Aim
To examine the comparative clinical and cost effectiveness of TomoTherapy, Gamma Knife, and CyberKnife therapies for patients with cancer of the lung, central nervous system, or intra-abdomen.

Results and conclusions
Evidence is insufficient to reliably estimate the comparative clinical effectiveness (benefit and harm), cost effectiveness, and impact on quality of life of TomoTherapy, Gamma Knife surgery (GKS), or CyberKnife surgery (CKS). The specific patient case-loads and sites requiring radiosurgery or radiotherapy may be factors to consider before purchasing.

Recommendations
Not applicable.

Methods
Literature published in English between 2004 and April 2009 that focused on tumors in the lung, central nervous system, or intra-abdomen and mentioned TomoTherapy, GKS, or CKS were selected from common bibliographic databases, the websites of relevant agencies and associations, and other specialized databases. Literature searches were limited to systematic reviews, health technology assessments, meta-analyses, randomized controlled trials, and economic studies. Clinical endpoints of interest were tumor control rates, overall survival rates, and adverse events. Health-related quality of life measures were collected, when available. Two independent reviewers selected articles for inclusion based on specific criteria, and disagreements were resolved by consensus. This report reviews and discusses the results.