.com

Review and audit:

The content of this booklet has been reviewed by consultants in the  
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Alkhobar.

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**Health Awareness Unit**

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