

Paediatric Instrument Assisted Soft Tissue Mobilization (PIASTM)



A revolutionary therapy for kids with muscle tightness and contractures.

In Paediatric conditions where PIASTM is suggested:

- Cerebral Palsy kids with spasticity and muscle contractures.
- Autistic kids with tactile dysfunction
- Club Foot
- Sports injuries in kids causing knee injury, Medial Epicondylitis, Lateral Epicondylitis, Plantar Fasciitis, Rotator Cuff Tendinitis, Patellar Tendinitis
- Toe walking (due to calf muscle tightness)
- Torticollis
- Myofascial Pain and Restrictions
- Musculoskeletal Imbalances
- Chronic Joint Swelling Associated with Sprains/Strains
- Back pain, including deconditioning.
- Posture issues and scoliosis

Exploring New Therapy

Paediatric Instrument Assisted Soft Tissue Mobilization (PIASTM) is a therapeutic technique that uses specific "Accel IASTM Tool - Accelerate Healing" on children to promote mobilization of restricted tissue to increase flexibility, to increase range of motion, to reduce contractures as well as and for a management for tactile defensiveness in autistic children.

This instrument effectively break down fascial restrictions and adhesions. Accel tool is designed ergonomically which helps therapist to locate restrictions and allows him/her to treat the affected area with the appropriate amount of pressure.

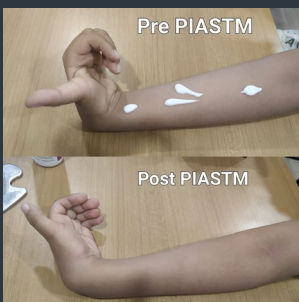
In this PIASTM technique, we introduce control microtrauma to the treatment area (soft tissue structure) which helps in stimulating a local inflammatory response. This process helps in reducing inappropriate fibrosis or excessive scar tissue and facilitates healing activities resulting in remodeling of affected soft tissue structures. These adhesions in kids can be formed due to various reasons such as a result of surgery, immobilization, repeated strain or continuous stretches are broken down allowing full functional restoration to occur.

Principles

PIASTM has similar principles and rationales as conventional soft tissue mobilization. The purpose of this therapy is to make an ideal environment for the body's self-maintenance mechanisms, by either altering physiologic responses to injury or encouraging normal function in the musculoskeletal system. The approach involves through evaluation of the altered tissue properties and application of specifically directed techniques to encourage normalization of the soft tissue dysfunctions.

Theoretically, PIASTM is based upon the concept of deep friction massage as proposed by Cyriax and Russell (1980). The authors introduced a deep massage technique, which must be applied transverse to the direction of specific tissue involved, to reach the soft tissue structures of tendon, ligament, and muscle. They hypothesized that the application of this technique could induce a therapeutic movement within the affected tissue and help maintain the mobility, preventing adhesions of scars by evoking local hyperemia (Chamberlain, 1982).

PIASTM adheres to the same the rationale for traditional cross friction or transverse friction massage, but the difference is that it is performed with specially designed instruments. It has been hypothesized that the use of instruments provides the clinician with a mechanical advantage, which allows deeper penetration, rapid localization and more effective treatment (Baker et 2013). It also helps to apply longitudinal pressure along the course of muscle fibers and minimize the imposed stress on the clinician's hands (Laudner et al., 2014).



A 8 year old boy diagnosed as Spastic Cerebral Palsy was treated with PIASTM for his shoulder stiffness.

Outcome: Range of motion improved immediately post 2 minutes of treatment.

How does this Paediatric Instrument Assisted Soft Tissue Mobilization works?

PIASTM has numerous effects on the body systems. It breaks down scar tissue and adhesions, increases fibroblast proliferation and releases fascial restrictions, thus facilitating the synthesis of collagen, reabsorption of inappropriate fibrosis, and maturation of the tissue. However, the mechanism of action behind these effects is not fully understood yet. Many theories have been proposed so far, but evidences to support these hypothesizes are still limited. Few important theories that are proposed up to now are as follows:

- *Remodeling of Scar Tissue and Adhesions*
- *Increased Fibroblast Recruitment*
- *Release of Fascial Restrictions*
- *Stimulation of Golgi Receptors*
- *Activation of Mechanoreceptors*

Overall Benefits of PIASTM:

- *Improves Nerve conduction*
- *Improves proprioception*
- *Improves fluid circulation*
- *Tissue healing and repair*
- *Manage muscle tone*
- *Increase in ROM*
- *Improves Flexibility*
- *Improves function and balance*

“This technique is specifically designed by Kanu Kaushik, Paediatric Physiotherapist working as a consultant paediatric physiotherapist in Cloud Nine Hospital, Bengaluru, India. He is a CEO of Kinesio Prehab Institute (Continuing Education Programs Provider) & Founder of Physio Mantra (Specialized Physiotherapy Center).

He has been teaching this technique to many physiotherapists and occupational therapists from various countries.”