Guide to Osteoarthritis Bracing

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OA Classification

Kellgren and Lawrence system for classification of osteoarthritis of the knee

Osteoarthritis of the knee affects the bones, the cartilage, and the synovium in the knee joint.

Grade

0

No radiographic features of OA are present

Grade

1

Doubtful joint space narrowing (JSN) and possible osteophytic lipping

Grade

2

Definite osteophytes and possible JSN on anteroposterior weight-bearing radiograph

Grade

3

Multiple osteophytes, definite JSN, sclerosis, possible bony deformity

Grade

4

Large osteophytes, marked JSN, severe sclerosis and definite bony deformity

OA Braces Overview

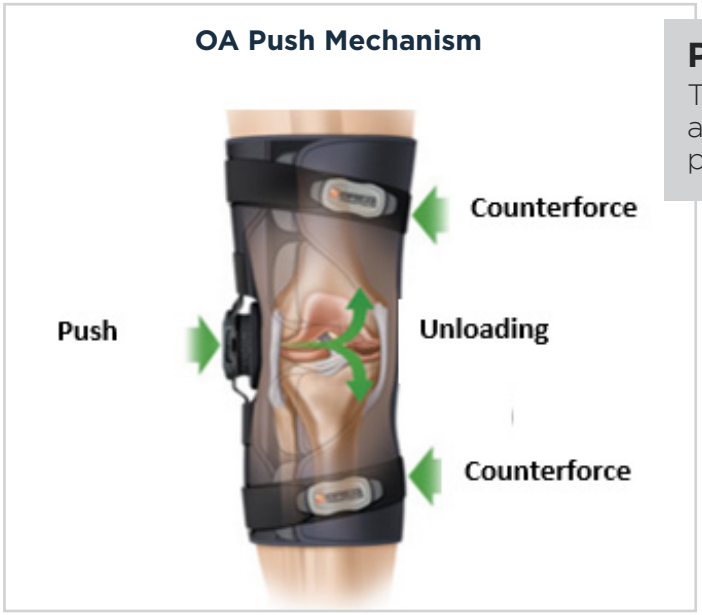
Role of OA Braces

Enhanced Stability
Braces are intended to shift weight away from the damaged area of the joint, thus helping to reduce pain and discomfort.

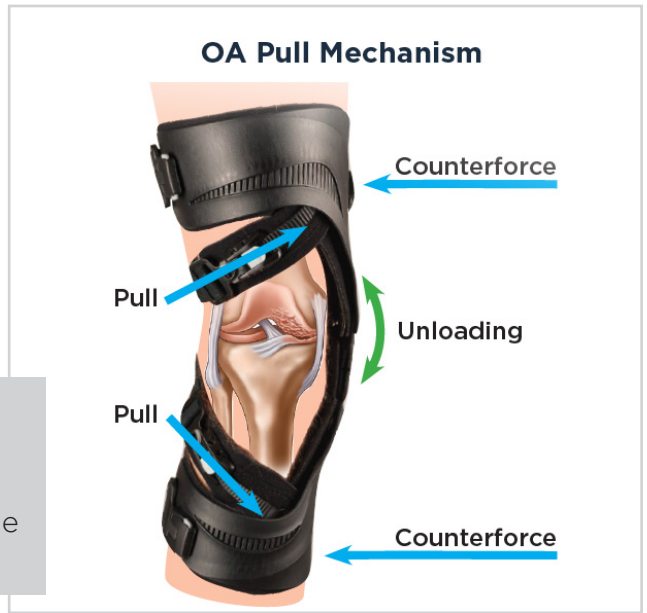
Reduced Swelling
Some braces provide compression, which can help to reduce swelling that occurs after activity for those with arthritis.

Increased Confidence
Improved proprioception allows the patient to perform activities of daily living more confidently and comfortably.

Push & Pull OA Braces



Push
The hinge is on the opposite side from the affected compartment. It telescopes and pushes to open up the affected side.



Pull
The hinge is on the same side as the affected compartment and the loading network pulls around the leg against the rigid cuffs to unload the joint.

Types of OA Braces

Dynamic OA Braces

The offloading force acts only in the last 30 degrees of extension when the patient requires the most relief.

Pull Technology

Pull technology allows the hinge to be on the affected compartment's side.

Quantum™ OA

Thruster RLF

Thruster Legacy

DUO

Static OA Braces

The offloading force is static, constantly providing an unloading action.

Push Technology

Push technology allows the hinge to be on the affected compartment's opposite side.

Compact X2K® OA

Z-12® OA

Freestyle™ OA

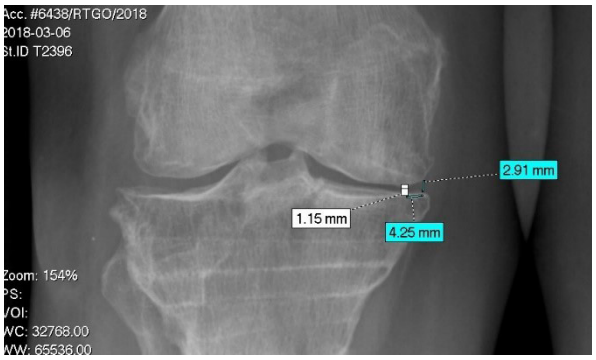
Fusion® OA

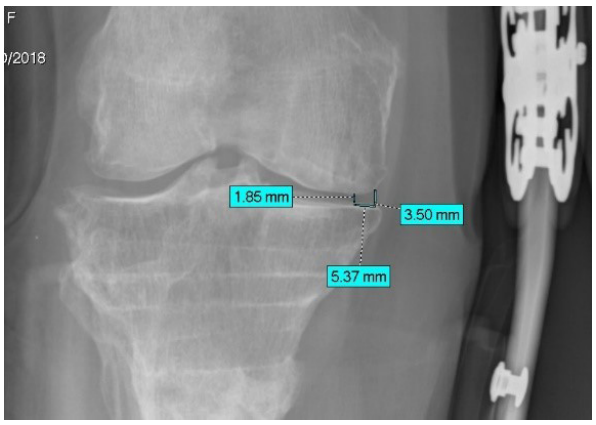
How an OA Brace Supports the Knee Joint

Patient Case Study: DUO Knee Brace

55-year-old female
OA Grade 3

- Post HTO (High Tibial Osteotomy)
- Significant OA progression
- VAS pain scale 8 without bracing
- VAS pain scale 1 with bracing
- Medial compartment space without brace: 2.91mm
- Medial compartment space with brace: 3.50mm

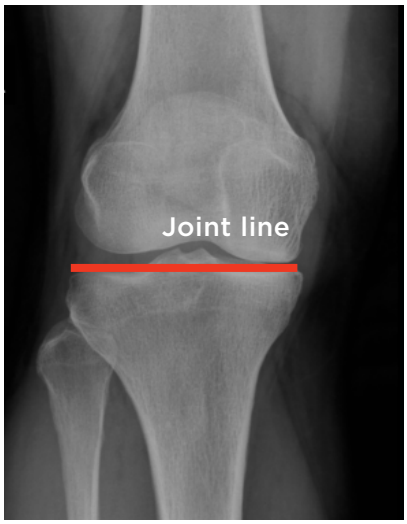


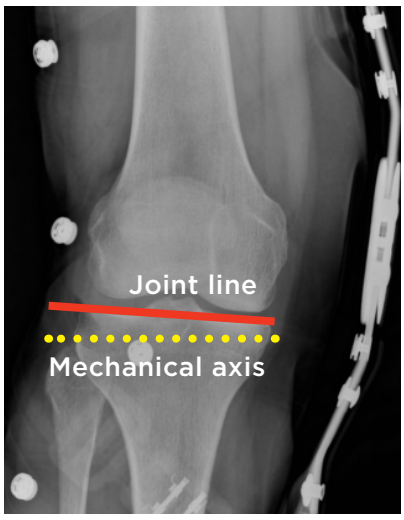


Patient Case Study: Quantum Knee Brace

61-year-old female
OA Grade 2/3

- Unstable knee in frontal plane
- LCL and MCL instability
- VAS pain scale 7 without bracing
- VAS pain scale 1 with bracing
- Patient confidence significantly increased with brace wear
- Knee alignment and gait pattern improved post bracing

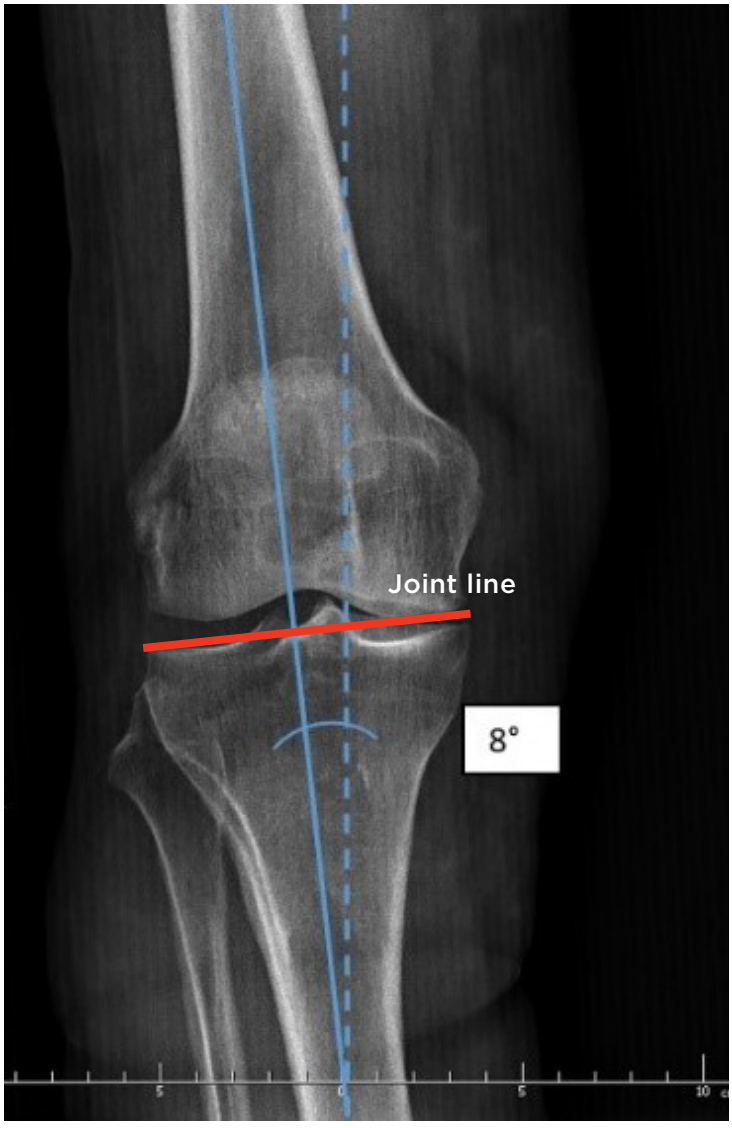


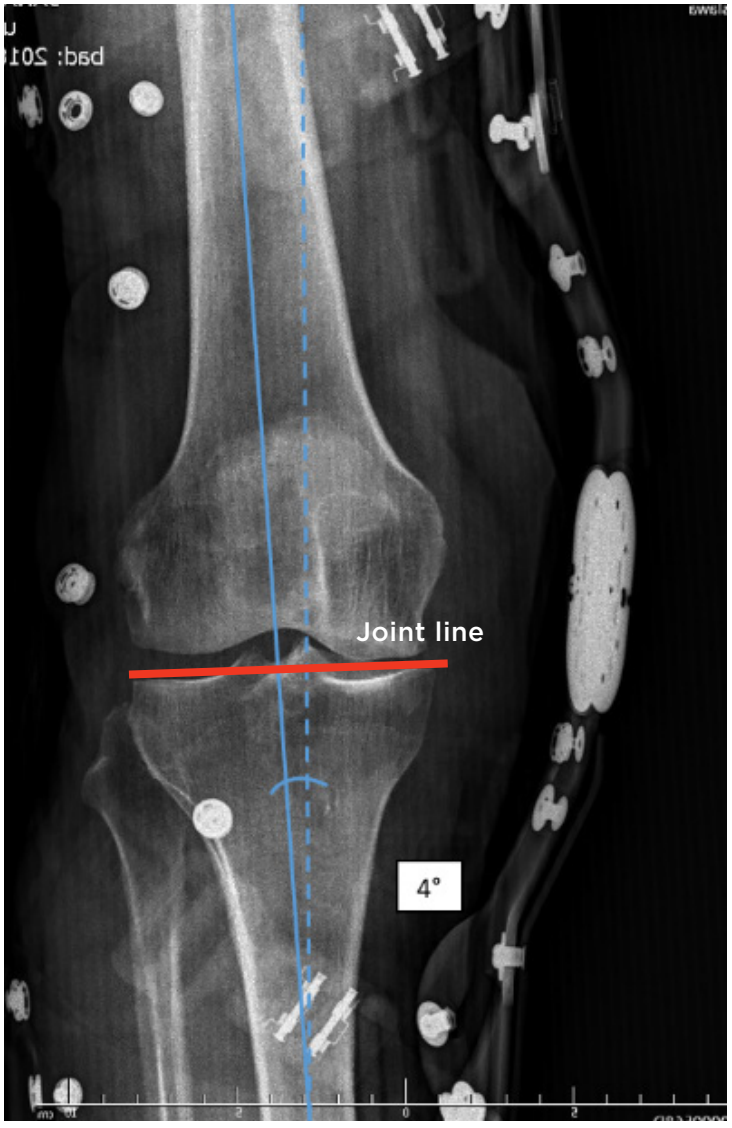


Patient Case Study: Quantum Knee Brace

71-year-old female
OA Grade 3

- Grade 3 progressive OA
- VAS pain scale 7 without bracing
- VAS pain scale 2 with bracing
- Minimal joint space change visible
- Improved gait with brace
- Improved confidence with brace





How to Find Out if an OA Brace Works

The most important goal is to reduce pain and improve comfort for the patient with OA. Proof of space opening is not always the only determinant of success. Patient comfort, ease of use and compliance, as well as the correct applied force, all lead to successful treatment.

Outcomes

- ✓ The pain is gone or reduced
- ✓ Confidence is improved
- ✓ Patient can walk longer distances
- ✓ Knee feels supported
- ✓ Activity level increases

YES, this OA brace works!

How to Choose the Best Brace for Your Patient

The patient interview:

- **Ask about the history of OA and accompanied symptoms**
  - When the patient has other comorbidities such as a torn meniscus, chondromalacia of the patella-femoral joint, ligament instability, etc., double upright OA braces should be considered to provide additional structure for knee stability.

- **Ask what activities the patient hopes to increase by wearing a knee brace**
  - To participate in sports, it's always good to have a brace that offloads one compartment but at the same time protects the knee across all planes - frontal, sagittal and transverse. In such cases, dual upright braces are the best solution.

- **Check if the patient can fully extend the knee**
  - Lack of full extension is usually the result of a flexion contracture. Patients often keep out of full extension in order to minimize pain, which can cause a flexion contracture.

- **Check the severity of the knee deformity**
  - Usually, with moderate and severe OA, the knee has significant varus or valgus deformity. In most cases, when the deformity is more than 18-20°, you should choose the single upright brace.

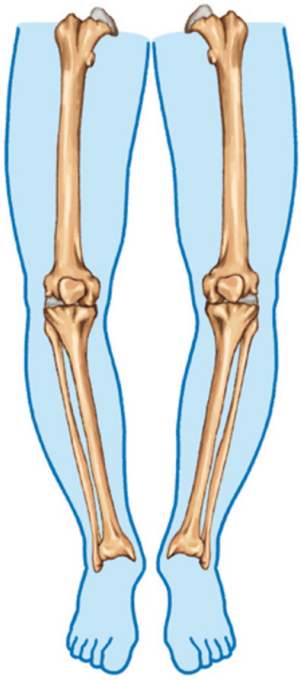
How to Order a Brace

For all brace designs, indicate the side (left/right) and the compartment (medial/lateral) that needs to be unloaded.

With push technology braces, the dial (or upright in single upright braces) will be placed opposite of the affected side.

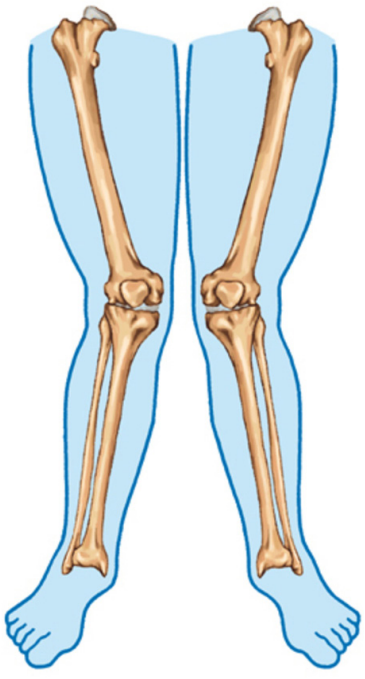
With pull technology, the dial (or upright in single upright braces) will be placed on the same side that is affected.

Varus Knees



For Varus knees, the medial compartment would need unloading.

Valgus Knees



For Valgus knees, the lateral compartment would need unloading.

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