

Abdominal drainage versus no drainage post-gastrectomy for gastric cancer

NICE has developed the Cochrane Quality and Productivity topics to help the NHS identify practices that could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice.

Unless otherwise stated, the information is taken with permission from the Cochrane systematic review.

NICE summary of Cochrane review conclusions

This Cochrane review concludes that there is no convincing evidence to support the routine use of abdominal drains in patients under-going gastrectomy for gastric cancer. The four trials included in the review recruited a total of 438 patients and were of moderate methodological quality. No statistically significant differences were observed between those with and without abdominal drains with regards to the primary outcomes of mortality and post-operative complications, however this evidence was of a 'very low' and 'low' grade respectively. Two studies reported drain-related complications affecting 5 patients in total. Given the possibility of drain-related complications and the statistically significant difference in the secondary outcomes of operation time and length of postoperative hospital stay, the authors conclude that abdominal drains increase harm without providing any additional benefit in this group of patients.

The 'Implications for practice' section of the Cochrane review stated:

'Drains increase harm by prolonging both operation time and postoperative hospital stay, and lead to drain-related complications without providing any additional benefit for patients with gastric cancer undergoing gastrectomy. We found no convincing evidence to support routine drain use after gastrectomy for gastric cancer.'

Although there are many surgical interventions where double blinding is not possible, the intervention of abdominal drainage or no abdominal drainage can be blinded if adequate measures are taken. For example, in the group without drainage a drain can be used with one end connected to a drain bag and the other end outside the skin with the drain side covered by opaque dressing. Thus, we can know if any potential increased risk of chest complications is due to the perceived fear of the patients or because patients experience real pain that inhibits breathing.

Quality of life after surgery is an important index to evaluate treatment effectiveness for patients with malignant tumours. Unfortunately, none of the included studies reported this clinical outcome; so quality of life should be taken into consideration in future clinical practice.'

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Details of Cochrane review

Cochrane review title

Abdominal drainage versus no drainage post-gastrectomy for gastric cancer (Review)

Citation

[Wang Z, Chen J, Su K, Dong Z. Abdominal drainage versus no drainage post-gastrectomy for gastric cancer. *Cochrane Database of Systematic Reviews* 2015, Issue 5. Art. No.: CD008788. DOI: 10.1002/14651858.CD008788.pub3](#)

When the review content was assessed as up to date

23 February 2015

Quality and productivity category

Right Care

Relevant codes	OPCS	ICD10	HRG
	G27.1—G28.9	C16	VA11— VA15

Programme budget:

Cancers and tumours, problems of the gastro intestinal system.

Evidence

Relevance to the NHS

Gastrectomy remains the primary therapeutic method for resectable gastric cancer. It was believed that abdominal drains could help in the earlier detection and drainage of anastomotic fistulas and the prevention of intra-abdominal abscesses. There is no consensus on the routine placement of abdominal drainage after gastrectomy for gastric cancer.

The Cochrane review aimed to assess the benefits and harms of routine abdominal drainage post-gastrectomy for gastric cancer. Four, parallel group, randomised controlled trials (RCTs) that compared inserting an abdominal drain versus no drain in 438 patients who had undergone gastrectomy were included in the review. There were 220 patients in the drain group and 218 in the no-drain group. RCTs comparing one drain with another were excluded. None of the trials described the method used to generate allocation sequence and not all of the studies reported on some of the outcome measures. The methodological quality of the included studies was moderate, even low.

There was no evidence of a difference between the two groups in deaths, post-operative complications (pneumonia, wound infection, intra-abdominal abscess, anastomotic leak) and initiation of a soft diet. The results showed that drains increased harm by prolonging operation time, increasing post-operative hospital stay, and led to drain related complications without providing any additional benefit for patients with gastric cancer undergoing gastrectomy. Additionally, it should be noted that 30-day mortality and re-operations are very rare events and, as a result, very large numbers of patients would be required to make any sensible conclusions about whether the two groups were similar. The overall quality of the evidence according to the GRADE approach was 'very low' for mortality and re-operations, and 'low' for post-operative

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complications, operation time, and post-operative length of stay.

The findings of the review found no convincing evidence to support routine drain use after gastrectomy for gastric cancer.

Relevant NICE guidance and products

No relevant NICE guidance was available at the time of publication (April, 2016).

Other accredited guidance and products

No other accredited guidance was available at the time of publication (April, 2016).

Potential productivity saving

Estimate of current NHS use

- Around 5,600 stomach cancers (malignant neoplasm of stomach) were recorded in England, in 2013 (Office for National Statistics, 2015). No information is available relating to stomach cancer gastrectomy and post-gastrectomy prophylactic drainage procedures.
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Level of productivity savings anticipated

- The cost of prophylactic drainage post- gastrectomy is included in the tariff for gastrectomy (NHS England, 2015). Therefore there is no saving for commissioners.
 - Where this is current practice, providers may benefit from:
 - reduced staff time in theatre
 - reduced length of post-operative hospital stay
 - reduced spend on consumables (tubes and drains)
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Type of saving

- Further to productivity savings, there is potential cash saving for providers from reduced cost of consumables.
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Any costs needed to achieve the savings

- No additional resources identified to achieve change.
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Other information

- This saving is likely to benefit NHS provider trusts.
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Potential impact on quality of NHS care

Impact on clinical quality

There is potential for improved clinical quality in areas of variation that may still exist with regards to this practice.

Impact on patient safety

Patient safety may be improved slightly due to reducing adverse events associated with abdominal drains in this cohort.

Impact on patient and carer experience

If a gastrectomy was performed without an abdominal drain, the patient or carer experience may be improved by a reduction in operation time, reduction in post-operative hospital stay and reduced drain related complications. It should be noted that none of the studies measured quality of life after surgery as a clinical outcome.

Likely ease of implementation

Time taken to implement

Can be achieved within 0-3 months.

Healthcare sectors affected

Affects the surgical team or department.

Stakeholder support

Likely to be supported by key influencers.

References

Office for National Statistics (2015) [Statistical Bulletin. Cancer Registration Statistics, England, 2013](#)

NHS England (2015) [Guide to the Enhanced Tariff Option for 2015/16](#).