

Genu Arthro

Clinical Effects & Satisfaction

Major Findings

With Genu Arthro:

→ **Pain while walking is significantly reduced by 51.6%**

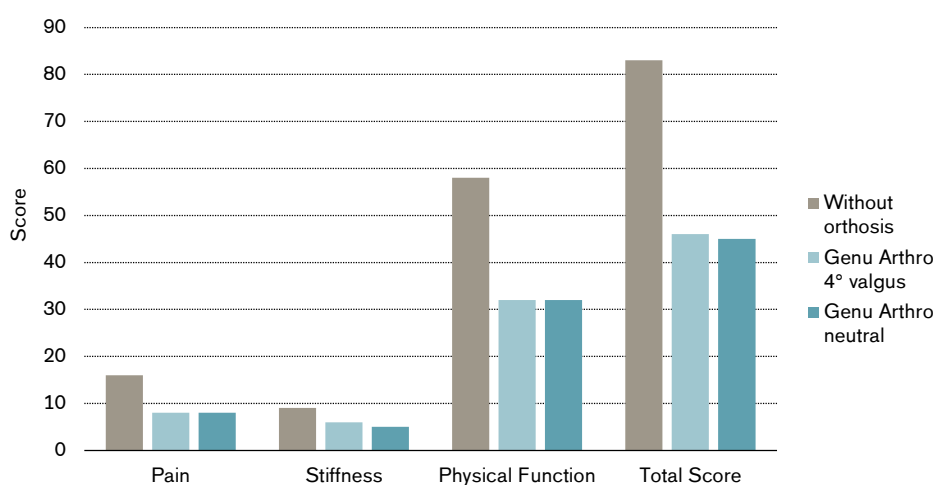
(Schmalz, 2010)

→ **Pain and stiffness are significantly reduced, physical function improved**

WOMAC total score improved by ca. 44% under both adjustments

(Fantini Pagani et al., 2010)

Pain, stiffness and physical function improved significantly



Fantini Pagani et al., 2010.

Clinical Relevance

Osteoarthritis is a degenerative disorder characterized by cartilage breakdown causing pain, deformity, and dysfunction of the affected joint (Glass et al., 2006). To avoid disease progression and its symptoms, mechanical interventions (like Genu Arthro) are used to redistribute the mechanical loading to the musculoskeletal system (Fantini Pagani et al., 2010). This should lead to pain reduction and functional improvement as well as satisfaction of the user.

Summary

After walking on even ground and stairs with Genu Arthro (neutral and 4° valgus), a WOMAC-questionnaire was filled in. Compared to wearing no orthosis, both Genu Arthro alignments produced similar effects on pain reduction and an improvement in function. Pain (50%) and stiffness (33.3%-44.4%) was reduced. Additionally, physical function is significantly improved by 44,8%.

Schmalz et al. (2010) performed gait analysis with 16 users with Genu Arthro. 2 questionnaires were completed about pain and general satisfaction. Pain is significantly reduced by 51.6% by Genu Arthro use. Furthermore, the mean scores for fit of the brace, appearance and ease of use were between 4.3 ("good") and 4.9 ("very good").

References of summarized studies

Fantini Pagani CH, Böhle C, Potthast W, Brüggemann G-P (2010). Short-Term Effects of a Dedicated Knee Orthosis on Knee Adduction Moment, Pain, and Function in Patients With Osteoarthritis. Arch Phys Med Rehabil; 91:1936-41.

Fantini Pagani CH, Willwacher S, Kleis B, Brüggemann G-P (2012). Influence of a valgus knee brace on muscle activation and co-contraction in patients with medial knee osteoarthritis. *J Electromyogr Kinesiol*; 23(2):490-500.

Schmalz T, Knopf E, Drewitz H, Blumentritt S (2010). Analysis of biomechanical effectiveness of valgus-inducing knee brace for osteoarthritis of knee. *JRRD*, 47 (5): 419-29

Other References

Glass GG(2006). Osteoarthritis. *Dis Mon*;52:343-62.

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