

## The MAGIC trial

**Reference:** Cunningham D, Allum W, Stenning S et al. Perioperative chemotherapy versus surgery alone for resectable gastroesophageal cancer. *N Eng J Med* 2006; 355:11-20  
<https://www.nejm.org/doi/full/10.1056/NEJMoa055531>

MAGIC involved 503 patients from 45 UK centres (and a small number from Europe).

**P:** Patients with adenocarcinoma of the stomach (or distal oesophagus) at least T1b and suitable for resection

**I:** Six cycles of perioperative epirubicin, cisplatin and 5-fluorouracil: 3 pre-op and 3 post-op

**C:** Surgery alone

**O:** Overall survival at 5 years (primary outcome), assessments of down staging, quality of life

### Results:

- 5 year survival was 36% (chemotherapy) and 23% (surgery) and progression free survival was also significantly higher in the chemotherapy group
- Tumours in the chemotherapy group were macro and microscopically smaller, with a higher proportion of T1-2 tumours and N0/1 which all indicate down staging
- Morbidity and mortality related to chemotherapy and surgery were similar in both groups and similar to other published studies
- Progression free survival, overall survival were higher in the chemotherapy group

<b>Internal validity</b>	Selection bias	Low: telephone randomisation service
	Detection bias	Low: overall survival is an objective outcome
	Performance bias	Unclear: no info about whether surgeons were blinded (though this may not have been practical)
	Attrition bias	Unclear: only 41.6% of patients completed all 6 cycles of chemotherapy. Drop out rates unclear
	Selective outcome reporting	Low
<b>External validity</b>	P	Relatively broad: all histological types of 'resectable' gastro-oesophageal cancer
	I	Intervention (chemotherapy) relatively tightly standardised. Type of surgery at surgeons' discretion.
	C	
	O	Relatively patient-centred (survival) although no quality of life outcomes
	O	45 centres across Europe

**How has this influenced practice?** NICE recommends that patients with gastric cancer are offered chemotherapy before and after surgery, if radical gastric resection is planned.

### Other criticisms:

- Small proportion of patients with oesophageal cancer therefore difficult to extrapolate findings to this group
- Less than half of patients completed all of the pre-specified chemotherapy
- Not possible to compare differential effects of pre- and post-operative chemotherapy