



Extended Research Article

Cost-effectiveness of endoscopic treatments for obesity: a clinical evidence map and systematic review to inform a model-based cost-effectiveness analysis

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Plain language summary

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Plain language summary

Treating obesity can improve the health and quality of life of people living with obesity and reduce the burden of obesity-associated medical problems. It also has wide-ranging economic benefits. Bariatric (weight loss) surgery remains the most effective long-term treatment and is good value for money for the United Kingdom healthcare system. However, there are barriers to accessing this surgery including a lack of resources and variability in service availability. Endoscopy is a non-surgical procedure that uses a flexible tube (an endoscope) passed through the mouth to look at the digestive tract. Small tools located at the end of the endoscope can be used to help weight loss by changing the size or shape of the stomach or by inserting a liner or balloon. Endoscopic weight loss therapies may be cheaper, more acceptable alternatives as they are less invasive and need a shorter hospital stay.

We undertook a wide-ranging systematic search of the published literature and identified a large number of articles (1574) looking at endoscopic therapies. We also identified many different types of endoscopic therapies. We have produced an extensive list of these studies to aid future understanding of the effects of these therapies. There were limited studies on the value for money of endoscopic therapies.

Therefore, we built three models to compare the cost-effectiveness between treatments over 5 years. These models found that laparoscopic sleeve gastrectomy (a bariatric surgery procedure) is likely to be better value for money than endoscopic sleeve gastroplasty (an endoscopic approach to reducing stomach size). Endoscopic sleeve gastroplasty is likely to be better value for money than semaglutide (a weight loss drug). Semaglutide is likely to be better value for money than a gastric balloon placed via endoscopy. This suggests that both endoscopic sleeve gastroplasty and semaglutide are feasible options for weight loss. The choice may depend on the stage a patient is at in their weight loss journey and their preference. Despite the findings of the models, it is important to realise that the data did not originate from high-quality studies directly comparing these therapies and some assumptions on how effective the therapies would be over long periods of time had to be used. Future studies should directly compare the therapies, follow patients for longer and consider that some patients receive multiple treatments for obesity over time.

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This article

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