

Haematologica
HAEMATOL/2017/169680
Version 2

Hemoglobin concentration, total hemoglobin mass and plasma volume
in patients: implications for anemia

James M. Otto, James O. M. Plumb, Eleri Clissold, Shriya Kumar,
Denis J. Wakeham, Walter Schmidt, Michael P.W. Grocott, Toby
Richards, and Hugh Montgomery

Disclosures: MG serves on the Medical Advisory Board of Sphere Medical Ltd. MG has received honoraria for speaking and/or travel expenses from Cortex GmbH (2008 & 2009). WS is a managing partner of the company "Blood tec GmbH", who provided the required equipment and expertise during this study for the measurement of haemoglobin mass using the optimized carbon monoxide rebreathing method. HEM consults for Deepmind Health on health technology, and is on the Council of the UK Intensive Care Society but is unaware of any direct or indirect conflict of interest with the contents of this paper or its related fields. TR is director of theironclinic.com, and has received speaker fees, honoraria and research funding from companies including Gideon Richter, Vifor Pharma Ltd and Pharmocosmos, for work related to anemia, blood transfusion and iron therapy. He is a board member of the Network for Advancement of Patient Blood Management, Haemostasis and Thrombosis (NATA). JMO received an Impact PhD Studentship part funded by University College London (UCL) and Vifor Pharma Ltd. This funding covered the timespan from February 2013 to January 2016 and totaled £32,534. JOMP received £9734.06 from the NIHR research management committee academic clinical fellow research project funding for this study. He was funded by the NIHR ACF programme for the duration of this study.

Contributions: H.E.M., T.R., M.G., and J.O. conceived the study. J.O., J.O.M.P., E.C., S.K., and D.W. assisted with data collection, with J.O. performing all statistical analyses. H.E.M., J.O. & J.O.M.P drafted the manuscript, to which T.R., M.G., W.S. then contributed. All authors read and approved the final version of the manuscript.