

Title:	Positron emission tomography (PET) for cervical cancer
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Aim

To assess the safety, effectiveness and cost-effectiveness of PET for cervical cancer in addition to conventional assessment methods; in the initial staging of locally advanced, potentially curable cervical cancer (ie, stage > IB2); for the assessment of suspected local recurrence; and for the evaluation of confirmed local recurrence.

Results and conclusions

Safety: PET and PET/CT are considered safe procedures.

Effectiveness: No direct evidence was found reporting the health outcomes of patients with cervical cancer assessed with and without FDG-PET. Therefore, evidence for accuracy, change in management and the expected benefit of changes in treatment on health outcomes (linked evidence approach) was considered to evaluate the effectiveness of PET.

Initial staging of locally advanced, potentially curable cervical cancer: Three studies consistently showed that the addition of PET to conventional staging methods (CSM) is more accurate than CSM alone for the detection of additional sites of locally advanced or disseminated cervical cancer. However, no studies were identified that reported changes in management due to PET and any resulting effect on patient outcomes. Therefore, the effectiveness of PET for this indication is uncertain.

Assessment of suspected local recurrence: The evidence for the effectiveness of PET in this indication is sparse, with only one accuracy study of limited utility. In the absence of eligible studies of changes in management due to PET and any resulting impact on patient outcomes, the effectiveness of PET for this indication is uncertain.

Evaluation of confirmed local recurrence: Two studies reported that PET detected additional true positive metastatic disease that was not detected by CT or MRI. Comparative sensitivity was consistently higher for PET (77%–92%) than for CT or MRI (46%–60%). One study reported that treatment intent following PET changed from curative to palliative in 15/40 (37.5%; 95% CI 23%–54%) patients. However, it is not known whether the potential improvement in quality of life through the avoidance of morbidity associated with inappropriate aggressive treatment with curative intent outweighs any potential benefit of such treatment.

Economic considerations: Based on one study reporting the percentage of patients for whom treatment intent changed from curative to palliative care following the detection of additional metastases by PET, it was estimated that the addition of PET to conventional staging in patients with confirmed local recurrence would result in an average cost offset of approximately \$1,838 per patient due to the avoidance of curative treatment. The costs to the Federal Government were also estimated in terms of the potential costs to the Medicare Benefits Schedule. On the basis of an estimated utilisation range of 410 to 476 examinations per year, the gross Medicare Benefits Schedule reimbursement costs of PET in addition to conventional staging may range from \$390,730 to \$453,628.

Methods

This report updates a previous MSAC review from 2001. A systematic review to October 2009 was undertaken to include more recent studies. A modelled economic evaluation was not conducted due to the paucity of data. Instead, major cost implications of PET were estimated in patients with confirmed local recurrence of cervical cancer.