

## The impact of osteoporosis on adult deformity surgery outcomes in Medicare patients

Kunal Varshneya, Anika Bhattacharjya, Rayyan T Jokhai, Parastou Fatemi, Zachary A Medress, Martin N. Stienen, Allen L Ho, John K Ratliff & Anand Veeravagu

### OBJECTIVE

To identify the impact of osteoporosis (OS) on postoperative outcomes in Medicare patients undergoing ASD surgery.

### BACKGROUND

Patients with OP and advanced age experience higher than average rates of ASD. However, poor bone density could undermine the durability of a deformity correction.

### METHODS

We queried the MarketScan Medicare Supplemental database to identify patients Medicare patients who underwent ASD surgery from 2007 to 2016.

### RESULTS

A total of 2564 patients met the inclusion criteria of this study, of whom  $n = 971$  (61.0%) were diagnosed with osteoporosis. Patients with OP had a similar 90-day postoperative complication rates (OP: 54.6% vs. non-OP: 49.2%,  $p = 0.0076$ , not significant after multivariate regression correction). This was primarily driven by posthemorrhagic anemia (37.6% in OP, vs. 33.1% in non-OP). Rates of revision surgery were similar at 90 days (non-OP 15.0%, OP 16.8%), but by 2 years, OP patients had a significantly higher reoperation rate (30.4% vs. 22.9%,  $p < 0.0001$ ). In multivariate regression analysis, OP increased odds for revision surgery at 1 year (OR 1.4) and 2 years (OR 1.5) following surgery (all  $p < 0.05$ ). OP was also an independent predictor of readmission at all time points (90 days, OR 1.3,  $p < 0.005$ ).

### CONCLUSION

Medicare patients with OP had elevated rates of complications, reoperations, and outpatient costs after undergoing primary ASD surgery.

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