

# The Impact of a High-Risk Pre-Assessment Clinic on Pre-Operative Anaemia in Major Colorectal Surgery Patients

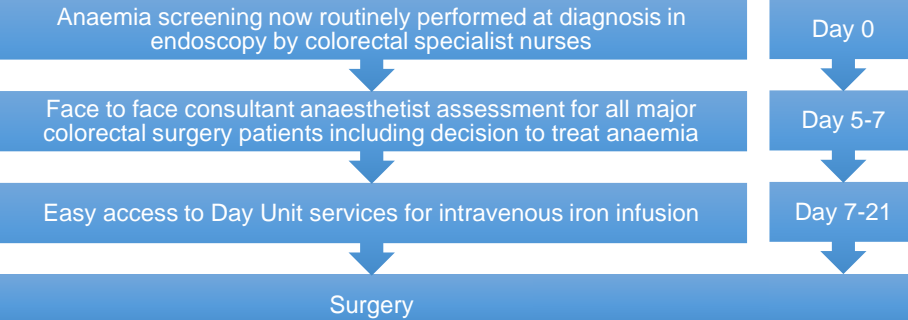
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## Introduction

The Perioperative Quality Improvement Programme (PQIP) lists perioperative anaemia as one of the top five national improvement opportunities for 2018-19 <sup>1</sup>. Pre-operative anaemia has an average incidence of 39.1% in major surgical patients <sup>2</sup> and 55% in colorectal patients <sup>3</sup>. It increases perioperative morbidity, mortality, and rates of blood transfusion <sup>2</sup>. A treatment algorithm for the investigation and optimisation of pre-operative anaemia has been proposed <sup>2</sup>. Patients should receive IV iron transfusion if surgery is due within six weeks and: <sup>2</sup>

- Ferritin <30 mg/L OR
  - Ferritin >30 mg/L but transferrin saturation <20% OR C-reactive protein >5 mg/L
- In February 2018, we introduced a high-risk pre-assessment clinic to optimise medical issues, including anaemia, for patients undergoing major colorectal surgery.

## Our Pathway



1) NIAA Health Services Research Centre. Perioperative Quality Improvement Programme. 2018. Available from: <https://pqip.org.uk/Files/Uploaded/PQIP%20Annual%20Report%202017-18.pdf> (accessed 25<sup>th</sup> March 2019)  
 2) Munting KE, Klein AA. Optimisation of pre-operative anaemia in patients before elective major surgery - why, who, when and how? *Anaesthesia*. 2019 Jan;74 Suppl 1:49-57  
 3) Munoz, M, Gomez-Ramirez, S, Campos, A, Ruiz, J, Liumbruno, GM. Pre-operative anaemia: prevalence, consequences and approaches to management. *Blood Transfusion* 2015; 13: 370–9

## Methods

A retrospective case note review of one hundred patients due to undergo major colorectal surgery was undertaken. This included fifty prior to the introduction of the clinic (Pre-Clinic), and fifty patients after its introduction (Post-Clinic). Twenty-one patients operated on for non-cancer related reasons were excluded. Anaemia was defined as haemoglobin <130 g/L.

## Results

	Pre-Clinic (n=37)	Post-Clinic (n=42)
Incidence of pre-operative anaemia	54%	52%
% of anaemic patients where ferritin investigated	55%	91%
% of anaemic patients with ferritin >30 mg/L where both T-sat and CRP levels investigated	0%	66%
% of anaemic patients with ferritin <30 mg/L receiving intravenous iron transfusion	0% (0/7)	88% (7/8)
% of anaemic patients with ferritin >30 mg/L but T-sat <20% OR CRP >5 mg/L receiving intravenous iron transfusion	N/A	66% (4/6)

## Conclusion

We have demonstrated significant improvements in the investigation and optimisation of pre-operative anaemia in accordance with the above treatment algorithm <sup>2</sup>. There remains further improvements to be made, particularly in the investigation and optimisation of those patients with ferritin levels >30 mg/L but abnormal T-sat and CRP.

## Total Number of IV Iron Transfusions in One Year Pre- and Post-Clinic

