

GERIATRIC TRAUMA

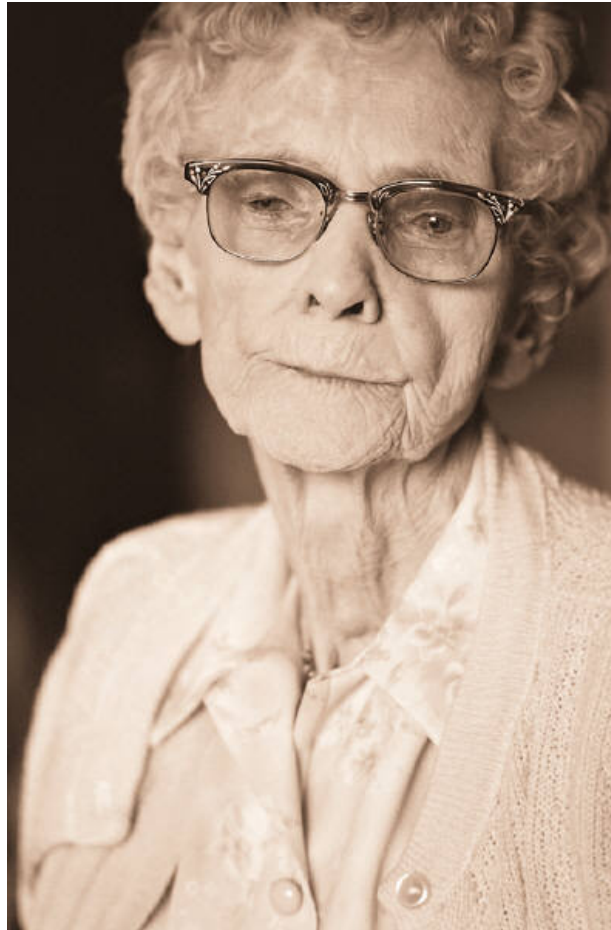


Figure 68 demonstrates that as the total trauma patient volume has increased over the past 10 years, the geriatric patient population has also increased.

Figure 68: Geriatric Trauma Volume

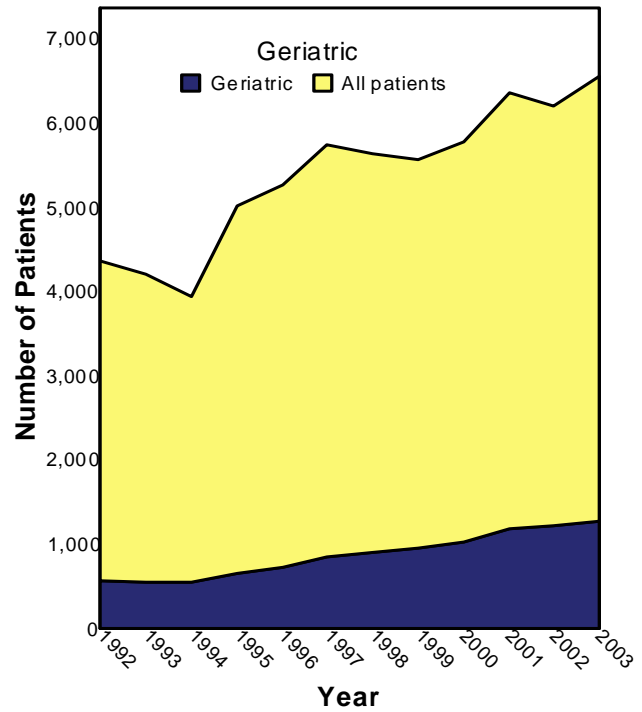
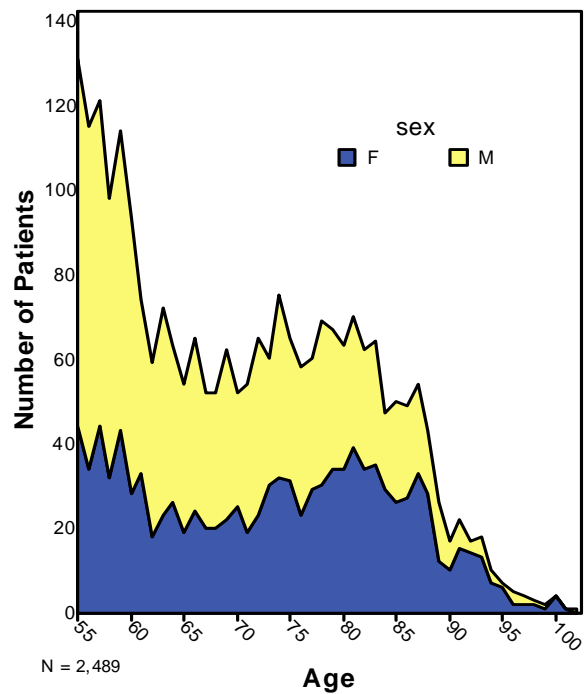


Figure 69 demonstrates the number of patients by age in the geriatric population. Males outnumber females 3:1, declining to a 2:1 ratio as the age increases.

Figure 69: Geriatric Trauma by Age



Pre-existing medical conditions were reported for 78% of geriatric patients. Table 6 indicates that the most frequently reported pre-existing medical condition for the geriatric population is cardiac in nature. These conditions are not mutually exclusive, and one or more conditions may be reported for each patient.

Table 6: Occurrence of Pre-Existing Disease In Geriatric Trauma Patients

Medical History	Occurrences
None	549
Cardiac	732
Respiratory	133
Liver	20
Renal	33
Diabetes	180
Pregnancy	1
Other	586

Figure 70 demonstrates that the most common mechanism of injury for the elderly population was motor vehicle crashes (39%), with falls maintaining high prevalence at 36%. The third highest volume, the Other Trauma category, accounts for 8% of reported cases and includes a wide variety of injury causes, such as drowning, burns, machinery, suffocation, and natural or environmental causes. Firearm injuries, while comprising less than 3% of the total injuries, have the highest mortality rate at 40%. The highest injury severity is caused by firearms (16), motorcycle crashes (13.2), and pedestrians struck by motor vehicles (12.5).

Figure 70: Geriatric Trauma Mechanism of Injury

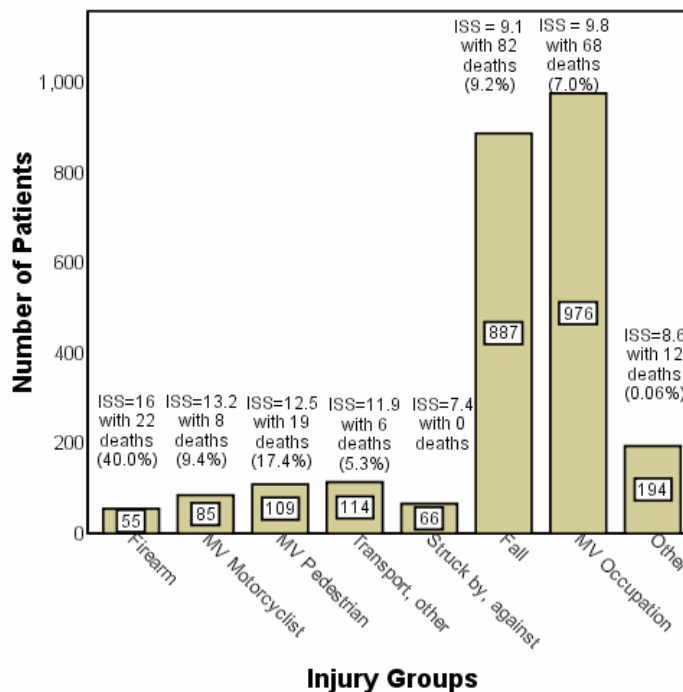


Table 7: Fall Detail for the Geriatric Trauma Patient

Ecode Description	Geriatric Groups							Total
	55-59	60-64	65-69	70-74	75-79	80-84	85+	
	2	0	1	2	6	4	8	23
ACCIDENT IN HOME	0	0	1	0	0	0	0	1
ACCIDENT IN A PLACE NEC	1	0	0	0	0	0	0	1
FALL FROM BED	2	1	0	3	4	6	9	25
FALL FROM BUILDING	14	10	7	7	6	3	1	48
FALL FROM CHAIR	1	1	2	0	3	2	0	9
FALL FROM CLIFF	0	0	0	0	0	0	1	1
FALL FROM CURB OR SIDEWALK	0	0	0	0	2	1	4	7
FALL FROM LADDER	34	20	16	21	14	12	3	120
FALL FROM OTHER FURNITURE	1	0	2	1	0	0	0	4
FALL FROM SCAFFOLDING	3	0	1	1	0	0	0	5
FALL FROM TOILET	0	1	0	0	1	1	3	6
FALL FROM WHEELCHAIR	2	1	2	1	1	4	6	17
FALL INTO OTHER HOLE	0	0	1	0	0	1	0	2
FALL ON ESCALATOR	0	0	0	0	2	0	0	2
FALL ON LEVEL NEC/NOS	0	0	0	0	1	1	1	3
FALL ON STAIR/STEP NEC	18	5	11	16	22	30	29	131
FALL STRIK HEAD ON OTHER OBJECT	1	2	3	2	8	4	10	30
FALL STRIKING HEAD ON SHARP OBJECT	2	1	1	0	2	0	2	8
FALL-1 LEVEL TO OTHER NEC	20	10	7	7	7	5	2	58
OTHER FALL	4	0	2	2	3	1	1	13
SAME LEVEL FALL-SLIP/TRIP/STUMBLE	15	19	12	18	39	45	65	213
SUICIDE-JUMP FROM RESIDENCE	1	0	0	0	0	1	0	2
SUICIDE-JUMP FROM STRUCTURE NEC	1	0	0	0	0	0	0	1
UNSPECIFIED FALL	17	8	7	16	19	33	57	157
Totals	139	79	76	97	140	154	202	887

Thirty-six percent of the trauma injuries suffered by the elderly population were the result of a fall. The most common mechanism was a fall from the same level as a result of slipping, tripping, or stumbling, followed by falls from steps or stairs. The incidence of a fall injury of this type increases as the patients' age increases. The third most common mechanism of injury was a fall from a ladder, which decreases in frequency as age increases. These three types of falls accounted for 52% of the known fall injuries. One hundred fifty-seven patients (18%) had no specific documented cause for their fall.

Figure 71 indicates that 88.2% of geriatric patients were using a restraint device (seatbelt) when the motor vehicle they were driving or riding in crashed.

Figure 71: Geriatric Restraint Use in Motor Vehicle Crashes

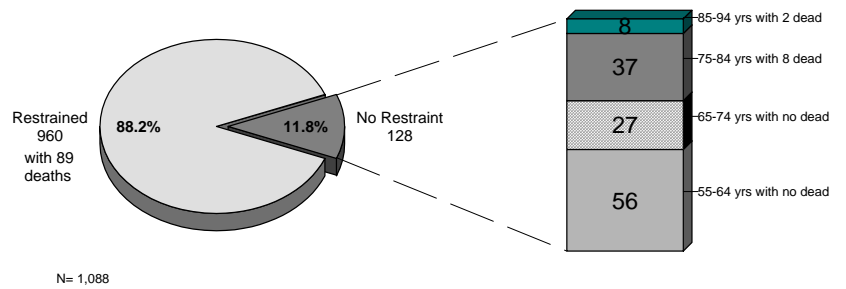


Figure 72 shows that for 2,489 injured geriatric patients, 62% were tested for alcohol use. Of those tested, 23.5% tested positive for blood alcohol levels: 7.8% had alcohol level less than .08 gm/100cc, and 15.7% were positive at a level above the legal limit of .08 gm/100cc.

Figure 72: Alcohol Use Among Injured Geriatric Patients

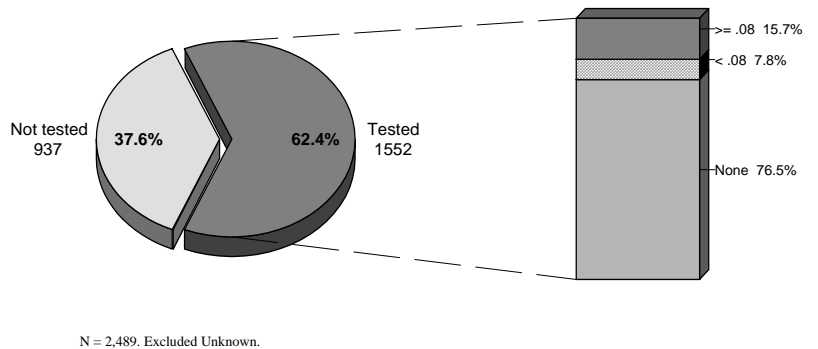


Figure 73 demonstrates the number of geriatric trauma patients who tested positive for alcohol. The most common mechanisms of injury for those testing positive for alcohol use were motor vehicle crashes (39%), falls (37%), and other types of trauma (10.5%).

Figure 73: Positive Test for Alcohol in Geriatric Patients by Injury Group

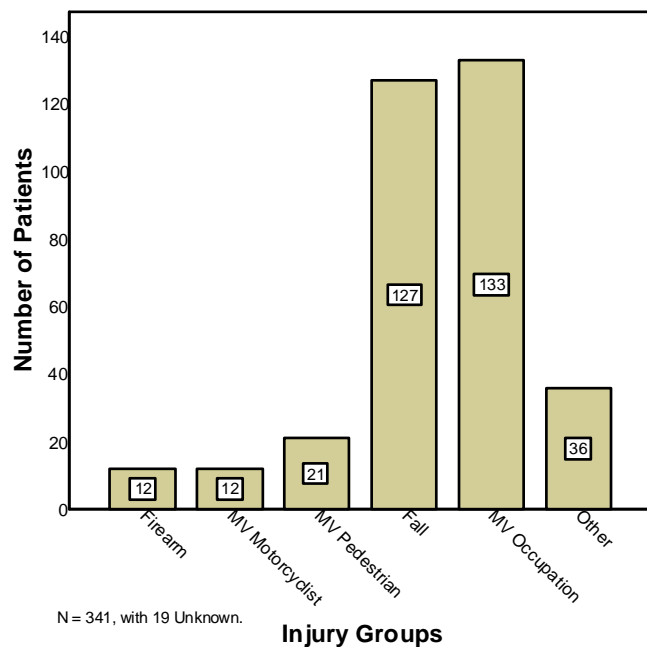
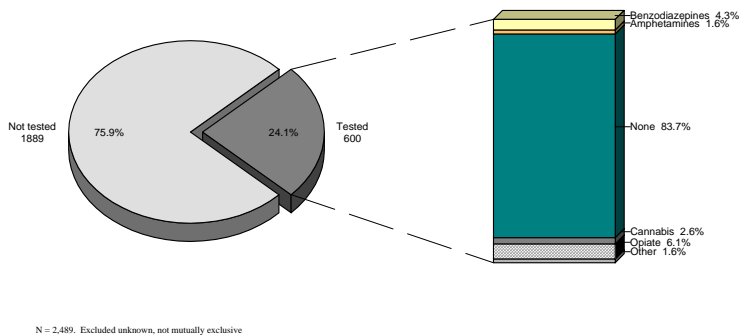


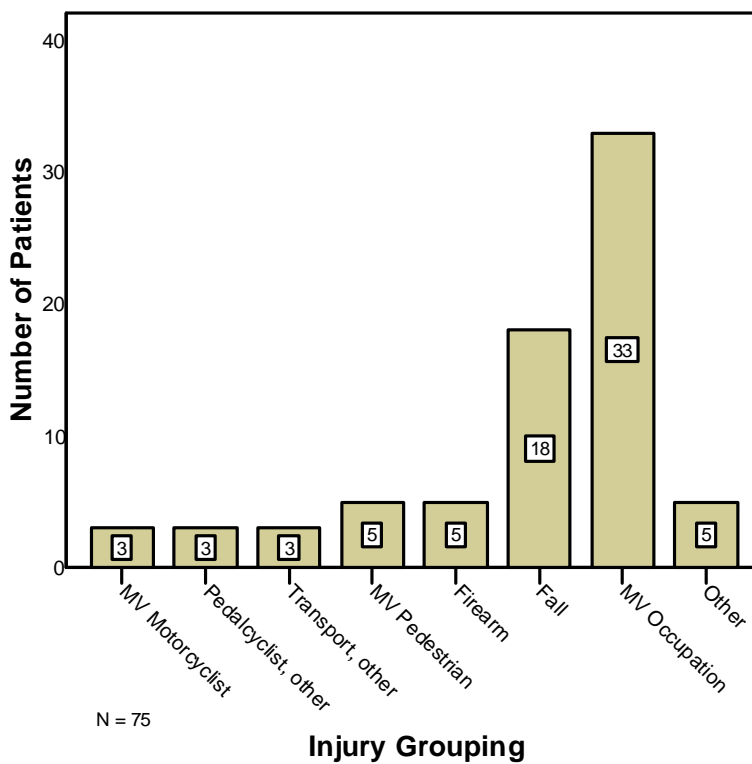
Figure 74 indicates that 24.1% of the 2,489 injured geriatric patients underwent urine or blood testing for drug use. Of those tested, 16.3% tested positive for drugs. The most frequently reported drugs were opiates (6.1%) and benzodiazepines (4.3%). These tests are not mutually exclusive, and patients frequently have positive results for more than one drug. In this group, 78% had one drug present; 17% had two drugs detected; and 5% tested positive for three or more drugs.

Figure 74: Drug Use Among Injured Geriatric Patients



The influence of drugs in geriatric trauma is found across the spectrum of injury types. Figure 75 demonstrates the number of geriatric patients who tested positive for drugs. Motor vehicle crashes and falls account for two-thirds of the injury mechanisms most commonly affected by drug use.

Figure 75: Positive Test for Drug Use in Geriatric Patients by Injury Group



Although the geriatric population decreases in relationship to other age groups, the injury rate remains consistent. Additionally, as age increases, the ratio of major to minor injuries increases.

Figure 76: Injury Severity by Age for Geriatric Patients

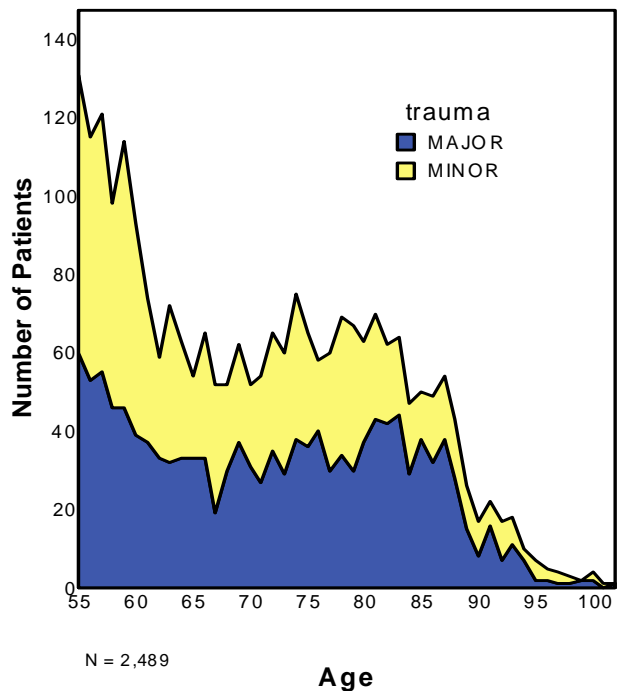
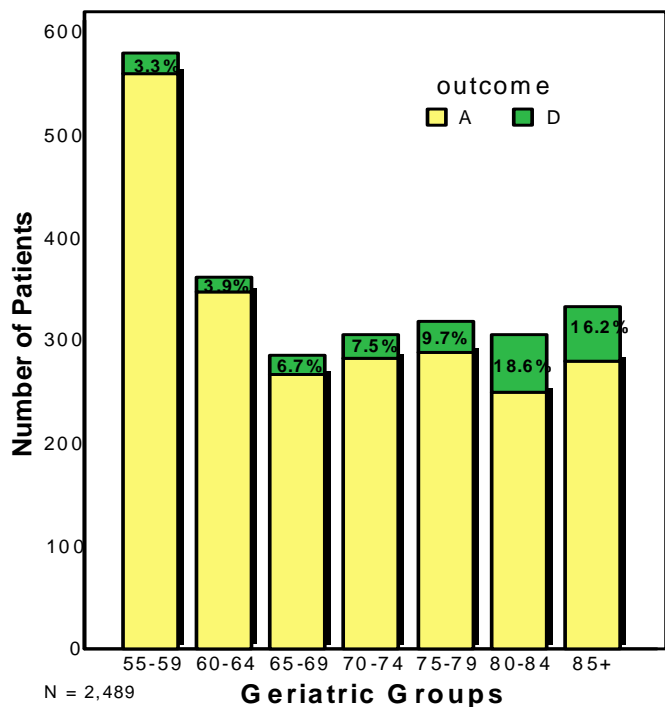


Figure 77, demonstrates that while the volume of traumatic injuries remains steady after age 60, the mortality rate and the mean Injury Severity Score (ISS) climb as the age of the patient increases. The older patient is 2 to 3 times more likely to suffer a fatal outcome from trauma.

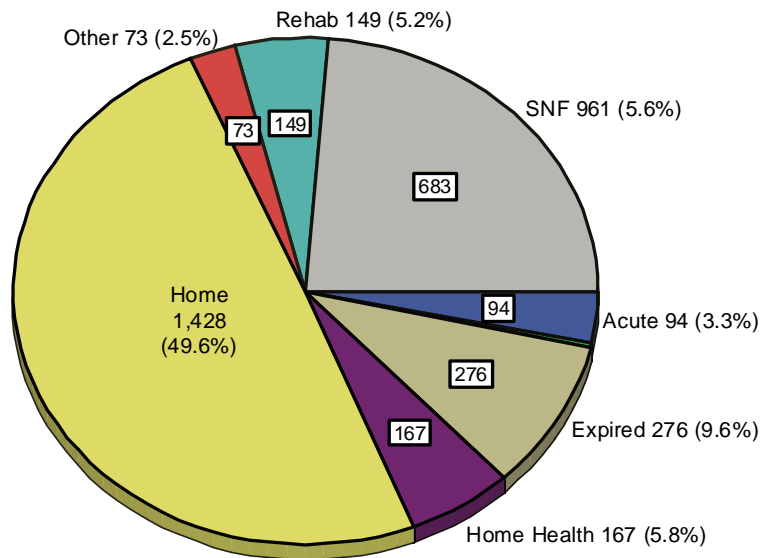
Figure 77: Geriatric Trauma by Age Groups and Mortality



Geriatric Groups	Mean	N	Standard Deviation
55-59	9.47	579	8.747
60-64	9.66	361	8.622
65-69	10.26	285	9.107
70-74	10.08	306	8.666
75-79	10.53	319	9.461
80-84	10.86	306	9.899
85+	9.44	333	8.887
Total	9.97	2489	9.025

Figure 78 displays the disposition of geriatric trauma patients who were hospitalized for definitive care of their injuries. Almost 50% of patients were able to return home, with an additional 5.8% requiring home health services. Nearly 6% were discharged to a skilled nursing facility, another 5.2% went to a rehabilitation unit, and 3.3% were discharged to an acute care facility. Close to 10% died during their hospital stay. The Other category includes patients discharged to a psychiatric facility, and those who left against medical advice (AMA) or who entered law enforcement custody.

Figure 78: Geriatric Patient Disposition Following Hospitalization



N = 2,870, exclude unknown

