

# Endoscopic Ultrasound for the Diagnosis of Disease and Staging of Cancers in Adult Patients with Gastroenterological or Oncological Disease: A Review

## Context

Identifying cancers and gastroenterological diseases can be challenging. Clinicians must ensure that the identification process is accurate while also minimizing complications associated with the procedures. In addition, for cancer patients, accurate staging is vital so clinicians can choose the most appropriate therapy.

## Technology

Endoscopic ultrasound (EUS) procedures, such as endobronchial ultrasound (EBUS) and endoanal ultrasound (EAUS), are minimally invasive imaging strategies used to identify and stage different types of cancers or to identify gastroenterological disease. Others include computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and endoscopic retrograde cholangiopancreatography (ERCP).

## Issue

A review of the clinical effectiveness, safety, and cost-effectiveness of EUS compared with CT, MRI, PET, or ERCP will inform decisions about which technologies to use for the diagnosis of disease and staging of cancers in patients with gastroenterological or oncological disease.

## Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

## Key Messages

- In patients with mild or moderate acute biliary pancreatitis, EUS appears to be as accurate as ERCP, and it is associated with a lower risk of procedure-related complications compared with ERCP.
- In patients with peripheral pulmonary lesions, EBUS-guided transbronchial lung biopsy and CT-guided percutaneous needle biopsy are associated with high diagnostic accuracy for identifying lung cancer, and EBUS-guided transbronchial lung biopsy is associated with a reduced risk for procedure-related complications.
- For imaging of perianal fistulas, both EAUS and MRI had low diagnostic specificity, which could result in false-positive results.
- In patients with pancreatic cancer, the evidence comparing the clinical effectiveness of EUS with CT is inconclusive.

## Results

The literature search identified 624 citations, with 9 additional articles identified from other sources. Of these, 46 were deemed potentially relevant and 8 met the criteria for inclusion in this review — 3 meta-analyses, 2 systematic reviews, 2 randomized controlled trials, and 1 economic analysis.

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