A pre-operative anaemia service to avoid unnecessary blood transfusions

Pre-operative anaemia has been linked to an increased risk of 30-day post-operative mortality and is an independent risk factor for post-operative morbidity and peri-operative transfusion (Sarhane et al, 2013). National Blood Transfusion Committee (2014) guidance on avoiding unnecessary transfusion through better management of pre-operative patients and anaemia, recommends that services:

- Provide arrangements for the timely identification and correction of anaemia before elective surgery that is likely to involve significant blood loss;
- Develop and implement protocols for the management of patients taking anticoagulants and antiplatelet drugs that may increase the risk of bleeding;
- Avoid transfusion for patients with anaemia by using alternatives such as oral iron or intravenous iron.

Identifying the problem

At our trust patients diagnosed with anaemia pre-operatively were referred back to their GP for it to be managed before surgery, but we felt these patients were not treated effectively. We carried out a retrospective audit of those diagnosed with anaemia during their pre-operative assessment between July 2014 and July 2015 and identified 103 who could have benefited from pre-operative anaemia management. Eighty-six of these went on to have surgery, and 23 had a longer-than-average hospital stay due to post-operative complications and transfusions. A total of 24 patients were transfused, costing £10,488 (based on an average transfusion of 2.7 units per patient at £437); there were 22.5 excess bed days at an average cost of £146 per day (£3,285) and five patients had their surgery cancelled on the day. This group had 11 units of blood transfused and the complications experienced cost £18,287.

Our results confirmed that effective pre-operative management of anaemia could improve outcomes and safety and result in financial savings.

What we did

In June 2016 we set up a pre-operative anaemia service run by the pre-operative assessment nursing team; this aims to reduce transfusion rates and length of stay, and improve outcomes and surgical bed use. Patients are:

- Assigned a named nurse in the anaemia clinic who is available to support them and ensure they are informed about their anaemia and treatment options;
- Given dietary advice and a follow-up appointment to check their concordance and the effectiveness of the treatment given.

At any point during treatment they are able to contact their named nurse for advice. The pre-operative team also ensures patients are investigated for causes of their anaemia in primary care.

Outcomes

From 1 June 2016 to 1 December 2016 we identified 39 patients with iron-deficiency anaemia, who were assessed and treated with either oral (n = 26) or IV iron (n = 10). Three patients had an existing prescription of oral iron restarted. Establishing this service means we now provide a more streamlined and effective patient journey, with no increased length of stay, blood transfusions or cancellations to surgery.