

Towards Fulfilling the Reconstructive Surgical Needs of Children

An initiative of Ganga Hospital, Coimbatore

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Editorial

Happy New Year

As we turn out our sixth issue, we wish all our readers a very Happy New Year. The experience of the past 5 months has been very encouraging. This outreach activity has bridged many who were out of reach. This exercise has been primarily directed towards Obstetricians, Neonatologists and Paediatricians who almost always see the children with congenital hand anomalies at birth.

Though only a handful of hand anomalies have to be seen by a hand surgeon at birth, (neonatal compartment syndrome which was covered in the September issue and severe constriction rings in the limbs causing distal pressure effects), we would recommend most of the anomalies to be seen by a specialist surgeon early. Even though we may not operate on them, this gives an opportunity to provide parents the answers to the questions that haunt them so often, Can the hand become normal? Can the child lead a normal life? When should the surgery be done? What are the post-operative protocols? and most importantly the cost of care. The initial visit is most important to get answers to these questions. We find that they become happier when they see the videos of children who have had similar deformities corrected. Affordability is a key factor in surgery and at Ganga we do our best to make access and quality care affordable. All these happen during their first visit. We use the first consultation to build trust and increase the comfort levels.

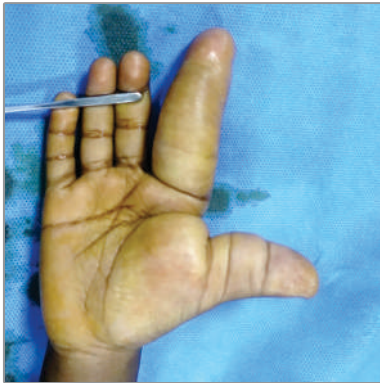


As we move on, we are introducing a new feature the 'Picture Gallery' wherein we would answer the questions from our readers. All they need to do is to send the picture of the child's condition and ask the questions they have in mind. The picture could be anything to do with children's hands - from birth defects to defects following trauma or burns. We will do our best to answer them. We are sure this will benefit the little hands who are the future of our country.

Dr S Raja Sabapathy
Dr Monusha Mohan
(Editors)

Reconstruction of a Hand with a Gigantic Thumb and Index Finger

Macroductyly or local gigantism is a congenital condition where a baby is born with abnormally large fingers or toes. The adjacent parts of the hands or feet may show enlargement. Overgrowth of the fibro-adipose tissue, muscle and bone may be enlarged. Surgical options include debulking and bony procedures. If the gigantic digit is non-functional, it is advisable to remove the digit that is enormously large and comes in the way of the other digits. It is important to evaluate the child preoperatively and to think constantly how to improve the hand function.



Macroductyly of the thumb and index finger with enlargement of the adjacent thenar area

This 5 years old boy was born with an enlarged thumb and index finger. The distal ends of the phalanges of the thumb and index finger were deformed resulting in less functional interphalangeal joints. The degenerative bony changes are a result of the misalignment of the articular surfaces.

The non-functional index finger was amputated. The adjacent tissue was debulked. We decided to not only debulk the thumb but also to augment the function by plicating the Flexor Pollicis Longus (FPL) tendon and by doing an opponensplasty or opposition transfer using the Extensor Indicis Proprius (EIP) tendon (from the amputated index finger). Since we had the complete plan, we kept the EIP tendon preserved while amputating the index finger.



Augmentation of Flexor Pollicis Longus (FPL) tendon



Extensor Indicis Proprius (EIP) tendon opponensplasty



Improved hand function post reconstruction

Did you know?

Poland Syndrome may be due to Hypoplasia of the Subclavian Artery or its branches

Sir Alfred Poland, after whom the syndrome of deficiency of the pectoral muscle with ipsilateral symbrachydactyly, is named after, was a student-demonstrator in anatomy. He described the ‘deficiency of the pectoral muscles’ after the cadaveric dissection of a convict with the chest and hand anomalies. This was published in the Guy’s hospital Gazette in 1841. Later, Poland was appointed as a surgeon in Guy’s hospital. It is recorded that the convict, George Elt could not bring his left arm across his chest. When the clinician requested his left hand to check his pulse from the right side, he would turn around instead. It was Sir Patrick Clarkson, a British Plastic Surgeon, who termed the condition after Poland, in his report of three cases.

Among the various theories of pathogenesis of the condition, the well accepted one is the ‘Subclavian artery disruption sequence’ theory. It is thought that, at the end of the 6th week of gestation, the embryonic blood supply to the upper limb and ipsilateral chest wall is affected by the hypoplasia of the subclavian artery or its branches. This leads to hypoplasia of the upper limb, pectoral muscles and the rib cage. The hand anomaly is usually symbrachydactyly where the limb is hypoplastic with short fingers (hypoplasia of the middle phalanges) with webbing (syndactyly). Associated breast hypoplasia can vary in severity. Rib cage can be normal or sunken with hypoplastic ribs.



A child with Poland syndrome. The chest hypoplasia is mild.



Syndactyly separation and lengthening of Flexor Carpi Radialis (FCR) tendon were done in stages.



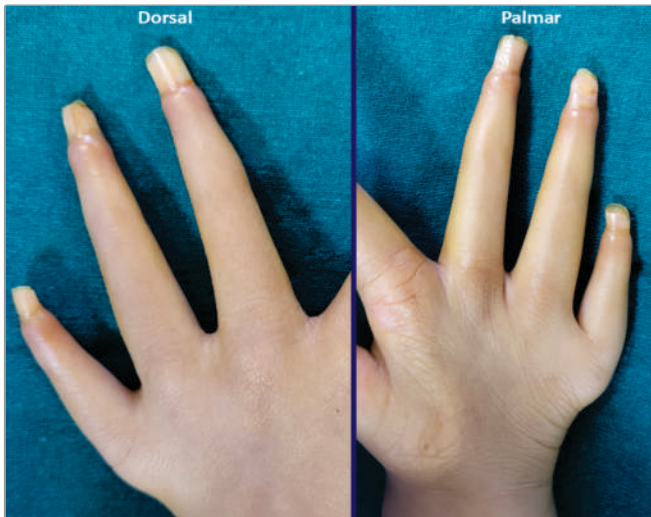
In this other patient, the chest defect is severe with rib hypoplasia, but with no alarming symptoms. He had lung herniation. He had an acceptable hand function.

Clinician’s Corner

Dorsal Dimelia or Congenital Palmar Nail



Formation of the dorsal nail in the distal phalanx of a finger needs precise dorso-ventral patterning. Any error in this, can lead to the formation of a palmar nail with dorsalization of the palmar aspect of the digits or palm. Often the interphalangeal joints are stiff with no creases or movements.

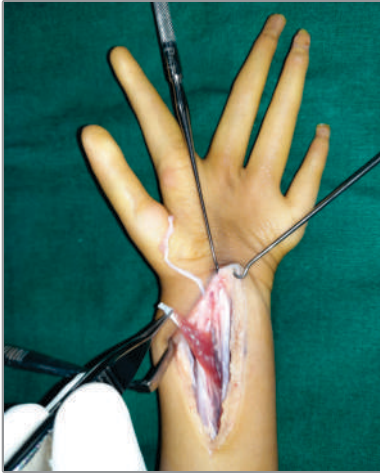


Note the palmar nails and the dorsal skin on the palmar aspect of the hand.



Ipsilateral mammary hypoplasia

This girl had ipsilateral mammary hypoplasia as well and a diagnosis of Ulnar mammary syndrome was made. We decided to reconstruct the flail thumb to give adduction and opposition power so that the hand function improves. An anomalous tendon found in the forearm was used for opponensplasty and a flexor tendon to the ring finger was used as a tendon graft. She was able to hold objects using the thumb and index finger. The palmar nails may be removed and pulp plasty can be attempted in the next stage.



Opponensplasty done with an anomalous tendon in the forearm using a tendon graft

Improved usage of the hand after opponensplasty

Hand Vignettes



Explore the power of writing this Handwriting Day

Writing by hand still matters in the digital world. January 23 is celebrated as National Handwriting Day in the United States after John Hancock’s birthday.

He was the first signer of the Declaration of Independence. This day was introduced to save

the cherished art form of writing. It combines motor skills with cognitive function.

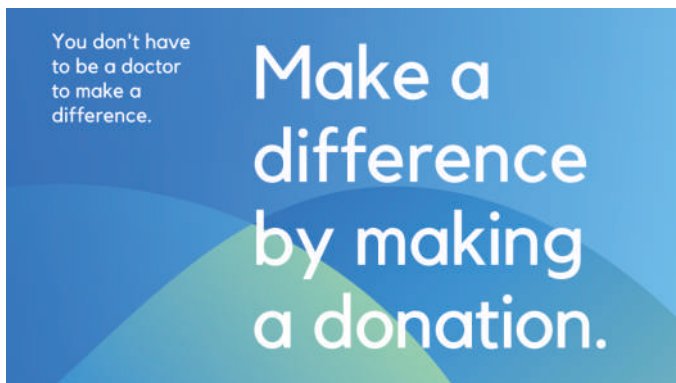
Cursive handwriting is one of the styles of penmanship where the letters are written joined together in a flowy manner. It is done without lifting the pen or pencil from the paper and hence helps in writing with speed. Teaching cursive can be time consuming, but it improves the fine motor skills in children. It is considered a practical life skill by many. Furthermore, writing with hand is one of the most powerful ways to express our thoughts and feelings.

When did you last send a handwritten letter to someone? Why not change that today? There’s something special about putting pen to paper!

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. Please write to rajahand@gmail.com to make a donation.

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.

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 calendar.

Includes a Live Operative Workshop.

Contact : rajahand@gmail.com



Ganga Hand Operative Course

July 17 - 20, 2025 Ganga Hospital, Coimbatore



Includes live surgery, didactic lectures and small group discussions.

Look for the details soon...

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.

1. Please point your phone camera at the code
2. A link or icon will come up, tap it.
3. It will take you to our web page using your phone's web browser.



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