

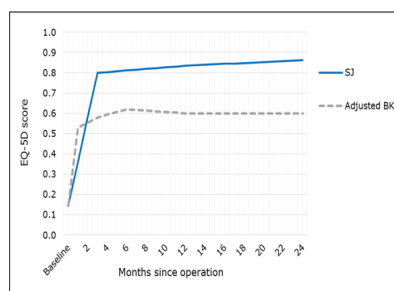
# The Marketing Bulletin

JANUARY 2017

## SpineJack® is considered to be cost-effective compared to Balloon Kyphoplasty

### KEY MESSAGES

- ✓ SpineJack® generate better Quality of Life, more QALYs per person
- ✓ SpineJack® was found to be only marginally more expensive than BKP



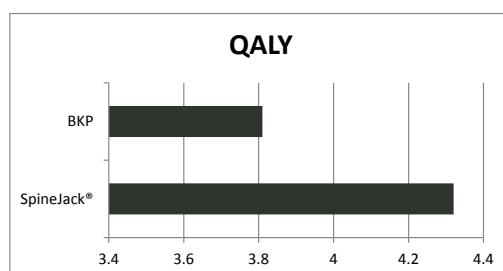
SpineJack® provides better Quality of Life compared to BKP.  
This difference is maintained up to 2 years post-surgery.

Sources: SpineJack® Trauma Registry, Prospective Multicentre study;  
Van Meirhaeghe et al.<sup>1</sup> (2013); OHE analysis 2016.

## QALY – Quality Adjusted Life Years

- The quality-adjusted life year (QALY) is a generic measure of disease burden, including both the quality and the quantity of life lived.
- It is used in economic evaluation to assess the value for money of medical interventions.
- 1 QALY = one year in perfect health (or for example 2 years in 50% health).
- To be dead = 0 QALYs.

**SpineJack® generate more QALYs (0.51 per person) compared to Balloon Kyphoplasty.**



This difference in gained QALYs is comparable to the results published by Svedbom et al.<sup>2</sup> when comparing BKP to Non-Surgical Management (NSM) in the same type of U.K. setting:  
Compared to NSM the QALYs gained by BKP was 0.50.

## ICER – Incremental Cost-Effectiveness Ratio

- ICER is a statistic used in cost-effectiveness analysis to summarize the cost-effectiveness of a health care intervention.
- It is defined by the difference in cost between two possible interventions, divided by the difference in their effect (gained QALYs)

$$ICER = \frac{\text{Difference in costs}}{\text{Difference in QALYs}}$$

# The Marketing Bulletin

JANUARY 2017

- The ICER facilitates comparison of interventions across various disease states and treatments. They also provide to policy makers information on where resources should be allocated when they are limited.

**The incremental cost-effectiveness ratio for SpineJack® is £1,277 per QALY gained.**

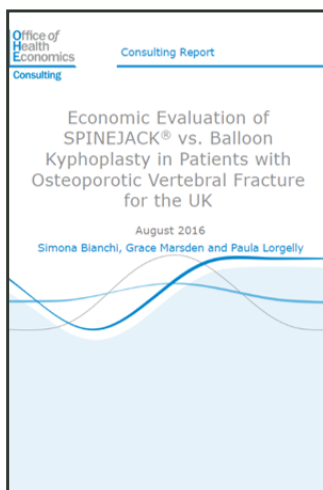
This is well below the £20,000 cost-effectiveness threshold typically used by NICE for decision making in the U.K. (= the amount of money that decision makers are prepared to pay for each QALY gained). Results are robust to a small selection of exploratory sensitivity analyses.

## Published Results Cost-Effectiveness Studies

Compared with results shown in other published cost-effectiveness studies (osteoporotic patients in a U.K. setting, BKP vs. NSM), SpineJack® showed most gained QALYs, and the lowest ICER (cost) per gained QALY as shown in the below table.

Published Results Cost-Effectiveness Studies			
<i>Study</i>	<i>Ström et al. <sup>3</sup></i>	<i>Svedbom et al. <sup>2</sup></i>	<i>OHE analysis</i>
<i>Comparator</i>	BKP vs. NSM	BKP vs. NSM	SJ vs. BKP
<i>QALYs gained</i>	0.17	0.5	0.51
<i>ICER</i>	£8 800	£2 706	£1 277

Klazen et al.<sup>4</sup> found in the Vertos II study that the difference in QALYs favouring vertebroplasty vs. conservative treatment was 0.108, and the ICER for vertebroplasty, as compared with conservative treatment, was €22,685 per QALY gained.



**Sources & References:** Economic Evaluation of SPINEJACK® vs. Balloon Kyphoplasty in Patients with Osteoporotic Vertebral Fracture in the UK. S Bianchi, G Marsden, P Lorgelly. Office of Health Economics, August 2016.

<sup>1</sup>Van Meuhaeghe J, Bastian L, Boonen S, Ranstam J, Tillman JB, Wardlaw D; FREE investigators. A randomized trial of balloon kyphoplasty and nonsurgical management for treating acute vertebral compression fractures: vertebral body kyphosis correction and surgical parameters. *Spine* (2013) May 20;38(12):971-83.

<sup>2</sup>Svedbom A, Alvares L, Cooper C, Marsh D, Ström O. Balloon kyphoplasty compared to vertebroplasty and nonsurgical management in patients hospitalised with acute osteoporotic vertebral compression fracture: a UK cost-effectiveness analysis. *Osteoporos Int*. 2013 Jan; 24(1): 355–367.

<sup>3</sup>Ström O, Leonard C, Marsh D, Cooper C (2010) Cost-effectiveness of balloon kyphoplasty in patients with symptomatic vertebral compression fractures in a UK setting. *Osteoporos Int* 21:1599–1608.

<sup>4</sup>Klazen CA, Lohle PN, de Vries J et al (2010) Vertebroplasty versus conservative treatment in acute osteoporotic vertebral compression fractures (VERTOS II): an open-label randomised trial. *Lancet* 376:1085–1092.