

Workshop Series - OSD- kongress Berlin , June 2023

Timothy Sparrow DO , BSc (Hons) Ost. Med, UK

Workshop 2 "Re-exploring the traditional osteopathic concept of "adjustment"- Adjustment and integration of hip, knee, foot, shoulder, elbow and wrist."

CHARACTERISTIC FEATURES OF CLASSICAL OSTEOPATHIC TREATMENT

In recent years there has been an increasing interest shown the manner in which the founders of osteopathy practiced.

The following is a brief summary of some of the features that characterised the clinical work of A.T. Still and J.M.Littlejohn, as related in personal conversation with this author and published articles by T.E.Hall and J.Wernham, two of Littlejohn's closest students and exponents.

Furthermore, an attempt has been made to suggest a few of the underlying physiological effects and goals enabled by this classical approach in osteopathy.

Minimal Force

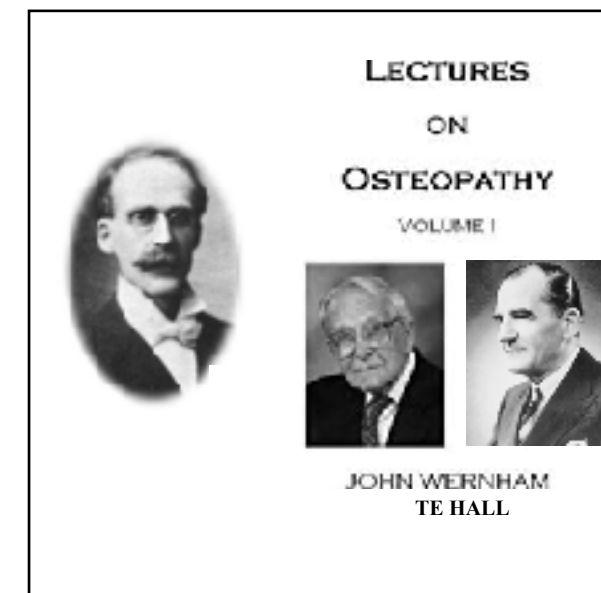
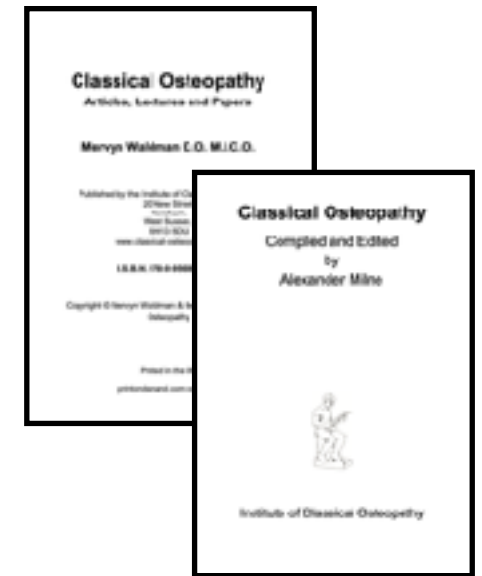
It was found that treatment was best performed in as non-invasive and painless a manner as possible, with just enough force to induce change in the tone and mobility of underlying myofascial and articular structures. This was to ensure:

- the adequate relaxation of the voluntary muscles of the patient to enable deep and pain-free manual and leverage access to underlying connective tissue and skeletal attachments
- the avoidance of bruising or straining of soft tissues due to undue physical force, which would cause an increased inflammatory response in injured or diseased tissue and further irritation of primary afferent nociceptors.

Rhythmicity and Sedation

The continuously rhythmic, oscillatory nature of the treatment and its extensive use of long leverages were designed to produce a deeply sedative effect,

The effect of sedation may also have affected the inhibitory centre in the medulla and in turn, enable descending supraspinal pathways from the brainstem and cerebral cortex to act as an endogenous pain control system. This would induce an additional inhibitory effect on primary afferent nociceptors as well as on the hypothalamic-pituitary-adrenal and locus coeruleus-nor- epinephrine axes.



CHARACTERISTIC FEATURES OF CLASSICAL OSTEOPATHIC TREATMENT

Articulation

It was found that the best method of adjusting structures was considered to be articulation because it resulted in the minimum of injury to tissues as well as attending to the conjoint activity of all the related anatomical structures. It most often incorporated long leverages against points of fixation in order to appeal to muscular and ligamentous activity, as well as fascial conciliation, as it moves on bone as one articular unit.



Treatment of Viscera

The use of articulation was thought to apply equally well to the abdominal and pelvic organs. 'Misplacement' was thought to be rather one of 'disarticulation'. Articulatory treatment was therefore preferred and applied to the myofascial attachments and supports of the dysfunctional organ.

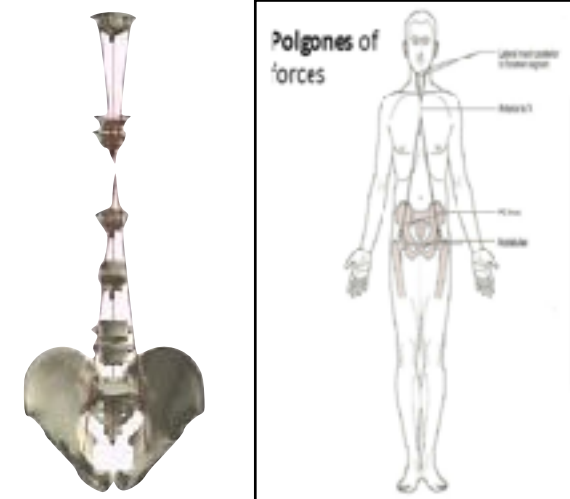
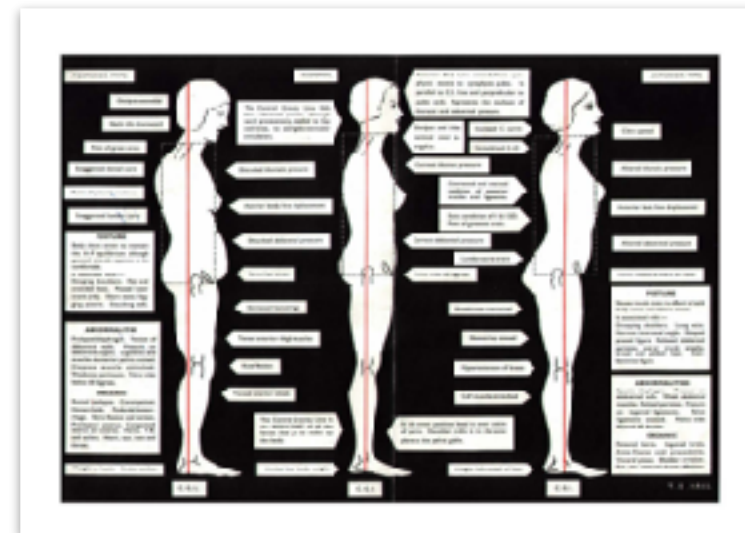
Such localised treatment was kept to a minimum, however, including the treatment of post-operative adhesions, because it was recognized that the more one handles an organ directly the more it loses its tonicity. Treatment was rather chiefly directed to affect the trophic and nerve supply in regard to the activity of the organ and to the vaso motor supply in regard to relieving local venous and lymphatic congestion.



The Central Gravity Line

In attempting to improve visceral function and articulation within the abdominal and pelvic cavities it was thought essential to improve the mutual negative pressure conditions within the thorax and abdomen to ensure the relative 'flotation' of the thoracic, abdominal and pelvic contents during the fluctuating respiratory cycle.

The adequate reestablishment of the central gravity line of the body as the postural axis of the body was considered essential to enable adequate abdominal tone, diaphragmatic excursion and to minimise visceroptosis.

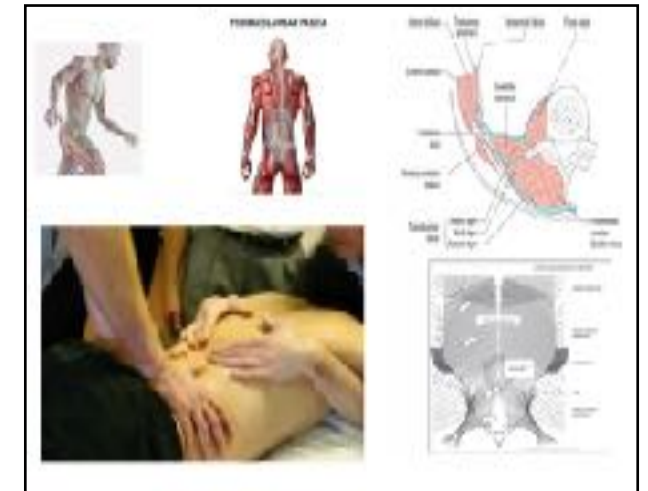


CHARACTERISTIC FEATURES OF CLASSICAL OSTEOPATHIC TREATMENT

'Correction' as an improvement in function

Classical osteopathy had nothing to with pushing or thrusting of bones from one place to another (as if dislocated).

Vertebral adjustment was not considered a priority. In the treatment of living tissue, 'correction' was seen to be chiefly an improvement of functional activity which in turn required coordinated activity throughout the biomechanics of the body, from connective tissue and myofascial structures to the hard articular structures, in order to initiate sustained improvement in the body.



Patience and Persistence

Treatment often required considerable patience and persistence to restore health in the chronically ill or injured.



Total Body Adjustment - Why ?

Despite its seeming localization, an injury, inflammation, infection or site of pain inevitably caused the body to react as unit often involving recruitment of major physiological responses and pathways in the neuro-endocrine-immune system, in the attempt by the body to re-establish homeostasis.

Local treatment without its integration into the whole of the body's biomechanics was inevitably found to produce the least effective long term results.

Treatment approach often favours that which is of a "multi - system" nature .

That is , one of which is representational of our Principles and a model of "*Body Unity - The human being as a dynamic unit of function.*" - ECOP, Glossary of Osteopathic Terminology





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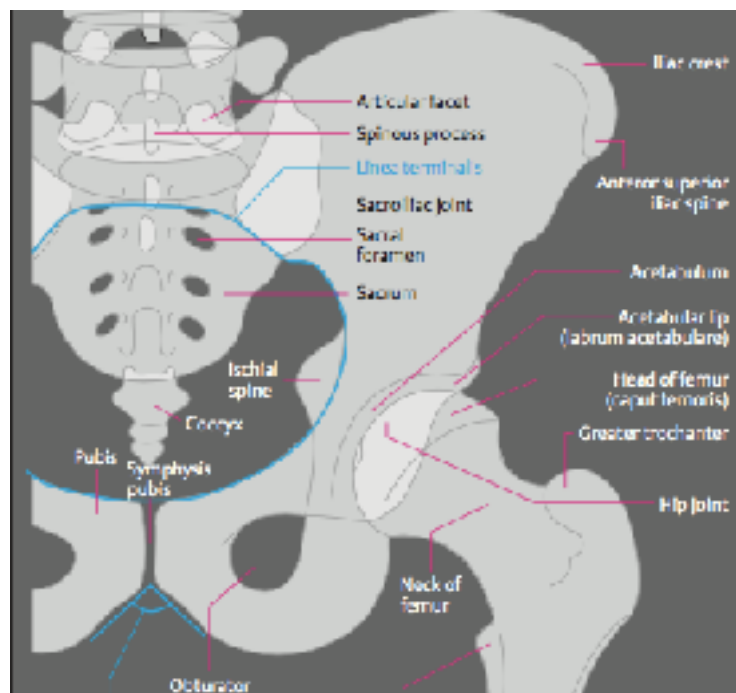
Workshop 2 "Re-exploring the traditional osteopathic concept of "adjustment"- Adjustment and integration of hip, knee, foot, shoulder, elbow and wrist."



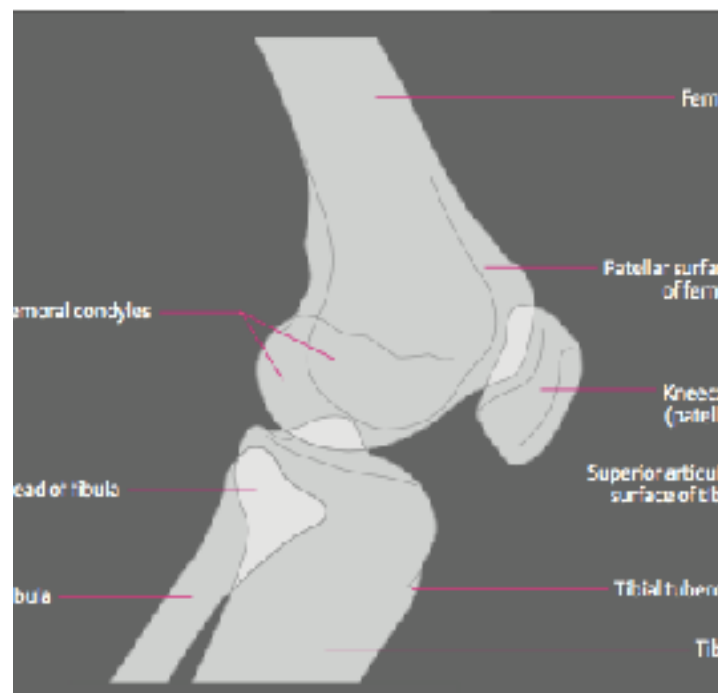
Adjustive Osteopathic Treatment

Hip and Lower Extremity

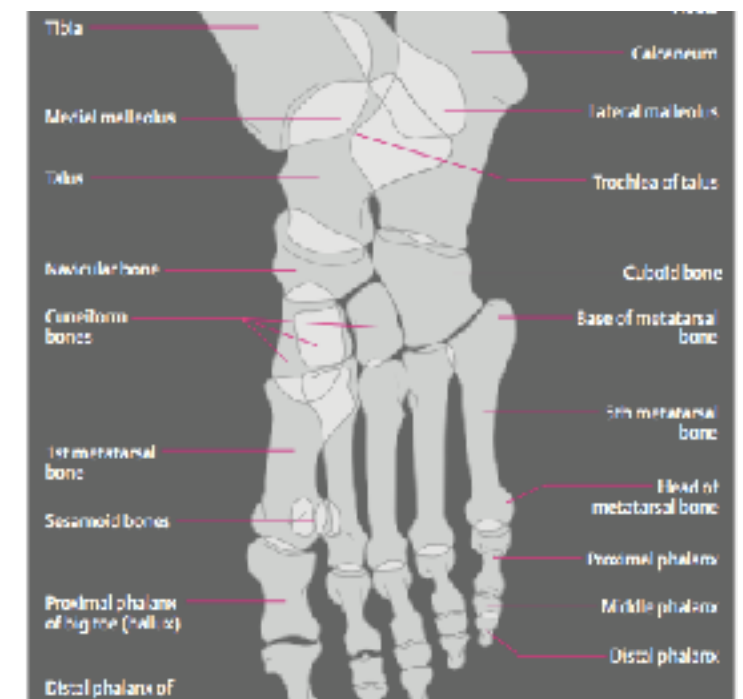
Tim Sparrow DO



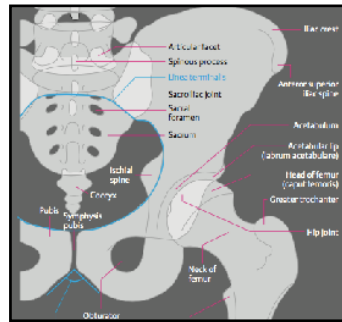
Hip



Knee



Ankle & Foot



Lower Extremity - **Hip**



Anatomical and ROM considerations

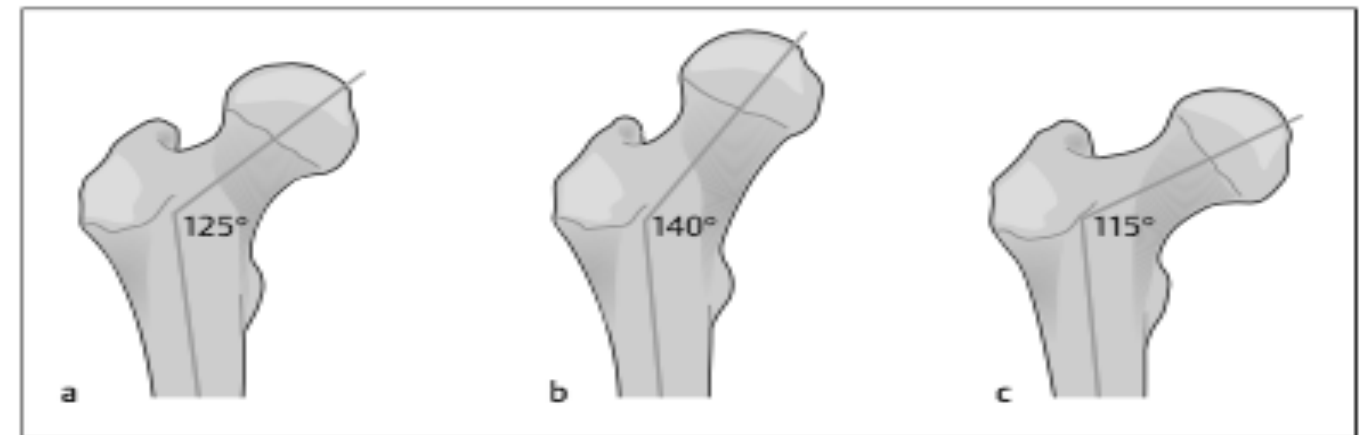
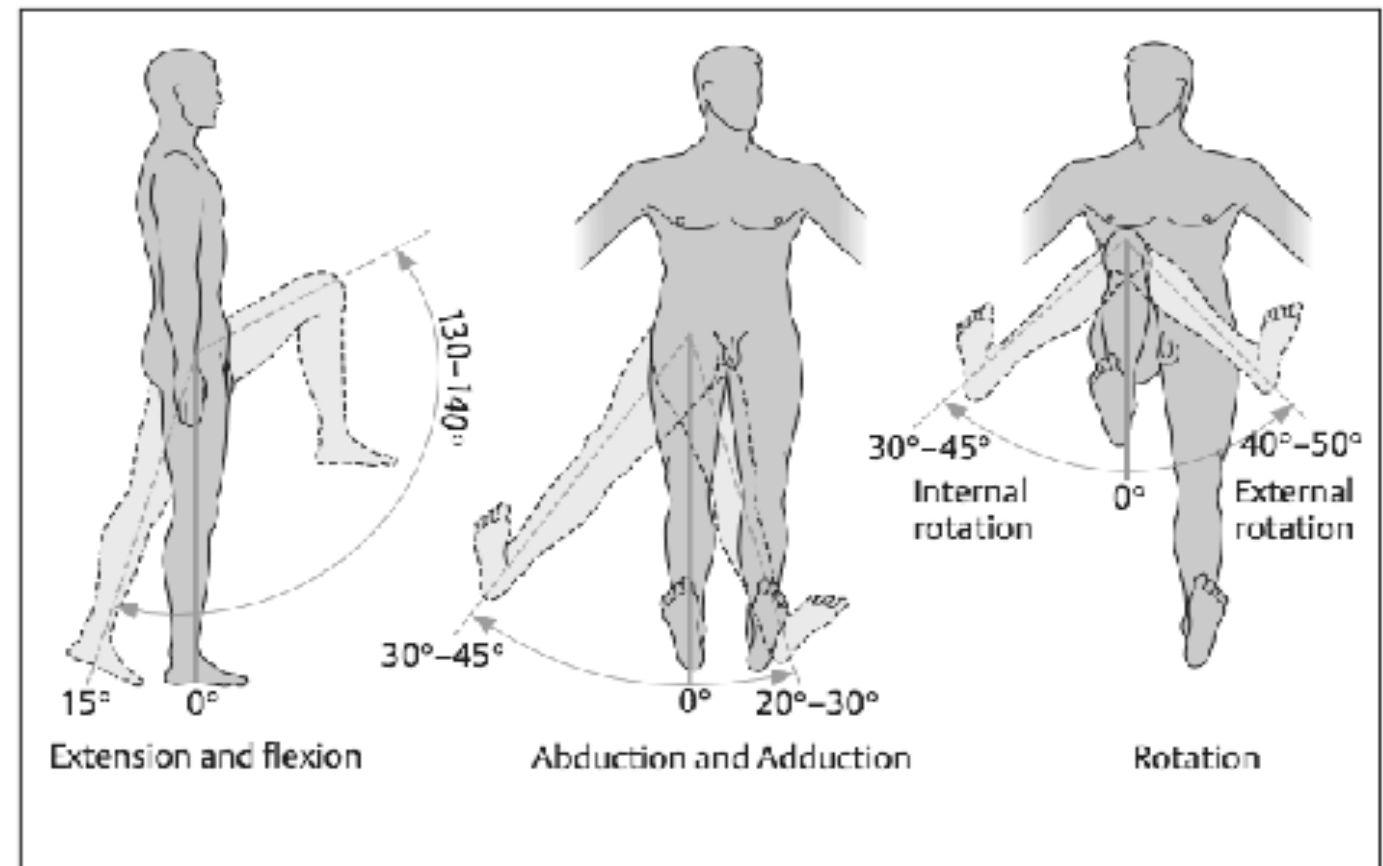


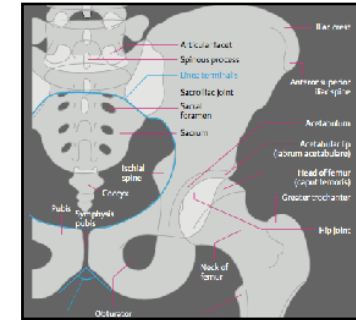
Fig. 4.38 a–c Angle of the neck of the femur (collodiaphyseal angle). Collodiaphyseal angle in the adult (a), in a 3-year old child (b), and in the elderly (c). (After Frick)





| Red Flags for the Pelvis, Hip, and Thigh Region | | |
|--|---|--|
| Condition | Red Flag Data obtained during Interview/History | Red Flag Data obtained during Physical Exam |
| Colon Cancer ¹ | Age > 50 years old Bowel disturbances (e.g., rectal bleeding, black stools) Unexplained weight loss History of colon cancer in immediate family Pain unchanged by positions or movement | Later stages: may have hypo- or hyperactive bowel sounds from obstruction Possible tenderness to palpation of abdomen in area of cancer May have ascites First sign may be of metastases to liver, lung, bone, or brain |
| Pathological Fractures of the Femoral Neck ^{2,3} | Older females (>70 years) with hip, groin, thigh or knee pain History of a fall from a standing position | Severe, constant pain – worse with movement A shortened and externally rotated lower extremity |
| Osteonecrosis of the Femoral Head ⁴ (aka Avascular Necrosis) | History of long-term corticosteroid use (e.g., in patients with RA, SLE, asthma) History of AVN of the contralateral hip Trauma | Gradual onset of pain; may refer to groin, thigh, or medial knee; worse with weight-bearing Stiff hip joint; restrictions primarily in IR, flexion, adduction |
| Legg-Calve-Perthes Disease ⁵ | 5-8 year old boys with groin/thigh pain | Antalgic gait Pain complaints aggravated with hip movement, especially hip abduction and internal rotation |
| Slipped Capital Femoral Epiphysis ⁶ | Overweight Adolescent History of a recent growth spurt or trauma | Groin aching exacerbated with weight-bearing Involved leg held in external rotation ROM limitations of hip internal rotation |
| Septic Hip Arthritis ⁷ | Child or older adult with vague hip aching who had a recent bacterial infection | Unwillingness to weight bear on or move the involved hip |
| Inguinal hernia ⁸ | Pain in groin, and/or scrotum in males Consider “sports hernia” (internal disruption of the inguinal canal) in an athlete with unresolving groin pain | Sx’s exacerbated by coughing, sneezing or resisted sit-up Tenderness in area of inguinal canal |
| Appendicitis ⁹ | RLQ pain, then nausea and vomiting Retrocecal appendix may refer pain to right thigh or testicle | Abdominal rigidity, rebound tenderness Positive McBurney’s point Positive Psoas and Obturator sign |
| Ovarian Cyst ¹⁰ | Female of childbearing age Sudden, severe abdominal or pelvic pain Menstrual irregularities and pain | |

Lower Extremity - **Hip**

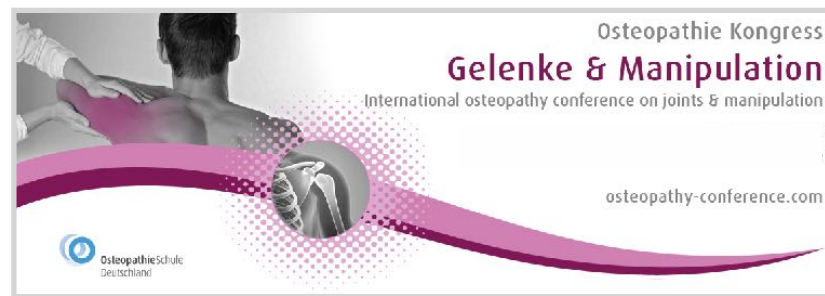


Leg Tug (hip focus)

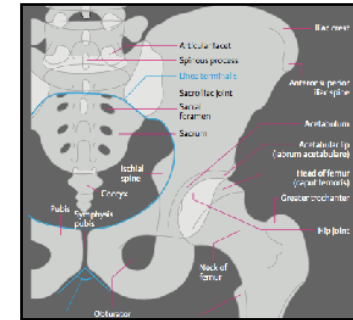


Hip Long Axis Distraction

In this procedure the same structures within the hip are engaged as per leg tug modality . However direction of tug-distraction is applied along longitudinal axis of hip (not engaging innominate)



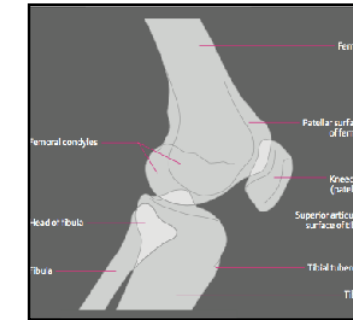
Lower Extremity - **Hip**



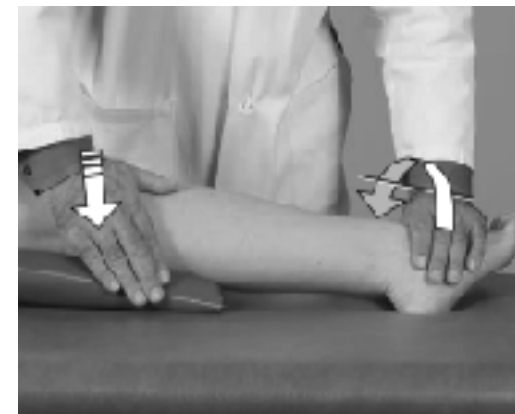
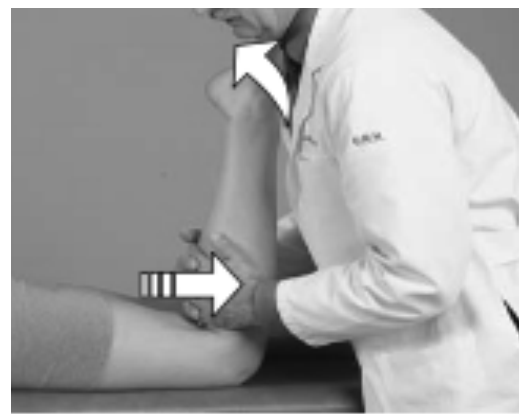
Adjustment - Right Hip Lateral Rotation Supine

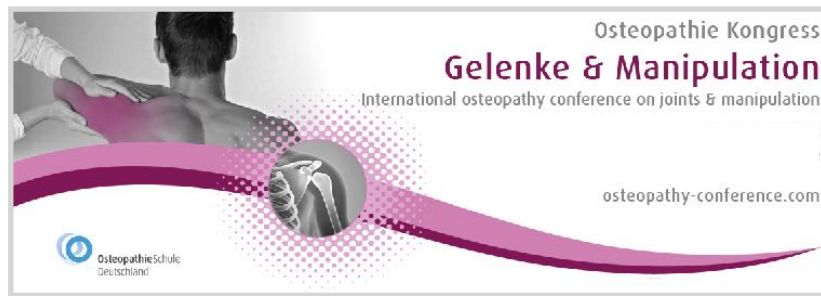
Hip is brought to ninety degrees .
compression applied to hip joint with
combined internal rotation of hip into barrier
(ankle and foot stabilised to ensure focus of
adjustment / HVLA is at hip)

Lower Extremity - Knee



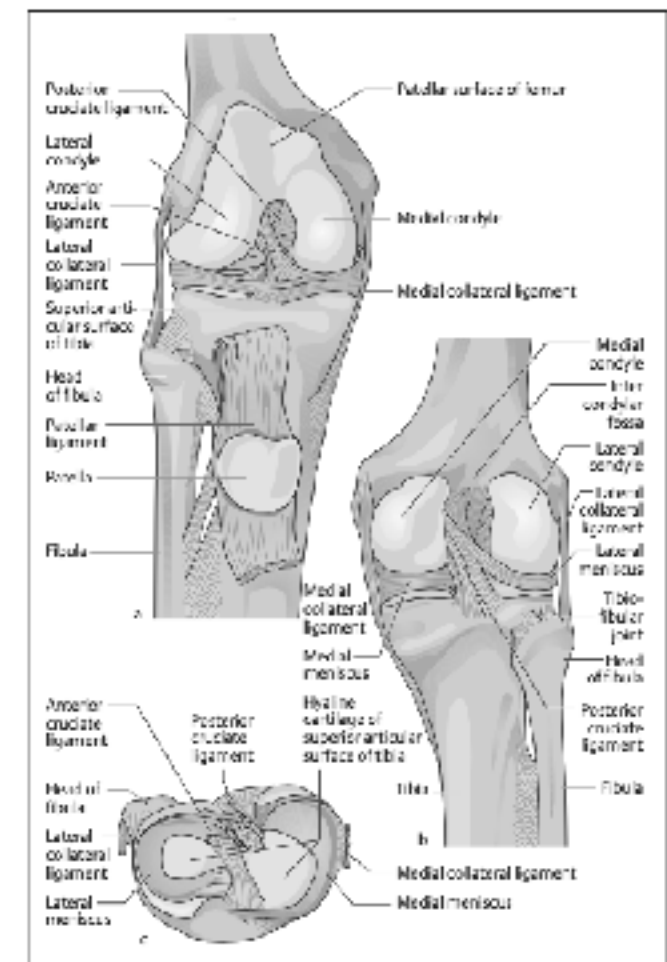
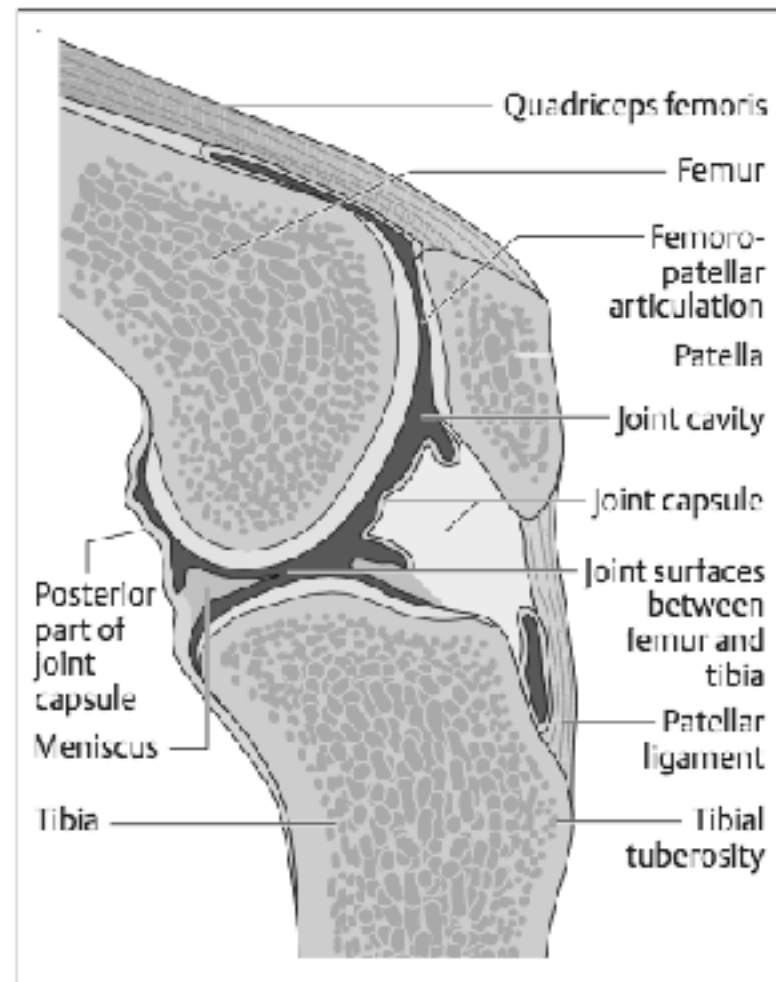
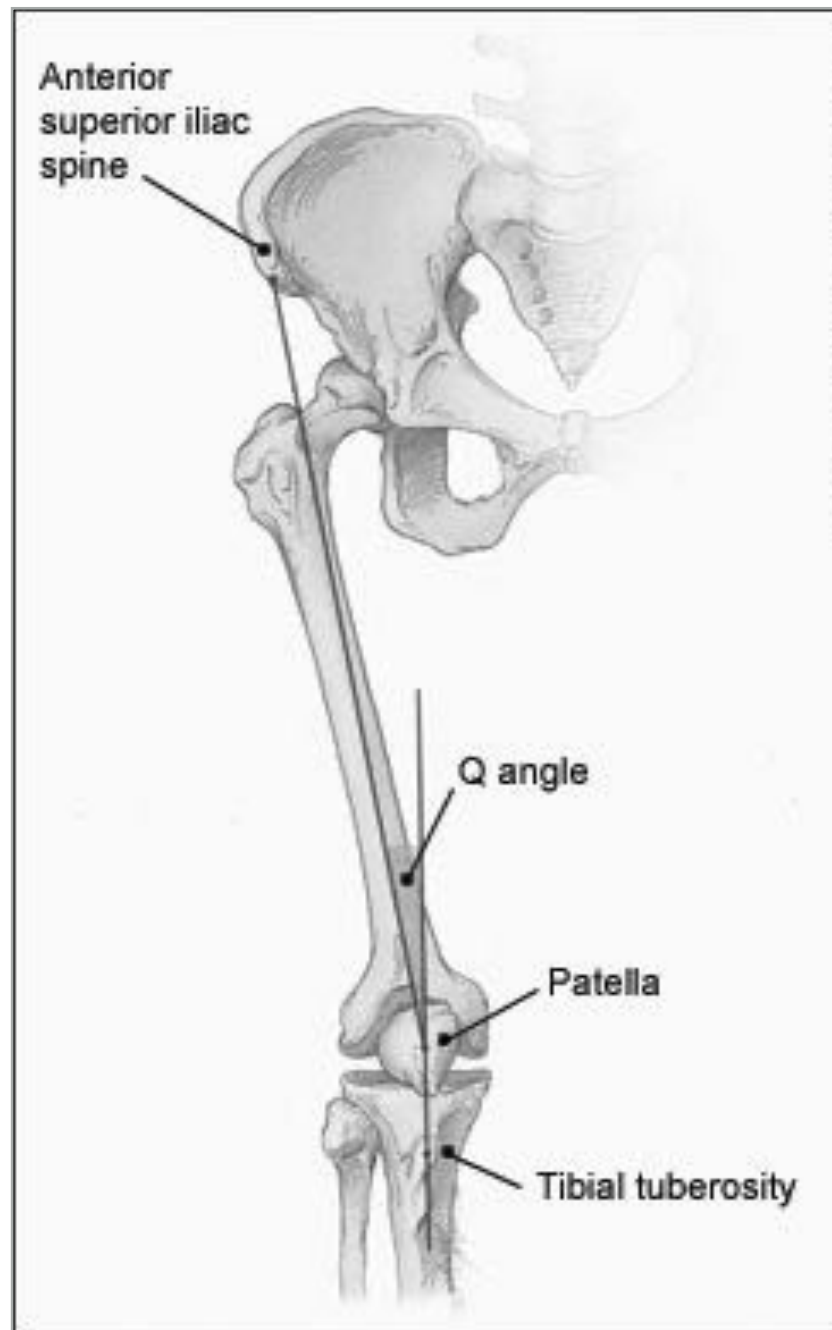
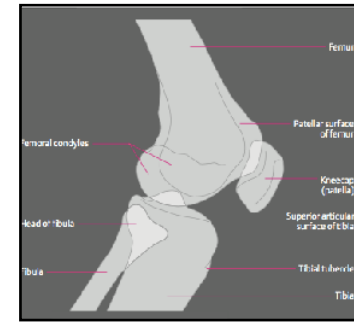
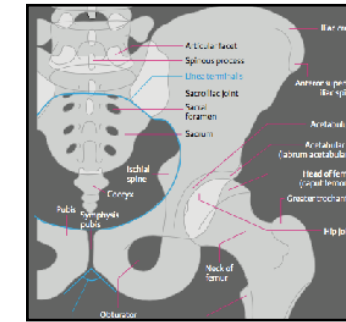
Anterior fibular head presentation . Posterior fibular head presentation
 Meniscus consideration - medial lateral gapping / adjustment modalities





Lower Extremity - Knee

Anatomical considerations

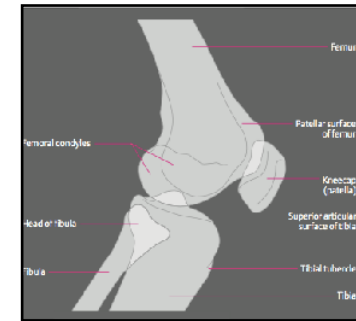


Lower Extremity



| Condition | Red Flag Data obtained during Interview/History | Red Flag Data obtained during Physical Exam |
|--|--|---|
| Fractures ¹⁻⁴ | History of recent trauma: crush injury, MVA, falls from heights, or sports injuries Osteoporosis in the elderly | Joint effusion and hemarthrosis Bruising, swelling, throbbing pain, and point tenderness over involved tissues Unwillingness to bear weight on involved leg |
| Peripheral Arterial Occlusive Disease ⁵⁻⁹ | Age > 55 years old History of type II diabetes History of ischemic heart disease Smoking history Sedentary lifestyle Co-occurring intermittent claudication | Unilaterally cool extremity (may be bilateral if aorta is site of occlusion) Prolonged capillary refill time (>2 sec) Decreased pulses in arteries below the level of the occlusion Prolonged vascular filling time Ankle Brachial index < 0.90 |
| Deep Vein Thrombosis ^{10,11,17} | Recent surgery, malignancy, pregnancy, trauma, or leg immobilization | Calf pain, edema, tenderness, warmth Calf pain that is intensified with standing or walking and relieved by rest and elevation Possible pallor and loss of dorsalis pedis pulse |
| Compartment Syndrome ¹²⁻¹⁴ | History of blunt trauma, crush injury - or - Recent participation in a rigorous, unaccustomed exercise or training activity | Severe, persistent leg pain that is intensified with stretch applied to involved muscles Swelling, exquisite tenderness and palpable tension/hardness of involved compartment Paresthesia, paresis, and pulselessness |
| Septic Arthritis ¹⁵ | History of recent infection, surgery, or injection Coexisting immunosuppressive disorder | Constant aching and/or throbbing pain, joint swelling, tenderness, warmth May have an elevated body temperature |
| Cellulitis ¹⁶ | History of recent skin ulceration or abrasion, venous insufficiency, CHF, or cirrhosis History of diabetes mellitus | Pain, skin swelling, warmth and an advancing, irregular margin of erythema/reddish streaks Fever, chills, malaise and weakness |

Lower Extremity - KNEE



Knee: Anterior presentation of the Tibia on the Femur (Posterior Femur over the Tibia), Supine

Diagnosis

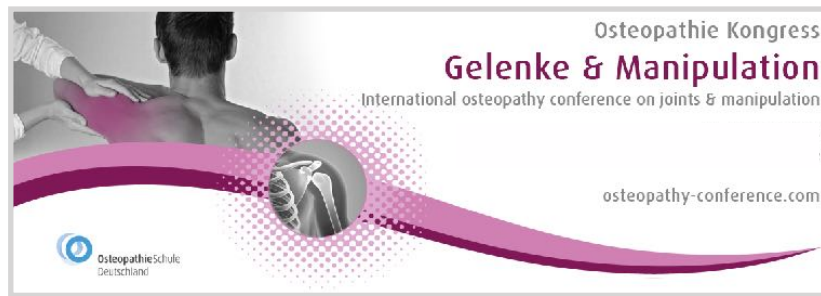
Symptoms: Knee discomfort, inability to comfortably extend the knee

Motion: Restricted posterior spring (drawer-like test) with loss of anterior free play motion

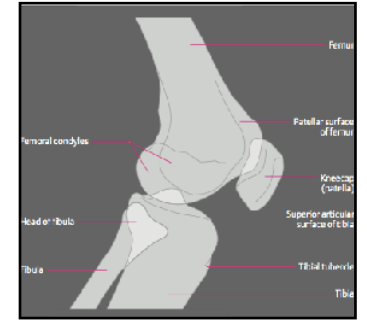
Palpation: Prominence of the tibial tuberosity

1. The physician places the thenar eminences over the anterior aspect of the tibial plateau with the fingers wrapping around the leg (Fig. 1).
2. After all of the posterior free play motion is taken out of the knee joint, a vector impulse (*arrow*, Fig. 2) is delivered posteriorly parallel to the long axis of the femur.
3. Effectiveness of the technique is determined by reassessing anterior free play glide as well as range of motion of the knee.





Lower Extremity - KNEE



Knee: Anterior presentation of the Tibia on the Femur (Posterior Femur over the Tibia), Seated

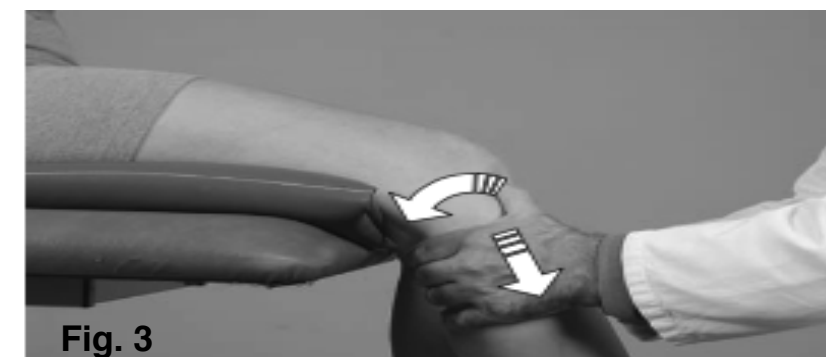
Diagnosis

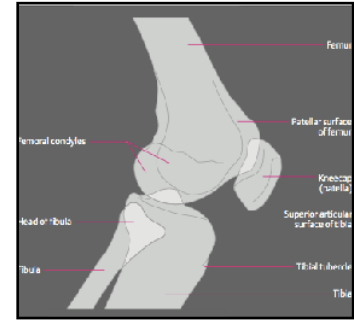
Symptoms: Knee discomfort, inability to comfortably extend the knee

Motion: Restricted posterior spring (drawer-like test) with loss of anterior free play motion

Palpation: Prominence of the tibial tuberosity

1. The physician places the thumbs on the anterior tibial plateau with the fingers wrapping around the leg (Fig. 1).
2. The thigh is sprung up and down to ensure total relaxation of the thigh musculature (*white arrows*, Fig. 2).
3. A vector impulse is delivered straight down toward the floor, simultaneous with a posterior pressure impulse with the thumbs (*white arrows*, Fig. 3).
4. Effectiveness of the technique is determined by reassessing anterior free play glide as well as range of motion of the knee.





Lower Extremity - KNEE - PRONE

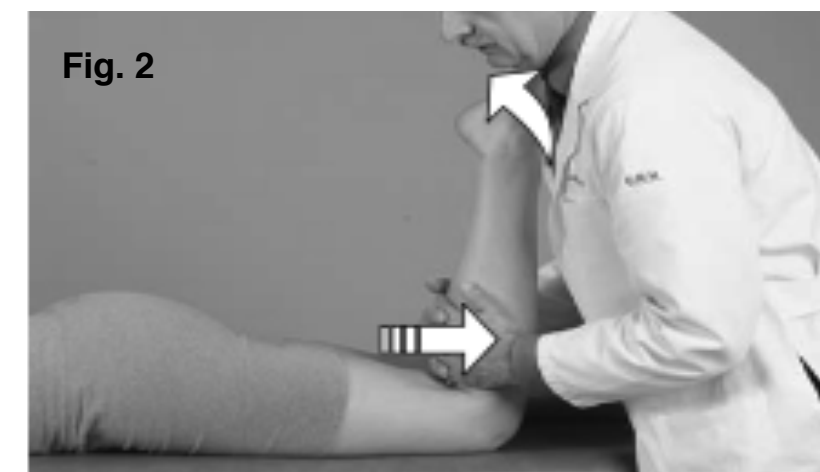
Knee: Posterior presentation of the Tibia on the Femur (Anterior Femur over the Tibia), Prone

Diagnosis

Symptoms: Knee discomfort, inability to comfortably flex the knee

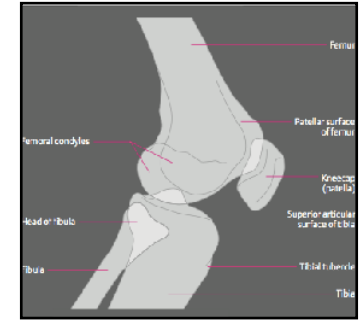
Motion: Restricted anterior spring (drawer-like test) with loss of posterior free play motion

1. Placement of the patient's foot on the physician's shoulder will plantar flex the foot, taking tension off the gastroc- nemius muscle.
2. The physician's fingers are interlaced and wrapped around the proximal tibia just distal to the popliteal region (Fig. 1).
3. A vector impulse is delivered with both hands toward the physician and parallel to the table (*white arrow*, Fig. 2).
4. Effectiveness of the technique is determined by reassessing posterior free play glide at the knee and by rechecking the knee range of motion.



*As in most cases applicable in situ during General treatment -GBA

Lower Extremity - KNEE



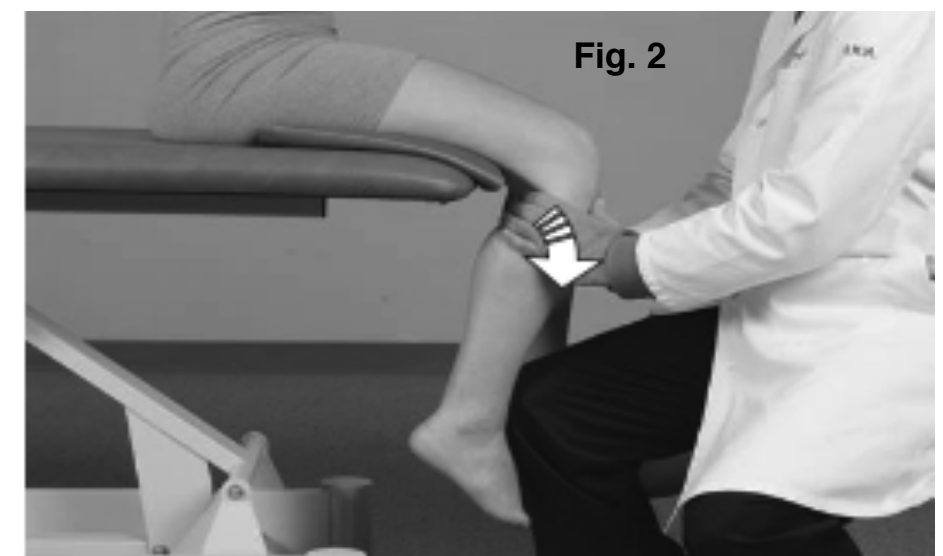
Knee: Posterior presentation of the Tibia on the Femur (Anterior Femur over the Tibia), Seated

Diagnosis

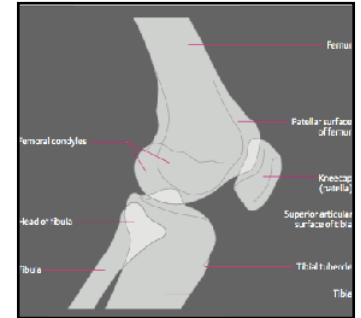
Symptoms: Knee discomfort, inability to comfortably flex the knee

Motion: Restricted posterior spring (drawer-like test) with loss of anterior free play motion

1. The physician places the thumbs on the anterior tibial plateau with the fingers wrapping around the leg contacting the popliteal fossa and adding a slight flexion to the knee so the foot may go under the edge of the table (Fig.1).
2. The thigh is then sprung up and down to ensure total relaxation of the thigh musculature.
3. A vector impulse is delivered down toward the floor (*white arrow*, Fig. 2), simultaneous with an anterior pressure impulse with the popliteal contacting fingers.
4. Effectiveness of the technique is determined by reassessing anterior free play glide and range of motion of the knee.



Lower Extremity - KNEE



Knee: Anterior Fibular Head presentation

Diagnosis

Symptoms: Lateral leg soreness and muscle cramping with tenderness over the proximal fibula

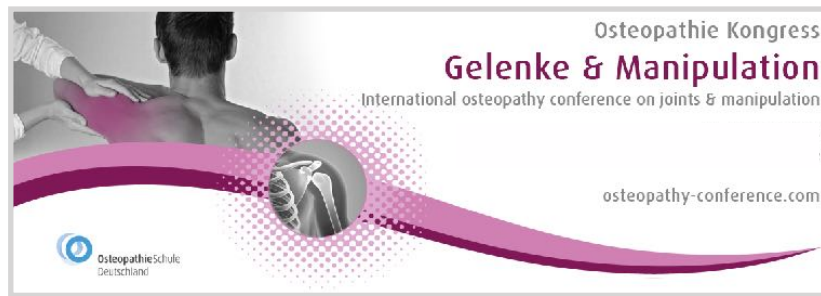
Motion: Increased anterior glide with restricted motion of the proximal fibula posterior the glide

History: Common following a medial ankle sprain, forced dorsiflexion of the ankle, genu recurvatum deformity

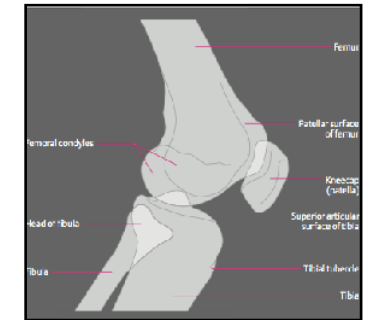
1. The physician's caudad hand internally rotates the patient's ankle to bring the proximal fibula more anterior.
2. The physician places the heel of the cephalad hand over the anterior surface of the proximal fibula (Fig. 1).
3. A vector impulse is delivered through the fibular head straight back toward the table (*pulsed white arrow*, Fig. 2).
4. Simultaneously, an internal rotation counter force is introduced from the ankle (*curved white arrow*, Fig. 2).
5. Effectiveness of the technique is determined by reassessing the anterior glide motion of the proximal fibula.



*As in most cases applicable in situ during General treatment -GBA or as an adjunct to ttt



Lower Extremity - KNEE



*As in most cases applicable in situ during General treatment -GBA or as an adjunct to ttt

Knee: Posterior Fibular Head presentation

Diagnosis

Symptoms: Pain at the lateral knee, persistent ankle pain beyond that expected for normal ankle recovery

Motion: Increased posterior glide and decreased anterior glide

Palpation: Tenderness at the fibular head; fibular head prominent posteriorly

History: Common following inversion sprains of the ankle

1. The patient lies prone with the dysfunctional knee flexed at 90 degrees.
2. The physician stands at the side of the table opposite the side of the dysfunction.
3. The physician places the MCP of the cephalad index finger behind the dysfunctional fibular head, and the hypothenar eminence is angled down into the hamstring musculature to form a wedge behind the knee.
4. The physician's caudad hand grasps the ankle on the side of dysfunction and gently flexes the knee until the restrictive barrier is reached (Fig. 1).
5. The patient's foot and leg are gently externally rotated to carry the fibular head back against the fulcrum formed by the physician's cephalad hand (*white arrow*, Fig. 2).
6. The physician's caudad hand, controlling the patient's foot and ankle, delivers a vectot impulse toward the patient's gluteal region in a manner that would normally result in further flexion of the knee (*white arrow*, Fig. 3). However, the wedge fulcrum formed by the physician's cephalad hand prevents any such motion.
7. Effectiveness of the technique is determined by reassessing motion of the fibular head and by palpating for restoration of normal position of the fibula.



Fig. 1

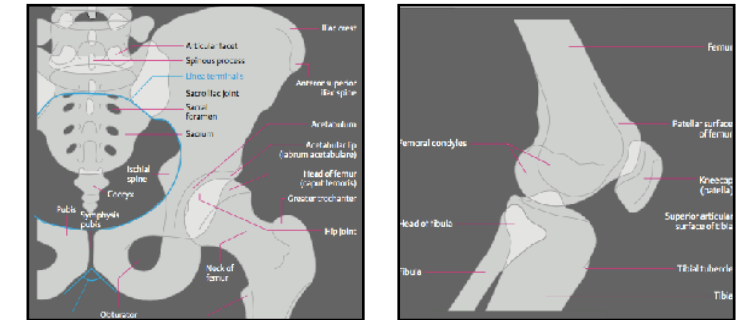


Fig. 2

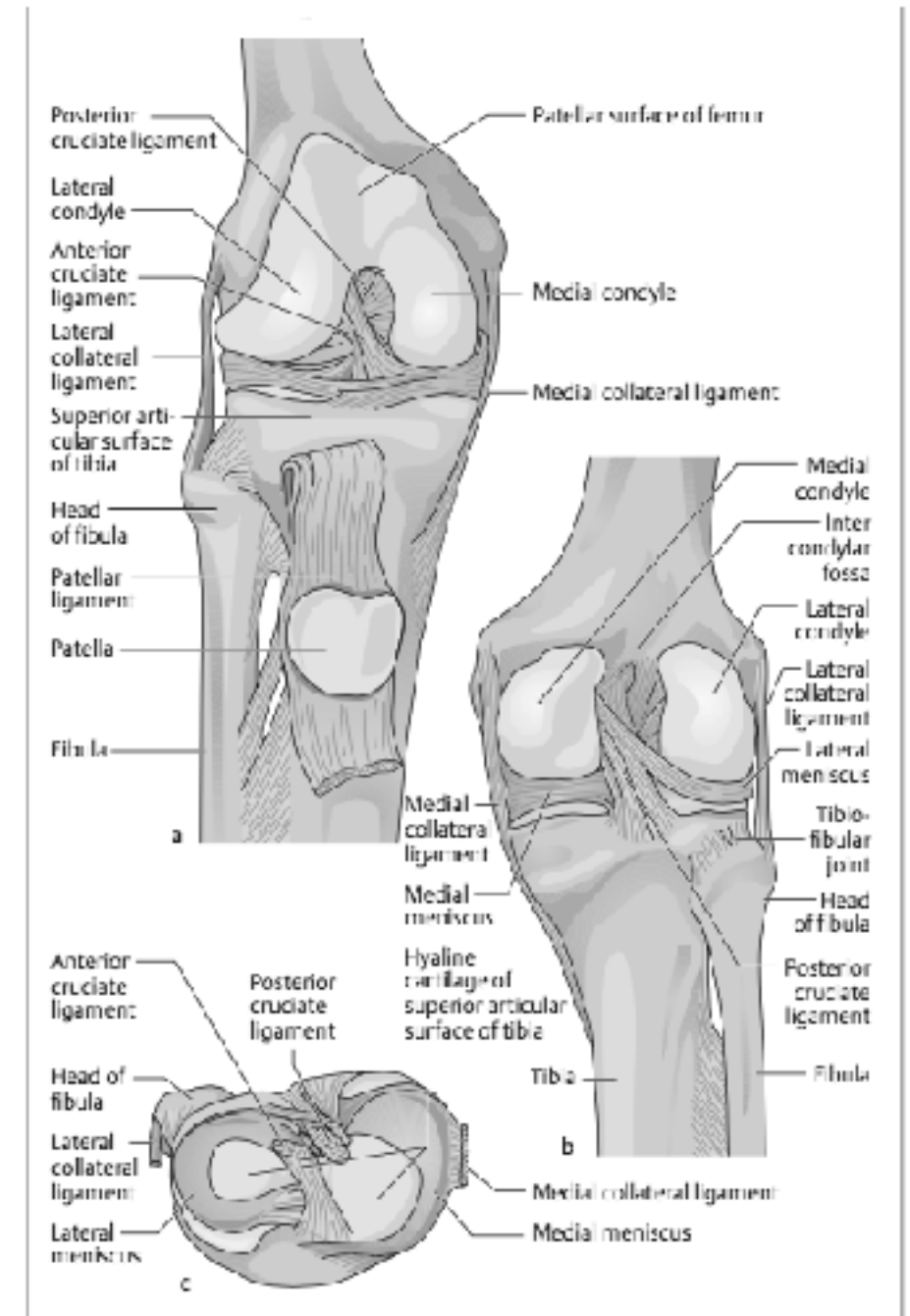
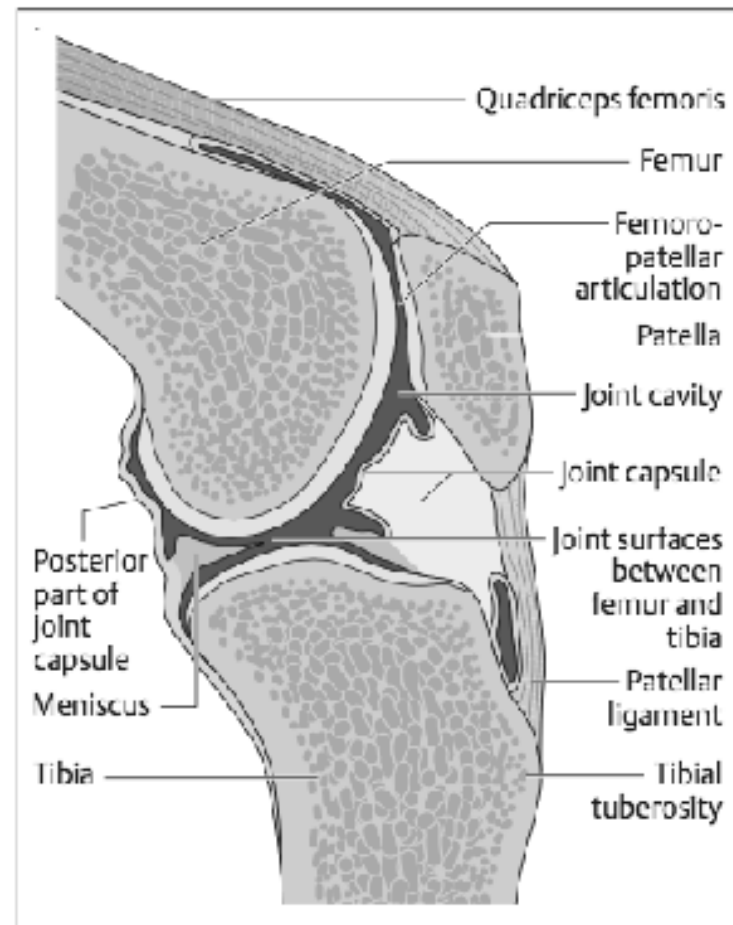
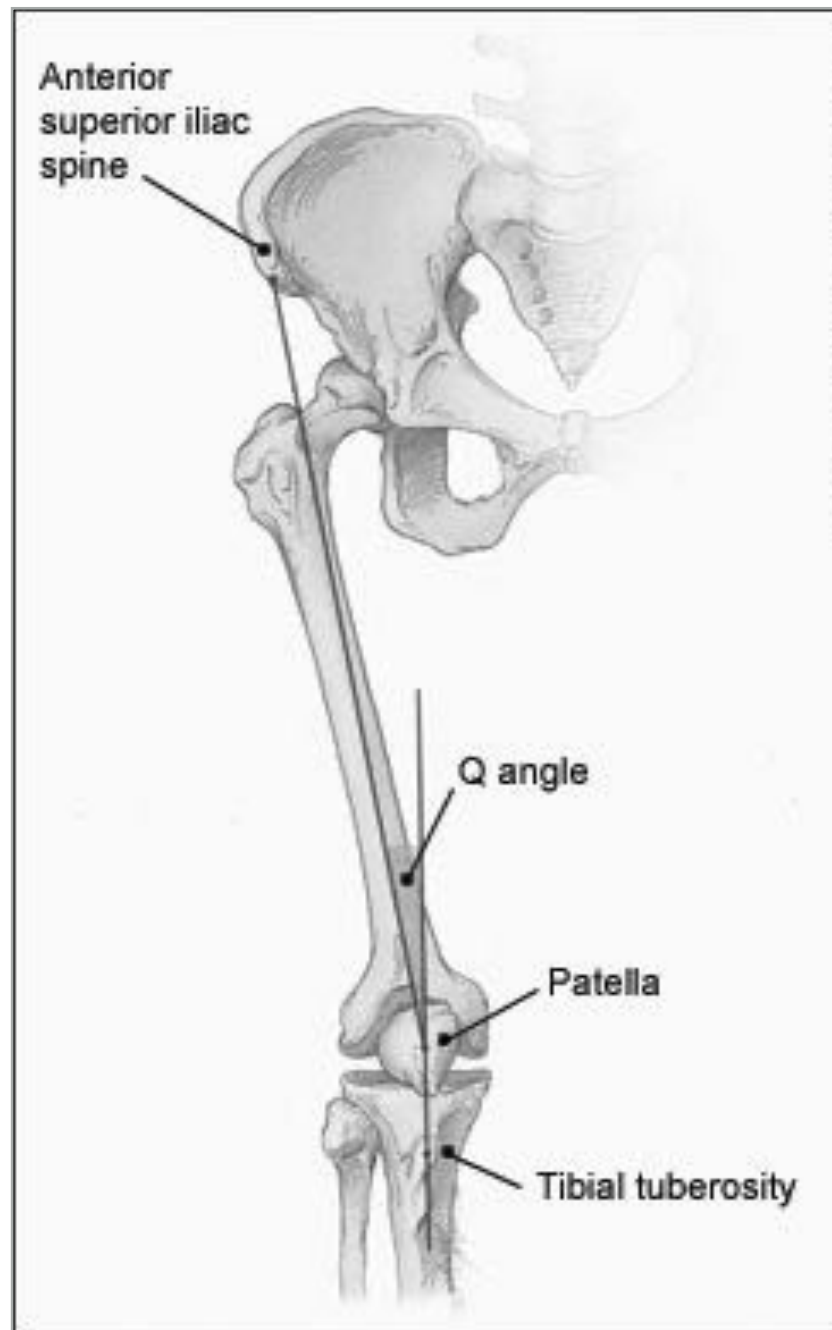


Fig.3

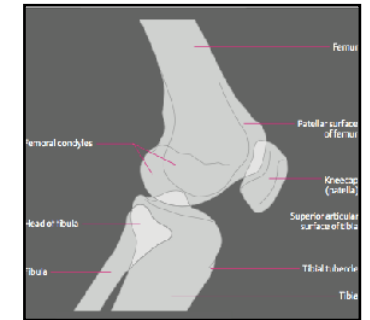
Lower Extremity - Knee



Anatomical considerations



Lower Extremity - KNEE



*As in most cases applicable in situ during General treatment -GBA or as an adjunct to ttt

Knee: Anterior Medial Meniscus presentation

Diagnosis

Symptoms: Medial knee discomfort, locking of the knee short of full extension

Physical findings: Palpable bulging of the meniscus just medial to the patellar tendon, positive McMurray test, positive Apley compression test

1. The physician stands at the side of the table on the side of the dysfunction.
2. The physician places the ankle of the dysfunctional leg under the physician's axilla and against the lateral rib cage (Fig. 1).
3. The physician places the thumb of the medial hand over the bulging meniscus. The fingers of the lateral hand lie over the thumb of the medial hand reinforcing it. The physician may use the palmar aspect of the fingers to reinforce thumbs but they must be distal to the patella (Fig. 2).
4. The physician places a valgus stress on the knee and externally rotates the foot (*white arrows, Fig. 3*).
5. This position is maintained and moderate to heavy pressure is exerted with the thumbs over the medial meniscus. This pressure is maintained as the knee is carried into full extension (Fig. 4).
6. Effectiveness of the technique is determined by reassessment of the knee range of motion.



Fig. 1



Fig. 2

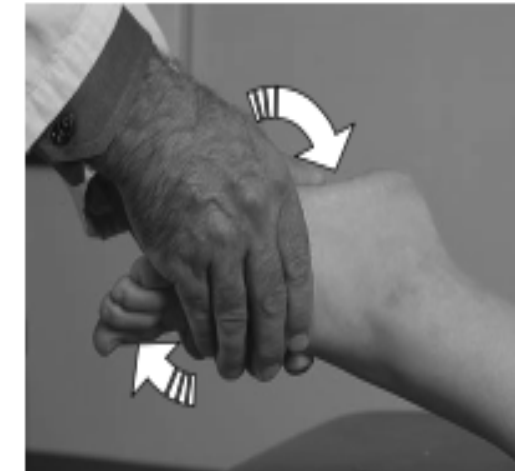
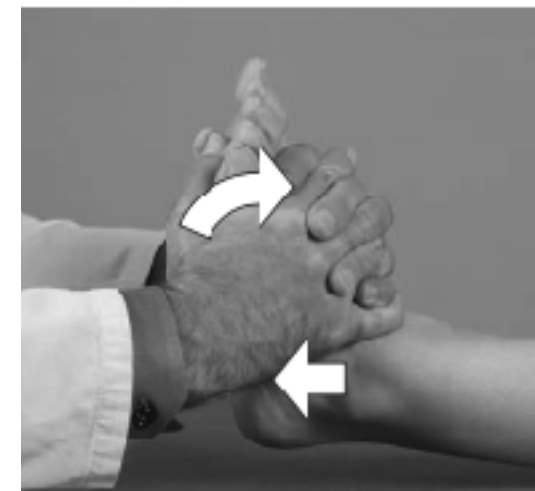
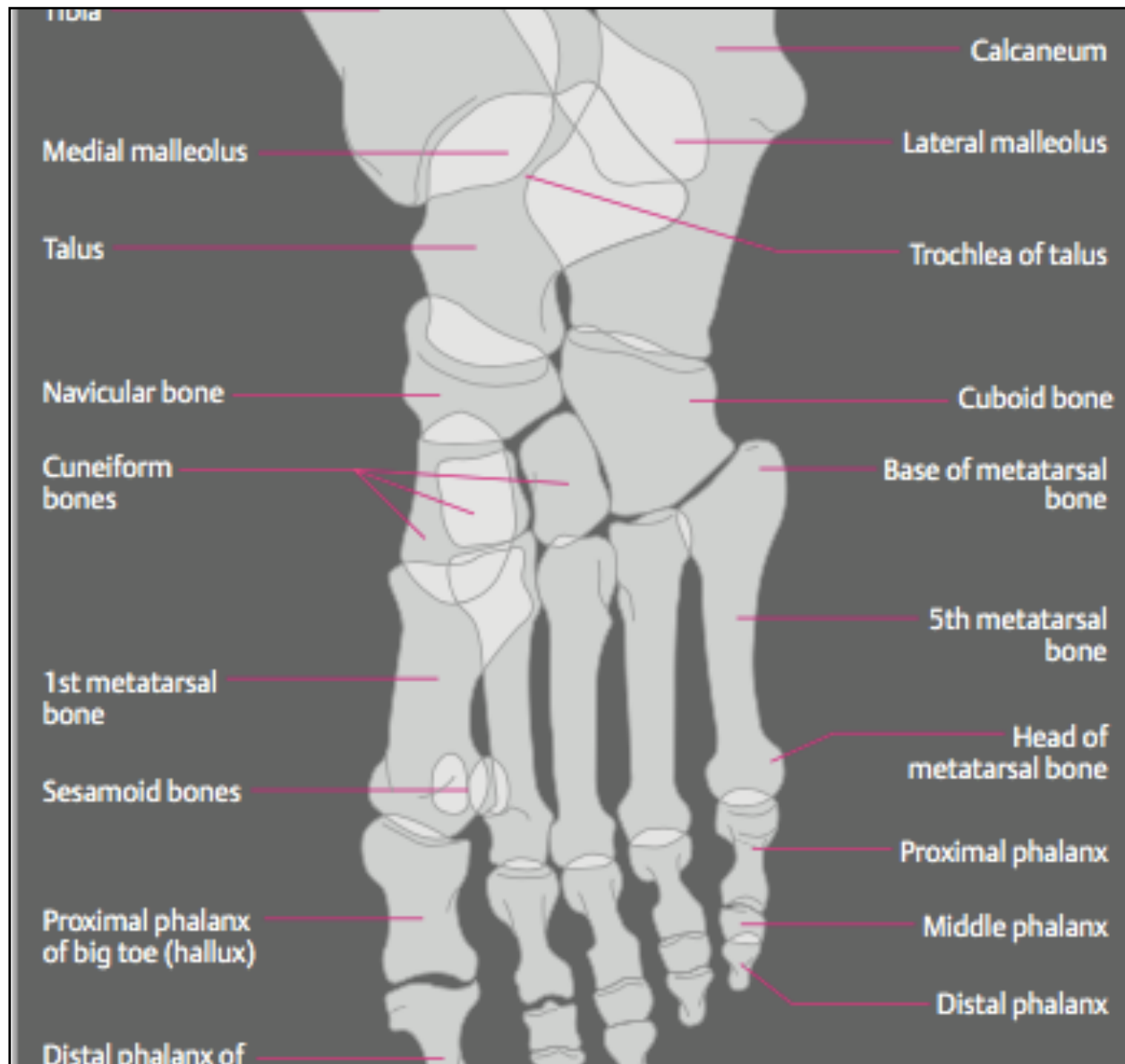


Fig. 3



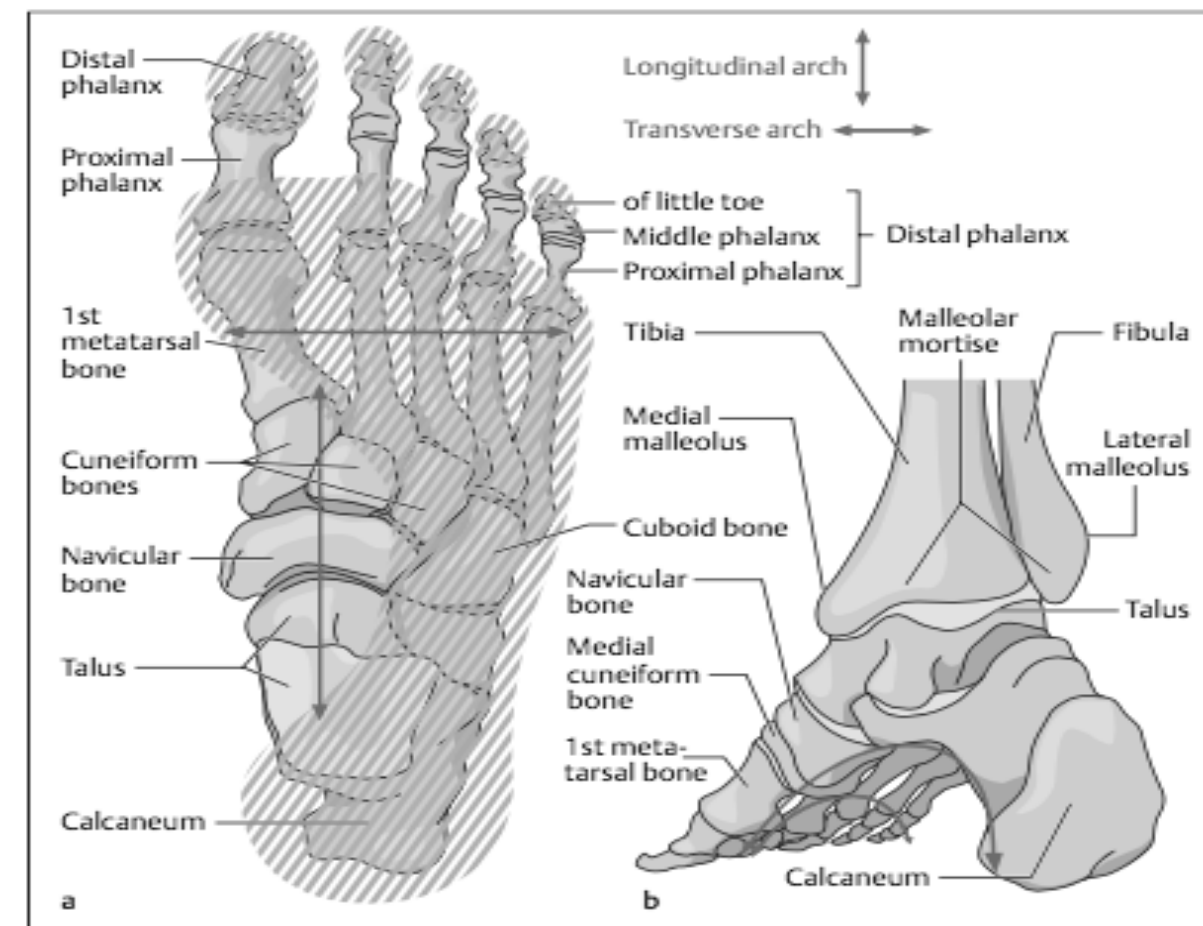
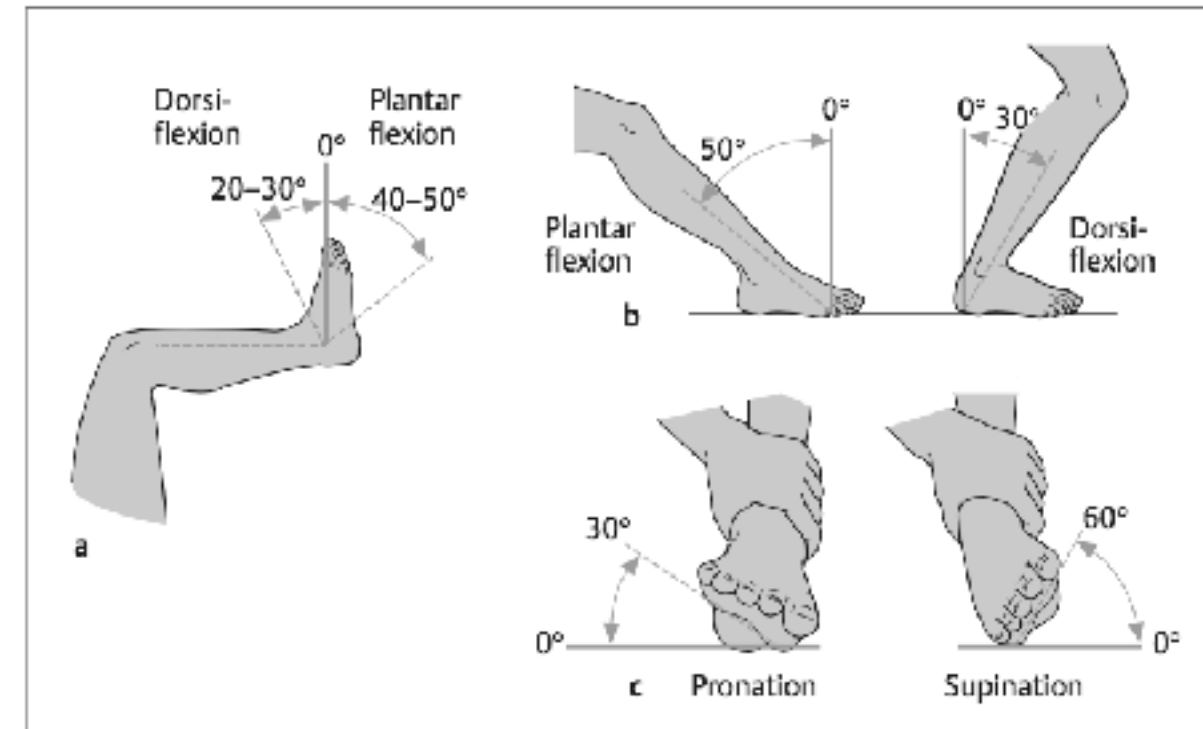
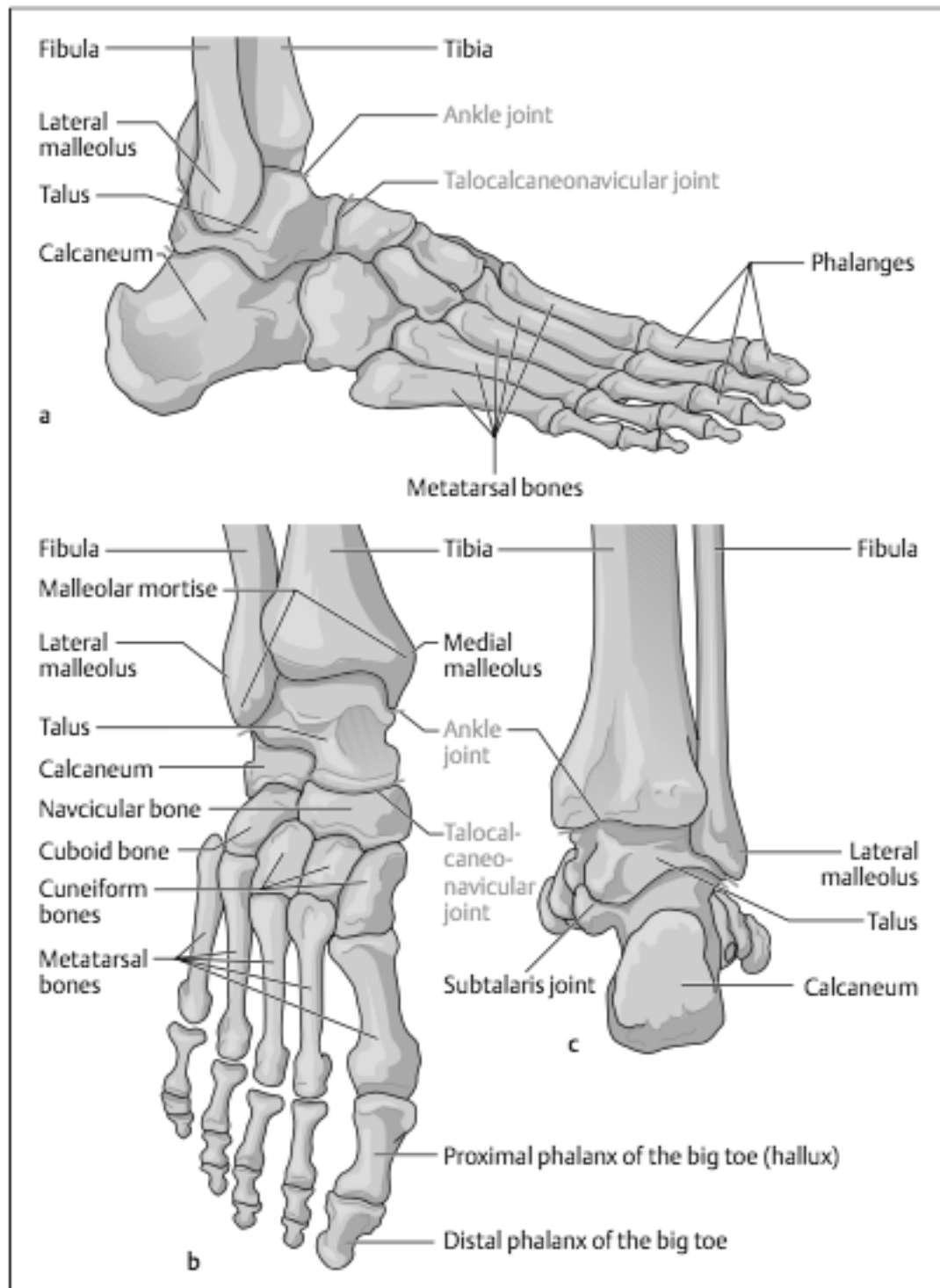
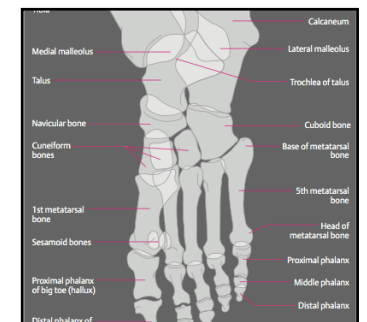
Fig. 4

Lower Extremity - Ankle and Foot

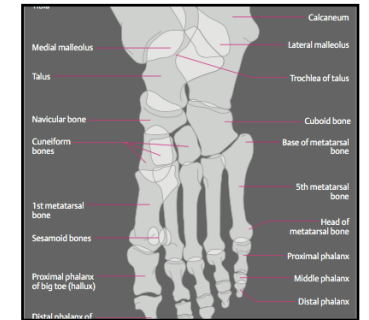


Lower Extremity - Ankle and Foot

Anatomical and ROM considerations



Lower Extremity - Ankle and Foot

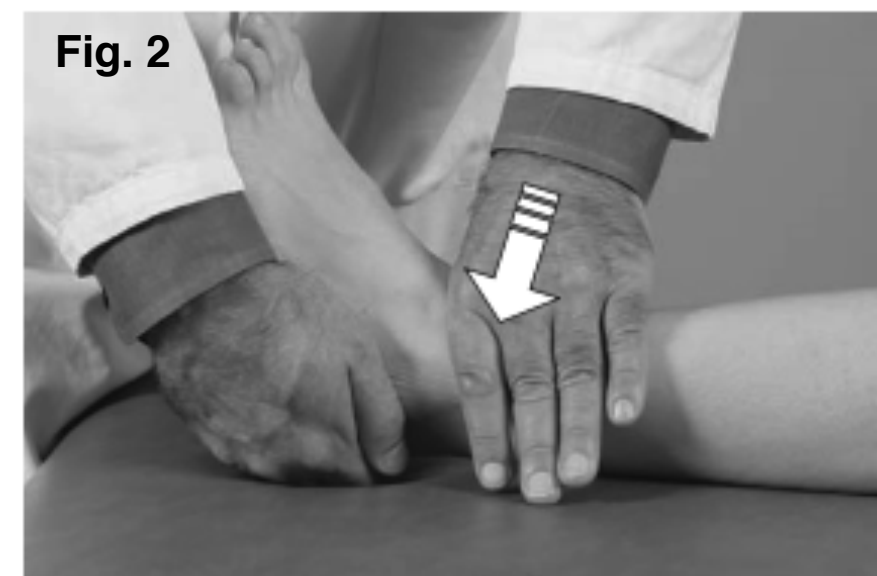


Ankle: Anterior Tibia on the Talus

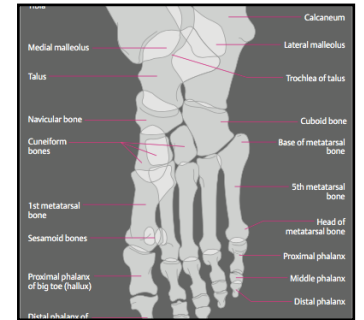
Diagnosis

Drawer test: Loss of anterior glide (free play motion) with decreased posterior draw test

1. The physician's one hand cups the calcaneus anchoring the foot (slight traction may be applied).
2. The physician places the other hand on the anterior tibia proximal to the ankle mortise (Fig. 1).
3. A vector impulse is delivered with the hand on the tibia straight down toward the table (*white arrow, Fig. 2*).
4. Effectiveness of the technique is determined by reassessing ankle range of motion.



Lower Extremity - Ankle and Foot



Ankle: Posterior Tibia on Talus

Diagnosis

Drawer test: Loss of posterior glide (free play motion) with decreased anterior drawer test

1. The physician's hands are wrapped around the foot with the fingers interlaced on the dorsum.
2. The foot is dorsiflexed to the motion barrier using pressure from the physician's thumbs on the ball of the foot (Fig. 1).
3. Traction is placed on the leg at the same time dorsiflexion of the foot is increased (*white arrows*, Fig. 2).
4. The physician delivers a tractional vector impulse foot while increasing the degree of dorsiflexion (*white arrows*, Fig. 3).
5. Effectiveness of the technique is determined by reassessing the ankle range of motion.



Fig. 1

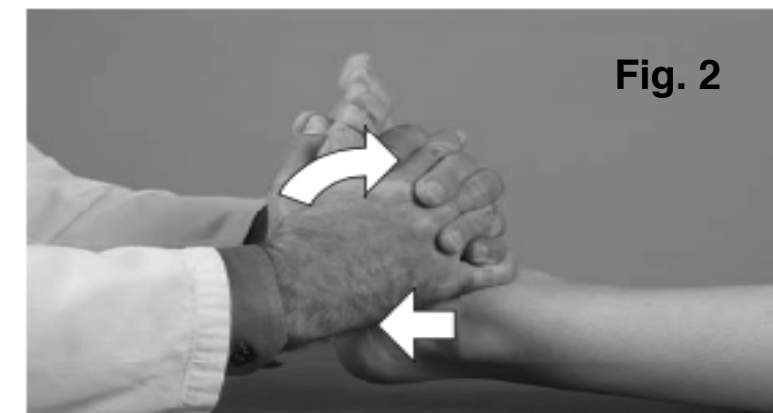


Fig. 2

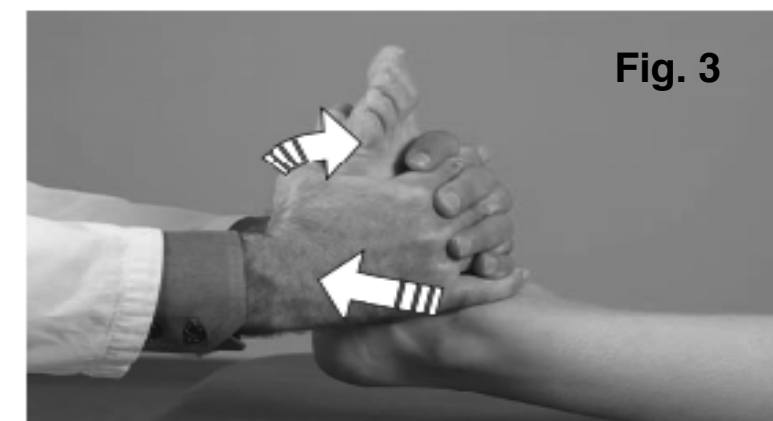
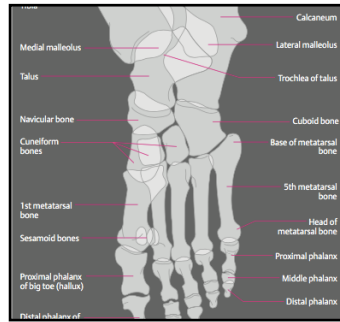


Fig. 3



Lower Extremity - Ankle and Foot

Foot: Cuneiform, Plantar - longitudinal arch (Whip Technique)

Diagnosis

Symptom: Plantar discomfort

Motion: Longitudinal arch and forefoot will not readily spring toward supination.

Palpation: Tender prominence on the plantar surface of the foot overlying the dysfunctional cuneiform

1. The patient lies prone with the leg off the table flexed at the knee.
2. The physician stands at the foot of the table.
3. The physician's hands are wrapped around the foot with the thumbs placed over the dropped cuneiform (Fig. 1).
4. A *whipping motion* is carried out with the thumbs providing a vector impulse straight down into the sole of the foot at the level of the dysfunctional cuneiform (*white arrow*, Fig. 2).
5. Effectiveness of the technique is determined by reassessing motion of the forefoot and palpating for the dropped cuneiform.



Fig. 1

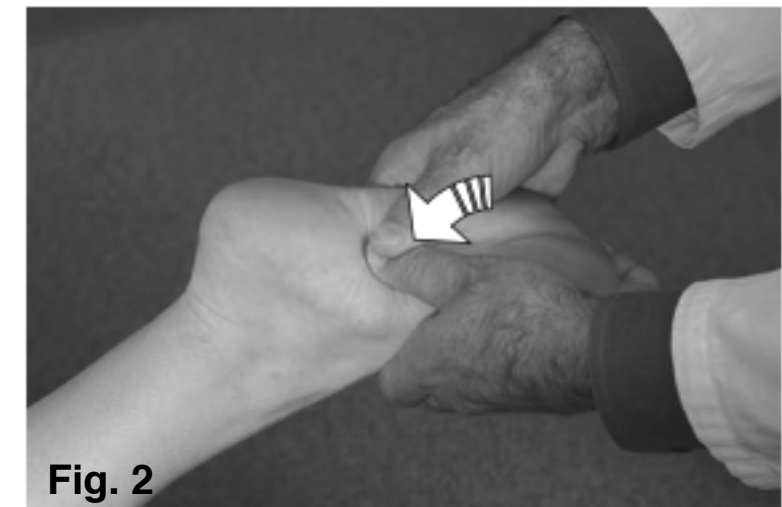
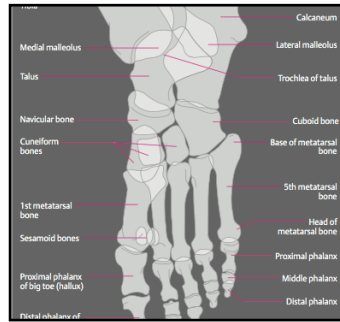


Fig. 2

This technique may also be applied to plantar dysfunction of the proximal metatarsals.



Lower Extremity - Ankle and Foot

HVLA - Eversion / inversion somatic dysfunction - ankle

Tibio-calcaneal dysfunction / Metatarsal dysfunction /
Transtarsal dysfunction/Cuboid/Navicular dysfunction

Foot: Fifth Metatarsal presentation , Plantar Styloid

Diagnosis

History: Common following inversion sprain of the ankle

1. The physician places the thumb over the distal end of the fifth metatarsal.
2. The physician places the MCP of the index finger beneath the styloid process (Fig. 1).
3. A vector impulse is delivered by both fingers simultaneously. The thumb exerts pressure toward the sole, and the index finger exerts a force toward the dorsum of the foot (*white arrows*, Fig. 2).
4. Effectiveness of the technique is determined by reassessing the position and tenderness of the styloid process of the fifth metatarsal.



Fig. 1

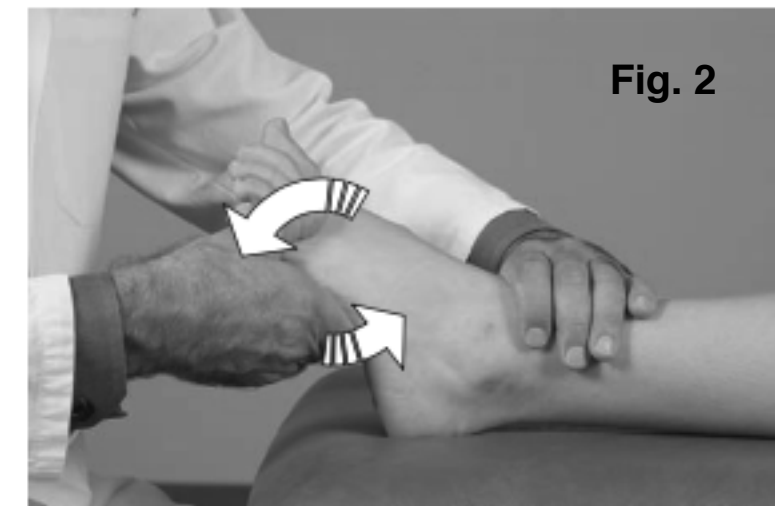
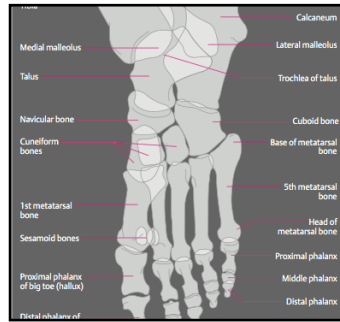


Fig. 2



Lower Extremity - Ankle and Foot

HVLA - Eversion / inversion somatic dysfunction - ankle

Tibio-calcaneal dysfunction / Metatarsal dysfunction / Transtarsal dysfunction / Cuboid / Navicular dysfunction

Foot: Cuboid, Plantar Rotation

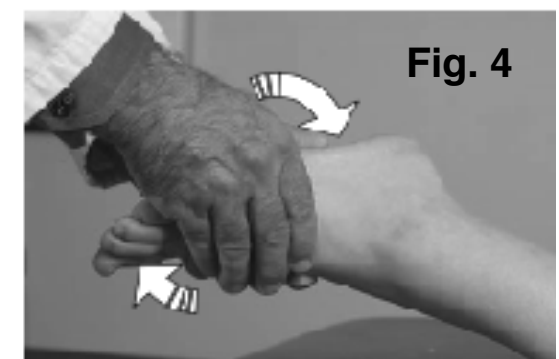
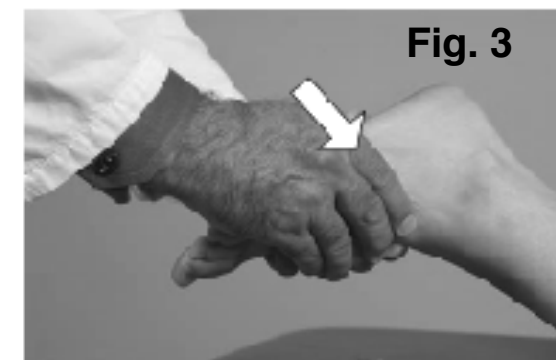
Diagnosis

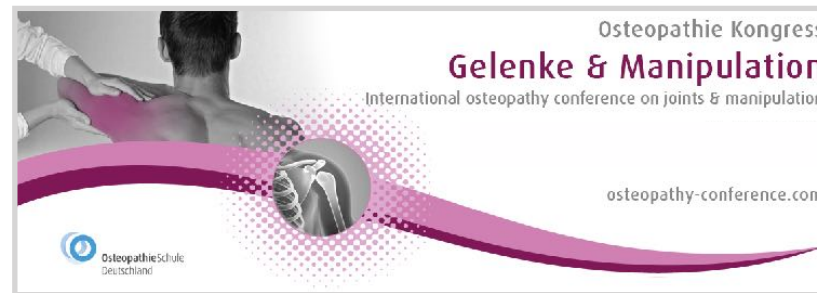
Tenderness: Lateral plantar aspect of the foot just proximal to the styloid process of the fifth metatarsal and overlying the tendon of the peroneus longus muscle

Palpation: Groove distal to the styloid process of the fifth metatarsal deeper than normal; cuboid prominent on the plantar aspect of the lateral foot

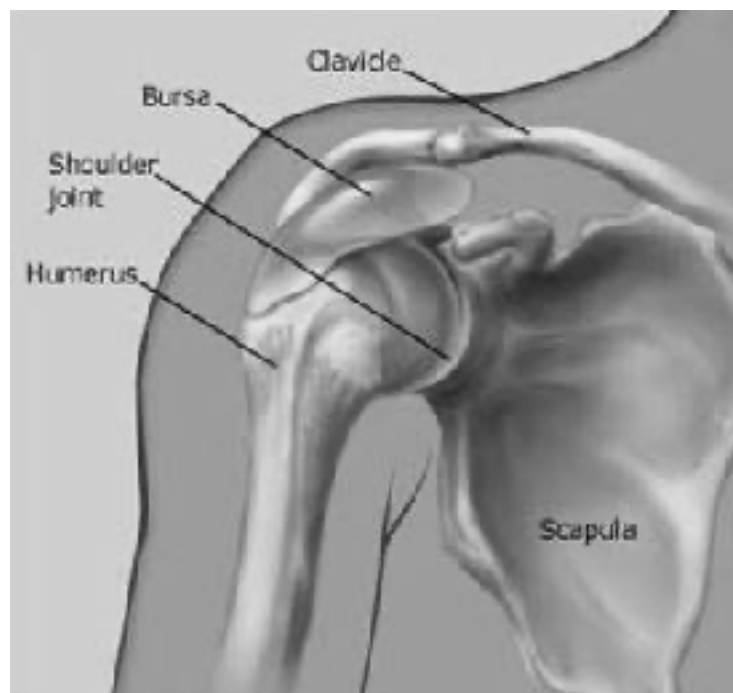
History: Common following inversion sprain of the ankle

1. The patient lies prone with the leg flexed 30 degrees at the knee.
2. The physician stands at the foot of the table.
3. The physician places the thumb on the medial side of the foot over the plantar prominence of the cuboid.
4. The physician's thumb on the lateral side of the foot reinforces the medial thumb (Fig. 1).
5. The lateral aspect of the foot is opened by adducting the forefoot (Fig. 2).
6. The impulse vector is delivered in a whipping motion toward the lateral aspect of the foot (*white arrows*, Figs. 3 and 4).
7. Effectiveness of the technique is determined by reassessing the position and tenderness of the cuboid.

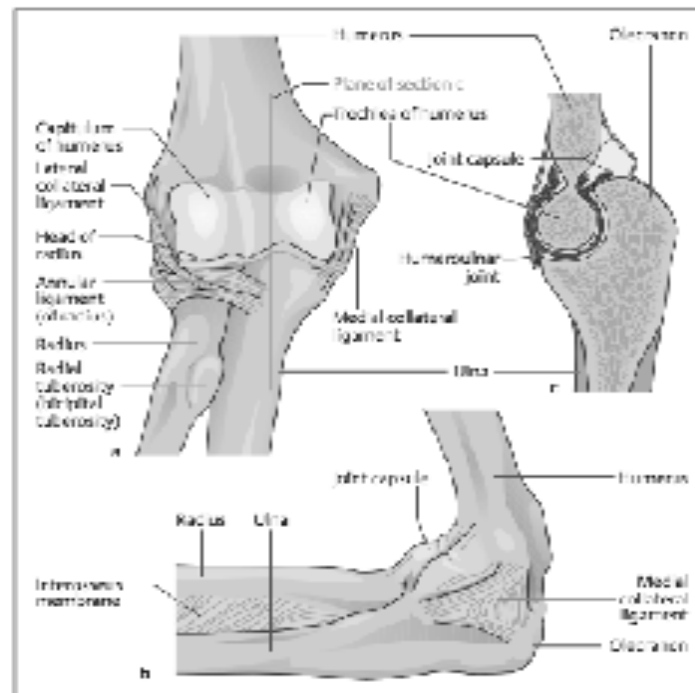




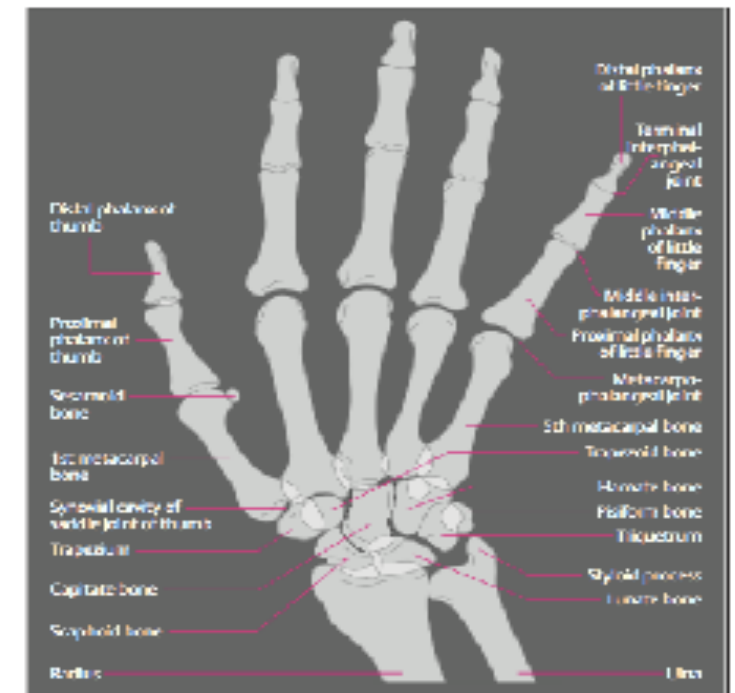
Shoulder & Upper Extremity



Shoulder



Elbow



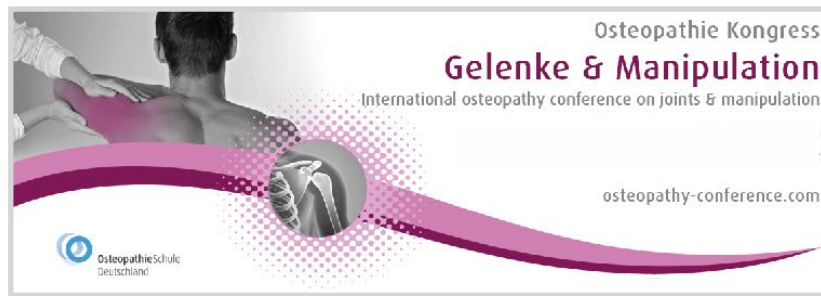
Wrist & Hand



Shoulder & Upper Extremity

Red Flags for Potential Serious Conditions in Patients with Neck and Shoulder Problems

| Red Flags for the Neck and Shoulder Region | | |
|--|---|---|
| Condition | Red Flag Data obtained during Interview/History | Red Flag Data obtained during Physical Exam |
| Cervical Fractures or Ligamentous Instabilities ¹⁻⁶ | Major trauma such as a motor vehicle accident or a fall from a height with associated immediate onset of neck pain Rheumatoid arthritis or Down's syndrome | Midline cervical spine tenderness Positive ligamentous integrity tests: Sharp-Purser test Alar ligament integrity test Apprehension with or inability to actively rotate head < 45° |
| Cervical Central Cord Lesion ⁷⁻⁹ | Older age History of a trauma (esp. MVA or fall) Incontinence | Gait disturbances due to hyperreflexic lower extremities Upper extremity (especially hand) sensory and motor deficits, and atrophy |
| Pancoast tumor ¹⁰⁻¹² | Men over 50 with a history of cigarette smoking. "Nagging" type pain in the shoulder and along the vertebral border of the scapula – often progressing to burning pain down the arm into the ulnar nerve distribution. | Wheezing with auscultation when tumor obstructs bronchus May have Horner's syndrome Ptosis (drooping eyelid) Constricted pupil Sweating disturbances |
| Septic Arthritis (A-C Joint) ¹³ | Insidious onset of chest pain localized in the S-C joint History of IV drug use, diabetes, trauma, infection (especially of central venous access) | Tender S-C joint Limited shoulder movement Swelling over S-C joint Fever |



Upper Extremity **Shoulder Girdle**



Glenohumeral Treatment approach - posterior presentation

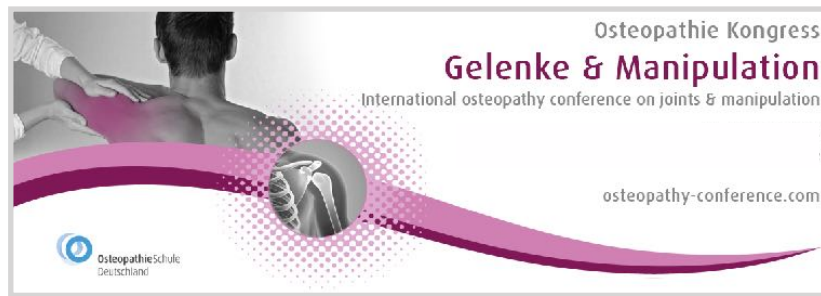
The physician grasps the patient's gleno- humeral joint by encircling the joint with both hands.

The physician's thumbs rest in a crossed pattern on the posterior aspect of the patient's glenohumoral joint

The physician exerts a rapid downward and slightly lateral force through the patient's gleno-humeral joint



As in most cases applicable in situ during General treatment -GBA



Upper Extremity **Shoulder Girdle**



HVLA Treatment for the Shoulder Girdle

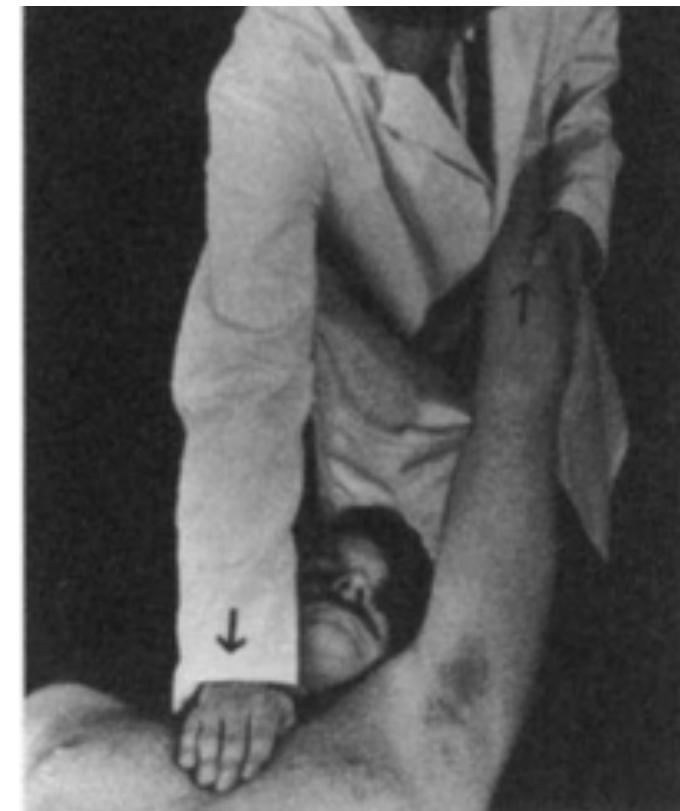
Sterno clavicular presentation

Technique:

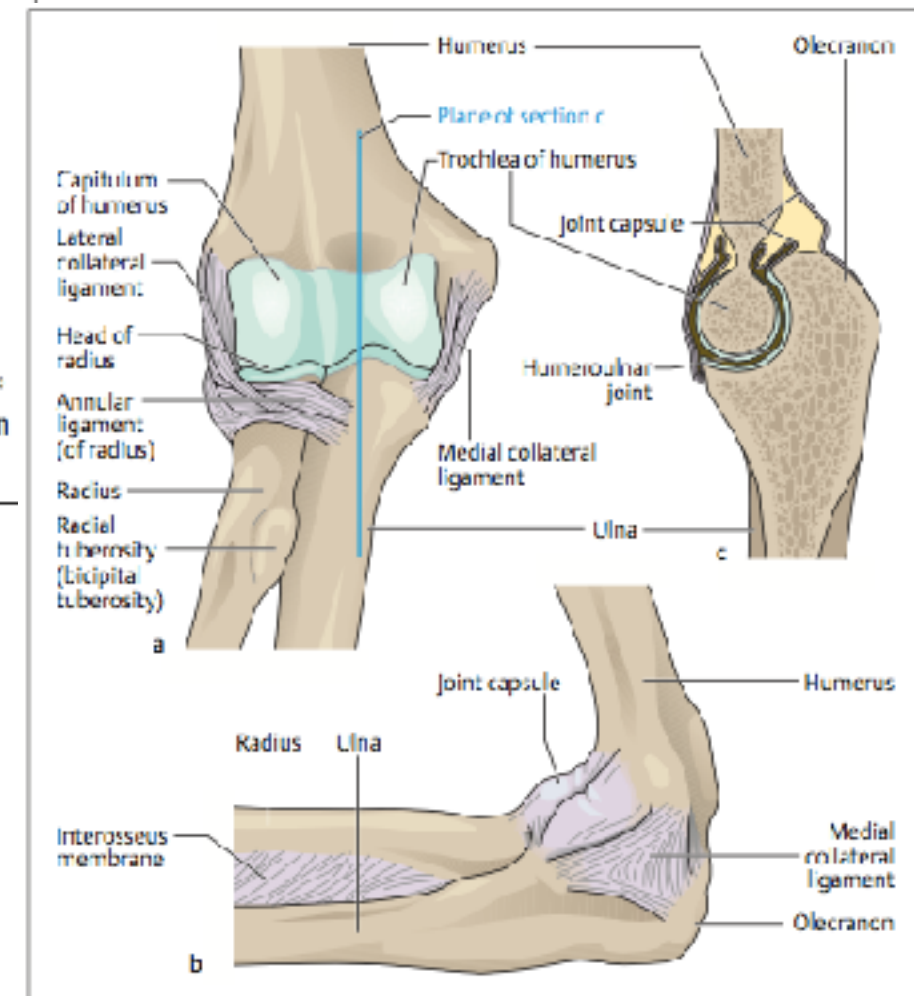
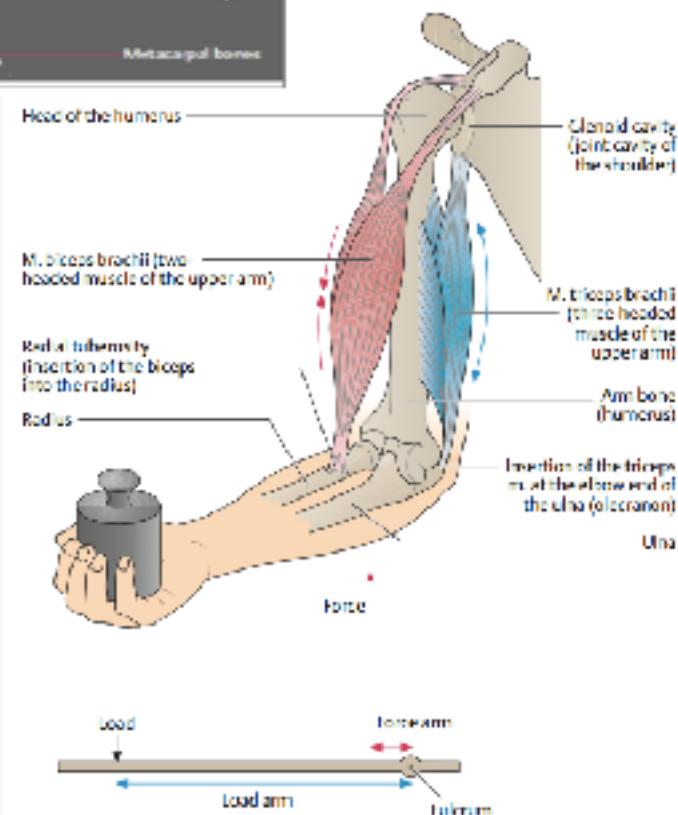
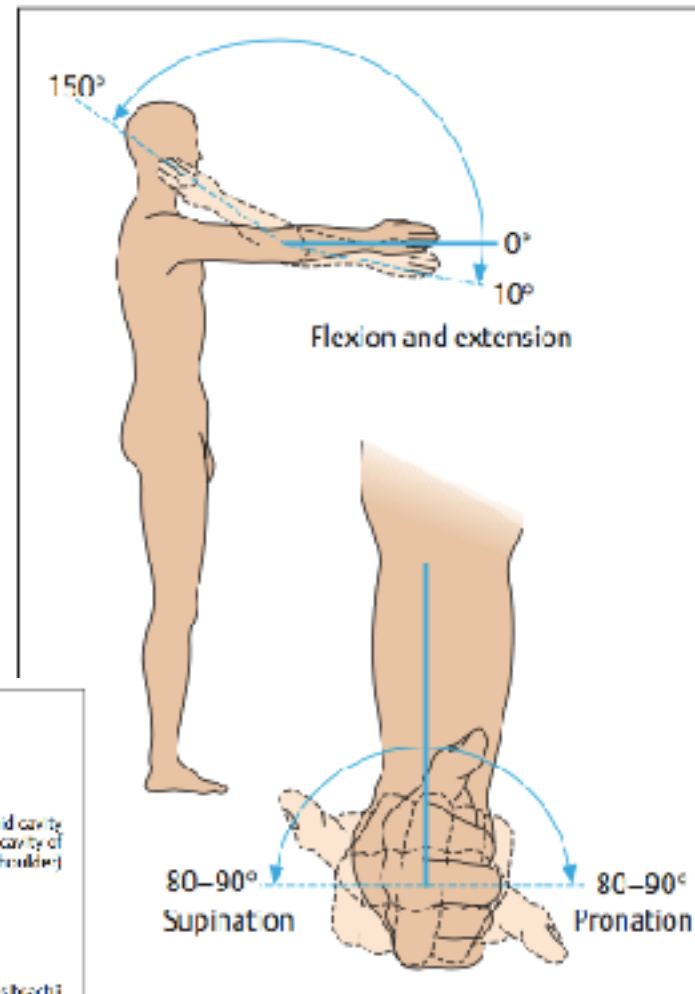
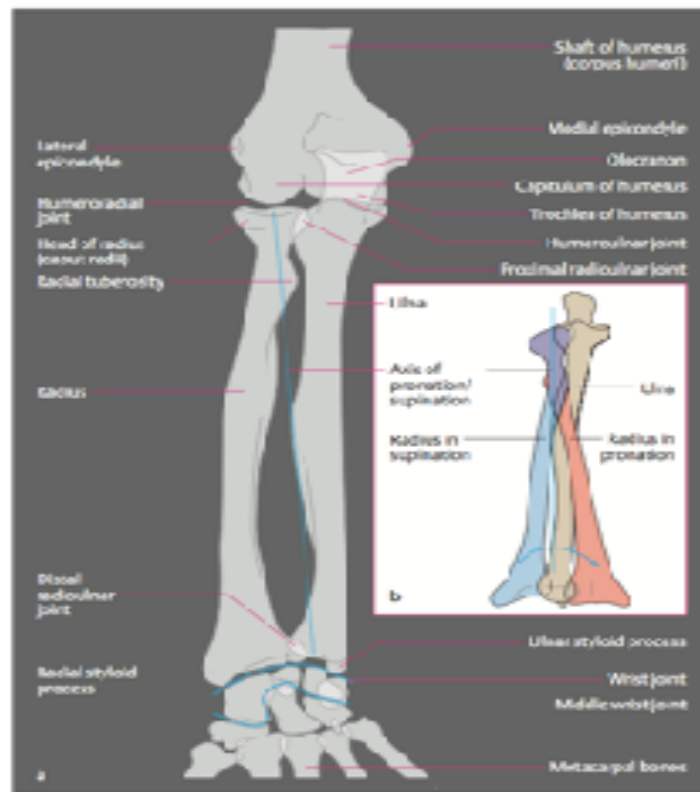
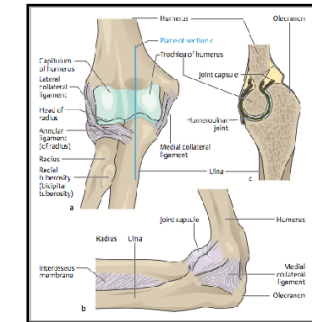
The physician rests the thenar eminence of his monitoring hand over the sternoclavicular joint that is restricted.

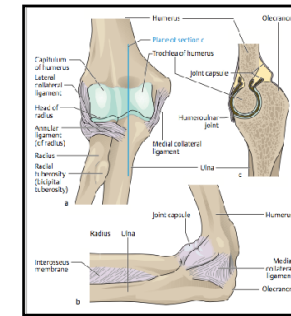
The physician grasps the patient's arm on the side of the dysfunction and exerts a cephalad traction force on the arm.

The physician achieves correction by exerting a downward vector adjustment through the sternoclavicular joint while simultaneously inducing a rapid traction force through the patient's arm



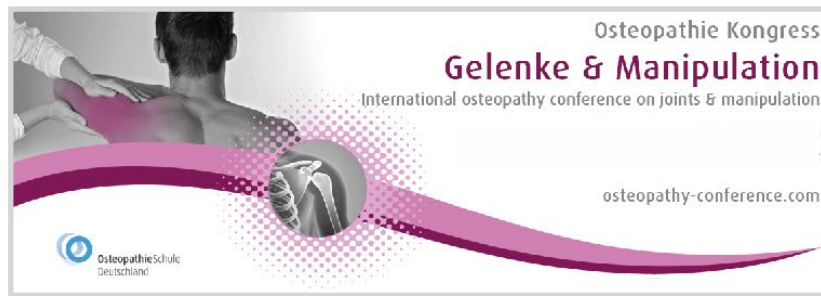
Upper Extremity - Elbow



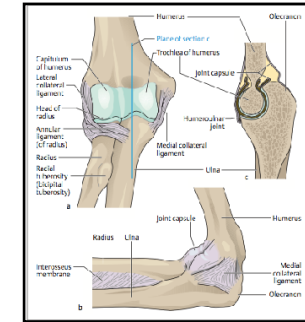


Red Flags for Potential Serious Conditions in Patients with Elbow, Wrist, or Hand Problems

| Red Flags for the Elbow, Wrist, and Hand Region | | |
|---|---|--|
| Condition | Red Flag Data obtained during Interview/History | Red Flag Data obtained during Physical Exam |
| Compartment Syndrome ^{1,2} | History of trauma, surgery or extreme unaccustomed activity Persistent forearm pain and "tightness" Tingling, burning, or numbness | Palpable tenderness and tension of involved compartment Pain intensified with stretch to involved muscles Paresthesia, paresis, and sensory deficits Diminished pulse and prolonged capillary refill |
| Space Infection of the Hand ³ | Recent cut, scrap, or puncture wound, such as a human or animal bite Typical symptoms of infection and inflammation | Kanavel cardinal signs: 1) flexed posture of the digit, 2) uniform swelling of the digit, 3) tenderness over the length of the involved tendon sheath, and 4) severe pain on attempted hyperextension of the digit |
| Long Flexor Tendon Rupture ⁴ | Laceration in area of tendon Forceful flexor contraction | Loss of isolated DIP or PIP active flexion Possible palpable defect in involved muscle |
| Lunate Fracture or Dislocation ⁴ | History of fall on hand or strain Generalized wrist pain | Pain at end ranges of wrist extension Decreased grip strength/pain with grasping objects |
| Scaphoid Fracture ^{5,6} | History of fall on outstretched hand Prevalent in males aged 15-30 and females with osteoporosis | Swelling, bruising around wrist Tenderness over anatomical snuff box/scaphoid tubercle Increased pain with gripping |
| Distal Radius (Colles') Fracture | Fall onto outstretched arm with forceful wrist extension Young male or older female | Wrist swelling Wrist held in neutral resting position Movements into wrist extension are painful |
| Radial Head Fracture ⁷ | History of fall on outstretched hand | Elbow joint effusion - arm held in loose packed position Restricted/painful supination & pronation AROM Tenderness over radial head |
| Raynaud's Phenomenon ⁸ | Positive family history Women on estrogen therapy Cold exposure/frostbite injury Underlying collagen vascular disease | <i>pallor, cyanosis, and/or hyperemic erythema of the fingers</i> Taking medication promoting vasoconstriction such as B-blockers, amphetamines, decongestants, and caffeine |
| Complex Regional Pain Syndrome (Reflex Sympathetic Dystrophy) ^{9,10} | History of trauma or surgery Severe burning/boring/aching pain out of proportion to the inciting event Pain not responsive to typical analgesics Secondary hyperalgesia/hypersensitivity | Area swollen (pitting edema), warm, and erythematous Temperature difference between involved and uninvolved extremity, hot or cold |
| Melanoma ¹¹ | History of cancer Female < 40 years of age Male >40 years of age Fair skin, history of sunburns | Asymmetric or irregular shape lesion Borders are notched, scalloped or vaguely defined Color uneven distributed or defined Diameter >6mm |



Treatment for the Elbow



Anterior Radial Head presentation

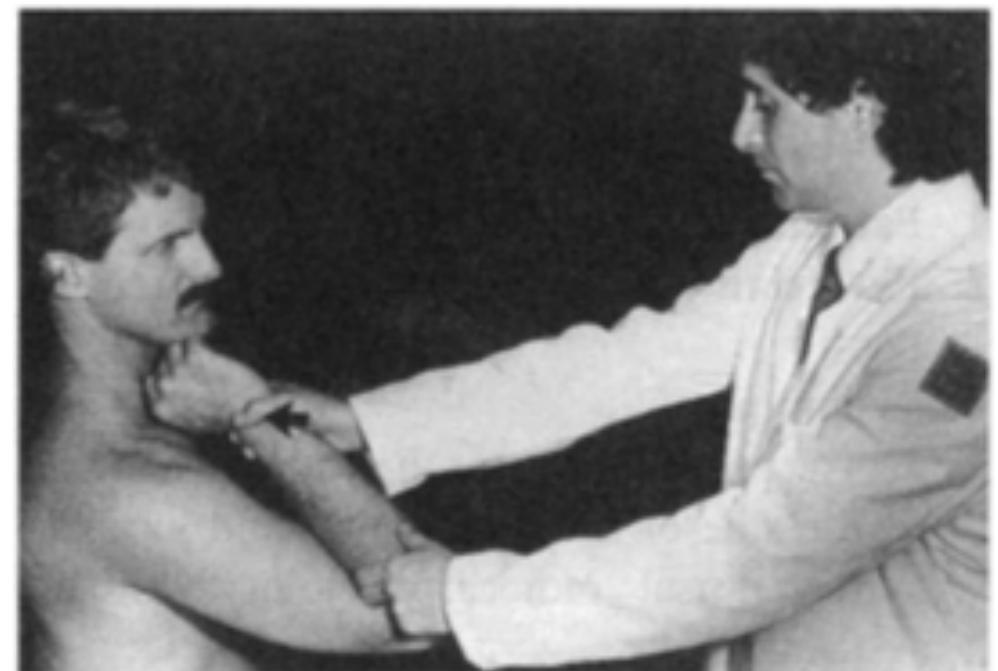
(*Elbow, Radial Head, Supination presentation*)

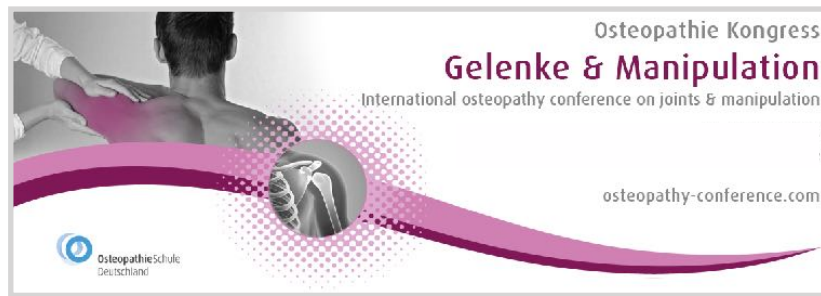
Technique:

The physician grasps the patient's dysfunctional arm, flexing it at the elbow and pronating it at the wrist.

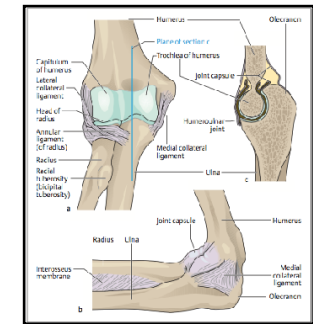
. The physician places the second and third digits of his other hand into the crease of the patient's elbow, directly over the radial head.

The physician exerts a rapid hyperflexion force on the elbow while simultaneously providing a vector directed adjustment to the radial head dorsally with the fingers of the other hand





Treatment for the Elbow



HVLA/Adjustive Osteopathic Technique

Posterior Radial Head

Elbow, Radial Head, Pronation presentation

Technique:

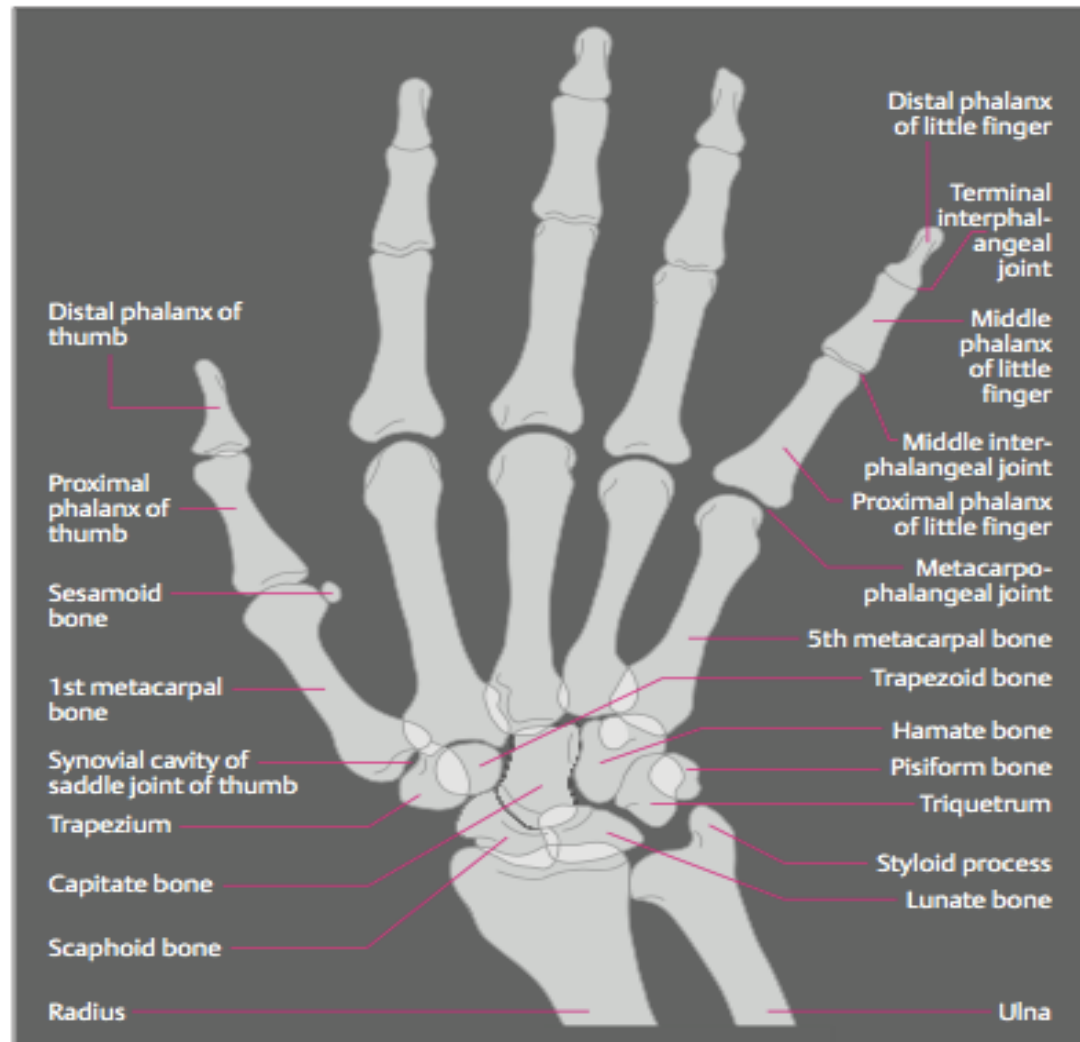
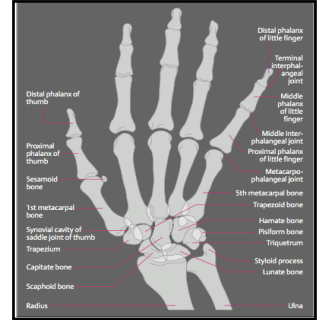
The physician encircles the patient's dysfunctional elbow with both hands and extends it.

The physician places his thumbs over the head of the radius anteriorly and the phalanx of his index finger over the radial head posteriorly.





Upper Extremity - Wrist , Hand and fingers



EVALUATION FOR WRIST

Gross motion is tested in flexion, extension, and radial and ulnar deviation. Both passive and active techniques may be used.

Somatic dysfunction of the wrist permits motion toward the dysfunction; motion away from the dysfunction will be restricted. The technique described may be used to test motion of the radioulnar joint and each of the intercarpal joints. It may also be used to test the carpometacarpal and metacarpophalangeal joints.

Technique:

The physician grasps the bones adjacent to the joint to be tested between his thumb and forefinger.

The bones are moved through their range of motion and any restriction is noted.

The motions tested are gliding in all directions and long-axis traction.

Gross motion is tested in flexion, extension, and radial and ulnar deviation. Both passive and active techniques may be used.

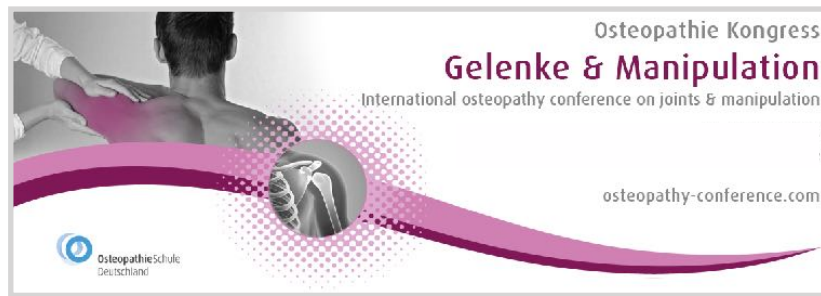
TESTS FOR HAND

Technique:

The physician grasps the bones adjacent to the joint being tested between his thumb and index finger.

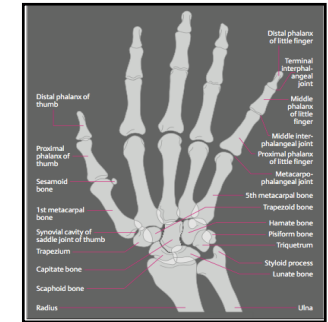
The bones are moved through their range of motion as gentle traction is applied.





Upper Extremity - Wrist , Hand

Carpel gapping and adjustment



HVLA/Adjustive Osteopathic Technique

Carpal adjuatment



Technique:

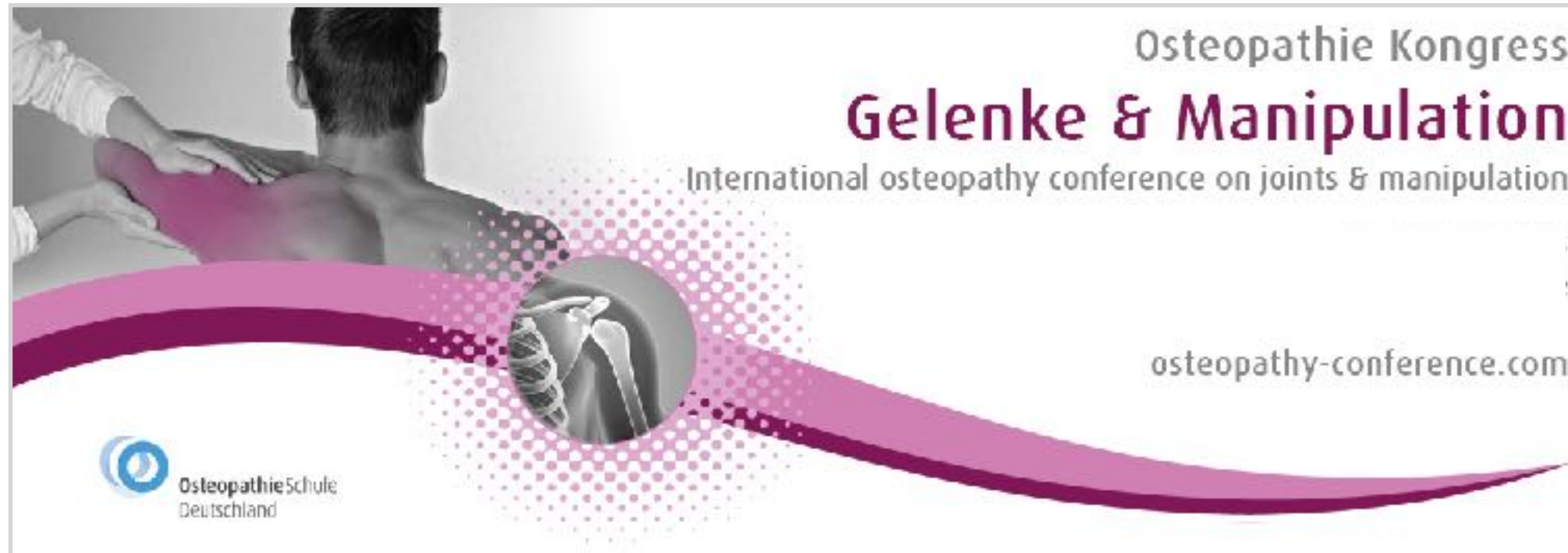
The physician grasps the patient's hand on the side of the dysfunction and localizes the dorsal radiocarpal joint with his thumbs.

The physician exerts a whip-like vector impulse on the hand, moving it into rapid hyperflexion while simultaneously exerting a down ward counterforce through the carpal somatic dysfunction



NB Spreading the hypothenar and thenar muscles enables greater potential for carpal dorsal movement.

Numerous levers can be applied prior to extension (i.e. traction, radial/ulnar deviation flexion/extension to wrist).



Bedankt , thank you for your attendance and invitation

Resources page - respective QR - codes will be placed here

