



Title	Prevention of Infection After Knee Arthroplasty
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Aim

To address questions regarding the medical effectiveness, cost effectiveness, and ethical, social, and legal aspects related to using interventions to prevent infections after knee arthroplasty.

Conclusions and results

A systematic literature search yielded 1030 hits. Ten publications were included in the analysis, based on predefined inclusion and exclusion criteria. The report does not find high-level evidence for the effectiveness of different hygiene interventions. Most of the unspecific interventions are recommended on the basis of results from nonrandomized controlled trials, from studies for other clinical indications and/or clinically nonrelevant endpoints, or on the basis of expert opinion. A high level of evidence on the effectiveness of intravenous prophylaxis with antibiotics in knee arthroplasty is also missing. The recommendations use evidence on the intravenous antibiotic prophylaxis transferred from RCT in hip arthroplasty to the arthroplasty of all joints, including knee replacement. Moreover, no evidence is found for differences in the effectiveness between various antibiotics in knee arthroplasty. The report finds strong hints for the effectiveness of antibiotics in cement in addition to intravenous prophylaxis. However, evidence of the effectiveness may be accepted only for operating rooms without clean-air measures. The cost effectiveness of different interventions to prevent infections in knee arthroplasty remains unclear. There are no signs for concern regarding any ethical, social, and/or legal consequences in using interventions to prevent infections in knee arthroplasty.

Recommendations

Based on the analysis, no proposals can be made to change the recommendations of the Robert Koch Institute with respect to hygiene interventions and intravenous antibiotic prophylaxis. Also, no recommendations to select a particular antibiotic can be derived from the analyzed data. The use of antibiotics in cement,

in addition to intravenous prophylaxis, may be generally recommended.

Methods

A systematic literature search was conducted in MEDLINE, EMBASE, SciSearch, etc in June 2009 and completed by a hand search. The analysis includes publications that describe and/or evaluate clinical data from randomized controlled trials (RCTs) systematic reviews of RCTs, registers of endoprostheses, or databases on interventions to prevent infections after knee arthroplasty. The literature search also aimed to identify health economic studies and publications dealing explicitly with ethical, social, or legal aspects in using interventions to prevent infections after knee arthroplasty. The synthesis of information from different publications has been performed qualitatively.