



THUASNE



**Thuasne
Vs DJO**

Rebel Reliever®



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You will find in this document, the comparison elements with DJO knee braces: OA Adjuster™, OA Nano™ and OA FullForce.

Introduction

1

Information needed to explain what an offloading knee brace is used for and patients expectations.

2

Principle of action of the Rebel Reliever® and therapeutical benefits.

3

Competitive analysis on principal aspects to highlight key benefits compared to the DJO knee braces.

4

Summary of all this information in order to be prepared in front of a DJO customer.



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Indication: Femorotibial osteoarthritis (moderate to severe)

- Symptomatic unicompartmental femorotibial osteoarthritis (moderate to severe).
- Knee off-loading for post-traumatic, post-operative or degenerative conditions.
- Joint instability/laxity.
- Alternative to osteotomy or leg misalignment surgery.
- Conservative treatment of knee ligament injuries and/or ruptures (cruciate and/or lateral ligaments).

Patient profiles:

Higher incidence for :

- Women are affected twice as much as men ⁽¹⁾
- Overweight people with a high BMI ⁽²⁾
- Seniors from 50 years old ⁽¹⁾
- People with previous severe ligament injuries ⁽³⁾



Patient expectations

- Pain mitigation: be able to maintain or resume activities
- Comfort: have a device that fits on the leg*

1 - Cui A, Li H, Wang D, Zhong J, Chen Y, Lu H. Global, regional prevalence, incidence and risk factors of knee osteoarthritis in population-based studies. *EClinicalMedicine*. 2020;29-30:100587. Published 2020 Nov 26. doi:10.1016/j.eclinm.2020.100587

2 - Zhang W, Moskowitz RW, Nuki G, Abramson S, Altman RD, Arden N et al. OARSI recommendations for the management of hip and knee osteoarthritis, Part II: OARSI evidence-based, expert consensus guidelines. *Osteoarthritis Cartilage* 2008; 16:137- 62.

3 - Literature Review of Risk Factors, Evaluation Instruments, and Care and Service Interventions for Knee Osteoarthritis

Generalities



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Principle of action

Offloading of the affected compartment



3-point leverage system with Loadshifter Technology.

Motion control



The TM5+ hinge mimics the knee's natural movement* – the adjustment of the flexion/extension limitations is performed without tools.

Therapeutic benefits



Improved mobility ⁽⁴⁾
Relief the pain ⁽⁴⁾
Rehabilitation ⁽⁴⁾

Clinical studies

“Effect of Unloading Brace Treatment on Pain and Function in Patients with Symptomatic Knee Osteoarthritis: The ROTOR Randomized Clinical Trial.” ⁽⁴⁾ Thoumie Philippe, et al. 2018. Scientific Reports 8 ⁽¹⁾: 10519.

“The 2-and 8-Week Effects of Decompressive Brace Use in People with Medial Compartment Knee Osteoarthritis.” ⁽⁵⁾ Lamberg Eric M., et al. 2016b. Prosthetics and Orthotics International 40 ⁽⁴⁾: 447-453.



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Offloading rigid knee brace

II Battle



Rebel Reliever®



OA Adjuster™

Efficacy

CLINICALLY PROVEN ⁽⁴⁾⁽⁵⁾

Relieves pain + promotes movement resumption
= Treatment effectiveness (averaged 36% reduction of force through the knee) & patient satisfaction (19 patients)



CLINICALLY PROVEN ⁽⁶⁾

Relieves pain + promotes resumption of movement
= Offloads effectiveness ⁽¹⁰⁾ & patient satisfaction

OFFLOADING OF THE INJURED COMPARTMENT

3-point pressure offloading system
= Rebalances pressure on the knee and relieves patient's pain



OFFLOADING OF THE INJURED COMPARTMENT

3-point pressure offloading system
= Rebalances pressure on the knee and relieves patient's pain

Loadshifter technology
= Pulling effect on the affected side: by providing significant correction of the thigh shell



DJO's Adjuster technology
= Pushing effect on the unaffected side: by folding at the top and at the bottom of the frame. ⁽⁹⁾

PHYSIOLOGICAL HINGE

TM5 hinge reproduces the natural movement of the knee ⁽⁷⁾
= Follow and reproduce knee movement



BI-AXIAL HINGE

Bi-axial hinge
= Only reproduces knee rotation ⁽⁷⁾

Comfort

Tibial bolster
= Prevention of rotation & ensure intimate and anatomic fitting ⁽⁸⁾



Strap on the tibia – rigid part on the calf
= No rotation prevention, less adaptation to patient muscle variation. ⁽⁹⁾

Synergistic suspension strap
= Prevention of migration (AP-ML tightening) & enhanced comfort (calf muscle morphology respect). ⁽⁸⁾



Suspension strap with simple attachment on the frame & straight
= Less suspension on the leg, less comfort. ⁽⁹⁾

C/S Package
= Optimization of the suspension - beneficial for patients with particular leg shape ⁽⁸⁾



Posterior thigh straps linked to the frame, no anterior
= Less adaptation to patient muscle variation. ⁽⁹⁾

I What is it for?



Offloading



Motion control

(4) Thoumie Philippe, et al. 2018. Scientific Reports 8 (1): 10519.
(5) Lamberg Eric M., et al. 2016b. Prosthetics and Orthotics International 40 (4): 447-453.
(6) In Vivo Three-Dimensional Determination of the Effectiveness of the Osteoarthritic Knee Brace: A Multiple Brace Analysis; J Bone Joint Surg Am. 87:114-119, 2005. doi:10.2106/JBJS.E.00482; Matthew C. Nadaud, Richard D. Komistek, Mohamed R. Mahfouz, Douglas A. Dennis and Matthew R. Anderle (7) A2S biomechanical study « Biomechanical study of the stride during use of different braces » 2020 - Was made on a knee brace of similar design (8) Internal CE marking data (9) internal source: R&D biomechanical reasoning (10) Internal test



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Ease of use

ADJUSTMENT SETTING

Tool-less Snap Lock Technology
= Adjustment without tool and
simple for patients



ADJUSTMENT SETTING

Screwdriver (2 screws)
= Longer process to set

EASY TO PUT ON / CLOSE

Frame design = anterior shells
= No need to slip into



EASY TO PUT ON / CLOSE

Frame design = posterior tibial shell
= Need to slip into

No numbering system
on the buckles
= Longer to put on & need to learn
the exact straps closing order



Numbering system
on the straps
= Allows to quickly see
the straps closing order

MEDIUM SIZE COVERAGE

6 sizes ranging from XS to XXL
Maximum thigh circumference 28"



LARGE SIZE COVERAGE

7 sizes ranging from XS to XXL
Maximum thigh circumference 32"

To sum up



Argue on

- The effectiveness of Loadshifter technology & TM5 hinge
- The comfort of our brace
- Our Rebel Reliever[®] clinical studies



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Offloading rigid knee brace

II Battle



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OA Nano™

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Good sales!