

TABLE E-1 Summary of Mortality Data from a Series of Retrospective Reviews That Included Geriatric Trauma*

Study (yr)	Age (yr)	No. of Patients	Hip Fractures Excluded	Other	Mortality	Correlation with Mortality			
						Age	ISS	PECs	Other Issues Associated with Mortality
Oreskovich et al. ⁹ (1984)	≥70	100	NA	Mean ISS = 19	14% (at 1 mo); 15% (at 1 yr)	No	No	No	Burns, CNS injury, shock
Horst et al. ²⁰ (1986)	>60	39	NA	ICU admits only	31%	No	No	No	Sepsis, multiorgan failure
DeMaria et al. ²¹ (1987)	>65	82	Yes	NA	21%	Yes	Yes	NA	More complications, more head and neck injuries
Broos et al. ¹⁰ (1988)	≥65	49	Yes	NA	18% (at 6 mo)	No	No	No	Prolonged intubation and early ventilation
Osler et al. ²² (1988)	≥65	100	NA	NA	17%	Yes	Yes	NA	Shock, low GCS, early intubation
Finelli et al. ²³ (1989)	≥65	3669	Yes	MTOS data	18.3%	Yes	Yes	NA	Higher complication rates
McCoy et al. ³ (1989)	>65	312	Yes	Traffic accidents	9.3%	Yes	Yes	NA	NA
Morris et al. ¹⁴ (1990)	≥15	3074	NA	California trauma deaths	NA	NA	NA	Yes	Greater effect of PECs on mortality in patients ≥ 65
Smith et al. ²⁴ (1990)	≥65	456	NA	Mean ISS = 10.8	8.60%	NA	NA	No	Mechanism of injury: burns, then MVC, then pedestrian
van Aalst et al. ²⁵ (1991)	≥65	98	NA	Blunt trauma; ISS ≥ 16	44% (in hospital)	Yes	NA	NA	GCS ≥ 7, shock, sepsis, head injury

Broos et al. ²⁶ (1993)	≥65	126	NA	Mean ISS = 33.2	17% (at 6 mo)	No	No	No	Prolonged intubation, GCS ≤ 8
Carrillo et al. ²⁷ (1993)	≥65	94	Yes	NA	13%	NA	NA	NA	NA
Day et al. ²⁸ (1994)	>60	118	Yes	ISS > 15	30.5% (early); 31% (late)	Yes	NA	NA	NA
Johnson et al. ²⁹ (1994)	≥65	289	NA	ICU admits only	16%	Yes	Yes	NA	NA
Knudson et al. ³⁰ (1994)	≥65	852	NA	Blunt trauma	18.4%	NA	Yes	NA	Shock, male sex, brain, chest, abdomen injury
Zietlow et al. ¹¹ (1994)	≥65	95	NA	Mean ISS = 18	23% (in hospital)	NA	NA	Yes	GCS ≤8, ventilation support
Shabot and Johnson ³¹ (1995)	≥75	45	NA	Trauma ICU admits	28.9%	Yes	NA	NA	“oldest old”
van der Sluis et al. ³² (1996)	≥60	121	NA	ISS ≥ 16	38.8%	Yes	Yes	NA	NA
Gubler et al. ³³ (1997)	≥67	9424	NA	NA	4.1% (in hospital)	Yes	Yes	Yes	NA
Battistella et al. ³⁴ (1998)	≥75	279	NA	Mean ISS = 9.4	23%	NA	NA	NA	Poor outcome at 4 yr predicted by PECs, HTN, COPD
Perdue et al. ³⁵ (1998)	≥65	488	NA	Exclude single system injury	14%	Yes	Yes	Yes	NA
Tornetta et al. ³⁶ (1999)	≥60	326	Yes	NA	18.1%	NA	Yes	NA	GCS, fluid required, transfusion, sepsis, MI, ARDS
Ferrera et al. ³⁷ (2000)	≥65	239	No	NA	11.3%	NA	Yes	No	NA

Grant et al. ³⁸ (2000)	≥65	1920	NA	ISS ≥ 9	10.6% (in hospital)	Yes	Yes	NA	Decreased resuscitation
Rogers et al. ⁸ (2001)	≥55	1527	NA	NA	8.50%	NA	Yes	Yes	NA
Rzepka et al. ³⁹ (2001)	≥65	577193	No	U.S. Medicare data	4.80%	Yes	Yes	NA	Male sex, multiple injuries
Meldon et al. ⁴⁰ (2002)	≥80	455	NA	NA	9.90%	NA	Yes	NA	Lack of trauma center designation, head injury
Richmond et al. ⁴¹ (2002)	≥65	38707	NA	NA	10%	Yes	Yes	Yes	PECs predict complications
Taylor et al. ⁴² (2002)	≥65	7117	NA	NA	6.7%	Yes	Yes	NA	Male sex, lower GCS, hypotension, hypoventilation
Grossman et al. ¹² (2003)	≥65	43297	Yes	NA	8%	Yes	Yes	NA	NA
Hannan et al. ⁴³ (2004)	≥75	2856	NA	ISS ≥ 9	13.7% (in hospital)	Yes	Yes	Yes	Age of 40 yr and older, intubation, shock, male sex
Sharma et al. ⁴ (2007)	≥65	2783	NA	NA	5%	Yes	Yes	NA	Thoracic injury; isolated head trauma
Jacoby et al. ⁴⁴ (2006)	≥45		Yes	NA	NA	Yes	Yes	NA	Male, multiple injuries
Gowing and Jain ⁴⁵ (2007)	>65	99	NA	ISS > 12	32% (in hospital)	Yes	Yes	NA	NA
Giannoudis et al. ⁴⁶ (2009)	≥65	438	NA	ISS ≥ 16	42% (in hospital)	Yes	Yes	NA	Low GCS, ARDS, multiorgan failure
Aitken et al. ⁴⁷ (2010)	≥65	6069	Yes	NA	5% (in hospital)	Yes	Yes	NA	Male, falls, ICU stay, 2+ injuries
Bennett et al. ¹³ (2010)	≥80	422	Yes	NA	13.4% (in hospital)	Yes	NA	NA	NA

Clement et al. ⁴⁸ (2010)	≥65	24	Yes	Deaths only	100%	Yes	Yes	Yes	Two mortality spikes for day 2 and day 13
Labib et al. ⁴⁹ (2011)	≥65	276	NA	ISS > 16	26.8% (in hospital)	Yes	Yes	No	Intubation; transfusion; head, cervical spine, and chest trauma; and complications

*ISS = injury severity score, PECs = preexisting conditions, CNS = central nervous system, NA = information not available, ICU = intensive care unit, GCS = Glasgow Coma Scale, MTOS = Major Trauma Outcome Study, MVC = motor vehicle collision, HTN = hypertension, COPD = chronic obstructive pulmonary disease, MI = myocardial infarction, ARDS = acute respiratory distress syndrome.