

HOSPITAL
FOR
**SPECIAL
SURGERY**



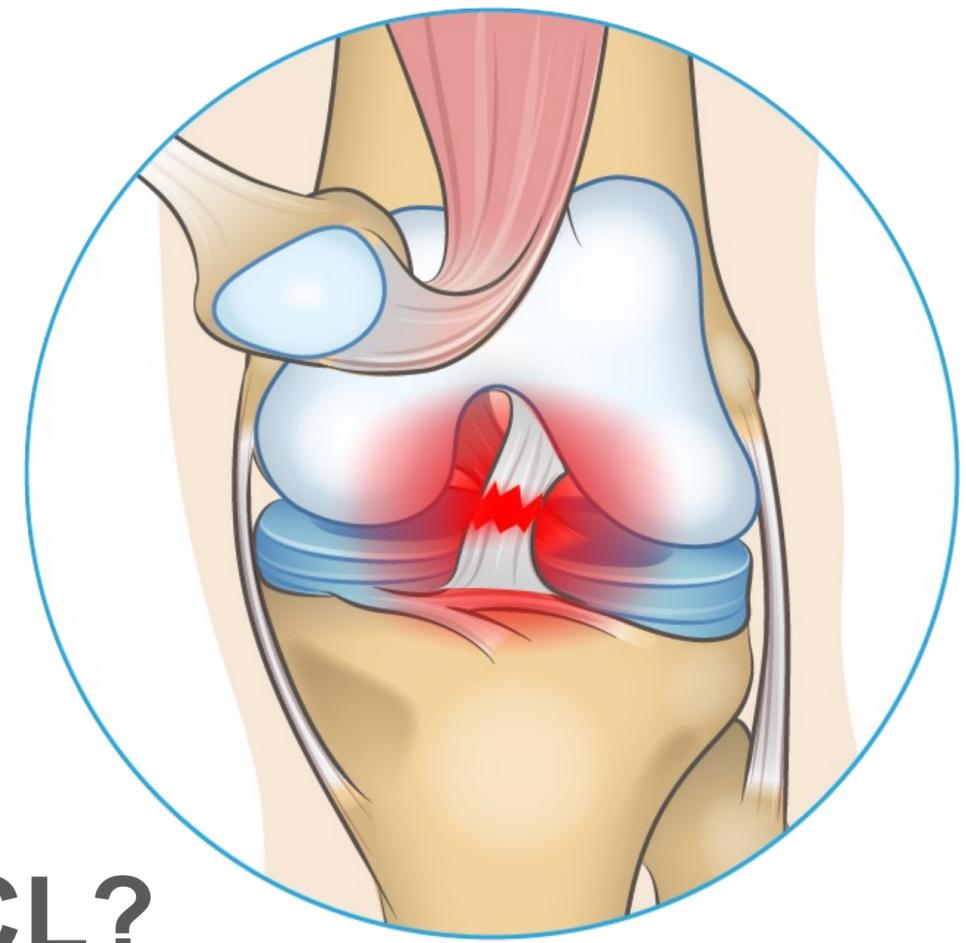
ACL Surgery



Anil S. Ranawat
Hospital for Special Surgery
New York, NY

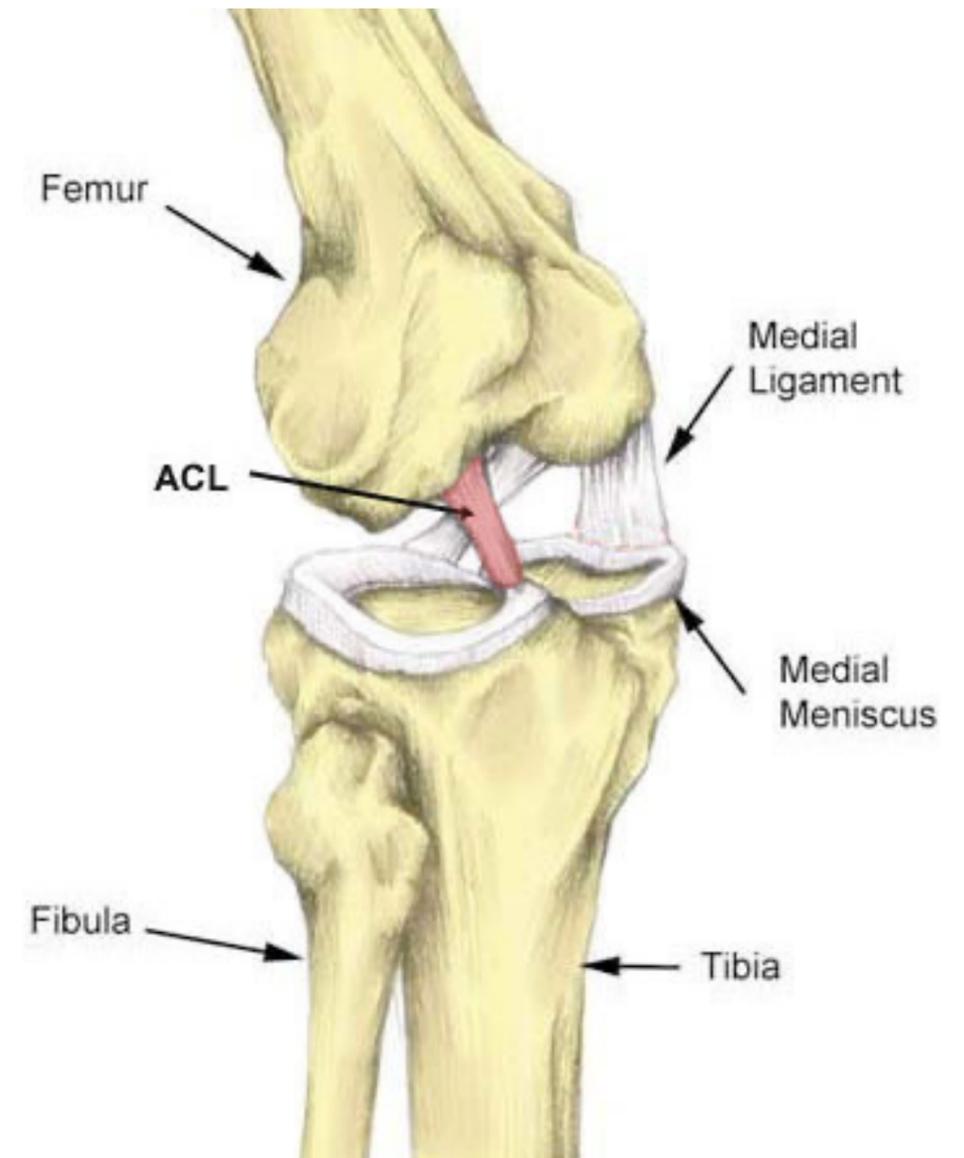
Outline

- I. What is the ACL?**
- II. What is an ACL tear?**
- III. How do you tear your ACL?**
- IV. What are symptoms of a torn ACL?**
- V. Treating ACL tears: nonsurgical vs. surgical treatment**
- VI. ACL reconstruction vs. ACL repair**
- VII. ACL reconstruction surgery steps**
- VIII. ACL surgery recovery**



I. What is ACL?

- The anterior cruciate ligament (ACL) is one of the four major ligaments in the knee joint
- It helps maintain knee stability and prevents the tibia (shinbone) from slipping in front of the femur (thighbone)



II. What is an ACL tear?

- When the ACL becomes partially or completely ruptured
- Once torn, an ACL cannot regrow or heal on its own



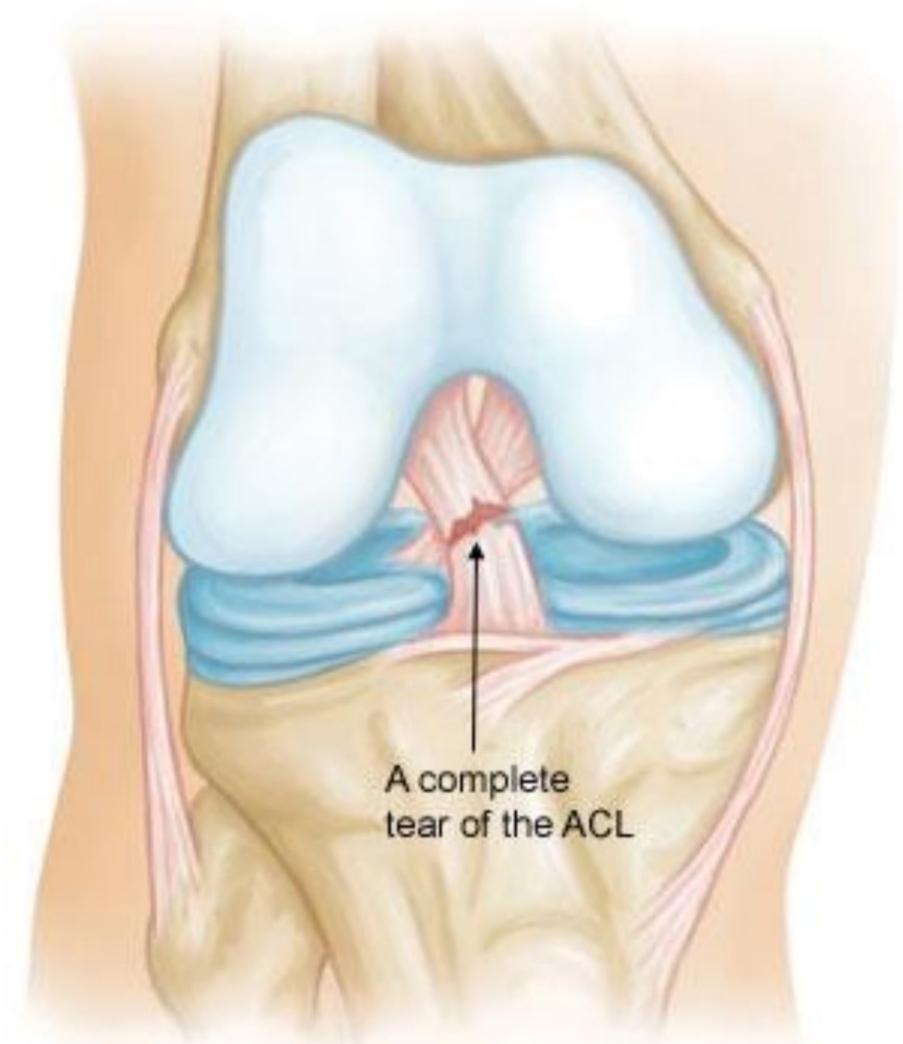
Healthy, intact ACL



Torn ACL

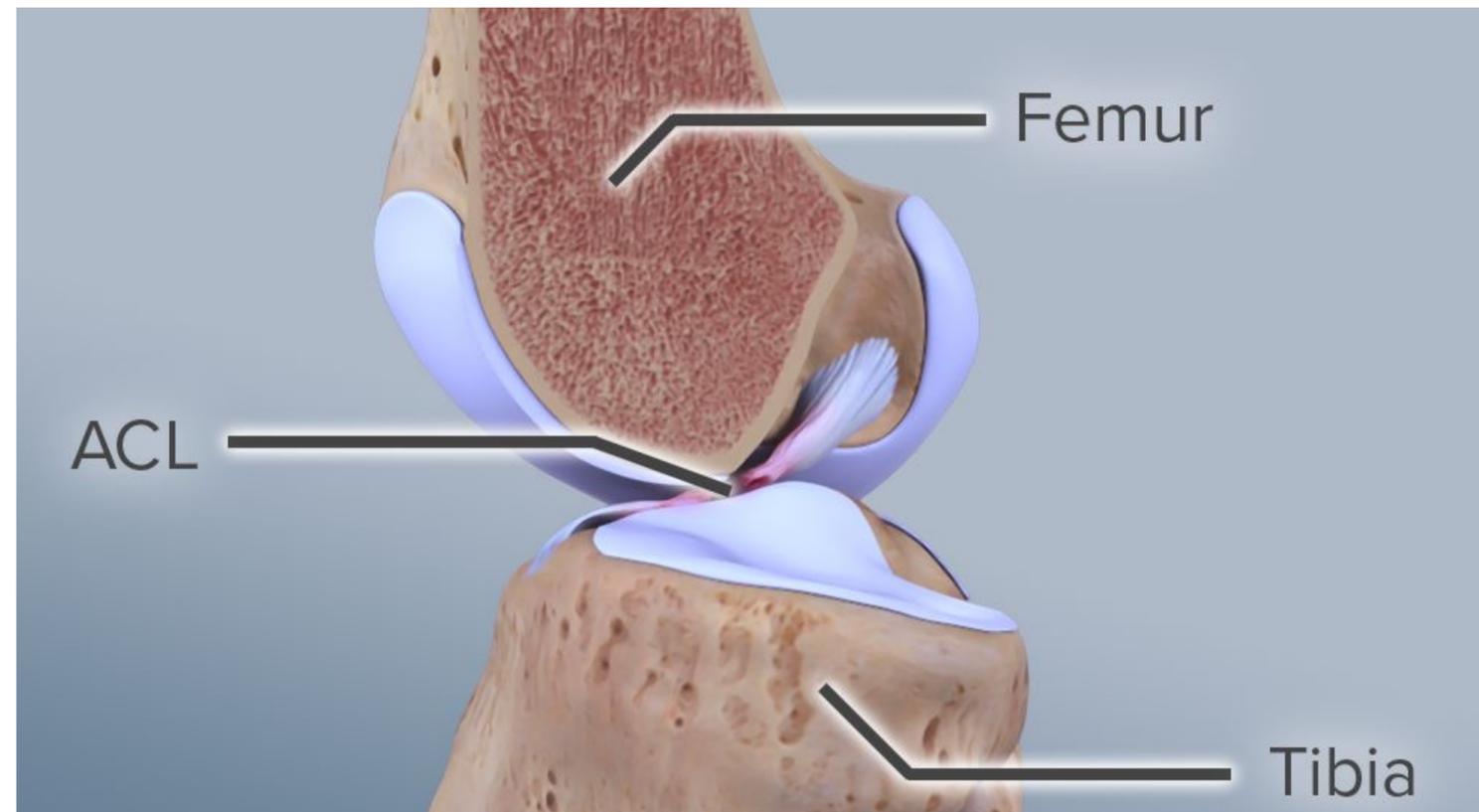
III. How do you tear your ACL?

- People of all ages, physical condition and abilities can tear an ACL
- Active women experience a higher incidence of ACL injuries than men because their biomechanics tend to put more stress on their knees
- A tear often occurs during a sudden twisting movement



IV. What are symptoms of a torn ACL?

- Popping sound at the time of injury
- Pain
- Swelling
- Knee instability
- Inability to jump/land on knee, accelerate then change directions, and rapidly pivot



V. Treating ACL tears

Nonsurgical treatment:

- **Surgery is not necessary for all patients**
- **Conservative treatments include rest, anti-inflammatory medication, leg braces worn during activities that place stress on the knee, and physical therapy**



V. Treating ACL tears

Possible disadvantages of nonsurgical treatment:

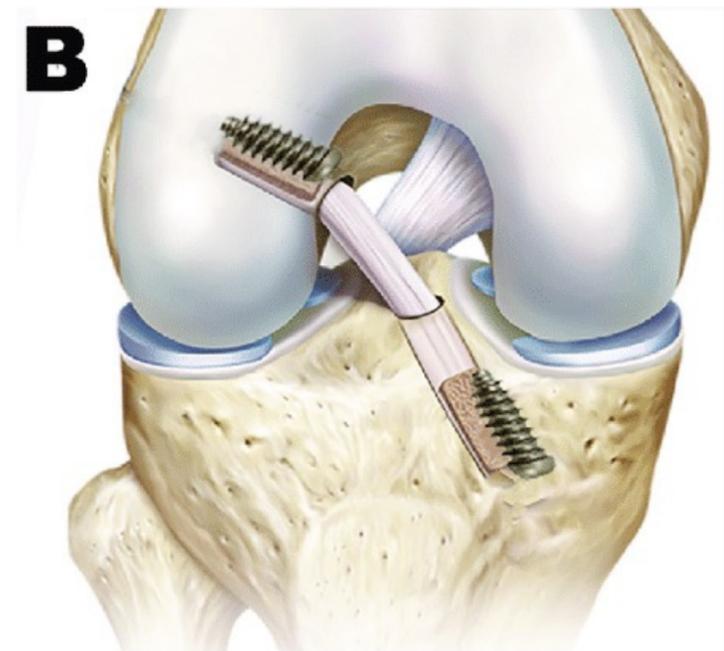
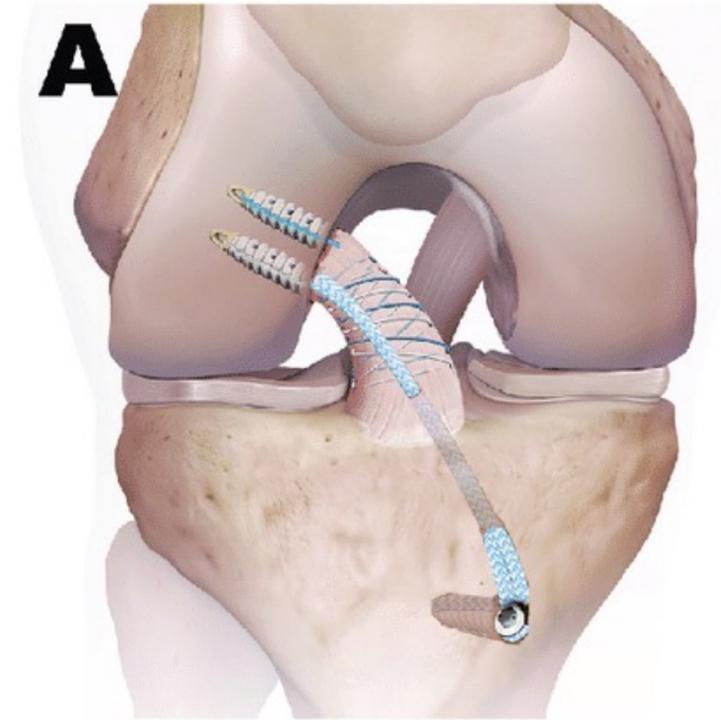
- Long-term outcomes vary
- Likely to experience knee instability during unrestricted activity
- The menisci (pads of cartilage that cushion the bones that meet at the knee joint) have a higher risk of injury which increases risk of developing osteoarthritis later in life



V. Treating ACL tears

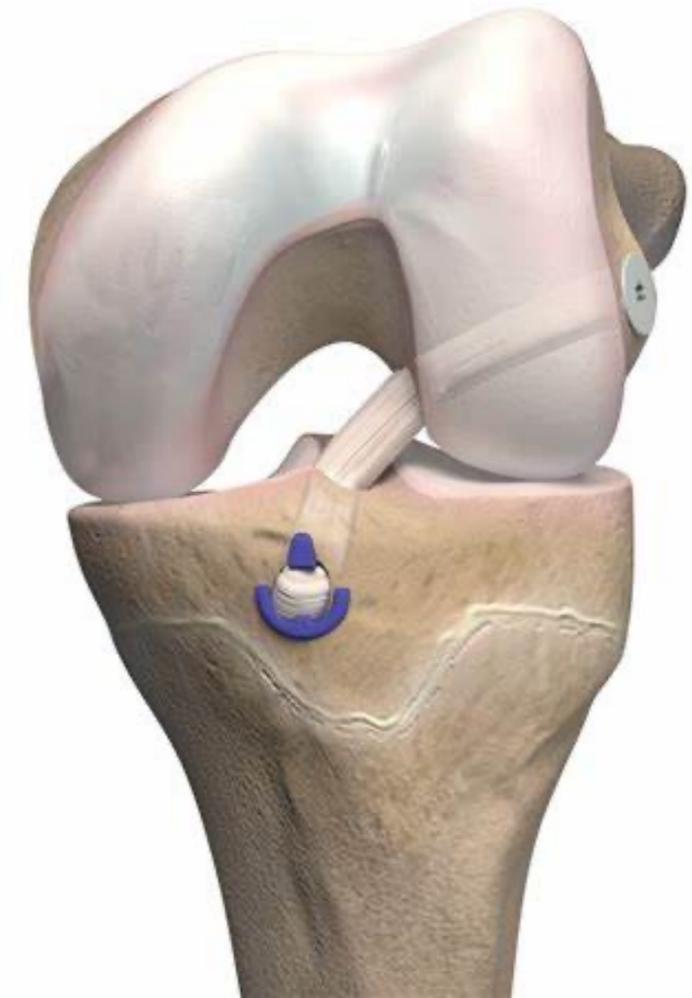
Surgical treatment:

- The choice to have surgery is usually based on lifestyle
- In athletes and other people of any age who wish to continue doing physically demanding activity, ACL surgery is often needed



VI. ACL reconstruction vs. ACL repair

- ACL reconstruction is the current standard-of-care surgical treatment for ACL tears
- Most ACL surgeries performed at HSS are ACL reconstructions
- During ACL reconstruction a graft is placed in the knee in a minimally invasive surgery that uses small incisions
- A graft is a piece of tissue usually from your own body – either hamstring, patella or quadriceps tendon



VI. ACL reconstruction vs. ACL repair

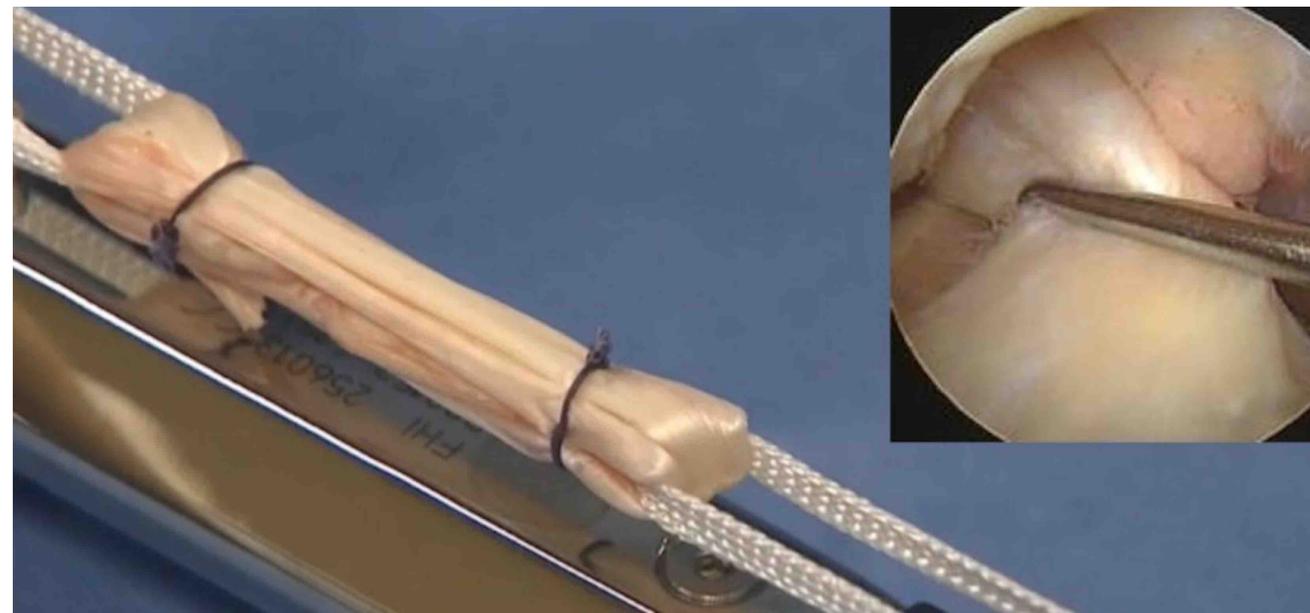
- ACL repair is an older technique that involved sewing the torn ACL tissue back together, rather than rebuilding it with a graft
- Some surgeons feel modern ACL repair techniques may be performed safely and lead to quicker recovery than ACL reconstruction
- However, data on outcomes is limited, and failure rates for ACL repair appear to be 5-10x higher than ACL reconstruction

VI. ACL reconstruction vs. ACL repair

- **If ACL surgery fails, surgeons must do a revision surgery**
- **If a repaired ACL fails, it can only be revised with an ACL reconstruction**
- **Redoing any kind of ACL surgery may result in higher rates of failure, lower rates of successful return to sport activity, and increased risk of developing osteoarthritis in the knee**

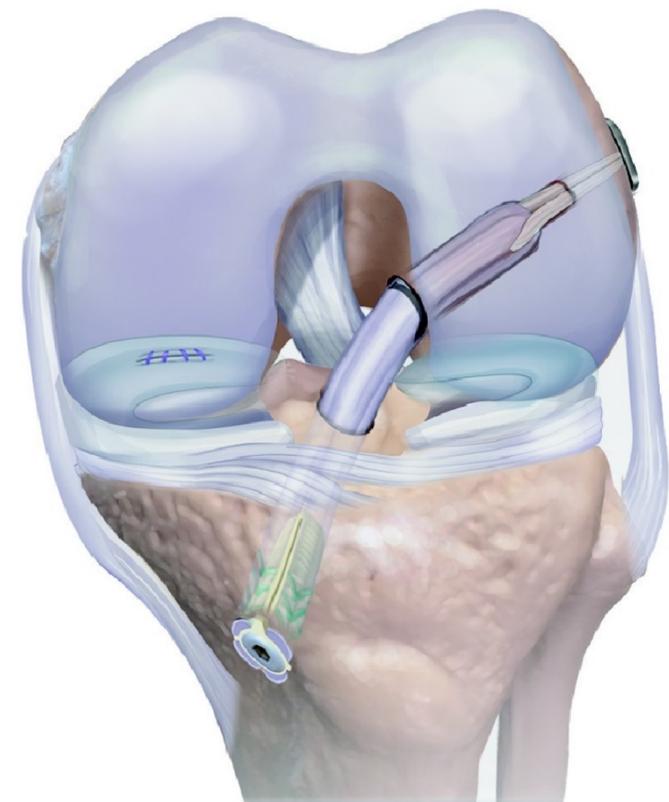
VII. ACL reconstruction surgery steps

- Surgeon makes small incisions around knee joint for entry of arthroscope & surgical instruments
- Surgeon evaluates structures that surround the torn ACL (such as meniscus or MCL) and repairs if necessary
- Next, the graft is harvested (unless a donor allograft is used). A section of tendon from another part of the patient's body is cut to create a graft



VII. ACL reconstruction surgery steps

- The graft is constructed to fit into bone tunnels
- The graft (the new ACL) is inserted into the femur (thighbone) and tibia using a flexible guide wire



VIII. ACL surgery recovery

- Patients are able to partially weight bear with crutches and brace day of surgery and fully weight bear within 2-4 weeks
- Patients will be given a prescription for pain medication and recommended either a continuous passive motion (CPM) device to regain range of motion, a cold unit (game ready) to control swelling, or both



VIII. ACL surgery recovery

- Patients will complete 4-6 months of physical therapy
- A return to normal activities in about 6-9 months, depending on the level of competition and type of activity



THANK YOU!



HOSPITAL
FOR
SPECIAL
SURGERY