



Title	HTA of Computer Assisted Surgery Used in Orthopedic Surgery – Focused on Total Knee Arthroplasties
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Aim

To investigate the evidence concerning the use of computer assisted surgery (CAS) in total knee replacement (TKR) and to assess the consequences of CAS for technology, the patient, the organization, and the economy.

Conclusions and results

- A conservative analysis shows that CAS is more expensive than traditional total knee arthroplasty by approximately 10 000 Danish kroner (DKK).
- CAS provides a possibility for more precise placement of the prosthesis measured on radiographs. The literature shows a reduction in numbers of outliers.
- A clear connection has not been established between a more precisely placed prosthesis and an improved early range of movement.
- CAS technology is advantageous in patients where traditional instrumentation is not possible due to malalignment in the femur or tibia.

Recommendations

Potential applications in knee arthroplasty for CAS could include revision surgery and the further development of minimally invasive surgery (MIS) technology.

Methods

Chapters regarding the technology, patient, and organization consist of systematic literature reviews of all available randomized controlled trials. The chapter on economics consists of a systematic literature review and an independent cost analysis.

Further research/reviews required

It will be necessary to explore the revision rate for CAS beyond 10 years because the use of CAS is expected to diminish the long-term revision rate, compared with traditional knee arthroplasty.