Orthopädie
Studies

Study MOS-Genu, Kutzner et al. 2011

- University medicine Berlin, Charité

MOS Genu / Study of unload effect

Theme:

The effect of valgus braces on medial compartment load of the knee joint – in vivo load measurements in three subjects.

In: Journal of Biomechanics, 44 (2011), S. 1354-1360

Assumption:

1. OA-Orthosis can unload the knee joint.
2. How

MOS Genu / Study of unload effect

- Design: Pilot study

- Orthoses investigated:

  MOS Genu (Bauerfeind)

  Genu Arthro (Otto Bock))

MOS Genu / Study of unload effect

• Number:	n = 3		
• Age [in a]	64	71	60
• Wight [kg]	103	96	96
• Tallness [cm]	177	175	175
• Time post-OP [month]	23	12	6
• Angle mechanische Achse	3°-Varus	4°-Varus	1°- Varus

- Orthoses: MOS Genu (Bauerfeind AG); Genu Arthro (Otto Bock)
- Data analysis: Varianzanalysis; level of significance 5%
- Measurement: 3 activities with (x) follow up: walking (30), go upstairs (5), go downstairs (5)
- Including Crieteria: · Endoprothesis after Osteoarthritis on medial compartment
  · free of pain
- Instrument of measurement: Endoprothesis with sensors for measuring force and moment of torque

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- Measuring instrument :
  Endoprothesis with sensors for wireless measurement of force and moment of torque

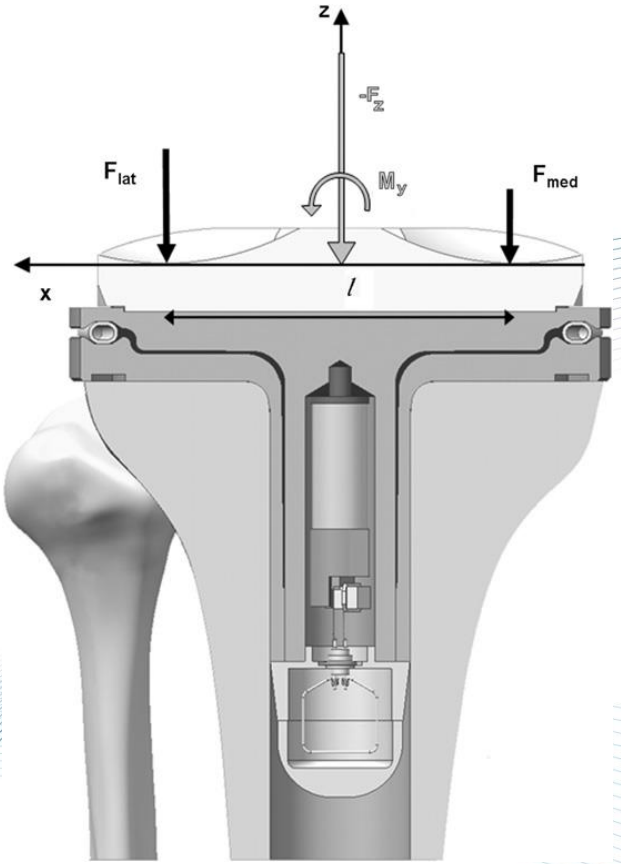


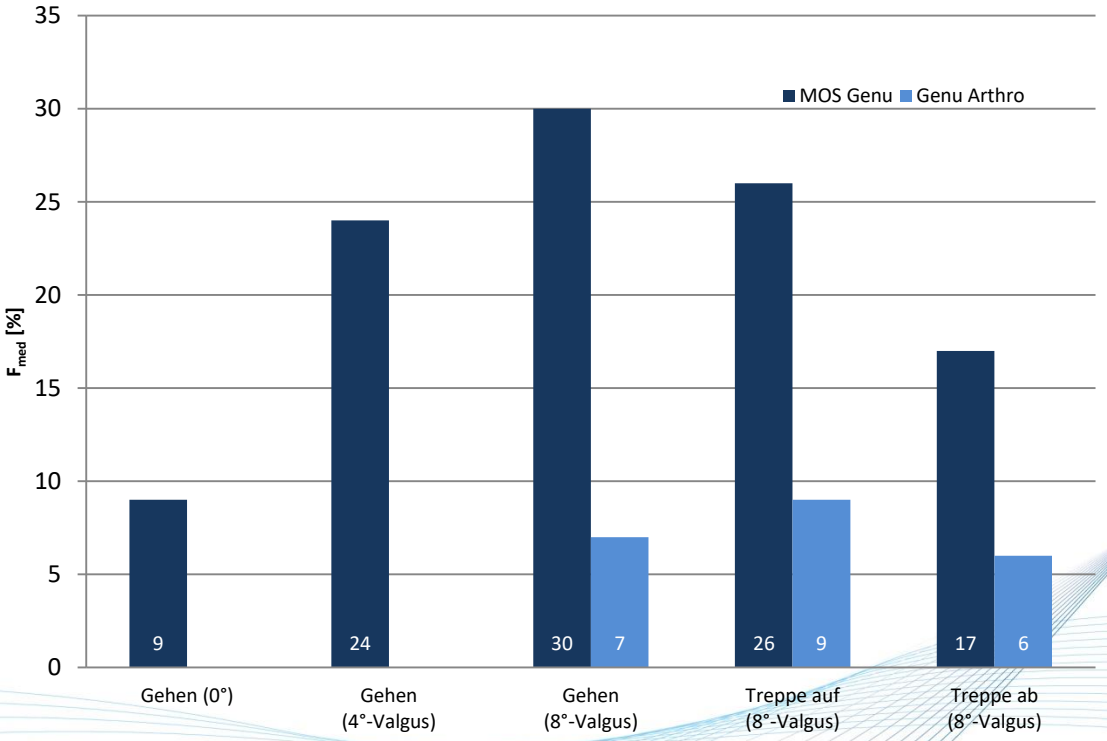
Abb.: INNEX FIXUC, total knee system, Zimmer

Studiendesign und Methodik

MOS-Genu

- Including criteria:
  - Endoprothesis after Osteoarthritis on medial compartment
  - Free of pain
- Excluding criteria: *not mentioned*

Results:
Reduktion on medial, axial force MOS-Genu

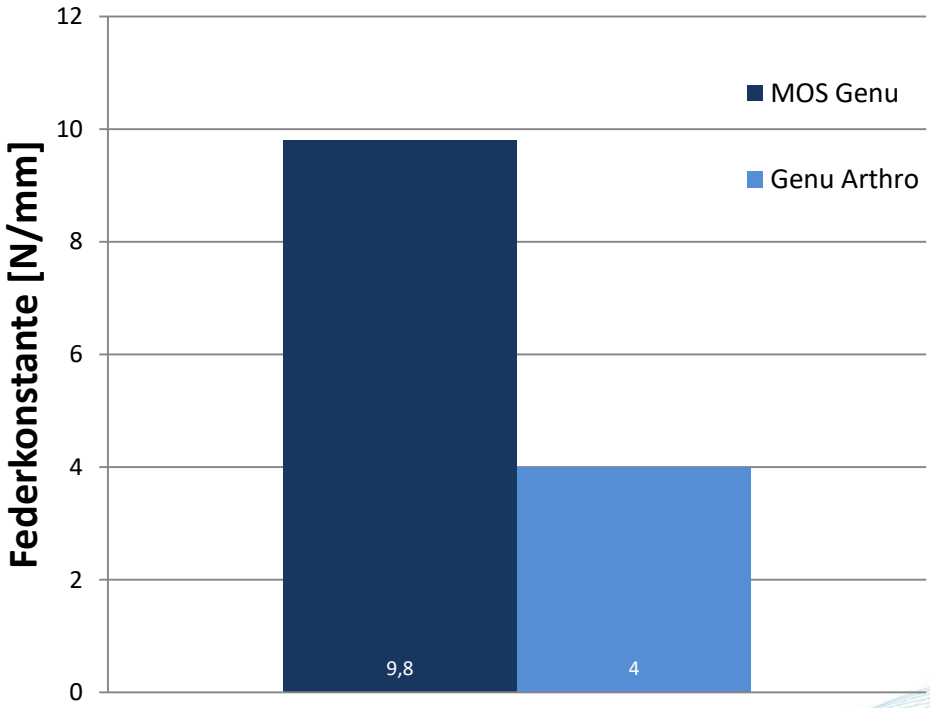


- **Significant reduction on medial, axial force with MOS Genu.**

- **With MOS Genu , adjustment in neutral position (0°), a reduction of force of 9% is measaured**
- **at 8° Valgus adjustment there is an unload effect of 30% (competitor 7%).**

Stiffness [Measurement at 100 N load]

MOS-Genu



- MOS Genu shows a 2,5-fold increased stiffness on medial load
- With the as same adjuastment, MOS Genu transfers more forces in valgus direction to the knee joint

Marketingmaterial

MOS-Genu

- White Paper MOS Genu

Zusammenfassung ausgewählter Ergebnisse

The effect of valgus braces on medial compartment load of the knee joint - *in vivo* load measurements in three subjects

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Abstract

Methodik

Ergebnisse (Auswahl)

Reduktion der medialen, axialen Kräfte

Steifigkeitstest

Signifikante Reduktion der medialen, axialen Kräfte bei einer Versorgung mit MOS Genu.

Durch Tragen der MOS Genu ist bereits in neutraler Position (0°) eine Kraftreduktion um 9% möglich, bei 8° Valguseinstellung liegt die Entlastung bei 30% (ggü. 7%).

MOS Genu zeigt eine 2,5-fach höhere Steifigkeit bei medialer Last-Anlage.

Es können bei gleicher Anpassung höhere valgisierende Kräfte übertragen werden.

Diskussion

Vielen Dank für Ihre Aufmerksamkeit.

Thank you for your attention.

Headline
Subline

- Arial 22 pt.
  - Arial 20 pt.
    - Arial 18 pt.
      - Arial 16 pt.
        - Arial 14 pt.