#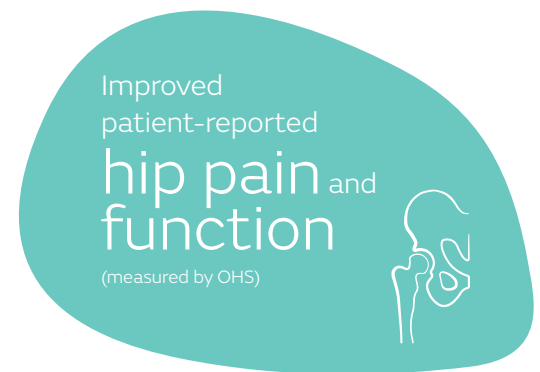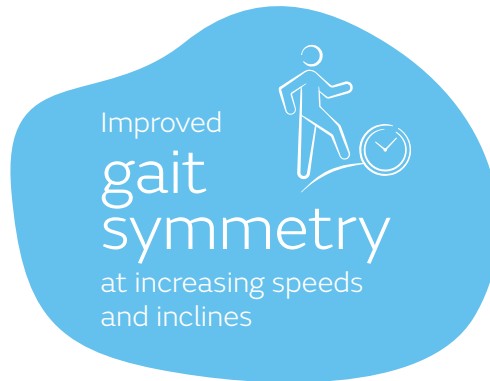 The BIRMINGHAM HIP◊ Resurfacing (BHR◊) System markedly improved patient gait and significantly improved Oxford Hip Score (OHS)

✚ Plus points

Compared to baseline, BHR patients showed:

Improved **gait symmetry** at increasing speeds and inclines

Improved patient-reported **hip pain** and **function** (measured by OHS)

Overview

- Prospective study measuring change in hip function before and after BHR in 28 patients (mean age 56 years) recruited between 2011 and 2016

- Gait symmetry and hip loading were assessed at various speeds and uphill inclines before and after surgery (mean 29 months)

- Gait after BHR was also compared to 26 age-matched healthy controls

- Patient-reported hip pain and function was assessed with the OHS before and after BHR

Results

- Pre-operatively, patients had a limping gait, favouring the contralateral hip at all gait phases

- After BHR:

  – Patients showed a significantly improved, more symmetrical gait with near-normal loading of the operated hip, similar to healthy controls at almost all speeds and uphill inclines

  – 80% of patients achieved the top walking speed of 8km/hr

- Significant improvement in OHS (Figure)

Figure. Mean OHS before and after BHR (n=28)
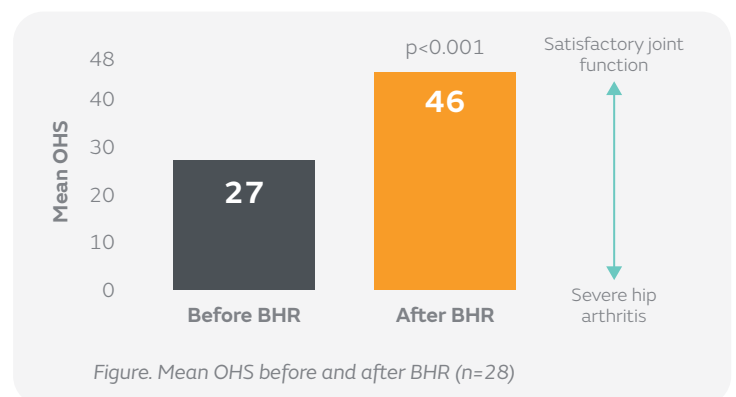
Conclusions

Patients undergoing BHR improved their pre-operative gait pattern of a significant limping gait to a symmetrical gait, which was almost indistinguishable from healthy controls at high speeds and on inclines.

These claims are supported by evidence from mixed male/female populations using certain implant sizes that are no longer available. Smith & Nephew, Inc., no longer distributes the 46mm diameter and smaller femoral heads and corresponding acetabular cup components for the BHR System that were part of this evidence, and contraindicates the use of the device for females.

Citation

*Wiik AV, Lambkin R, Cobb JP. Gait after Birmingham Hip Resurfacing: An age-matched controlled prospective study. *Bone Joint J.* 2019; 101-B:1423–1430.

Available at: The Bone and Joint Journal 🔒