

# OSTEOTOMY FOR TREATING KNEE OSTEOARTHRITIS

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Cochrane Database of Systematic Reviews, Issue 08, 2011 (Status in this issue: EDITED (NO CHANGE TO CONCLUSIONS))

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DOI: 10.1002/14651858.CD004019.pub1

This review should be cited as: Brouwer Reinoud W., van Raaij Tom M, Bierma-Zeinstra Sita MA, Verhagen Arianne P, Jakma Tijs T.S.C., Verhaar Jan AN. Osteotomy for treating knee osteoarthritis. Cochrane Database of Systematic Reviews. In: *The Cochrane Library*, Issue 08, Art. No. CD004019. DOI: 10.1002/14651858.CD004019.pub1

## ABSTRACT

### Background

Patients with unicompartmental osteoarthritis of the knee can be treated with a correction osteotomy. The goal of the correction osteotomy is to transfer the load bearing from the pathologic to the normal compartment of the knee. A successful outcome of the osteotomy relies on proper patient selection, stage of osteoarthritis, achievement and maintenance of adequate operative correction. This is an update of the original review published in Issue 1, 2005.

### Objective

To assess the effectiveness and safety of an osteotomy for treating osteoarthritis of the knee.

### Criteria for considering studies for this review

Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE (Current contents, Health STAR) up to October 2002 in the original review and in the update until May 2007. Reference lists of identified trials were screened.

### Selection criteria

Randomised and controlled clinical trials comparing a high tibial osteotomy or a distal femoral osteotomy in patients with unicompartmental osteoarthritis of the medial or lateral compartment of the knee.

### Data collection and analysis

Two review authors independently selected trials, extracted data and assessed trial quality. Due to heterogeneity of the studies, pooling of outcome measures was not possible.

### Main results

Thirteen studies involving over 693 people were included; 11 studies were included in the first version and two studies and one longer follow-up study were included in this update. All studies concerned a valgus high tibial osteotomy (HTO) for medial compartment osteoarthritis of the knee. Six studies, in which two studies were included in this update, compared two techniques of HTO. One study compared HTO alone versus HTO with additional treatment. Four studies compared within the same type of HTO, different peri-operative conditions (two studies) or two different types of post-operative treatment (two studies). Two studies, including the longer follow up, compared HTO with unicompartmental joint replacement. No study compared an osteotomy with conservative treatment.

Most studies showed improvement of the patient (less pain and improvement of function scores) after osteotomy surgery, but in the majority of the studies there was no significant difference with other operative treatment (other technique of HTO/ unicompartmental joint replacement). Overall, the methodological quality was low.

## **Authors' conclusions**

Based on 13 studies, we conclude that there is 'silver' level evidence ([www.cochranemsk.org](http://www.cochranemsk.org)) that valgus HTO improves knee function and reduces pain. There is no evidence whether an osteotomy is more effective than conservative treatment and the results so far do not justify a conclusion about effectiveness of specific surgical techniques.

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