



*Clinical outcome study of knee bracing in osteoarthritis
(A retrospective and prospective study)*

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Goal of a Off loading Brace

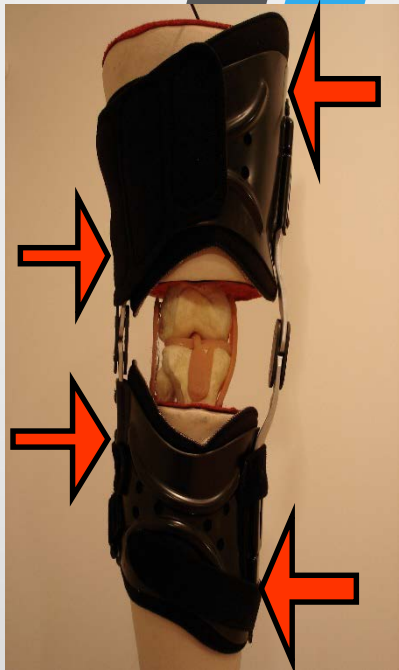
Reduce load on degenerate compartment

Provide mechanical stability

Modify abduction and adduction lever arm of knee

Shift of tibio – femoral angle and increased condylar angle

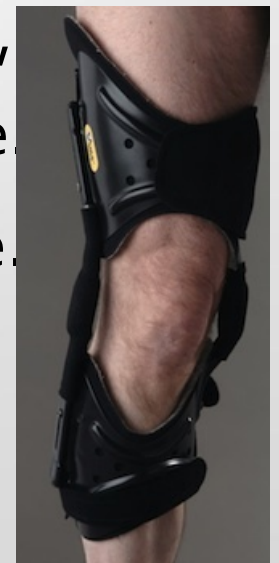
Reduction of compression of the affected compartment



V- VAS Brace

Varus valgus
adjustment
stress

Custom made , Uni-axial ,
closed frame with a polycentric hinge.
Dynamic off loading and realignment experience.



Clinical Evidence

Horlick SG, Loomer RL: Valgus knee bracing for medial gonarthrosis. *Clin J Sport Med* 1993;3:251-255

Kirkley A, Webster-Bogaert S, Litchfield R, et al: The effect of bracing on varus gonarthrosis. *J Bone Joint Surg Am* 1999;81:539-548

Draper ER, Cable JM, Sanchez-Ballester J, Hunt N, Robinson JR, Strachan RK: Improvement in function after valgus bracing of the knee: An analysis of gait symmetry. *J Bone Joint Surg Br* 2000;82:1001-1005

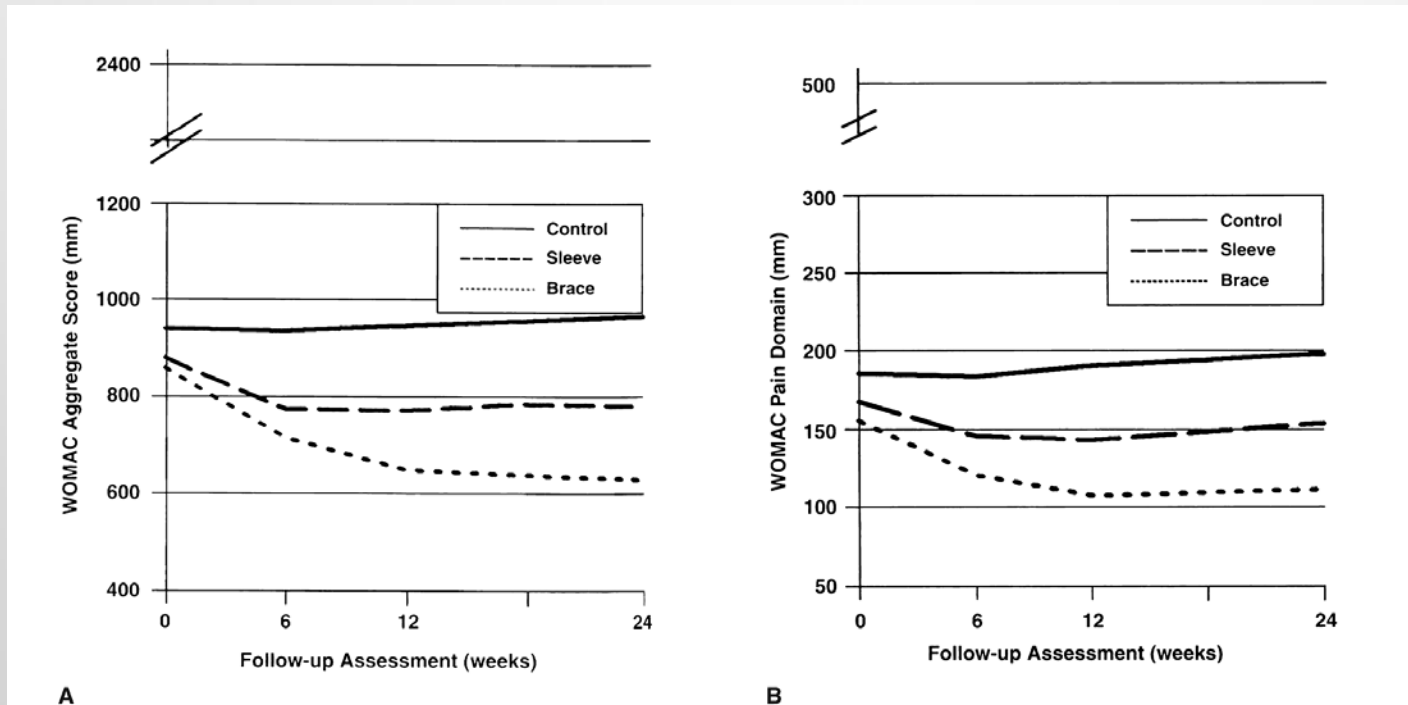
Hewett TE, Noyes FR, Barber-Westin SD, Heckmann TP: Decrease in knee joint pain and increase in function in patients with medial compartment arthrosis: A prospective analysis of valgus bracing. *Orthopedics* 1998;21:131-138

Lindenfeld TN, Hewett TE, Andriacchi TP: Joint loading with valgus bracing in patients with varus gonarthrosis. *Clin Orthop* 1997;344:290-297.

RCT

The effect of bracing on varus gonarthrosis

Kirkley A, Webster-Bogaert 1999





Methods

Total of 147 patients included in study

Oxford knee scores calculated

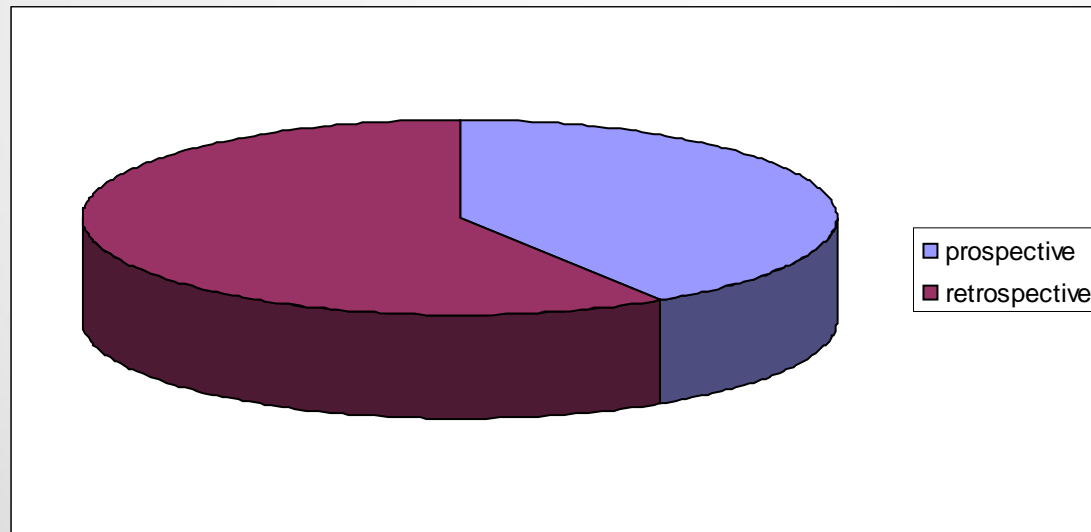
Visual analogue score for pain


Walking distance before and after the brace

Patient satisfaction

Statistics

Retrospective 86 patients
Prospective 61 patients





Indication for the knee brace

Pain secondary to osteoarthritis

Young patients

Patients who do not want an operation

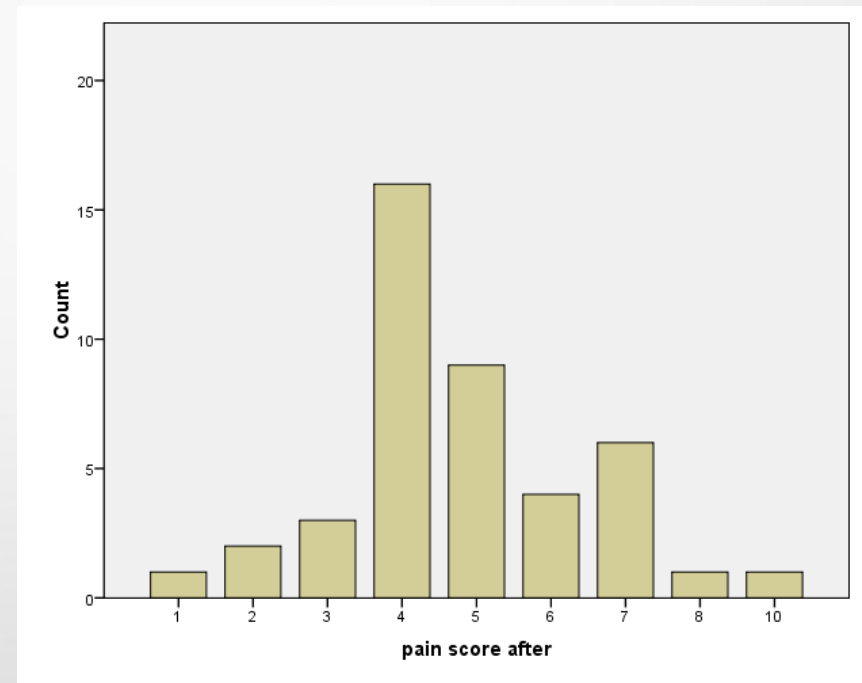
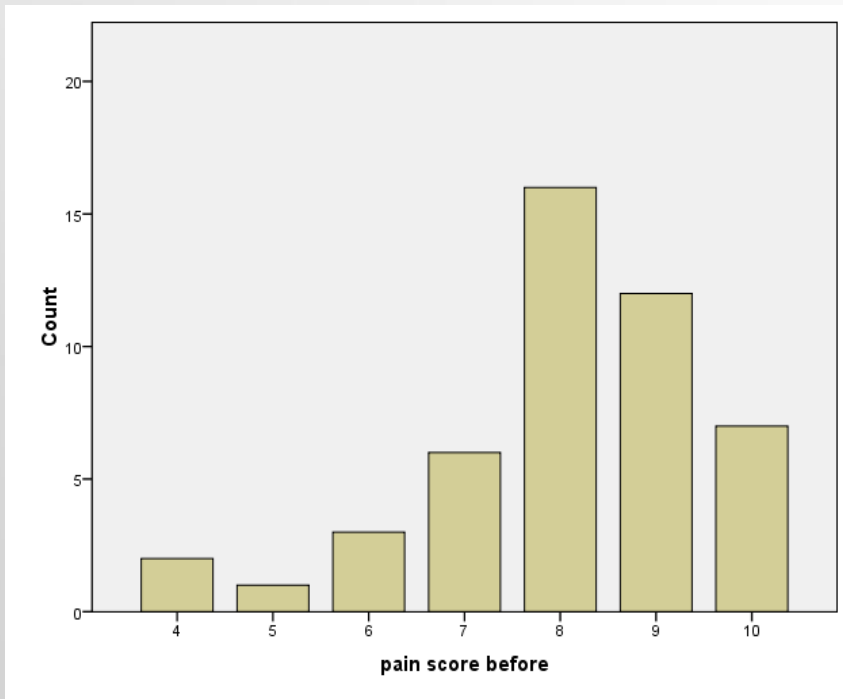
Medical problems

Palliative

Pain scores

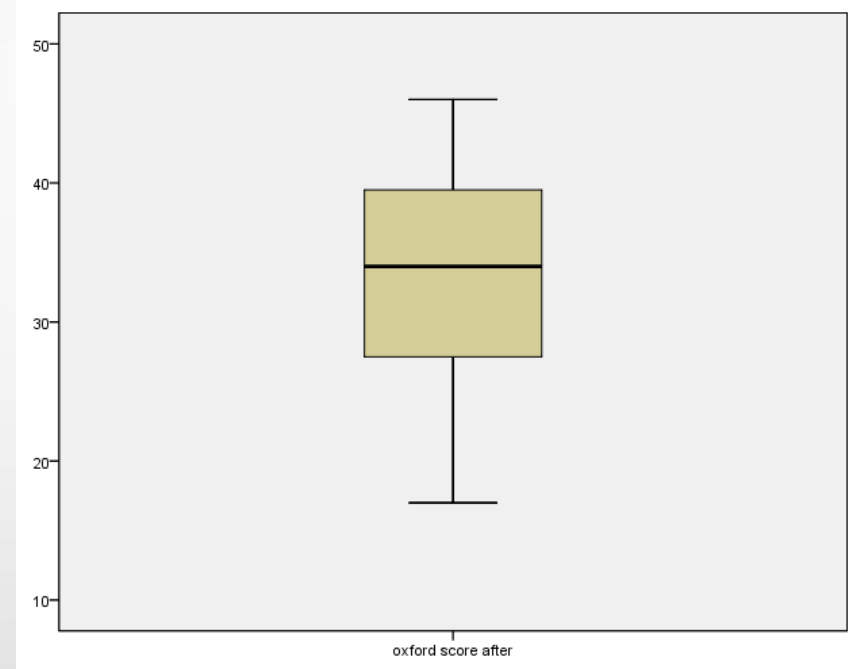
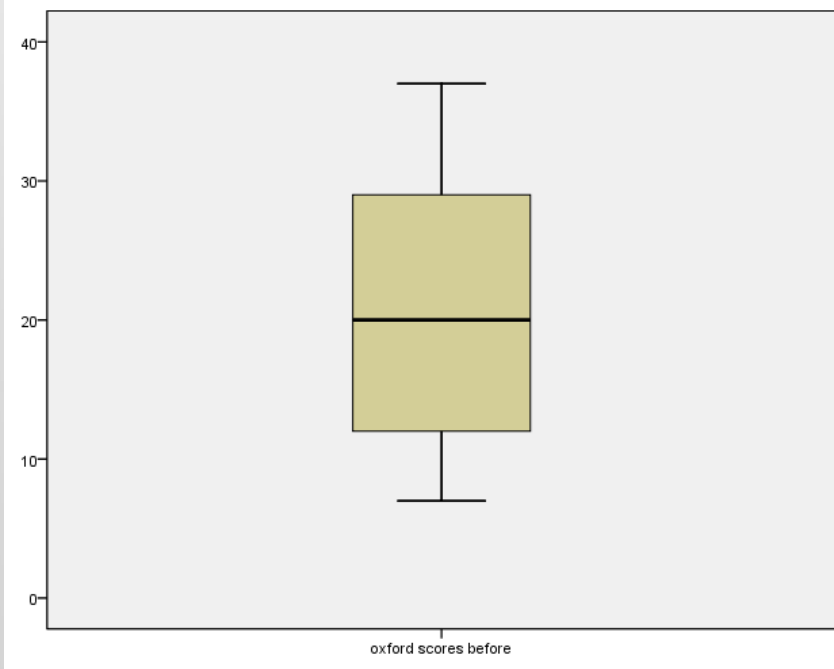
Prospective Group

P value <0.01



Oxford score

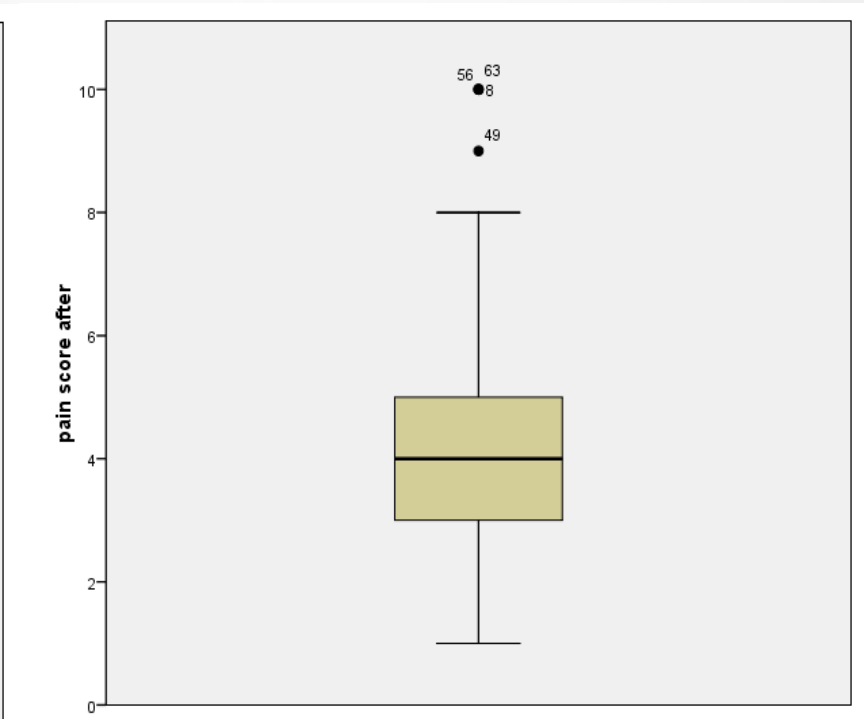
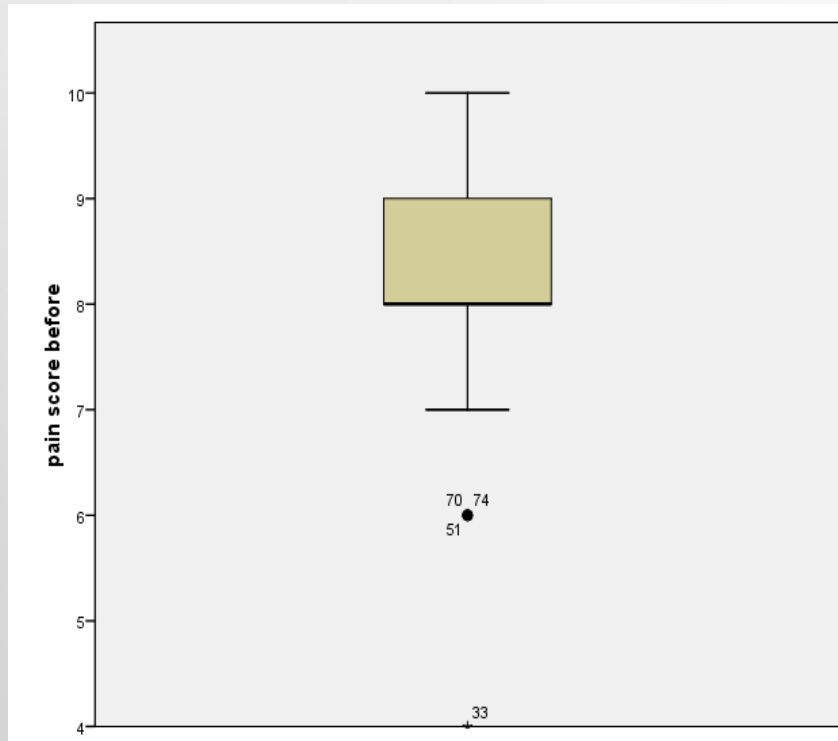
Prospective group
P Value < 0.001



Pain scores

Retrospective group

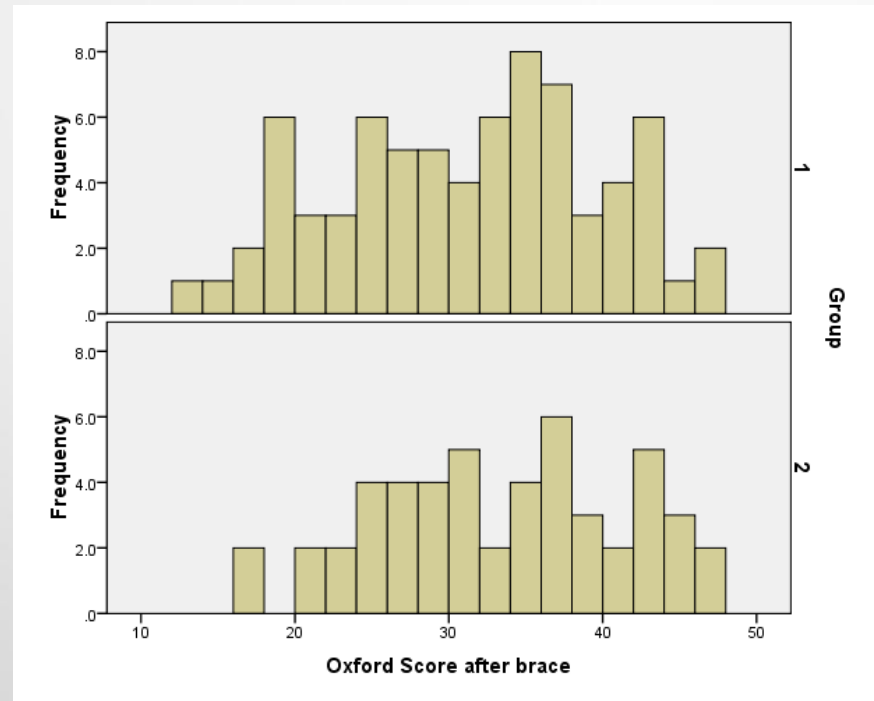
$P < 0.05$



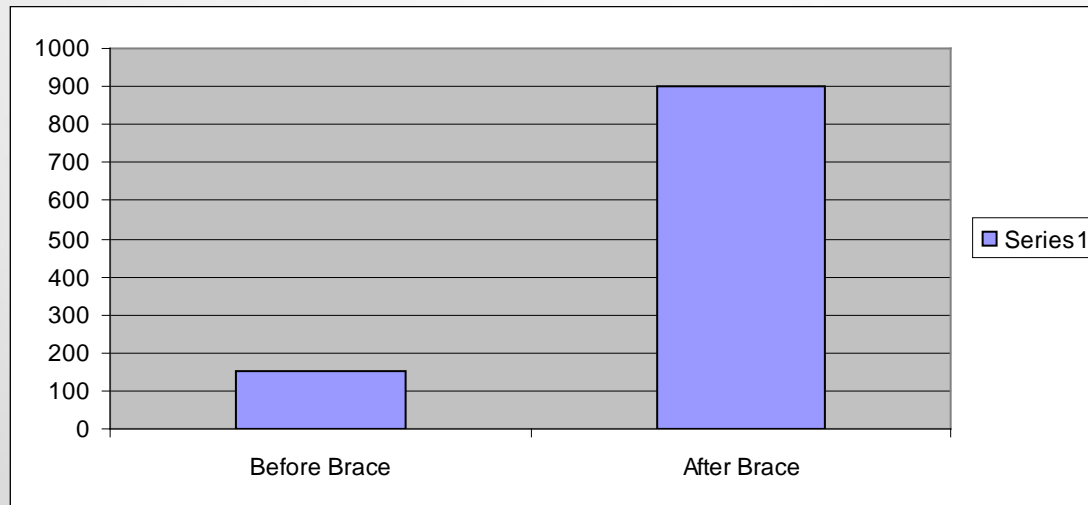
Oxford knee score post brace

Retrospective and Prospective group

$P=0.159$



Walking distance





Outcome

Statistically significant pain reduction and improved oxford scores.

Increased walking distance.

Overall satisfaction rate was 78%.



Brace did not help

6 patients out of retrospective group and 2 patients out of prospective group had TKR.

4 patients discontinued brace.

2 patients had high tibial osteotomy.

Conclusion

Off Loading knee brace reduces pain secondary to arthritis and increases walking distance.

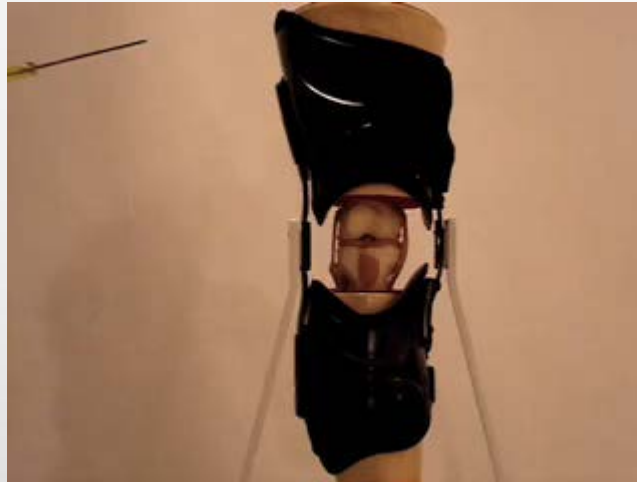
Patient satisfaction is high.

Compliance may be an issue in women.

Patients with very High BMI and very elderly may find it difficult to manage the brace.

Education and early appointment for brace re-fitting increases patient compliance.

VVAS Brace



Thank You

