





An Initiative of Plastic & Hand Surgery Department

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## I am a Little Hand Warrior



World Birth Defects Day March 3rd

Towards Fulfilling the Reconstructive Surgical Needs of Children







GANGA LITTLE HANDS is an educational initiative by the Department of Plastic, Hand and Reconstructive Microsurgery and Burns, of Ganga Hospital, Coimbatore, to share knowledge about Paediatric hand conditions. This is a monthly bulletin and was first started in August 2024.

It has a compilation of various hand conditions treated by us. Little Hands is for anyone and everyone. It is not for surgeons only. The technical tips, 'Did you know?, Picture Gallery, Hand vignettes and the 'Clinician's corner' might be interesting to all the readers.



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#### **Editorial**

### World Birth Defects Day - 3rd March



Designating particular days on issues of importance helps bring awareness of the problem to the community with a view that it will energize the stakeholders to work together to mitigate the problem. As economies improve, in healthcare, the focus shifts from infection to non-communicable diseases and birth deformities. The World Health Organization (WHO) has designated 3 rd of March as World Birth Defects Day and is in vogue since 2015.

We use the opportunity to bring more visibility to this emerging priority and also tell as to what we do at Ganga for children who are born with congenital deficiencies in the hands and upper limb to help them lead normal lives.



#### Every Journey Matters ...

The WHO has chosen 'EVERY JOURNEY MATTERS' as the tagline. It is so true that the birth defect affects just not the child but the whole family and the community. At present most concentration goes to defects which are life threatening like cardiac and neural tube defects. But with improvement in economy, concentration is shifting to hand defects where there is potential for making a big difference in the lives of the children and their families.

#### What we are trying to do for children with upper limb anomalies?

The reconstructive surgery team at Ganga has unique set of skill levels to take care of these children with deformity of the hands. We are making a lot of efforts to bridge the gap between availability and utilization of the services. The gap is mainly due to lack of awareness and affordability. Providing equitable access is our goal so that no child who has a solution for possible improvement misses it due to either lack of awareness or affordability.

The issue features illustrations of some possibilities and perspectives of some patients. As readers we request you to spread the message and help us reach the unreached.

> Dr S Raja Sabapathy Dr Monusha Mohan (Editors)

#### Thinking out of the box





The Indian boy from the Gulf was six years old when we first met him. All his four limbs were affected. He had a condition called Split hand split foot malformation. He had cleft hands and cleft feet. Since the knee and ankle joints were non-functional due to the absent tibia and limb hypoplasia, he was seen wearing prosthesis for the lower limbs by hyper flexing his knees. Hence, he was brought to us for management of his lower limbs.

Preoperatively, we made a plan to do a bilateral above knee amputation for future prosthesis fitting and a better comfortable gait. We gave an option of transferring the two toed foot on the right side to create an ulnar post in his right hand. With the parents' consent, we went ahead with the plan and the microsurgical skills were put into action to reconstruct the right hand utilizing the 'spare parts surgery concept'. The left above knee amputation was done at a later stage during the same hospitalization.





The right foot was planned to be transferred microsurgically to the right hand, after right above knee amputation.







Microvascular foot to hand transfer

The child is 12 years old now and walks comfortably using the prostheses.







The boy over the years, with a well functioning hand and lower limb prostheses







## Reconstruction of a Monodactylous Hand with Microsurgical Free Foot-to-Hand Transfer in Split-Hand/Split-Foot Malformation with Tibial Aplasia

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Summary: Split-hand/split-foot malformation with long bone deficiency (SHLFD syndrome) is a rare congenital disorder, which may be sporadic or autosomal dominant with incomplete penetrance. When complete tibial aplasia is seen, the mainstay of treatment is amputation and lower limb prosthesis. This rare constellation of congenital differences presents an opportunity for microsurgical free tissue transfer using the principle of "spare parts" to improve the functionality of the hand. We present a rare case of split-hand/split-foot malformation with a monodactylous right hand and complete tibial aplasia, treated with microsurgical free foot-to-hand transfer at the time of lower limb amputation, reconstructing key pinch. At the latest 8 months follow-up, the patient had no pain, active key pinch, and ambulated independently with prostheses. He was able to use his right hand independently for a number of daily activities, such as stacking blocks, drinking from a cup, and playing with toys. (Plast Reconstr Surg Glob Open 2020;8:e2356; doi: 10.1097/GOX.0000000000002614; Published online 28 February 2020.)

The case report was published in PRS Global Open journal as an open access article

#### Did you know?

#### Never too old to be treated!

It is not uncommon to see adult patients with congenital hand malformations in our hand surgery clinic. This 29 years old gentleman with extra digits in both the hands, was accompanied by his father. The extra fingers in his right hand (7-digit hand) were becoming a hindrance to writing. Hence, he decided to visit us. When we examined him, we realized that the extra fingers were not the only problem with the hand. The digits were short and hypoplastic (brachydactyly) with ulnar deviation of the ulnar four digits. The extra two fingers (5th and 7th when counted from the thumb), were excised. The flexion contracture of the 6th finger was corrected and was retained to become the little finger. The subluxated extensor tendons of the 4th and 6th fingers were centralized. The fillet flap from the removed fingers was used to cover the resultant palmar defect. After the surgery, he finds it easier to write.







The extra fingers hindered his activities especially writing





Preoperative

Postoperative





Writes without difficulty after removal of the extra fingers and correction of the deformities

#### Clinician's corner

#### Camptodactyly means 'bent finger'

Non-traumatic flexion deformity of the proximal interphalangeal joint of the finger is termed Camptodactyly. It is a "catch-all-term" for all congenital proximal interphalangeal joint (PIPJ) flexion contractures. It is caused by the imbalance between the flexion and extension mechansims that act across the PIPJ.





Preoperative

CAMPTODACTYLY

Postoperative

The etiology is multifactorial. Multiple structures are invovled in the pathogenesis like the skin, fascia, the flexor digitorum superficialis tendon, lumbricals, interossei, lateral bands, volar plate, accessory collateral ligaments, and central slip insertion.

Passive stretching and splinting are reserved for flexion deformitites less than 30 degrees. For more severe deformities, all the etiological factors need to be addressed. Skin tightness can be corrected with Z plasty with or without the use of full thickness skin grafts or local flaps. The adhesions need to be released. Abnormal insertions of the lumbricals or the flexors should be looked for. The flexors may require lengthening. The extensor aspect should be looked for and reefing of the extensor tendon is done if found to be lax. Our patient achieved a correction of 60 degrees. The parents are satisfied with the results as the little finger no longer comes in the way while she uses the hand. Postoperative splinting and stretching exercises coupled with the surgery, lead to successful results as shown in the images.

#### **Hand Vignettes**

#### Hand in Renaissance art



During the Renaissance, artists strived for realism and anatomical accuracy, yet many paintings depict hands with deformities or unusual hand positions. The hand anomalies can be due to trauma or congenital conditions or arthritis. Camptodactyly, clinodactyly and syndactyly are seen quite often in these paintings. Were these deformities reflections of real medical conditions or intentional artistic choices or symbolic gestures?

Though some of them can be due to pathologic anomalies, it is difficult to conclude that there was an epidemic of congenital malformations in Europe during Renaissance period. Another probability is the use of the same set of models for the paintings. But the hypothesis is nulled as various artists across Europe over a period of 100 years, could have used the same models or same genetic pool of models. Since a lot of the

portraits had these hand anomalies, some conclude that these were artistic refinements than malformations.





Another hand gesture that is often seen in the European portraits is the 'W' hand gesture. It is essentially a hand with fingers extended, splayed across the chest, with the middle and ring fingers joined together. These are found in European 'Mannerist paintings' that are known for their artificiality, bold colours in contrast and strikingly stylized poses. It is highly improbable that an artist of such high reputation could produce an inaccurate depiction of the model, especially considering the multitude of paintings that consistently showcase the same hand gesture. These are hypothesised to be secret signs of members belonging to a particular society or family. All these peculiar hand depictions in these paintings have intrigued historians, art critics, and medical experts alike.

## Real Life Story - 'Every Journey matters'

A story of triumph: From uncertainty to independence





After years of prayers and treatments, we were blessed with our daughter. It was only after her birth that we realized she was missing her right thumb. For both me and my husband, the pain was unbearable.

Preoperative

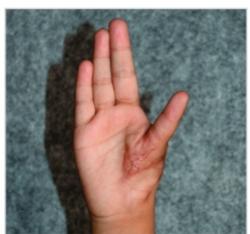
Postoperative

In search of what to do next, we reached Ganga Hospital. Dr. Raja Sabapathy Sir and Dr. Monusha Ma'am provided us with the necessary guidance, but the tension in our hearts did not completely fade. They also introduced They also introduced us to another child who had undergone pollicization surgery and was there for a review.

Amidst all our worries, our daughter's Pollicization surgery was successfully completed. Now, she has overcome her limitations—she writes and even eats by herself. From the bottom of our hearts, we express our gratitude and love to the doctors at Ganga Hospital, who are nothing short of divine beings.

Story shared by the brave parents of a Ganga Little Hand Warrior





Our Little Hand Warrior colouring at school. She is holding the crayons with her 'new thumb'.

## Help us heal Little Hands | Make a donation

It is difficult to imagine what the parents experience when they find out in the labour room that their newborn baby has a congenital limb defect. The family often feels devastated as their hopes fade. Most of the limb anomalies have a surgical solution that is aimed at making the hand to function in a better way.

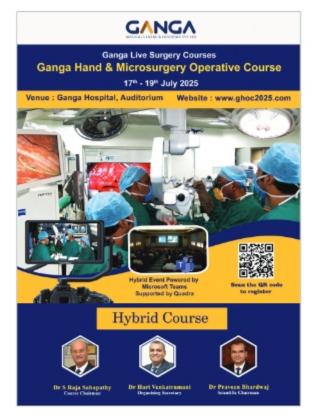
Globally, congenital anomalies or birth defects affect 2-3% of births. In India, 1-3 out of 100 babies born are with birth defects. Though musculoskeletal anomalies are the most common defects seen, rarely we find major initiatives aimed at managing these defects. A lot of regional and international proposals are directed at treating and supporting children with congenital heart diseases and orofacial defects like cleft lip/palate. Though isolated congenital limb defects are not life threatening like the cardiac and craniofacial anomalies, they are disabling and lower the quality of life.

You can make a tax-deductible donation today and transform the lives of these kids by giving back their childhood.

To make a donation, please write to rajahand@gmail.com

At Ganga, we have a specialized team of doctors to provide comprehensive care to these children. One of the basic surgical principles of congenital hand surgery is to correct the deformities before the child attains school going age. Often these defects are bilateral and involve multiple fingers, necessitating staged surgical procedures. We have highly experienced Paediatric anesthesia staff to support the surgical team. The associated anomalies are taken care of by our Pediatric orthopedic, spine, maxillofacial and cardiac teams. Ancillary services like physiotherapy, nutrition and speech therapy are also available.

## **Ganga Hand Operative Course 2025**





## World Congenital symposium

2026 World Congenital Symposium of Congenital Malformations of the Hand and Upper Limb.

February 25 - 28, 2026

Ganga Hospital, Coimbatore

This is the first time this will be held in this part of the world. Please mark the dates in your calender. Includes a Live Operative Workshop.

Contact: rajahand@gmail.com



#### Stay Connected

To get updates about our services for children with hand disorders, to grab the future issues of the monthly bulletin and to know what the department of Plastic, Hand and Reconstructive Microsurgery and Burns offers scan the code below.

To scan the QR codes in the bulletin, follow the steps given below:

- 1. Take a screenshot of the page with the QR code.
- 2. Open the Google Photos app or your phone's Gallery/Photos app and open the screenshot containing the QR Code from your gallery.
- 3. Then, tap on the Google Lens icon or QR code scanner icon (usually located at the bottom or near the options bar)
- 4. Wait for Google Lens or QR Code Scanner to analyze the QR Code and display the link or information
- 5. Tap the link to go to the webpage







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