



Mobilisation & Manipulation



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PALPATION ANATOMY!



- Essential knowledge!
- Impossible to mobilise and manipulate safely without an excellent appreciation of foot and ankle anatomy.





CONTRA-INDICATIONS



- RISK OF OSTEOPOROSIS. (Vit D levels, hysterectomy, multi-factures on falls, treatment for osteoprosis (biophosphates).
- Inflammatory Arthropathy (inflammatory O/A, RA, PsA etc)
- Tarsal Coalition.
- Fatigue fracture/ fracture.
- Recent surgery (manipulation but gentle mobilisation ok).
- Recent infection in area.
- Hypermobility (including Marfans).
- Previous bad reaction to mobilisation and/or manipulation.
- Precious patients.



MOBILISATION



- Guiding joints through their range of motion to resistance.
- Gentle stretch against the resistance.
- Guide joint through new range of motion to new resistance.
- Gentle stretch against new resistance.
- Repeat as you feel necessary.



Mobilisations for today!



- Ankle
- Lesser MTP Joints
- 1st Met-cuneiform
- Lesser tarsal eversion
- Calcuboid joint



Indications for ankle Mobilisation



- Restriction in ankle movement
- Failure of fibular translation
- Lateral Ankle pain
- Chronic sprain
- Knee Pain
 - Related to flexion position during gait
 - STJ compensation
- Lower back pain
- Achilles tendonitis
- Peroneal pain/weakness
- Plantar fasciitis
- Forefoot pain
 - Failure of the ankle to achieve 10° D'FI, demand on the 1st MPJ is increased.



Ankle Mobilisation



Sagittal plane

Translation





Indication for lesser MTP mobilisation

- Metatarsalgia
- Restricted motion of the lesser MTP's
- Absence of the skyline view
- Plantar Digital Neuritis (neurofibroma) (interdigital mobilisation).

BEST WHEN COMBINED WITH REHABILITATION



MTP MOBILISATION TECHNIQUE





1st Met-cuneiform Mobilisation

Indications

- Pain at the joint
- 1st MTP joint Pain
- Medial Arch pain

Technique





1st Met-Cunieforn mob. Technique





Lesser Tarsus Eversion



Indication

- Hyper-pronation
- Arch pain in excessive arch drop
- Forefoot Invertus
- Best used in combination with rehab.

Technique





Lesser tarsal eversion technique





Indications for Calc-cuboid mobilisation



- Lateral column pain
- Peroneal tendon pain
- Sinus tarsi pain
- Lateral forefoot pain
 - Metatarsal
 - digital
- Lateral ankle instability
- History of ankle inversion sprain
- Lateral ankle instability



CALC-CUBOID Mob Technique.





MANIPULATION



- Indications.....same as mobilisation, but when mobilisation failing to establish best (full) ROM!
- Used for 'subluxed' joint position
- Involves, rapid distraction or thrust (impulse)





Manipulations for today

- Lesser MTP joints
- 1st Metcuneiform
- Cuboid
- Ankle





LESSER MTP MANIPULATION



- Motion is hinge like with rotational glide available at the metatarsal head.
- Rom = 65-75°.
- Met RoM = $P'FL=D'F$.
- Hallux Limitus
- Hallux Rigidus
- Pain and discomfort in lesser MTP joints
- Reduced joint mobility
- Heel pain
- Reduced windlass



LESSER MTP MANIPULATIONS



- Traction is initially preformed on the joint for 15-30 seconds
- Distraction (impulse) is then applied to the joint



1st Met Cuneiform Manipulation



- Usually joint “subluxed” dorsally!
- Stabilise proximally on cuneiform, and glide met base.
- Usually direction plantarly, repeat dorsal plantar glide rapidly then thrust (impulse) plantarly.
- Or single plantar glide thrust.



1st Met-Cuneiform Manip. Technique





Manipulation of the Cuboid Joints



Articulates with the calcaneus
proximally

4th & 5th metatarsal distally

When the foot is maximally pronated
the cuboid is closed packed for
stability

Cuboid ROM

(knee and hip fully extended)

The calcaneus is grasped
posteriorly & stabilised

4th & 5th metatarsal heads are
grasped with the opposite hand

Motion is attempted in dorsal
and plantar direction

Benchmark from opposite limb

Examine Peroneus longus



- The patient is seated with the knee & hip fully extended
- The fingers of both hands are laced together & placed over the dorsum of the foot
- The middle phalanx of the middle finger is placed over the superior surface of the cuboid
- Both thumbs are placed under the plantar surface of the foot
- The arms are held out with elbows semi-flexed
- The foot is held in dorsiflexion & inverted
- The manipulation is performed by traction on the joint
- Without slackening tension, a rapid traction (impulse) is made straight towards the practitioner



Assessment and manipulation of Prox fibula head

Fibula Translation

The patient is seated with the knee and hip flexed

The foot is flat on the foot rest

The lateral aspect of the leg is grasped

Index finger of both hands placed on the posterior aspect of the fibula

(avoiding the peroneal nerve)

The thumbs are placed over the Tibia

With a rapid forceful squeeze motion, the fibular head is pulled in a

posterior - anterior direction

The ankle is then dorsiflexed to examine the increase in motion.



Manipulation of Ankle joint



Talus (The patient is seated with the knee and hip fully extended)

Check fibular motion

Traction placed on the ankle joint

The posterior aspect of the calcaneus is grasped with the index fingers of both hands

The thumbs are across the dorsum of the talar neck & crossed to adequately traction the Ankle JT

The practitioner leans back applying longitudinal traction

Hold for 30 sec.

Fingers crossed over talar head

From the “End Feel” the ankle is adjusted in an Anterior posterior thrust





In conclusion



The magic is not in the medicine but in the patient's body. What the treatment does is to stimulate natural function or to remove what hinders them

Miracles C.S. Lewis, 1940

