

Author (Year)	Population	Outcome	End-point	Morbidity %	AUROC / c-statistic Morbidity (95% CI)	Mortality %	AUROC / c-statistic Mortality (95%CI)
General / Vascular Surgery							
Gawande (2007)	Mean age 55.3, undergoing any general or vascular surgery	Morbidity & mortality	30d	9.1 (major), 4.6 (minor)	0.72	1.4	0.92 (univariate logistic regression)
Regenbogen (2009)	Mean age of 58, undergoing general or vascular surgery	Morbidity & mortality	30d	14.1	0.73	2.3	0.81
Regenbogen (2010)	Mean age 63, undergoing colon or rectal resection	Morbidity	30d	28.9	0.68 (for predicting post-discharge comp.)		
Ohlsson (2011)	Mean age 60.5, undergoing general or vascular surgery	Morbidity or mortality	30d	17.9	0.69	1.8	
Dullo (2013)	Mean age 35.2 undergoing emergent laparotomy	Morbidity or mortality	30d	40.8	0.796 (0.727-0.865)	7.9	
Sobol (2013)	Mean age 59 undergoing intraabdominal surgery	Post-op ICU admission	Direct post-op	8.7 transferred to ICU immediately post-op, 4.6 had later admission	0.7632 (0.75-0.78) 0.69 (0.66-0.72) for later ICU admission from PACU or ward		
Miki (2014)	Mean age 66.8 undergoing gastrectomy for primary gastric cancer	Morbidity	30d	CDc IIIa or greater: 11.0	0.65		
Glass (2015)	Mean age 64 undergoing any general surgery procedure	Post-op ICU admission, length of stay	30d	28.6 admitted to ICU	0.74 for ICU admission		
Jering (2015)	Mean age 55 undergoing general, vascular, or oncological surgery	Morbidity or mortality	30d	16.11	General: 0.71 (0.69-0.72) Vascular: 0.72 (0.70-0.74) Oncology: 0.70 (0.65-0.74) Combined: 0.74 (0.74-0.75)	1.5	
Ejaz (2016)	Mean age 57 undergoing major gastrointestinal surgery (hepatic, pancreatic, or colorectal)	Morbidity & mortality	30d	17.1	0.6446	0.9	
Cihoric (2016)	Median age 70 undergoing emergency abdominal surgery	Morbidity or mortality	30d	32.7	0.63	16.3	
Ngarambe (2017)	Mean age 34 undergoing exploratory laparotomy	Morbidity & mortality	In-hospital	28.6	0.7924	18.3	0.7515
Mastalerz (2018)	Median age 76 undergoing elective laparoscopic cholecystectomy	Morbidity	30d	11.8	0.71	0	
Kenig (2018/2)	Mean age 77 undergoing emergency abdominal surgery	Morbidity & mortality	30d	56.8 (all) 35.9 (major)	SAS < 7 0.70 (0.62-0.79)	25.1	SAS < 7 0.74 (0.66-0.83)
Kenig (2018/1)	Mean age 77 undergoing general oncological surgeries	Morbidity & mortality	30d	49.7 (all), 32.7 (major)	SAS < 7: 0.72 (0.6-0.79)	9.0	SAS < 7: 0.76 (0.6-0.8)
Singh (2019)	Median age 62 undergoing emergency abdominal surgery	Morbidity or mortality	Post-operative	33 (major or death)	0.71 (0.68-0.73)	11	
Orthopedic / Spine Surgery							
Wuerz (2011)	Mean age 66, undergoing hip or knee arthroplasty	Morbidity or mortality	30d	5.6	0.61 (0.60 without mortality)		
Urrutia (2012)	Adult patients undergoing orthopedic surgeries, mean age NR	Morbidity or mortality	30d	5.12	0.59 (0.48-0.69)	0.69	
Sakan (2015)	Mean age 80.3 undergoing orthopedic surgery for traumatic hip fracture	Morbidity & mortality	30d, 6mo	18.6 (30d)	SAS ≤ 4: 0.743 (0.587-0.864) for 30d morbidity	11.6 (30d)	SAS ≤ 4: 0.629 (0.468-0.771) for 30d mortality
Urrutia (2015)	Adult patients undergoing orthopedic spine surgeries, mean age NR	Morbidity or mortality	30d	6.72	0.77 (0.66-0.88)	0.75	
Wied (2016)	Mean age 74 undergoing lower extremity amputation	Morbidity & mortality	30d		All patients = 0.648 (0.562-0.733), TFA=0.710 (0.606-0.813) and TTA=0.472 (0.383-0.672)	18	

Ou (2017)	Mean age 61.8 undergoing lumbar fusion	Morbidity	In-hospital	8.0	0.872		
Kotera (2018)	Mean age 87 undergoing femoral neck surgery for fracture	Morbidity & mortality	30d morbidity, 90d mortality	21.7 (30d)		3.4 (90d)	0.76
Thoracic Surgery							
Eto (2016)	Mean age 65.7 undergoing esophagectomy for esophageal cancer	Morbidity or mortality	NR	32.3	0.68	0.25	
Stroyer (2017)	Mean age 65 undergoing Ivor-Lewis esophagectomy	Morbidity or mortality	30d	27.4	0.561 (0.478–0.645)	1.7	
Hepatobiliary Surgery							
Tomimaru (2018)	Mean age 70 undergoing hepatectomy for hepatocellular carcinoma.	Morbidity	30d	17.7 Cdc II or higher	0.702 for SAS ≤ 6 and ≥ 7 for predicting 30d complications		
Ding (2019)	Mean age 61.2 undergoing pancreaticoduodenectomy or distal pancreatectomy	Morbidity or mortality	30d	50	0.606 (0.519-0.694)	3.125	
Urological Surgery							
Roghmann (2012)	Mean age 59, undergoing surgery for Fournier's gangrene	Mortality	30d			29.5	0.749 (0.571-0.881)
Neurologic Surgery							
Hsu (2017)	Mean age 60.9 undergoing craniotomy for meningioma resection	Morbidity	30d	34.3	0.768	0	
Gynecologic Surgery							
Kurata (2017)	Mean age 73.7 undergoing non-laparoscopic gynecological surgery	Morbidity & mortality	30d	8.8	0.80 (0.66-0.942)		
Head and Neck Surgery							
Day (2018)	Mean age 59.7 undergoing head and neck cancer surgery	Morbidity	30d	10.1 minor, 22.7 major	0.73 (0.69-0.77)		
Prince (2018)	Mean age 60.9 undergoing non-cutaneous head/neck squamous cell carcinoma resection	Morbidity	30d	37.1	0.70 (0.66-0.74)		
Mixed Disciplines							
Haynes (2011)	Mean age 48.9, undergoing non-cardiac surgeries in 8 countries	Morbidity & mortality	30d	9.2	0.70	1.4	0.77
Thorn (2012)	Adult patients undergoing general, vascular, or orthopedic surgeries, mean age NR	Morbidity or mortality	30d	General / vascular: 23.6 Ortho: 19.5	General / vascular: 0.73, Ortho: 0.62	General / vascular: 3.1 Ortho: 8.0	
House (2016)	Median age 60 undergoing non-cardiac non-thoracic surgery	Mortality, peak troponin levels, MI, length of hospital stay	30d	MI: 0.4 Troponin leak: 0.4	Multivariate analysis for SAS predicting troponin leak or MI yielded a C statistic = 0.80, 0.81, and 0.80 for reference, cTn Leak, and perioperative MI groups, respectively)	1.39 (30d)	
Goel (2018)	Mean age 61.9 undergoing major cancer surgery	Morbidity	30d	11.4	0.661 (0.582-0.740)		
Abbreviations: d=days, Cdc=Clavien-Dindo classification, ICU=intensive care unit, PACU=post-anesthesia care unit, SAS=surgical apgar score							