

The methodological quality was low and conclusions discordant for meta-analyses comparing proximal humerus fracture treatments: a meta-epidemiological study

Nicolai Sandau, MD

Peter Buxbom, MD PhD

Asbjørn Hróbjartsson, MD PhD

Ian Harris, MBBS PhD

Stig Brorson, MD PhD DMSc



Background

5. Conclusions

In conclusion, this network meta-analysis presents some contrasts among the four treatments (nonoperation, RSA, HA and ORIF) with the help of both direct and indirect effects. The study suggests that ORIF has the worst clinical effect, lower Constant score and higher reoperation rate. However, RSA is the optimum treatment method for elderly patients with fracture of 3- or 4-part proximal humeral because of the higher Constant score and lower risk of reoperation.

Du et al. (2017)

Conclusions

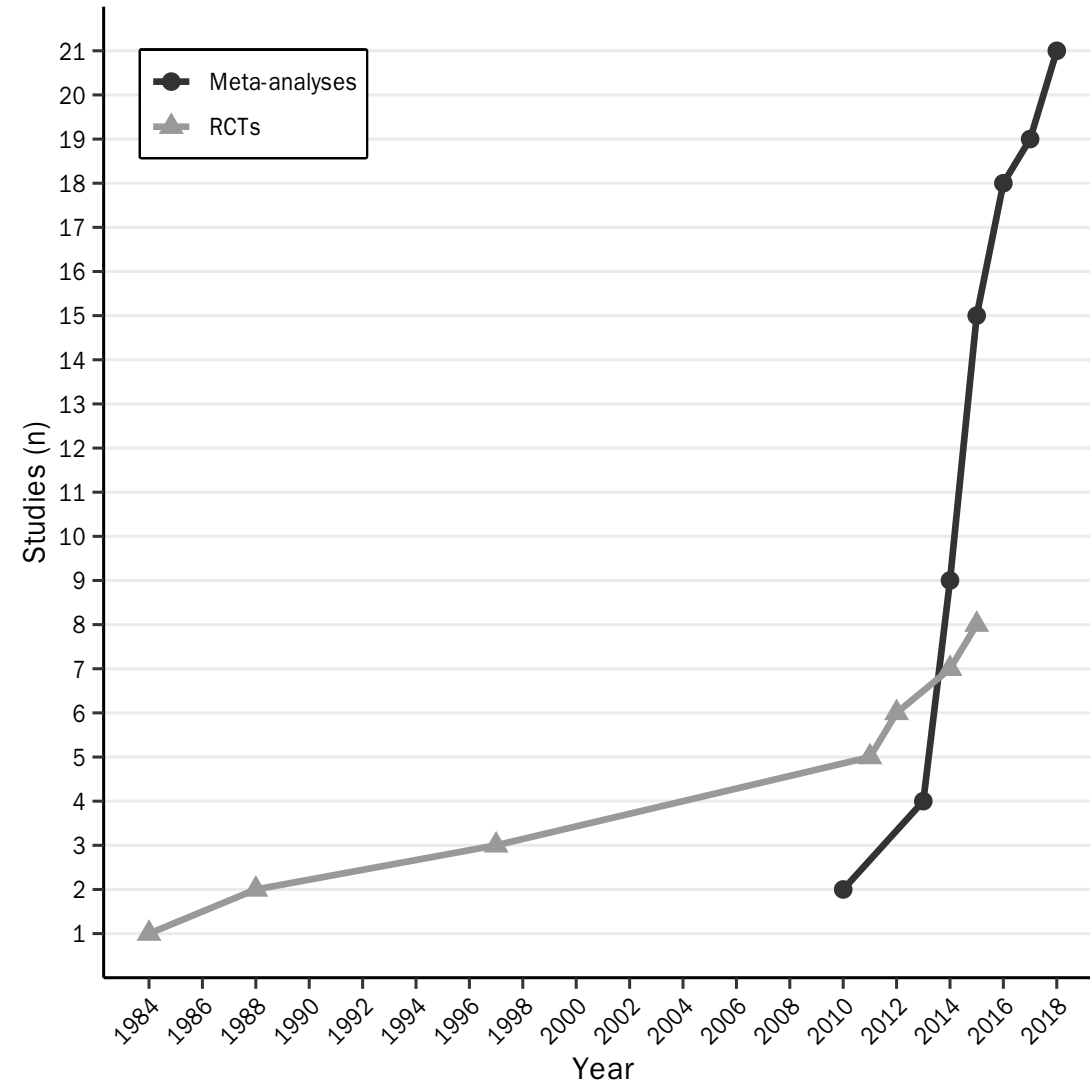
We recommend nonoperative treatment for the average elderly patient (aged > 65 years) with a displaced proximal humeral fracture. Pooled effects of observational studies were similar to those of RCTs, and the inclusion of observational studies improved the generalizability of findings.

Beks et al. (2018)

Methods

- Searched EMBASE, PubMed, The Cochrane Library, and Web of Science for meta-analyses comparing non-operative with operative treatments
- Methodological quality assessed using AMSTAR2
- Conclusions scored for three outcome domains:
functional outcome, quality of life and adverse events.

Results: Publications



Operative Versus Nonoperative Treatment in Complex Proximal Humeral Fractures

ZHI MAO, MD; LIHAI ZHANG, MD, PHD; LICHENG ZHANG, MD, PHD; XIANTAO ZENG, MD; SHUO CHEN, MS; DAOHONG LIU, MD; ZHIRUI ZHOU, MD; PEIFU TANG, MD, PHD

abstract
Full article available online at [Healio.com/Orthopedics](https://www.healio.com/Orthopedics). Search: 00000

This updated meta-analysis investigated whether operative treatment is superior to nonoperative treatment in complex proximal humeral fractures. The authors searched the Cochrane Central Register of Controlled Trials, PubMed, and EMBASE. Randomized controlled trials that evaluated operative vs nonoperative treatment for exclusively 3- or 4-part proximal humeral fractures were considered. Six studies with a total of 287 patients who had proximal humeral fractures were included. According to the meta-analysis, no statistically significant differences were found between operative and nonoperative treatment in Constant-Murley shoulder scores (Constant scores); Disabilities of the Arm, Shoulder, and Hand scores; total complication events; mortality; infection; nonunion; avascular necrosis; osteoarthritis; redisplacement of fractures; or dislocation or resorption of tuberosity. For health-related quality of life, EuroQol-5D (EQ-5D) favored operative treatment, but 15D scores showed no significant difference. Compared with nonoperative treatment, open reduction and internal fixation required significantly more additional surgeries (risk ratio, 6.50; 95% confidence



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Operative Versus Nonoperative Treatment for Complex Proximal Humeral Fractures: A Meta-analysis of Randomized Controlled Trials

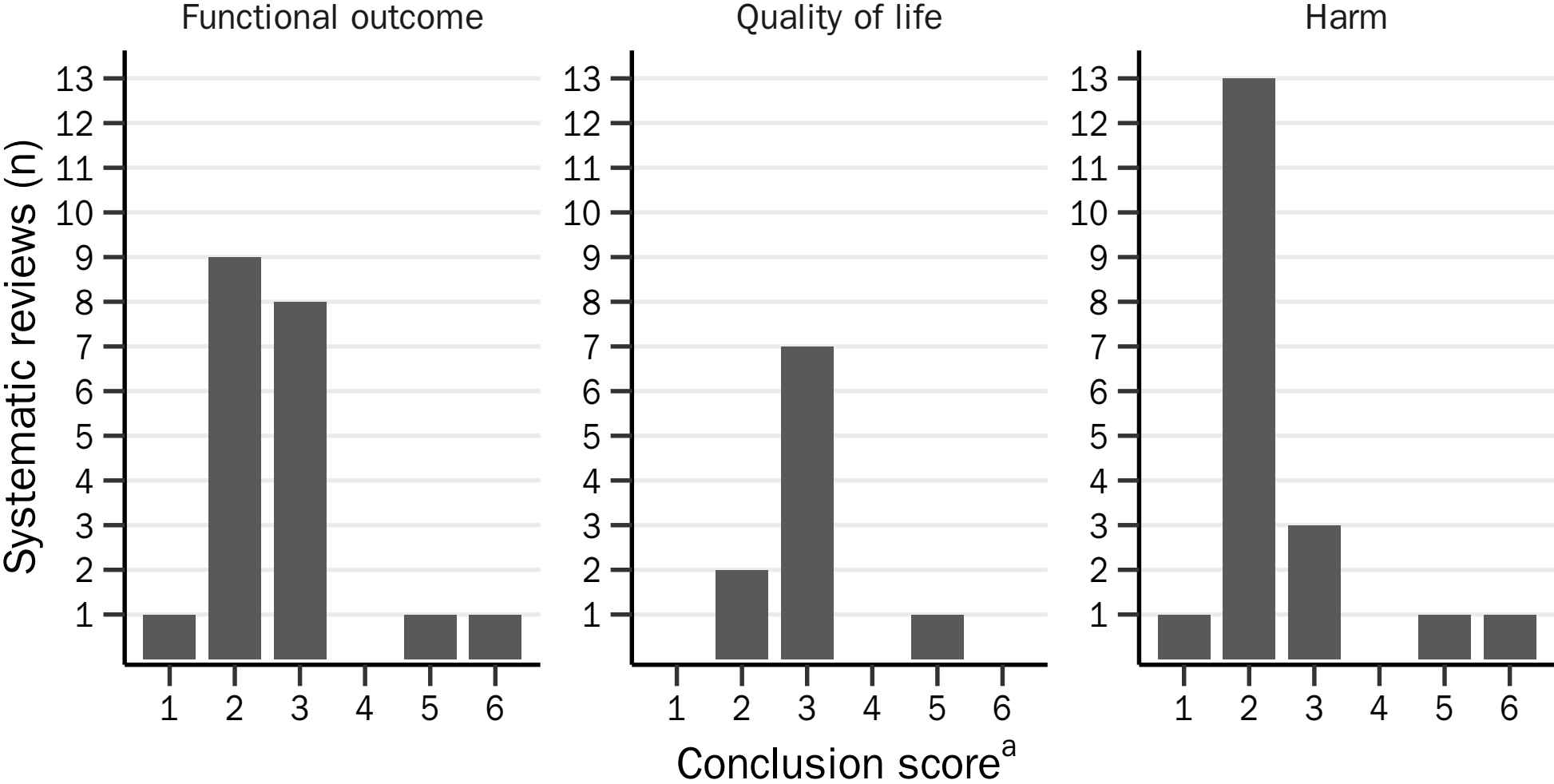
ZHIWEI JIA, MD; WEI LI, MD; YINGYI QIN, PHD; HAIFENG LI, MD; DELI WANG, MD; CHAO ZHANG, MD; QING HE, MD; DIKE RUAN, MD, PHD

abstract
Full article available online at [Healio.com/Orthopedics](https://www.healio.com/Orthopedics)

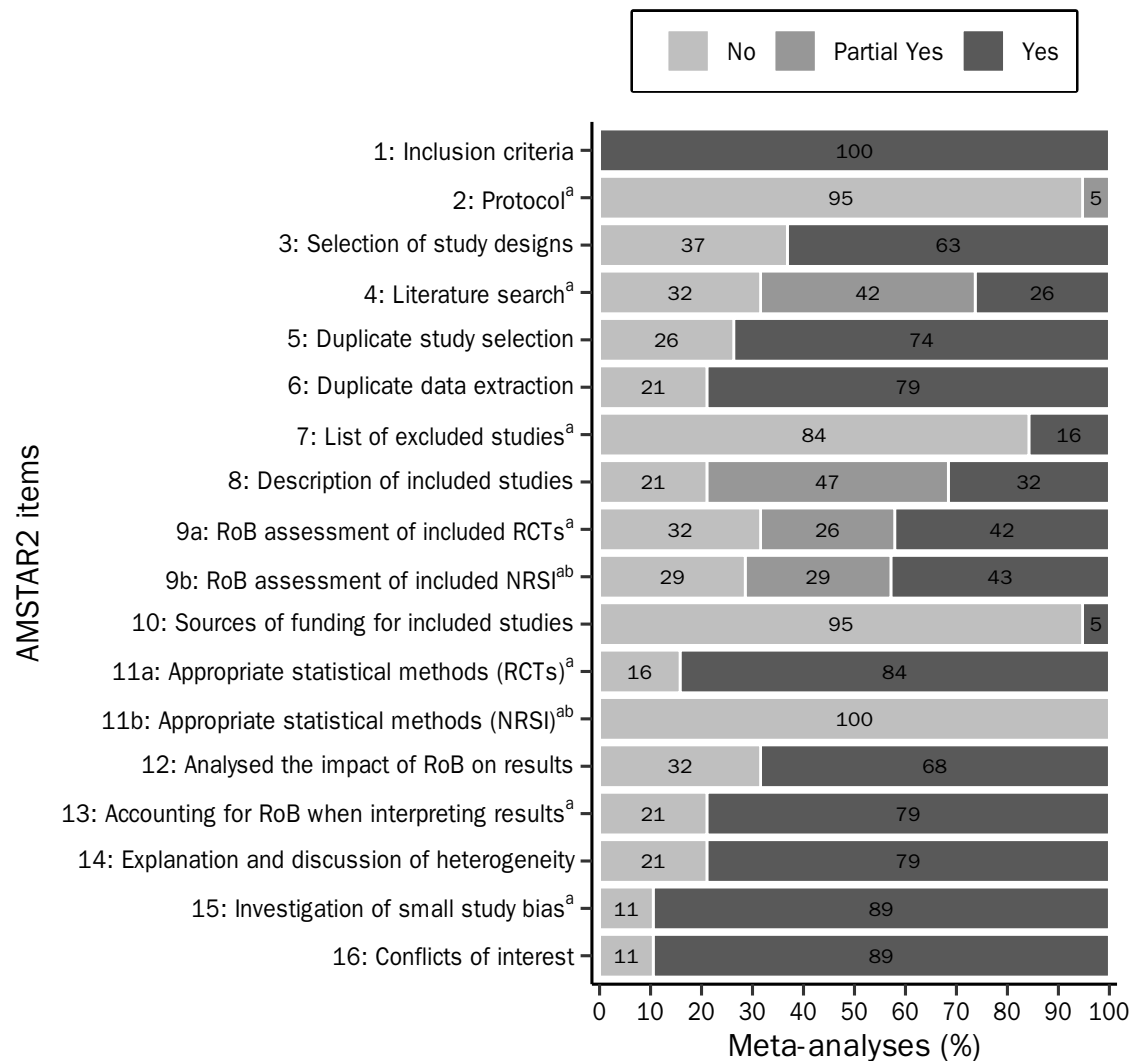
Whether operative treatment for complex proximal humeral fractures has a greater benefit over nonoperative treatment is uncertain. The authors conducted a meta-analysis to include all randomized controlled trials (RCTs) to determine the advantages and disadvantages of operative vs nonoperative treatment. Multiple databases, online registries of RCTs, and proceedings from major meetings were systematically searched up to November 2012. Randomized controlled trials comparing operative and nonoperative treatment for 3- and 4-part proximal humeral fractures were included. Two authors independently assessed methodological quality and extracted data. Seven articles with a total of 286 patients met inclusion criteria. No significant differences were found between operative and nonoperative treatment regarding Constant score, the Disabilities of the Arm, Shoulder and Hand score, American Shoulder and Elbow Surgeons score, Simple Shoulder Test, 15 Dimensions, and complications. Health-related quality of life according to the EuroQol-5D score in operative treatment showed statistically, but not clinically, significant improvement compared with nonoperative treatment. Operative treatment could significantly increase the incidence of additional surgery at 12- and 24-month follow-up compared with nonoperative treatment. However, sensitivity analysis showed a higher additional surgery rate at 12-month follow-up remained unstable. On the basis of current evidence, both operative and nonop-

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Results: Reported Conclusions



Results: Methodological Quality



^a Critical item ^b Only seven meta-analyses include

Conclusions

- The methodological quality is critically low and the reported conclusions are discordant.
- It was not possible to determine the association between methodological quality and reported conclusions.
- Discordant conclusions may be due to lack of pre-defined protocols

Thank you!

Nicolai Sandau, MD
Centre for Evidence-Based Orthopedics,
Dept. of Orthopedic Surgery,
Zealand University Hospital,
Denmark

✉ nicsa@regionsjaelland.dk