LITTLE HANDS

GANGA MEDICAL CENTRE & HOSPITALS PVT LTD

GANGA LITTLE HANDS

An Initiative of Plastic & Hand Surgery Department

Monthly Bulletin | Issue 24 | July 2026

Dedicated to Increasing Awareness, Understanding, and Early Action in Congenital Hand Conditions

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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, Real Life Stories and the 'Clinician's corner' might be interesting to all the readers.

Scan Me

To read all the issues of Little Hands

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Editorial

Surgery on Children with Congenital Hand Differences starts well before the first incision

The goal of surgery is to make patients happy. While that is true for all surgeries, there is a challenge when we operate on children. While we operate on children, we are working to meet the expectations of the parents. Meeting their expectations relies on clear communication, active listening, and honest alignment on realistic outcomes. Satisfaction depends heavily on how well we, as surgeons, explain the nature of the problem and what we are capable of providing. Even in the most difficult situations, we can always make the hands functionally better.

The surgical team's capability depends upon their skill levels, the infrastructure in which they work and experience. For the last part, 'experience,' we at Ganga are fortunate to have good stored data of our previous patients. Good documentation coupled with easy retrieval helps us to serve the children better. This becomes even more important when the condition is itself rare, literature on the subject is sparse and the deformity is unique and functionally crippling. Every time we face a unique situation, we extensively study the literature, browse our own patient records, and determine the best possible course. Sometimes a couple of surgical stages may be needed to improve the outcome. When explained beforehand, parents view the second surgery not as a complication but as a natural sequence and are clear about what to expect.

Explaining with empathy reduces the incidence of unmet expectations. It helps parents set up realistic goals which helps us to reach it each time and every time. So, while people may think surgery starts when we make the incision, for us it starts the first time we meet the parents and the child.

Dr S Raja Sabapathy
Dr Monusha Mohan
(Editors)

Clinicians' Corner

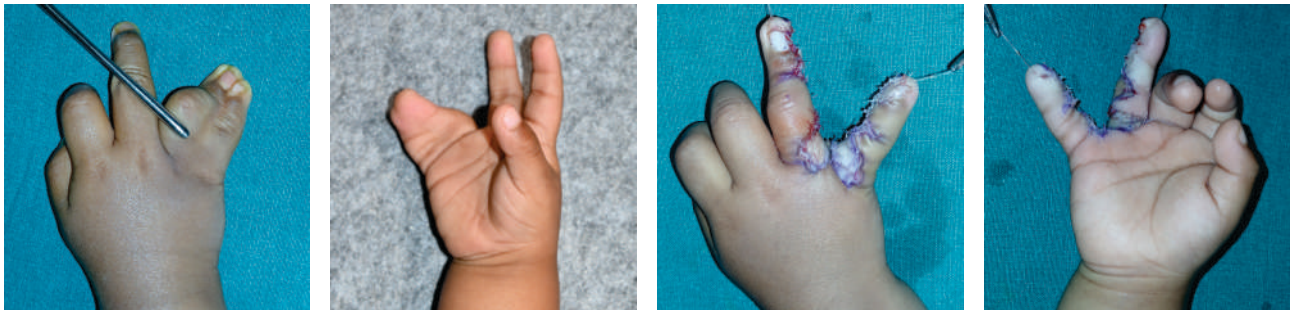
Why We Read Before We Operate

No two children are alike, and no two hand anomalies are identical. Congenital hand differences do not follow a template. Neither should their treatment. Every child deserves a customized plan. When a child presents to us with an uncommon anomaly or an uncommon presentation of a common anomaly, we take time to read and do a preliminary review before discussing the plan with the parents. One should not hesitate to inform parents that adequate time is required before formulating a treatment plan. This may involve a day or two of careful reading, discussion with colleagues from the same or related specialties, and thoughtful consideration of the case. Standard textbooks, relevant literature, and a quick review of our photo archives are often invaluable in guiding this process.

Let us see a few congenital hand anomalies where preliminary research and review helped in planning the right operation.

Ring-Little finger syndactyly

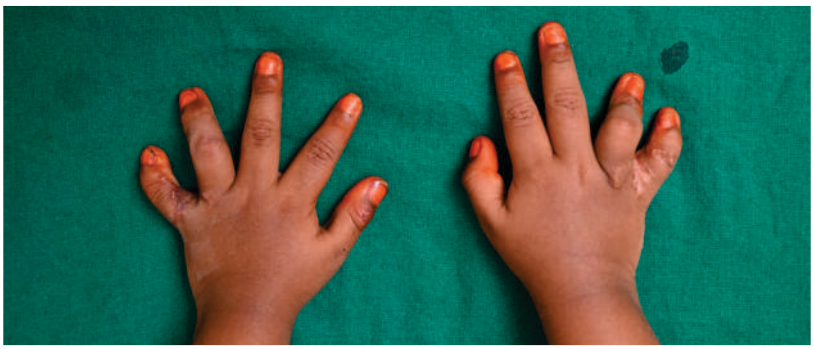
During our fellowship training, we are taught that border digit syndactyly should be separated early. However, these are uncommon compared to the middle/ring finger syndactyly. A few years ago, a 13months old old boy was brought to us with ring/little finger syndactyly. The little finger was smaller than usual and the ring finger was found to be flexed and deviated. He was scheduled for syndactyly separation. During preoperative counselling we told the mother that the boy might need additional surgeries in future. The parents were concerned and worried. We reassured them and explained to them why we said what we said.



Ring and little fingers were fused on both sides.
The preop and postop images show the syndactyly separation done on the right hand.

This approach is based on our detailed review of our experience in treating similar children. Fortunately, we have the benefit of access to a good data base of previous patients which helps us to audit our results. When the outcomes of such children were studied, we found that web creep and persistent flexion deformity were not uncommon and they needed minor revision surgeries. That knowledge helps us to realistically counsel patients.

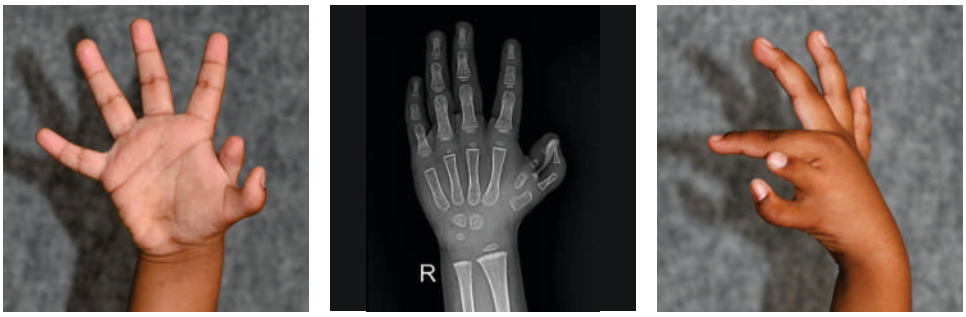
The surgery went well, and we took extra care for physiotherapy and scar care. However, he required a small Z plasty an year later. But convincing the parents was a cakewalk as they were already prepared for it.



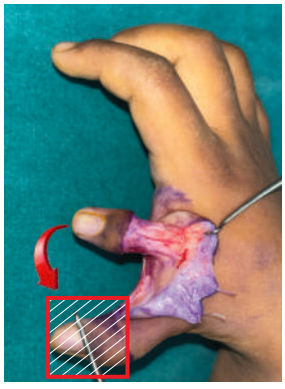
Well settled grafts with better hand function could be achieved.
Mild residual flexion deformities remain and is not uncommon in fourth web syndactylies

Atypical Thumb Duplication

When a professional tennis player and his wife walked in with their son, the father was worried whether the boy would be able to hold a tennis racquet properly as his right hand had a duplicated thumb. They had well understood that the duplicated components were hypoplastic or underdeveloped. Though the duplication looked proximal, a closer evaluation revealed a rare type that cannot be classified under the Wassel-Flatt classification.

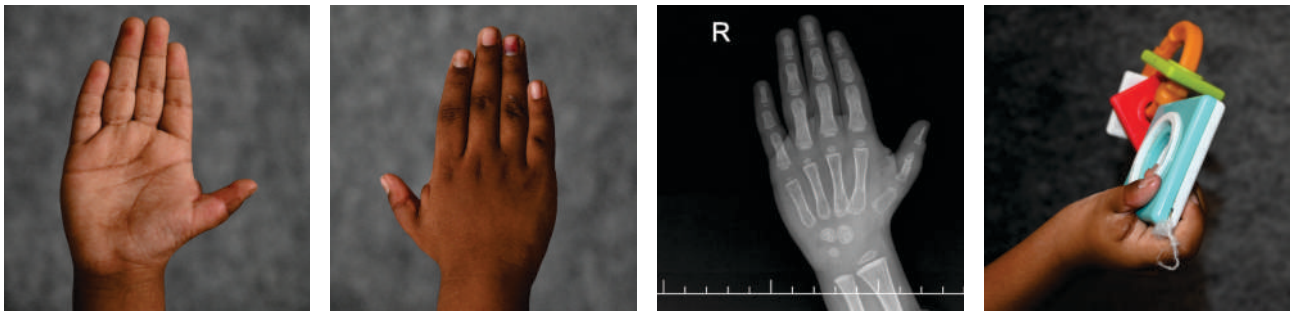


The duplicated thumbs were underdeveloped and deformed.
The ulnar (near the index finger) thumb was floating with a severely hypoplastic metacarpal



On-top plasty surgery involved replacing the distal part of the radial thumb with that of the ulnar thumb. The thumb with the stable CMC joint is hence retained

Similar presentations have been treated before. Again, photo archives and medical records came to our rescue. There were two types of surgeries that had been performed - one augmentation of the radial component with tissues from the ulnar component and the other was an on-top plasty. On-top plasty involved replacing the tip of one component with the other.

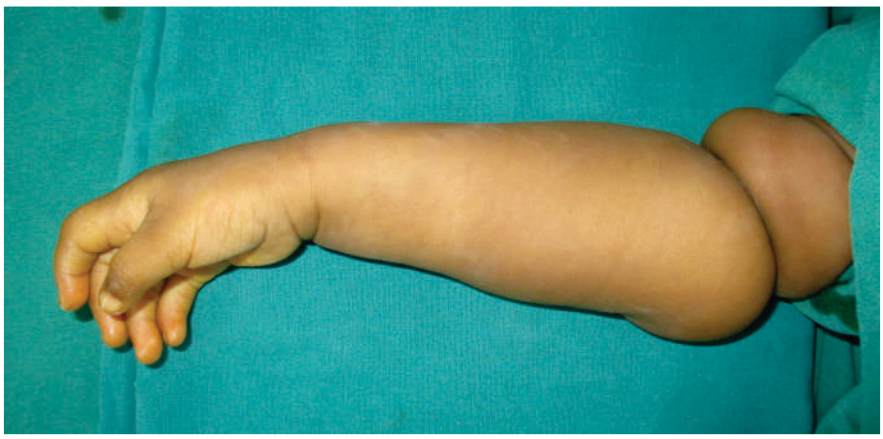


The hand looked aesthetically pleasing and the reconstructed thumb contributed to good pinch and grip function

On-top plasty gives good aesthetics as well. The distal portion of the 'floating' ulnar thumb should be of considerable size to choose this option. The child's thumb was suitable for on-top plasty and we could achieve excellent results. The father is now gearing up to train his son for tennis!

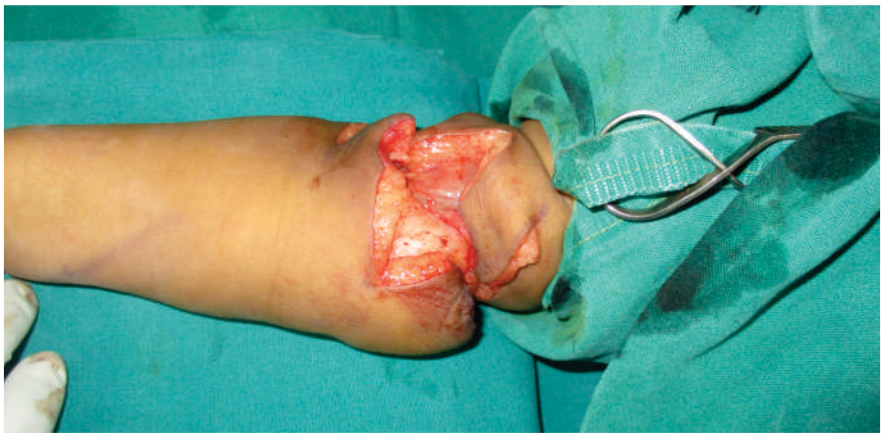
Constriction ring syndrome with peripheral nerve palsy

Though we treat many children with constriction ring syndrome, associated peripheral nerve palsy and weakness is rarely encountered. Unfortunately, whenever we see one, it is mostly a severe nerve palsy. They are mostly triple or double nerve palsies in the upper limb.

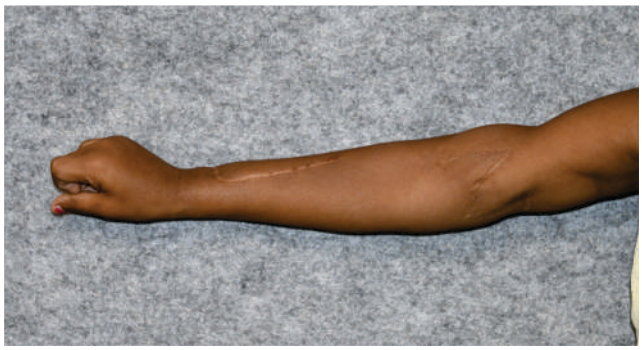


A child with deep circumferential ring around the arm with associated radial nerve palsy showing wrist and finger drop

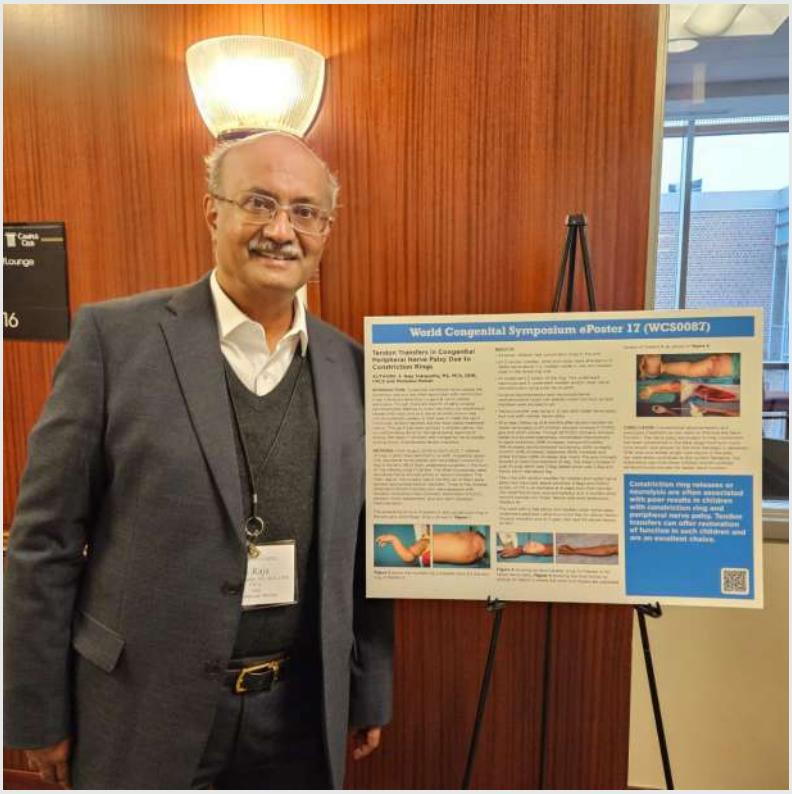
When a child was brought to us with an arm ring and nerve palsy in the hand, we were sure that we had performed surgeries for such patients before. Though publications on ring release and or nerve procedures like grafting are present, the prognosis is guarded. When nerve recovery does not happen, tendon transfers are relied on. However, literature on tendon transfers is scarce. We have performed tendon transfers for children who did not have nerve recovery. Delving deeper into the literature and perusal of case details of previous patients made us realise that tendon transfers might be a better option than nerve grafting. Tendon transfers offer early recovery than what nerve grafting can offer.



The ring was released using multiple Z Plasties in the first stage



At final follow-up, after the tendon transfer for correction of the wrist and finger drop

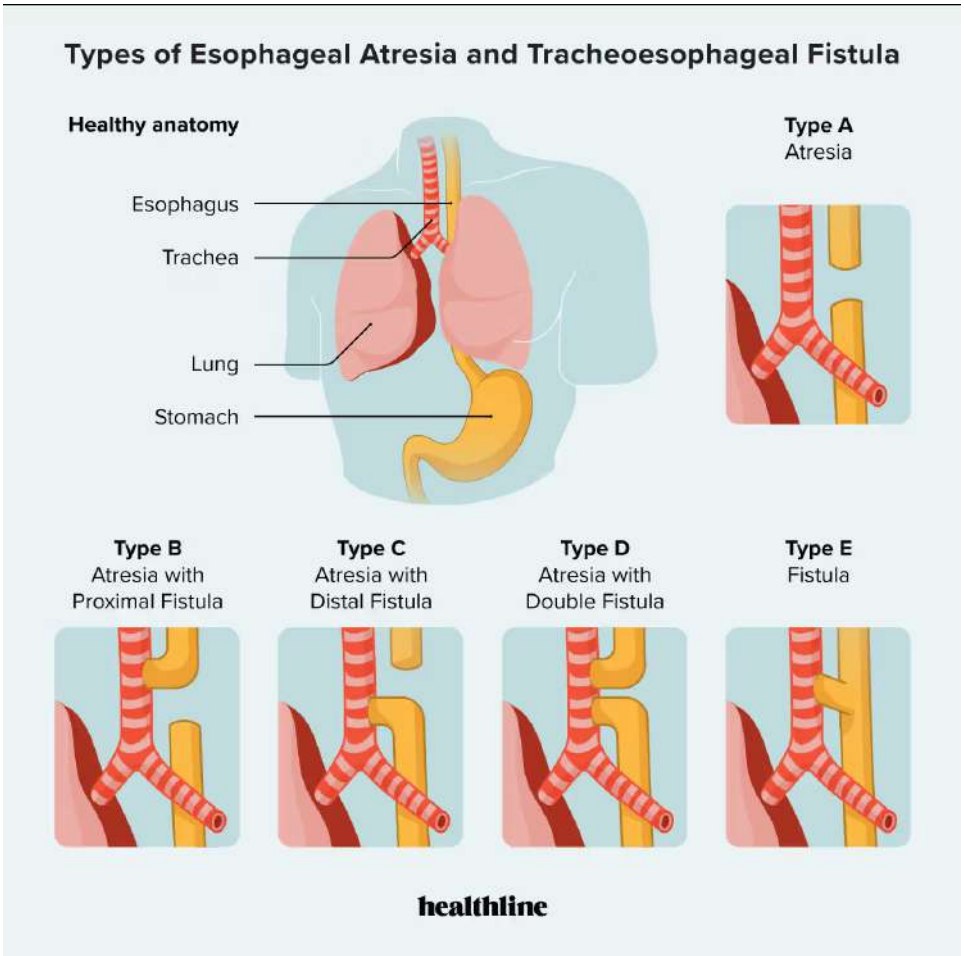


Our poster on 'Tendon transfers in Congenital Peripheral Nerve Palsy due to Constriction Rings' was selected as one of the Top 10 ePosters at the 12th World Symposium on Congenital Malformations of the Hand and Upper Limb, held at Minnesota, USA in 2023

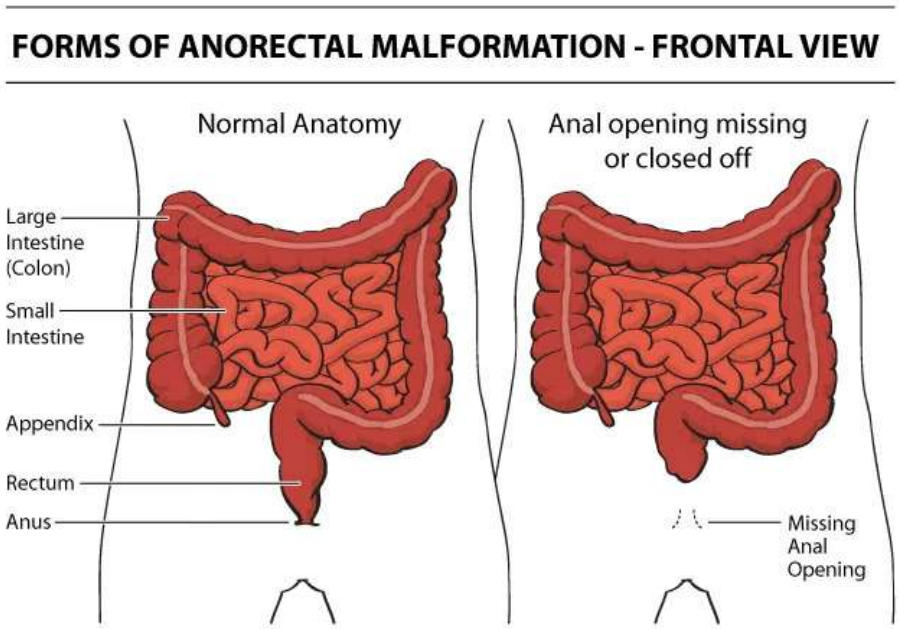
Did you know?

Sometimes the First Incision is not on the Hand

Among all the congenital hand conditions, radial dysplasia is the most common hand anomaly associated with anomalies of the other systems. Cardiac, tracheoesophageal and anal malformations take precedence over hand surgery. Tracheoesophageal fistula requires surgery in the newborn period to establish safe feeding and prevent aspiration. Anorectal malformations often need neonatal surgery to create or reconstruct a functional anal opening. In babies with radial longitudinal deficiency, these life-threatening or functionally critical conditions take priority over elective hand reconstruction.

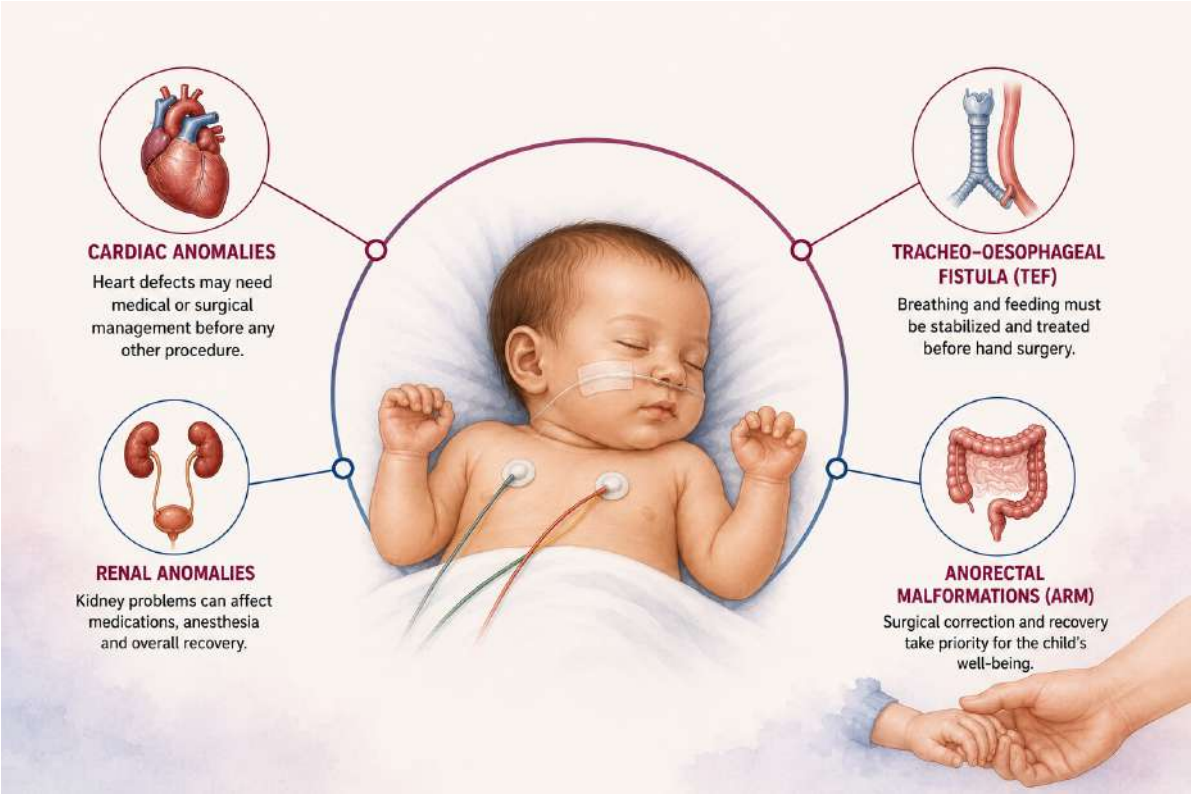


Tracheoesophageal fistula is a congenital anomaly in which the trachea and esophagus are abnormally connected. In the commonest form, the upper esophagus ends blindly while the lower esophagus communicates with the trachea. Newborns typically present with excessive salivation, choking and coughing during feeds, cyanotic episodes, and an inability to pass a feeding tube into the stomach. Without prompt treatment, milk and secretions can enter the lungs, leading to aspiration pneumonia and respiratory compromise. Surgical repair, usually performed in the neonatal period, involves dividing the fistula and joining the two ends of the esophagus (primary esophageal anastomosis). In selected cases with a long gap between the esophageal ends, a staged repair or esophageal replacement may be required.



Anorectal malformations are birth defects in which the anus and rectum do not develop normally. Babies may have no anal opening or an abnormal connection (fistula) between the rectum and the urinary tract or genital tract. Many require surgery soon after birth to establish normal bowel function. Depending on the type and severity, babies may require an emergency colostomy or a definitive reconstructive procedure, such as a posterior sagittal anorectoplasty (PSARP), early in life to restore normal bowel function.

Healthy Child First, Healthy Hand Next.



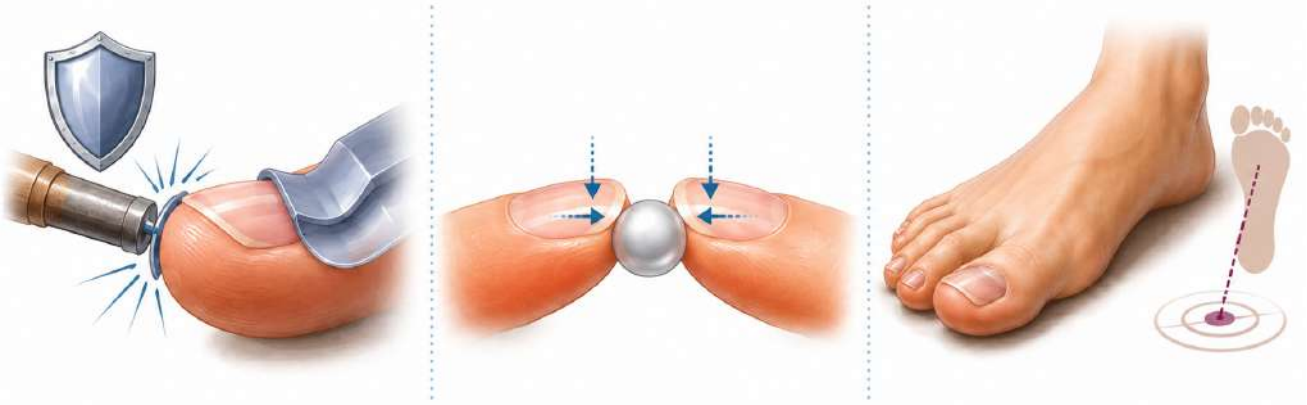
Hand Vignettes

Finger Nails

Foetal fingernails develop between the 9th and 10th week of pregnancy. They grow at a rate of about 3mm/ month in the womb and may grow beyond the fingertips by birth.

Nails are made of around hundreds of layers of specialized cells called keratin. Though it is hard, water constitutes 10-30% of the composition, giving it flexibility. The nails are dead tissue as they have no living cells or blood vessels or nerves of its own. The nails appear pink due to the blood vessels in the nailbed tissue beneath them.

The functions of the nails are:



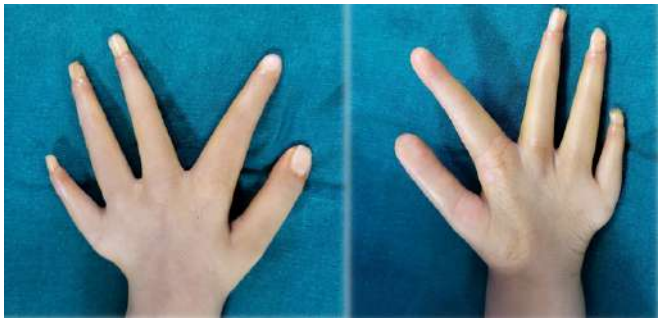
*1) **Mechanical protection** - the hard shield protects the delicate fingertip and the nerve endings within from trauma and infection*

*2) **Better grip** - The fingertips can pinch objects against the hard nail plates and hence nails aid in better grip. The nail distributes force evenly and enhances precision pinch.*

*3) **Structural support** - Toe nails give stability while walking*

In hand surgery, preserving or reconstructing the nail plate is often as important as restoring the fingertip itself because function and appearance go hand in hand.

Can you spot the nail anomaly?

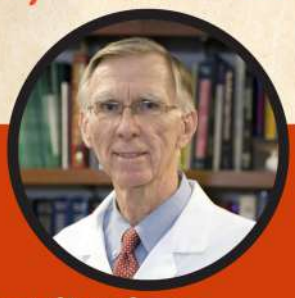


Dorsal Dimelia: A rare congenital hand anomaly where structures normally found on the back (dorsum) of the hand, such as the nail, are duplicated on the palm, resulting in a palmar nail

Legends in Congenital Hand Surgery

PAUL MANSKE

USA/ 1938-2011



Landmark Contributions

- Pioneer in the field of Intrasynovial Flexor Tendon Biology and Intrinsic Tendon Repair Concept
- The 'M' of the well-recognised OMT classification for congenital hand differences
- Dedicated much of his career to congenital upper limb anomalies—developing classification schemes and surgical strategies that improved outcomes.
- Author of more than 200 peer-reviewed publications
- Manske was the longest-standing Editor-in-Chief, Journal of Hand Surgery (1996–2010), wrote 57 editorials shaping the academic and ethical direction of hand surgery globally.
- The Paul R. Manske Award was created to honour his legacy as a surgeon-scientist and Editor-in-Chief, and to recognize the most outstanding peer-reviewed research in hand surgery published in the preceding year across multiple journals.

Quotes

"As the son of a grade school principal, I learned at an early age the importance of the 3 Rs: reading, 'riting, and 'rithmetic."– Manske PR: Education. J Hand Surg 2000;25A:607

Quotes

"Hand surgery should no longer be dependent on the major orthopedic and plastic surgery journals to extend its educational mission."– Manske PR. To improve and develop surgery of the hand. J Hand Surg Am. 2010;35:1.

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.

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.

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