Evidence in focus

Publication summary

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Nonmodular stems demonstrate similar clinical outcomes to modular stems in revision total hip arthroplasty (rTHA) and may provide improved value

Safety outcomes were similar with both types of stem

Study overview

- Single-centre, retrospective review of all rTHA using modular or nonmodular revision implants between 1 January 2013 and 30 September 2017 with a minimum 3-month follow-up
- 146 rTHAs met the inclusion criteria:
  - Nonmodular: 43
  - Modular: 103
- Paprosky classification of bone loss, surgical details and clinical outcomes (revision and reoperation rates and post-operative complications) were analysed

Key results

- Nonmodular stems were used for a larger percentage of Type IIIA and IIIB Paprosky defects compared to the modular group (Figure)
- No statistically significant difference was observed in complication rates between modular and nonmodular femoral implant groups (Table)
- At this centre, modular femoral implants were associated with a significantly higher cost than nonmodular femoral implants (120.8% higher; p<0.001)

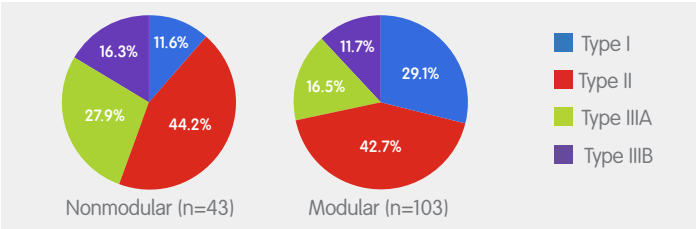

Figure. Paprosky classification of all rTHAs in the nonmodular and modular femoral implant groups

	Nonmodular	Modular	p value
Total complications (%)	11 (25.6)	17 (16.5)	0.20
Infection (%)	7 (16.3)	7 (6.8)	0.08
Dislocation (%)	3 (7.0)	6 (4.2)	0.79
Fracture (%)	2 (4.7)	5 (3.5)	0.96
Re-revision (%)	4 (9.3)	4 (3.9)	0.19
Reoperation (%)	4 (9.3)	7 (6.8)	0.60

Table. Complication rates

Conclusion

Despite greater use in patients with high-grade Paprosky defects, nonmodular femoral implants demonstrated similar clinical outcomes to modular femoral implants, and were associated with a lower cost. Use of nonmodular femoral implants in rTHA may provide improved value, compared to using modular femoral implants, without compromising safety and quality.

Study citation

*Clair AJ, Cizmic Z, Vigdorchik J, et al. Nonmodular stems are a viable alternative to modular stems in revision total hip arthroplasty. *J Arthroplasty*. 2019 Mar 19. [Epub ahead of print]
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