



Laboratory testing in burns: What do we order on admission?

Miranda Pye (CNS) *Burns Unit, Concord Repatriation General Hospital (CRGH)*

Introduction This retrospective audit of laboratory investigations undertaken at CRGH Burns Injury Unit over two-months. The aim of this study was to determine which laboratory investigations are commonly ordered on admission, which are commonly abnormal & the cost of the testing.

Background

The ubiquitous nature of burns injury requires screening, diagnosis, monitoring & management of the patients health. A significant burn injury causes changes in organ function & physiological responses. Laboratory tests can be used to identify fluid shifts, inflammation, infection, blood loss, responses to medication & metabolic changes. The Royal College of Pathologists Australia lists appropriate tests for major burn injury include: wound swabs, E&U, BSL, FBC, blood group & antibody screen.¹

Method

- 73 patients admitted from Jan-Feb 2016.
- Required sample size 62, based on a confidence level of 95% & 5% margin of error.
- Recruited from admission book.
- Achieved by omitting number 1 & every 7th. Removed 11 from the 73.
- Data collected from patients Electronic Medical Record

miranda.pye@sswhs.nsw.gov.au

Demographics

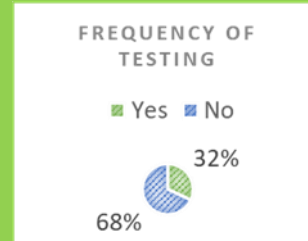
- Mean age 33.6, 77% male
- Mostly scald & flame injuries
- 8% have injuries over 10% TBSA, 44% are < 1% TBSA
- Length of stay (LOS)- Average 2 days, 34% < 24hrs

Based on the MBS figures the costs of the lab tests conducted, ranged between \$25.35 – \$169.40. The average cost for each patient’s initial laboratory tests was \$85.07.

Results

73 individual tests. 2 microbiology & 10 pathology panels.

Most common Lab tests		Test with abnormal results	
Wound culture	26%	CK	100%
MRSA screen	23%	Troponin	100%
FBC	21%	Wound culture	69%
E & U	21%	CRP	67%
White cell differential	19%	Neutrophils*	50%
CMP	16%	WCC	46%
LFT	15%	Monocytes	33%



- 15% had low sodium levels
- 46% elevated white cell count
- 27% low albumin levels
- 69% positive superficial wound cultures, 1 multi-resistant.

Discussion

The frequency of lab testing for burns inpatients is minimal. This may be due to the minor nature of many of these injuries & the patient’s short LOS.

Future recommendations:

- Develop guideline for pathology testing in burns patients
- Identify optimal time post injury to conduct tests

Reference

1. The Royal College of Pathologists of Australia. (2014). Rcpaeduau. Retrieved March 2016, from <http://www.rcpa.edu.au/Library/Practising-Pathology/RCPA-Manual/Items/Clinical-Problems/B/Burns>