



ANZGOSA

Australia & New Zealand
Gastric & Oesophageal
Surgery Association

ANZGOSA AUDIT DATA REPORT

August 2016

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.

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This report was produced by the College for ANZGOSA.

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Summary

This report provides an overview of audit activity, cases submitted to date, examples of automated reports and data output as at 31 July 2016.

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 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.

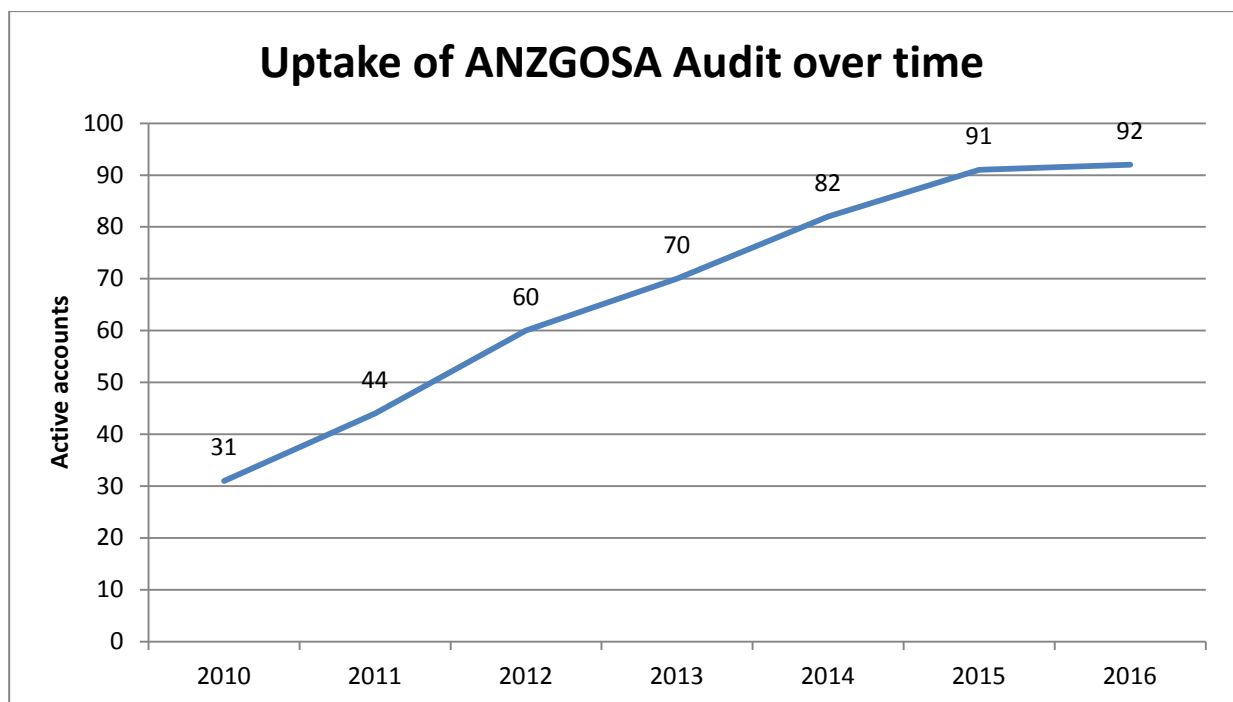
Approved for CPD

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 92 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 2016, the database contained a total of 2356 cases. Data collection began in 2010; however, some participants have also entered historical data.

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

Region	u/k	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	TOTAL
NSW	9									10	12	12	55	98	48	56	78	92	18	488
QLD	18	1	3	4	6	5	2	8	7	8	5	7	16	39	28	17	24	29	2	229
SA					31	43	33	33	28	32	39	36	48	42	68	54	86	43	1	617
TAS															6	3	3			12
VIC	2									6	24	63	87	80	90	45	35	16		432
WA	1												12	19	27	29	52	27	1	167
Australia	30	1	3	4	37	48	35	41	35	50	62	79	194	285	257	249	288	226	38	1924
New Zealand	1												4	10	19	30	31	35	7	130
India													1	15	78	75	18	60	1	248
Unknown	1												1	7						9
TOTAL	32	1	3	4	37	48	35	41	35	50	62	79	200	317	354	354	337	321	46	2356

Note: Unknown totals the number of cases where either region or surgery year is missing.

Table 2 Number of cases (by histological diagnosis)

Histological diagnosis	Number of cases
Adenocarcinoma	1617
Squamous Cell Carcinoma	191
Barrett's with HGD Dysplasia	20
Neuroendocrine	14
Adeno Squamous Carcinoma	5
Lymphoma	3
Undifferentiated	3
GIST	379
Other	48
No preoperative histological diagnosis	19
Unknown	57
TOTAL	2356

Note: Unknown totals number of cases where preoperative diagnosis is 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	113
Distal 1/3 Oesophagus	584
Siewert 1	217
Siewert 2	103
Siewert 3	115
Stomach - fundus	221
Stomach - body	447
Stomach - antrum	364
Stomach - pylorus	53
Small intestine	33
Unknown	90
TOTAL	2356

Note: Unknown totals number of cases where information on preoperative tumour site is 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=2068]
Intraoperative complications	97 (5%)
Postoperative complications	695 (34%)
Blood transfusion	282 (14%)
Return to theatre	188 (9%)
In-hospital death	37 (2%)
Readmission within 30 days	88 (4%)
30-day mortality	22 (1%)

Table 5: Postoperative complications report

POST-OPERATIVE COMPLICATIONS	ANZGOSA Audit [N=2068]
Total Surgical	338 (16%)
Anastomotic leak (Clinical)	98 (5%)
Anastomotic leak (Radiological)	41 (2%)
Wound infection	50 (2%)
Peritonitis	3 (0%)
Chylothorax	39 (2%)
Pancreatic Fistula	5 (0%)
Plural Effusion Requiring Drainage	70 (3%)
Abscess	14 (1%)
Bleeding	35 (2%)
Jejunal Tube Complication	20 (1%)
Other	135 (7%)
Total Non-Surgical	492 (24%)
Cardiac Ischaemic Event	25 (1%)
Cardiac Arrhythmia	135 (7%)
Other CVS	24 (1%)
LRTI Req Antibiotics	138 (7%)
DVT/PE	26 (1%)
Other pulmonary	99 (5%)
Hepatic	3 (0%)
Renal	52 (3%)
CNS	26 (1%)
Other	215 (10%)

Table 6: Length of stay report

LENGTH OF STAY		ANZGOSA Audit [N=2068]
Intubation	Mean	0 days
	Range	0-72 days
Initial post-operative ICU Stay	Mean	4 days
	Range	0-72 days
Post-operative hospital stay	Mean	14 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	691 (31%)
Oesophageal (OG) junction cancer	421 (19%)
Gastric cancer	732 (33%)
Gastrointestinal stromal tumour (GIST)	379 (17%)
No preoperative diagnosis	19 (1%)
Total	2242

Note: Diagnosis or tumour site information was missing in 114 cases. These cases have been excluded.

Table 8: Procedure performed (by category)

Procedure	TOTAL (n=2196)	Oesophageal (n=688)	OG Junction (n=418)	Gastric (n=729)	GIST (n=361)
Oesophagectomy	983 (45%)	666 (97%)	306 (73%)	2 (0%)	9 (2%)
Gastrectomy	827 (38%)	3 (0%)	100 (24%)	677 (93%)	47 (13%)
Local excision	330 (15%)	2 (0%)	0 (0%)	23 (3%)	305 (84%)
Resection abandoned	56 (3%)	17 (2%)	12 (3%)	27 (4%)	0 (0%)

Note: Procedure information is missing in 27 cases. These have been excluded.

Table 9: Oesophagectomy approach (by category)

Approach	TOTAL (n=956)	Oesophageal (n=653)	OG Junction (n=298)	Gastric (n=2)	GIST (n=3)
Thoracotomy	706 (74%)	458 (70%)	244 (82%)	1 (50%)	3 (100%)
Thoracoscopy	226 (24%)	179 (27%)	46 (15%)	0 (0%)	1 (33%)
Laparotomy	774 (81%)	513 (79%)	258 (87%)	1 (50%)	2 (67%)
Laparoscopy	170 (18%)	133 (20%)	36 (12%)	0 (0%)	1 (33%)
Cervical Anastomosis	226 (24%)	185 (28%)	41 (14%)	0 (0%)	0 (0%)
Left thoraco-abdominal	7 (1%)	1 (0%)	5 (2%)	1 (50%)	0 (0%)

Note: Oesophagectomy approach is a multiple response question. No response for approach was given for 27 oesophagectomy cases. These have been excluded.

Table 10: Gastrectomy approach (by category)

Approach	TOTAL (n=798)	Oesophageal (n=3)	OG Junction (n=93)	Gastric (n=658)	GIST (n=44)
Laparoscopic	90 (11%)	1 (33%)	7 (8%)	74 (11%)	8 (18%)
Open	692 (87%)	2 (67%)	84 (90%)	576 (88%)	30 (68%)
Laparoscopic converted to open	16 (2%)	0 (0%)	2 (2%)	8 (1%)	6 (14%)

Note: Approach information is missing for 32 gastrectomy cases. These have been excluded.

Table 11: Local excision approach (by category)

Approach	TOTAL (n=301)	Oesophageal (n=2)	OG Junction (n=0)	Gastric (n=22)	GIST (n=277)
Endoscopic	19 (6%)	2 (100%)	0 (0%)	2 (9%)	15 (5%)
Laparoscopic	212 (70%)	0 (0%)	0 (0%)	13 (59%)	199 (72%)
Open	60 (20%)	0 (0%)	0 (0%)	7 (32%)	53 (19%)
Laparoscopic converted to open	10 (3%)	0 (0%)	0 (0%)	0 (0%)	10 (4%)

Note: Approach information is missing for 29 local excision cases. These have been excluded.

Table 12: Complications and patient outcome (by category)

Complication	TOTAL	Oesophageal	OG Junction	Gastric	GIST
Postoperative complication	719/1777 (40%)	291/482 (60%)	173/313 (55%)	214/653 (33%)	41/329 (12%)
Anastomotic leak (Clinical)	109 (6%)	58 (12%)	29 (9%)	20 (3%)	2 (1%)
Anastomotic leak (Radiological)	43 (2%)	18 (4%)	11 (4%)	13 (2%)	1 (0%)
Wound infection	59 (3%)	18 (4%)	14 (4%)	24 (4%)	3 (1%)
Peritonitis	2 (0%)	1 (0%)	1 (0%)	0 (0%)	0 (0%)
Chylothorax	36 (2%)	26 (5%)	9 (3%)	1 (0%)	0 (0%)
Pancreatic fistula	5 (0%)	0 (0%)	0 (0%)	5 (1%)	0 (0%)
Pleural effusion requiring drainage	67 (4%)	37 (8%)	22 (7%)	7 (1%)	1 (0%)
Abscess	14 (1%)	2 (0%)	3 (1%)	7 (1%)	2 (1%)
Bleeding	36 (2%)	9 (2%)	4 (1%)	22 (3%)	1 (0%)
Jejunal tube complication	28 (2%)	13 (3%)	5 (2%)	10 (2%)	0 (0%)
Other surgical complication	133 (7%)	49 (10%)	19 (6%)	54 (8%)	11 (3%)
Cardiac ischaemic event	25 (1%)	9 (2%)	7 (2%)	9 (1%)	0 (0%)
Cardiac arrhythmia	131 (7%)	73 (15%)	34 (11%)	22 (3%)	2 (1%)
Other CVS	23 (1%)	7 (1%)	4 (1%)	8 (1%)	4 (1%)
LRTI req antibiotics	131 (8%)	66 (14%)	40 (13%)	30 (5%)	2 (1%)
DVT/PE	26 (1%)	11 (2%)	4 (1%)	11 (2%)	0 (0%)
Other pulmonary	102 (6%)	41 (9%)	30 (10%)	26 (4%)	5 (2%)
Hepatic	3 (0%)	2 (0%)	0 (0%)	1 (0%)	0 (0%)
Renal	50 (3%)	19 (4%)	14 (4%)	12 (2%)	5 (2%)
CNS	26 (1%)	13 (3%)	6 (2%)	6 (1%)	1 (0%)
Other non-surgical complication	216 (12%)	90 (19%)	48 (15%)	65 (10%)	13 (4%)
Unplanned return to theatre	87/1868 (10%)	91/611 (15%)	39/370 (11%)	50/668 (7%)	7/219 (3%)
Readmission within 30 days	90/1256 (7%)	29/307 (9%)	21/203 (10%)	32/483 (7%)	8/263 (3%)
In-hospital death	39/1563 (2%)	17/383 (4%)	13/258 (5%)	9/602 (1%)	0/320 (0%)
30-day mortality	24/1743 (1%)	6/495 (1%)	9/317 (3%)	9/614 (1%)	0/317 (0%)

Note: Postoperative complication is a multiple response question. Missing information—postoperative complications (446), unplanned return to theatre (355), readmission (967), in-hospital death (660), 30-day mortality (480),

Table 13: Postoperative length of stay (by category)

	TOTAL (n=1865)	Oesophageal (n=563)	OG Junction (n=347)	Gastric (n=630)	GIST (n=325)
Range	0–148 days	3–148 days	1–109 days	0–105 days	1–77 days
Mean	14 days	17 days	18 days	12 days	7 days
Median	11 days	13 days	13 days	9 days	5 days

Note: Length of stay information missing for 358 cases. These have been excluded.

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

	TOTAL (n=855)	Thoracotomy (n=617)	Thoracoscopy (n=194)	Laparotomy (n=674)	Laparoscopy (n=147)	Cervical anastomosis (n=191)	Left thoraco- abdominal (n=6)
Range	1–148 days	1–148 days	3–74 days	1–148 days	6–78 days	3–74 days	11–49 days
Mean	17 days	18 days	17 days	18 days	16 days	17 days	18 days
Median	13 days	14 days	13 days	14 days	12 days	13 days	13 days

Note: Length of stay information missing for 182 oesophagectomy cases. These have been excluded.

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

	TOTAL (n=725)	Laparoscopic (n=92)	Open (n=622)	Laparoscopic converted to open (n=11)
Range	2–105 days	2–74 days	3–105 days	7–51 days
Mean	13 days	11 days	13 days	16 days
Median	10 days	7 days	10 days	11 days

Note: Length of stay information missing for 112 gastrectomy cases. These have been excluded.

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

	TOTAL (n=281)	Endoscopic (n=16)	Laparoscopic (n=202)	Open (n=53)	Laparoscopic converted to open (n=10)
Range	0–77 days	0–33 days	1–21 days	2–45 days	3–77 days
Mean	6 days	7 days	4 days	9 days	14 days
Median	5 days	5 days	4 days	7 days	6 days

Note: Length of stay information missing for 30 local excision cases. These have been excluded.

Table 17: Planned chemotherapy (by category)

	TOTAL (n=1999)	Oesophageal (n=673)	OG Junction (n=408)	Gastric (n=699)	GIST (n=219)
Pre-surgery	647 (32%)	366 (54%)	169 (41%)	100 (14%)	12 (5%)
Post-surgery	255 (13%)	13 (2%)	25 (6%)	196 (28%)	21 (10%)
Pre- & post-surgery	311 (16%)	91 (14%)	98 (24%)	119 (17%)	3 (1%)
No chemotherapy	786 (39%)	203 (30%)	116 (28%)	284 (41%)	183 (84%)

Note: Chemotherapy information is missing in 224 cases. These cases have been excluded.

Table 18: Planned radiotherapy (by category)

	TOTAL (n=1900)	Oesophageal (n=652)	OG Junction (n=378)	Gastric (n=660)	GIST (n=210)
Pre-surgery	432 (23%)	313 (48%)	101 (27%)	18 (3%)	0 (0%)
Post-surgery	51 (3%)	13 (2%)	16 (4%)	22 (3%)	0 (0%)
Pre- & post-surgery	3 (0%)	1 (0%)	2 (1%)	0 (0%)	0 (0%)
No radiotherapy	1414 (74%)	325 (50%)	259 (69%)	620 (94%)	210 (100%)

Note: Radiotherapy information is missing in 323 cases. These cases have been excluded.