



ANZGOSA

Australia & New Zealand
Gastric & Oesophageal
Surgery Association

ANZGOSA AUDIT DATA REPORT

August 2017

ROYAL AUSTRALASIAN
COLLEGE OF SURGEONS



Acknowledgements and funding

The ANZGOSA Audit is directed by the Australian and New Zealand Gastric and Oesophageal Surgery Association (ANZGOSA) and provided as a service to its members. More information is available on their website at www.anzgosa.org.

The audit is managed for ANZGOSA by the Royal Australasian College of Surgeons (RACS) through the Research, Audit and Academic Surgery Division. For more information on the audit, go to www.surgeons.org/anzgosa.

Contact the audit

Phone: +61 8 8219 0918

Fax: +61 8 8219 0999

Email: anzgosa.audit@surgeons.org

Web: www.surgeons.org/anzgosa

Data collection portal: <https://db.anzgosa.org>

This report was produced by the College for ANZGOSA.

- Data extraction and report development: Michelle Ogilvy, Team Leader, Morbidity Audits, RACS
- Editorial Review: Katherine Economides, Manager, Morbidity Audits, RACS
- Clinical Review: Mr Andrew MacCormick, Chair, ANZGOSA Scientific Research and Audit Committee

The audit operates on funds from current and past sponsors. Current sponsor is Applied Medical.



Summary

This report provides an overview of audit activity, cases submitted to date, examples of automated reports and data output as at 31 July 2017.

Introduction

The ANZGOSA Audit is an ongoing quality assurance activity of the Australian and New Zealand Gastric and Oesophageal Surgical Association (ANZGOSA) aiming to evaluate, improve and maintain the quality of care provided by its members for patients with oesophago-gastric cancer.

Audit data is collected and managed by the Royal Australasian College of Surgeons.

Data is collected on patients undergoing surgery for oesophago-gastric cancer or gastrointestinal stromal tumour (GIST). Participants can self-assess their performance and compare against peers. Data will also be used for research and analysis on treatment for these patients in Australia and New Zealand.

Background

The audit officially began data collection in 2010. It was inspired by the Sydney Upper Gastrointestinal Society Database. The aim was to expand that data collection to the whole of Australia and New Zealand.

Methodology

The audit is voluntary and access can be granted to any Full Member of ANZGOSA on request.

Cases can be submitted identified (patient full name and address included) or de-identified (patient is given a code, no name or address required). In either case, access by College staff shows identifying fields as encrypted (surname, first name and street address).

Data submission is through the audit online portal. Alternatively, surgeons entering similar data into an existing database, such as a hospital database, register or local audit, may be eligible for the institutional upload program.

'Data manager access' allows an approved third party, such as a data manager, assistant, or registrar, to have their own account for entering cases on behalf of a surgeon. These accounts are restricted by surgeon and hospital. This allows for situations where one data manager enters data for multiple surgeons (data manager only has to log in once) and where one surgeon has data entered by more than one data manager (for example a different data manager for public and private cases).

Reporting

Through the Reporting Suite, participants can self-assess their performance and compare against peers for:

- Outcomes
- Complications
- Length of Stay

Pages 6 and 7 provide aggregate data against these criteria.

The Reporting Suite also allows participants to export their cases, de-identified of patient details, into Excel format for further analysis. Custom analysis for quality assurance or research can be applied for under the audit's data request process.

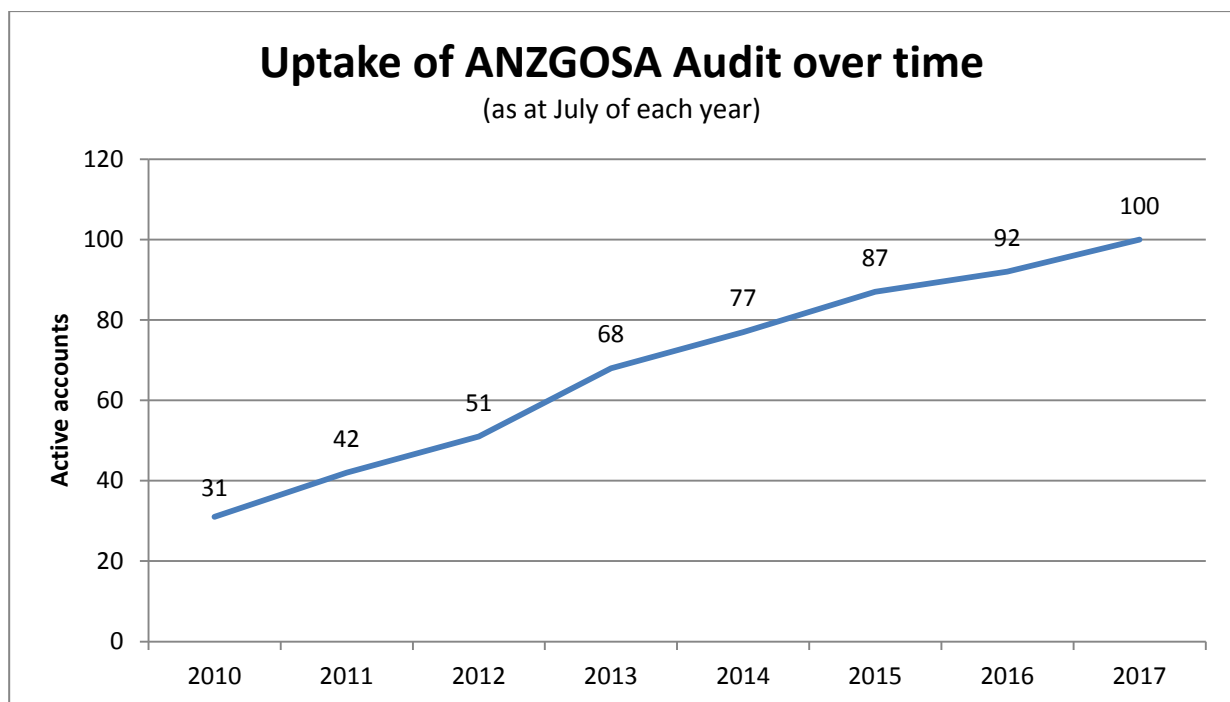
Approved for CPD

The audit is an approved audit in the Royal Australasian College of Surgeons Continuing Professional Development Program. Participants receive confirmation of participation in March of each year, acknowledging their contribution for the previous year.

Participation

The ANZGOSA Audit currently has 100 active user accounts. That is, accounts which are currently open for data collection.

The graph below shows the uptake of the ANZGOSA Audit over time. This is based on the number of surgeons who have requested an account to be opened (i.e. 'active accounts'), rather than the number of surgeons who have entered cases into that account.



Data collected

As at 31 July 2017, the database contained a total of 2711 cases.

The table below shows the number of cancer records in the database by treating hospital region and surgery year. Data collection began in 2010; however, some participants have also entered historical data.

Table 1 Number of cases (by surgery year and region)

Region	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
NSW								1	11	13	12	57	98	53	59	82	97	85	30	598
QLD	1	3	4	6	5	2	8	7	8	5	7	16	39	28	17	25	30	27	4	242
SA				31	43	33	33	28	32	39	36	48	44	68	55	87	75	80	6	738
TAS														6	3	3				12
VIC									6	24	63	87	80	90	45	36	35	17		483
WA												12	19	27	30	54	27	12	13	194
Australia	1	3	4	37	48	35	41	36	51	63	79	196	287	262	254	296	265	239	70	2267
New Zealand												4	10	19	30	31	35	14	6	149
India												1	15	78	75	18	60	1		248
TOTAL	1	3	4	37	48	35	41	36	51	63	79	201	312	359	359	345	360	254	76	2664

Note: 47 cases were excluded where either surgery date or hospital data was missing.

Table 2 Number of cases (by histological diagnosis)

Histological diagnosis	Number of cases
Adenocarcinoma	1874
Squamous Cell Carcinoma	202
Barrett's with HGD Dysplasia	24
Neuroendocrine	19
Adeno Squamous Carcinoma	5
Lymphoma	3
Undifferentiated	3
GIST	431
Other	58
No preoperative histological diagnosis	23
TOTAL	2642

Note: 69 cases were excluded where preoperative diagnosis data was missing.

Table 3 Number of cases (by tumour site)

Tumour site	Number of cases
Hypopharynx	2
Proximal 1/3 Oesophagus	14
Middle 1/3 Oesophagus	123
Distal 1/3 Oesophagus	680
Siewert 1	237
Siewert 2	129
Siewert 3	138
Stomach - fundus	264
Stomach - body	507
Stomach - antrum	416
Stomach - pylorus	67
Small intestine	33
TOTAL	2610

Note: 101 cases were excluded where preoperative tumour site data was missing.

Audit reports

Participants in the ANZGOSA Audit can access reports comparing their practice to results for the audit as a whole.

These reports can be filtered by Surgery date, Tumour type, Tumour site and Procedure performed.

Examples of the data represented in these reports follows. Note that patients treated outside Australia or New Zealand have been excluded, as have cases with missing surgery date.

Table 4: Outcomes report

OUTCOME	ANZGOSA Audit [N=2416]
Intraoperative complications	103 (4%)
Postoperative complications	819 (34%)
Blood transfusion	300 (12%)
Return to theatre	216 (9%)
In-hospital death	41 (2%)
Readmission within 30 days	102 (4%)
30-day mortality	27 (1%)

Table 5: Postoperative complications report

POST-OPERATIVE COMPLICATIONS	ANZGOSA Audit [N=2416]
Total Surgical	396 (16%)
Anastomotic leak (Clinical)	110 (5%)
Anastomotic leak (Radiological)	46 (2%)
Wound infection	64 (3%)
Peritonitis	3 (0%)
Chylothorax	45 (2%)
Pancreatic Fistula	7 (0%)
Plural Effusion Requiring Drainage	81 (3%)
Abscess	16 (1%)
Bleeding	39 (2%)
Jejunal Tube Complication	22 (1%)
Other	152 (6%)
Total Non-Surgical	577 (24%)
Cardiac Ischaemic Event	30 (1%)
Cardiac Arrhythmia	156 (6%)
Other CVS	26 (1%)
LRTI Req Antibiotics	171 (7%)
DVT/PE	33 (1%)
Other pulmonary	108 (4%)
Hepatic	3 (0%)
Renal	57 (2%)
CNS	28 (1%)
Other	243 (10%)

Table 6: Length of stay report

LENGTH OF STAY		ANZGOSA Audit [N=2416]
Intubation	Median	0 days
	Range	0-72 days
Initial post-operative ICU Stay	Median	2 days
	Range	0-368 days
Post-operative hospital stay	Median	11 days
	Range	0-148 days

Data Extract

Participants can also export their own data, de-identified of patient details, into an Excel spreadsheet for further analysis.

Audit output

Participants, and external researchers, can request analysis and tabulations from the ANZGOSA Audit. The following tables represent examples of the range of data that can be analysed from the audit. For a full list of data collected, see the Data Dictionary and/or Data Collection Form available from www.surgeons.org/anzgosa.

Table 7: Categories

Categories	Number of cases
Oesophageal cancer	794 (31%)
Oesophageal (OG) junction cancer	488 (19%)
Gastric cancer	846 (33%)
Gastrointestinal stromal tumour (GIST)	431 (17%)
No preoperative diagnosis	23 (1%)
Total	2582

Note: Diagnosis or tumour site information was missing in 129 cases. These cases have been excluded.

Table 8: Procedure performed (by category)

Procedure	TOTAL (n=2528)	Oesophageal (n=790)	OG Junction (n=484)	Gastric (n=841)	GIST (n=413)
Oesophagectomy	1122 (44%)	762 (96%)	349 (72%)	2 (0%)	9 (2%)
Gastrectomy	959 (38%)	3 (0%)	121 (25%)	782 (93%)	53 (13%)
Local excision	383 (15%)	5 (1%)	0 (0%)	27 (3%)	351 (85%)
Resection abandoned	64 (3%)	20 (3%)	14 (3%)	30 (4%)	0 (0%)

Note: Procedure information is missing in 31 cases. These have been excluded.

Table 9: Oesophagectomy approach (by category)

Approach	TOTAL (n=1091)	Oesophageal (n=749)	OG Junction (n=338)	Gastric (n=1)	GIST (n=3)
Minimally invasive	92 (8%)	75 (10%)	17 (5%)	0 (0%)	0 (0%)
Hybrid	294 (27%)	213 (28%)	80 (24%)	0 (0%)	1 (33%)
Open	705 (65%)	461 (62%)	241 (71%)	1 (100%)	2 (67%)

Note: No response for approach was given for 31 oesophagectomy cases. These have been excluded.

Minimally invasive is defined as thoracoscopy and/or laparoscopy only, Hybrid is defined as thoracoscopy and/or laparoscopy and thoracotomy and/or laparotomy, Open is defined as thoracotomy and/or laparotomy only.

Table 10: Gastrectomy approach (by category)

Approach	TOTAL (n=929)	Oesophageal (n=3)	OG Junction (n=114)	Gastric (n=762)	GIST (n=50)
Laparoscopic	116 (12%)	1 (33%)	8 (7%)	95 (12%)	12 (24%)
Open	793 (85%)	2 (67%)	104 (91%)	656 (86%)	31 (62%)
Laparoscopic converted to open	20 (2%)	0 (0%)	2 (2%)	11 (1%)	7 (14%)

Note: Approach information is missing for 33 gastrectomy cases. These have been excluded.

Table 11: Local excision approach (by category)

Approach	TOTAL (n=353)	Oesophageal (n=5)	OG Junction (n=0)	Gastric (n=26)	GIST (n=322)
Endoscopic	23 (7%)	5 (100%)	0 (0%)	2 (8%)	16 (5%)
Laparoscopic	245 (69%)	0 (0%)	0 (0%)	14 (54%)	231 (72%)
Open	71 (20%)	0 (0%)	0 (0%)	10 (38%)	61 (19%)
Laparoscopic converted to open	14 (4%)	0 (0%)	0 (0%)	0 (0%)	14 (4%)

Note: Approach information is missing for 31 local excision cases. These have been excluded.

Table 12: Complications and patient outcome (by category)

Complication	TOTAL	Oesophageal	OG Junction	Gastric	GIST
Postoperative complication	840/2090 (40%)	338/576 (59%)	206/376 (55%)	253/760 (33%)	43/378 (11%)
Anastomotic leak (Clinical)	121 (6%)	62 (11%)	35 (9%)	22 (3%)	2 (1%)
Anastomotic leak (Radiological)	48 (2%)	19 (3%)	13 (3%)	15 (2%)	1 (0%)
Wound infection	73 (3%)	22 (4%)	17 (5%)	31 (4%)	3 (1%)
Peritonitis	2 (0%)	1 (0%)	1 (0%)	0 (0%)	0 (0%)
Chylothorax	42 (2%)	28 (5%)	12 (3%)	2 (0%)	0 (0%)
Pancreatic fistula	7 (0%)	0 (0%)	0 (0%)	7 (1%)	0 (0%)
Pleural effusion requiring drainage	77 (4%)	43 (7%)	26 (7%)	7 (1%)	1 (0%)
Abscess	16 (1%)	2 (0%)	3 (1%)	9 (1%)	2 (1%)
Bleeding	40 (2%)	10 (2%)	5 (1%)	24 (3%)	1 (0%)
Jejunal tube complication	30 (1%)	13 (2%)	5 (1%)	11 (1%)	1 (0%)
Other surgical complication	150 (7%)	56 (10%)	20 (5%)	63 (8%)	11 (3%)
Cardiac ischaemic event	30 (1%)	11 (2%)	10 (3%)	9 (1%)	0 (0%)
Cardiac arrhythmia	150 (7%)	82 (14%)	41 (11%)	25 (3%)	2 (1%)
Other CVS	25 (1%)	7 (1%)	5 (1%)	9 (1%)	4 (1%)
LRTI req antibiotics	169 (8%)	86 (15%)	49 (13%)	32 (4%)	2 (1%)
DVT/PE	33 (2%)	15 (3%)	6 (2%)	12 (2%)	0 (0%)
Other pulmonary	111 (5%)	46 (8%)	33 (9%)	27 (4%)	5 (1%)
Hepatic	3 (0%)	2 (0%)	0 (0%)	1 (0%)	0 (0%)
Renal	55 (3%)	20 (3%)	15 (4%)	15 (2%)	5 (1%)
CNS	28 (1%)	14 (2%)	7 (2%)	6 (1%)	1 (0%)
Other non-surgical	244 (12%)	97 (17%)	55 (15%)	79 (10%)	13 (3%)
Unplanned return to theatre	215/2179 (10%)	101/709 (14%)	48/433 (11%)	72/774 (7%)	8/263 (3%)
Readmission within 30 days	104/1365 (7%)	32/342 (9%)	27/225 (12%)	37/514 (7%)	8/284 (3%)
In-hospital death	43/1757 (2%)	19/440 (4%)	14/299 (5%)	10/665 (2%)	0/353 (0%)
30-day mortality	29/1925 (2%)	7/547 (1%)	9/357 (3%)	13/674 (2%)	0/347 (0%)

Note: Postoperative complication is a multiple response question. Missing information—postoperative complications (469), unplanned return to theatre (380), readmission (1194), in-hospital death (802), 30-day mortality (634).

Table 13: Postoperative length of stay (by category)

	TOTAL (n=2158)	Oesophageal (n=657)	OG Junction (n=401)	Gastric (n=728)	GIST (n=372)
Range	0–148 days	0–148 days	1–109 days	0–105 days	1–77 days
Median	11 days	13 days	13 days	9 days	5 days

Note: Length of stay information missing for 462 cases. These have been excluded.

Table 14: Postoperative length of stay for oesophagectomy patients (by surgical approach)

	TOTAL (n=954)	Minimally invasive (n=79)	Hybrid (n=252)	Open (n=623)
Range	1–148 days	6–74 days	2–84 days	1–148 days
Median	13 days	12 days	13 days	14 days

Note: Length of stay information missing for 199 oesophagectomy cases. These have been excluded.

Table 15: Postoperative length of stay for gastrectomy patients (by surgical approach)

	TOTAL (n=848)	Laparoscopic (n=112)	Open (n=721)	Laparoscopic converted to open (n=15)
Range	1–105 days	1–83 days	3–105 days	4–51 days
Median	10 days	7 days	10 days	11 days

Note: Length of stay information missing for 133 gastrectomy cases. These have been excluded.

Table 16: Postoperative length of stay for local excision patients (by surgical approach)

	TOTAL (n=338)	Endoscopic (n=20)	Laparoscopic (n=234)	Open (n=66)	Laparoscopic converted to open (n=13)
Range	0–77 days	0–33 days	1–21 days	2–45 days	3–77 days
Median	4 days	5 days	4 days	6 days	6 days

Note: Length of stay information missing for 41 local excision cases. These have been excluded.

Table 17: Planned chemotherapy (by category)

	TOTAL (n=2329)	Oesophageal (n=775)	OG Junction (n=474)	Gastric (n=812)	GIST (n=268)
Pre-surgery	761 (33%)	431 (56%)	196 (41%)	120 (15%)	14 (5%)
Post-surgery	338 (15%)	25 (3%)	40 (8%)	235 (29%)	38 (14%)
Pre- & post-surgery	362 (16%)	110 (14%)	110 (23%)	137 (17%)	5 (2%)
No chemotherapy	868 (37%)	209 (27%)	128 (27%)	320 (39%)	211 (79%)

Note: Chemotherapy information is missing in 230 cases. These cases have been excluded.

Table 18: Planned radiotherapy (by category)

	TOTAL (n=2207)	Oesophageal (n=748)	OG Junction (n=439)	Gastric (n=764)	GIST (n=256)
Pre-surgery	514 (23%)	376 (50%)	118 (27%)	20 (3%)	0 (0%)
Post-surgery	63 (3%)	15 (2%)	19 (4%)	28 (4%)	1 (0%)
Pre- & post-surgery	3 (0%)	1 (0%)	2 (0%)	0 (0%)	0 (0%)
No radiotherapy	1627 (74%)	356 (48%)	300 (68%)	716 (94%)	255 (100%)

Note: Radiotherapy information is missing in 352 cases. These cases have been excluded.