

LITTLE HANDS

GANGA
MEDICAL CENTRE & HOSPITALS PVT LTD



An Initiative of Plastic & Hand Surgery Department

Monthly Bulletin | Issue 10 | May 2025



A 'Trunk'ful of Hope

**Towards Fulfilling the
Reconstructive Surgical Needs of Children**

LITTLE HANDS



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.

Scan Me



**To read all the issues of
Little Hands**

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Editorial

Paediatric Holiday-Related Injuries

Summer holidays are the most looked forward to event for the whole family. For the children some time away from the grilling schedules of the present-day schooling, for the parents from an opportunity for a late start in the morning to taking some vacation to choiciest places.

The vacation can turn out to be a sore disaster if an injury should mar the happy plans.

“Children have a unique ability to convert the most safe looking toys or objects into complex medical challenges.”



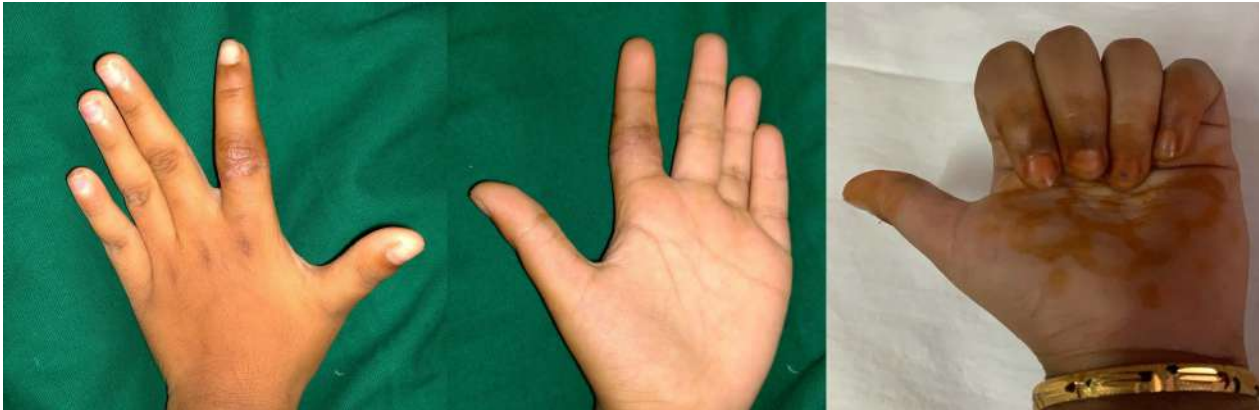
The curiosity of the children itself could result in a bizzare injury. Take for example the innocuous looking idli making plate. We have so many children put their finger through the central hole and get stuck. The stuck finger is one of the most difficult to get released. Once it crosses the proximal joint in the finger, it reaches a softer area and soon swelling starts. Attempts to forcibly pull the finger increases the injury and the swelling. Attempts at removing a finger in a crying child, with several onlookers and bleeding at the stuck site can become an unwelcome scenario. Hardly it is possible to cut the plate too.

Idli plate entrapment injury of the Index finger.

Once a wound forms it needs expert attention in a specialised unit. First thing is that hardly it can be done in a crying child who is suffering from pain. With each failed attempt the swelling increases. Children need general anaesthesia. So a message that we wish to convey to everyone is that it is a good practice not to give anything by mouth – any food, drink, or even water to the child on the way to the hospital. We have developed techniques and the equipment to release the stuck finger.



After removal of the plate.



Final follow-up pictures after plate removal and microvascular vein repair

Sometimes the finger may suffer injury to the nerves or tendons and they could be repaired in a specialised centre. We are also presenting pictures of some common injuries we see during the holiday season

Beware, children are curious. Please do not let their curiosity become the cause of a serious injury. Seek medical attention early to get optimum results.

**Dr S Raja Sabapathy
Dr Monusha Mohan
(Editors)**

Parachute Method: A Novel Method to Retrieve a Stuck Degloved Finger

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Indian J Plast Surg 2022;55:307–310.

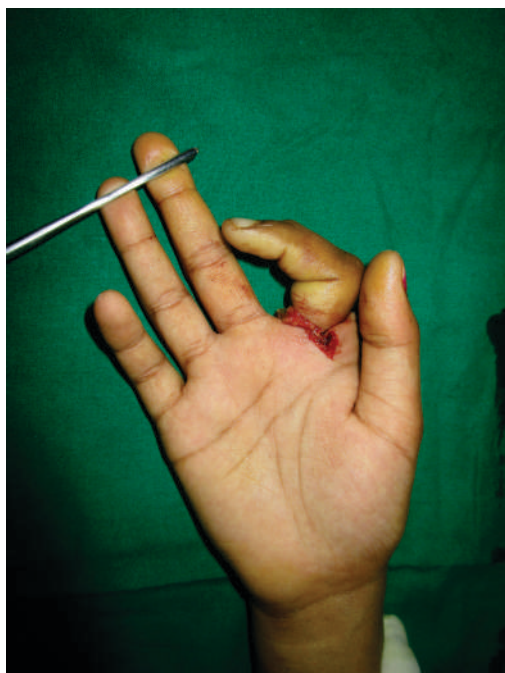
Address for correspondence: S. Raja Sabapathy, MS, MCh, DN8, FRCS (Edin), Hon. FRCS (Glasgow), Hon. FACS, Department of Plastic, Hand and Reconstructive Microsurgery, Ganga Hospital, 313, Mettupalayam Road, Coimbatore, Tamil Nadu, 641043, India (e-mail: rajahand@gmail.com).

Our article on a novel method to retrieve the finger stuck in an idli plate was published in the open access journal, Indian Journal of Plastic Surgery.

Periasamy M, Asokan K, Mohan M, Muthukumar V, Venkatramani H, Sabapathy SR. Parachute Method: A Novel Method to Retrieve a Stuck Degloved Finger. Indian J Plast Surg. 2022;55(3):307-310. Published 2022 Oct 31. Doi:10.1055/s-0042-1744455

Paediatric Household Hand Injuries

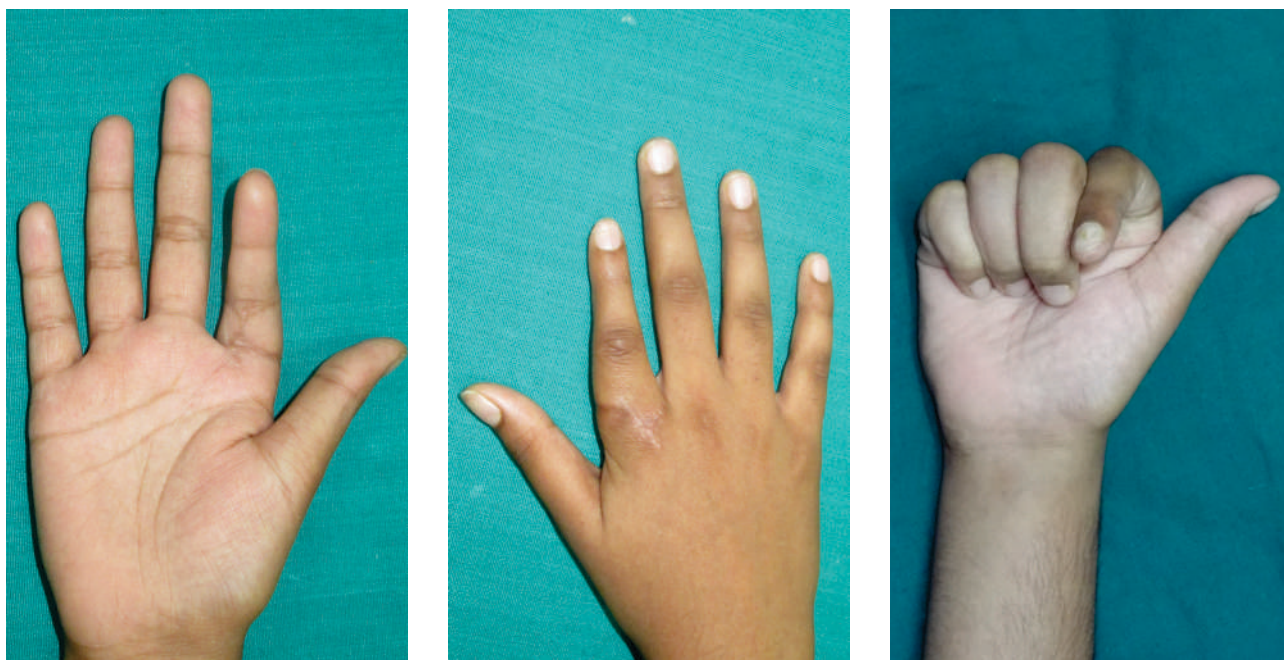
Washing Machine Injury



A 13-year-old girl suffered near total amputation of her right index finger with no blood supply. She was trying to remove a cloth from the running top loading automatic washing machine.



Microvascular repair of the artery and vein were done to revascularise the finger

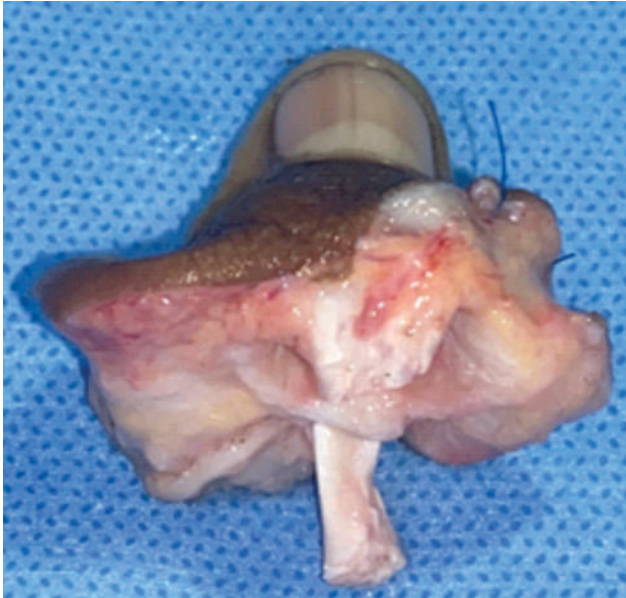


Final follow-up pictures of the hand with a viable functional index finger



Another washing machine related injury. The index finger of this 13 years old girl suffered an avulsion amputation. The finger was replanted immediately.

Bike Chain Injury



This 17-year-old teenager suffered total amputation of his left thumb while cleaning the motorbike chain with the bike on.



The thumb after microvascular replantation

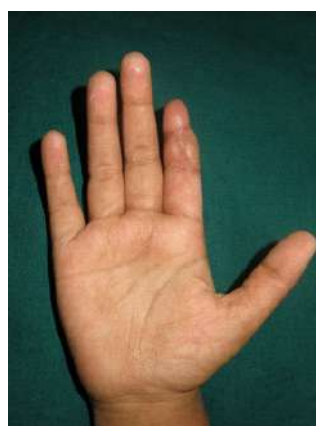
Cycle Wheel Spoke Injury



A 3-year-old girl sustained crush amputation of her right index fingertip while playing with the cycle wheel.



Microvascular replantation of the index fingertip



Final follow-up images of the hand

Treadmill Injury



The friction burns on the palm were debrided and grafted using full thickness skin grafts

Electrical Burn Injury



This 9-year-old suffered electrical burns to multiple fingers of both the hands while playing with an electrical connector board, at home. The fingers that developed gangrene had to be amputated at the demarcation line and were reconstructed using multiple abdominal flaps raised in a step-ladder pattern.



The fingertips have healed well and maximum length could be retained because of the flap cover.

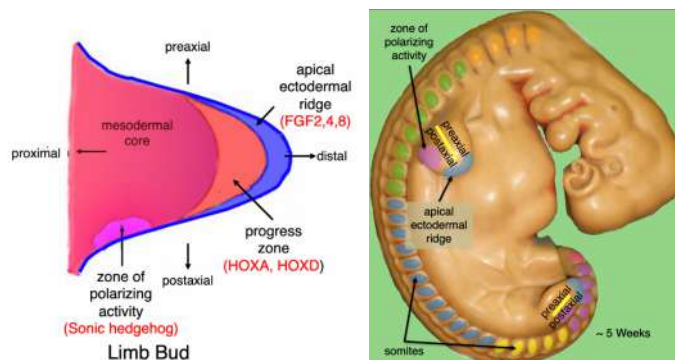
Did you know?

There are three axes of development in hand embryogenesis

Human hand develops as a limb bud in the fourth week of gestation. A number of genetic and growth factors interact with each other for limb bud growth. There are three axes that are involved in the hand embryogenesis – Proximo-distal, antero-posterior and dorso-ventral axes.

Table and image showing the action of the three axes in hand development

| Axis and Signaling Centre | Action |
|----------------------------|--|
| Dorsoventral (WNT pathway) | Differentiation of dorsal and ventral structures |
| Anteroposterior (ZPA) | Differentiation of ulnar and radial structures |
| Proximo-distal (AER) | Growth from proximal to distal |



WNT - *Wingless related iNtegration site*, **ZPA**- *Zone of Polarising Activity*, **AER** – *Apical Ectodermal Ridge*

A few examples of congenital hand deformities according to the axis involved:

Proximo-distal axis related anomalies – transverse deficiencies, syndactyly



Transverse deficiency



Syndactyly

Antero-posterior axis related anomalies – radial longitudinal deficiency (radial club hand), ulnar longitudinal deficiency



Radial longitudinal deficiency: radius did not develop. The thumb shows severe hypoplasia.



***Ulnar longitudinal deficiency: ulna is severely hypoplastic with a small proximal remnant.
The ulnar most fingers share a common metacarpal.***

Dorso-ventral axis related anomalies - dorsal dimelia, ventral dimelia



Ventral dimelia: The fourth digit, when counted from the thumb side, has palmar skin on the dorsal aspect too



Dorsal dimelia: The ulnar three digits have dorsal skin and nail on the palmar aspect

Clinician's corner

Moebius syndrome.

Last month, an eight days old newborn baby was brought to us with a hypoplastic hand with absent digits on the left side, ipsilateral chest hypoplasia with axillary contracture band, deviation of the angle of mouth to the left side and ipsilateral lagophthalmos. Abduction of the left eyeball was not present on inspection. The presence of hand anomalies with involvement of cranial nerves VII (facial nerve) and nerve VI (abducens nerve) point towards the syndrome,



Chest hypoplasia, hypoplastic hand with absent digits and an axillary contracture band



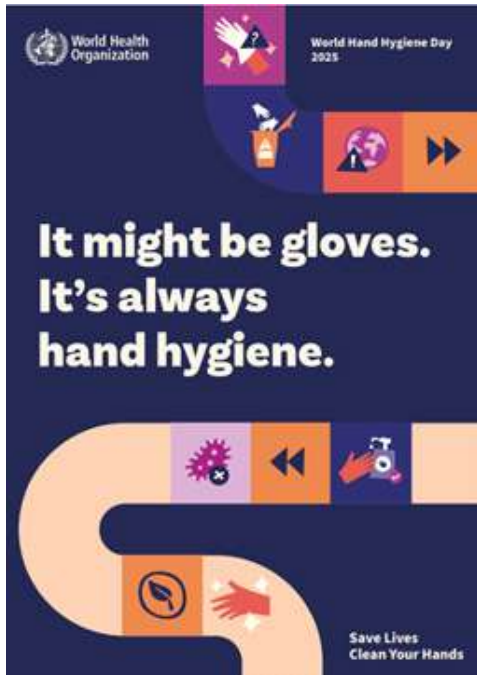
Features of facial nerve palsy – deviation of the angle of mouth and lagophthalmos

Symbrachydactyly with ipsilateral pectoral hypoplasia points at Poland syndrome. Cranial nerve palsies should be looked for; if present, one should think of Moebius syndrome. In fact, embryologically, both Poland and Moebius syndromes have a common etiological hypothesis: Subclavian Artery Supply Disruption Sequence. The subclavian artery is the main arterial supply to the upper limb during its development and this explains the hand and chest hypoplasia. A disruption in the subclavian artery's blood supply can lead to a hypoxic-ischemic insult to the brainstem and cranial nerve palsies can occur.

The newborn baby who was brought to us, needs axillary band release. An artificial prosthesis may be fitted when the baby is older. Exposure keratopathy should be prevented. The ocular features will need surgical correction later. Literature shows the prevalence of language/speech/developmental delays in these children. Hence, the child should be kept under close follow-up.

Hand Vignettes

World Hand Hygiene Day, 5 May 2025



SAVE LIVES: Clean Your Hands is a global movement by the World Health Organization (WHO). The core of this annual initiative is that all health-care providers should clean their hands the right time and in the right way. The five moments of hand hygiene should be followed. This year the focus is on glove usage. When worn, the medical gloves should be removed after touching a patient and hand hygiene should be done as advised. Gloves can get contaminated as easily as bare hands. The campaign this year also highlights the high volume of health-care waste from glove usage. Hence appropriate glove usage and hand hygiene should be practised.



The World Hand Hygiene Day celebrations at Ganga Hospital.



The poster by Ms Manogowri, our nursing staff that won the first prize in the Best Poster Competition.

Real Life Story – ‘Every Journey matters’

A 'Trunk'ful of Hope



“As parents to see our child born with congenital hand was severely painful and as an year passed by we could see our child finding difficult to hold things in her right hand which was congenital. We consulted many well-known hospitals in *** and were advised by a family doctor that Ganga hospital has the best doctors to treat congenital issues.”

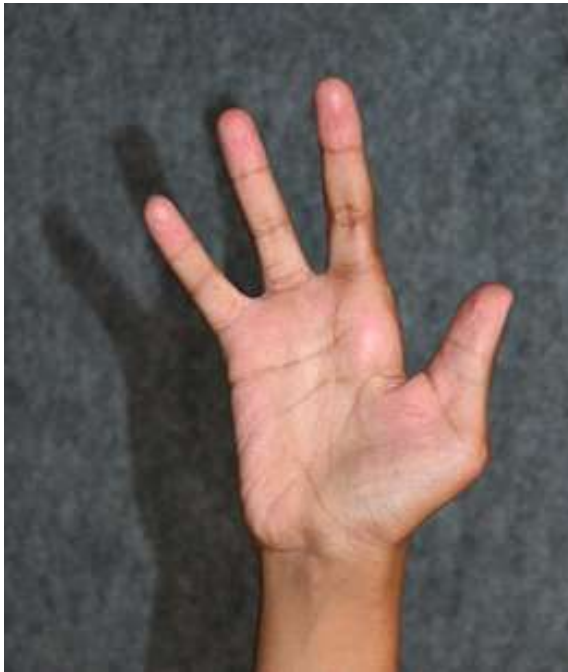
“Dr. S Raja Sabapathy (SRS) and Dr. Hari checked our daughter hand and very patiently discussed with us about long term implications that would cause if we do not get rid of a finger that was inactive as well as misaligned compared to other four fingers and was compromising the whole hand functionality.”



A complex case of index finger duplication



First surgery was to remove the hypoplastic non-functional index finger and the hidden duplicated bones in the thumb. In the next stage we reconstructed the thumb.



“We got surgery done for our daughter at age of 1.5 years and could notice our daughter hand usage functionality started improving thereafter. We have been visiting Ganga Hospital last 9 years and there have been 3 surgeries done to improve hand functionality and Dr. SRS has helped my daughter use right hand without any compromise as like any normal hand. I am a proud parent now to say my daughter has won awards in handwriting, Art and Crafts, best calligraphy competitions with the same operated hand. We are lifetime thankful to Dr. SRS and Dr. Hari for their help! ”

The cover page of this issue features an artwork by the child.

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

GANGA
MEDICAL CENTRE & HOSPITALS PVT LTD

Ganga Live Surgery Courses
Ganga Hand & Microsurgery Operative Course
17th - 19th July 2025
Venue : Ganga Hospital, Auditorium Website : www.ghoc2025.com



Hybrid Event Powered by
Microsoft Teams
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Scan the QR code
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Hybrid Course

Dr S Raja Sahaspathy
Course Chairman

Dr Hari Venkatramani
Organising Secretary

Dr Praveen Bhardwaj
Scientific Chairman

International Faculties

Ms. Graine Bourke
Plastic Surgeon, UK

Dr. Duretti Fufa
Hand and Upper Extremity & Trauma Surgeon, USA

Dr. Warren Hammett
Hand & Upper Extremity & Trauma Surgeon, USA

Mr. Jonathan Hobby
Hand & Orthopaedic Surgeon, UK

Mr. Alexander Lluch
Orthopaedic Trauma Surgeon, Spain

Course Highlights

- 27 - hours intensive educational program
- Live demonstration of 30 surgeries over 3 days
- Live interaction with the operating faculty
- Ample opportunity to discuss subject & cases with the faculty
- Same rates for both in person and online registration
- 6 - Small group discussions for inperson delegates only
- Will cover day-to-day hand surgery cases & the most complex reconstructions
- A perfect mix of Orthopaedic & Plastic related hand surgery operations
- Can be combined with pre/post Ganga Micro Surgery Course

Registration Details

| S.No | Category | Registration Fee | Total |
|------|------------------------------|--|--------|
| 1 | Surgeon Trainees (In person) | ₹ 4500 + 18% GST | ₹ 5310 |
| 2 | Surgeon Trainees (Online) | ₹ 4500 + 18% GST | ₹ 5310 |
| 3 | Surgeons (In person) | ₹ 7500 + 18% GST | ₹ 8850 |
| 4 | Surgeons (Online) | ₹ 7500 + 18% GST | ₹ 8850 |
| 5 | Overseas Registration | \$ 150 (Low, Lower - Middle Income Countries) \$ 300 (Upper - Middle & High Income Countries) | |

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World Congenital symposium



**2026 World Symposium on
Congenital Malformations of the
Hand and Upper Limb**

February 25-28, 2026
Ganga Hospital
Coimbatore, India

Includes a Live Operative Workshop
We will make your travel worthwhile !

Contact: rajahand@gmail.com

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