

# Emergency general surgery in the elderly A systematic review

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#### Background

The elderly ( $\geq$  65 year old) surgical population of is increasing around the world. Emergency general surgery (EGS) carries significant morbidity and mortality when compared to elective surgery. As the population ages more elderly patients will require emergency operations and will suffer from emergency surgical conditions yet little is known about the associated morbidity and mortality.

### **Objectives**

- 1) Summarize literature surrounding EGS in the elderly
- Determine morbidity and mortality of EGS conditions in the elderly compared to patients < 65 years of age</li>
- 3) Identify areas of future research within elderly emergency surgical patients



### Results

Author	Country	Year	Study Design	Patient Population	Size, n	Age	Female	Morbidity	Mortality	LOS (days)	Disposition
Cook	UK	1997	Case Series	EGS Patients ≥ 75 y	49	83	NR	-	27%	-	-
Nichols	New Zealand	2008	Case Series	EGS Patients ≥ 65 y	70	84	60.0%	48%	16%	7.5	80% Home
Yaghoubian	USA	2011	Retrospective Cohort	EGS Patients ≥ 65 y	44	74	66.0%	41%	16%	-	-
Ingraham	USA	2011	NSQIP	EGS Patients ≥ 65 y vs. <65 y	17 806	76	54.9%	28%	15%	-	-
Scarborough	USA	2012	NSQIP	EGS Patients ≥ 65 y	25 558	-	55.9%	42%	38%	8	-
Pelzer	Poland	2014	Retrospective Cohort	Urgent Colectomy ≥ 75 y vs. < 75y	14	80	54.0%	85%	21%	23	-
Wilson	UK	2014	Case Series	Emergent Lap ≥ 80 y	73	84	68.5%	70%	38%	23	-
Merani	Canada	2014	Case Series	EGS Patients ≥ 80 y	170	84	48.8%	20%	15%	14	54% Home
Lees	Canada	2015	Case Series	EGS Patients ≥ 65 y	257	72	48%	53%	12%	13	74% Home
Shah	Pakistan	2015	Retrospective Cohort	EGS Patients ≥ 65 y vs. <65 y	2 123	74	37%	13%	5%	3	-
Watt	UK	2015	Retrospective Cohort	Emergent Lap ≥ 70 y vs. < 70 y	446	NR	50.0%	-	21%	26	-
Joseph	USA	2016	Prospective Cohort	EGS Patients ≥ 65 y	220	76	54.0%	35%	3%	8	53% Home



↑ Bowel Resections
↑ Length of Stay
↓ Discharge to home

**Risk Factors for Morbidity and Mortality** 





≥80 yo





**DNR Status** 

#### References

Desserud, K.F., Veen, T., & Søreide, K. BR J Surg. 103(2): 52-61. (2016). Søreide, K., & Desserud, K. F. Scand J Trauma Resusc Emerg Medi. 23(10). (2015).

## Conclusions

- 1) Limited research in EGS patients  $\geq$  65 years of age
- 2) Emergent bowel resections are more common in the elderly
- Generally higher morbidity and mortality compared to emergency surgery in patients < 65 years of age</li>
- 4) Frailty is a better predictor of outcome than age, and frailty should be measured pre-operatively

Farhat JS, Velanovich V, Falvo AJ, Horst HM, Swartz A, Patton JH, et al. J Trauma Acute Care Surg 2012;72:1526–31.

Joseph B, Zangbar B, Pandit V, Fain M, Mohler MJ, Kulvatunyou N, et al.. J Am Coll Surg 2016;222:805–13.

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