# Treatment for knee Joint disorders 50 Questions and Answers

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**SBUEAA Webinar Course**
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# Treatment for knee Joint disorders
# 50 Questions and Answers

1. Within the 6 major joints of the human body, why is the knee joint most vulnerable to be injured or suffer from osteoarthritis?
2. Is being overweight the cause of the knee injuries or osteoarthritis?
3. Is western medicine correct in saying that osteoarthritis of the knee is caused by degeneration?
4. What are the bones that form the knee joint? What types of joints for the knee?
5. Why do women suffer from knee injuries or osteoarthritis more often than men?
6. What is the most vulnerable tissue within the knee joint to be injured and why?
7. What is the function of the Infrapatellar Fat Pad?
8. What is the pathology and diagnosis of the Infrapatellar Fat Pad (Hoffa´s fat pad)?
9. How is the Infrapatellar Fat Pad (Hoffa´s fat pad) treated with Acupuncture?
10. What is the diagnosis of knee pain when climbing stairs and going down stairs?
11. Why does the knee crack? What diagnoses should be considered?
12. Is there any free space inside the knee joint?
13. Why does an x-ray show a space between femur and tibia? What is that tissue?
14. Why is the space between the femur and tibia reduced?
15. Why is the space between the femur and tibia increased?
16. Is it possible to regenerate the worn or detached cartilage of femur condyle?
17. What is the treatment to regenerate the femur condyle cartilage?
18. What are the 5 functions of the meniscus of the knee joint?
19. What is the metabolism of the meniscus of the knee joint?
20. Why is the medial meniscus (U-shaped) larger than the lateral meniscus (O-shaped) in the knee joint? Such as the medial condyle is greater than lateral?
21. Why can injuries be found more often in the medial side rather than the lateral area of the knee joint?
22. What are the diagnostic parameters in meniscal injuries?
23. Can meniscus injury be treated with Acupuncture? How?
24. What is the cause of bone proliferation in the intercondylar tubercle of the femur? Is it degeneration, generated, or result of a tension?
25. Which tissue causes the tension in the intercondylar tubercle of the femur?
26. How is bone proliferation in the intercondylar tubercle of the femur treated?
27. What is the diagnosis of cruciate ligaments?
28. Can Acupuncture treat a broken cruciate ligament?
29. How many internal contact of cartilage surface does the patella contain?
30. What is the normal location of the patella? As well as in the X-ray?
31. Why does the patella move superiorly and not inferiorly?
32. What are the patellar support ligaments? What is the treatment?
33. How is the patella that has moved towards the superior treated?
34. Why is the bony proliferation of the patella higher on the lower border?
35. Anatomy, diagnosis and treatment of the medial collateral ligament of the knee.
36. Anatomy, diagnosis and treatment of the lateral collateral ligament of the knee.
37. What are the patellar bursae of the knee?
38. What is the normal volume of synovial bursa in the knee joint?
39. How is the amount of the patellar bursa determined?
40. What are the tendons that are attached to the goose foot bursa?
41. How is bursitis treated with Acupuncture? Importance of reducing internal load.
42. Nerve innervation of the knee.
43. Vascularization of the knee.
44. The flexion and extension muscles of the thigh and the leg that relate to the knee.
45. The adduction, abduction and rotation muscles of the leg that relate to the knee.
46. How many stages does knee osteoarthritis have? Can they be treated with Acupuncture?
47. How is chondromalacia of the knee treated with Acupuncture?
48. What are the maintenance methods for the knees?
49. Integrated treatment and maintenance.
50. Is surgery required for knee joint disorders?

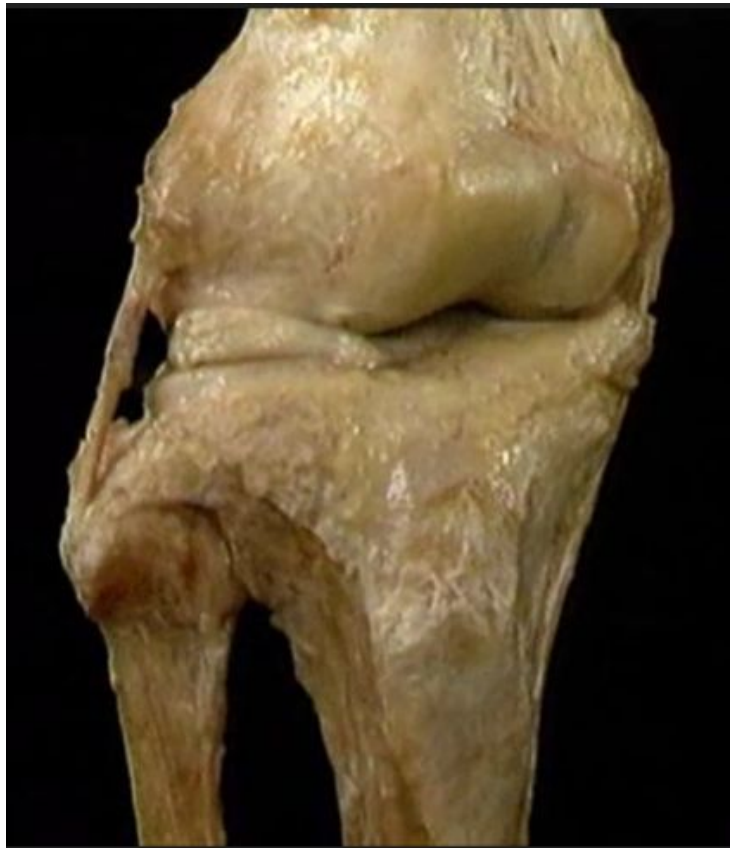
# Knee Joint Anatomy

REVIEW

1. Bones
2. Muscles
3. Vessels
4. Nerves

## Acland's Anatomy

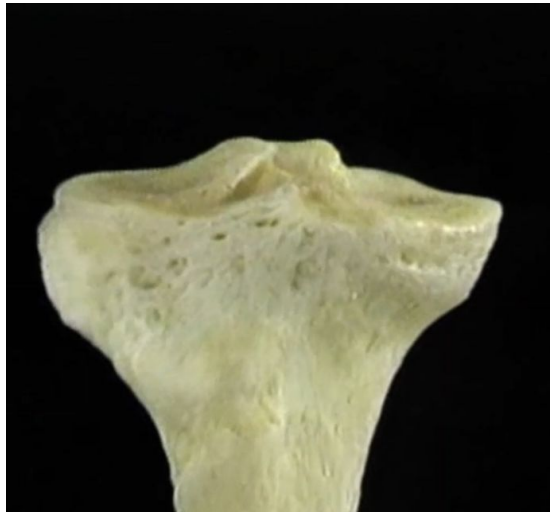
www.aclandanatomy.com

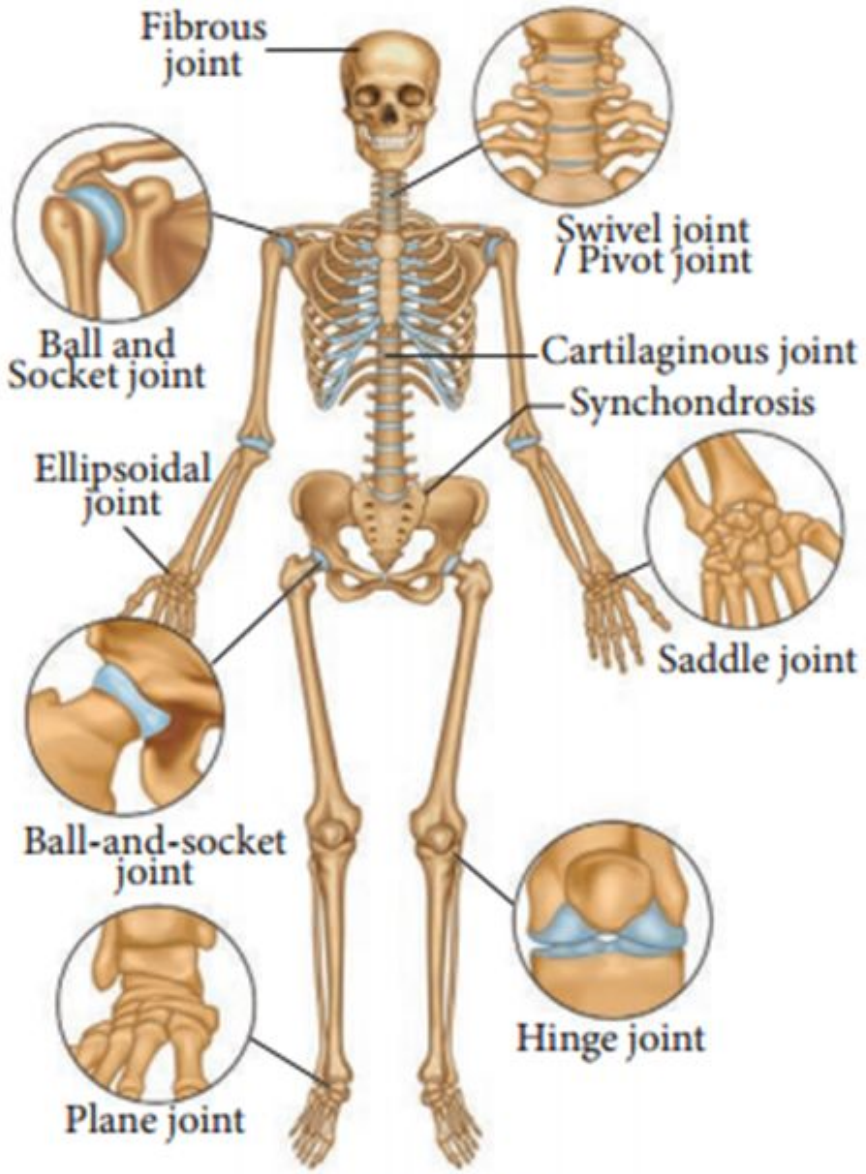


# Treatment for knee Joint disorders 50 Questions and Answers


1. Within the 6 major joints of the human body, why is the knee joint most vulnerable to be injured or suffer from osteoarthritis?

## A: Because of the platform structure.



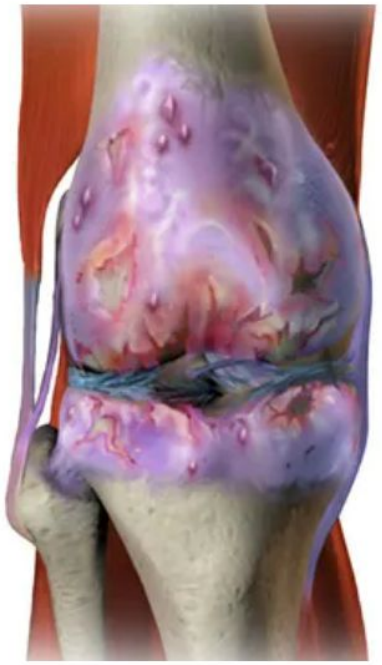



Types of joints

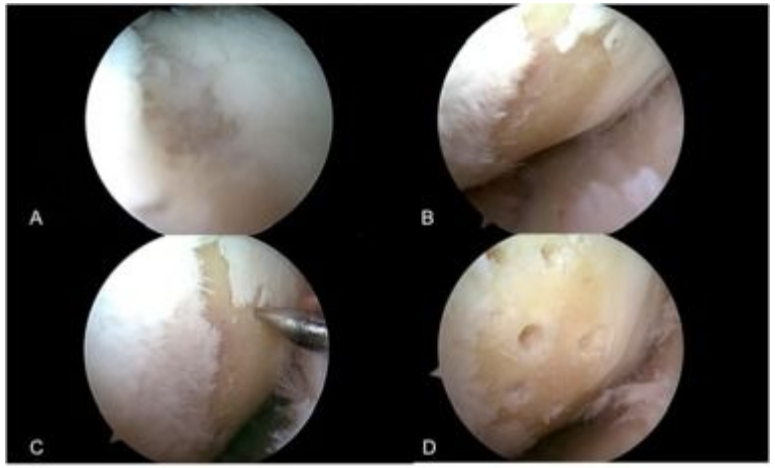
| | |
|---|---|
| Pivot joint | between atlas and axis |
| Plane/gliding joint | between the carpals |
| Saddle joint | between the carpal and metacarpal |
| Ball and socket joint | between humerus and pectoral girdle |
| Hinge joint | knee joint |
| Condyloid or Angular or Ellipsoid | between radius and carpal |

# A: No, the main cause is the injury of the surrounding soft tissue.

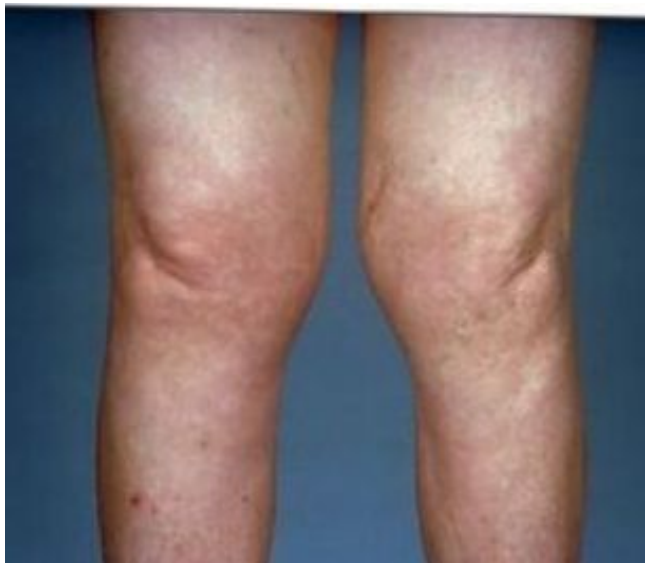

## 2. Is being overweight the cause of the knee injuries or osteoarthritis?



# 3. Is western medicine correct in saying that osteoarthritis of the knee is caused by degeneration?




(A) Unstable chondral flap
(B) Chondral defect post-debridement of unstable chondral flap
(C) Microfracture performed starting with periphery of defect
(D) Microfracture holes placed 3–4 mm apart.



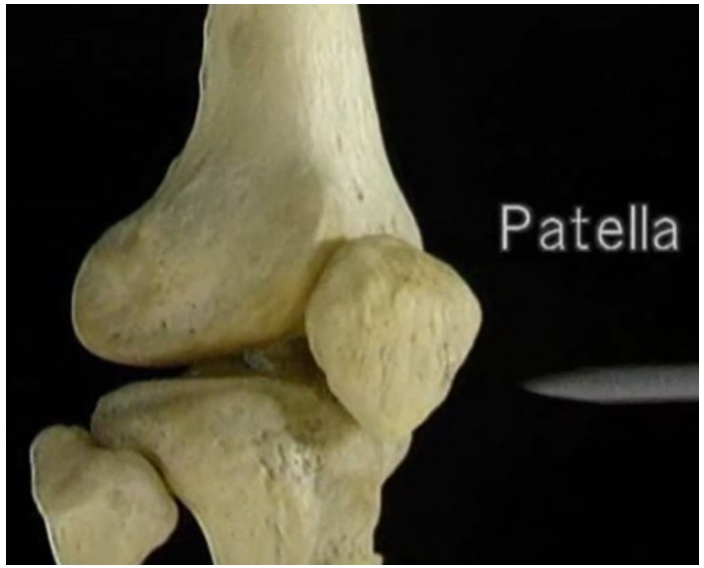
**A: No, because it can affect young people as well.**

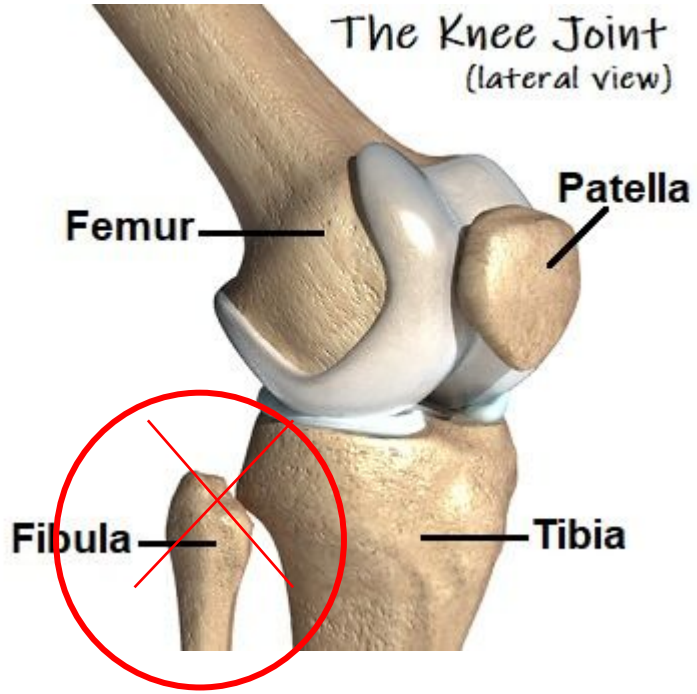
4. What are the bones that form the knee joint?

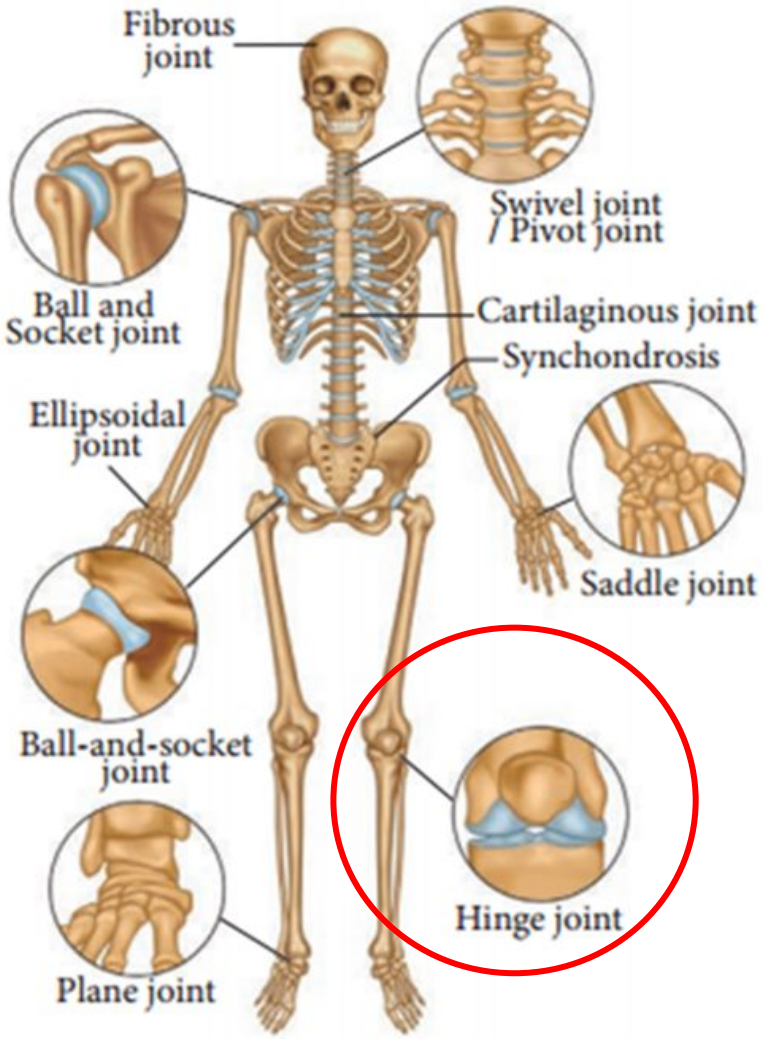
What types of joints for the knee?

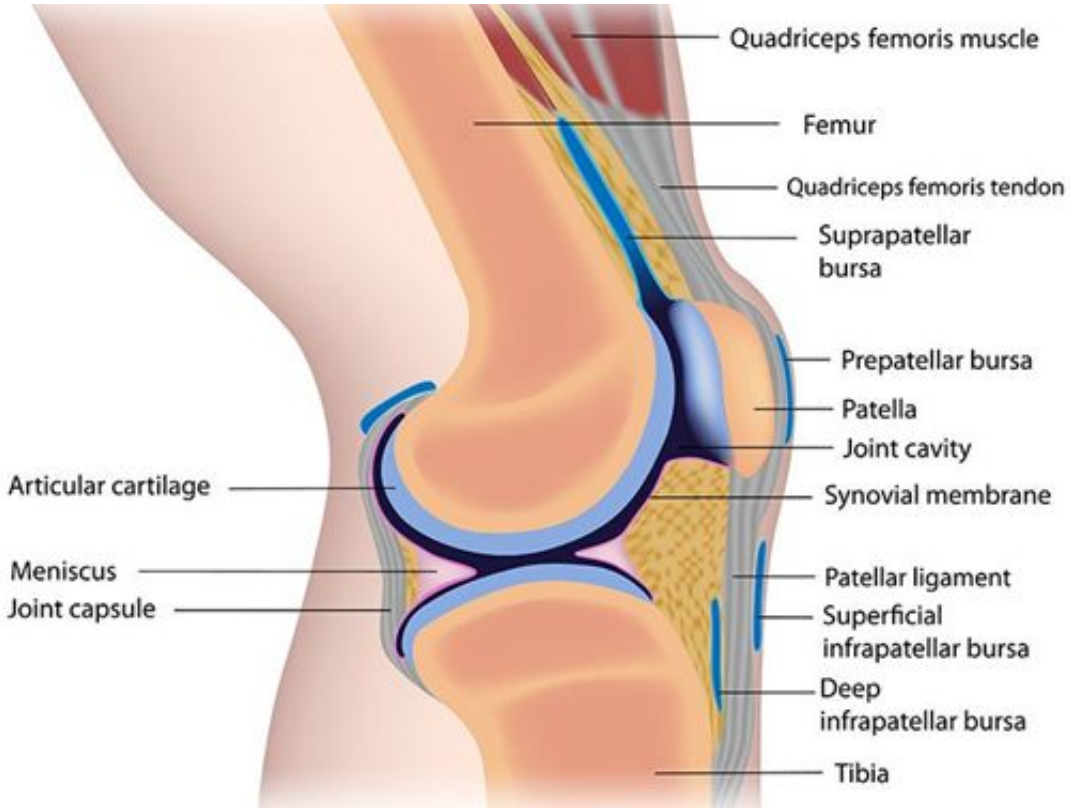
**A: Femur, tibia and patella.**

**The knee is a synovial joint (diarthroses joint), hinge joint.**

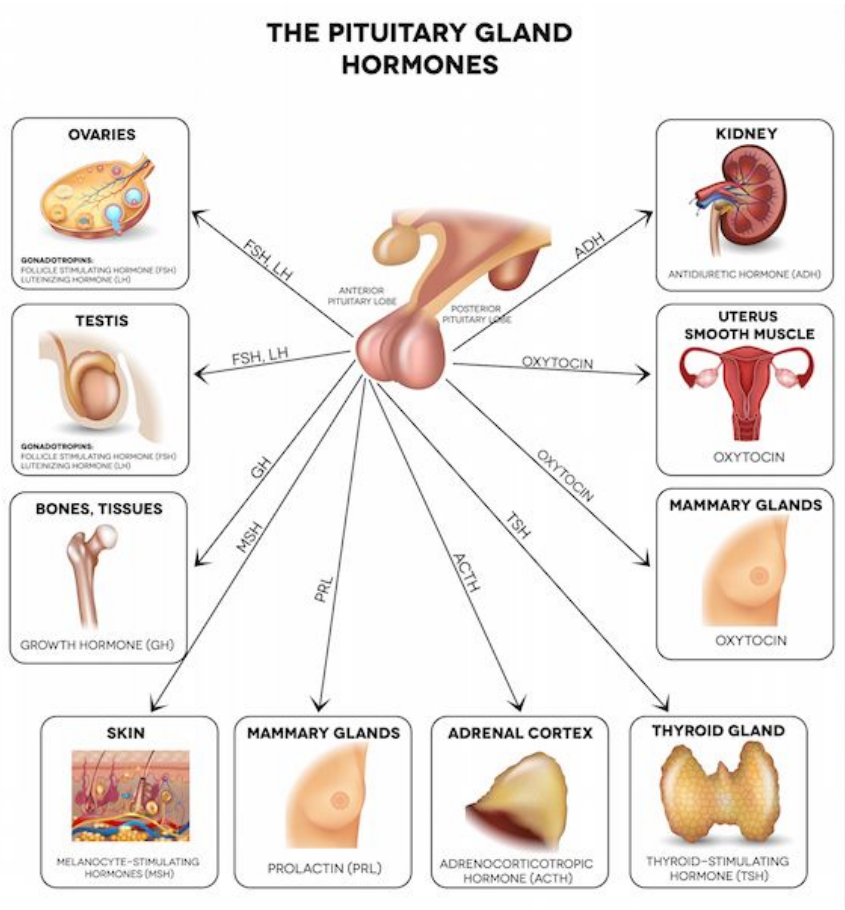



Fibrous joint
Swivel joint / Pivot joint
Ball and Socket joint
Cartilaginous joint
Synchondrosis
Ellipsoidal joint
Saddle joint
Ball-and-socket joint
Hinge joint
Plane joint


Quadriceps femoris muscle
Femur
Quadriceps femoris tendon
Suprapatellar bursa
Prepatellar bursa
Patella
Joint cavity
Articular cartilage
Synovial membrane
Meniscus
Joint capsule
Patellar ligament
Superficial infrapatellar bursa
Deep infrapatellar bursa
Tibia

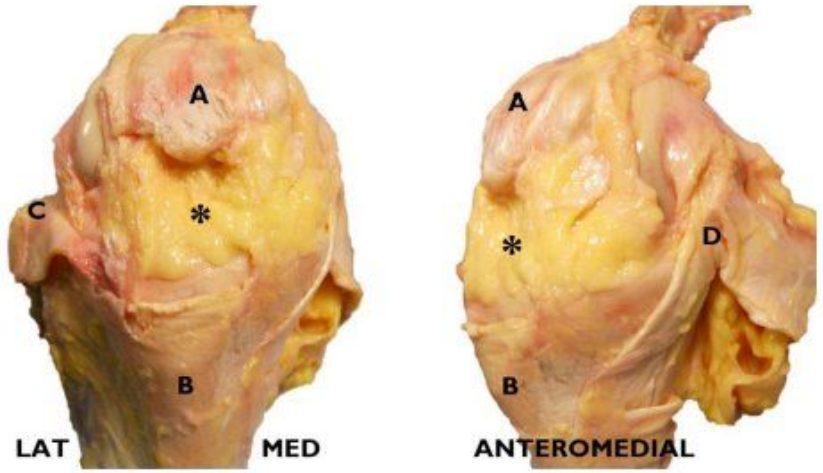
# A: 1. Hormone disorders.
# 2. Women tend to walk more often than men.



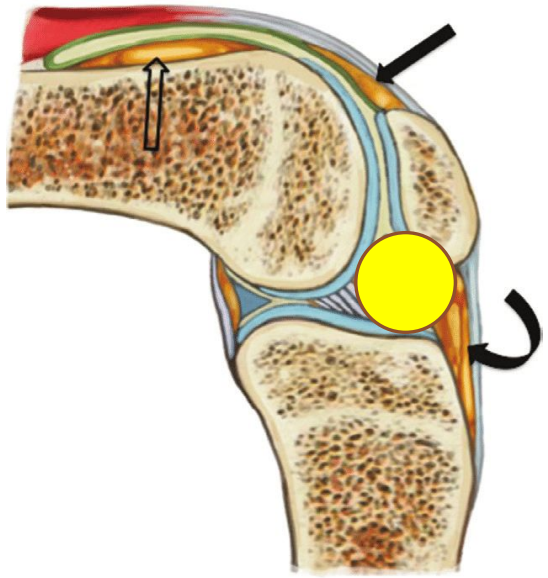

**5. Why do women suffer from knee injuries or osteoarthritis more often than men?**

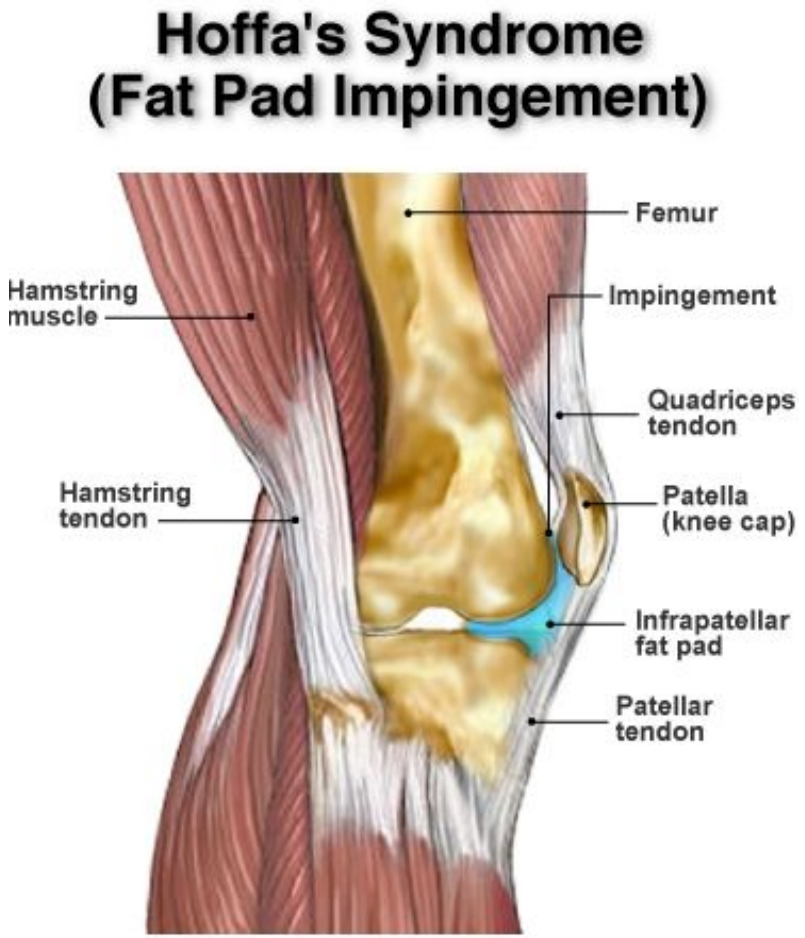
# 6. What is the most vulnerable tissue within the knee joint to be injured and why?

**A: The Infrapatellar Fat Pad due to its anatomical location.**

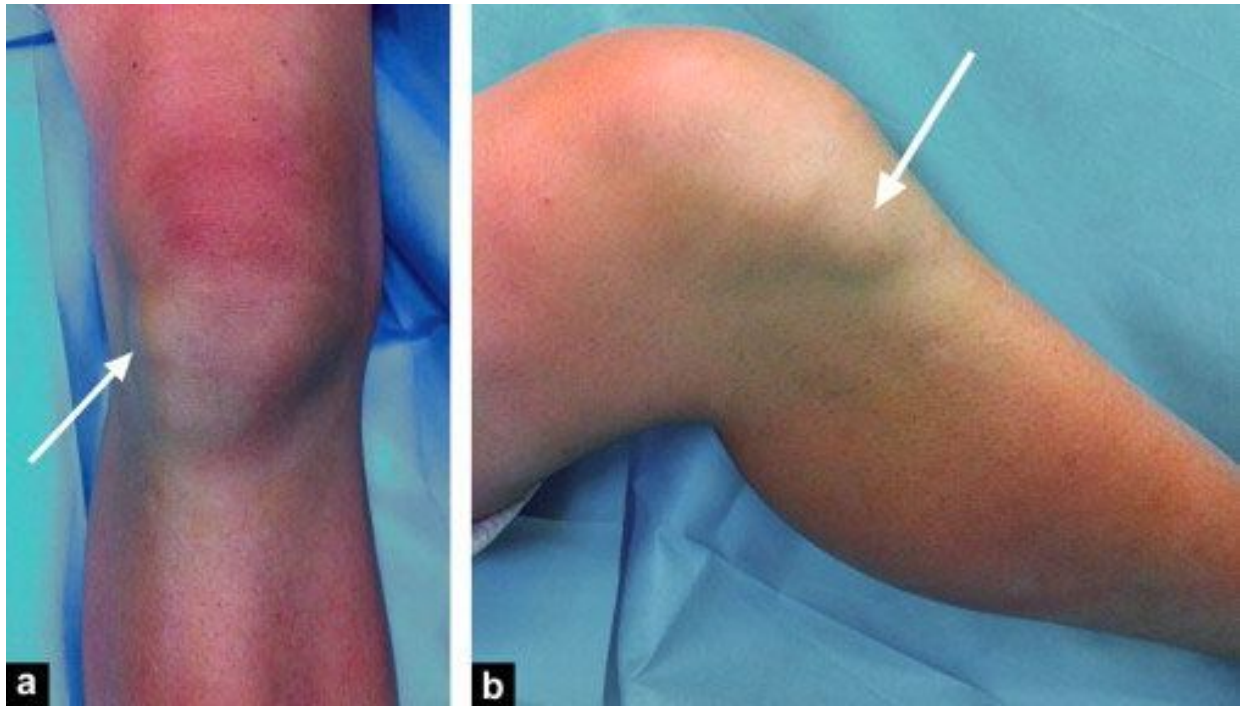








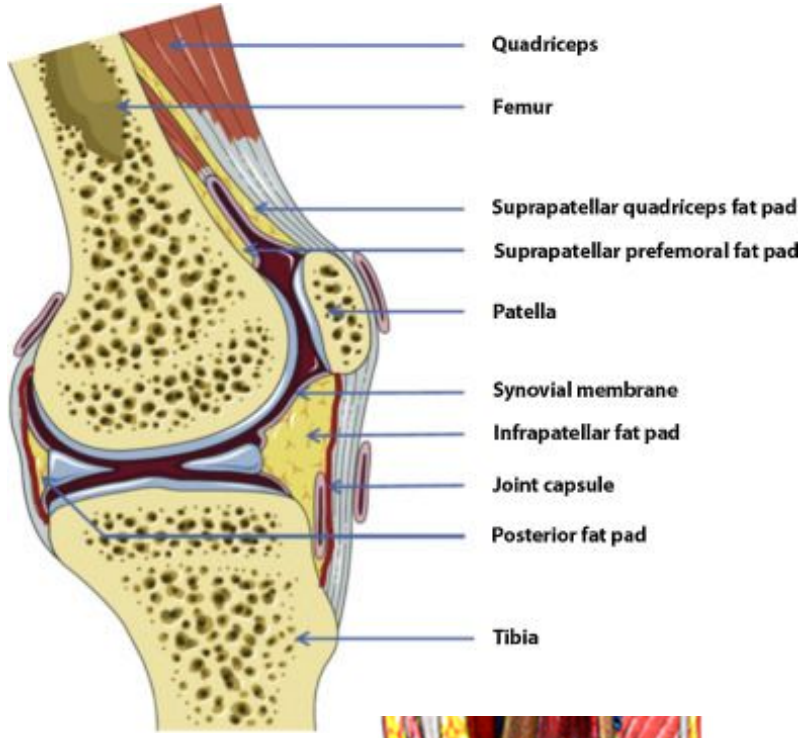

# Infrapatellar Fat Pad Syndrome



# 7. What is the function of the Infrapatellar Fat Pad?

**A:**

**a. Buffer**
**b. Stabilizer**
**c. Lubrication**
**d. Nutrition**
**e. Filling (stuffed)**

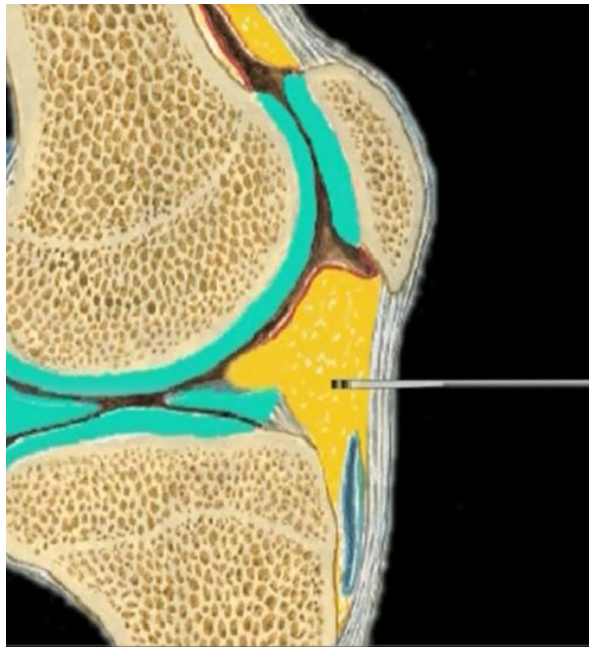



**A: Due to the constant movements of flexion and extension of the knee, it suffers calcification. You can hear the noise of sand or crackling.**

## 8. What is the pathology and diagnosis of the Infrapatellar Fat Pad?

# 9. How is the Infrapatellar Fat Pad (Hoffa´s fat pad) treated with Acupuncture?

**A: Insert the Acupuncture needle through the central part of the patellar ligament. As Acupuncture generates blood circulation, it improves the recovery of tissue nutrition and remove the calcification.**



## 10.1. What is the diagnosis of knee pain when climbing stairs?

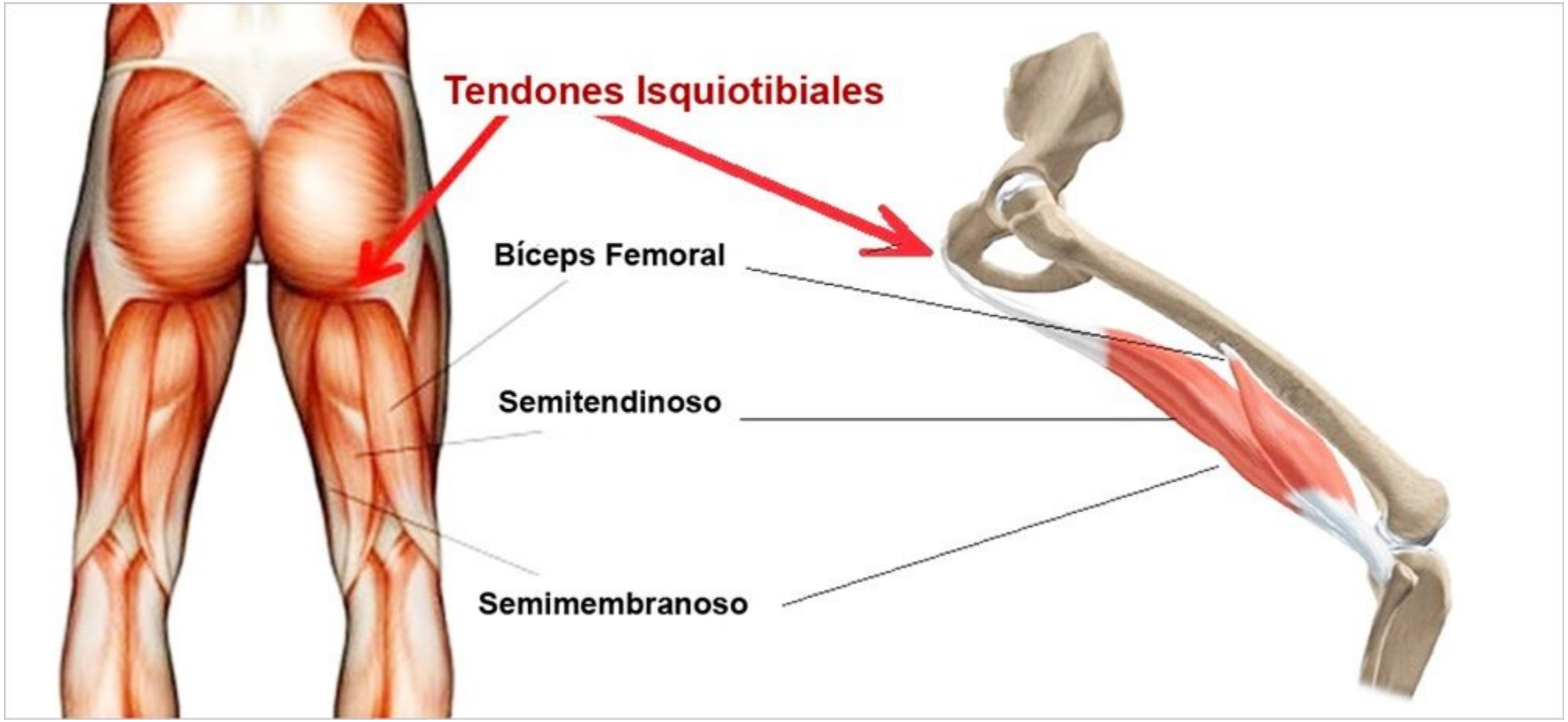
**A:**

**a. Knee pain when climbing stairs:**

**The thigh extension M. :**

- ✔ **Gluteus major M.**
- ✔ **Biceps femoris M.**
- ✔ **Semitendinousus M.**
- ✔ **Semimembranosus M.**

# Hamstring Muscles



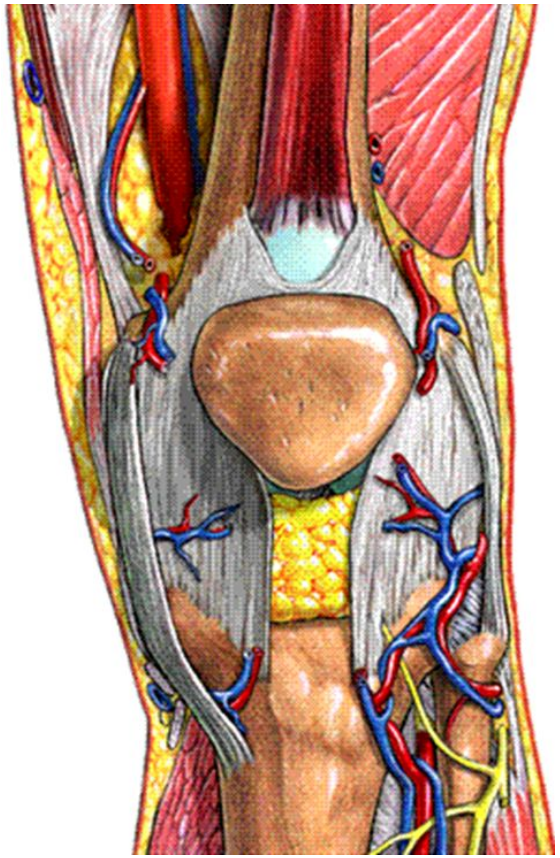
# 10.2. What is the diagnosis of knee pain when going down stairs?

**b. Knee pain when going down stairs:**

**The leg extension muscles:**

- ✔ Quadriceps femoris M.
- ✔ Patellar support ligament.
- ✔ Patellar ligaments.
- ✔ Patellar fat pad calcification.

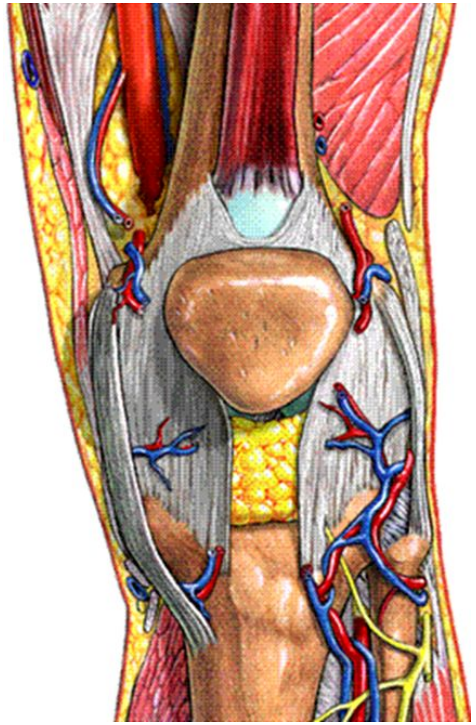
A:
a. Calcification of the Patellar Fat Pad.
b. The patella moved superiorly.
c. Tension of the surrounding ligaments (supporting ligaments, medial or lateral collateral ligament, iliotibial band, etc.)

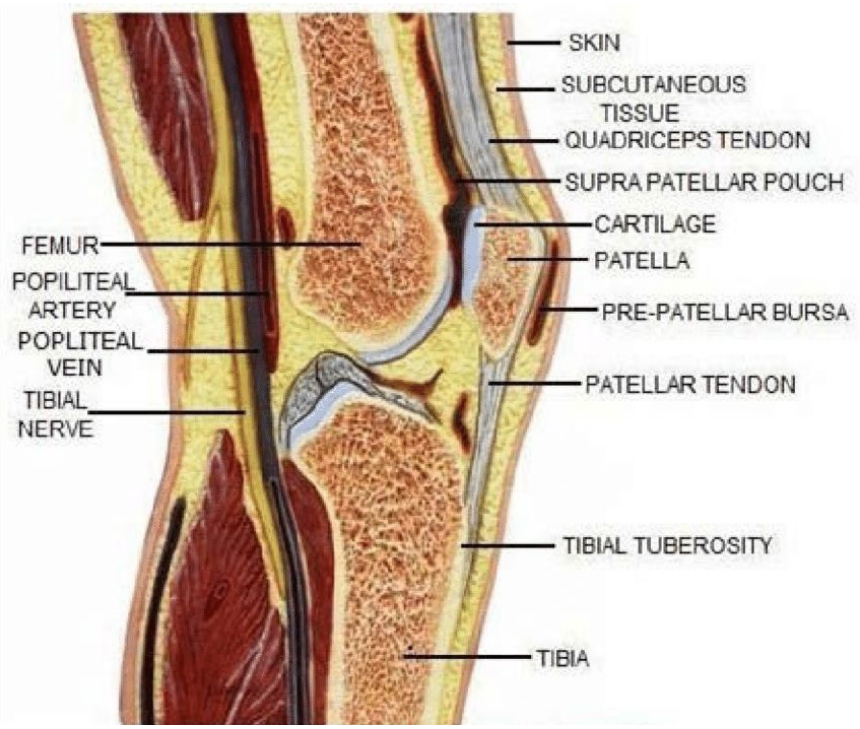


## 11. Why does the knee crack? What diagnoses should be considered?

# 12. Is there any free space inside the knee joint?

**A. No, the knee joint is full with no free space.**

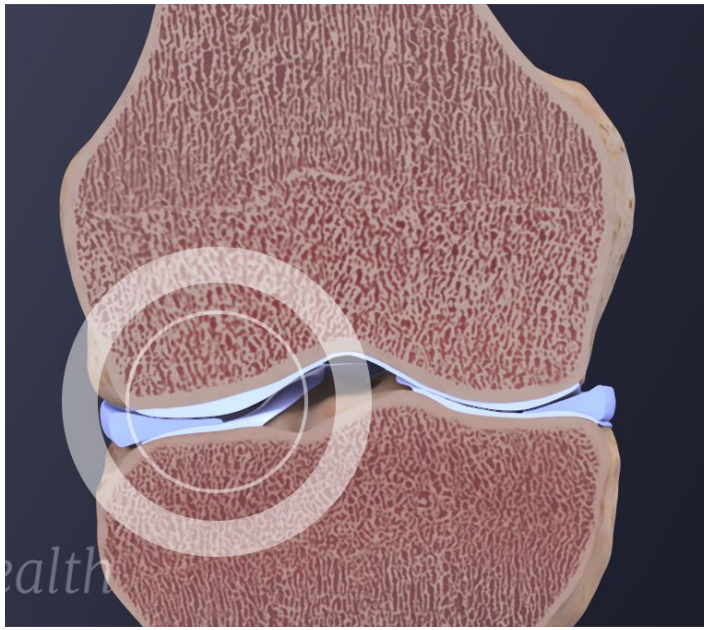


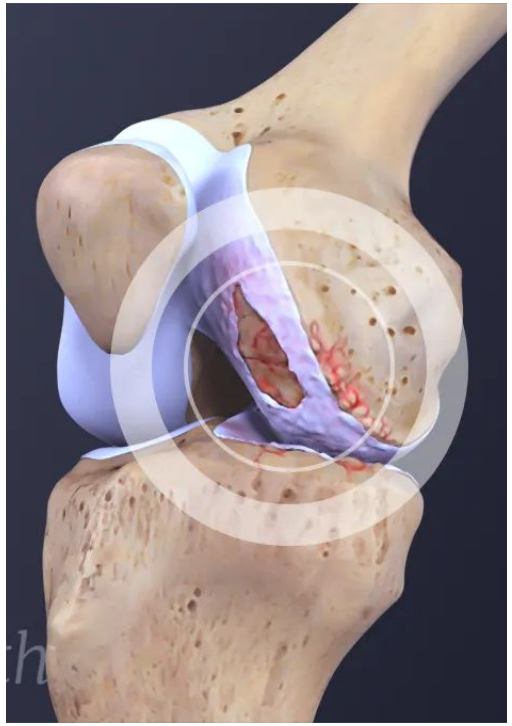


13. Why does an x-ray show a space between femur and tibia? What is that tissue?

**A. That free space between the femur and tibia is the meniscus and joint cartilage.**

**A. Due to the injury of the meniscus and / or joint cartilage caused by surrounding soft tissue tension.**





**14. Why is the space between the femur and tibia reduced?**

# 15. Why is the space between the femur and tibia increased?

**A. Due to inflammation of the patellar bursas.**

**16. Is it possible to regenerate the worn or detached cartilage of femur condyle?**

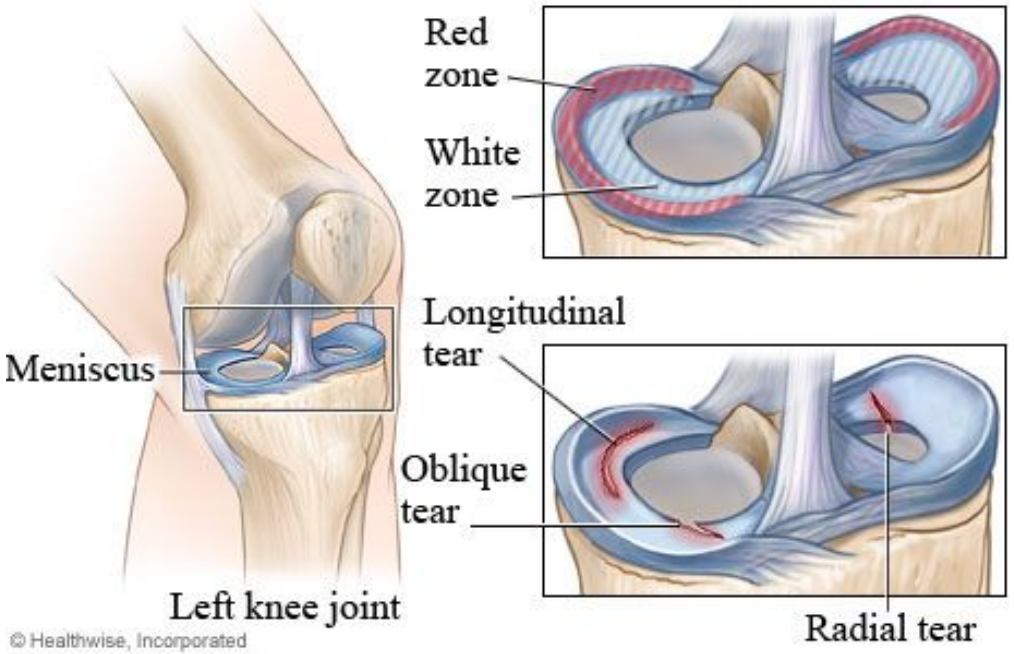
**A: Yes, but in fiber tissue form.**

**A: Release the tension of the soft tissues around the knee joint.**

**17. What is the treatment to regenerate the femur condyle cartilage?**

# 18. What are the 5 functions of the meniscus of the knee joint?

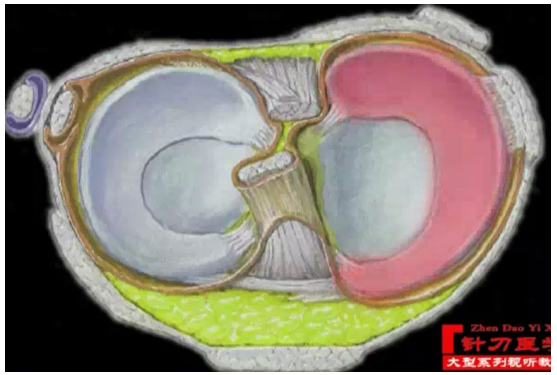
a. Stabilize the joint
b. Prevent synovial incarceration
c. Buffer
d. Spinning assistance
e. Lubrication

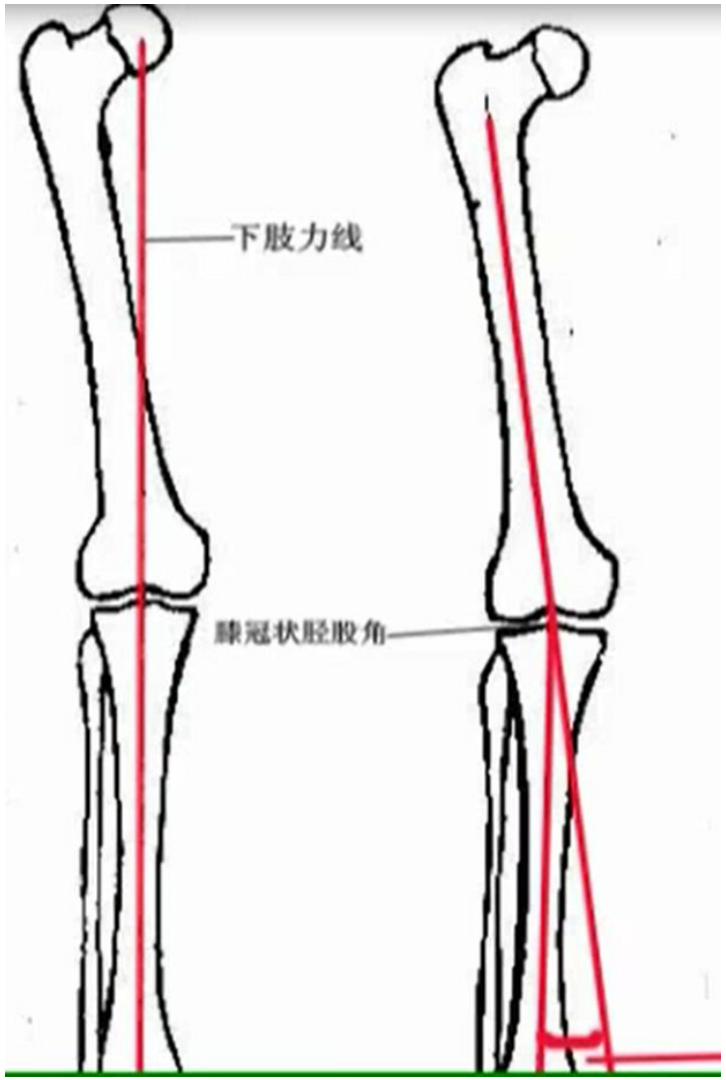


## 19. What is the metabolism of the meniscus of the knee joint?

**A: Synovial fluid and little blood from the synovial bursa.**

A: Due to the line of projection of force from the hip to the foot, it passes more force through the medial side.

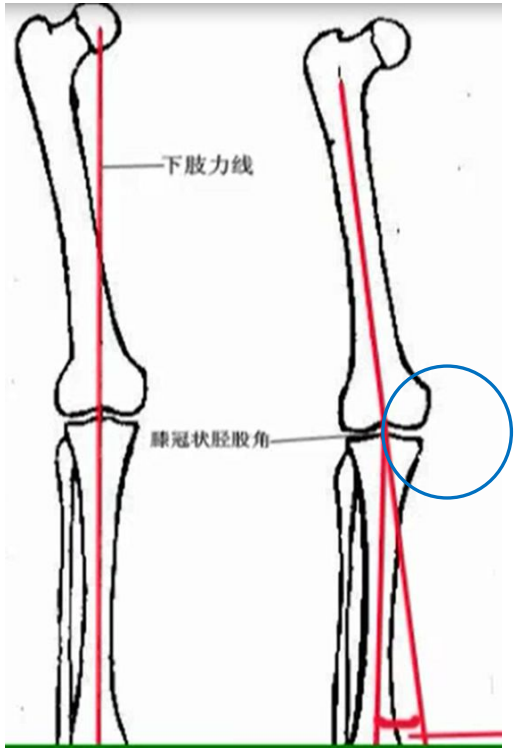


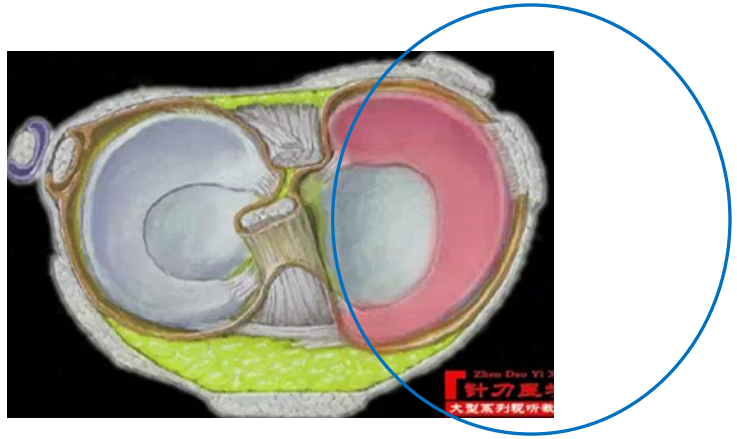



20. Why is the medial meniscus (U-shaped) larger than the lateral meniscus (O-shaped) in the knee joint? Such as the medial condyle is greater than lateral?

# 21. Why can injuries be found more often in the medial side rather than the lateral area of the knee joint?

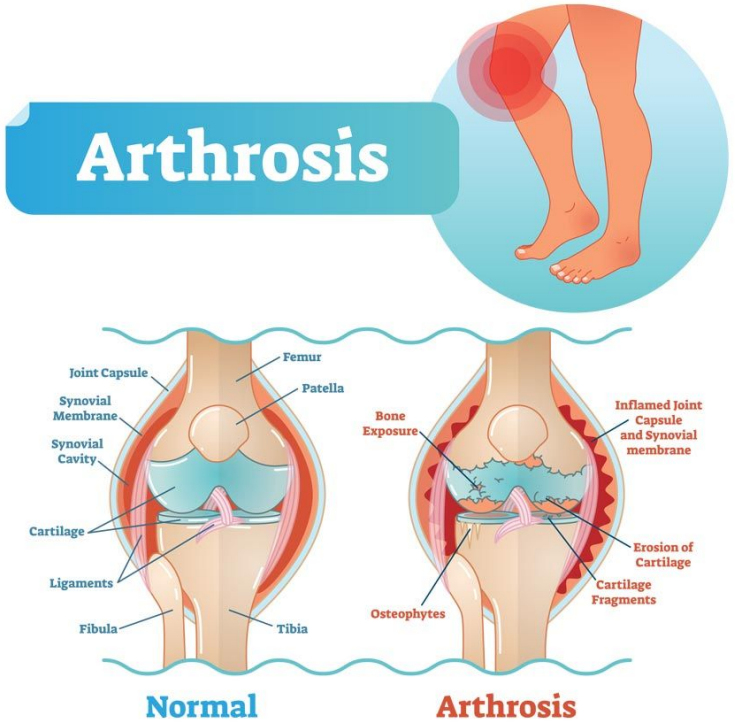
**A: The medial side suffers more force from the upper body.**

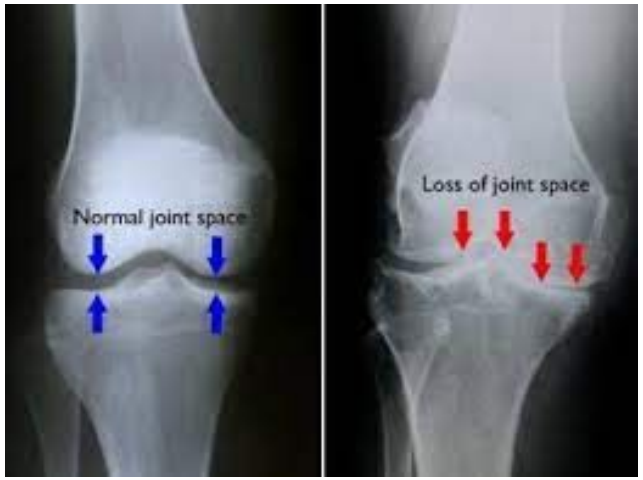


## 22. What are the diagnostic parameters in meniscal injuries?

a. Unstability
b. Pain
c. The Femur-tibia space narrow
d. Difficult walking



**A: Yes, Release the tension of the soft tissues around the knee joint.**

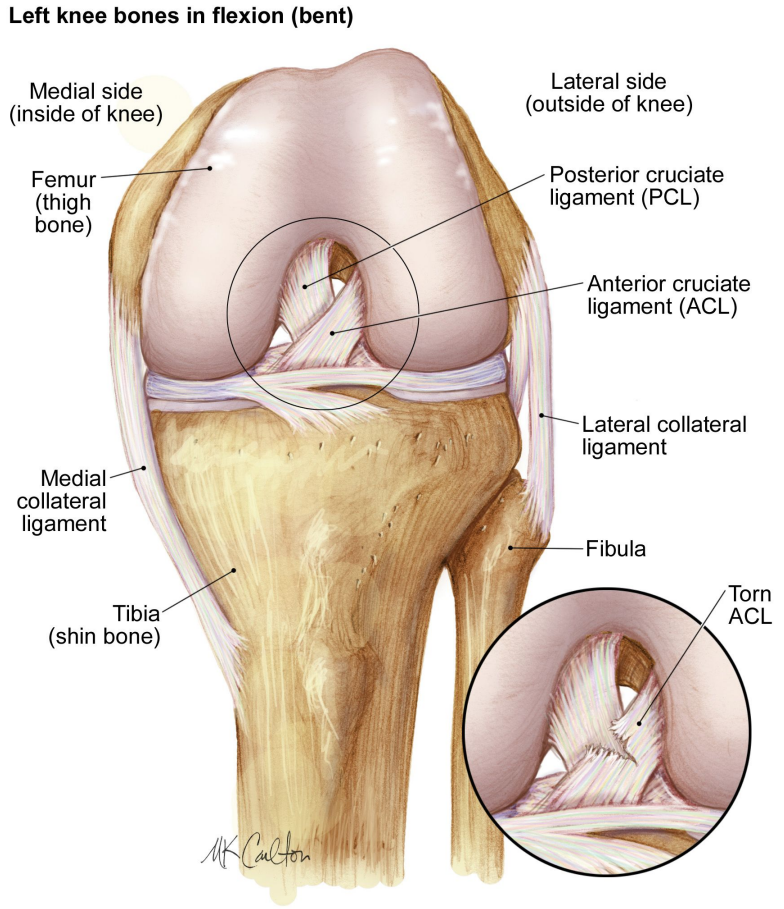
**23. Can meniscus injury be treated with Acupuncture? How?**

# 24. What is the cause of bone proliferation in the intercondylar tubercle of the femur?
# Is it degeneration, generated, or result of a tension?

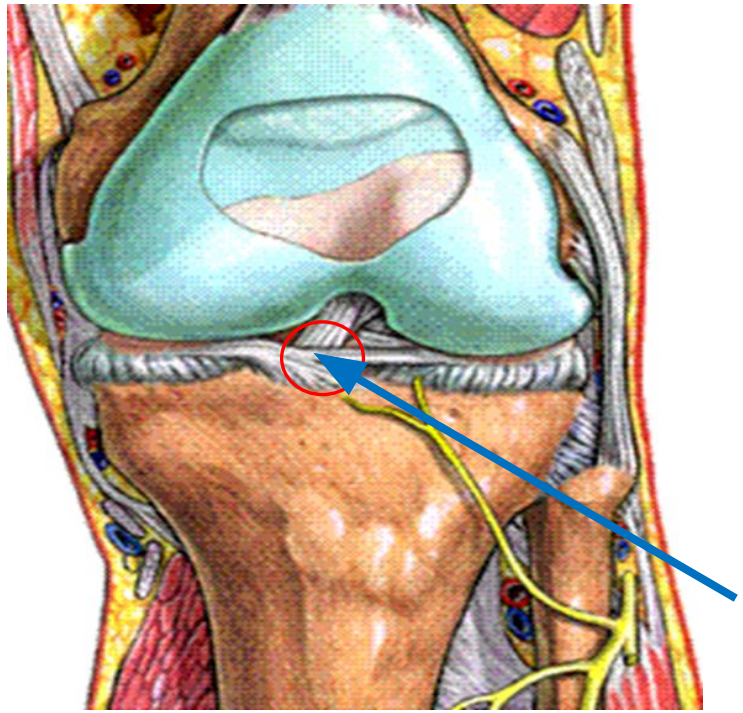
**A. It's the result of tension.**

**25. Which tissue causes the tension in the intercondylar tubercle of the femur?**

# A: The cruciate ligaments.



**A: Release the cruciate ligaments tension. Insert the Acupuncture needle from Xiyan or Dubi point.**



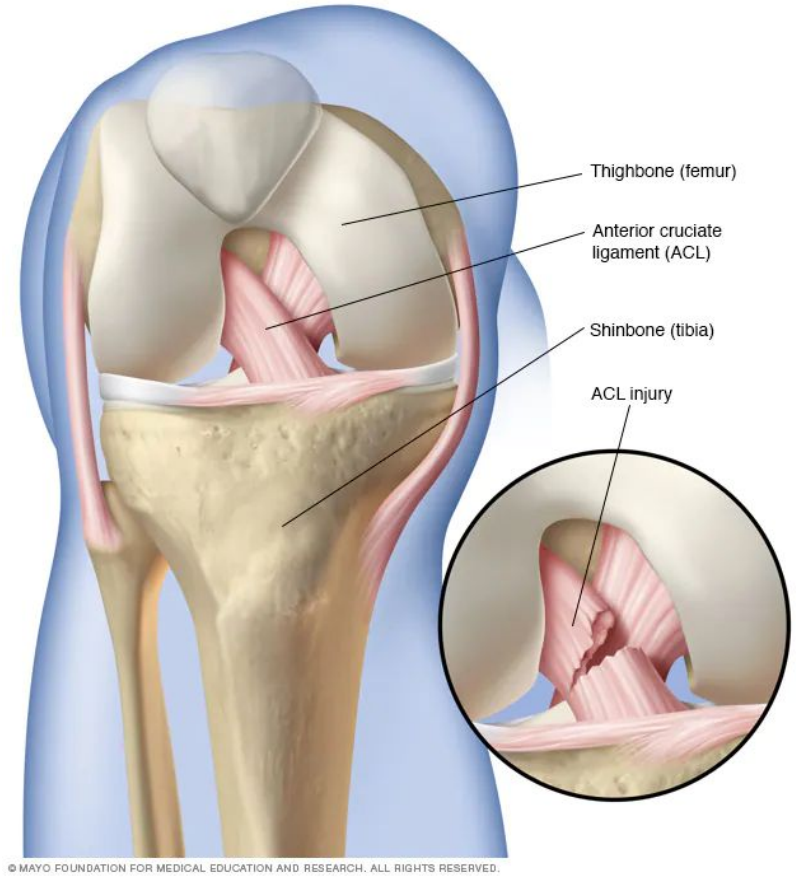
**26. How is bone proliferation in the intercondylar tubercle of the femur treated?**

# 27. What is the diagnosis of cruciate ligaments?

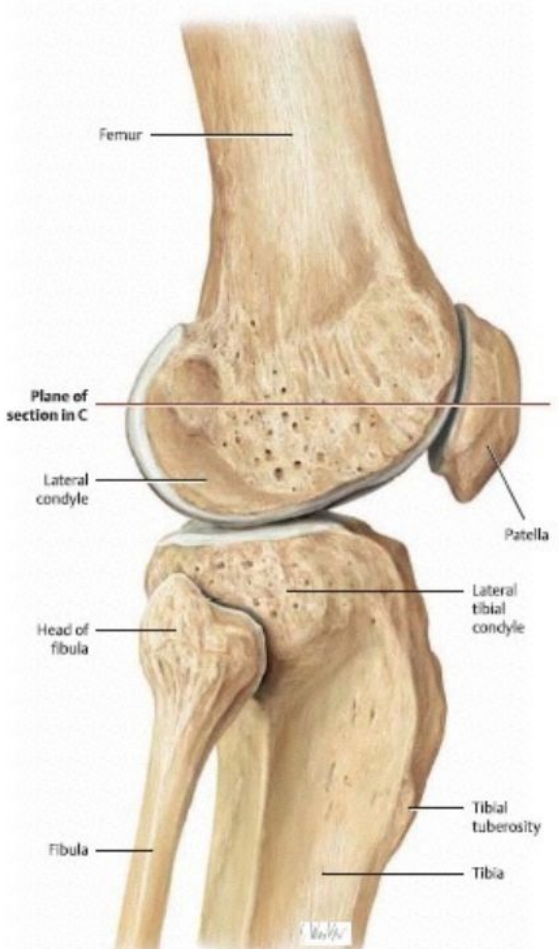
**A: Anterior drawer test of knee.**

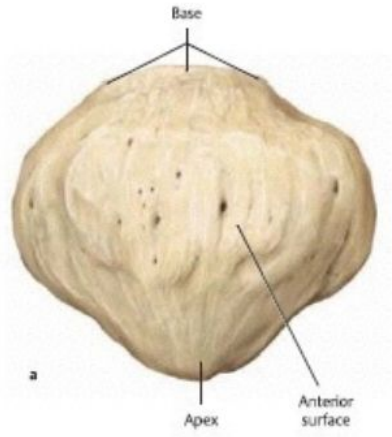

## 28. Can Acupuncture treat a broken cruciate ligament?

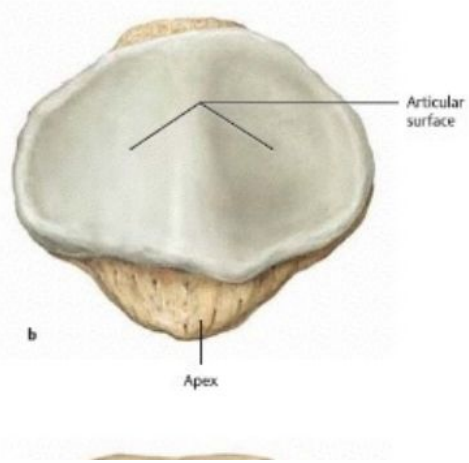
# A: No, surgery is recommended.



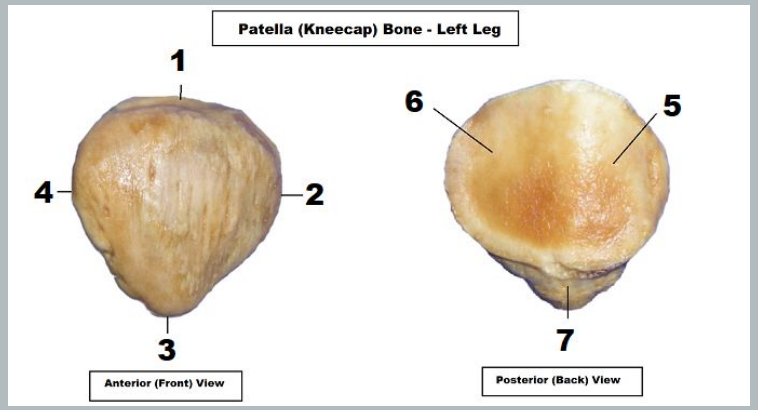

# A: 7 cartilage surfaces of contact.



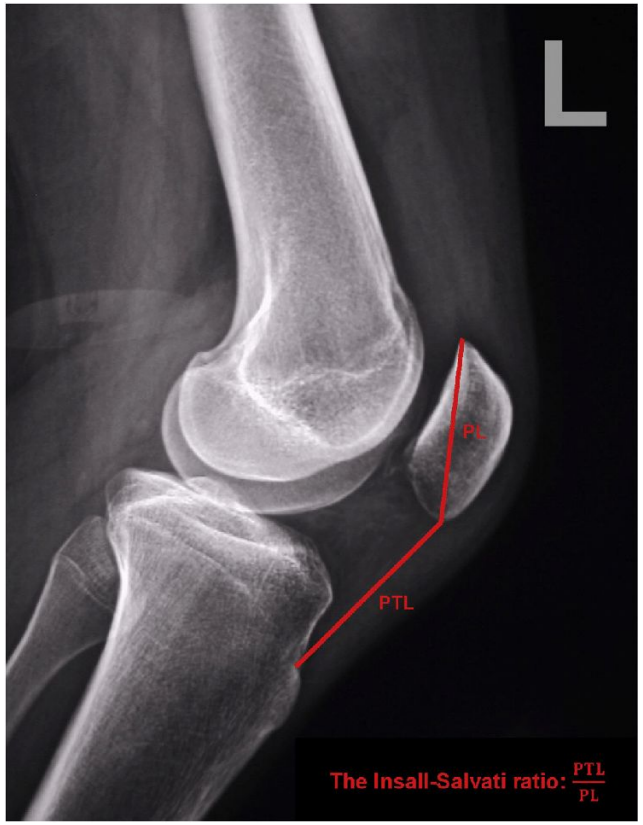




## 29. How many internal contact of cartilage surface does the patella contain?



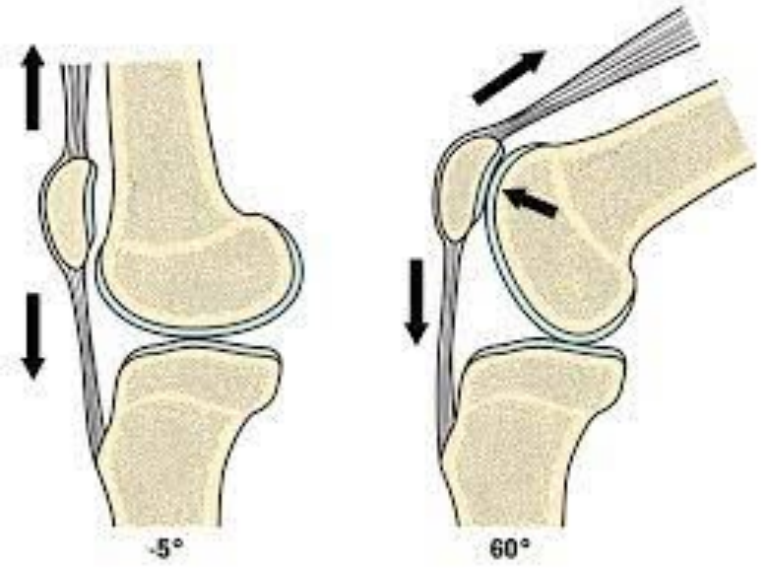
# 30. What is the normal location of the patella? As well as in the X-ray?

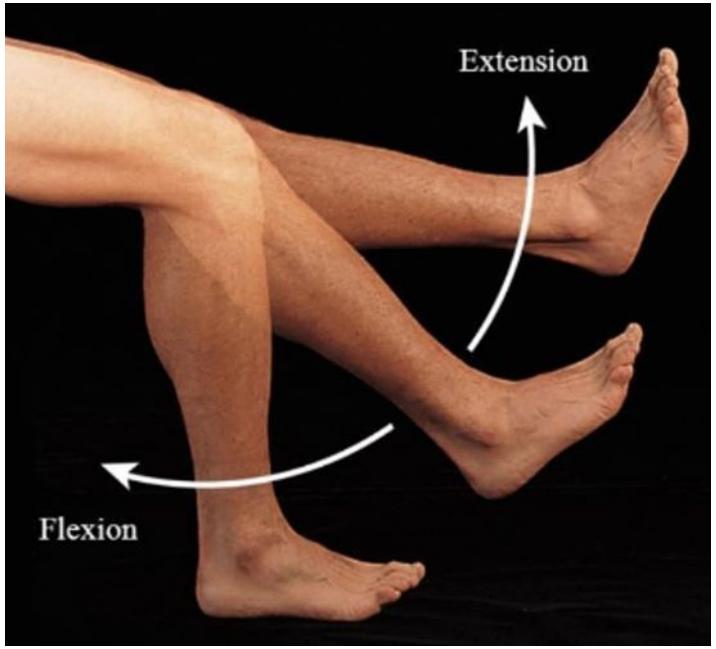
a. Approximately 1.5 finger from the tibial tubercle (1 cm above from Xiyan point).
b. The X-ray image: The height of the patella on the lateral view should be similar to the space from the tibial tubercle to the lower border of the patella.



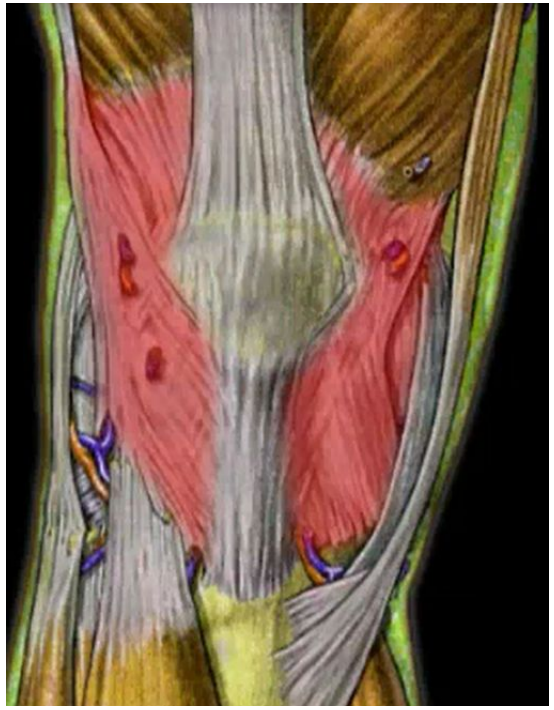
## 31. Why does the patella move superiorly and not inferiorly?

**A: Due to the constant movements of flexion and extension of the knee, the M. quadriceps femoris is pulling toward superiorly.**



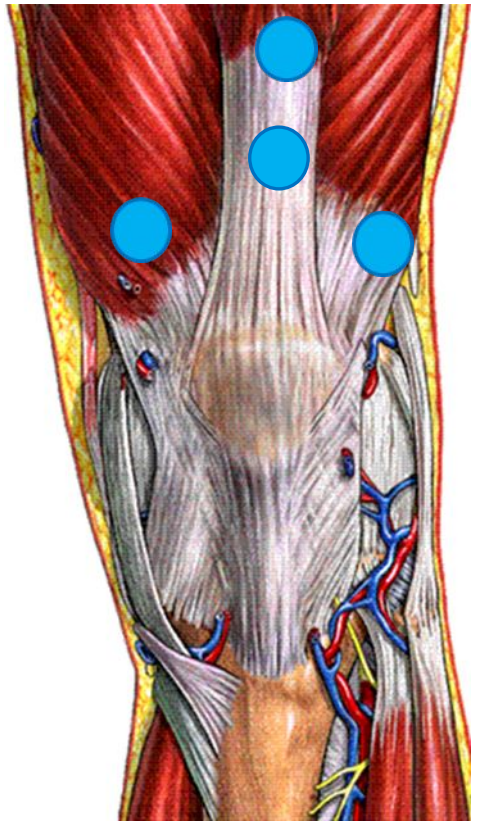
a. The patellar support ligaments are located around the patella, they undergo a lot of tension when the leg is extensioned, which acts as a support for the patellar ligament.
b. Treatment to release the patellar support ligaments: Perpendicular insertion with Acupuncture.



## 32. What are the patellar support ligaments? What is the treatment?

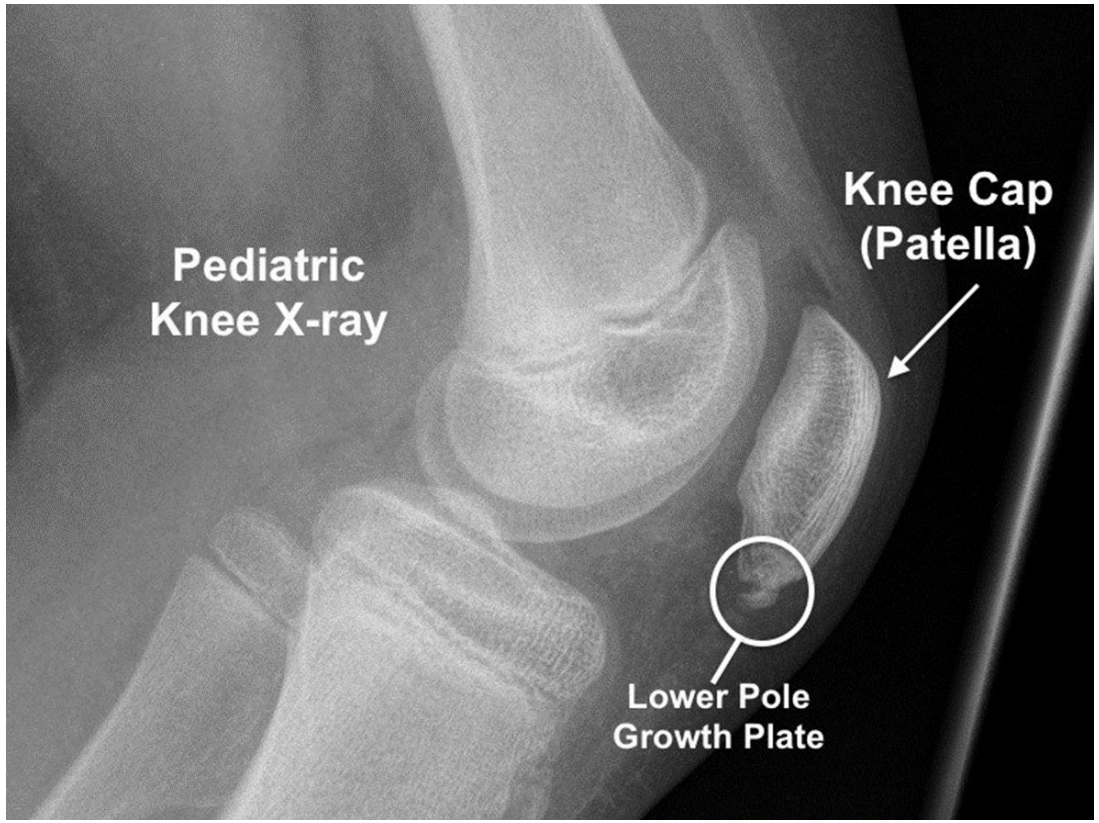
# 33. How is the patella that has moved towards the superior treated?

**A. Release the tension of the Quadriceps femoris M.**

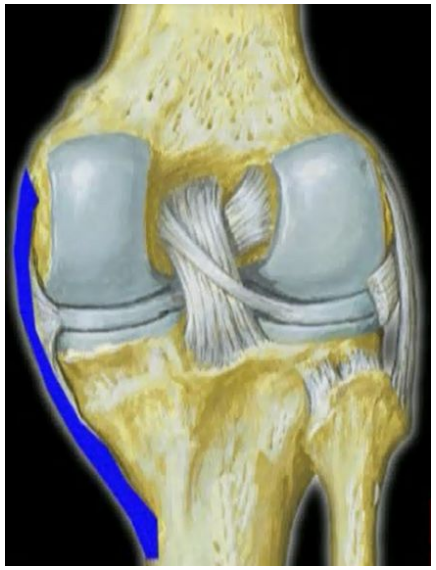


## 34. Why is the bone proliferation of the patella more on the lower pole?

**A: Due to the calcification of the Patellar Fat Pad and tension of the patellar ligament.**



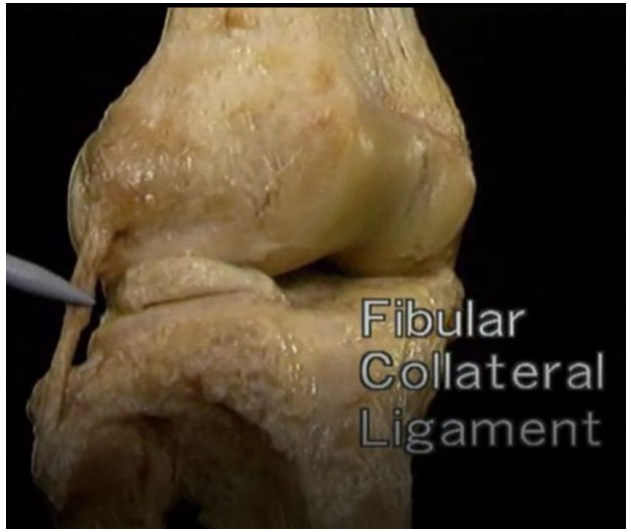
**A: The medial collateral ligament is a triangular shape with the direct communication to the medial meniscus. You must be careful not to insert the needle perpendicularly in this area, the oblique technique is recommended.**

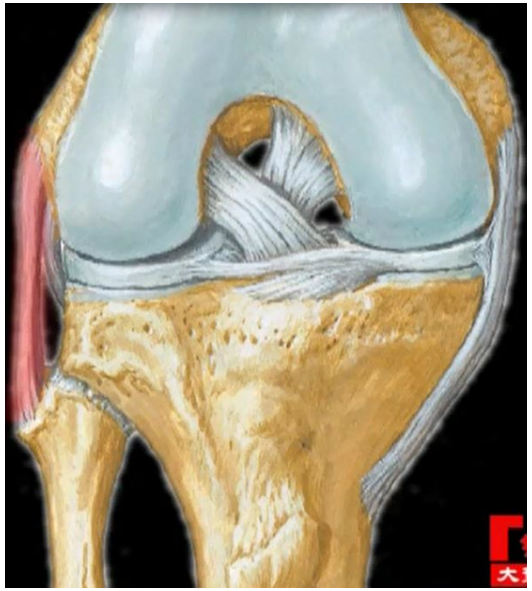


# 35. Anatomy, diagnosis and treatment of the medial collateral ligament of the knee.

# 36. Anatomy, diagnosis and treatment of the lateral collateral ligament of the knee.

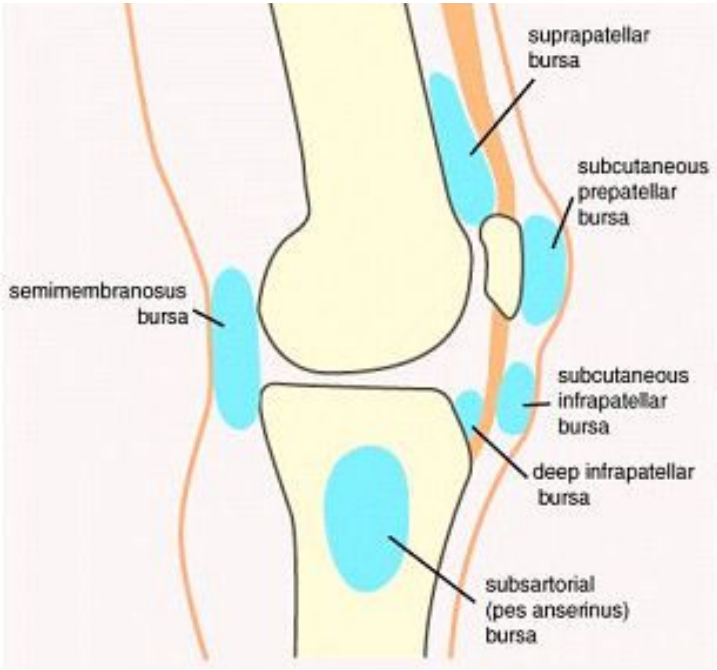
**A: The lateral collateral ligament is a long cylindrical shape, does not have direct communication with the lateral meniscus, you can attend with more confidence.**

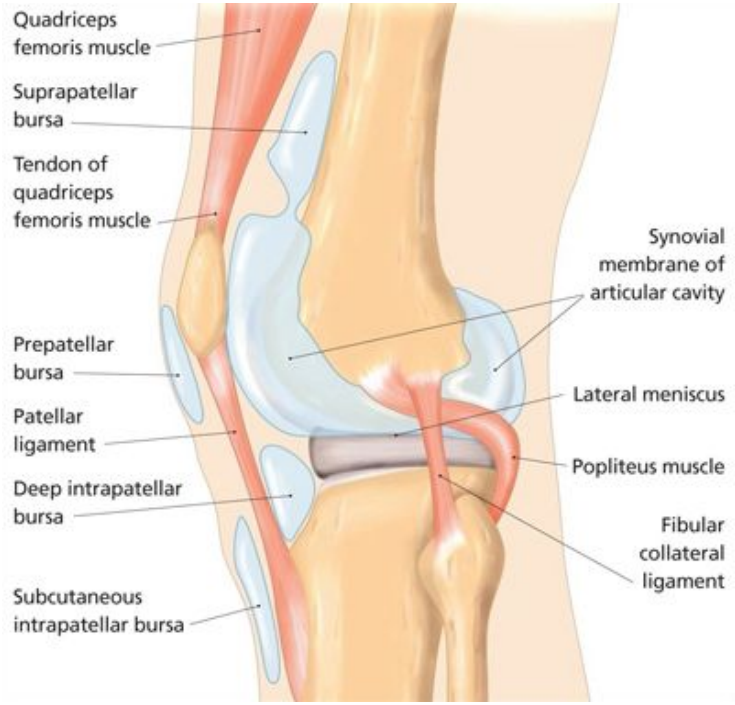


# 37. What are the patellar bursae of the knee?

**A: Bursas around the patella include the prepatellar bursa, the superficial and deep infrapatellar bursa, and the suprapatellar bursa.**



# A: It's around 5 – 8 ml.

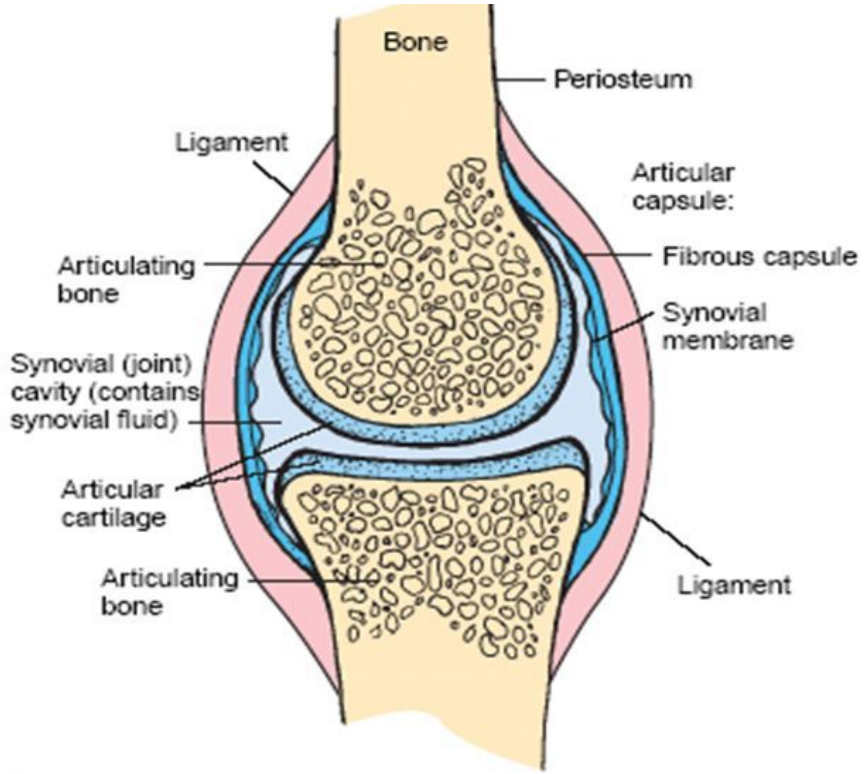



**Figure 11-1.** Articulated joint. (From Oatis CA. Kinesiology. The Mechanics and Pathomechanics of Human Movement. Baltimore: Lippincott Williams & Wilkins, 2003.)

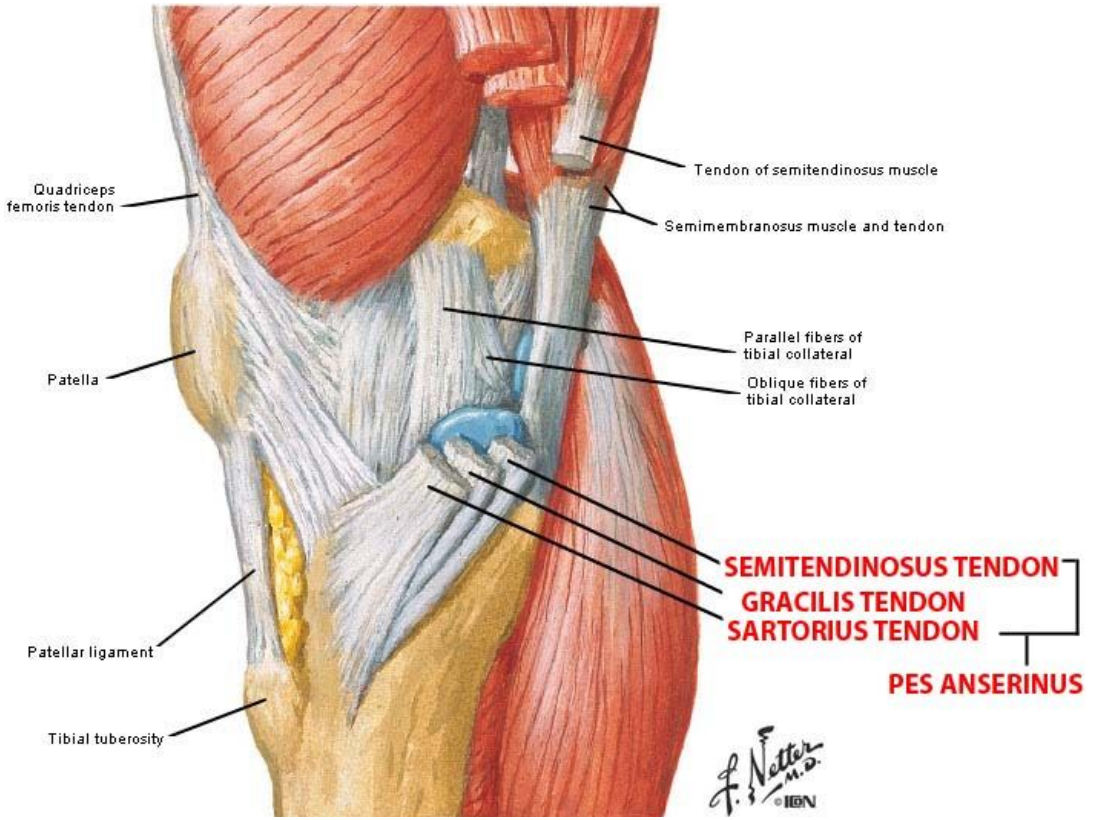
**38. What is the normal volume of synovial bursa in the knee joint?**

# 39. How is the amount of the patellar bursa determined?

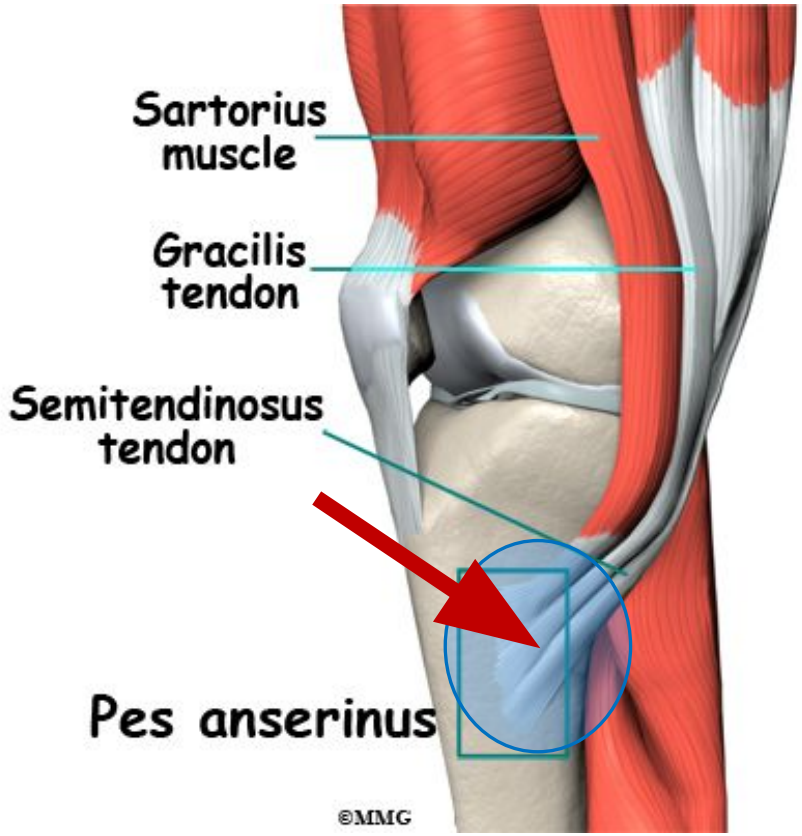
a. When the pressure feels like snow: about 15-30ml.
b. When the knee eye disappears: about 30-50ml.
c. If the floating patella test is positive: It´s more than 50ml.

**40. What are the tendons that are attached to the goose foot bursa?**

## A: Sartorius M., Gracilis M. and Semitendinosus M.



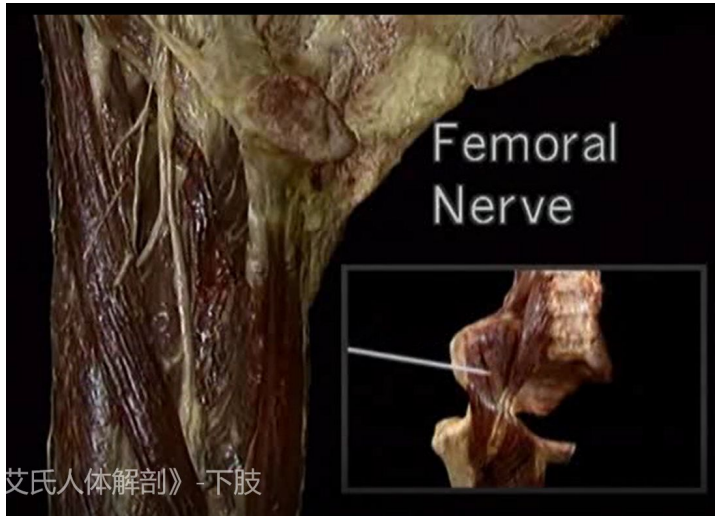
A: The treatment for bursitis is to release the encapsulated synovial bursa membrane with the needle. While the bursa internal load is very strong, the patient suffers more pain when patient is at rest or without movement, which the patient complains more pain at night that the patient cannot sleep because of the pain.

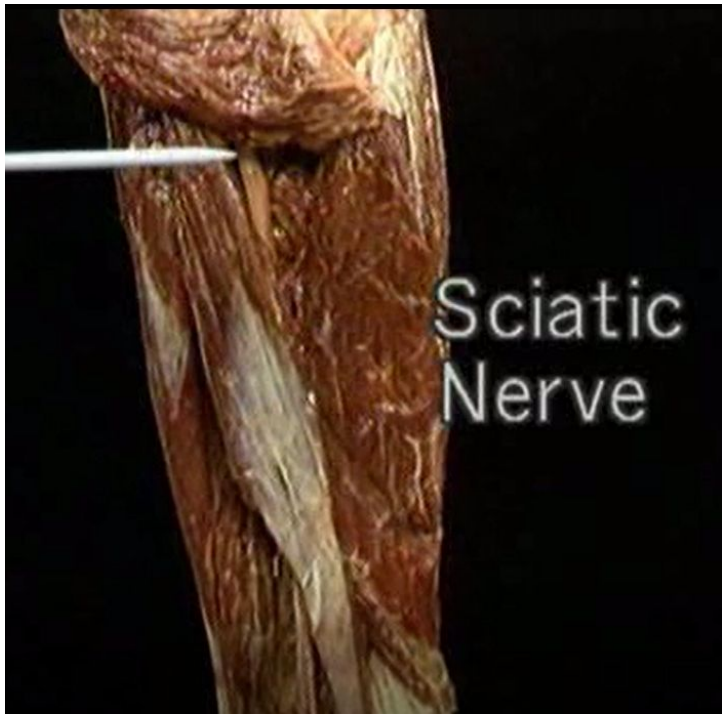


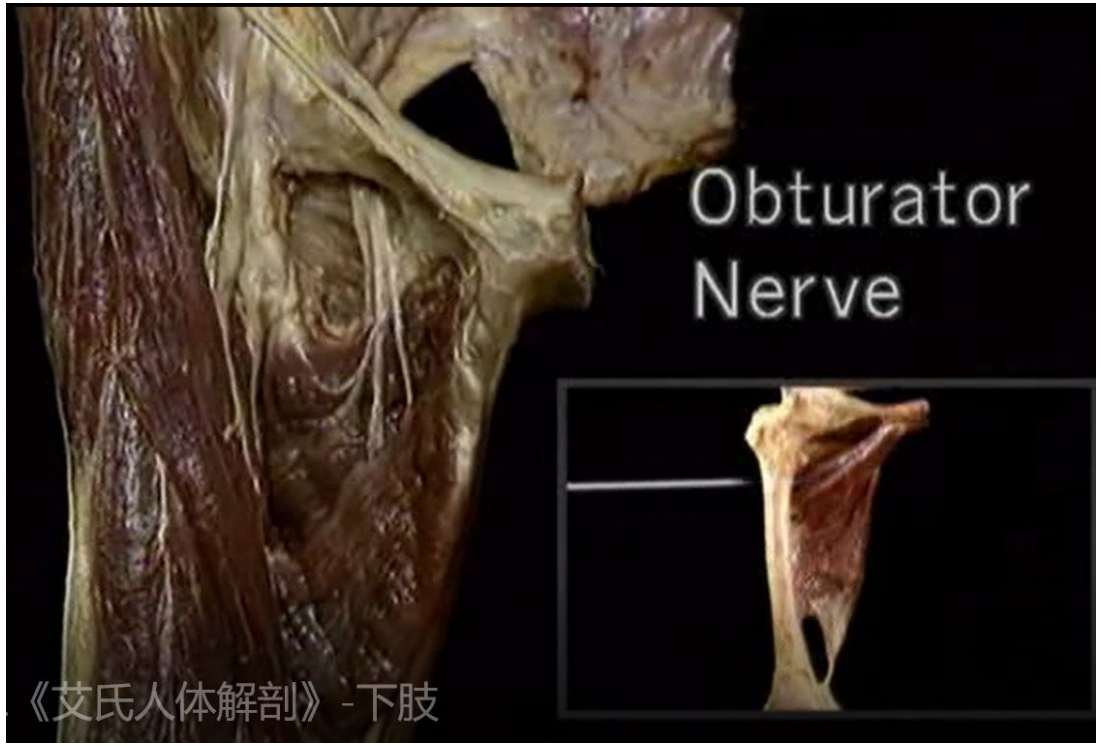

## 41. How is bursitis treated with Acupuncture? Importance of reducing internal load.

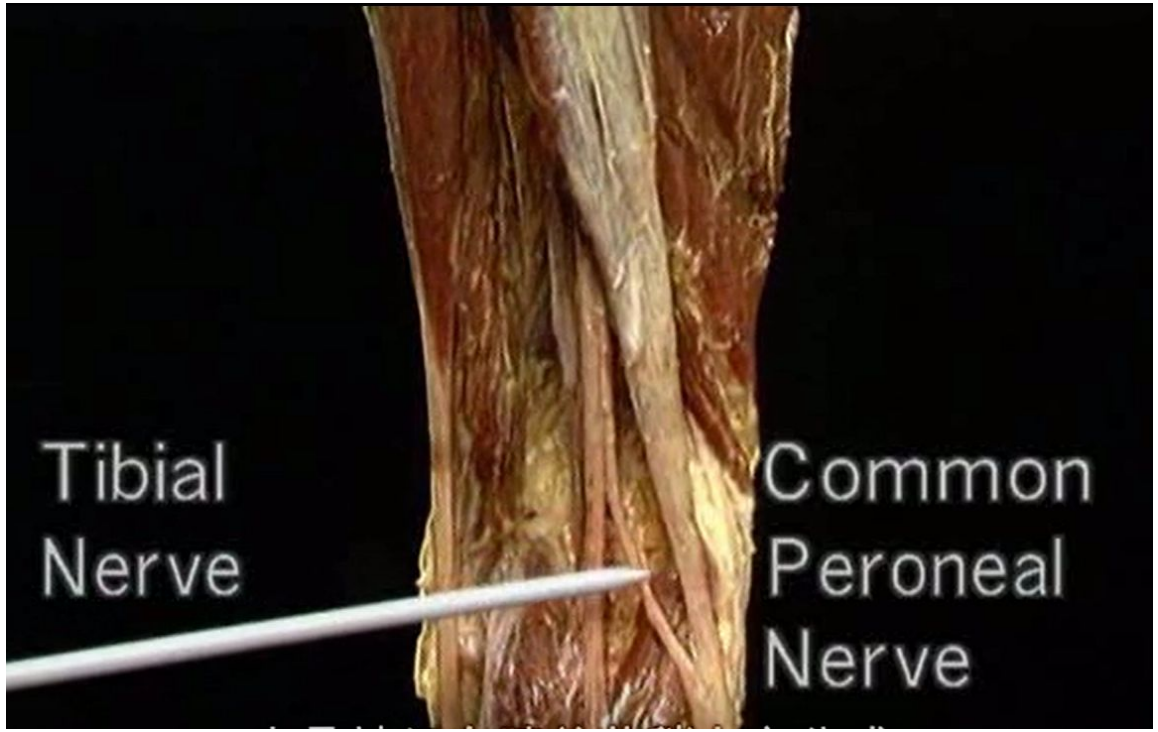
# 42. Nerve innervation of the knee.

**A: Review the anatomy of the nerves around the knee, it's precautions.**



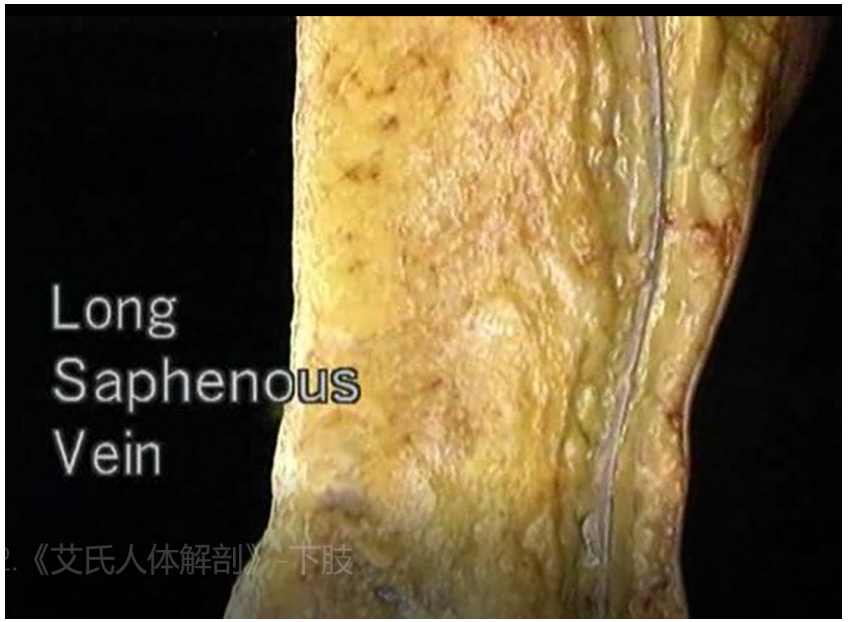



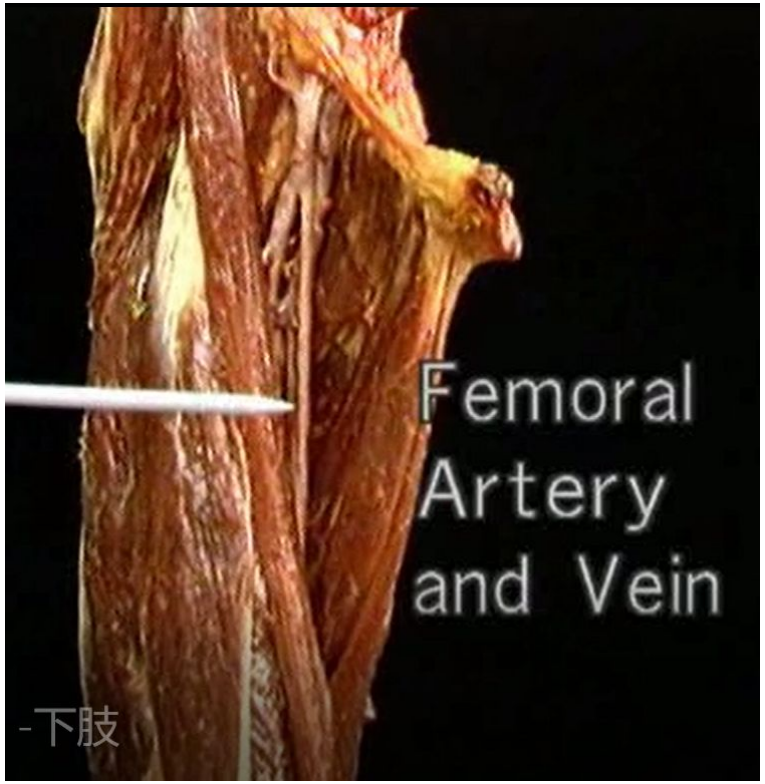

Obturator
Nerve
《艾氏人体解剖》-下肢

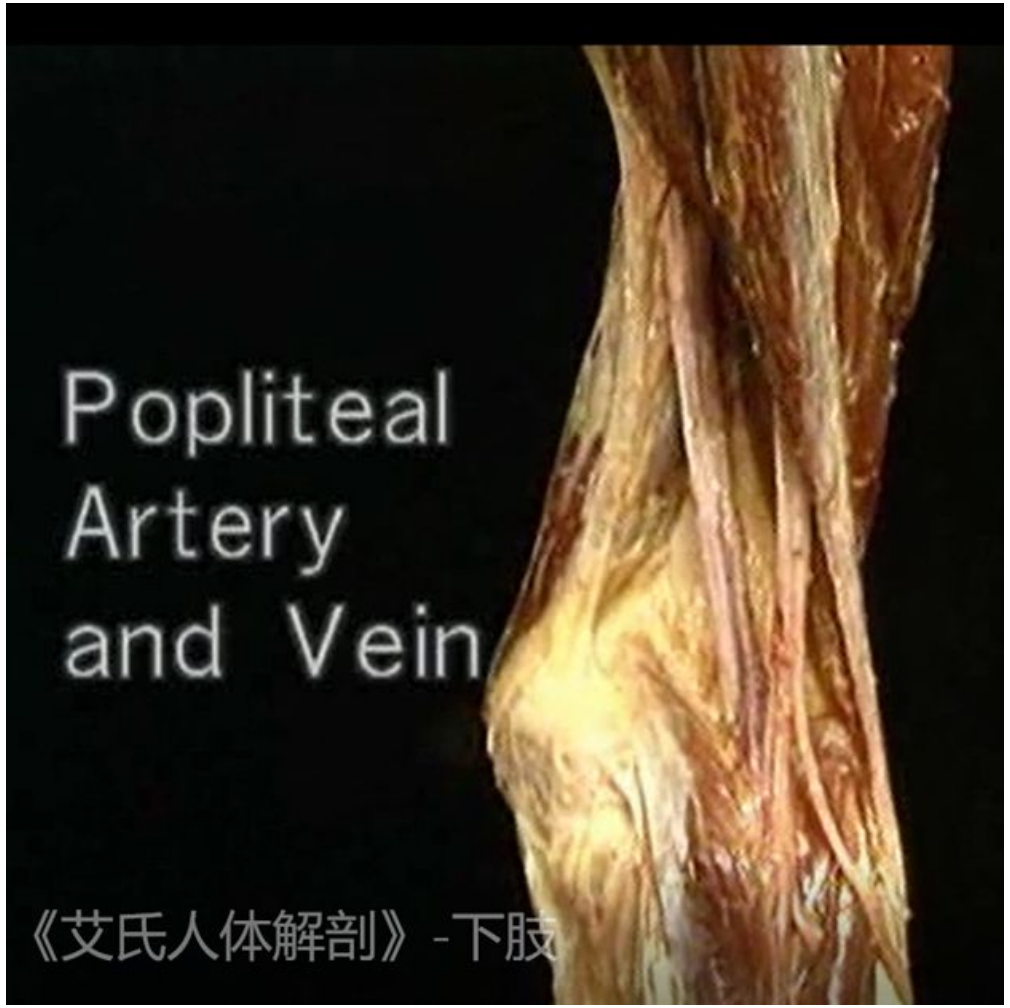

Tibial
Nerve
Common
Peroneal
Nerve

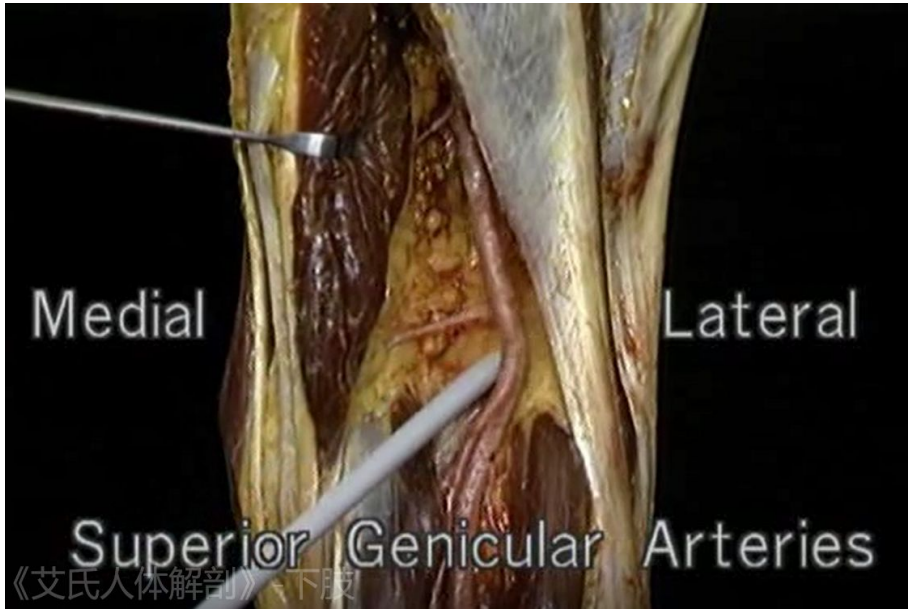
## 43. Vascularization of the knee.

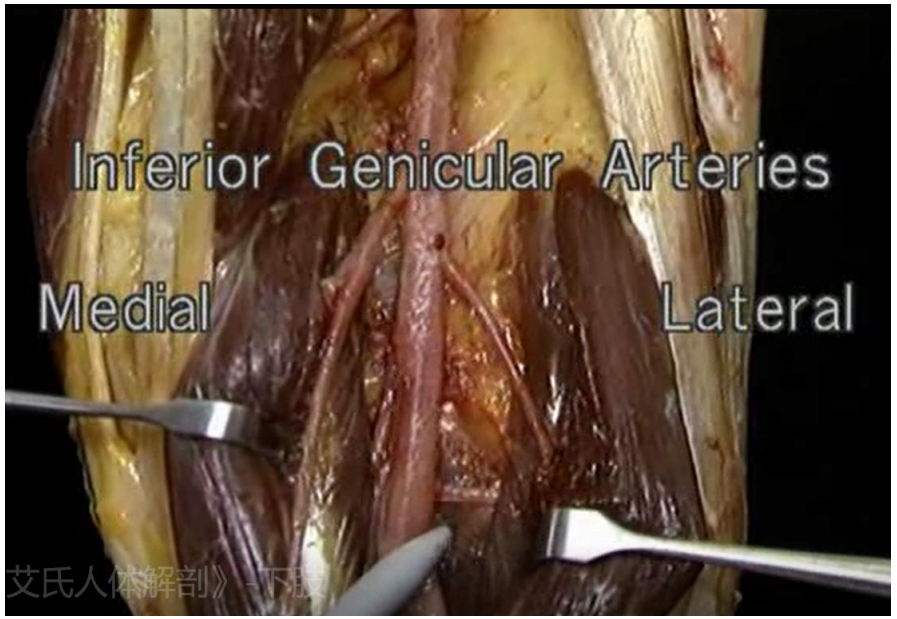
**A: Review the anatomy of the blood vessels around the knee, it's precautions.**



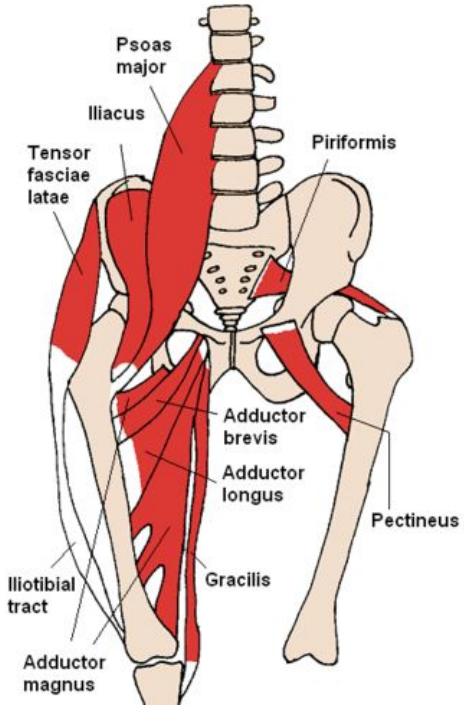

Popliteal
Artery
and Vein
《艾氏人体解剖》-下肢

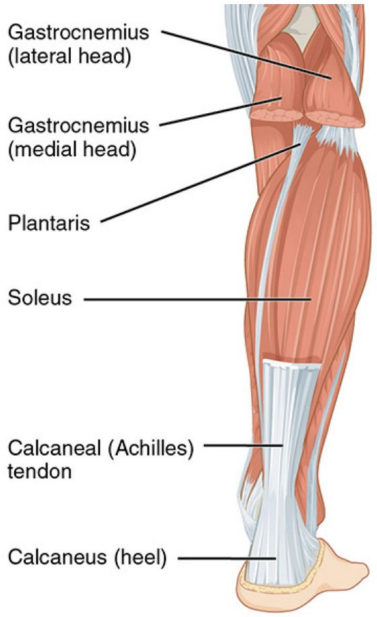

Medial
Lateral
Superior Genicular Arteries
《艾氏人体解剖》-下肢


Inferior Genicular Arteries
Medial
Lateral
艾氏人体解剖》-下肢

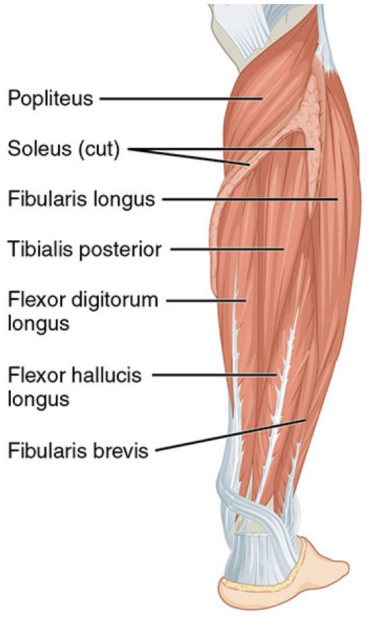
**a. Flexors muscles of the thigh:** Iliacus m., Psoas major m., Vastus rectus m., Sartorius m., Glacilis m.

**b. Flexors muscles of the leg:** Gastronecmius m., Popliteus m., Plantaris m.




Superficial muscles of the right lower leg (posterior view)

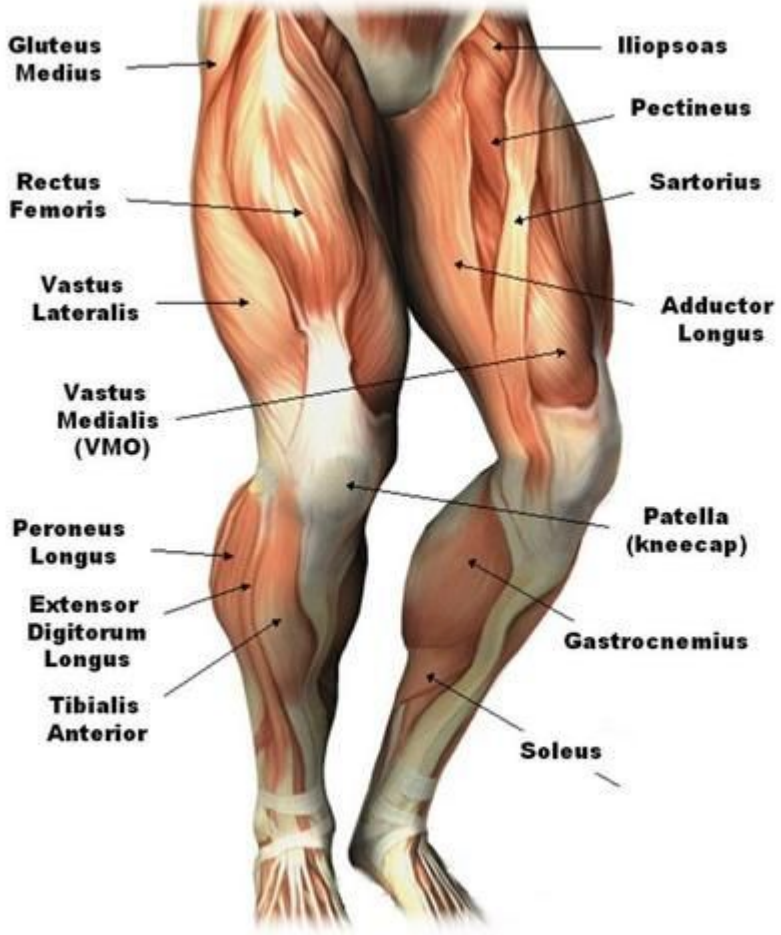


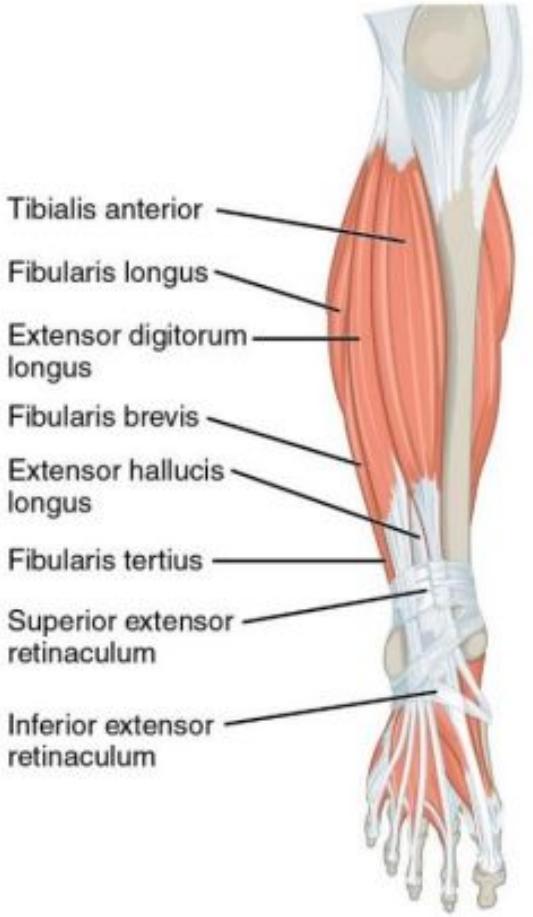

Deep muscles of the right lower leg (posterior view)

# 44. The flexion and extension muscles of the thigh and the leg that relate to the knee.

**c. Extensors muscles of the thigh:** Gluteus major m., Semitendinosus m., Semimembranosus m., Biceps femoris m.

**d. Extensors muscles of the leg:** Quadriceps femoris m.

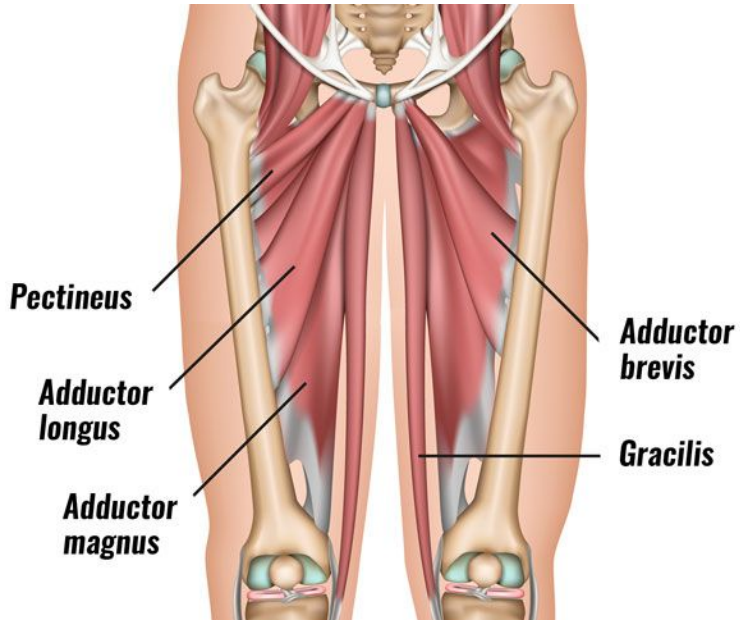



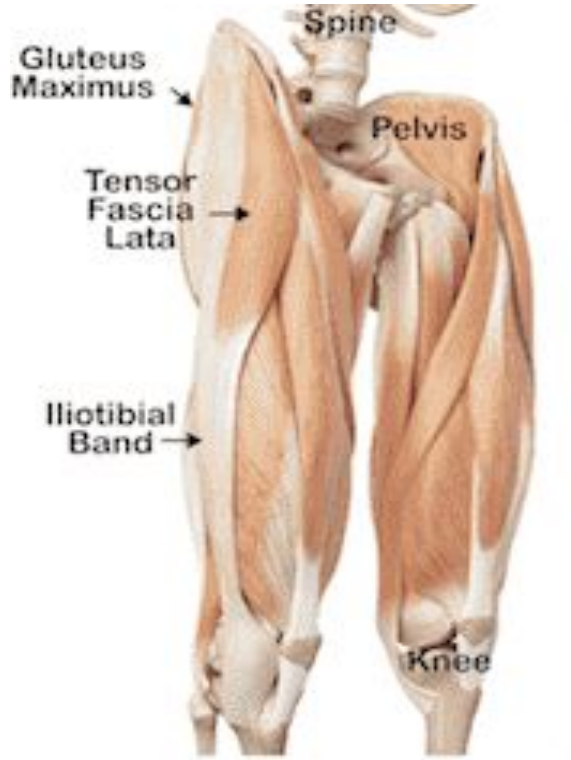



# 45. The adduction, abduction and rotation muscles of the leg that relate to the knee and thigh.

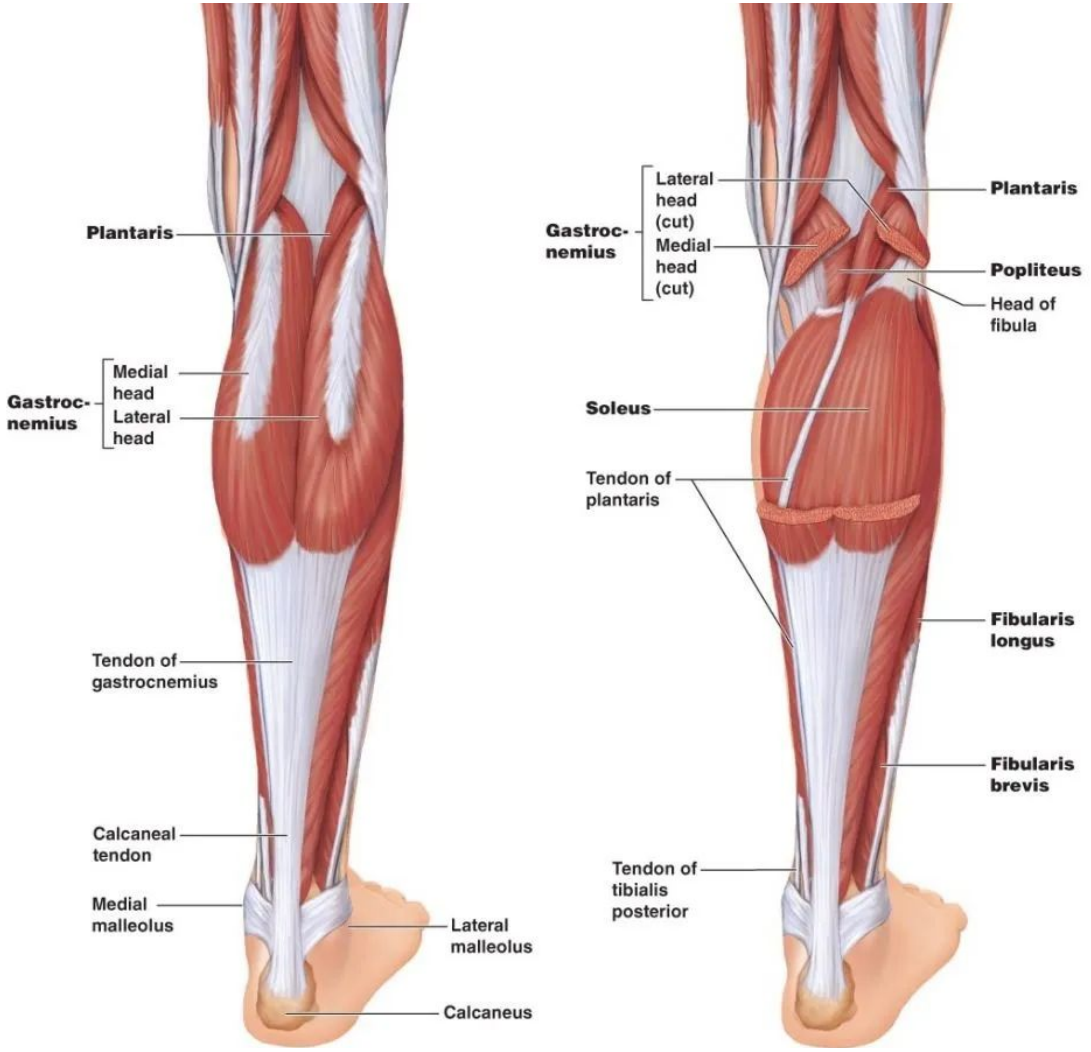
a. **Adductors muscles:**
Pectineus m.,
Adductor minimus m.,
Adductor brevis m.,
Adductor longus m.,
Adductor magnus m.,
Gracilis m.

**b. Abductors muscles:**
Tensor fasciae latae,
Iliotibial Band,
Vastus lateralis m.



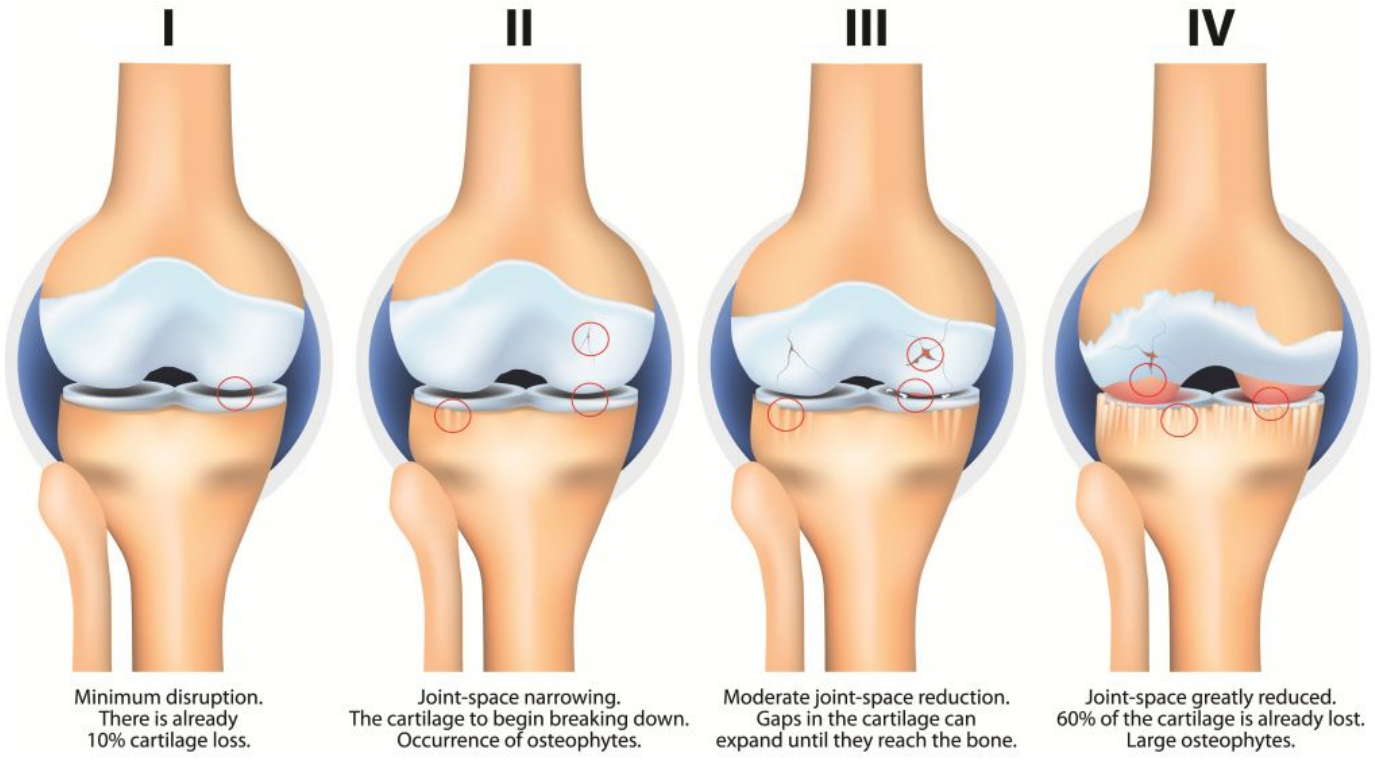



**c. Medial (internal) rotators:** Sartorius m., Semitendinosus m., Semimembranosus m.
**d. Lateral (external) rotators:** Biceps femoris m.



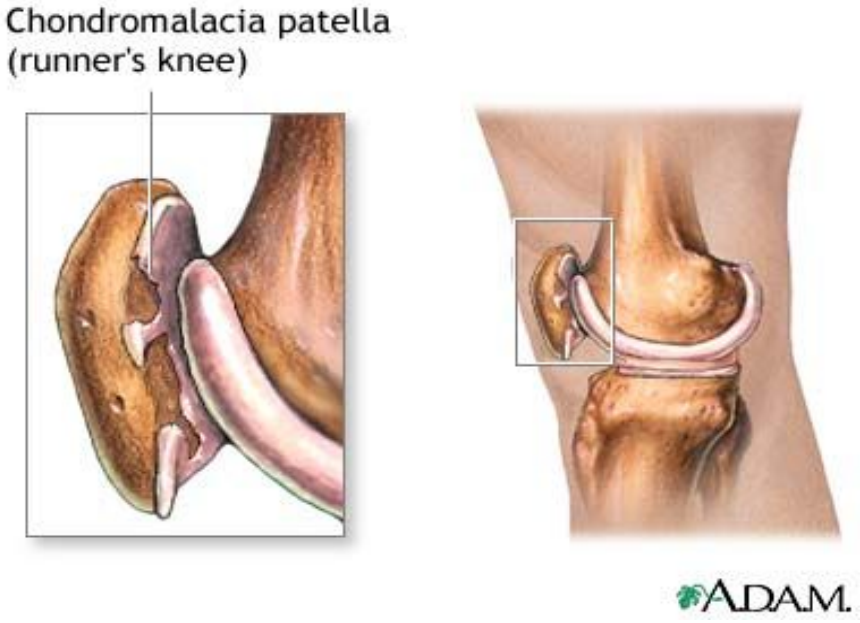
**46. How many stages does knee osteoarthritis have?**
**Can they be treated with Acupuncture?**

**A: 4 stages. All stages can be treated with Acupuncture.**




https://teachmesurgery.com/orthopaedic/principles/osteoarthritis/

# A: Release the soft tissues around the knee joint.




## 47. How is chondromalacia of the knee treated with Acupuncture?

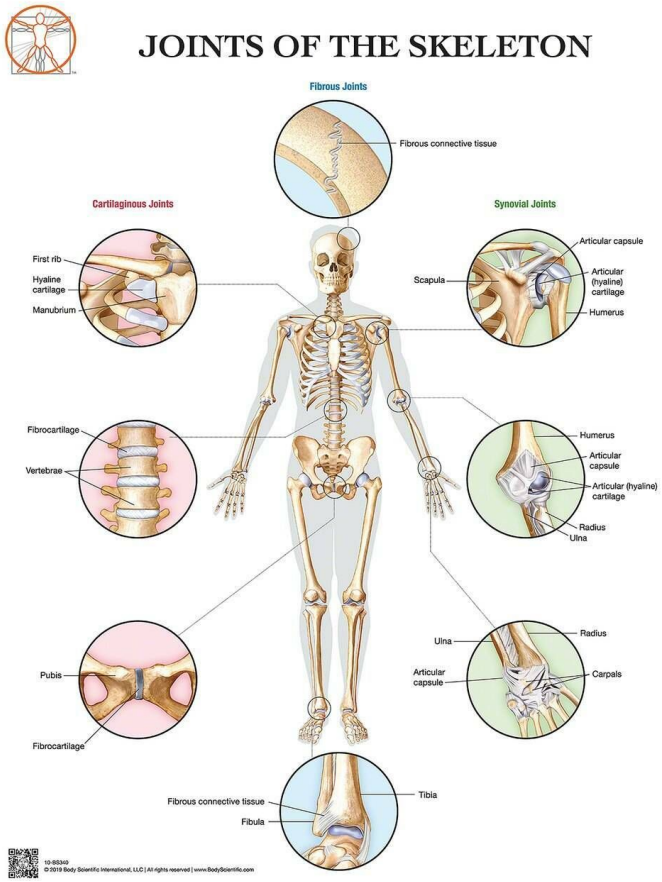
# 48. What are the maintenance methods for the knees?

a. Release the soft tissues around the knee joint.
b. Push the patella toward inferior.
c. Do not walk or run excessively.
d. Do not be overweight.
e. Acupuncture Maintenance.



# 49. Integrated treatment and maintenance.

**A: Cervical, dorsal, lumbar, sacral (all the spine), pelvic, hip, knee and ankle regions.**




**A: No surgery is required as Acupuncture is the best alternative treatment.**

**50. Is surgery required for knee joint disorders?**

# Course Materials

## Required Materials

1. Acland Robert, Acland's Video Atlas of Human Anatomy, http://aclandanatomy.com
2. Frank H. Netter, MD., Atlas of Human Anatomy, 7th Edition, ELSEVIER.
3. Ian Peate and Muralitharan Nair., Fundamentals of Anatomy and Physiology: For Nursing and Healthcare Students, 2nd Edition, Wiley Blackwell.
4. Donald C. Rizzo, Fundamentals of Anatomy & Physiology, International Edition, 3rd, Edition, Cengage Learning Inc. 2009.
5. Zhu Han Zhang, The Principles of Acupotomology, People's Medical Publishing House, 2002.

Course Materials


# Thank you!

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