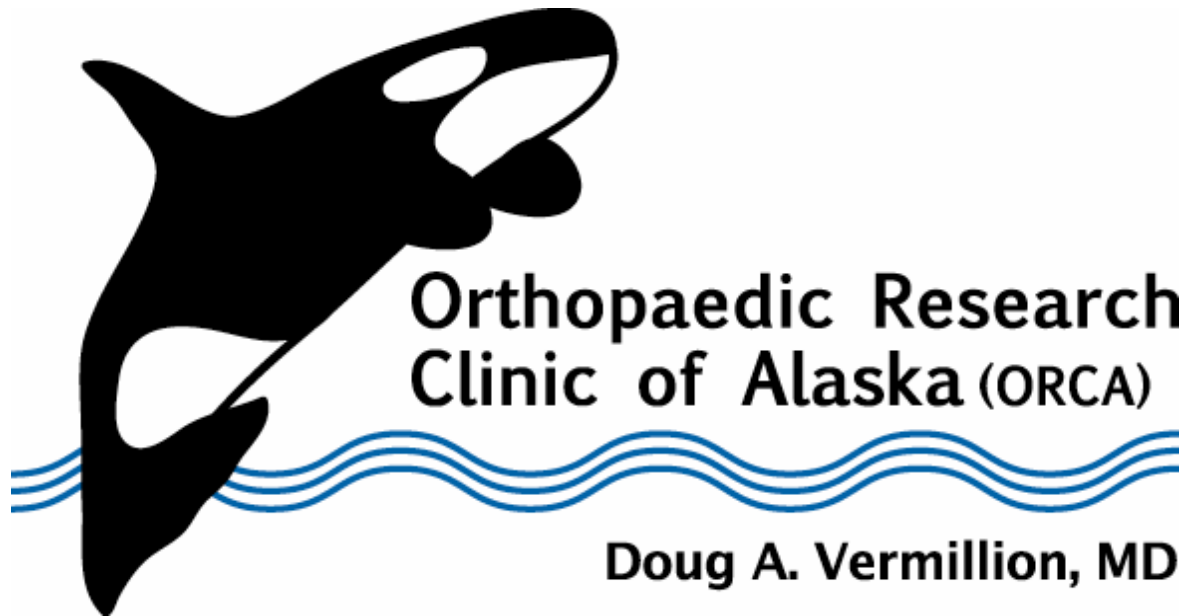
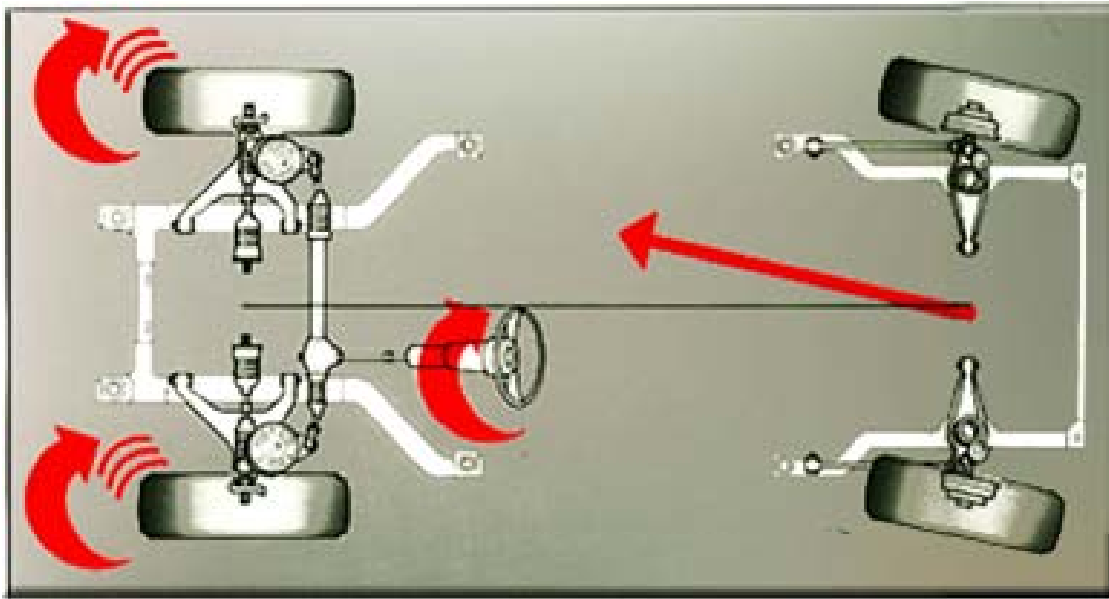


Patient guide to knee alignment procedures



Alignment



Just like having your car wheels out of alignment causes tire wear, having legs out of alignment causes cartilage wear.

Lower extremity alignment correction offloads cartilage defects

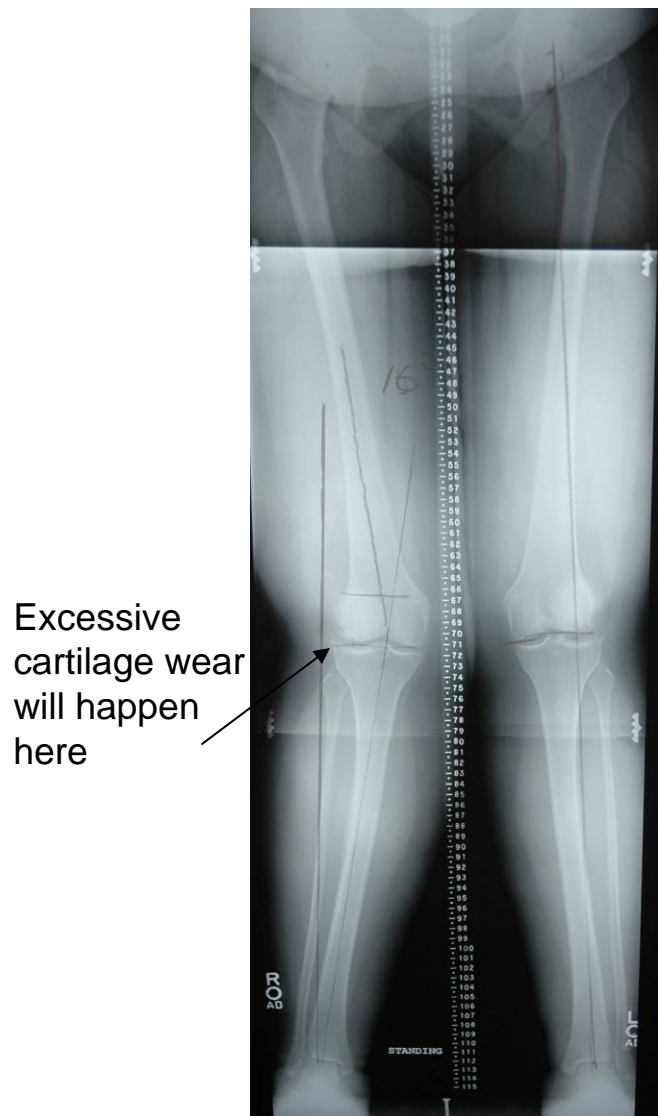


Alignment films show varus



- Mechanical axis of the lower extremity runs from the center of the hip to the center of the ankle
- This patient has the mechanical axis going through his medial joint

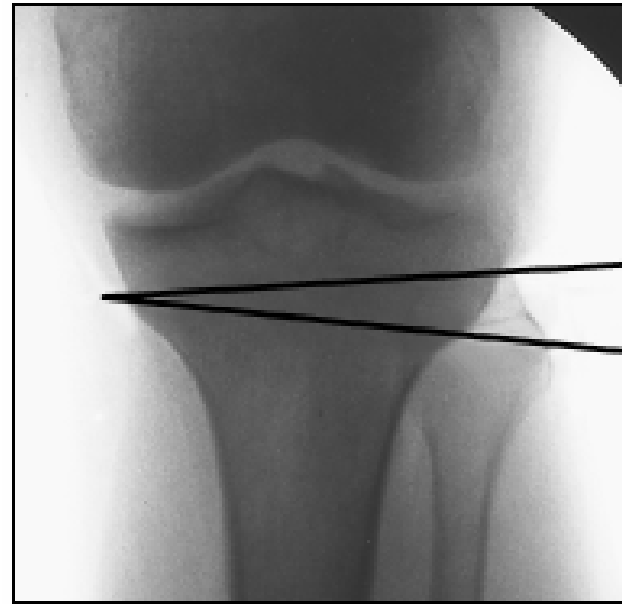
Lateral opening wedge osteotomy



- The osteotomy corrects the alignment to offload the lateral compartment
- This is a technically demanding surgery that is somewhat uncommon

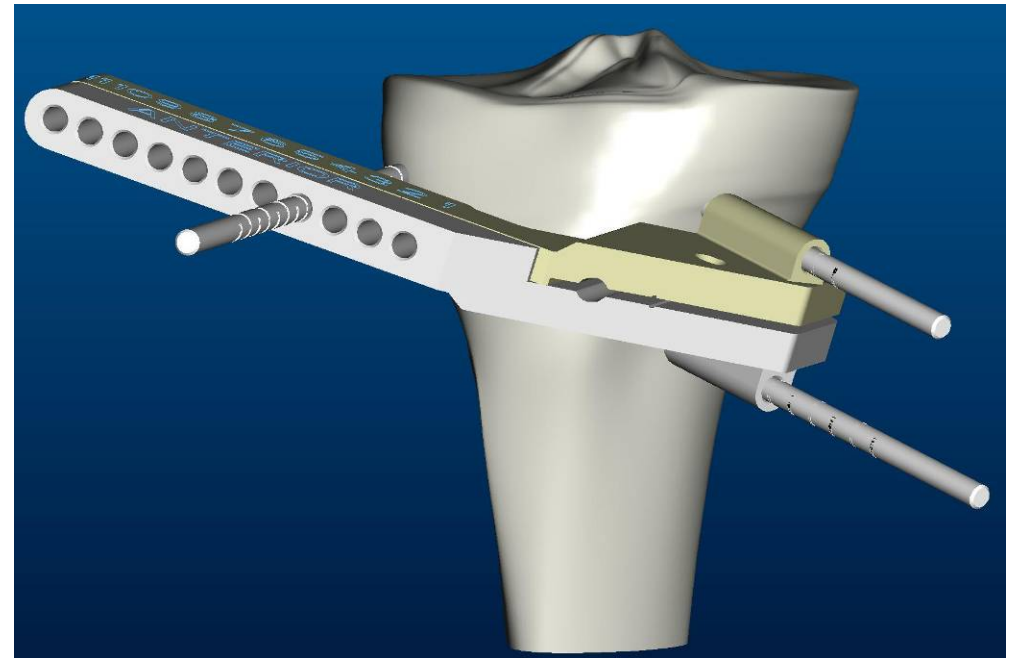
Lateral opening wedge osteotomy

The bone is cut and a wedge inserted to relieve the pressure on the lateral compartment



High Tibial Osteotomy equipment

- Special retractors allow for protection of vital structures
- Captured saw guides are placed under flouroscopy
- Hinge placed to prevent lateral fracture



High Tibial Osteotomy



- Indicated for offloading joint defect
- This patient is young and has an osteochondral defect on his medial femoral condyle.
- Our goal is to allow this to heal by taking the weight off of the medial compartment

4 weeks postop



- Patient walks into office without crutches
- Has no pain

HTO advantages

- Corrects mechanical axis to allow affected part of bone to heal
- Allows for full activity after healing
- Alone can give relief of up to 80% of knee pain and higher when combined with other cartilage repair procedures

HTO disadvantages

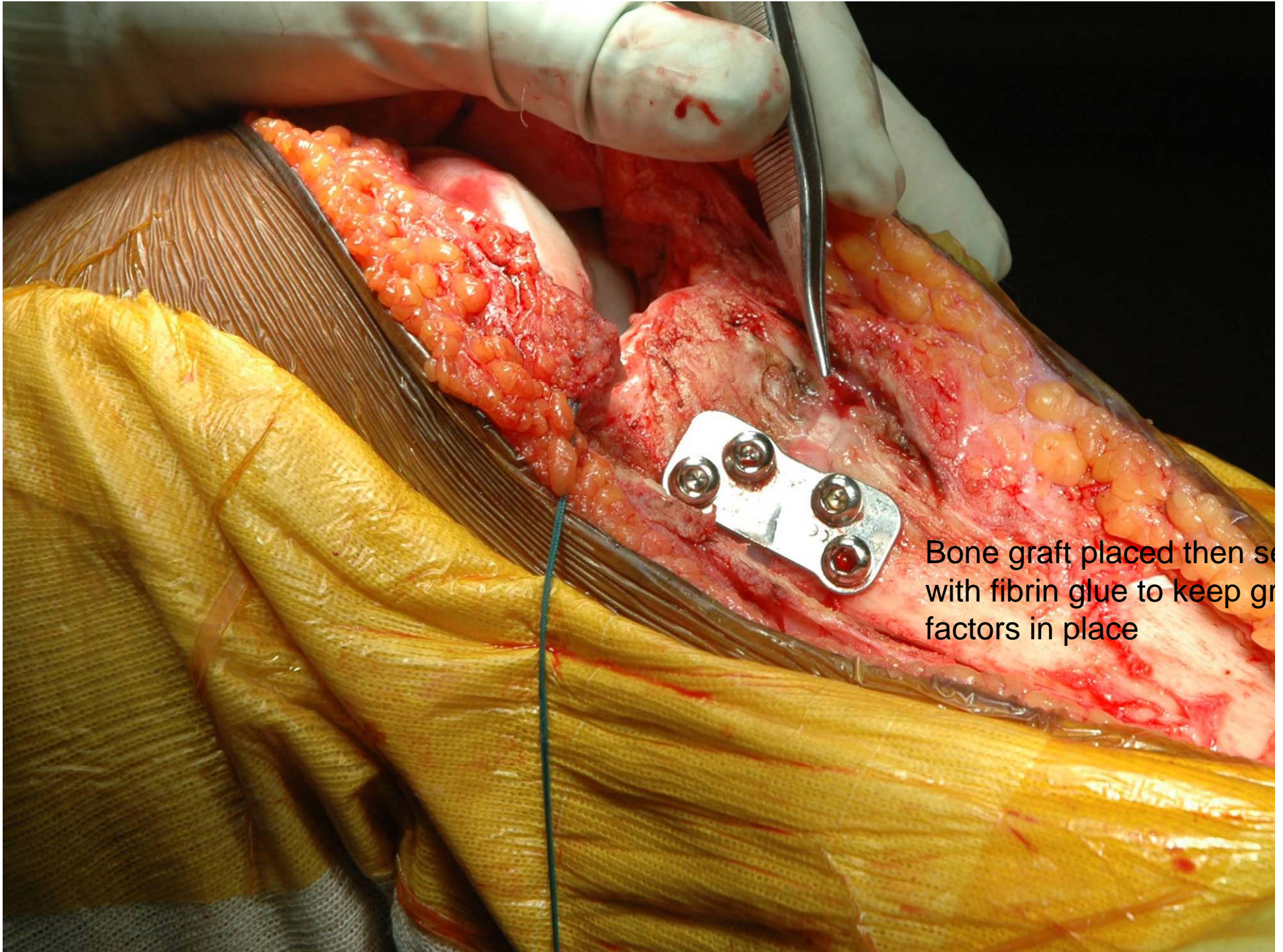
- Need for hospitalization
- Down time about 8-12 weeks prior to full activity
- Pain
- Requires experienced surgeon

High Tibia Osteotomy potential complications

- Infection
- Bleeding
- Blood clotting
- Nerve damage
- Scar with associated numbness around incision
- Pain – generous use of pain medications
- Cannot use anti-inflammatory because they delay healing
- Knee stiffness
- Loss of correction
- Hardware failure
- Delayed healing of bone cut



Bone graft placed to increase stability
Of plate construct



Bone graft placed then secured with fibrin glue to keep graft factors in place

Expected clinical course

- 72 stay in hospital for pain relief
- Range of motion with cpm machine
- Ice machine
- Outpatient physical therapy 3x per week
- Weight bearing at 4-6 weeks
- Depends on other knee issues addressed at surgery

Results

13 patients healed in average of 4.8 weeks
(range 4-6 weeks)

4 patients required manipulation, one
which required arthroscopic release of
contracture

No infections or collapse