

Accreditation Council for

Graduate Medical Education

Thoracic Surgery Case Logs

National Data Report

Prepared by: Department of Applications and Data Analysis

- I. National Resident Statistics Main Table
 - A. The main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences. Data are broken out by role (surgeon, assistant, etc), indicating the resident's procedures with primary credit. Procedures with secondary credit are also shown.
 - B. Descriptive statistics have been chosen to provide useful information for judging performance at the national level.

- i. "Natl Res AVE" The national average describes the mean number of procedures performed per resident in the nation.
- ii. "Natl Res MIN" The minimum number of procedures performed nationally.
- ii. "Natl Res MAX" The greatest number of procedures performed nationally.

Residency Review Committee for Surgery Report Date: October 31, 2018

			Surgeon			Assistant		Se	condary Cre	dit
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res
Area	RRC Procedure									
Chest Wall	Resection of tumor	3.5	0	15	0.0	0	1	0.3	0	3
	Debridement rewiring sternum	6.3	0	50	0.7	0	21	0.4	0	18
	Repair pectus excavatum carinatum	1.3	0	12	0.1	0	5	0.0	0	1
	Thoracic outlet	1.1	0	38	0.0	0	1	0.0	0	0
	Repair sternal or rib fracture	0.6	0	5	0.0	0	0	0.1	0	5
	Thoracoplasty	0.2	0	3	0.0	0	0	0.1	0	1
	Other (chest wall)	3.4	0	21	0.0	0	1	0.4	0	5
	Total Chest Wall	16.5	0	63	0.9	0	21	1.3	0	20
Lung and Pleura	Pneumonectomy	6.1	0	29	0.1	0	3	0.2	0	3
	Pneumonectomy w/sleeve rsxn	0.0	0	1	0.0	0	0	0.0	0	1
	Extrapleural pneumonectomy	0.5	0	4	0.1	0	2	0.0	0	0
	Lobectomy	16.5	0	53	0.3	0	15	0.8	0	6
	Lobectomy w/VATS	24.7	0	74	0.5	0	7	0.9	0	12
	Lobectomy w/sleeve rsxn	1.3	0	10	0.0	0	1	0.0	0	1
	Segmental resection	2.8	0	25	0.1	0	4	0.2	0	4
	Segmental resection w/VATS	2.5	0	23	0.1	0	3	0.2	0	2
	Wedge resection	1.9	0	18	0.0	0	3	0.4	0	10
	Wedge resection w/VATS	35.0	0	99	0.3	0	8	3.6	0	20
	Lung volume reduction surgery	0.6	0	10	0.0	0	0	0.0	0	2
	Thoracotomy for explor / biopsy	3.7	0	31	0.1	0	1	0.6	0	9
	Decortication	5.3	0	19	0.1	0	3	0.8	0	8
	Decortication w/VATS	5.0	0	31	0.0	0	2	0.5	0	14
	Pleurectomy pleurodesis	1.2	0	8	0.0	0	0	0.2	0	3
	Pleurectomy pleurodesis (w/wout bleb rsxn)	0.2	0	1	0.0	0	0	0.0	0	1
	Pleurectomy pleurodesis w/VATS	8.0	0	28	0.0	0	1	1.2	0	10
	Closure broncho pleural fistula	0.3	0	2	0.0	0	1	0.0	0	1
	Drainage lung abscess empyema	1.0	0	8	0.0	0	0	0.1	0	1
	Resection pulmonary cyst or sequestration	0.2	0	2	0.0	0	0	0.0	0	1
	Pulmonary resection w/en bloc chest wall	0.6	0	5	0.0	0	1	0.0	0	2
	Other (lung and pleura)	2.2	0	12	0.1	0	1	0.8	0	15
	Total Lung and Pleura	119.3	0	287	1.7	0	37	10.6	0	61

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			Surgeon			Assistant		Secondary Credit		
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX
Area	RRC Procedure									
Tracheobronchial	Resection of stricture	1.3	0	16	0.0	0	2	0.0	0	1
	Resect tumor	0.3	0	3	0.0	0	1	0.0	0	1
	Repair of rupture or laceration	0.3	0	3	0.0	0	1	0.1	0	2
	Other (tracheobronchial)	2.0	0	22	0.1	0	1	0.2	0	5
	Total Tracheobronchial	3.8	0	29	0.1	0	2	0.4	0	8
Mediastinum	Excision of tumor cyst	3.1	0	15	0.1	0	2	0.3	0	4
	Excision of tumor cyst w/VATS	2.8	0	12	0.1	0	5	0.4	0	26
	Thymectomy	3.9	0	13	0.1	0	1	0.2	0	3
	Ligation of thoracic duct	1.0	0	15	0.1	0	2	0.1	0	1
	Mediastinotomy	3.2	0	26	0.1	0	7	0.8	0	45
	Other (Mediastinum)	13.0	0	69	0.0	0	1	5.3	0	83
	Total Mediastinum	27.0	0	94	0.5	0	9	7.0	0	113
Diaphragm	Repair of congenital hernia	0.2	0	2	0.0	0	0	0.0	0	1
	Repair of traumatic hernia	0.6	0	4	0.0	0	1	0.0	0	1
	Plication	1.3	0	8	0.0	0	2	0.1	0	3
	Other (diaphragm)	1.4	0	8	0.0	0	0	0.5	0	10
	Total Diaphragm	3.4	0	16	0.0	0	2	0.6	0	10

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			Surgeon			Assistant		Se	condary Cre	edit
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX
Area	RRC Procedure									
Esophagus	Esophagectomy	16.3	0	80	0.2	0	3	0.1	0	3
	Correction of reflux or stricture	0.6	0	10	0.0	0	0	0.1	0	2
	Correction of reflux or stricture w/VATS	2.3	0	19	0.0	0	1	0.2	0	4
	Repair paraesophageal hernia	6.8	0	51	0.0	0	1	0.2	0	4
	Repair paraesophageal hernia w/VATS	0.1	0	3	0.0	0	0	0.0	0	0
	Excision diverticulum	0.8	0	5	0.0	0	1	0.1	0	1
	Myotomy and reflux procedure	0.5	0	5	0.0	0	0	0.1	0	1
	Myotomy w/VATS	0.2	0	3	0.0	0	0	0.0	0	0
	Myotomy w/laparoscopy	2.0	0	12	0.0	0	1	0.0	0	0
	Closure of fistula	0.4	0	4	0.0	0	0	0.1	0	1
	Repair drainage of perforation or rupture	1.1	0	7	0.0	0	1	0.1	0	1
	Other (esophagus)	4.2	0	39	0.0	0	1	2.1	0	64
	Total Esophagus	35.1	0	144	0.3	0	4	2.8	0	68
Video Assisted Thoracoscopic (VATS)	Diagnostic thoracoscopy biopsy	0.9	0	7	0.0	0	2	0.3	0	4
	Pericardial window	0.7	0	5	0.0	0	0	0.1	0	1
	Drainage empyema hemothorax	0.6	0	7	0.0	0	0	0.1	0	2
	Sympathectomy	1.7	0	18	0.1	0	1	0.0	0	1
	Other (VATS)	4.3	0	60	0.0	0	2	0.8	0	9
	Total VATS	8.2	0	80	0.1	0	2	1.3	0	10
Closed Operations Congenital	Patent ductus arteriosus	2.1	0	18	1.4	0	9	0.8	0	11
	Coarctation of aorta	0.3	0	6	0.9	0	9	0.1	0	2
	Shunting procedure	0.2	0	2	1.0	0	7	0.1	0	2
	BiDirectional Glenn shunt (closed)	0.0	0	1	0.1	0	2	0.0	0	3
	Other (closed operations congenital)	0.9	0	6	1.0	0	8	0.6	0	10
	Total Closed Operations Congenital	3.5	0	21	4.4	0	27	1.5	0	21

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			Surgeon			Assistant		Se	condary Cre	dit
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX
Area	RRC Procedure									
Open Congenital	Tetralogy fallot	0.2	0	2	1.6	0	10	0.1	0	3
	Transposition	0.1	0	2	0.6	0	4	0.0	0	1
	Truncus arteriosus	0.0	0	1	0.2	0	3	0.0	0	0
	Ventricular septum defect	1.1	0	6	3.0	0	15	0.6	0	4
	AV septal defect	0.1	0	2	1.1	0	9	0.0	0	1
	Anomalous pulmonary venous drainage	0.7	0	4	1.0	0	11	0.2	0	3
	Atrial septum defect	6.0	0	25	1.4	0	9	1.4	0	18
	BiDirectional Glenn shunt (open)	0.2	0	4	1.1	0	8	0.1	0	1
	Interrupted arch hypoplastic left heart	0.2	0	3	1.4	0	8	0.1	0	1
	Fontan procedure	0.3	0	4	1.3	0	8	0.0	0	1
	RVOT reconstruction	0.2	0	2	0.7	0	6	0.1	0	1
	Other (open congenital)	4.0	0	17	4.7	0	44	1.5	0	10
	Total Open Congenital	13.1	0	42	18.1	0	75	4.1	0	26
Valvular Heart Disease	Mitral aortic valve repair	13.5	0	50	3.4	0	21	3.9	0	30
	Valve replacements	66.4	0	183	9.3	0	91	15.2	0	64
	Aortic root replacement	9.4	0	36	2.2	0	19	1.2	0	11
	Re-operation for valvular disease	16.4	0	58	0.8	0	12	1.7	0	19
	Other (valvular heart disease)	5.1	0	25	0.5	0	5	3.6	0	20
	Total Valvular Heart Disease	110.8	0	312	16.2	0	127	25.6	0	92
Resection Cardiac Tumor	Resection cardiac tumor	1.6	0	7	0.3	0	3	0.2	0	3
	Total Resection Cardiac Tumor	1.6	0	7	0.3	0	3	0.2	0	3
Operations Coronary Atherosclerosis	Primary bypass	100.5	0	248	7.1	0	74	31.3	0	263
	Re-op recurrent disease	4.2	0	20	0.2	0	2	0.6	0	7
	Ventricular aneurysm	0.2	0	4	0.0	0	1	0.0	0	1
	Acquired VSD	0.2	0	3	0.1	0	1	0.0	0	1
	Coronary anomalies and/or fistulae	0.0	0	1	0.1	0	2	0.0	0	2
	Other (operations coronary atherosclerosis)	0.2	0	3	0.0	0	0	0.1	0	1
	Total Oper Coronary Atherosclerosis	105.3	0	251	7.4	0	75	32.1	0	268

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			Surgeon			Assistant		Se	condary Cre	edit
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX
Area	RRC Procedure									
Pericardium	Pericardial window	4.5	0	15	0.1	0	3	0.1	0	3
	Pericardiectomy	1.3	0	10	0.1	0	1	0.1	0	2
	Other (pericardium)	0.2	0	2	0.0	0	1	0.1	0	6
	Total Pericardium	6.0	0	21	0.2	0	4	0.4	0	6
Other Cardiac Procedures	Arrhythmia surgery	7.0	0	34	0.4	0	6	2.7	0	13
04101 04141401 100044100	Insertion epicardial electrical device	2.5	0	53	0.3	0	5	0.3	0	6
	Insertion/removal cardiac assist device	10.0	0	39	1.4	0	15	1.1	0	15
	Removal intracardiac foreign body	0.4	0	5	0.0	0	1	0.1	0	2
	Repair cardiac trauma	0.5	0	6	0.0	0	1	0.1	0	2
	Minimally invasive surgery	0.9	0	19	0.5	0	14	0.2	0	7
	Other (other cardiac procedures)	8.6	0	57	0.6	0	13	0.9	0	10
	Total Other Cardiac Procs	29.9	0	144	3.2	0	45	5.3	0	27
Thoracic Vascular	Open repair traumatic injury	0.6	0	9	0.1	0	1	0.1	0	3
	Repair ascending aneurysm	12.7	0	42	1.5	0	14	2.8	0	32
	Repair desc aneurysm	3.6	0	44	0.4	0	5	1.1	0	23
	Repair thoracoabdominal aneurysm	1.9	0	14	0.1	0	4	0.0	0	1
	Pulmonary embolectomy endarterectomy	1.3	0	22	0.2	0	3	0.1	0	3
	Other (thoracic vascular)	0.8	0	6	0.2	0	3	0.2	0	4
	Total Thoracic Vascular	20.9	0	77	2.5	0	18	4.3	0	35
Transplantation	Heart	5.8	0	44	1.5	0	17	0.2	0	5
	Lung	10.4	0	75	1.0	0	16	1.4	0	45
	Heart/lung	0.2	0	4	0.0	0	0	0.0	0	1
	Procurement heart	3.4	0	23	0.2	0	4	0.1	0	2
	Procurement heart/lung	1.3	0	22	0.0	0	1	0.0	0	1
	Other (transplantation)	0.3	0	8	0.0	0	1	0.5	0	27
	Total Transplantation	21.4	0	92	2.7	0	28	2.2	0	48

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			Surgeon			Assistant		Secondary Credit		
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX
Area	RRC Procedure									
Minor Thoracic and CV	Bronchoscopy	39.6	0	226	0.1	0	2	20.0	0	196
	Bronchoscopy w/intervention	13.8	0	109	0.1	0	2	2.6	0	54
	EBUS	7.3	0	71	0.0	0	1	0.5	0	10
	Esophagoscopy	13.7	0	65	0.0	0	1	2.9	0	30
	Esophagoscopy w/intervention	18.5	0	157	0.2	0	13	3.2	0	91
	EUS	0.1	0	3	0.0	0	4	0.0	0	0
	Mediastinoscopy	18.1	0	76	0.1	0	3	1.8	0	18
	Tracheostomy	5.5	0	34	0.0	0	3	0.6	0	18
	Catheter drainage pericardium	0.1	0	2	0.0	0	0	0.0	0	0
	Insertion transvenous device	2.2	0	19	0.1	0	2	0.3	0	5
	Insertion removal IABP	4.2	0	19	0.1	0	5	0.9	0	15
	Insertion tunneled pleural catheter	2.8	0	26	0.0	0	1	0.5	0	12
	Echocardiography	0.0	0	0	0.0	0	0	0.0	0	1
	Insertion or removal of cardiac assist device	0.1	0	3	0.0	0	1	0.0	0	2
	Other (minor thoracic and CV)	25.1	0	106	0.6	0	6	3.7	0	33
	Total Minor Thoracic and CV	150.9	0	499	1.4	0	17	37.0	0	272
Endovascular	Endovascular	2.5	0	27	0.2	0	9	0.4	0	9
2. Tudovaddalai	Total Endovascular	2.5	0	27	0.2	0	9	0.4	0	9
Critical Care - Case Management (thoracic)	Ventilatory management (thoracic)	9.5	0	33	0.0	0	1	4.7	0	27
,	Bleeding (non-trauma) > 3 units (thoracic)	1.6	0	12	0.0	0	0	0.9	0	9
	Hemodynamic instability (thoracic)	4.5	0	19	0.0	0	0	4.5	0	26
	Organ dysfunction/failure (thoracic)	3.7	0	16	0.0	0	0	3.1	0	19
	Dysrhythmias (thoracic)	2.4	0	12	0.0	0	0	1.9	0	26
	Invasive line managment/monitoring (thoracic)	4.9	0	33	0.0	0	0	6.3	0	44
	Nutrition (thoracic)	4.1	0	18	0.0	0	0	3.6	0	22
	Total CC - Case Management (thoracic)	30.6	0	77	0.0	0	1	25.0	0	119

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			Surgeon			Assistant		Se	condary Cre	edit
		Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MIN	Natl Res
Area	RRC Procedure									
Critical Care - Case Management (cardiac/cong)	Ventilatory management (cardiac)	12.5	0	62	0.1	0	1	12.3	0	75
	Bleeding (non-trauma) > 3 units (cardiac)	4.4	0	12	0.1	0	2	2.9	0	22
	Hemodynamic instability (cardiac)	12.2	0	61	0.1	0	3	11.9	0	75
	Organ dysfunction/failure (cardiac)	6.9	0	34	0.0	0	1	6.2	0	36
	Dysrhythmias (cardiac)	6.4	0	34	0.1	0	1	5.1	0	26
	Invasive line management/monitoring (cardiac)	8.7	0	39	0.1	0	2	14.5	0	86
	Nutrition (cardiac)	2.4	0	37	0.0	0	1	4.8	0	73
	Total CC - Case Management (cardiac/cong)	53.4	0	200	0.4	0	6	57.6	0	288
Cardiopulmonary Bypass	Set-up and pump run with perfusionist	5.1	0	27	0.1	0	2	0.4	0	13
	Total Cardiopulmonary Bypass	5.1	0	27	0.1	0	2	0.4	0	13
Consultation Experience	New Patients	61.4	0	188	0.4	0	11	0.3	0	5
	Follow-up patients	56.0	0	135	0.1	0	3	0.5	0	30
	Total Consultation Experience	117.4	0	298	0.6	0	11	0.8	0	34
Simulation	One hour simulation	23.5	0	51	0.0	0	1	1.7	0	30
	Total Simulation	23.5	0	51	0.0	0	1	1.7	0	30
Multidisciplinary Management Conferences	Tumor board	12.9	0	52	0.1	0	2	0.0	0	1
	Cardiac cath conference	7.5	0	35	0.1	0	2	0.0	0	2
	Multidisciplinary clinics	2.4	0	27	0.0	0	1	0.0	0	3
	Transplant selection committee meeting	2.3	0	33	0.0	0	1	0.0	0	1
	Other (multidisciplinary management conf)	5.5	0	63	0.0	0	1	0.1	0	4
	Total Multidisciplinary Mgmt Conf	30.5	0	101	0.2	0	5	0.2	0	8
Non-Tracked Codes	Non-Tracked Codes	10.6	0	51	0.5	0	11	7.4	0	66

THORACIC SURGERY: NATIONAL RESIDENT REPORT (Defined Categories Table)

Reporting Period: Total Experience of Residents Completing Programs in 2015-2016

Residency Review Committee for Thoracic Surgery

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			Car	diac	Tho	racic
Group	Defined Category	Natl Res AVE	Minimum	Track AVE	Minimum	Track AVE
Congenital Heart	-Congenital Heart Disease (Assistant)	22.4	10	27.4	0	14.3
	-Congenital Heart Disease (Surgeon)	16.6	10	20.0	0	11.1
	Total Congenital Heart Disease	39.0	20	47.3	10	25.4
Adult Cardiac Experience	Acquired Valvular Heart Disease	101.3	50	126.3	25	60.5
	Myocardial Revascularization	109.7	80	130.3	40	76.8
	Re-Do Sternotomy	20.6	15	25.9	5	11.7
	Interventional Skills or Procedures	44.5	20	37.2	20	58.5
	Conduit Dissection and Preparation	10.8	10	12.8	5	7.6
	Aortic Procedures	31.5	10	41.5	5	14.8
	Arrhythmia Surgery	9.5	5	12.1	0	5.2
	Cardiopulmonary Bypass set-up and pump	5.1	4	5.5	4	4.6
	Circulatory Assist/Cardiac Transplant	29.0	10	36.0	5	17.4
	Total Adult Cardiac Experience	361.9	189	427.5	104	257.1
Adult General Thoracic	-Lung - Major Anatomic Resections	66.2	30	57.2	50	83.8
	-Lung - Major VATS/Robotic Anatomic	27.2	5	21.9	10	37.2
	-Lung - Biopsy/Wedge Resection	41.9	25	34.1	40	56.7
	Total Lung	108.1	60	91.3	100	140.5
	-Pleura - Major	10.3	0	8.5	5	13.8
	-Pleura - Minor	12.1	0	9.1	15	17.7
	Total Pluera	22.4	10	17.6	20	31.4
	Chest Wall and Diaphragm	20.2	3	18.8	6	23.2
	Mediastinum	10.9	5	9.2	10	14.1
	Tracheobronchial - Airway Surgery	4.0	0	2.5	5	6.8
	-Esophagus - Esophagectomy	19.1	10	14.0	20	28.6
	-Esophagus - Benign Major	16.0	5	10.8	10	25.6
	Total Esophagus (Def Ctgy)	35.1	15	24.8	30	54.1
	Total Adult General Thoracic	200.7	93	164.2	171	270.1

Notes:

^{1. &}quot;Natl Res AVE" includes all graduates. Residents entering no data into the Case Log System are not included in cardiac and thoracic statistics (1 resident).

^{2.} Procedure counts are based upon the Surgeon role, with the exception of Total Congenital Heart Disease, which is the sum of Surgeon and Assistant.

THORACIC SURGERY: NATIONAL RESIDENT REPORT (Defined Categories Table)

Reporting Period: Total Experience of Residents Completing Programs in 2015-2016

Residency Review Committee for Thoracic Surgery

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			Car	diac	Tho	racic
Group	Defined Category	Natl Res AVE	Minimum	Track AVE	Minimum	Track AVE
Minor Procedures	-Bronchoscopy - Simple	47.5	0	46.9	30	49.8
	-Bronchoscopy - Complex	13.3	0	7.2	10	24.2
	Total Bronchoscopy	60.8	30	54.2	40	74.0
	-UGI - Endoscopy - Simple	21.7	0	16.2	20	31.9
	-UGI - Endoscopy - Complex	10.6	0	6.9	5	17.4
	Total UGI - Endoscopy	32.3	10	23.1	25	49.3
	-Mediastinal Assessment - Other	0.8	0	0.6	0	1.1
	-Mediastinal Assessment - Mediastinoscopy	18.1	10	15.0	15	23.8
	-Mediastinal Assessment - EBUS/FNA	7.3	0	3.4	10	14.4
	-Mediastinal Assessment - Chamberlain or	14.7	5	15.2	5	14.2
	Total Mediastinal Assessment	40.9	20	34.3	30	53.5
	Total Minor Procedures	133.9	60	111.5	95	176.8
Total Operative Experience	Total Operative Experience	735.5	362	750.6	380	729.4
Additional	-Consultation Experience - New Patients	61.4	50	61.7	50	62.5
	-Consultation Experience - Follow-up	56.0	50	57.2	50	55.5
	Total Consultation Experience	117.4	100	118.8	100	118.0
	Multidisciplinary Patient Management Confs	30.5	20	30.1	20	32.1
	-Thoracic Critical Care Case Management	30.6	20	30.1	20	32.4
	-Cardiac and Congenital CC Case	53.4	20	56.7	20	48.9
	Total Critical Care Case Management	84.0	75	86.9	75	81.3
	Simulation	23.5	20	24.4	20	22.6

Notes:

^{1. &}quot;Natl Res AVE" includes all graduates. Residents entering no data into the Case Log System are not included in cardiac and thoracic statistics (1 resident).

^{2.} Procedure counts are based upon the Surgeon role, with the exception of Total Congenital Heart Disease, which is the sum of Surgeon and Assistant.