

Hip...Hip...Hooray!

Hip Fractures & Fixation
Total Hip Arthroplasty
Total Knee vs Unicompartmental Knee

Program Objectives:

Following the program, the participants will be able to:

1. Identify types of hip fractures and the fixation used
2. Total Hip Arthroplasty
3. Total Knee Arthroplasty vs Unicompartmental Knee
4. Common Dressings
5. Closure techniques
6. Common Medications

Faculty:

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Falls are the leading cause of injury related deaths for 65+

300,000 Hip Fractures/year (CDC)

80% Women

Hip Fractures

- 21%--1 year mortality rate after repair
- 70%--1 year mortality rate if not fixed
- Most deaths happen 1-3 months after fracture
- Why not fix?
- Bedridden/Immobile
- Severe Chronic Medical Problems
- End of Life

Risk Factors for fracture:

Inactivity
Osteoporosis
Unsafe Home Environment
Peripheral Neuropathy
Parkinsons
Stroke
Dementia
Low Blood Sugar
Low Blood Pressure
ETOH/Smoker
Overactive Thyroid- fragile bones
Intestinal Disorders- Vit D and Ca

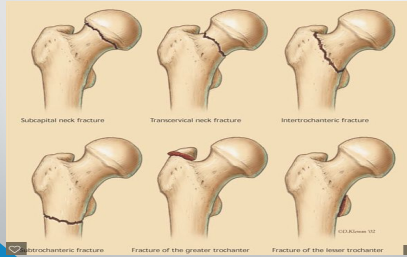
Medications

- Cortisone
- Sleep Meds
- Antipsychotics
- Sedatives

Risks from Fracture

Reduced Mobility
Bed Sores
Blood Clots, Stroke, PE
Loss of Muscle Mass= falls & reinjury
Balance
Pneumonia
UTI
Sepsis

TYPES OF HIP FRACTURES



Types of Hip/Femur Fixation:

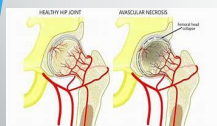
- Percutaneous Hip Pinning
- Compression Plate
- Intramedullary Rod
- Unipolar or Bipolar Hemi-Hip Arthroplasty
- Total Hip Arthroplasty

Percutaneous Pinning: Cannulated Screws/Washers



- Non displaced-femoral neck fracture**
- Cheap
 - 20 min
 - 3 screws/washers
 - 3 small incisions
 - Abulation- toe touch, ADs, WBAT
 - 20% Failure
 - AVN

Avascular Necrosis



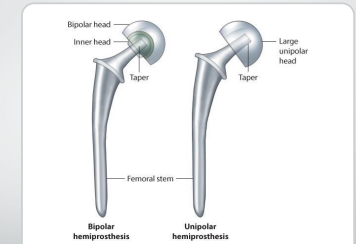
Hip Hemiarthroplasty

remove the femoral head but not replacing the acetabulum

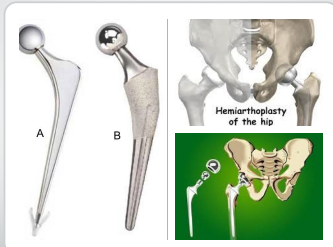


Bipolar vs Unipolar Arthroplasty

- Femoral Neck Fracture
- Hip Arthritis?
- Cheaper than THA
- Cemented vs Pressfit
- 2 hours
- Large incision



Cement vs Pressfit



Intramedullary Nail:

Intertrochanteric Fracture

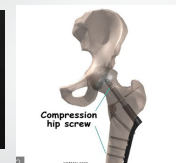
Rod down center of femur with lag screws to stabilize into femoral head



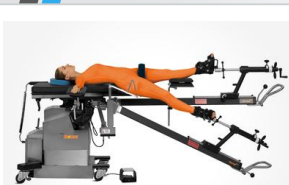
Why Short vs Long?
2-3 incisions at hip
1-2 incisions at knee
45min-2 hours
WBAT



Compression Plate



- Intertrochanteric
- Younger patients
- Good Bone
- Not overweight
- Quick procedure
- 3-5 inch incision
- WBAT



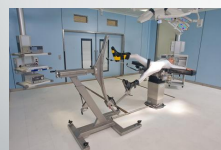
HANA Table

Perc Pin

IM Nails

Compression Plate

Positions for Hemi Hip Arthroplasty & Total Hip Arthroplasty

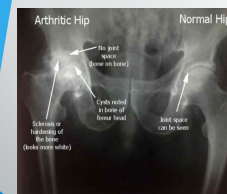


Arch table, Supine, Direct Anterior



Lateral, Posterior Incision

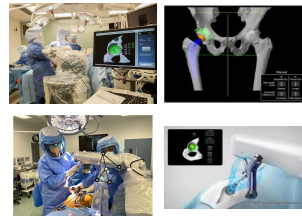
Total Hip Arthroplasty



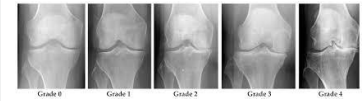


Components of Total Hip Replacement

1. Acetabular component- hydroxyapatite
2. Plastic Liner
3. Head
4. Stem- coated
5. Screws (optional)



Robotics in Total Joint Replacement



Stages of Knee Arthritis

Total Knee & Uni Knee Replacement



Uni Knee= 3 parts, preserves ACL/PCL
Total Knee= 4 parts, lose ACL and sometimes PCL

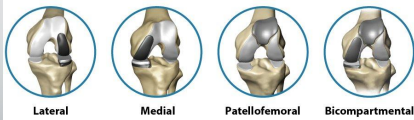
Uni vs Total on XRay



Resurfacing Knee with Burr



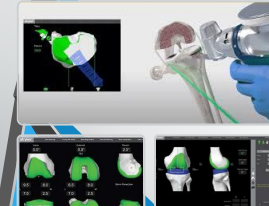
Unicompartmental Knee Options



Robotic Trackers are pinned into Femur and Tibia



Robotics aid with precision



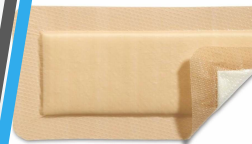
Jumpstart Dressing

- Antimicrobial
- Dots of Silver & Zinc
- Supports Healing and Kills bacteria
- 7 days waterproof
- 4x10 \$45.50



Mepilex Dressing

- Absorbs wound exudate
- 7 days waterproof
- Safetac border
- 4x10 \$4.50



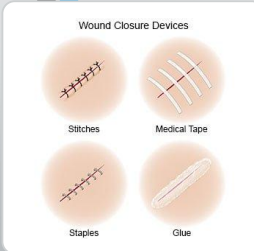
Mepilex AG

- Antimicrobial
- 4x10 \$22.00





Basic Dressing



Closing Time-
why is it always
different?!?

Pain Management & Blood Loss

Exparel

- Bupivacaine-Liposome
- Long lasting, 72-96 hours
- Decrease Opioid Use

Tranexamic Acid (TXA)

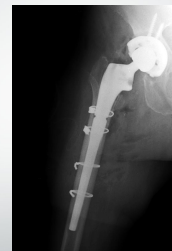
- Anti-fibrinolytic
- Controls Bleeding
- IV or Topical



Peri-prosthetic Fracture:
(Fracture occurs around a previous implant)

Fixed Fracture with Longer Stem and Cables

Sometimes a Strut Graft from Bone bank is need to support the femur



Long revision stem (claw plate and cables)



Spacer-filled with antibiotics



Head and Liner Exchange

1st line of defense for infected hips, acetabular and femoral implants stay in, just the liner and head replaced.
Why?

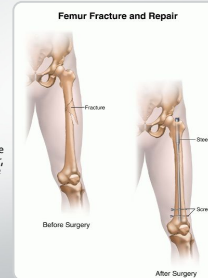
Plastic Liner may be source of infection
Head gets damaged during dislocation



Femur Fractures

Antegrade: inserted at hip down to knee

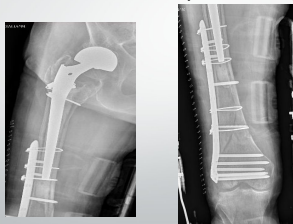
Retrograde: inserted at knee up to hip "retro-back"
(Intramedullary Nail inserted down the center of the femur, from the Proximal or Distal end of the femur, determined by where the fracture is located on the bone) Looks similar to Gamma nail but is used for femur not hip fracture. No lag screw



Distal Femur Fracture
(Supine)
LISS plate



Plating after Distal Femur Fracture
(Patient has old style total hip)



Common Dressings for Knee Surgery

1. Ointment & Cuticerin vs procellera/mepilex
2. Cast padding
3. Ace
4. Cold wrap
5. Band aids for pin sites