Trauma registry of acute care (TRAC) – CHUV

Annual Report 2012

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1. Introduction

This annual report aims at presenting an overview of the characteristics of trauma patients admitted to the Lausanne University Hospital (CHUV) from the 1st of January to the 31st of December 2012. Analysis of data is done on the basis of the Traumaregistry of Acute Care (TRAC).

2. Methodology

Inclusion criteria

This report includes all the patients admitted to CHUV shock room during the year 2012 after having sustained a physical trauma.

Data collection

The collection and input of data in the TRAC is made by a trained data-manager on the basis of patients' electronic files. About 30% of the items are entered via automatic links with other hospital databases; the remaining part is manually gathered from patient files. Codification of patients' injuries is done following AIS/ISS 2008 international standards by a AAAM-trained nurse (Association for the Advancement of Automotive Medicine) (1).

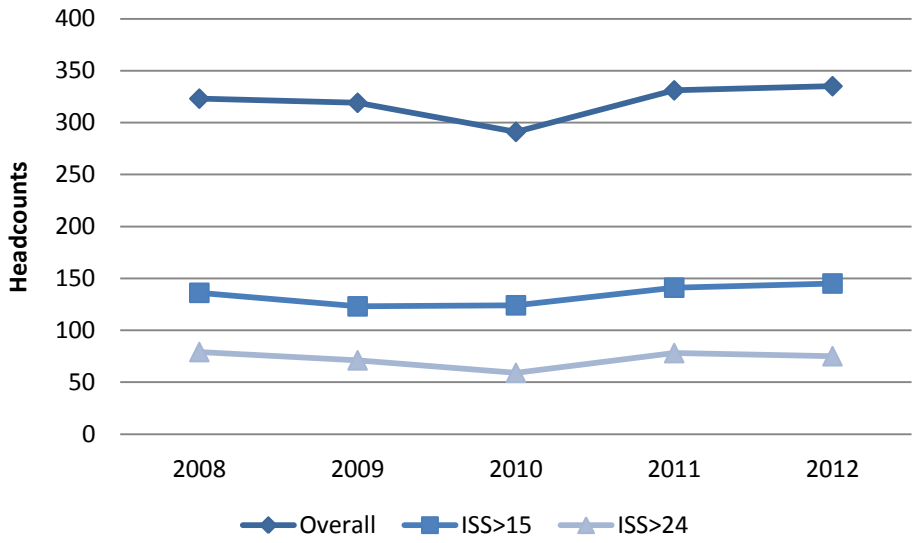
Statistics

Statistics and graphics were performed using Microsoft Office 2008 Excel©. Results are expressed in percentages for frequencies. When necessary, a measure of dispersion was given using median, lower and upper interquartile ranges (IQR1/IQR3), representing respectively 25% and 75% of the headcounts.

3. Results

Patients' characteristics

During 2012, 335 patients were admitted to CHUV shock room: their median age was 38 years (21/58). The graphic below shows the trends – overall and considering ISS – over the last five years:



The table below display ASA-classes[1] according to identified co-morbidities as listed in patient's discharge letter:

ASA-Class	ASA 1	52%
	ASA 2	24%
	ASA 3	11%
	ASA 4	1%
	Unknown	11%

Admission time

The median patients' admission time is 14:30 (10:07/18:33). Admission time frequencies during 24 hours are displayed in the graphic below:

Working hours: 8:00 – 15:59

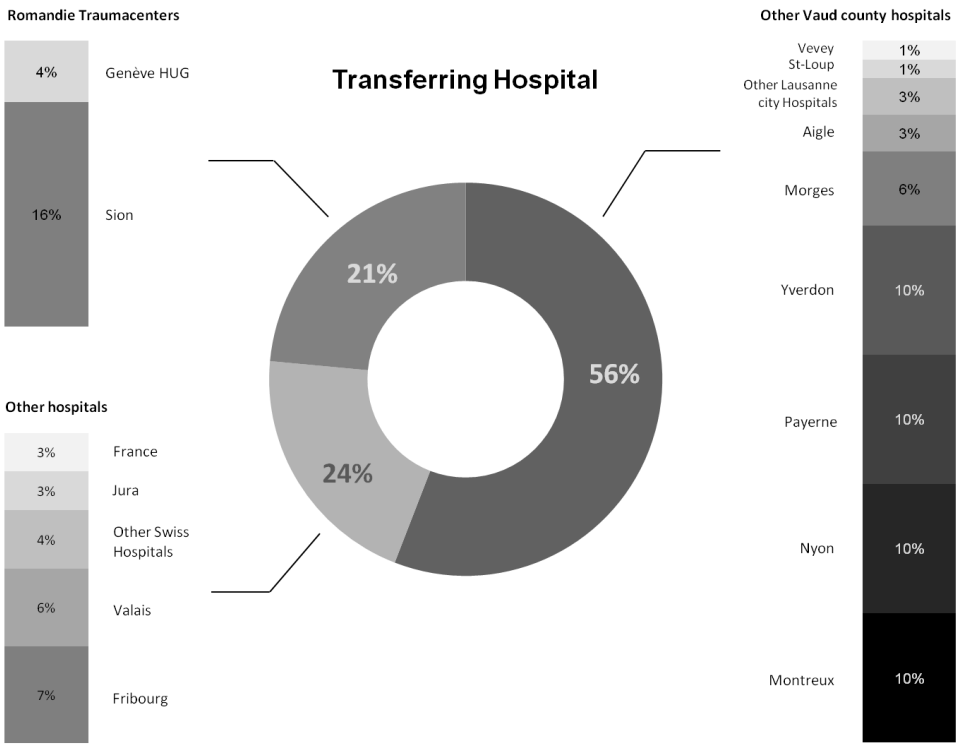
Evening: 16:00 – 20:00

Night: 20:00 – 7:59

In other terms, 49.6% of patients were admitted between 18:00 and 8:00.

Inter-hospital transfers

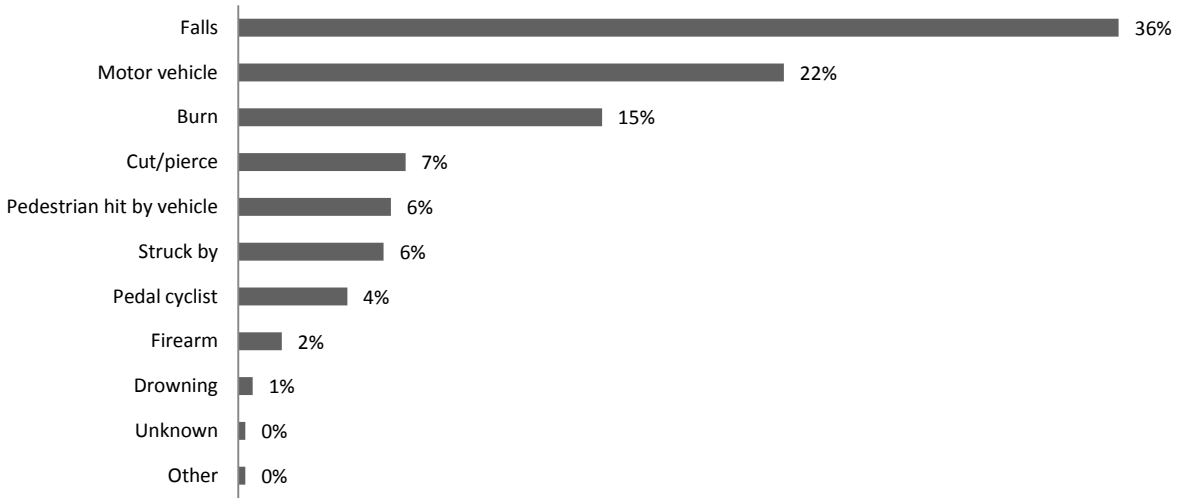
20.2% of the patients included in this report were initially treated in a different hospital and secondarily transferred to CHUV shock room:



[1] The ASA score, or « the physical status score », was developed by the American Anaesthesiology Society in 1941 in order to assess the pre-operatory health status of a patient and the risk he dies during a surgery.

Trauma characteristics

Mechanism of injury



To sum up, 33.1% of patients were injured during a road traffic accident.

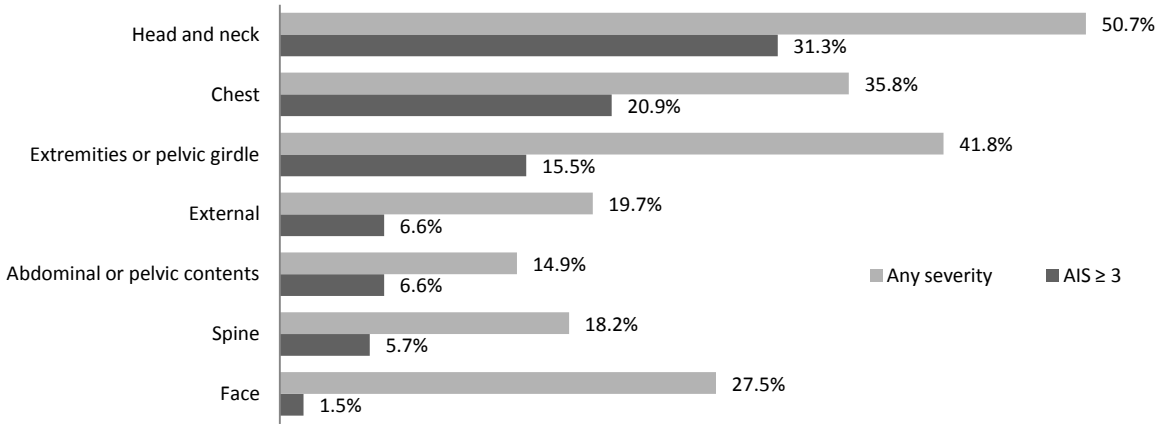
Injury intent

Type of trauma

The rate of penetrating trauma during 2012 was 9.0%.

Injured body regions

Incidences of injuries per body region and serious injuries per body region, defined as a score of AIS≥ 3 are shown in the graph below:



Head injuries account for 95.3% 8 (any severity) and 96.2% (AIS≥) of all listed within the category “Head and neck”.

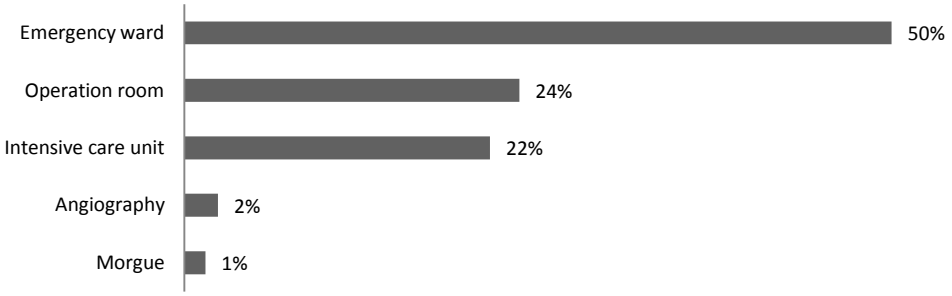
Severity of injury

Of all admitted patients, median injury of severity score (ISS) was 13 (5/22). Severely injured patients, defined as an ISS>15 accounted for 43.3% and 22.4% presented with critical injuries (ISS > 24).

Medical support after shock room care

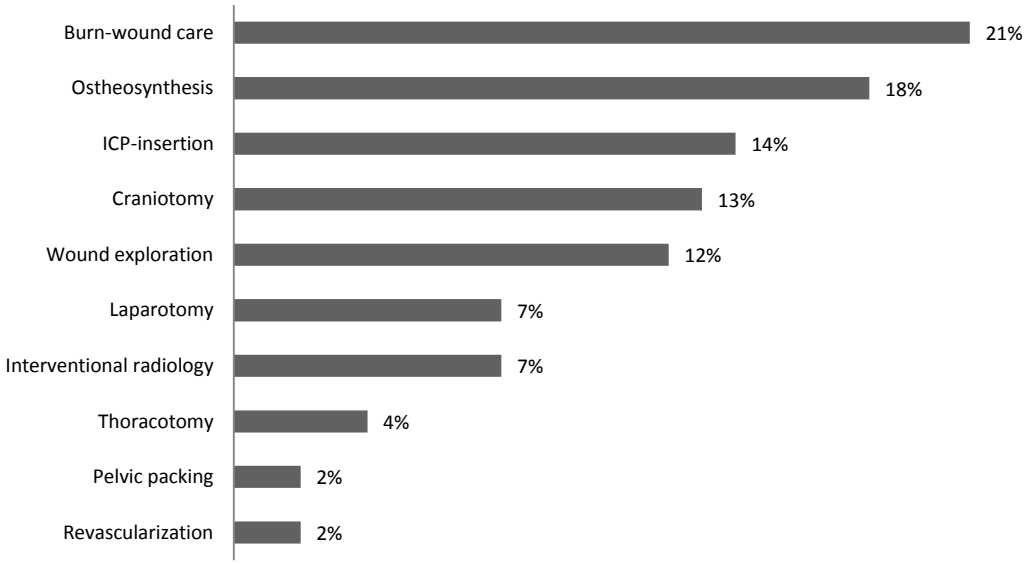
Transfer destination from shock room

26.3% of patients were directly admitted from shock room to the operating room or to the angiography suite while as 50.4% were secondarily transferred to the emergency ward.



Emergency interventions

Emergency interventions are defined as surgical or interventional-radiological proceedings initiated directly after the initial assessment in the shock room. In our sample, 31.9% of the patients underwent an emergency intervention. The graphic below displays their frequencies:



"Craniotomy" may include ICP-device insertion if done during the same intervention.

Operative interventions during the first 24 hours

61.2% of the patients underwent a surgical intervention (including emergency interventions) within the first 24 hours of admission.

Length of stay

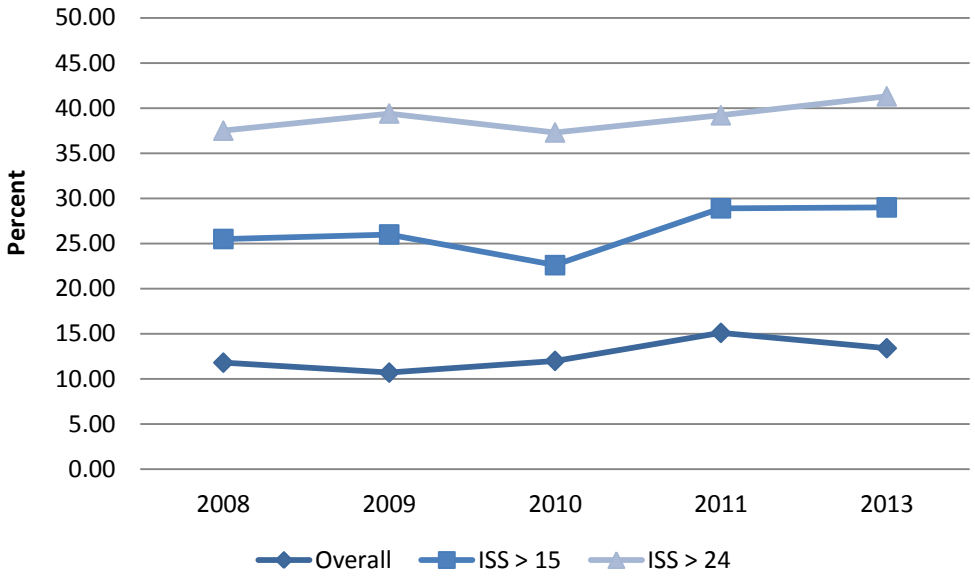
Lengths of stay (LOS) in hospital and in the intensive care unit (ICU) are summarized in the table below:

	Hospital LOS (days)		ICU LOS (days)	
	Overall	**ISS > 15**	**Overall**	**ISS > 15**
Median (IQR 1/3)	5 (1/17)	9 (2/3)	0 (0/0)	2 (0/10)

13.4% of patients were treated as outpatients (hospital-LOS < 24h).

Mortality

Mortality rate for all trauma patients admitted to shock room was 13.4%. For severely injured (ISS > 15) and critically injured (ISS > 24) patients, mortality rates were 29.0% and 41.3% respectively. The graphic below shows a slight increase over the last 5 years:



4. Acknowledgments

We would like to thank all participating staff and departments that contributed to data-collection within TRAC.
A special thank goes to the departments of Anaesthesiology, Emergency Medicine, Intensive care, Orthopaedic surgery, Visceral Surgery as members of the steering committee of the “Filière Trauma” and to Prof. J.-B. Wasserfallen as medical director of CHUV.

5. References

(1) Committee on Medical Aspects of Automotive Safety. Rating the severity of tissue damage. I. The abbreviated scale. JAMA. 1971; 215(2):277-80. doi:10.1001/jama.1971.03180150059012