



<b>Title</b>	<b>Clinical and Cost-effectiveness of New and Emerging Technologies for Early Localised Prostate Cancer: A Systematic Review</b>
<b>Agency</b>	NCCHTA, National Coordinating Centre for Health Technology Assessment Mailpoint 728, Boldrewood, University of Southampton, Southampton SO16 7PX, United Kingdom; Tel: +44 2380 595586, Fax: +44 2380 595639
<b>Reference</b>	Health Technol Assess 2003;7(33). Nov 2003. <a href="http://www.ncchta.org/execsumm/summ733.htm">www.ncchta.org/execsumm/summ733.htm</a>

## Aim

To evaluate the clinical and cost effectiveness of new and emerging technologies for early, localized prostate cancer.

## Conclusions and results

For neoadjuvant hormonal therapy, no evidence of benefit was found in terms of biochemical disease-free survival. For adjuvant hormonal therapy, no evidence of benefit was found in terms of survival, but some conflicting evidence showed that higher risk patients might benefit. The largest number of studies reported results for brachytherapy, where some evidence suggested that it may be more effective than standard treatments for lower risk patients, although less effective for intermediate- and high-risk patients, in terms of biochemical disease-free survival. Lower quality evidence reported fewer complications than for standard treatments. Higher quality evidence suggested that disease-specific quality of life (QoL) for brachytherapy patients was lower than for patients receiving standard treatments. The review of three-dimensional conformal radiotherapy (3D-CRT) considered treatment-related morbidity, where significantly fewer gastrointestinal complications occurred than with standard radiotherapy. It was suggested that higher radiation doses achieved better disease control, although patient characteristics were often reported as independent indicators of control. The review of intensity-modulated conformal radiotherapy suggested that late gastrointestinal toxicity might be reduced compared with 3D-CRT. For cryotherapy, high rates of impotence were reported. Owing to the paucity and poor quality of evidence identified for other interventions, conclusions regarding their clinical effectiveness cannot be drawn. Cost-effectiveness estimates were based on the impact of adverse events on quality-adjusted life-years and the assessment was restricted to brachytherapy, 3D-CRT, and cryotherapy compared with standard treatments. Of the new treatments included, only cryotherapy appeared not to be potentially cost effective compared with traditional treatments, owing to the associated high incidence of

impotence.

## Recommendations

It is difficult to draw conclusions on the relative benefits of the newer technologies owing to the lack of substantive evidence of any quality and the lack of comparisons between the newer technologies and standard treatments.

## Methods

A list of new and emerging technologies was identified and agreed. A systematic review was undertaken and selected studies were reviewed against a set of criteria. An economic model was developed and used to compare specified newer treatments and traditional approaches.

## Further research/reviews required

Areas recommended for further research are: RCTs with sufficient followup to measure benefits in terms of overall survival (including QoL measurement); identification of prognostic risk factors in men diagnosed with early prostate cancer; QoL studies to compare the utility of health states among patients on active monitoring, patients receiving treatment, and the comparable healthy population; the relationship between surrogate end-points and survival; and the adoption of standard definitions for adverse events.