



Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

1. Determine the quantity and quality of evidence available for a technology of interest.
2. Identify any gaps in the evidence/ongoing evidence collection.
3. Inform decisions on topics that warrant fuller assessment by Health Technology Wales.

Topic:	Transnasal endoscopy for diagnosis of gastrointestinal cancers
Topic exploration report number:	TER259

Introduction and aims

Health Technology Wales researchers searched for evidence on the use of transnasal endoscopy (TNE) for the diagnosis of gastrointestinal cancers compared to other approaches.

TNE is a diagnostic procedure for detecting pathology in the gastrointestinal system. Traditionally, this procedure has been completed as a transoral endoscopy (TOE) and administering via the oral route requires patients to be sedated, if conventional endoscopes are used. TNE can be performed with an ultrathin endoscope which is inserted via the nasal passages. This route may be less unpleasant and more acceptable for patients and means the procedure can be completed without the need for sedation. Due to this, TNE may be preferred by patients and could leave to cost savings by avoiding the need for resource use associated with sedation. Ultrathin endoscopes can also be used via the transoral route and may mean that patients do not need to be sedated. This could limit the difference between resource use associated with the different routes of administration.

Summary of evidence

Secondary evidence

A narrative review provided by the topic proposer summarises the evidence on the diagnostic accuracy, safety and acceptability of TNE compared to other approaches (Parker et al. 2016). Studies included in the review are mostly summarised in text rather than with numerical data.

The review reports that the majority of studies comparing unsedated TNE with sedated TOE have found better tolerance for TNE, as well as acceptability, satisfaction, or willingness to undergo a future procedure. These results seem driven by reductions in gagging and discomfort during insertion. However, some studies report that sedated TOE is preferable due to the pain of nasal insertion. The review also cites several studies examining resource use associated with TNE and comparators. They report that TNE has shorter procedure times and lower costs due to avoiding the need for sedation and monitoring of patients after the procedure.

Despite these potential benefits, the review suggests that information on the diagnostic accuracy of TNE is limited for some conditions, and has conflicting findings in others. Randomised studies included in the review report that consistency between ultrathin TNE and conventional TOE ranged from moderate to high for Barrett's oesophagus. For gastric cancer, the review reports that some studies raise concerns about the accuracy of TNE with ultrathin endoscopes, particularly where lesions are small and in the upper stomach. The use of mucolytic and defoaming agents, as well as ensuring protocols for mapping the entire stomach are in place, may lead to improvements in accuracy. However, these interventions may also increase procedure time and limit available cost-savings.

Primary studies

We identified one further randomised controlled trial that compared unsedated use of 5-mm ultrathin endoscopy with local anaesthetic spray via both the transnasal and transoral route (Lin et al. 2014). This study was not included in the review above. Two hundred and twenty patients were randomly assigned to the two groups and 207 were included in the analysis after receiving endoscopy. Overall, there was no significant difference between the groups on overall procedure comfort (transnasal, 10.7 vs. transoral, 11.1, $p=0.9$), satisfaction (transnasal, 41.2 vs. transoral, 41.3, $p=0.91$), or willingness to choose the procedure in future (transnasal, 87.8% vs. transoral, 94.2%, $p=0.91$). In addition to patient acceptability, the study report that the TN group had a higher number of failures (transnasal, 94% vs. transoral, 100%, $p=0.01$) and a higher number of adverse events, namely nasal bleeding (transnasal, 2% vs. transoral, 0%).

Areas of uncertainty

It appears that there may be competing factors that need to be balanced to determine whether TNE or the use of ultrathin endoscopes should be recommended. The secondary evidence identified for this report relied largely on narrative summaries of studies and did not report findings as numerical data. Due to this, it is difficult to assess the relative merits of the interventions. A more comprehensive review may be able to present more clearly the trade-offs between patient experience, diagnostic accuracy, and resource savings.

There appears to be some evidence that when an ultrathin endoscope is used, differences in the acceptability across the routes of administration are not present. In addition, on some outcomes, peroral administration of ultrathin endoscopy may be preferable. A more comprehensive review would be needed to clarify the role ultrathin peroral endoscopy could have in care and whether it is currently in use in Wales.

Conclusions

Use of ultrathin endoscopy via the nasal or oral route appears to improve patient experience compared to conventional approaches. It may also lead to lower resource use and cost savings due to avoidance of the need for sedation. However, there are concerns that the use of ultrathin endoscopes may have lower diagnostic accuracy and additional interventions may be needed to address these concerns. A more comprehensive review would be needed to clarify these issues and to explore whether sedated TOE, or unsedated TOE or TNE using ultrathin endoscopes is the optimal approach.

Brief literature search results

Resource	Results
HTA organisations	
Healthcare Improvement Scotland	We did not identify any relevant information or guidance from this source.
Health Technology Assessment Group	We did not identify any relevant information or guidance from this source.
Health Information and Quality Authority	We did not identify any relevant information or guidance from this source.
EUnetHTA	We did not identify any relevant information or guidance from this source.
International HTA Database	We did not identify any relevant information or guidance from this source.
UK guidelines and guidance	
SIGN	We did not identify any relevant information or guidance from this source.
NICE	We did not identify any relevant information or guidance from this source.
Secondary literature and economic evaluations	
Cochrane library	We did not identify any additional relevant secondary literature or economic evaluations from this source.
Medline	We did not identify any additional relevant secondary literature or economic evaluations from this source.
Primary studies	
Cochrane library	Lin et al. (2014). A prospective randomized study comparing transnasal and peroral 5-mm ultrathin endoscopy. <i>Journal of the Formosan Medical Association</i> , 113, 371-376. https://doi.org/10.1016/j.jfma.2012.06.003
Medline	We did not identify any additional relevant primary studies from this source.
Ongoing primary or secondary research	
PROSPERO database	We did not identify any ongoing systematic reviews from this source.
Clinicaltrials.gov	We did not identify any ongoing trials from this source.
Other	
Provided by the topic proposer	Parker et al. (2016). Transnasal endoscopy: no gagging no panic! <i>Frontline Gastroenterology</i> , 7, 246-256. https://dx.doi.org/10.1136%2Fflgastro-2015-100589

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Concepts used:	transnasal endoscopy; oesophageal; stomach; gastric; bowel; cancer