LITTLE HANDS

GANGA MEDICAL CENTRE & HOSPITALS PVT LTD

GANGA LITTLE HANDS

An Initiative of Plastic & Hand Surgery Department

Monthly Bulletin | Issue 15 | October 2025

World Cerebral Palsy Day - 6th October

Dedicated to 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 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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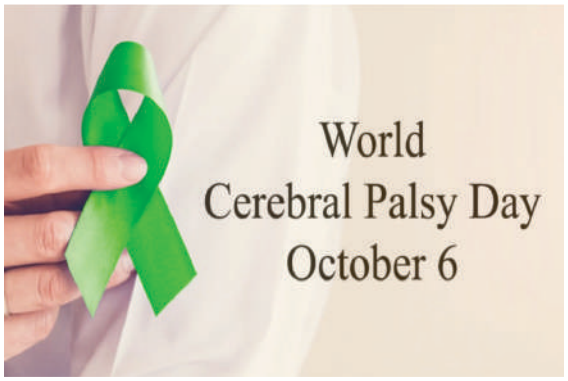
Editorial

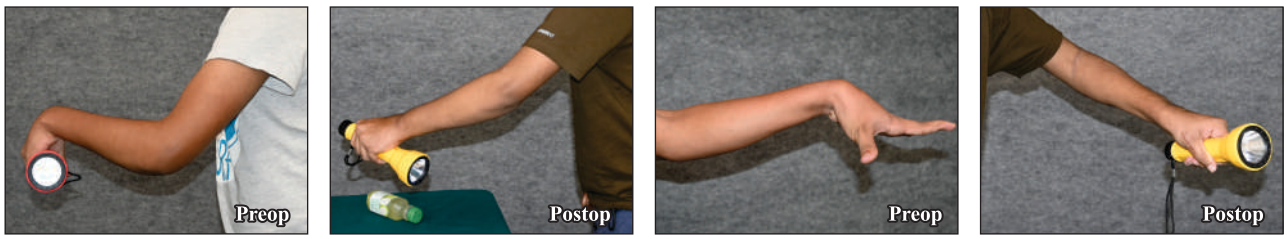
Let us provide a helping Hand to Hands with Spasticity!

In 1833, the President of the Royal Society of London, in fulfilment of a bequest of 8000 pounds made by Francis Henry Egerton, 8 th Earl of Bridgewater appointed eight great scientific figures of the time to work on the 'Power, Wisdom and Goodness of God, as manifested in the Creation'. They came to be known as the Bridgewater Treatises and were acclaimed as one of the great scientific writings of the time. One of the volumes was on the Human Hand by Sir Charles Bell, titled 'The Hand, its Mechanism and Vital Endowments as Evincing Design'. It rightfully explains one of the nature's architectural marvels - the human hand. Even this magnificent architectural masterpiece could become a functional disaster if the fine control provided by the human brain goes into disarray. That is exactly what happens in cerebral palsy.



The symptoms could vary from slight tightness to severe involuntary movements. Now there is hope to these children. Better understanding of the pathophysiology has helped us design surgical procedures and therapy interventions to make them function better and many times, become independent. But it calls for the work of a dedicated team of surgeons, therapists, nurses and social workers.

At Ganga, we provide this service, and we are very passionate about the well being of these children. Some improvement will be possible for most of them. When we change their status from dependence to independence it is just not the child that we change, it is a change that we make to the family and to the community.



The 15-year-old boy with a spastic left upper limb underwent a combination of contracture releases, tendon transfers and tendon lengthening procedures in a single stage to achieve the results shown.

October 6th is celebrated world over as the World Cerebral Palsy Day. The main thrust is on spreading information that help is available and improvement is possible. The key is to make the target population aware of, 'Where to go?' If you happen to see a child with cerebral palsy with hand affliction, please pass on the message that improvement may be possible and help them reach out.

Dr S Raja Sabapathy
Dr Monusha Mohan
(Editors)

Clinician's corner

Special Focus: The Spastic Hand in Cerebral Palsy

To mark the **World Cerebral Palsy Day**, we invited **Dr. Praveen Bhardwaj**, Senior Hand Surgeon in our department to answer key questions on Spastic hand. With his extensive experience in caring for children with hand involvement in Cerebral palsy, Dr. Bhardwaj offers clear and practical answers to concerns commonly raised by both families and paediatricians.

Is it possible to identify spastic hand in a newborn baby?

Yes, the spasticity can be identified early by clinical examination.

What are the early signs to look for?

- Child tends to keep the joints in more flexed position
- Delayed developmental milestones
- Early hand preference (Before 2 years of age)

Developmental Milestones

Age	Gross Motor
2 weeks	Moves head side to side
2 months	Lifts shoulder while prone
4 months	Lifts up on hands Rolls front to back If pulled to sit from supine, no head lag

Age	Gross Motor
6 months	Sits alone
9 months	Pulls to stand Gets into sitting position
12 months	Walks Stoops and stands

Central Nervous System Reflexes of Infancy

Reflex	Description	Age at Appearance	Age at Disappearance
Moro	Light drop of head produces sudden extension followed by flexion of the arms and legs	Birth	6 months
Parachute	Infant is suspended face down by the chest. When infant is moved toward a table, the arms extend as if to protect self	8 - 10 months	Never

In Cerebral Palsy, the Moro reflex persists beyond 6 months and the Parachute reflex is absent or delayed

- Nelson-Essentials of Pediatrics, 8th Edition.

What causes spasticity in the hands?

Any insult to the developing brain of the baby just before, during and after child birth, can cause Cerebral palsy (CP). The insult affects the motor pathways in the brain causing it to send out excess abnormal signals to the muscles. This in turn leads to increased muscle tone or spasticity or abnormal movements. Spasticity in the hand can eventually turn into contractures or deformities.

Risk factors for cerebral palsy

Pre-pregnancy/maternal factors: low socioeconomic status, maternal medical conditions (server maternal iodine deficiency/thyroid disorder, intellectual disability, epilepsy)
Antenatal: prematurity, genetic factors/mutations, congenital malformations/cerebral dysgenesis, placental pathology, infections (TORCH, maternal genitourinary infections), Intrauterine growth restriction (IUGR/FGR/SGA), multiple births, antepartum haemorrhage
Perinatal: perinatal asphyxia/birth complications, neonatal encephalopathy, perinatal stroke, kernicterus
Postnatal (postneonatal): meningitis/encephalitis (including cerebral malaria), kernicterus, traumatic head injuries, shaken baby syndrome, cardiopulmonary arrest (near drowning)

TORCH syndrome refers to transplacental &/parturitional infections with Toxoplasmosis, Others (syphilis, HIV, EBV, Zika, varicella, enterovirus), Rubella, Cytomegalovirus, Herpes simplex. IUGR=Intra Uterine Growth Retardation. FGR = Foetal Growth restriction. SGA = Small for Gestational Age.

How to talk to the parents of a child with cerebral palsy ?

This is an important aspect. Learning that their child has cerebral palsy can be an overwhelming and heartbreaking moment for parents.

However, there is hope !!

We need to explain to the parents that the original pathology in the brain is not correctable but the effects of the problem in the limbs, both upper and lower limbs, can be corrected. The child can be rehabilitated to become independent and grow to a responsible and productive citizen of our country.

It must be emphasised that the surgery will not make the child normal but it will make them better! Better in two ways - make them look more ‘normal’ and make it easy for them to carry out day-to-day activities of life.

A child with CP will need a regular check up to have the best results. We always feel that in the developmental journey of the child, the surgeon becomes a friend of the family. We fight the challenge as a team!

When and why should a child with spastic hand be referred to a hand surgeon?

Surgical interventions in CP are often done after the age of 6 yrs. However, the child should be referred to us as early as possible because early institution of physiotherapy is the best way to prevent deformities.Children are put on aggressive physiotherapy to prevent contractures and deformities. Sometimes they may need protective splints if your doctor feels that the contracture of the joint is not responding well to stretching exercises.

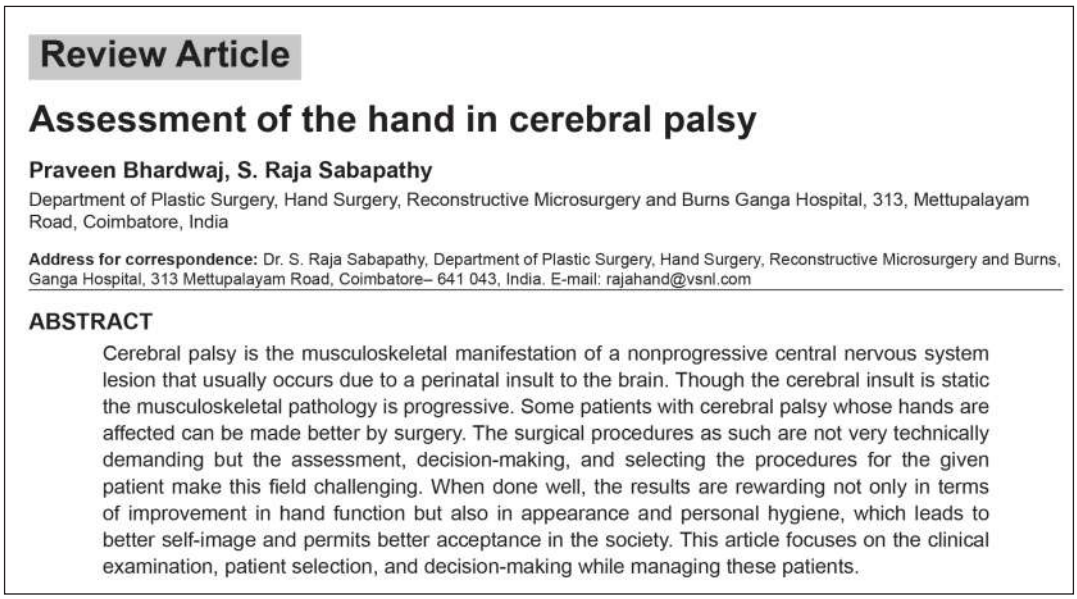
If the muscle spasticity is severe, some children may require Botulinum toxin (Botox) to reduce the spasticity which may in turn prevent the deformities.

We always like to see these children once in 6 months initially and then once in a year.

What are the surgical options for spastic hand?

The surgical options include - Selective Neurectomy, muscle tendon lengthening and tendon transfers and bony procedures like osteotomy and fusions. The type of operation will depend on the age of the child, severity of the spasticity, severity of the contracture and bone deformation. However, most of the children can be offered some improvement in the appearance or/and function.

The level of functional improvement that can be expected post-surgery is basically dictated by the voluntary control present preoperatively. Hence, all the children need a detailed assessment to let the parents know what can be expected after the surgery. The basic problem in CP is in the central nervous system and unfortunately there is no treatment for this. The peripheral effects can be corrected to some extent by the peripheral nerve surgeries. However, parents must be informed that the hand will not become 'normal' but it will become "better"!!



Review Article

Assessment of the hand in cerebral palsy

Praveen Bhardwaj, S. Raja Sabapathy

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ABSTRACT

Cerebral palsy is the musculoskeletal manifestation of a nonprogressive central nervous system lesion that usually occurs due to a perinatal insult to the brain. Though the cerebral insult is static the musculoskeletal pathology is progressive. Some patients with cerebral palsy whose hands are affected can be made better by surgery. The surgical procedures as such are not very technically demanding but the assessment, decision-making, and selecting the procedures for the given patient make this field challenging. When done well, the results are rewarding not only in terms of improvement in hand function but also in appearance and personal hygiene, which leads to better self-image and permits better acceptance in the society. This article focuses on the clinical examination, patient selection, and decision-making while managing these patients.

Bhardwaj P, Sabapathy SR. Assessment of the hand in cerebral palsy. Indian J Plast Surg. 2011;44(2):348-356. doi:10.4103/0970-0358.85356

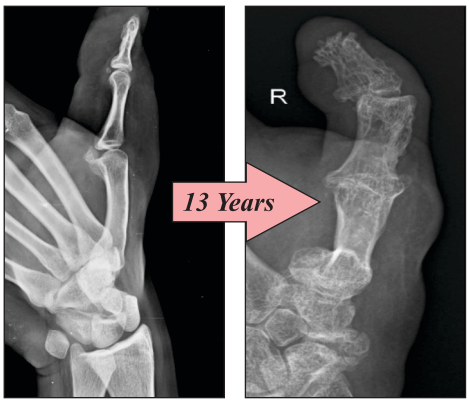
Please refer to the Indian Journal of Plastic Surgery for our detailed article - Assessment of the hand in cerebral palsy.

Picture Gallery

Picture submitted by Dr Nellaiyappan, Assistant Professor in the Hand Surgery team at Sri Ramachandra Medical Centre (SRMC), Chennai

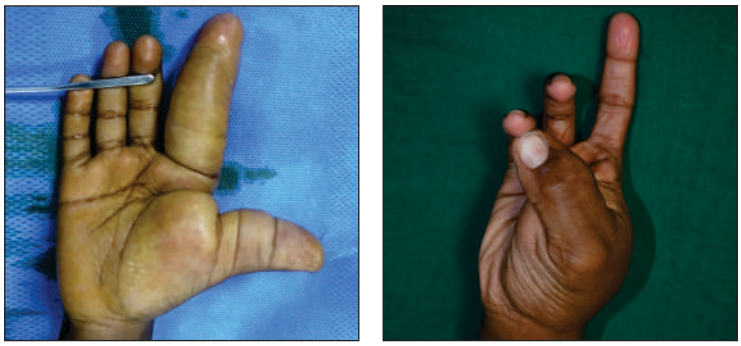
Q: A 51 years old lady with gross enlargement of the radial three digits presented to us. What will be the plan of management?

A: The lady has median nerve territory-oriented macrodactyly. The grossly enlarged and stiff index finger is usually a hindrance to daily activities. The index finger is grotesque with bony outgrowths at its joints, making it stiff. In our experience, bony and joint changes are found in long term progression of macrodactyly. Hence the thumb is also likely to be stiff with little mobility about its joints.



In these delayed presentations, ray amputation of the index finger is the best option. This removes the bulkiness in the radial aspect of the palm also. The enlarged thumb and middle finger could be debulked. In children with similar median nerve territory-oriented macrodactyly, we have utilized the extensor tendon from the amputated index finger to bring about thumb opposition (opponensplasty) [January 2025 Issue].

The bony exostoses and arthritic changes in the joints occurred over time



Before and after index finger ray amputation, Extensor Indicis Proprius Opponensplasty and flexor (index finger) tendon transfer for augmentation of IPJ flexion - thumb

Hand Vignettes

How Wrist Became the Chosen Spot for the Watch

Pocket watches were in vogue in the early 15th century. The first wristwatch may have been created in 1812 by Abraham-Louis Breguet, who created a 'wrist watch' for Napoleon's sister, Queen Caroline Murat. Wrist watches were considered feminine accessories whereas pocket watches were popular among men.

Louis Cartier is credited with creating the first modern wristwatch for his friend, aviator Alberto Santos-Dumont. Santos-Dumont needed a practical way to check the time while flying, since a pocket watch was inconvenient to use. Cartier designed the Santos wristwatch to solve this problem, and it continues to be a signature piece in the collection today.

World War I was a game changer. Soldiers needed more efficient time management. Trench watches came as a practical solution due to its superior convenience. After war, people noticed how convenient hands-free time keeping was. Wrist watches became a symbol of modernity and style as the returning soldiers continued to wear them.

Even today, many wristwatches incorporate features originally developed for military use, such as navigation aids, scratch-resistant glass, and enhanced readability in low-light conditions.

Real Life Story - “Every Journey matters”

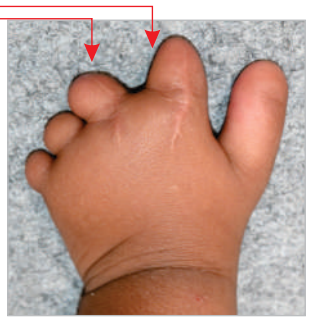
Reconstructing fingers, Reconstructing lives

“Our baby was born with a congenital condition affecting the development of the fingers on the left hand. Fortunately, a relative referred us to Ganga Hospital in Coimbatore, where we received expert consultation.”



The boy was brown with short fingers with no bony skeleton within. Note the preferential useof the right hand

“After evaluating the monodactyl issue, the consultant doctor recommended surgery. We chose to move forward with the procedure, which was successfully carried out. As a result, our baby can now hold and grip objects with the fingers.”


After non-vascularized toe phalanx transfer to the index and middle fingers

“We would like to extend our heartfelt thanks to Dr. Raja Sabapathy and Dr. Monusha Mohan for their exceptional care and support.”

The boy uses the left hand due to the improved stability of the reconstructed fingers

Project Eklavya - A Joint Initiative of Rotary E Club of Metro Dynamix and Ganga Hospital

India is witnessing an epidemiological transition from communicable diseases to non-communicable diseases. According to March of Dimes report (2006), 6-7 per 100 new born babies have birth defects. When more focus is on new born survival, we fail to pay attention to the quality of life of these children born with defects. When a child with congenital hand deformities survives and grows up, it is not just their hand function that is affected, their self- esteem and emotional well-being are too deeply impacted.

A Project for children with Congenital Hand Deformities

Musculoskeletal defects are the second most common birth defects, however initiatives to help children with hand anomalies are rare. ***Project Eklavya was launched by the Rotary E club of Metrodynamix in collaboration with Ganga Hospital, Coimbatore, on 06.07.2025.*** With this initiative, we try to fill the gaps in care and support of these children like, paucity of insurance coverage for children with birth defects, multiple limb involvement, syndromic associations that increase the financial burden, multiple stages of surgeries and post surgical rehabilitation. We had our first beneficiary last month.

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.

World Congenital Hand Symposium

Registration is open now !
Kindly sign up for the meeting at www.wcs2026.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.

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