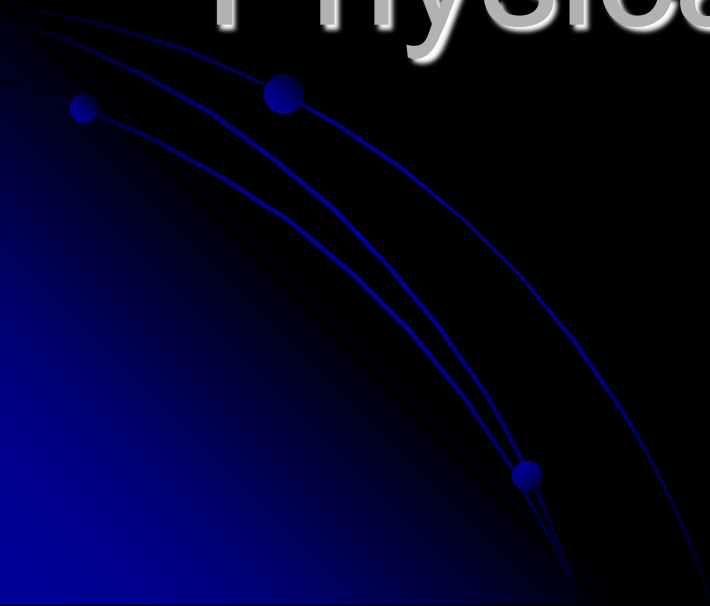


Musculoskeletal System Physical Examination



TM joint dysfunction



Fig. 48. To palpate the temporomandibular joint, place your index finger in the auditory canal.



Fig. 49. The movement of the temporomandibular joint can be felt when the patient opens his mouth.

TM joint dysfunction



Fig. 50. A deviated pattern of motion in the temporomandibular joint.



Fig. 51. Dislocation of the temporomandibular joint.

偏向患側

Neck pain

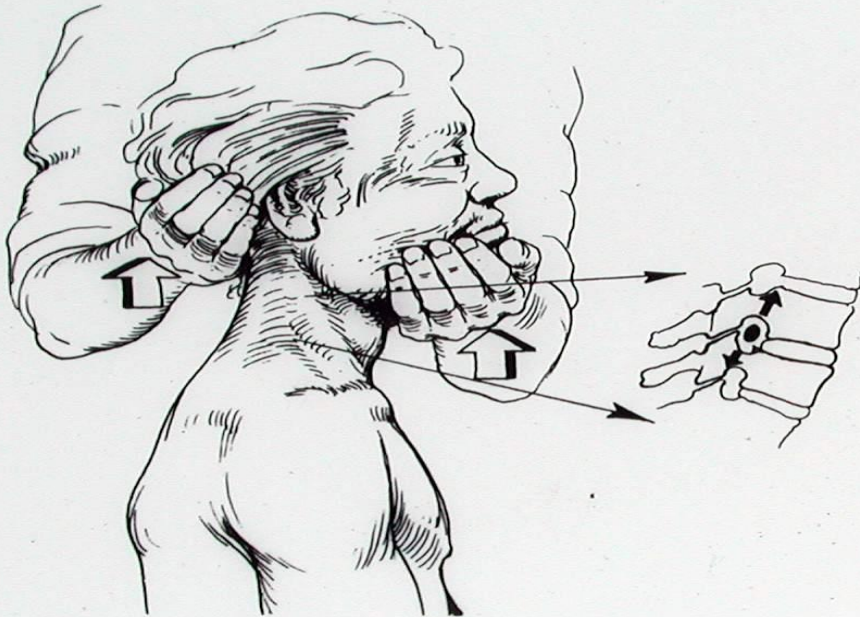


Fig. 38. The distraction test.



Fig. 39. The compression test.

Compression (+)會有 radiation pain,distraction(+)會 pain relief,頭的alignment須對好,才會準確(頭須成立正姿勢)

Upper limb pain & numbness



Fig. 42. The Adson test.

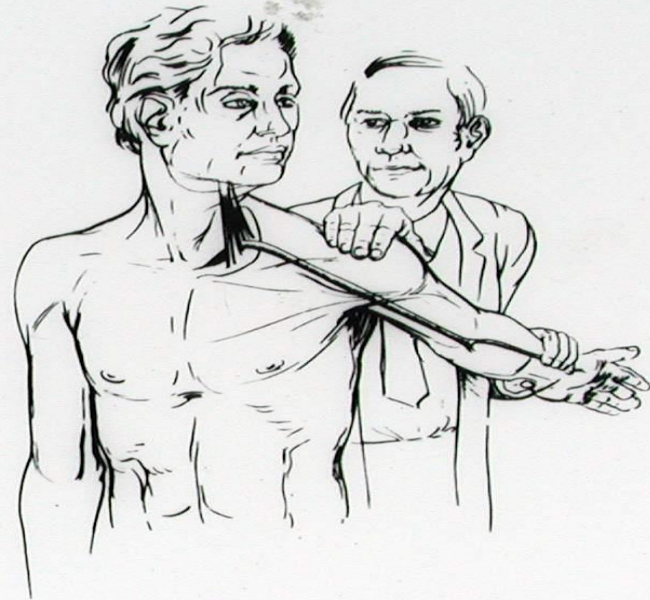


Fig. 43. The Adson Test: When the patient turns his head, an absent or diminished pulse indicates compression of the subclavian artery.

手須一直按住radial a.,並且須請病人自己往後擺
病人的chief complaint是:特定姿勢不舒服,例如開車時轉身向後拿東西時

Shoulder pain

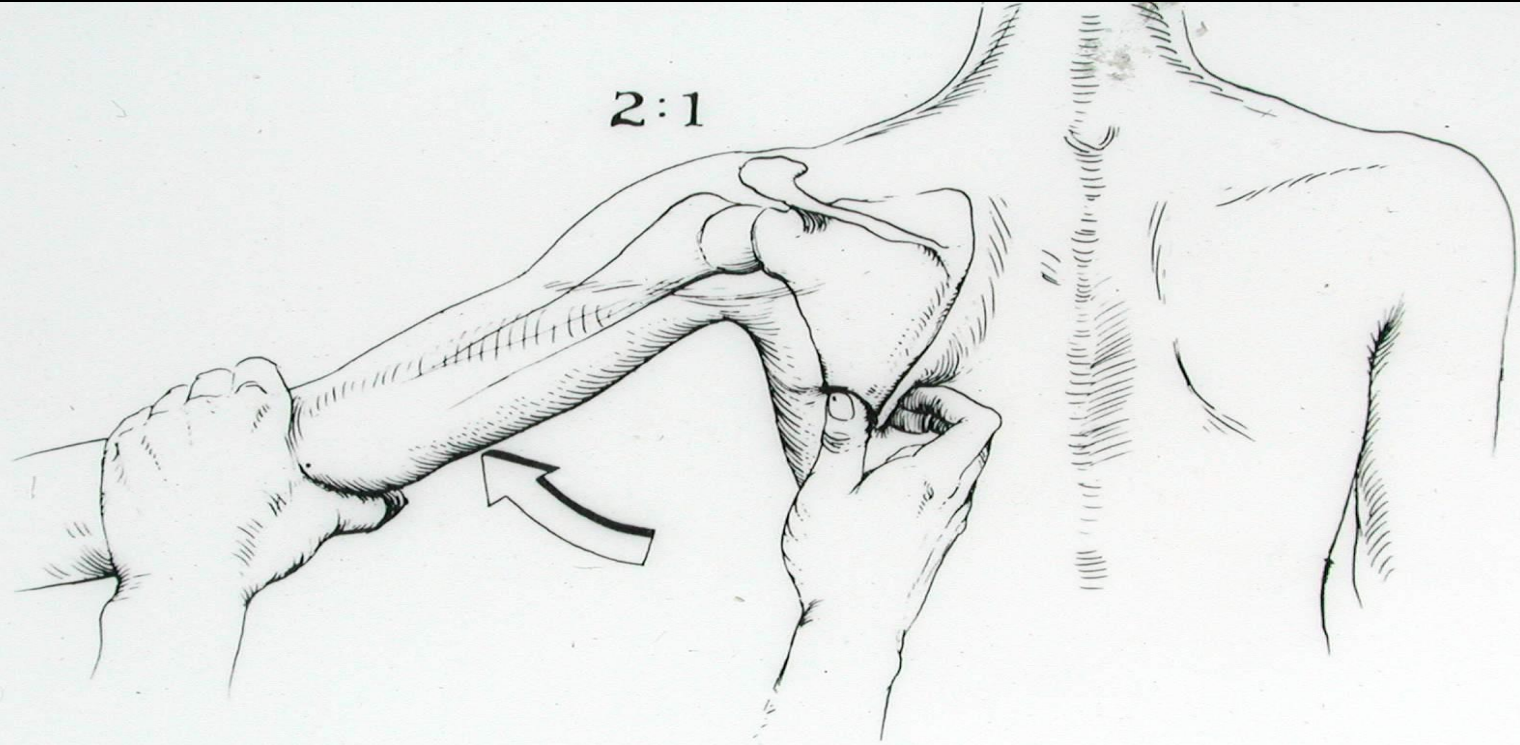


Fig. 52. Test for abduction: Motion occurs at the glenohumeral and scapulothoracic articulation in a two to one ratio.

當手臂外展時,Glenohumeral joint 比上scapulothoracic joint的活動度為2:1,當五十肩時,只有scapulothoracic joint的活動,見下一張

Shoulder pain – Frozen shoulder



Fig. 53. Frozen Shoulder Syndrome: No glenohumeral motion—only scapulothoracic motion.

Shoulder pain – AC joint disorder

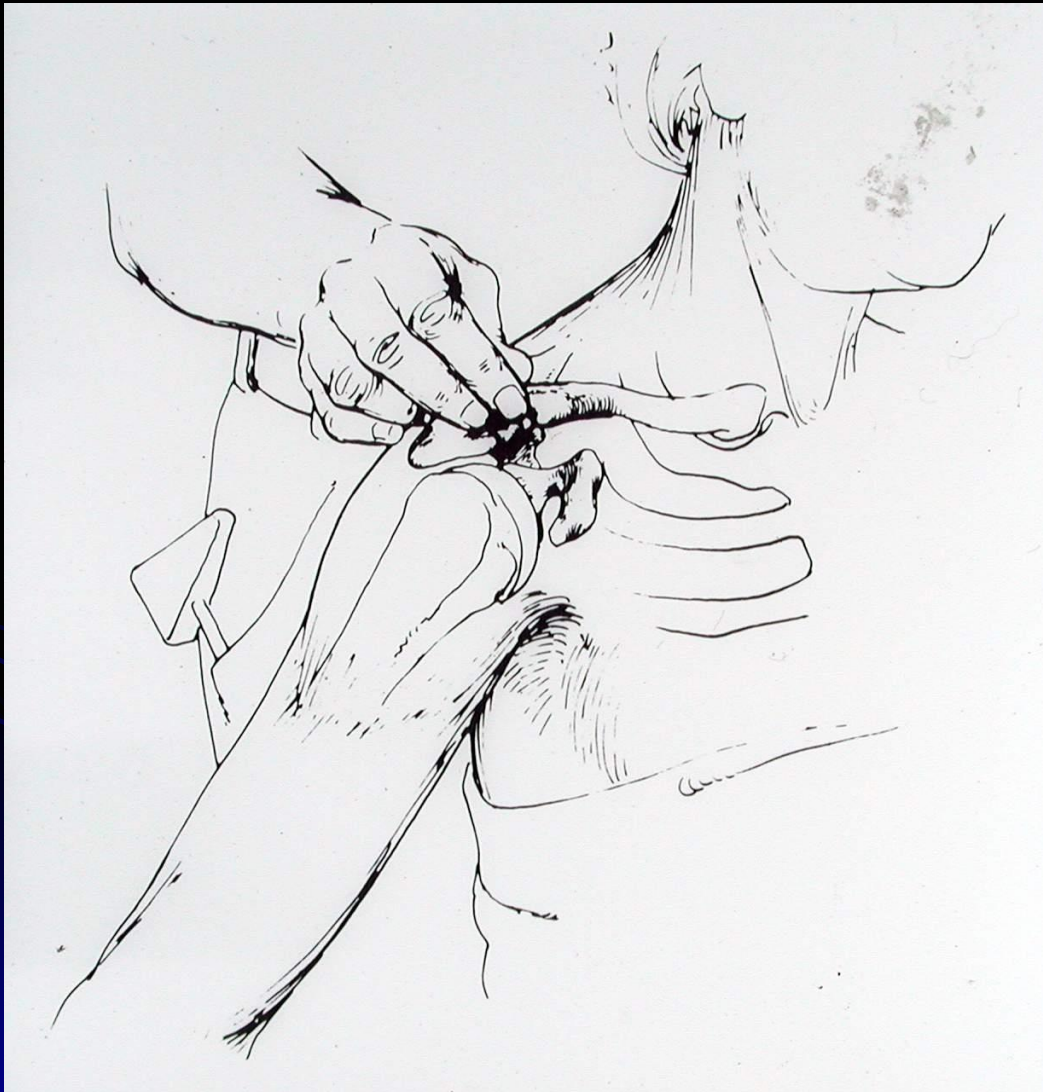
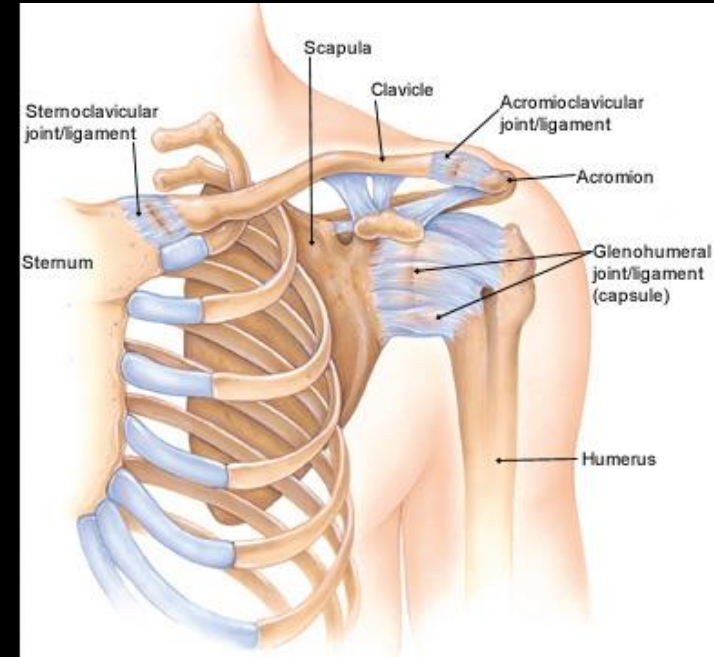


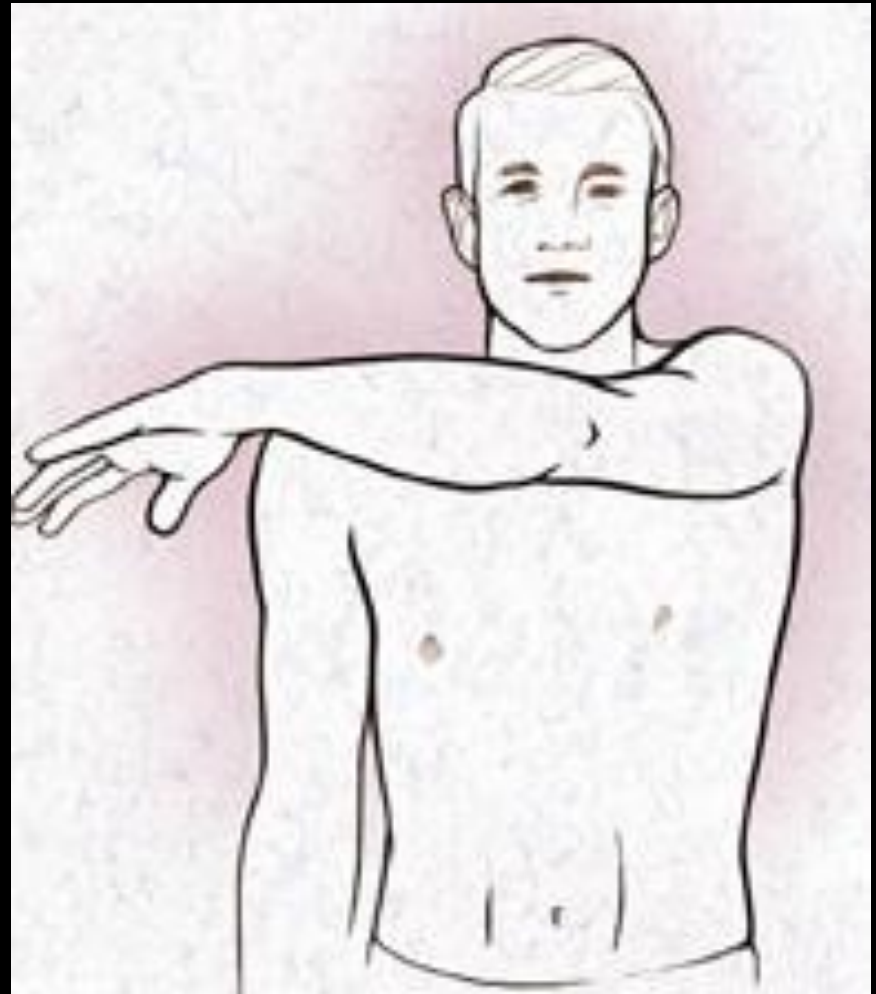
Fig. 15. Palpation of the acromioclavicular articulation is easier if the patient rotates his arm.



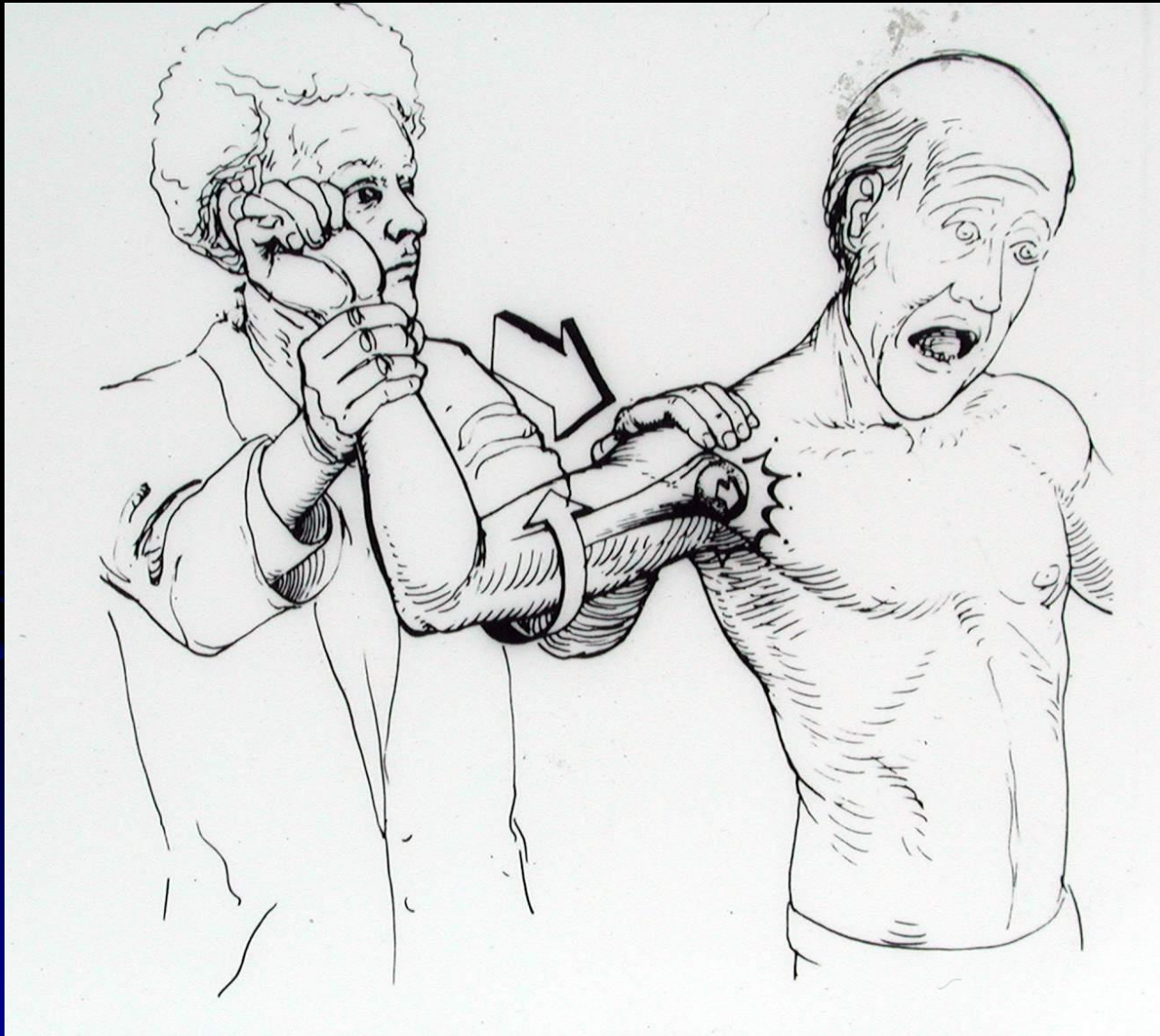
沿clavicle摸,patient
轉動humerus即可輕
易摸到
AC joint為一好動關節

Shoulder pain – AC joint disorder

Crossed Adduction Test



Shoulder pain - shoulder dislocation



(+) if
painful
facial (看
面部的表
情,來判定
(+) or(-
) expressio
n occurs.

Fig. 74. The apprehension test for shoulder dislocation.

Shoulder pain – rotator cuff tear

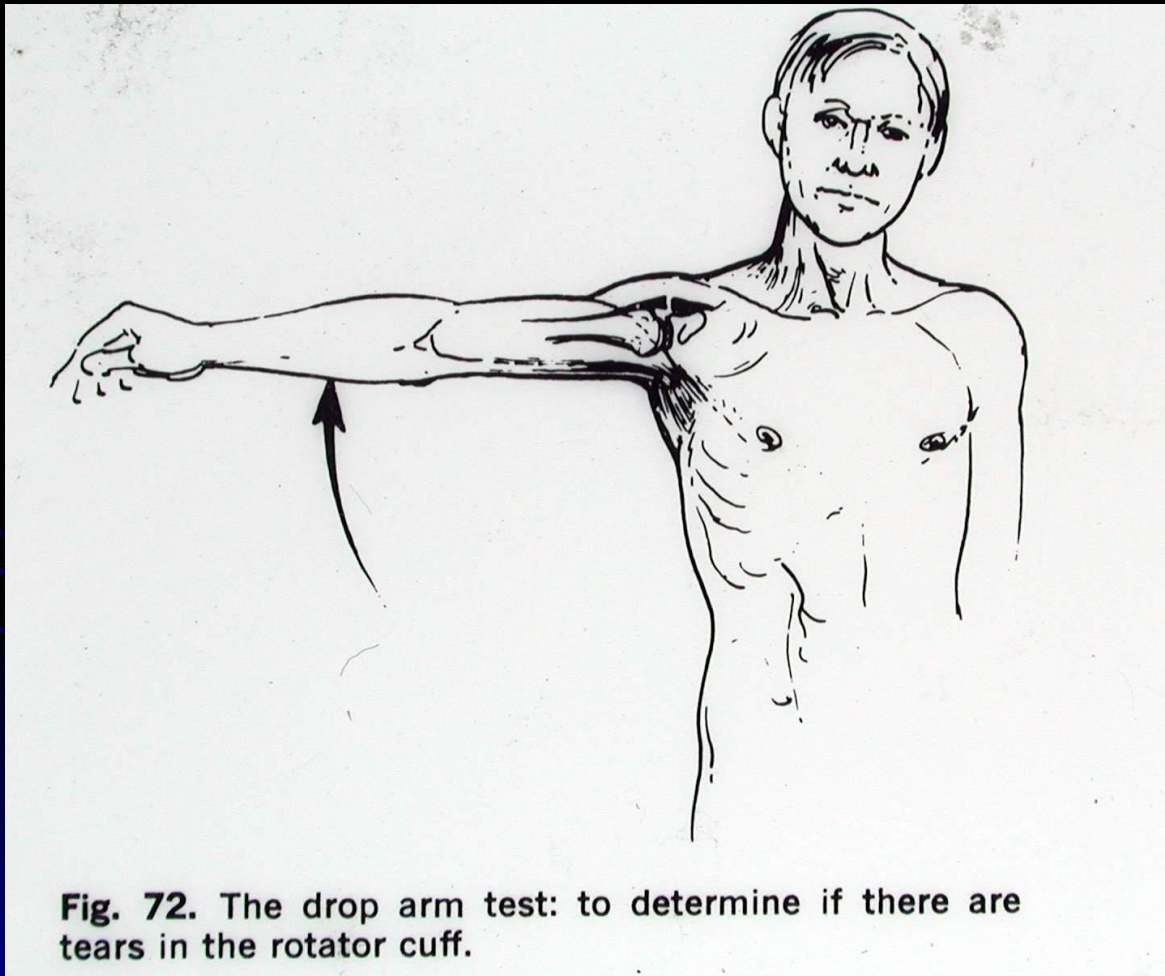


Fig. 72. The drop arm test: to determine if there are tears in the rotator cuff.

1. 做 Abduction 160 度，叫病人慢慢放下來，在 90 度時會掉下來
2. Drop arm test (+): arm 會一下子就掉下來

Shoulder pain – rotator cuff tear

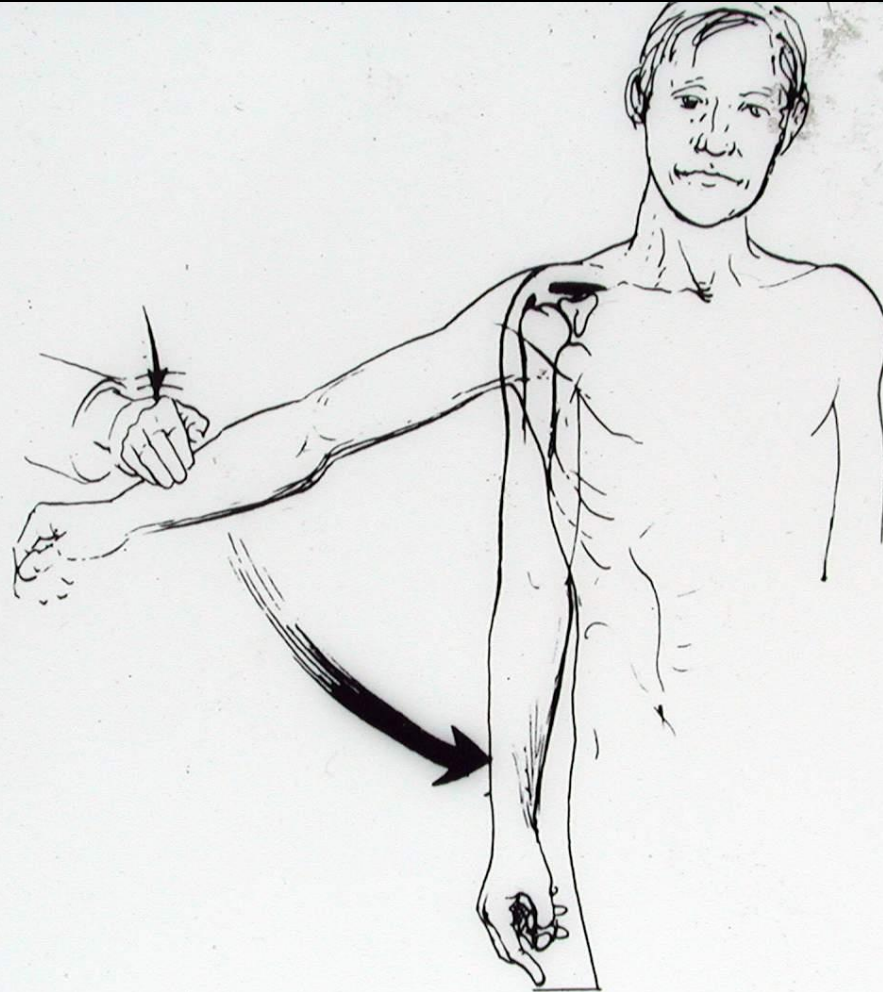


Fig. 73. If there are tears in the rotator cuff, the arm drops and the patient is unable to lower his arm slowly to his side

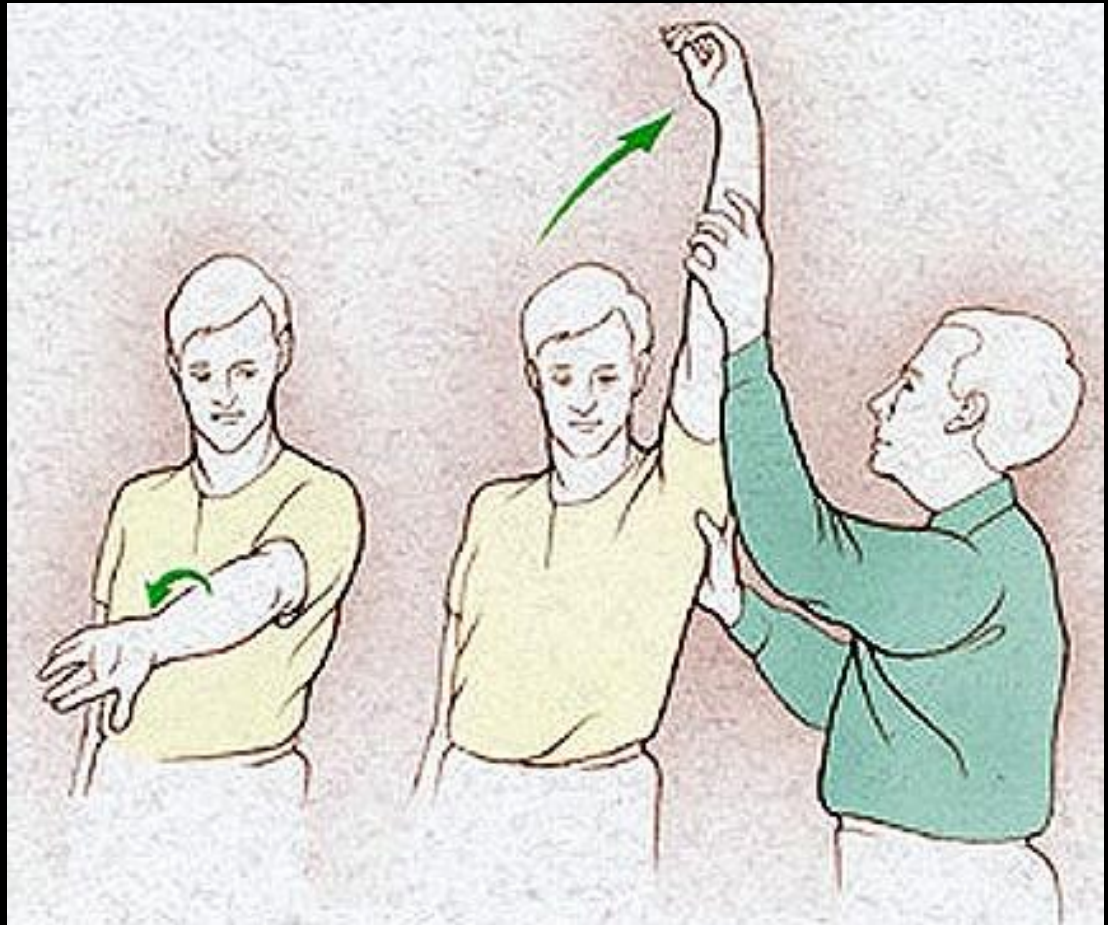
Shoulder pain – Impingement

Hawkin's test ---
(+) if shoulder
pain occurs
Elbow成90度,再
將arm往下轉動
(internal rotation)



Shoulder pain – Impingement

Neer's test ---
(+) if shoulder
pain occurs



The rotator cuff **SITS** on shoulder.

S – **S**upraspinatus

I – **I**nfraspinatus

T – **T**eres minor

S -- **S**ubscapularis



Shoulder pain – Biceps tendinitis



1. Long head
2. 另一隻手
須將elbow扶
住

Fig. 69. The Yergason test: to determine the stability of the long head of the biceps tendon in the bicipital groove.

Shoulder pain – Biceps tendinitis

Speed's test:

1. Resistance to elbow flexion
2. (+) if pain occurs at biceps tendons



Elbow pain - Cubital Tunnel Syndrome

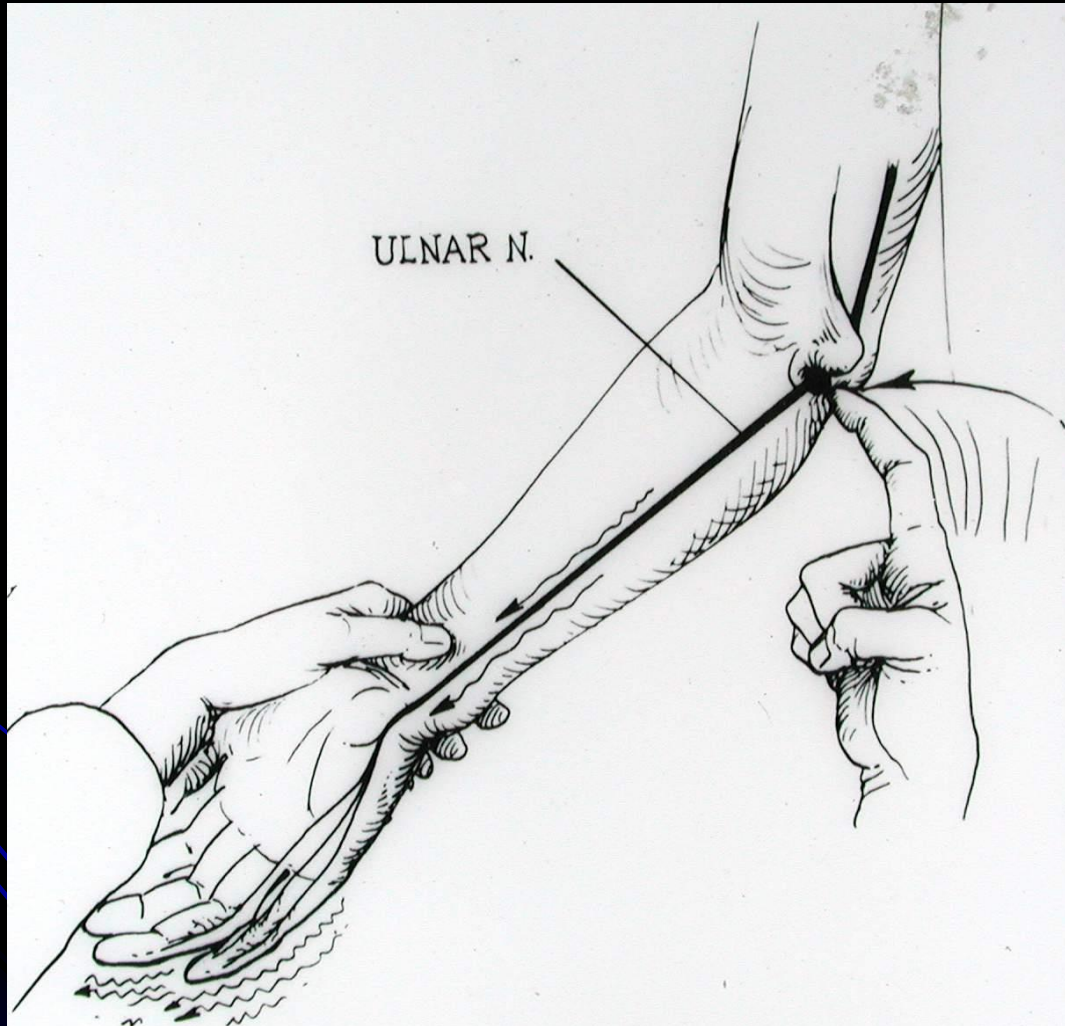


Fig. 48. The Tinel sign.

趴睡時，容易壓到

Elbow pain – Lateral epicondylitis

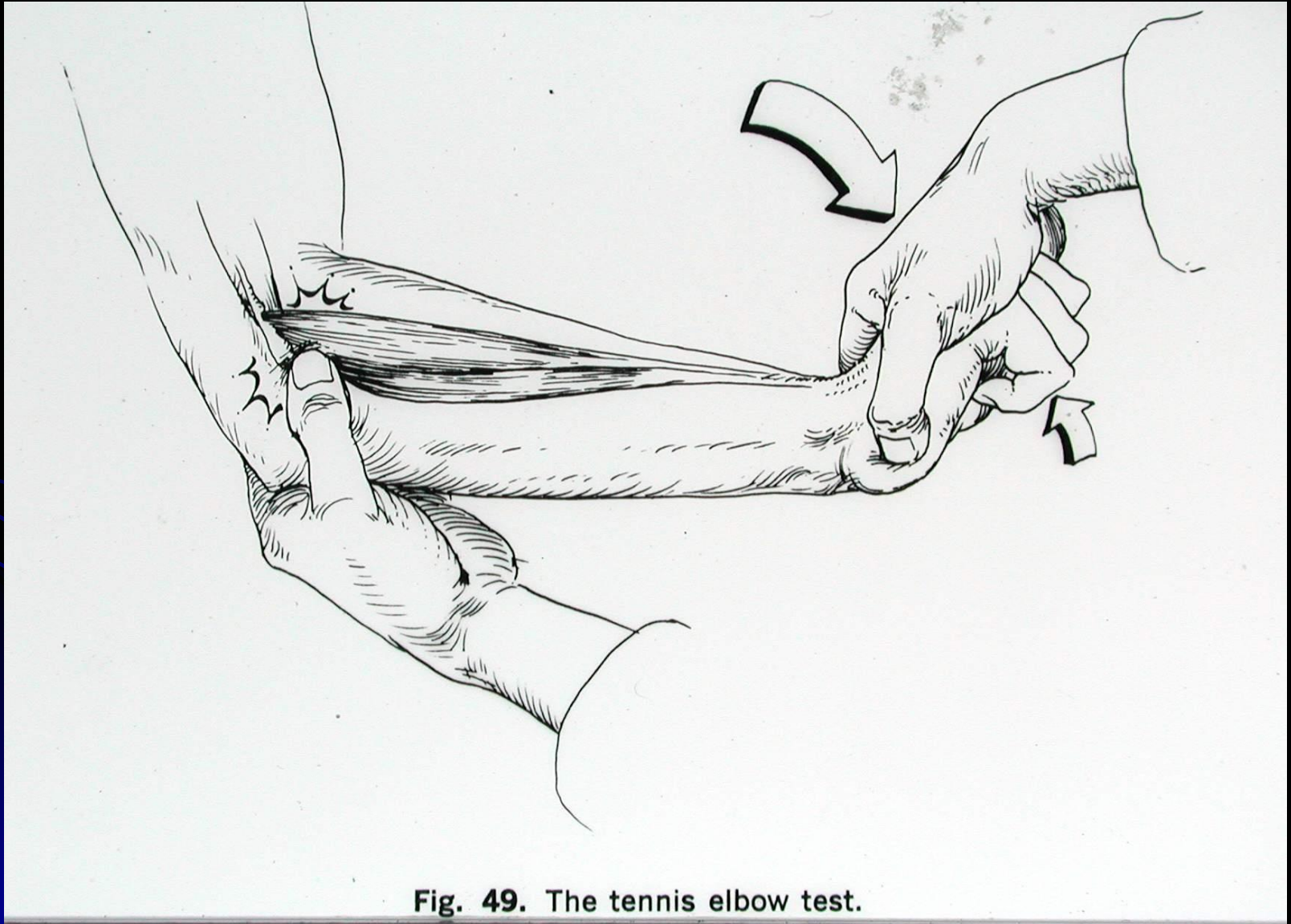
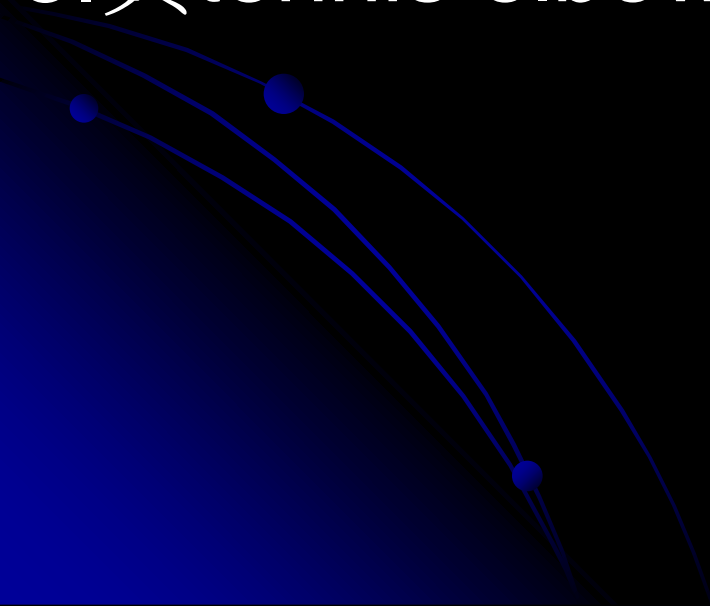


Fig. 49. The tennis elbow test.

Elbow pain – Medial epicondylitis

Golfer elbow test:

1. Resistance to wrist flexion
2. (+) if pain occurs at medial epicondyle
3. 與tennis elbow相反



Waiter's hand –
shoulder
external rotation
muscle atrophy
C5, C6受傷



Fig. 3. Erb's palsy.

Wrist pain – carpal tunnel syndrome

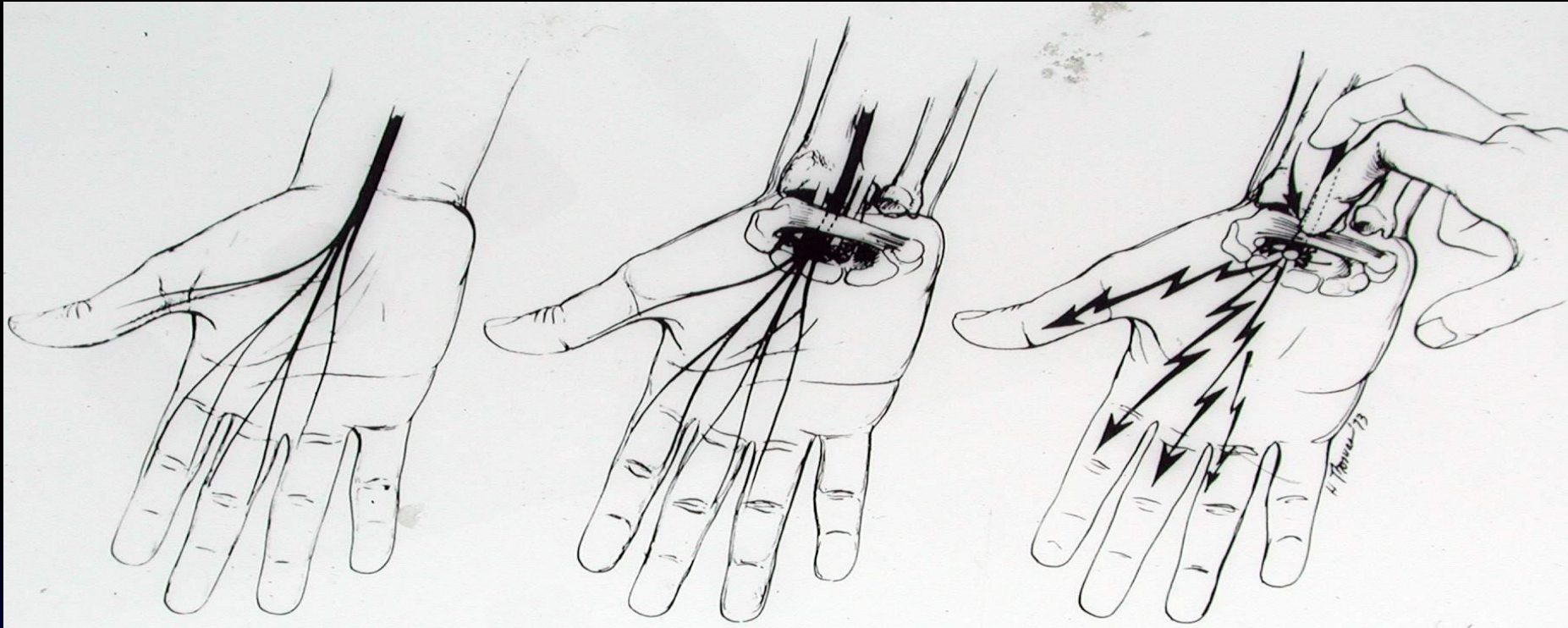
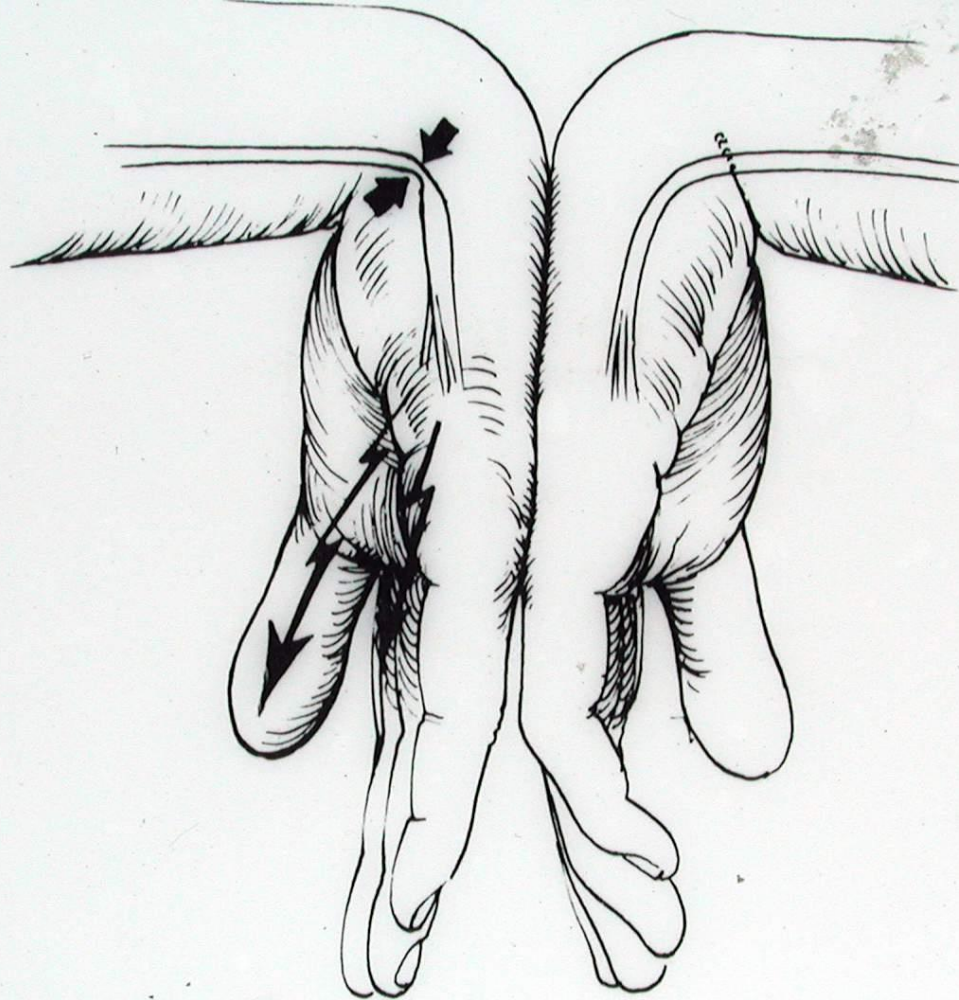


Fig. 67. Carpal Tunnel Syndrome (left and middle). Tinel sign (right).

注意敲的位置

Watch out the location of carpal tunnel!!

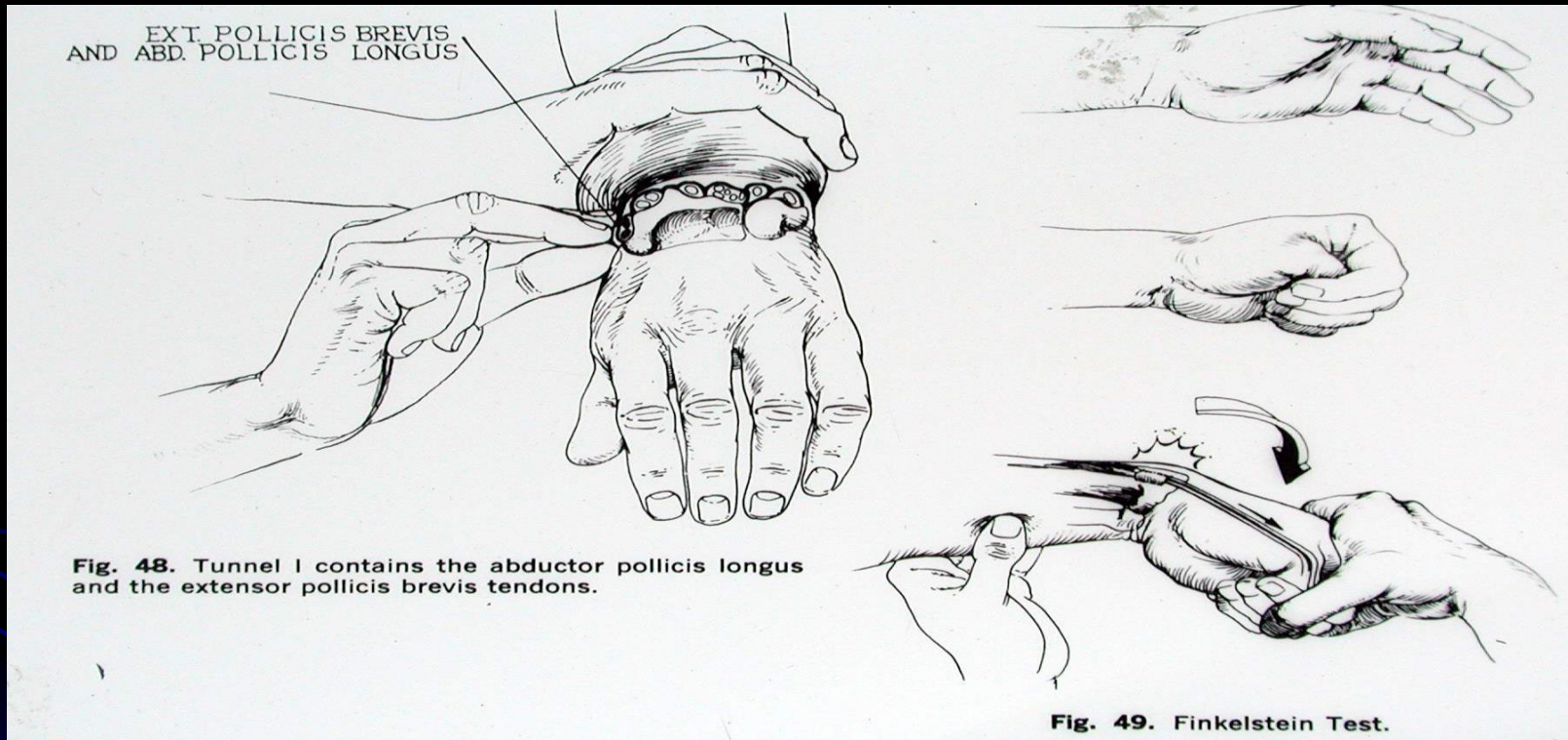
Wrist pain – carpal tunnel syndrome



1. Hold this position for **30 to 60 seconds**
2. (+) if paresthesia occurs at median nerve myotome
3. **More sensitive than Tinel sign**

Fig. 68. Phalen's Test to reproduce symptoms of carpal tunnel syndrome.

Wrist pain – de Quervain's disease (radial styloid tenosynovitis – 媽媽手)



EPB+ APL

自己可以由finger extension來看到

de Quervain's disease – 媽媽手

Erb's palsy – Waiter's hand

What else hand?

Radial nerve injury -- drop hand

Median nerve injury – Ape(人猿) hand

Ulnar nerve injury – claw(只有第4,5 finger)
hand

Low back pain -- HIVD

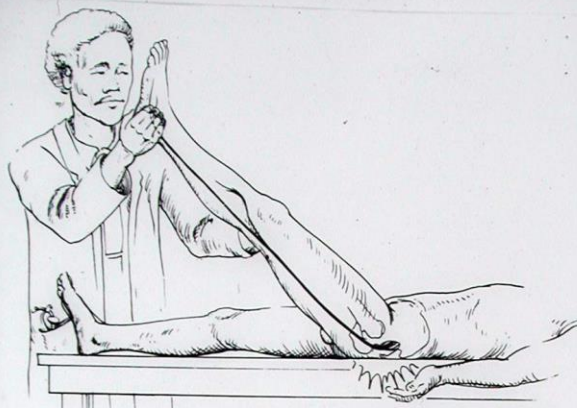


Fig. 37. Straight leg raising.

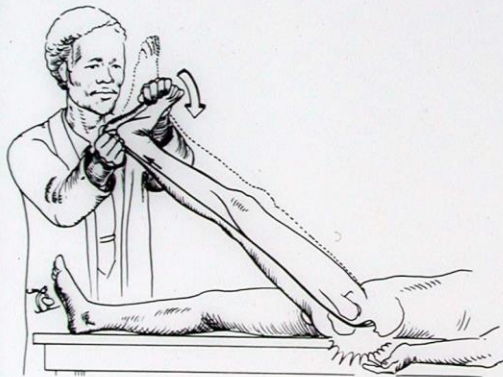


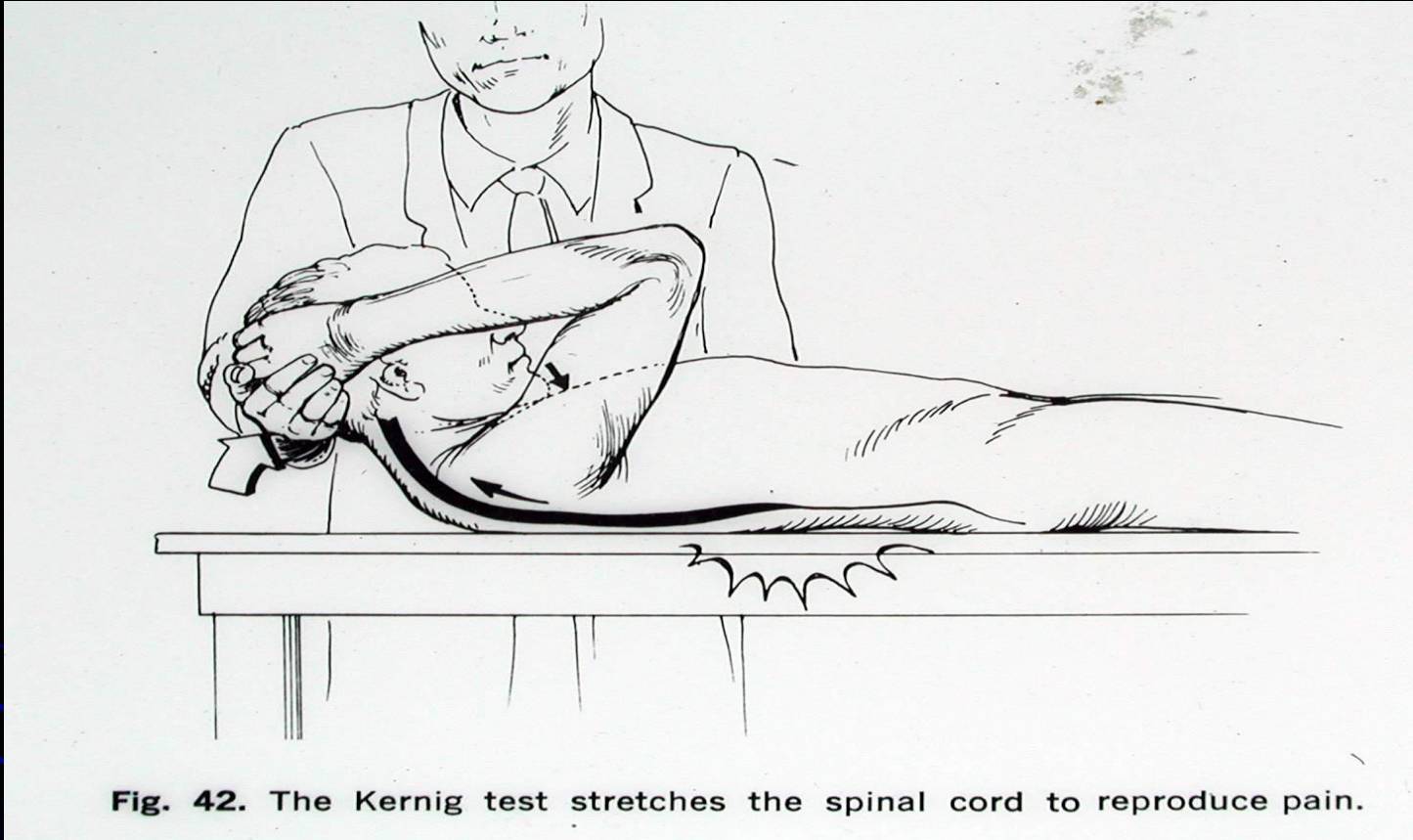
Fig. 38. In this position, dorsiflexion of the foot reproduces sciatic pain.



Fig. 39. A positive straight-leg raising test: Back pain on the involved side induced by straight-leg raising the non-involved leg.

1. 開始出現疼痛時，大腿與水平線之夾角
2. 可信範圍：30 ~ 70 度 (<30度根本就尚未拉扯到 sciatic n. ---- 裝病?，超過70度，可能因為 hamstring m. weakness))
3. Crossed SLRT: 通常出現在較嚴重之 HIVD

Low back pain - meningitis or HIVD?



Kernig test對sciatic n.也會拉扯,所以對HIVD也有診斷價值

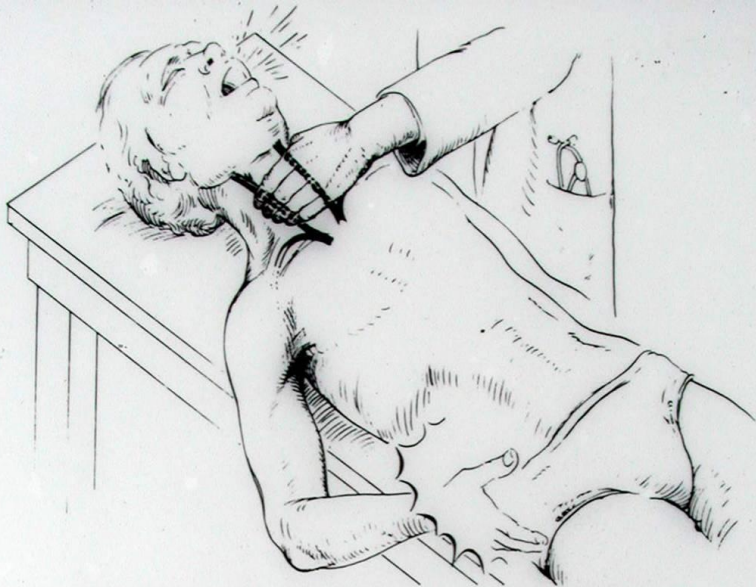


Fig. 45. The Naffziger test increases intrathecal pressure.

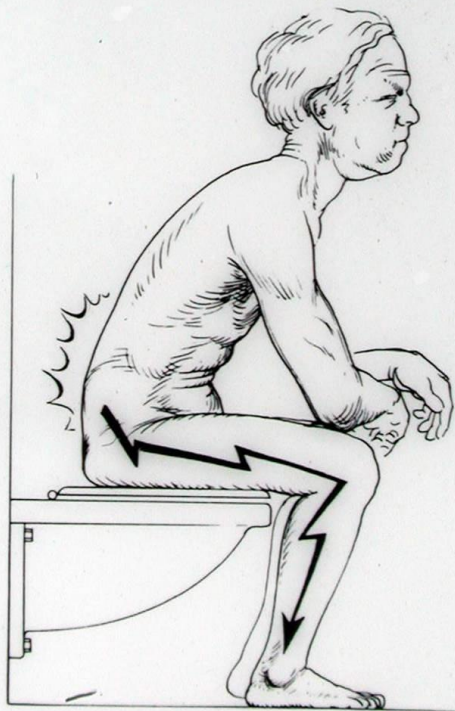


Fig. 46. The Valsalva maneuver.

Low back pain -- HIVD?

1. Naffziger test: 例如 cough 會痛
2. Acute lumbar strain 作 valsalva test 也會痛

Low back pain – Surgery or not?

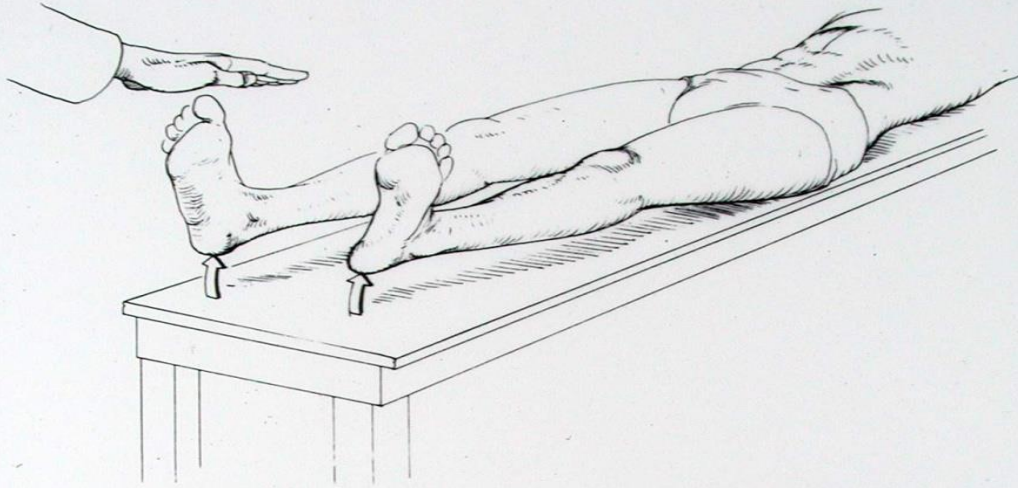


Fig. 43. The Milgram test. If a patient can hold this position for 30 seconds without pain, intrathecal pathology may be ruled out.

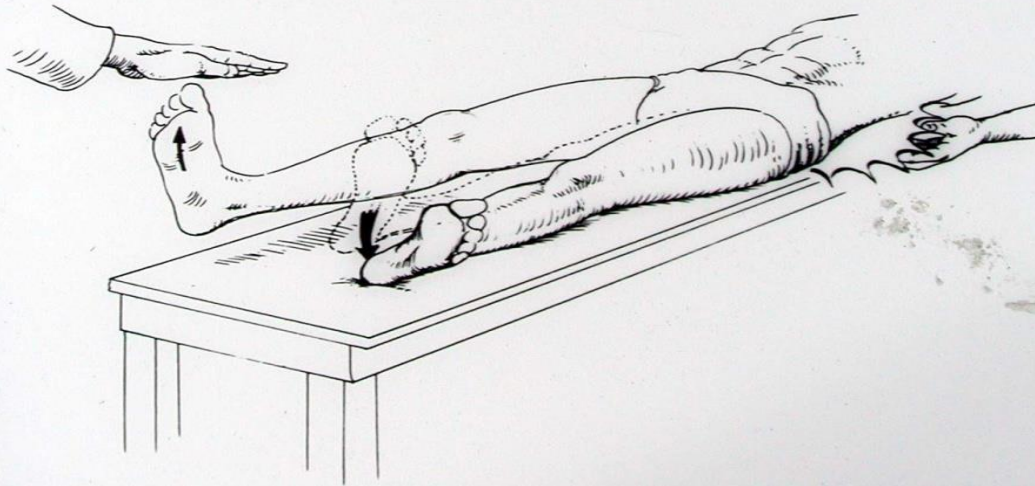


Fig. 44. The inability to hold the position indicates intrathecal or extrathecal pathology.

Milgram
test(-)表示
intrathecal
pathology(
例如tumor)
可R/O掉

Low back pain - true or not?

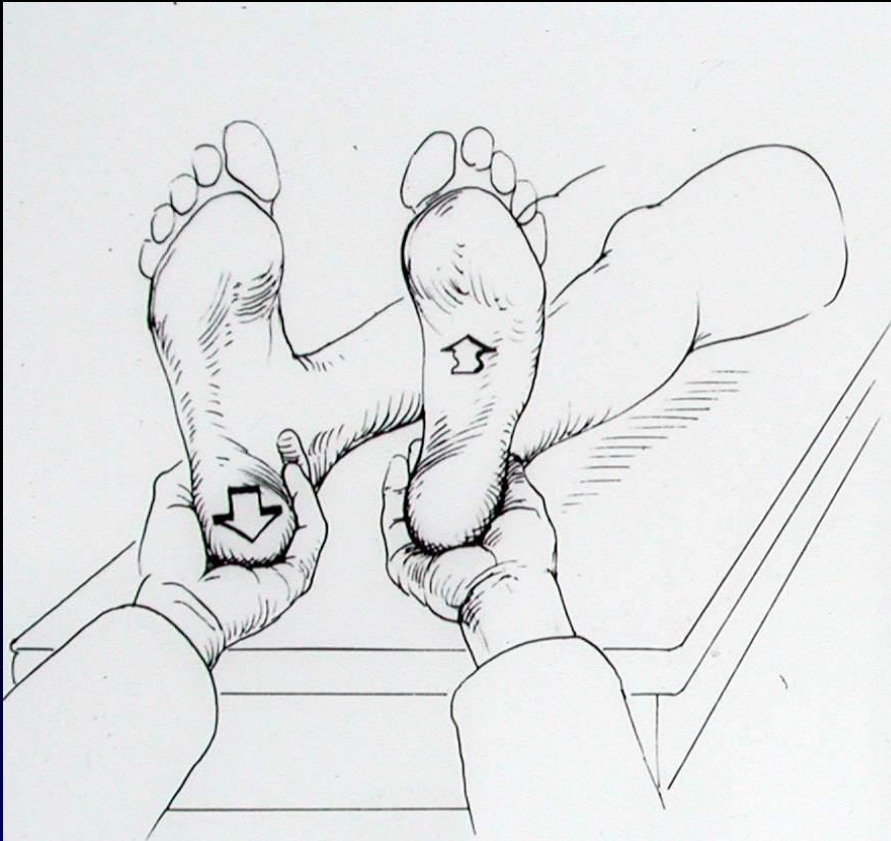


Fig. 40. The Hoover test.

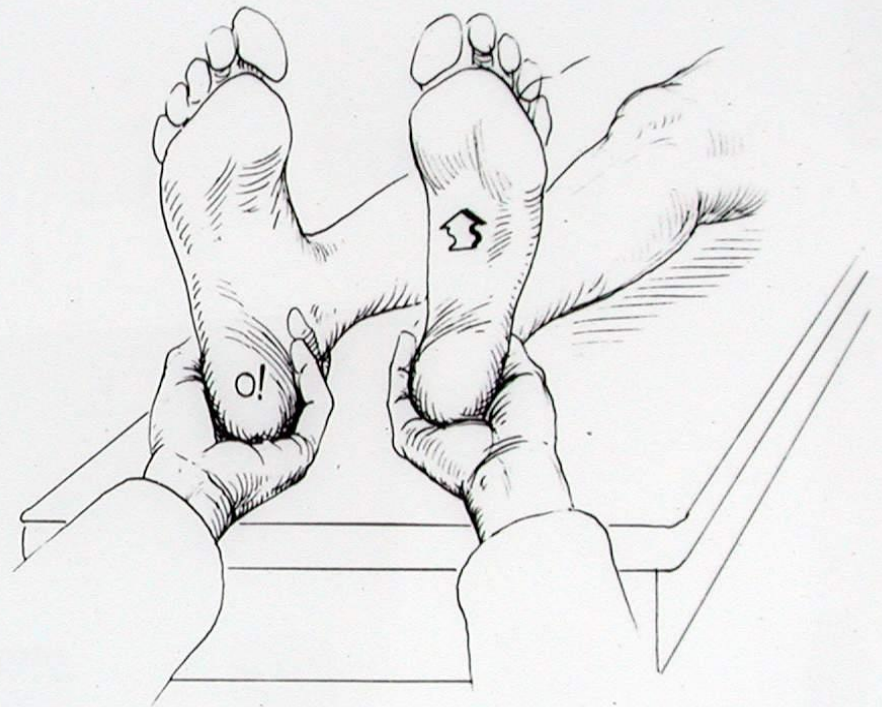


Fig. 41. An absence of downward pressure on the foot opposite the one the patient has been instructed to raise indicates that he is not really trying.

Low back pain - true or not?

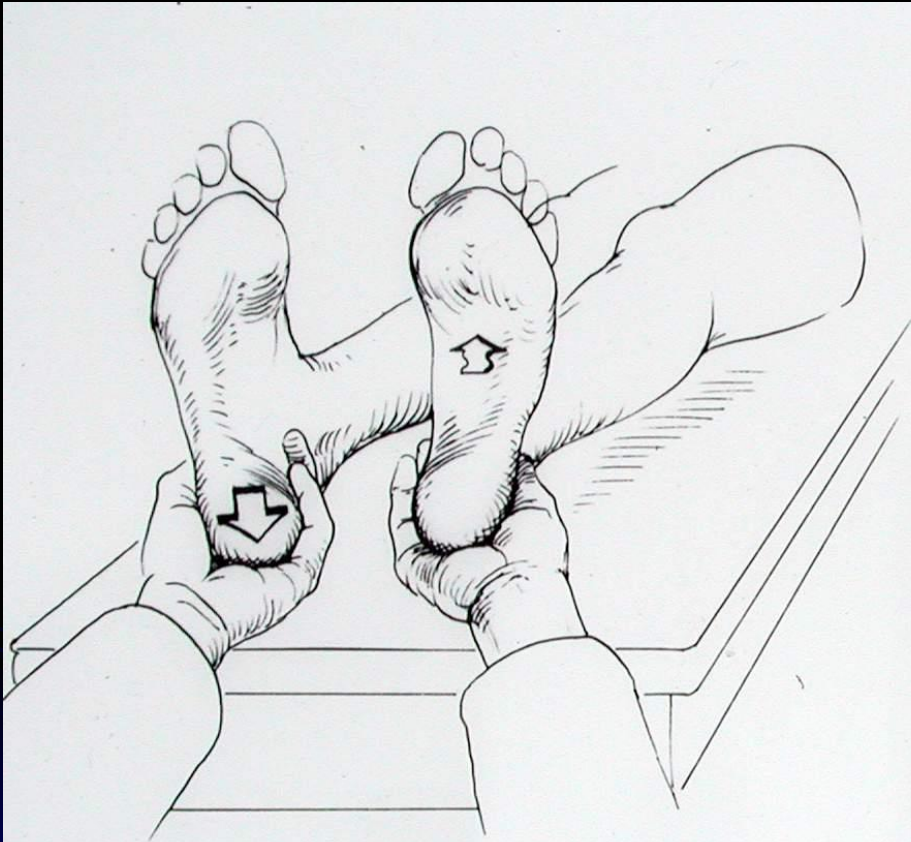


Fig. 40. The Hoover test.

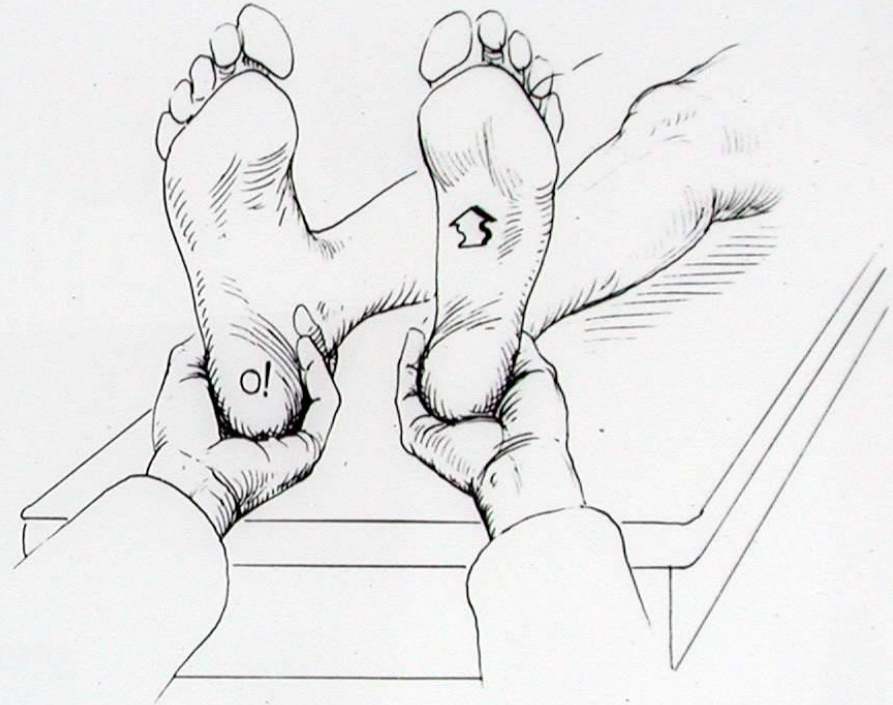


Fig. 41. An absence of downward pressure on the foot opposite the one the patient has been instructed to raise indicates that he is not really trying.

Hoover test = 唬我? test



Fig. 50. The Patrick or Fabere test.

1. Low back pain
-- true or not?
2. Hip pain
-- true or not?
3. Patrick test(+): Low back pain or hip pain



Fig. 48. Gaenslen's sign.



Fig. 49. Pain upon the execution of this maneuver indicates pathology in the area of the sacroiliac joint.

SI joint pain – sacroiliitis or sacroiliac sprain

Low back pain -- true or not? Hip pain -- true or not?

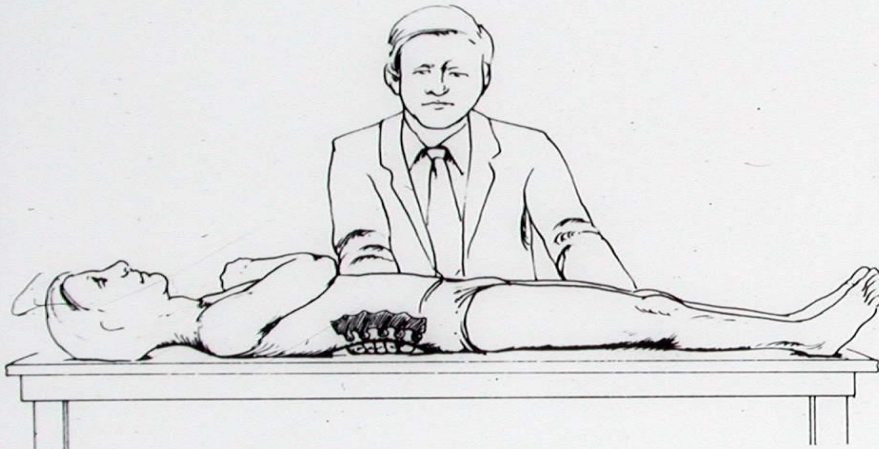


Fig. 30. The Thomas Test for flexion contracture of the hip.

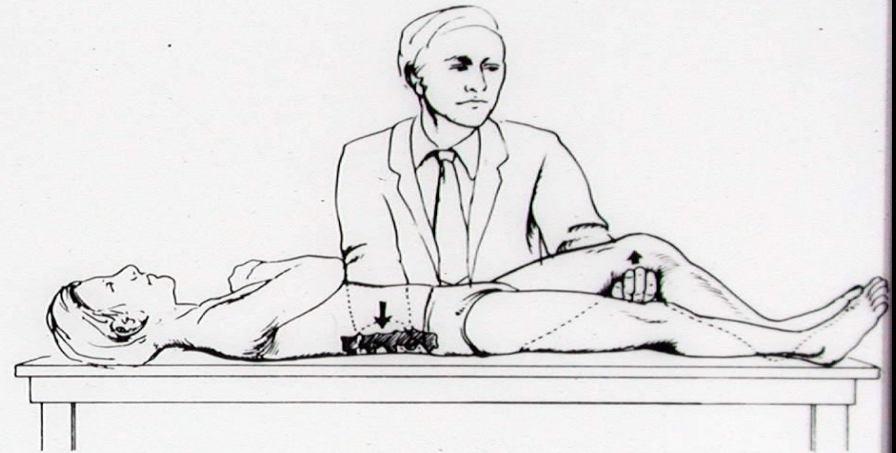


Fig. 31. With the hip flexed, the lumbar spine flattens and the pelvis is stabilized. Further flexion can then only originate in the hip joint.

1. 因為Hip contracture, 所以會用C-spine去代償
2. 女生愛穿高跟鞋就是這個原理, 因為屁股會比較翹

Low back pain -- true or not?

Hip pain -- true or not?



Fig. 32. The normal limit for hip flexion is approximately 135° .

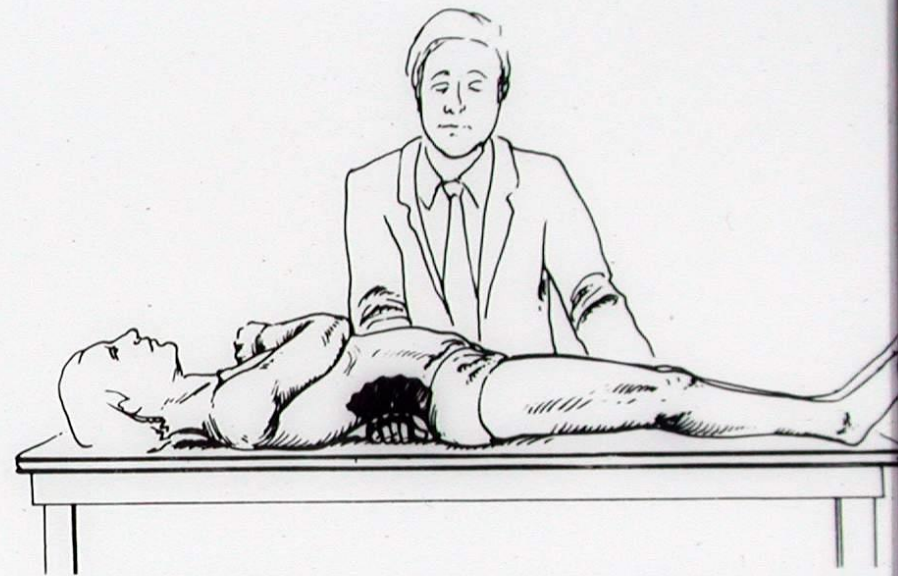


Fig. 33. A fixed flexion contracture is characterized by the inability to extend the leg straight without arching the thoracic spine.

Low back pain? Hip pain? Lateral thigh pain?

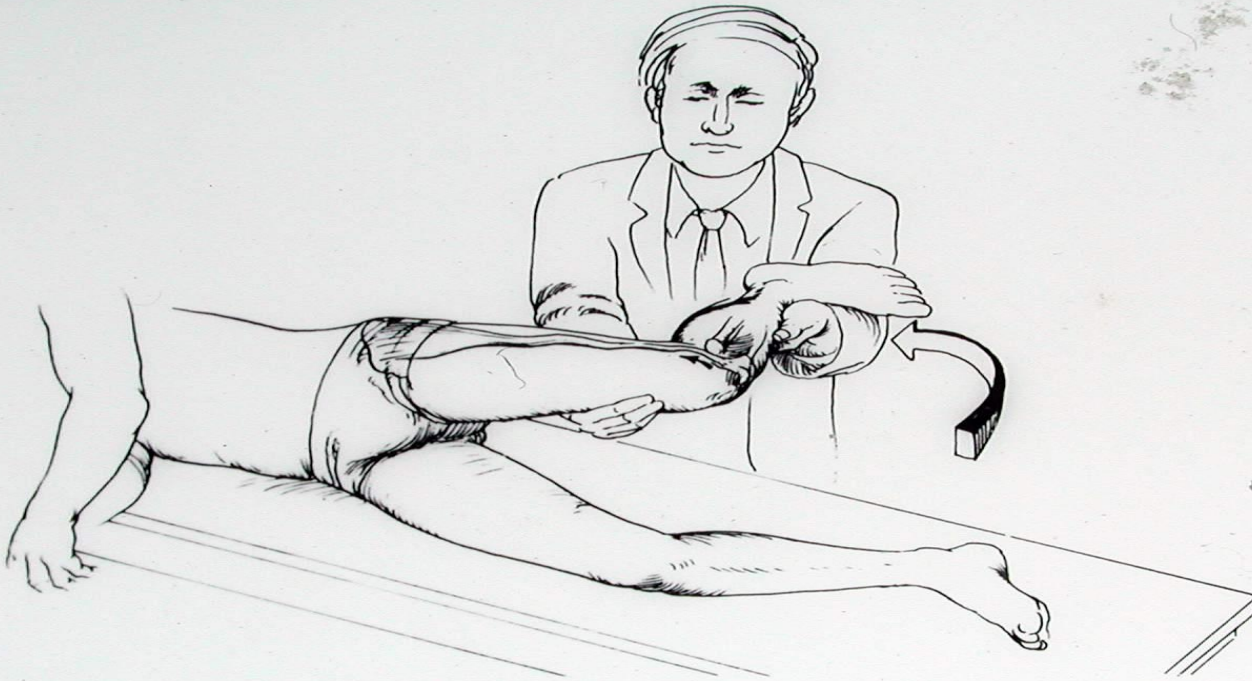


Fig. 63. The Ober test: To test for contraction of the fascia lata.

1. 先將fascia lata 弄成最鬆的位置(Hip abduction + Knee flexion)
2. 病人無法做出交叉腿動作(fascia lata contracture)

Low back pain? Hip pain? Lateral thigh pain?

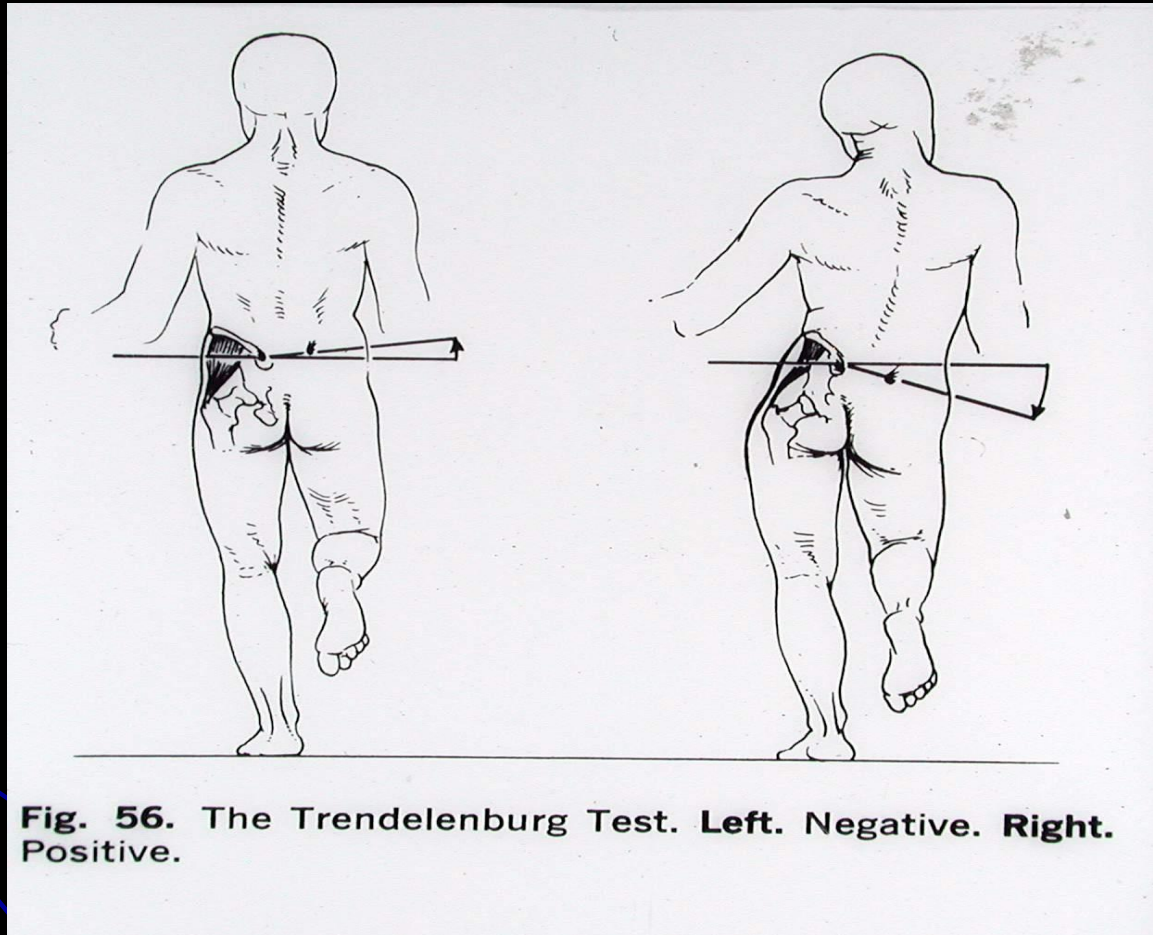


Fig. 64. A negative Ober.



Fig. 65. A positive Ober.

Low back pain and limping gait



1.正常時，當左腳踏下去，右邊的plevis bone會提升
1.因為Middle gluteal m. weakness,所以pelvis不升反降,當走路時右邊腳會踢到地,為了代償，knee和hip joint 需大量彎曲並提起右邊肢體)

Knee pain – Patellar dislocation



Fig. 68. The apprehension test for patellar dislocation.

- 1.(+) if painful facial (也是看病人的表情來判斷) expression occurs.
- 2.將patellar往外推

Knee pain – Chondromalacia patellae

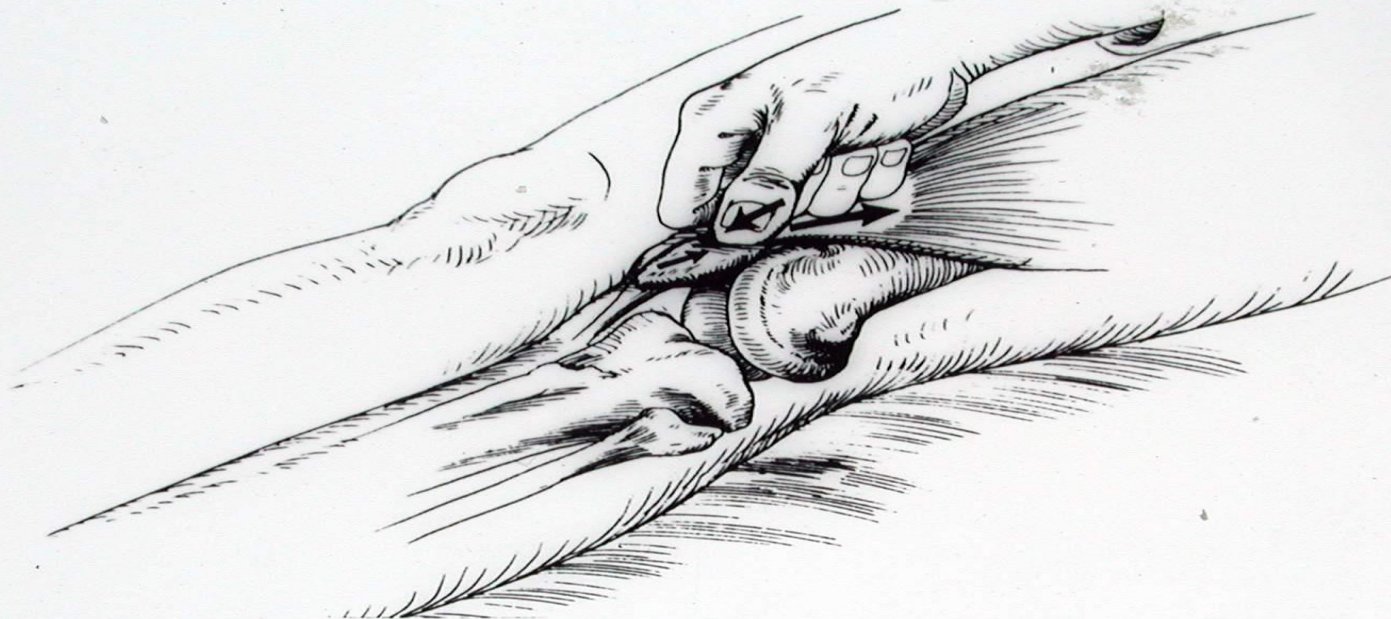


Fig. 67. The patellar femoral grinding test, to evaluate the quality of the patellar articulating surfaces.

- 1.請病人先試做一次，將大腿用力縮緊並放鬆
- 2.用手壓住patellar上方，再請病人做一次，若會痛表示(+) 但若壓得太緊的話，其實會false positive.

Knee pain – Osgood-Schlater's Disease



Patellar tendon insertion(即tibial plateau)處有紅腫，壓痛(若已鈣化,可在tibial tuberosity看到分離的鈣化點)

Knee pain – Collateral ligament tear

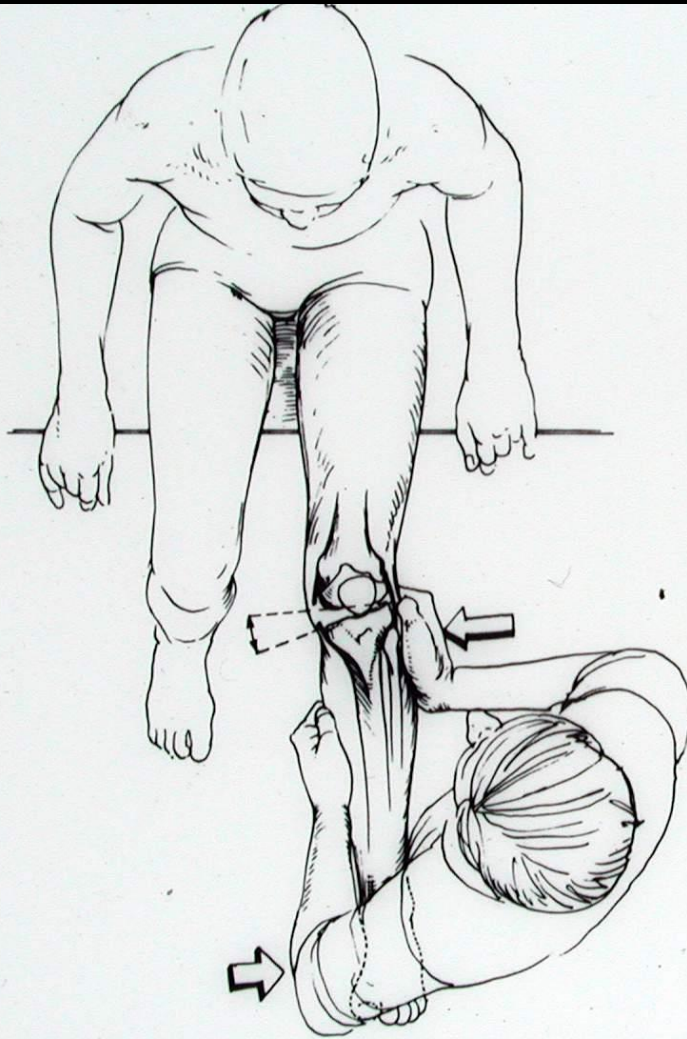


Fig. 44. To test the medial collateral ligament, apply valgus stress to open the knee joint on the medial side.

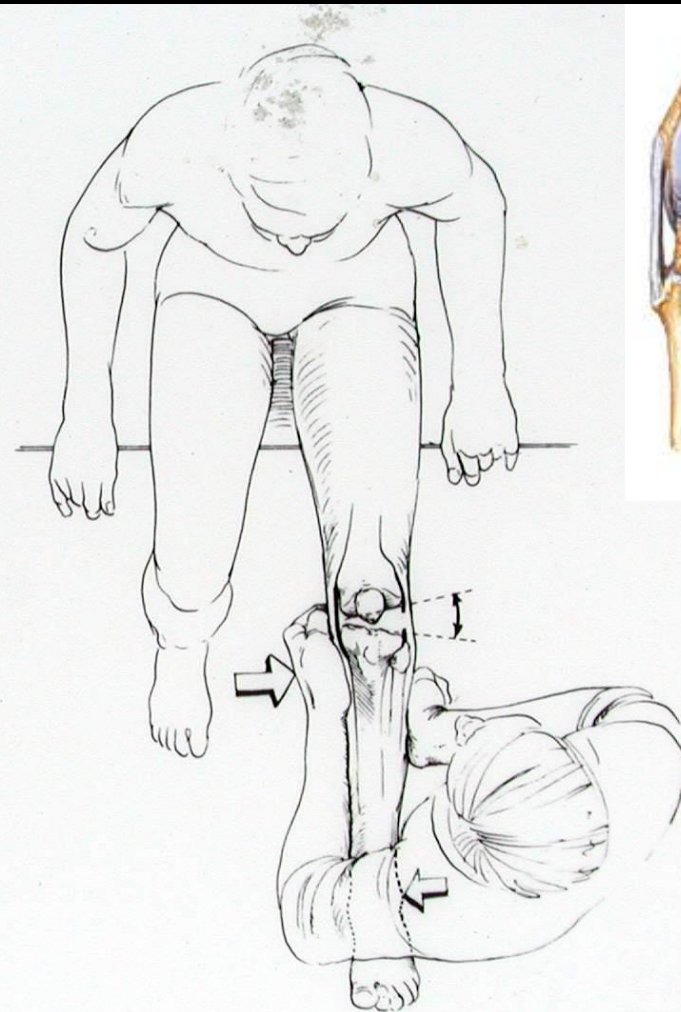


Fig. 45. To test the lateral knee for stability, apply varus stress to open the knee joint on the lateral side.



Drawing F. Netter

Knee pain – knee joint deformity

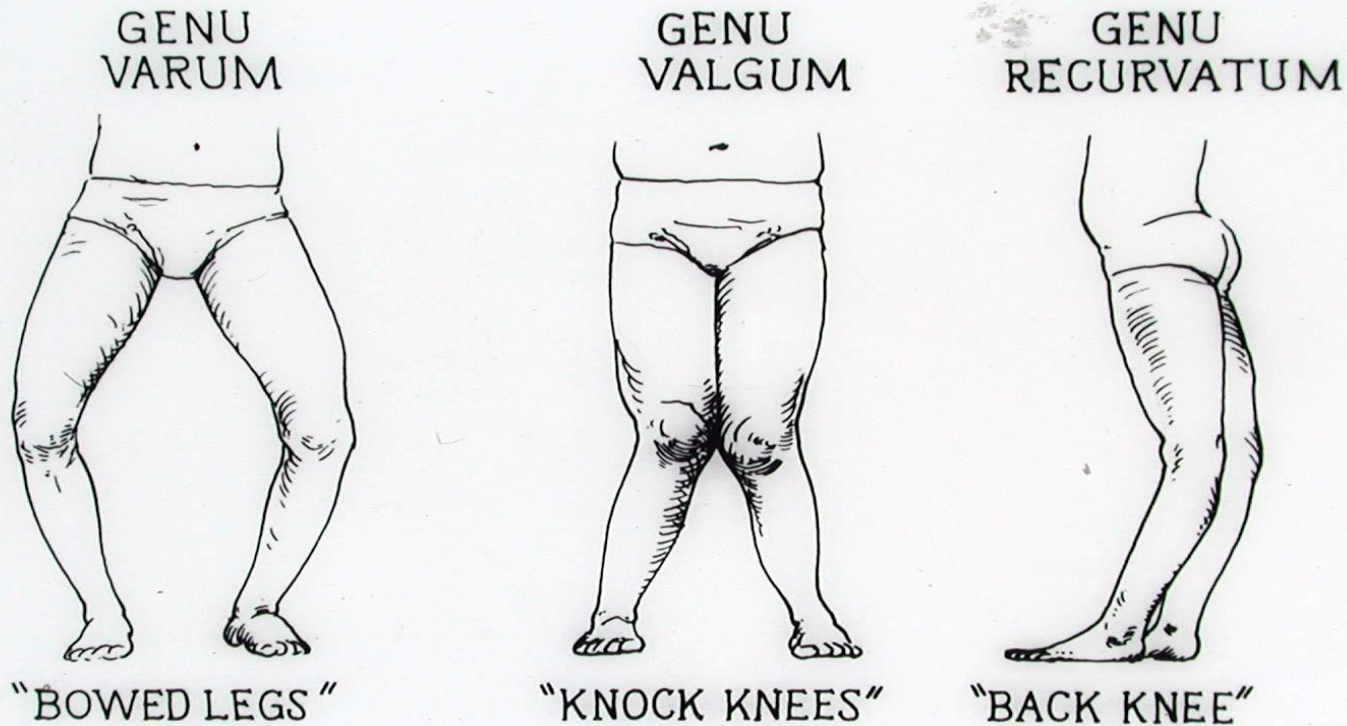


Fig. 2. Common types of knee deformity.

Varus(O型腿)
Valgus(X型腿)

Knee pain – Cruciate ligament tear

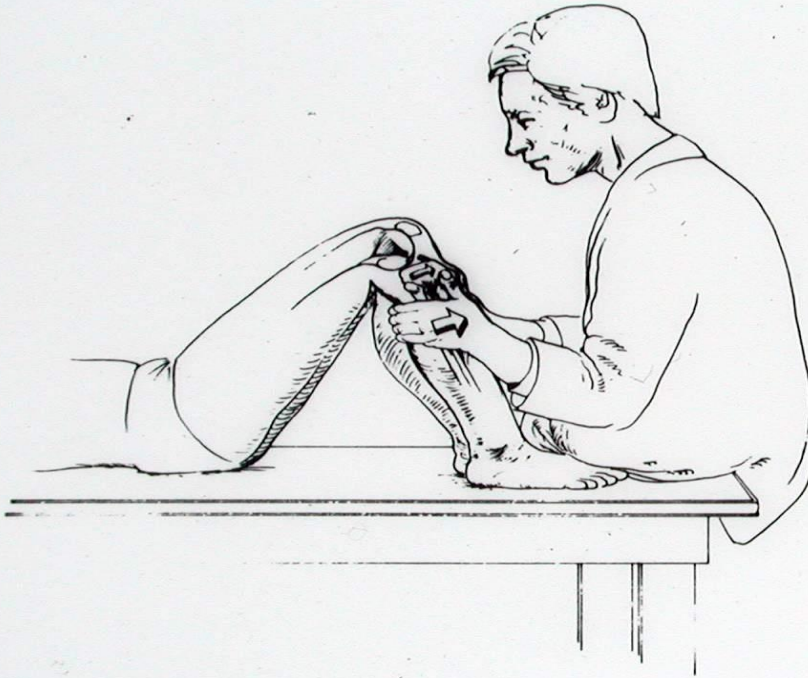


Fig. 47. A positive anterior draw sign: Torn anterior cruciate ligament.

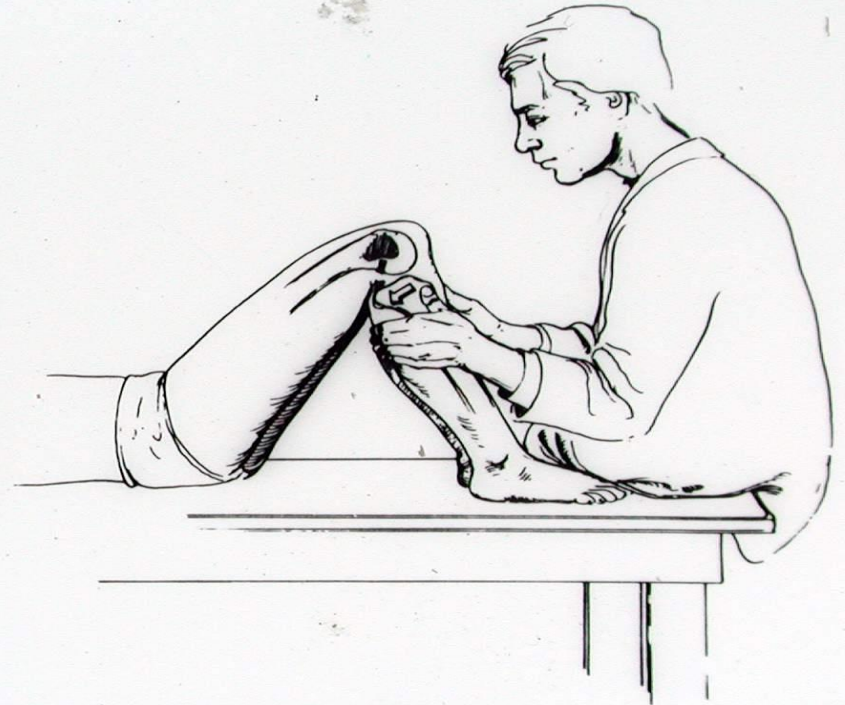


Fig. 48. A positive posterior draw sign: Torn posterior cruciate ligament.

Knee pain – ACL tear (Lachman)

- Flex the knee 30°
- Stabilize femur
- Place hand behind the proximal tibia and gently pull forward
- Femur須先用一手固定



Knee pain – ACL tear (Lachman)

- Grade 1: < 0.5 cm translation
- Grade 2: 0.5-1.0 cm translation
- **Grade 3: > 1.0 cm translation**
- End point: Soft or firm?
- **Compare to the opposite knee**



Knee pain – meniscus tear



Fig. 62. Apley's compression test for meniscal tear.



Fig. 63. Apley's distraction test for ligamentous damage.

Meniscus tear

MCL or LCL tear

Ankle pain – ATFL tear

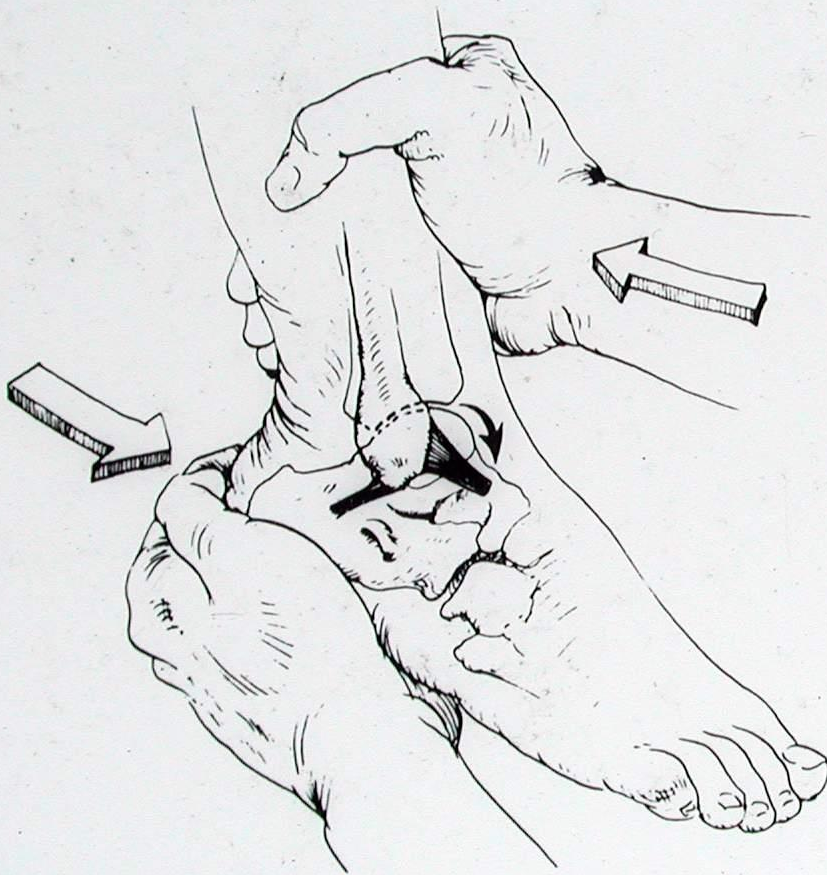


Fig. 61. The anterior draw sign test to evaluate the intactness of the anterior talofibular ligament.

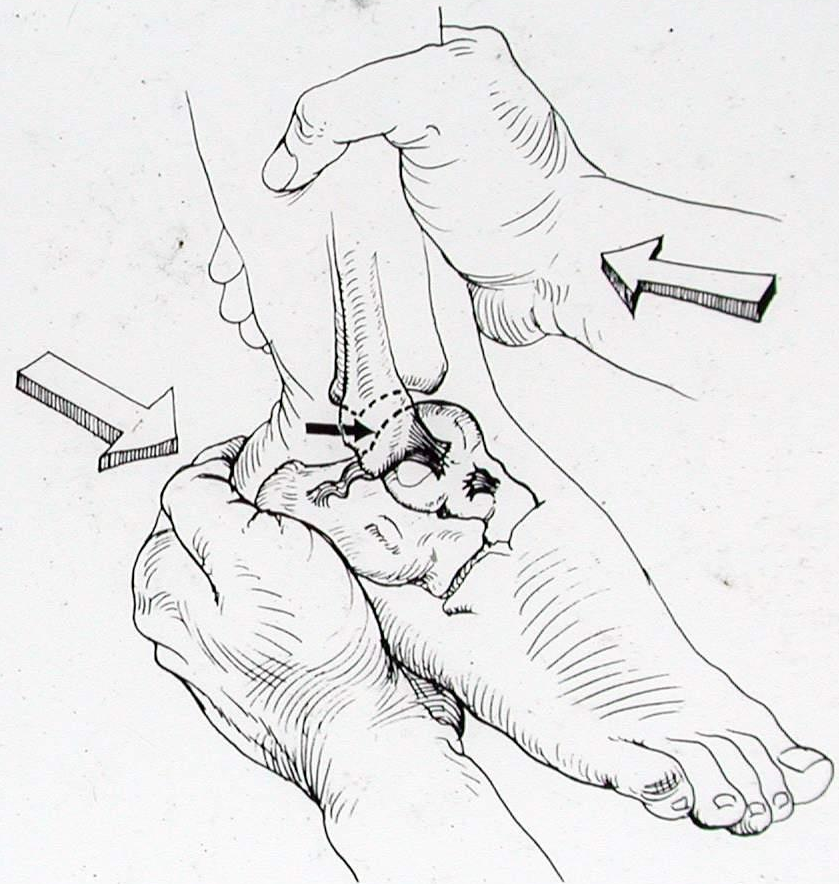


Fig. 62. A positive anterior draw sign.

Ankle pain – ATFL + CFL tear

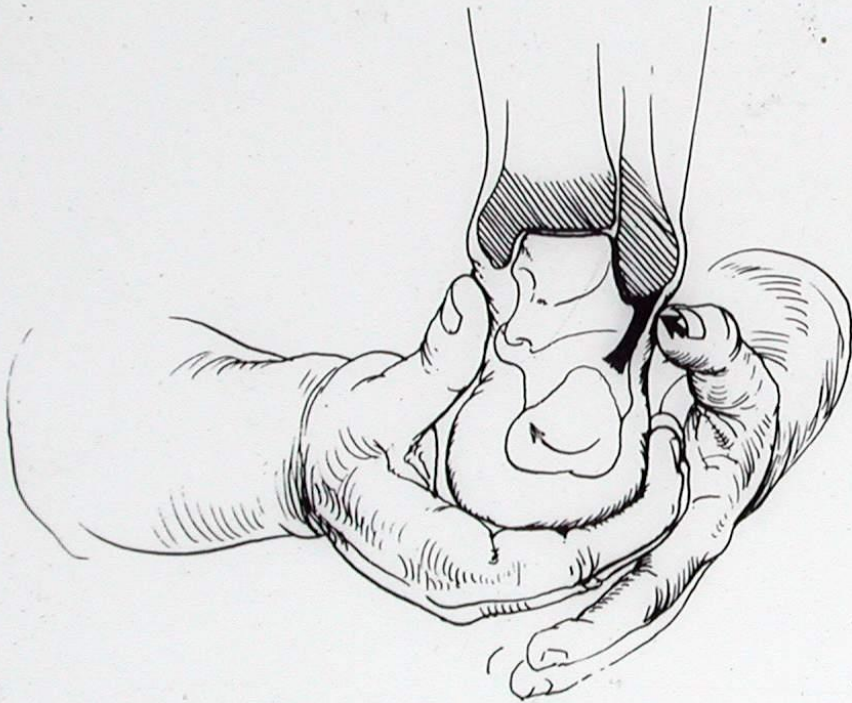


Fig. 63. A test to evaluate the stability of the anterior talofibular and the calcaneofibular ligaments.

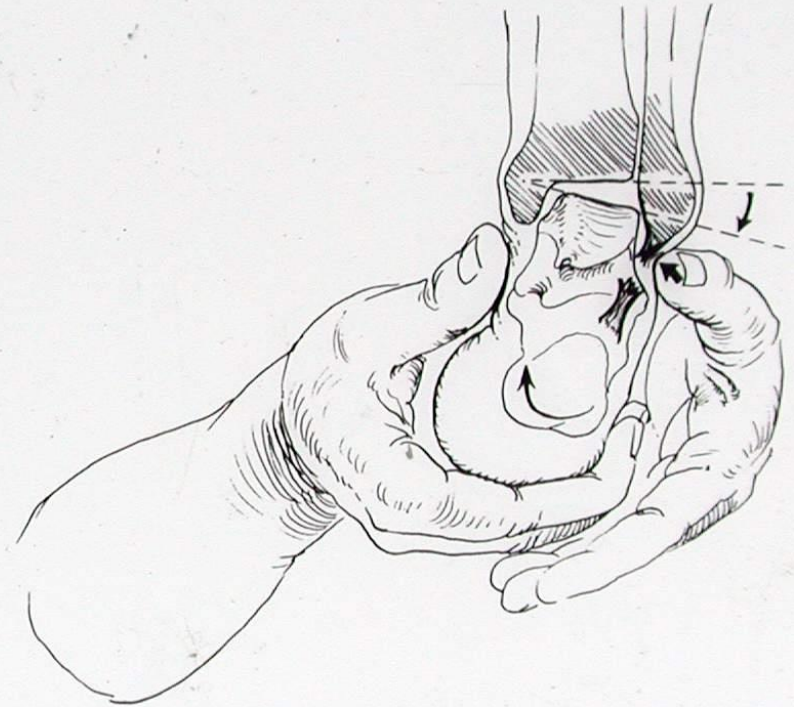
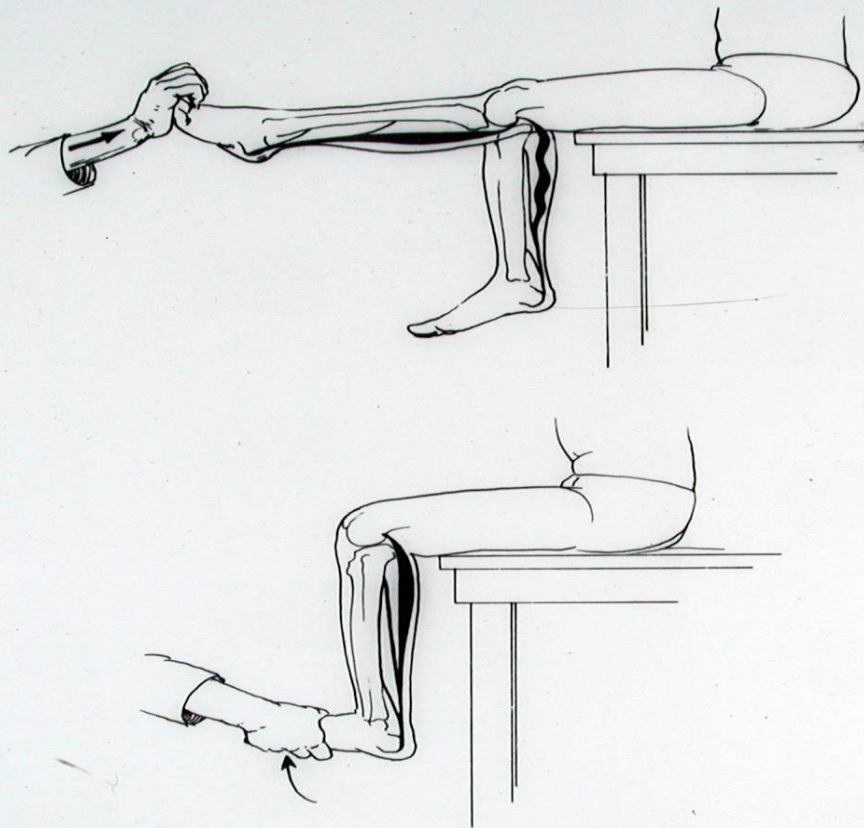
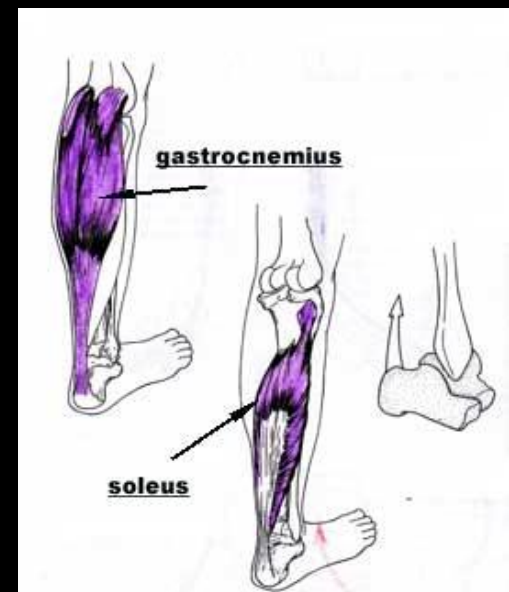


Fig. 64. The ankle is unstable if the anterior talofibular and calcaneofibular ligaments are torn.



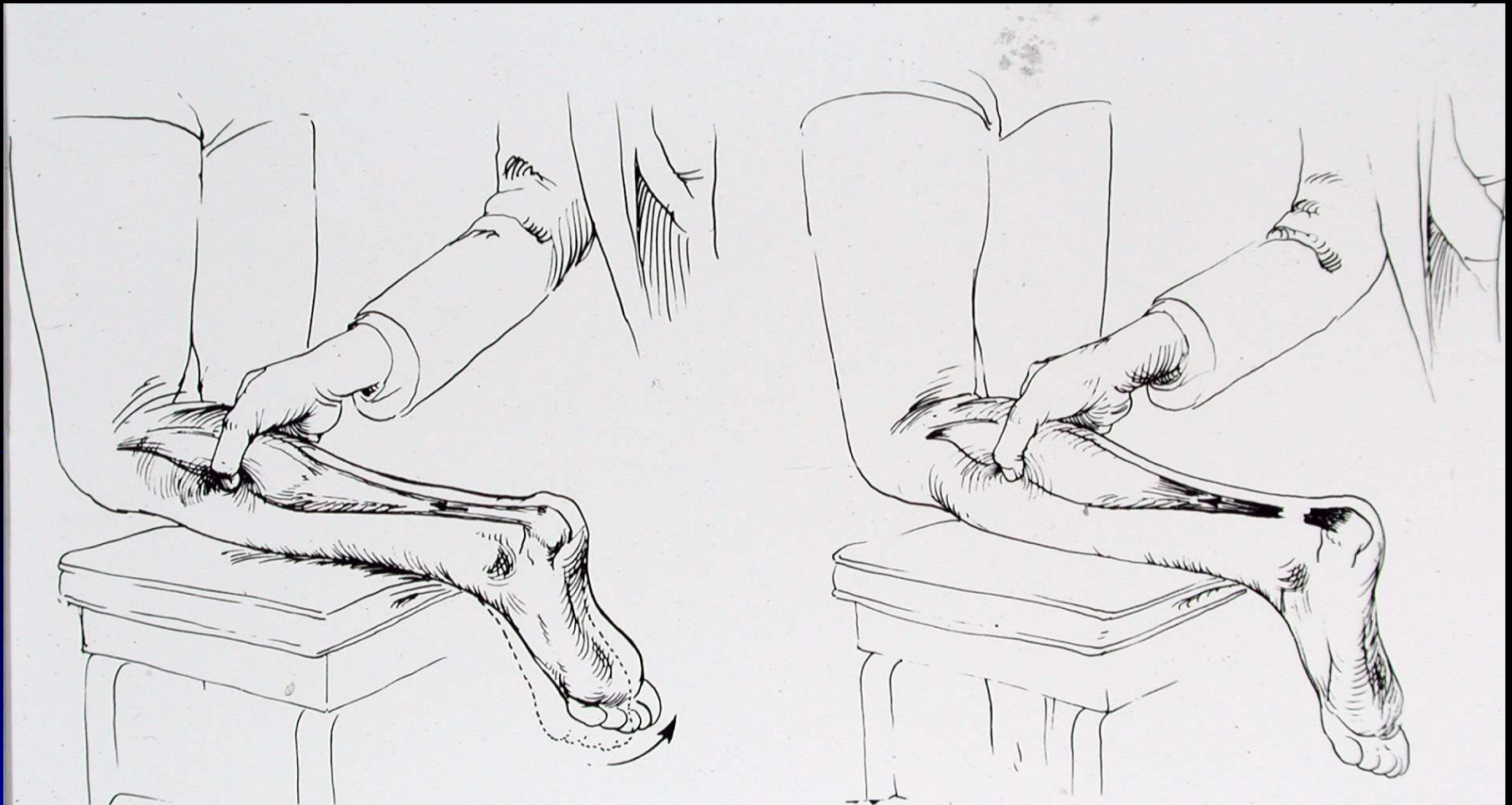
Figs. 97, 98. Special test to distinguish between gastrocnemius and soleus muscle tightness.

Calf and ankle pain – **Achilles tendon shortening.**
What is the source?
 Soleus: always tight
 GN: no tight at knee flexion



1. Achilles tendon是由GN和Soleusm.共同組成，當knee flexion時GN不會tightness,但soleus會tightness,可由此來判定是哪一條肌肉出問題

Calf and Ankle pain – Achilles tendon rupture: Thompson test



Figs. 49, 50. A test for continuity of the gastrocsoleus muscles' common tendon. Absence of foot-plantar flexion motion indicates a ruptured Achilles tendon.

True leg length – ASIS to MM

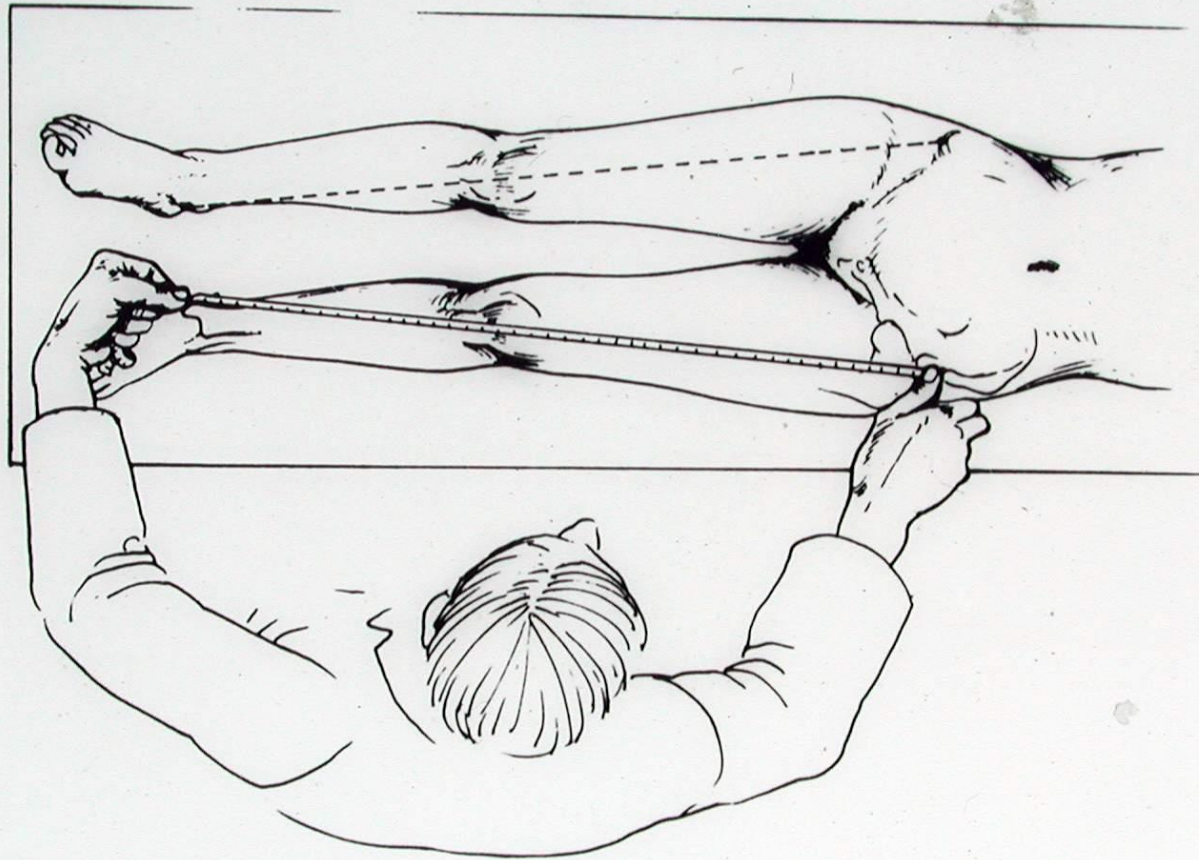


Fig. 57. Measure from one fixed bony point to another to find true leg length.

Apparent leg length – UM to MM

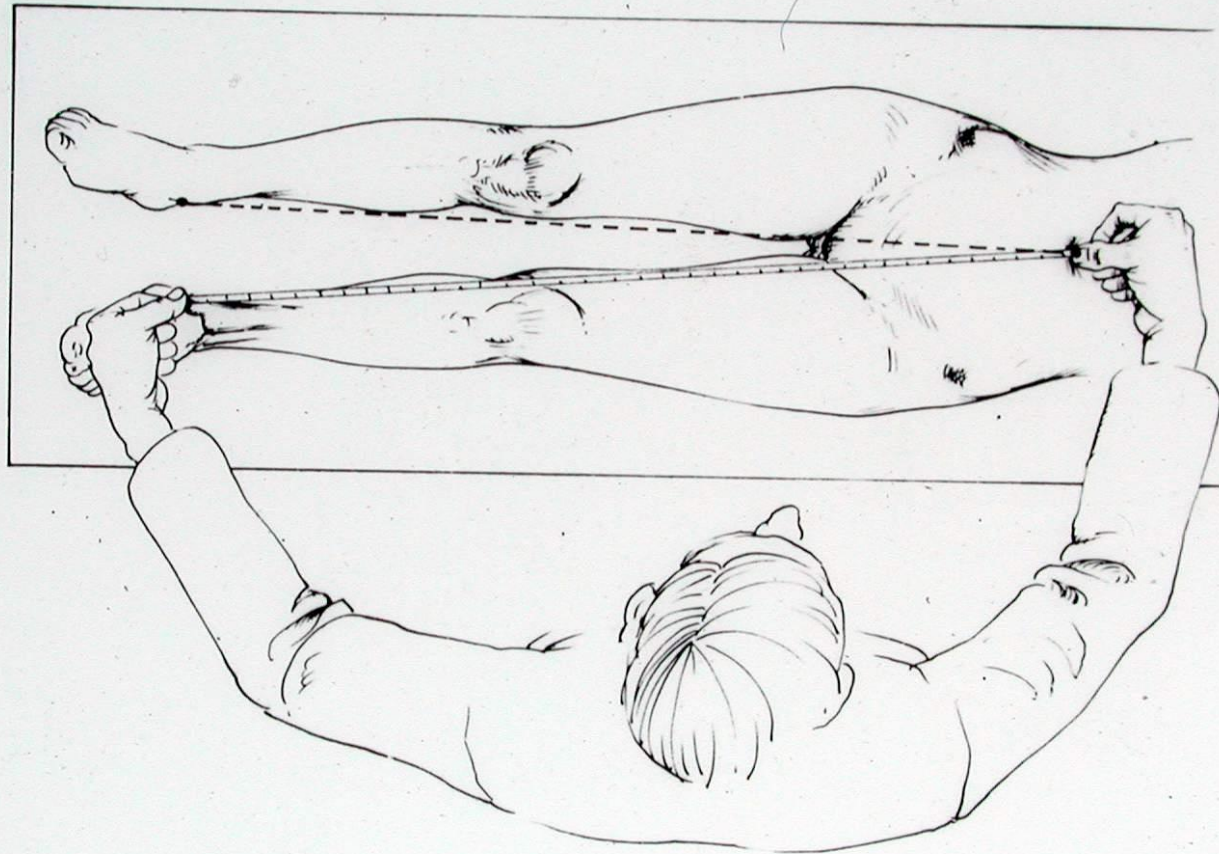
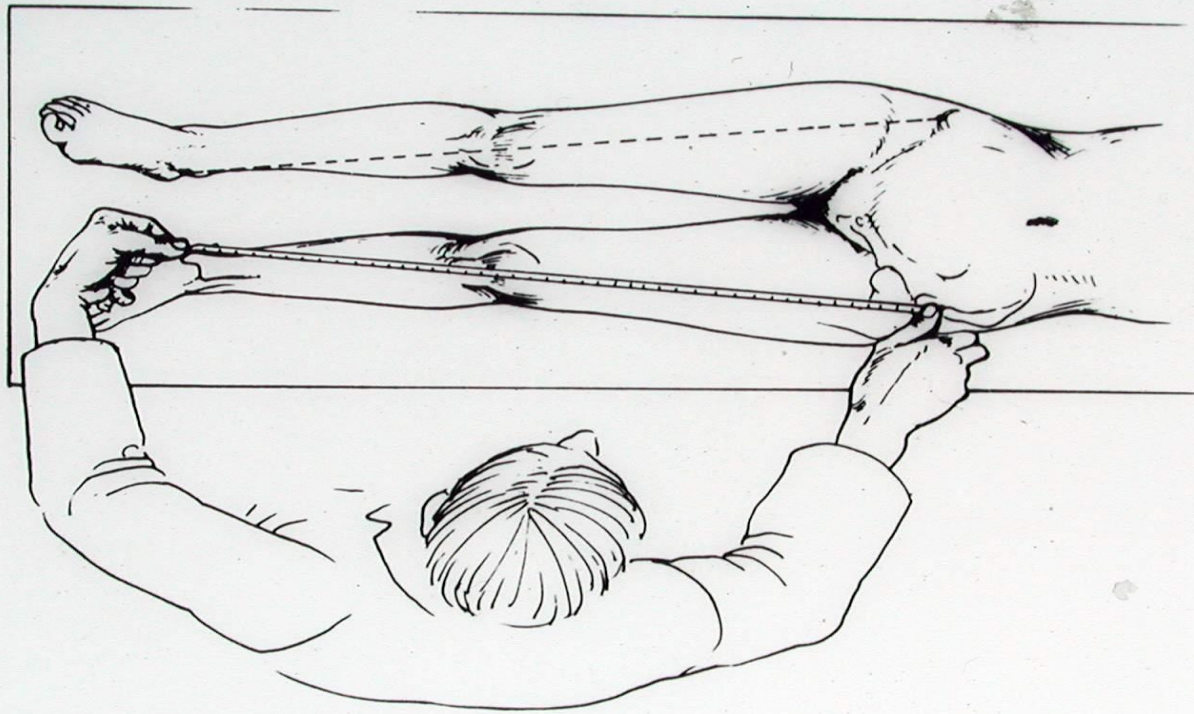


Fig. 60. Measure from a nonfixed point to a fixed point to determine an apparent leg length discrepancy.

True leg length – ASIS to MM



- When?
1. Limping
 2. Scoliosis!

Fig. 57. Measure from one fixed bony point to another to find true leg length.

藉由true leg和apparent leg length可判斷出是甚麼原因的長短腿

That's it.

結束 & 下課

