



# Which elderly patients need to be transported to level 1 trauma center?

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## Background

With increasing geriatric population, better health cares are given, the numbers of geriatric patients who visit trauma center are increasing. Many guidelines and prognostic factors are studied and published. But field triage for older patients is not established yet.

## Objective

Field triage is a big deal for EMS personnel, especially they met trauma patients. Among elderly patients are very difficult to triage, because of their socio-medical condition. We study about factors that can be taken at the scene of the trauma and study difference of these factors between geriatric( $\geq 65$ years) and adults( $\geq 19$ years,  $< 65$ years). We want to make EMS personnel can make right decision with this factors.

## Design/Methods

This study was retrospectively conducted in the PNUH trauma center which is level 1 trauma center in Busan. We studied patients who visiting PNUH trauma center from January, 2018 to December 2018. Totally 1,365 trauma patients were visiting trauma center. The pediatric patients and patients who are lack of medical record and patient who had lower ISS ( $\leq 15$ ) were excluded. So 784 patients were included. We divide them into 2 groups ISS  $\geq 15$  adult ( $\geq 19$ years,  $< 65$ years)and ISS  $\geq 15$  geriatric patients ( $\geq 65$ years). Student-t analysis was performed with IBM SPSS statistics data editor.

## Results

We divided severely injured patient into 2 group, geriatric (group 1), adult (group2). We compared physiologic factors that can be taken at the trauma scene. Systolic and diastolic blood pressure are higher at the group 1 and had statistical significance. ( $P=0.00$ ,  $P=0.01$ ). And heart rate is lower at the group 1 and had statistical significance. ( $P=0.00$ ). But respiratory rate, body temperature, O2 saturation, GCS didn't have statistical significance. (Table1)

Variate	Group 1 (n=257)	Group 2 (n=527)	P-value
Male patients (proportion)	165 (64.20%)	428 (81.21%)	
Mean age with years (Range)	74.44 (65-93)	47.36 (19-64)	
Mean ISS	25.49 $\pm$ 8.15	26.24 $\pm$ 9.18	0.264
Systolic BP (mmHg)	126.83 $\pm$ 38.004	116.71 $\pm$ 35.467	0.00
Diastolic BP (mmHg)	75.14 $\pm$ 27.388	68.18 $\pm$ 26.772	0.01
Heart rate (/min)	86.93 $\pm$ 20.565	93.30 $\pm$ 23.797	0.00
Respiratory rate (/min)	19.13 $\pm$ 4.786	19.79 $\pm$ 5.371	0.96
Body temperature ( $^{\circ}$ C)	36.09 $\pm$ 2.372	35.90 $\pm$ 3.272	0.388
O2 Saturation (%)	95.91 $\pm$ 9.317	95.40 $\pm$ 9.374	0.474
Mean GCS	12.01 $\pm$ 4.151	11.83 $\pm$ 4.215	0.576

## Conclusion

In our study we find out severely injured geriatric patients have higher systolic and diastolic blood pressure and lower heart rate than severely injured adult patients. Geriatric patients are seem to be more stable than adult patients. So under triage will happened and patients went wrong facility. So we need to make more strict criteria for geriatric trauma patients.

## Impact

In the field, using the physiologic factors, EMS personnel triage severely injured geriatric patients. We help them to make early and right decision with this study. Because load and go to the right place is the key of the trauma system.

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