

# The Utility of Preoperative Blood Screening Before Hip and Knee Arthroplasty

Sarah Shumborski,  
Benjamin Gooden, Lucy Salmon,  
Michael O'Sullivan,  
Leo Pinczewski  
Justin Roe, Kaka Martina,  
Sarthak Chopra, Colin Maclean,  
Matthew Lyons



Accepted for presentation at :

- Australian Orthopaedic Association Annual Scientific Meeting, Perth 2018
- Australian Knee Society, Broome 2018
- NSW AOA Branch Meeting, Hunter Valley 2018
- American Academy of Orthopaedic Surgeons Annual Meeting March 2019, Las Vegas, USA

Published ANZ Journal of Surgery, January 2020



NORTH SYDNEY ORTHOPAEDIC & SPORTS MEDICINE CENTRE



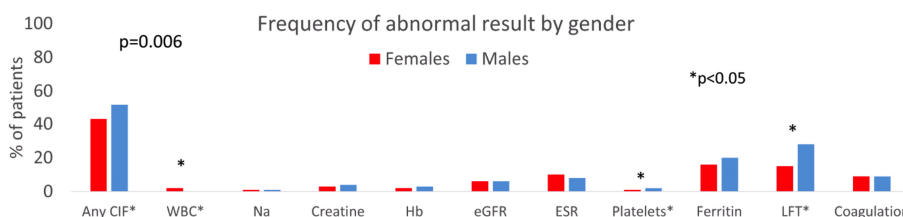
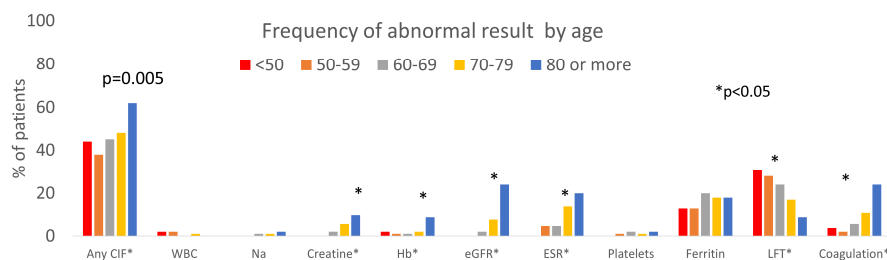
MATER HOSPITAL SYDNEY  
A FACILITY OF ST VINCENT'S HEALTH AUSTRALIA

**Introduction:** It is engrained in medical training that routine blood screening prior to arthroplasty is necessary for optimal patient care. There is little evidence to support their utility and the aggregate cost to the health system. The purpose of this study was to evaluate preoperative blood screening by identifying the frequency of an abnormal result and to examine the influence of age, gender and body mass index (BMI) on the frequency of abnormal blood pathology.

**Methods:** This is a retrospective review of 1000 patients from a single centre who underwent elective primary hip (THA) or knee arthroplasty (TKA) from 2015-2017. Abnormal blood results were identified and clinically relevant intervals were created for routine markers.

**Results:** 939 patients had available pathology results with 84% identified as having an abnormal result and 47% having a clinically important range (CIR).

Abnormal Test	% of patients
Any Clinically Important Factor	43
Liver Function Tests	21
Ferritin	18
ESR	9
Coagulation Studies	9
eGFR	6
Cr	4
Haemoglobin	2
Platelets	1
White Cell Count	1
Sodium	1
Albumin	0



Abnormal liver function tests (LFT) and ferritin were most common (Table 1). With increasing age, there was a significant increase in rates of abnormal CIR, renal dysfunction, abnormal haemoglobin and ESR (Figure 1). Males and patients with BMI > 40 had an increased rate of abnormal results, particularly LFTs (Figure 2).

**Conclusions:** With rising healthcare costs, responsible clinical practice includes developing strategies to reduce expenses without compromising patient care. The pur-

pose of this study was to identify a possible area in preoperative management in which cost could be reduced for patients undergoing TKA and THA.

Our study determined a high frequency of abnormal results, justifying routine blood screening prior to TKA and THA surgery, particularly for the elderly, males and obese patients

*This study was generously supported by  
The Friends of the Mater*



FRIENDS OF THE MATER