Authors’ reply

We thank Bernd Froessler and colleagues, Axel Hofmann and colleagues, and Anastazia Keegan and colleagues for their comments. In the PREVENTT trial we addressed the association between preoperative anaemia and increased blood transfusion, hospital stay, morbidity, and mortality after surgery. We did not know whether these associations were causal, specifically whether intravenous iron could correct anaemia, mediating a reduction in the associated risks to patients.

Variation in blood transfusion practices within hospitals, nationally and internationally, is well recognised. PREVENTT trial sites were selected after compliance with the UK National Health Service Blood and Transplant guidelines. However, a randomised trial design with a double-blind intervention at multiple centres ensured fidelity of the trial protocol and balance of all baseline characteristics between the groups (receiving intravenous iron or placebo).

Our PREVENTT trial showed agreement with the trial by Spahn and colleagues, along with their agreement with the trial by Spahn and colleagues,3 along with their agreement with the trial by Spahn and colleagues. The PREVENTT protocol.4 Therefore, to assess the acceptability to patients in the PREVENTT trial sites were selected after compliance with the UK National Health Service Blood and Transplant guidelines. However, our PREVENTT trial1 high-risk surgical patients with iron deficiency or anaemia, and anaemia of chronic disease.5 Further work is needed to define iron deficiency that possibly responds to iron supplementation or anaemia of chronic disease that might respond to combination therapy.

A significant increase in haemoglobin concentrations was seen after surgery with supplementation of intravenous iron that might represent a better erythropoietic response to blood loss, which was associated with the novel finding of reduced readmissions to hospital for complications (including infection) and requires further investigation.

Routine testing of anaemia, investigation of causality, and directed therapy should be standard medical care for all patients with anaemia, not just those undergoing surgery. However, our PREVENTT trial1 highlights a need to better define iron deficiency. There is great variation in existing guidelines for diagnosing absolute or functional iron deficiency, inflammatory anaemia, and anaemia of chronic disease.6 Further work is needed to define iron deficiency that possibly responds to iron supplementation or anaemia of chronic disease that might respond to combination therapy.

A significant increase in haemoglobin concentrations was seen after surgery with supplementation of intravenous iron that might represent a better erythropoietic response to blood loss, which was associated with the novel finding of reduced readmissions to hospital for complications (including infection) and requires further investigation.

We thank Bernd Froessler and colleagues, Axel Hofmann and colleagues, and Anastazia Keegan and colleagues,3 along with their agreement with the trial by Spahn and colleagues,4 therefore, to assess the acceptability to patients in the PREVENTT trial. Protocol amendment v.15 Jan 14, 2014. https://preventt.lshtm.ac.uk/protocol-3/ (accessed Dec 8, 2020).

Nurman S, Kakusa K. Systematic review of guidelines for the diagnosis and treatment of iron deficiency anaemia using intravenous iron across multiple indications. Curr Med Res Open 2020; 36: 1/69–82.