The effects of a dynamic patellar realignment brace on disease determinants for patellofemoral instability in the upright weight-bearing condition

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**Products**

**Patella Pro®**

**Major Findings**

With Patella Pro:

→ The patella was recentred at 0°, 15° and 30° knee flexion

Lower position

Medialization (up to 15.6%)

Reduced tilt (up to 5° reduction)

**Significant medialization of the patella**

The position of the patella was analysed with MRI.

**Population**

Subjects: 20 patients with status ≥ 2 years after patellar dislocation (12 female, 8 male)

Mean age: 25 yrs (range 17 – 39 yrs)
Study Design

Observational, comparative:

The knee joints were scanned in the MRI while they were weight loaded in a 0°, 15° and 30° flexed position. The horizontal and vertical position of the patella was assessed.

Results

| Functions and Activities | Outcomes                                                                 | Results for Patella Pro                                                                 | Sig.* |
|--------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------|
| Biomechanics – Static measures | Patella height                                                            | The patella was located significantly more distal.                                      | ++    |
|                          | Relative patella lateralisation                                             | The patella showed a significant medialisat-                                          | ++    |
|                          | Patella Tilt                                                               | The patella was significantly less tilted.                                             | ++    |
|                          | Distance between the tibial tuberosity and the trochlear groove           | The distance between the tibial tuberosity and the trochlear groove was significantly reduced when the knee was flexed at 15° and 30°. | ++    |

* no difference (0), positive trend (+), negative trend (−), significant (++/−−), not applicable (n.a.)

Conclusion

“From this study, it can be concluded that the dynamic patellar realignment brace, Patella Pro, ma be able to improve disease determinants in patients with lateral patellofemoral instability in the upright weight-bearing condition at 0°-30° flexion. If clinical symptoms can be meaningfully reduced and subluxation or dislocation can be prevented warrants further investigation.” (Becher et al. 2015)