Final version

Transfusion

Blood transfusion

Clinical guideline

Appendices O-R

November 2015

Final version

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Appendix O: Research recommendations

O.1 Red blood cell thresholds and targets

What is the clinical and cost effectiveness of restrictive compared with liberal red blood cell thresholds and targets for patients with chronic cardiovascular disease?

Why this is important:

The literature suggests that there may be some evidence of harm with the use of restrictive Red Blood Cell thresholds in populations with coronary ischaemia at baseline. In this guideline a level of 80–100 g/litre was used for patients with acute coronary syndrome, but further studies are needed to determine the optimal transfusion threshold for patients with chronic cardiovascular disease.

Criteria for selecting high-priority research recommendations:

PICO question	**Population:** Patients with chronic cardiovascular disease in whom a decision is made to transfuse red cells. **Intervention and Comparison:** 'Liberal' and 'restrictive' transfusion triggers for red cell transfusion based on the pre-transfusion haemoglobin concentration (possibly 10g/dl for the 'liberal transfusion strategy' and 8g/dl for 'restrictive'). **Outcomes:** Primary outcome: RBC use from randomisation to hospital discharge (proportion of patients receiving red cell transfusion and number of units of red cells/transfused patient. **Secondary outcomes** 1. Use of non-RBC blood products post-randomisation (FFP; cryoprecipitate; platelets) 2. Mortality (hospital; 90 days) 3. HRQoL (90 days) 4. ICU and hospital length of stay
Importance to patients or the population	The research could be used to formulate evidence-based guidance for clinical staff that in turn will assist in reducing donor exposure to patients by giving specific transfusion triggers for clinical staff. By promoting a consistent approach nationally this would improve patient safety and allow benchmarking of patient outcomes.
Relevance to NICE guidance	The results would ensure that implementation of specific red blood cell thresholds based on evidence allowing improved clinical and cost effectiveness.
Relevance to the NHS	The study would provide evidence to guide clinicians on use of either high or low red cell thresholds across the NHS. It would also assist in showing which threshold best supports patient safety and best outcomes. More optimum use of blood products would ensure these are available for those in whom greatest clinical benefit occurs. Variation in clinical practice and patient care in relation to blood product transfusion will be reduced.

National priorities	-
Current evidence base	The overall quality of current clinical evidence was very low in being inconsistent with each paper aiming for specific haemoglobin targets. There was high risk of bias found.
Study design	Randomised Controlled Trial in patients with chronic cardiovascular disease. Patients randomised to low thresholds vs. high thresholds for red cell transfusions. Studies of specific patients groups such as surgical and medical should be collated and analysed, areas of research could include patients who have undergone similar surgical procedures or the same underlying medical conditions. A comparison should be undertaken by randomly selecting low/high thresholds targets and reviewing outcomes e.g. hospital stay, complications etc. Work to specific guideline for each group.
Economic considerations	If the findings show low haemoglobin thresholds and targets are effective this will mean financial savings of 1 or 2 units of red cells per patient.
Feasibility	This research should be completed within a reasonable timescale. May have to consider ethical issues if using high and low thresholds most of the research papers used specific target haemoglobins for their patient groups.
Equalities	No specific equality issues identified
Importance	None.

O.2 Electronic Decision Support

What is the clinical and cost effectiveness of electronic decision support systems compared with current practice in reducing inappropriate blood transfusions, overall rates of blood transfusion and mortality?

Why this is important:

The clinical evidence evaluating electronic decision support systems is of low quality. There is also no evidence on their cost effectiveness within the NHS, and this is particularly important because of the potentially high setup and running costs of these systems. An evaluation of the clinical and cost effectiveness of electronic decision support systems for blood transfusion is needed. Important outcomes are rates of inappropriate transfusion, overall rates of transfusion, and patient safety outcomes including mortality and transfusion errors. Secondary outcomes should include length of hospital stay and quality of life; and pre-transfusion haemoglobin levels, platelet count and coagulation results.

PICO question	**Population:** Patients in whom a request for red cells or other blood products is made **Intervention:** Electronic decision support system specific to blood transfusion **Comparison:** Existing blood transfusion request procedures (excluding electronic decision support systems) **Outcomes:** Inappropriate blood transfusion; overall rates of blood transfusion; mortality; hospital length of stay; quality of life; pretransfusion haemoglobin level (for red cell transfusion), pretransfusion platelet count (for platelet transfusion), coagulation results (for plasma and coagulation factor transfusion)
Importance to patients or the population	Reduction in inappropriate blood transfusion will reduce risk to patients, and improve clinical outcomes. Reduction in overall use of blood products will reduce costs to the NHS, and increase availability for the population. Cost-effective systems will reduce cost to the NHS as well as improve patient outcomes.
Relevance to NICE guidance	The results would ensure that implementation of electronic decision support was based on evidence of clinical and cost effectiveness.
Relevance to the NHS	The study would provide evidence to guide whether the electronic decision support systems for blood transfusion should be introduced across the NHS. The benefits for patients and the health service in terms of improved outcomes and safer use of blood products would result in more optimum use of blood products and greater consistency between individual patients and clinicians. More optimum use of blood products would ensure these are available for those in whom greatest clinical benefit occurs. Variation in clinical practice and patient care in relation to blood product transfusion will be reduced.
National priorities	-
Current evidence base	The overall quality of current clinical evidence was very low. No evidence relating to quality of life or the impact on pretransfusion haemoglobin, platelet, or coagulation

	tests was identified. No evidence concerning the cost effectiveness of electronic decision support systems was identified.
Study design	A variety of study designs may be appropriate. These could include parallel group randomised trials, cluster randomised trials, or other forms of evaluation. Studies should include all patients in whom blood transfusions occur, and may need to specifically account for important subgroups, for example urgent versus non-urgent transfusions, transfusions of red cells or platelets or plasma, and specific NHS settings.
Economic considerations	An electronic decision support system would be implemented at hospital/blood bank level. Economic evaluations need to account for an institution level perspective in addition to an individual patient perspective. Cost effectiveness analysis needs to acknowledge that subsequent implementation would require investment within multiple institutions within the NHS.
Feasibility	This research should be completed within a reasonable timescale. There are technical issues over trial design but it is unlikely there would be ethical problems. Specific consideration of the consent procedures required is relevant, as individual patient consent is unlikely to be feasible.
Equalities	No specific equality issues identified
Other comments	None.

O.3 Post-operative cell salvage following cardiac surgery

For patients having cardiac surgery with a significant risk of post-operative blood loss, is post-operative cell salvage and reinfusion clinically and cost effective in reducing red blood cell use and improving clinical outcomes, compared with existing practice?

Why this is important:

There was some evidence for benefit from post-operative cell salvage, but the quality was low. Reducing blood loss during cardiac surgery may reduce the risk of complications. However, post-operative cell salvage carries additional cost. Studies are needed to determine whether post-operative cell salvage is more clinically and cost effective than existing practice for patients having cardiac surgery with a significant risk of post-operative blood loss. Important outcomes should include the use of red blood cells and other blood components, clinical outcomes and quality of life.

PICO	**Population:** Patients undergoing coronary artery bypass surgery and/or valvular surgery Patients in whom overall perioperative blood loss is expected to be >500mL Patients considered to be at risk of significant post-operative blood loss based on pre-operative and/or intraoperative factors **Intervention:** The intervention is a device, namely the use of a post-operative cell salvage system that collects shed blood from post-operative chest drains, washes, and haemoconcentrates the RBCs, and re-infuses via a venous cannula. All patients should receive intraoperative interventions to minimise blood loss and RBC transfusion according to NICE guidance, namely the use of tranexamic acid and, for selected cases, intraoperative cell salvage. All patients will receive RBC transfusions during the post-operative ICU period according to a protocol consistent with recommendations in the NICE guidance The intervention groups will receive post-operative cell salvage from chest drains, with re-infusion following RBC processing until bleeding has stopped or a clinical decision to discontinue post-operative cell salvage is made **Comparator:** All patients should receive intraoperative interventions to minimise blood loss and RBC transfusion according to NICE guidance, namely the use of tranexamic acid and, for selected cases, intraoperative cell salvage. All patients will receive RBC transfusions during the post-operative ICU period according to a protocol consistent with recommendations in the NICE guidance The comparator group will NOT receive post-operative cell salvage from chest drains. **Outcomes:** Primary outcome: RBC use from randomization to hospital discharge Secondary outcomes Haemoglobin concentration at ICU discharge Use of non-RBC blood products post-randomization (FFP; cryoprecipitate; platelets) Reoperation rate

	Mortality (hospital; 90 days) HRQoL (90 days) ICU and hospital length of stay A cost-effectiveness analysis should be incorporated.
Study Design	To define the at risk population a systematic review of available literature to define risk factors for post-operative risk of bleeding should be undertaken If necessary, new research to define the at risk population, for example to develop a risk score, should inform the RCT design The main trial should be a randomized parallel group design, with concealment of outcome assessors for the outcomes if feasible
Timeframe	No specific timeframe
Importance to patients or the population	Cardiac surgery utilises a high proportion of the UK blood supply. Wide variation in blood use remains between individual patients, surgeons, and hospitals. RBC transfusion has been associated with adverse outcomes in cardiac surgery, but it is uncertain whether this association is causative. NICE guidance will recommend tranexamic acid is offered to all patients undergoing cardiac surgery in whom blood loss is expected to be greater than 500 mLs. The consideration of intraoperative cell salvage for cases in whom large blood losses are expected will also be recommended based on clinical judgement. Some patients continue to lose blood from chest drains post-operatively, and a small proportion has major blood losses, which may require reoperation. Post-operative cell salvage could reduce RBC requirements, and/or improve post-operative haemoglobin concentration in patients, and may reduce other complications in patients who suffer major bleeding (for example: coagulopathy, hypothermia). These benefits may reduce complications, ICU and hospital length of stay, RBC and other blood product use, and HRQoL.
Relevance to NICE guidance	The NICE systematic review suggested that post-operative cell salvage may be clinically and cost-effective. However, the GDG recognised this was based on a small number of studies, and in patients in whom other recommended therapies, for example tranexamic acid, may not have been used. Post-operative salvage is available, but evidence to guide whether and when it should be used is weak. This question is of medium interest and it will inform the use of an available therapy and enable future updates to provide recommendations for this technology
Relevance to the NHS	If post-operative cell salvage is clinically and cost-effective, its implementation would benefit patients and the NHS, through reduced cost and reducing use of RBCs. Cardiac surgery is a costly and high volume procedure in the NHS. High quality evidence would enable business plans to be developed to support the introduction of post-operative cell salvage in an equitable

	manner to patients undergoing cardiac surgery
National priorities	-
Current evidence base	The NICE systematic review found possible benefit from post-operative cell salvage, but problems with the evidence base were: • The quality of the evidence was low • The evidence was not obtained in patient groups in whom other NICE guidance was implemented, namely the use of tranexamic acid, intraoperative cell salvage, and the use of restrictive transfusion triggers • The target population was not clearly defined
Equality	-
Feasibility	This research is feasible within the NHS; the sample size is likely to be achievable within a high volume surgery, and there are no particular ethical issues. If post-operative cell salvage is shown to be cost-effective the cost of a trial is likely to be justified given the volume of this type of surgery each year. If a trial finds no benefit, it will provide high quality evidence that existing use of post-operative cell salvage should be reviewed.
Other comments	It is likely that a manufacturer of post-operative cell salvage equipment would provide the excess treatment costs for a trial.

O.4 Fresh frozen plasma for patients with abnormal haemostasis who are having invasive procedures or surgery

What dose of fresh frozen plasma is most clinically effective at preventing bleeding in patients with abnormal haemostasis who are having invasive procedures or surgery?

Why this is important

Audits have shown that fresh frozen plasma is widely used for non-bleeding patients in the intensive care unit (ICU) and many other clinical settings. There is a large variation in dose and no real evidence base to guide practice. Fresh frozen plasma transfusions may cause adverse outcomes in people who are critically ill, including transfusion-related acute lung injury, transfusion-related circulatory overload, multi-organ failure and an increased risk of infections.

A multicentre study (2011)[425] of ICUs in the UK showed that 12.7% of patients admitted to the ICU received fresh frozen plasma. The median dose was 10.8 ml/kg, but doses varied widely (range 2.4–41.1 ml/kg). This study showed that a high proportion of fresh frozen plasma transfusions had unproven clinical benefit. [312,426,433]

Better evidence from clinical trials could significantly alter how fresh frozen plasma is used, and in particular ensure that clinically effective doses are given to patients.

PICO	**Population** Patients with abnormal coagulation (either defined by lab testing and/or near patient global tests of haemostasis) undergoing planned surgery or interventional procedure such as venous and/or arterial cannulation, drain insertion. The clinician in charge of the patient has decided to correct the coagulation abnormality with FFP transfusion. The coagulation abnormalities for inclusion and list of procedures require clear definition Either gender; age >18years Exclusion criteria : patients with active acute bleeding; patients undergoing procedures involving certain critical sites such as the central nervous system. **Intervention:** Several potential designs are possible. Research is needed to compare the clinical effectiveness and safety of current consensus-based doses of FFP (for example 15ml/kg) versus a higher dose more likely to correct coagulation abnormalities (for example 30ml/kg) **Comparator:** As above: current consensus-based doses (for example 15ml/kg) versus a higher dose more likely to correct coagulation abnormalities (for example 30ml/kg) Coagulation abnormalities as defined by POCT viscoelastometric techniques together with laboratory based coagulation testing where latter results available **Outcome:** Primary outcome This should be a measure of bleeding complications. This could use a composite measure, for example including bleeding at the site of intervention/surgery and/or the requirement for red cell transfusions to correct blood loss. Secondary outcomes These could include: Coagulation parameters pre and post adminstration for either FFP dose and correction achieved Number of transfused red cell units associated with the procedure Length of ICU stay (if ICU-based study) and hospital stay. Transfusion related adverse events, specifically TRALI and TACO. Other adverse events - acute renal failure, sepsis, and allergic complications. Early and late mortality. Costs of blood and components transfused
Study Design	The trial is likely to have short recruitment windows and be undertaken under urgent/emergency situations. Several study designs could be considered: A pragmatic design with the population based in part on the responsible clinician's decision to correct coagulopathy using FFP transfusion will be relevant to NHS practice, reflect current variation in decision-making, and include the "uncertainty principle" in enrolment. Parallel group randomised controlled study of two or three FFP doses Cluster randomised trial of ICUs or hospitals where a specific transfusion policy is applied during the trial. Cross over designs could be considered.

Importance to patients or the population	Many patients currently receive FFPfor prophylaxis with much variation in dose. The risk of this practice, in the absence of any proven clinical benefit, is potentially significant. Evidence based guidance, based on high quality research is likely to improve guidance on the optimum dose of FFP needed to prevent bleeding . Key critical outcomes include mortality, infection, and altered length of stay. As about 15% of all ICU patients receive FFP, the impact on a population level is potentially high.
Relevance to NICE guidance	High. The current NICE guidance does not have a practice recommendation around the dose of FFP for prophylaxis because the quality of evidence was very low. This is an important gap that needs to be addressed to guide clinical practice.
Relevance to the NHS	The result of this study would influence management of patients on ICU and in other areas who have coagulation abnormalities needing FFP transfusion prior to surgery or intervention. Evidence based administration of FFP could decrease adverse events and improve patient outcomes and this also has a potential to reduce health care costs
National priorities	-
Current evidence base	Lack of high quality studies in particular randomised controlled trials.
Equality	-
Feasibility	This research is feasible , for example through the NIHR critical care network.
Other comments	-

Appendix P: Excluded clinical studies

P.1 Erythropoietin and iron

Study	Exclusion reason
Adamson 1996[6]	Systematic review: literature search not sufficiently rigorous. Systematic review: methods are not adequate/unclear
Andrews 1997[19]	Not review population. Non-anaemic patients
Atabek 1995[26]	Incorrect study design
Beris 2008[37]	Systematic review: study designs inappropriate
Bhandal 2006[41]	Non -surgical patients
Braga 1998[55]	Letter to the editor
Breymann 1996[57]	Includes patients with vaginal delivery and c-section.
Cherian 2013[88]	Systematic review- checked references
Chua 2014[98]	Abstract
Corwin 2002[109]	Intensive care patients not about transfusion during surgery
Corwin 2004[107]	Systematic review: study designs inappropriate
Corwin 2007[108]	Intensive care patients. not about transfusion in surgery
Cuenca 2007[114]	Incorrect study design
Del campo 1982[123]	Incorrect study design
Duh 2008[132]	Systematic review is not relevant to review question or unclear PICO
Froessler 2012[154]	Systematic review- checked references
Froessler 2013[153]	Systematic review- checked references
Goodnough 1994[173]	Incorrect population of interest- autologous blood donors
Jaspers 2014[220]	EPO after allogeneic haematopoietic cell transplantation
Jeong 2014[221]	Incorrect study design
Krafft 2011[247]	Postpartum women. Mentions but does not stratify between spontaneous. caesarean and operative vaginal deliveries
Keating 2015[233]	Narrative review
Lee 2014[256]	Incorrect study design
Lin 2013[266]	Systematic review- checked references
Maclaren 2004[281]	Systematic review is not relevant to review question or unclear PICO
Mercuriali 1994[294]	Incorrect population (autologous blood donation)
Monk 1999[300]	Inappropriate comparison. Incorrect interventions
Moonen 2008[301]	Incorrect interventions
Mudge 2009[309]	Incorrect population of interest- kidney transplant patients
Mudge 2012[310]	Incorrect population of interest- kidney transplant patients
Munoz 2006[316]	Incorrect study design
Munoz 2008[314]	Systematic review: study designs inappropriate; methods are not adequate/unclear
Pajoumand 2004[344]	Systematic review is not relevant to review question or unclear PICO
Pfeffer 2009[355]	No surgery patients
Pieracci 2009[357]	Intensive care patients. not about transfusion during surgery
Reim 2014[369]	Study protocol

Rowlands 2013[377]	Study protocol
Shimpo 1994[396]	In Japanese
Singh 2006[401]	No surgery patients
Sowade 1998[419]	Systematic review is not relevant to review question or unclear PICO
Tran 2014[452]	Narrative review - checked references
Van loo 1996[465]	Incorrect population of interest- kidney transplant patients
Walpoth 1996[476]	Incorrect interventions
Watanabe 1992[488]	Autologous blood donation
Weber 2005[491]	Allogeneic and autologous blood transfusion. Unable to clearly separate results between autologous and allogeneic transfusions.
Yang 2011[507]	Systematic review: literature search not sufficiently rigorous
Yazicioglu 2001[510]	Incorrect population of interest- autologous blood donors

P.2 Alternatives

Study	Exclusion reason
Abdullah 2012[4]	Conference abstract
Adler ma 2011[7]	Incorrect interventions- systematic review
Aggarwal 2012[8]	Does not meet the inclusion criteria
Alipour 2013[10]	No outcomes of interest
Allanki 2009[11]	Abstract
Almeida 2013[12]	Non-randomized prospective cohort study
Alshryda 2011[14]	Incorrect interventions- systematic review
Alshryda 2014[15]	Meta-analysis
Aluri 2012[16]	Abstract
Antinolfi 2010[20]	Conference abstract
Antonopoulou 2013[21]	Abstract
Aoki 2012[23]	Incorrect study design
Badeaux 2014[28]	Systematic review of IV TXA in patients undergoing spine surgery. All references checked.
Baldus 2010[30]	Incorrect study design
Barbara 2010[31]	Abstract
Basta 2012[32]	Systematic review: methods are not adequate/unclear
Bhavana 2013[42]	Abstract
Blatsoukas 2010[47]	Not RCT
Boenigk 2011[48]	Conference abstract
Borisov 2011[51]	Conference abstract
Bouali 2011[52]	Conference abstract
Bracey 2009[53]	Conference abstract
Briganti 2011[58]	Conference abstract
Cacheux 2012[64]	Conference abstract
Campbell 2012[67]	Cell salvage plus heparin vs blood returned unprocessed

Cavolli 2011[81]	Abstract
Celebi 2006[82]	Incorrect interventions
Chan 2013[83]	Systematic review: methods are not adequate/unclear
Chen 2008[85]	No relevant outcomes reported
Chen 2013[87]	Systematic review: methods are not adequate/unclear
Chen 2013[86]	Objective/outcomes of the study not relevant
Cheriyan 2013[89]	Meta-analysis
Cholette 2011[92]	Abstract
Cholette 2012[93]	Abstract
Cholette 2013[94]	Mean age of patients around 4 months
Christabel 2014 [96]	No relevant outcomes reported
Chu 2013[97]	Non-randomised study
Crash-2 collaborators 2011[102]	Population out of scope (trauma)
Dadure 2011[116]	Incorrect age group
Dalmau 2000[117]	Not review population
Damgaard 2010[118]	No relevant outcomes reported
Dhariwal 2014 [127]	Systematic review of use of ICS in caesarean section. Only one RCT was included in this review and this study is included in our evidence review.
Duran 2003[133]	Not in English
Elgafy 2010[138]	Systematic review: study designs inappropriate
Espahbod 2014[139]	Meta-analysis
Faraoni 2011[143]	Conference abstract
Faraoni 2012[145]	Paediatric cardiac surgery - does not include all types of sur
Faraoni 2014 A[144]	Systematic review- does not meet our protocol criteria entirely
Fu 2013[155]	Total knee arthroplasty - does not include all types of sur
Gandhi 2013[158]	Total knee and hip arthroplasty -does not include all types of surgeries
Garg 2012[159]	Conference abstract
Gautam 2011[160]	Incorrect study design
Gautam 2013[161]	Systematic review: study designs inappropriate. Incorrect study design
Gill 2008[165]	Spine surgery -no other surgeries included
Golab 2008[168]	Incorrect age group
Gomez 2012[170]	Conference abstract
Goobie 2011[171]	Incorrect age group
Gourlay 2013[177]	Abstract
Goz 2013[178]	Abstract
Grassin-delyle 2013[179]	Incorrect interventions
Grundsell 1984[185]	Does not meet inclusion criteria
Guay 2006[186]	Incorrect age group

Gurusamy 2011[189]	Incorrect population
Haien 2013[190]	Systematic review: methods are not adequate/unclear
Halder 2013[191]	Incorrect study design
Hashimoto 2007[193]	Cell salvage compared to autologous blood transfusion
Hassani 2012[194]	Paper not in English
Hoelscher 2011[201]	Conference abstract
Hogan 2014[202]	Abstract
Huang 2014[206]	Meta-analysis
Huet 1999[207]	Systematic review: methods are not adequate/unclear
Hutton 2012[209]	Conference abstract
Hutton 2012[208]	Systematic review: methods are not adequate/unclear
Ipema 2012[213]	Systematic review: study designs inappropriate
Jahanshahi 2014[217]	No outcomes of interest
Jairath 2014[218]	Abstract
Jimenez-yuste 2002[222]	Incorrect interventions
Kashefi 2012[230]	Paper not in English
Kaste 1979[231]	Use of TXA subarachnoid haemorrhage -not relevant population
Kelley 2014[234]	Retrospective case control study
Kim2014A[240]	Systematic review
Klinck 1993[241]	Conference abstract
Konig 2013[245]	Non-randomised study
Kristensen 1992[248]	Excluded from Cochrane review for insufficient data
Kumar 2014[249]	Systematic review- includes non-randomised studies
Leelahanon 2002[259]	Conference abstract
Li 2013[263]	Meta-analysis
Li 2014 [262]	Meta-analysis of autologous blood transfusion drainage vs. no drainage in patients undergoing primary THA. All references checked.
Lian 2011[264]	Not in English
Lin 2011[268]	Incorrect study design
Liu 2010[269]	Not in English
Lundin 2013[275]	Abstract
Ma 2010[279]	Abstract
Macgillivray 2011[280]	Inappropriate comparison
Maniar 2012[284]	Control group not part of randomisation
Markar 2012[285]	Systematic review: methods are not adequate/unclear
Martinez-sanz 2011[287]	Conference abstract
Mason 2011[289]	Incorrect study design
Matkovic 2010[290]	Abstract
Meybohm 2013[296]	Systematic review: study designs inappropriate

Miao 2014[297]	Single-center, retrospective study
Moguilevitch 2011[298]	Abstract
Molloy 2007[299]	Incorrect interventions
Moore 2011[302]	Abstract
Morales 2013[303]	Abstract
Moret 2006[304]	Conference abstract
Morgenschweis 2011[306]	Abstract
Munoz 2013[317]	Retrospective review
Munoz 2014[315]	Before and after cohort study
Ngaage 2010[327]	Systematic review: study designs inappropriate. Incorrect interventions
Nicolai 2004[329]	Inappropriate comparison
Offierski 2013[335]	Conference abstract
Oishi 1997[337]	Inappropriate comparison
Ozal 2002[340]	Incorrect interventions
Panteli2013[348]	Systematic review- check references
Patel 2014[352]	Incorrect interventions
Peitsidid 2014 [354]	Systematic of TXA in patients with menorrhagia due to uterine fibroids (Incorrect population)
Proctor 2011[358]	Conference abstract
Prokopchuk-gauk 2012[359]	Conference abstract
Pundir 2013[360]	Systematic review
Risch 2000[373]	Not in English
Rybo 1972[378]	Not relevant surgery- conization
Sasanuma 2011[382]	Incorrect interventions
Schouten 2009[387]	Inappropriate comparison
Shantikumar 2011[392]	Systematic review: methods are not adequate/unclear
Shen 2013[394]	Abstract
Shimizu 2011[395]	Upto 40% of children in both groups less than 1 year of age
Shulman 1998[398]	Inappropriate comparison
Silva 2013[399]	Retrospective cross-sectional study
Sinclair 2009[400]	Systematic review: methods are not adequate/unclear
Singh 2010[403]	Incorrect study design
Song 2013[418]	Craniosystosis -no other surgeries included
Song 2013[417]	Orthognathic surgeries- other types of surgeries not included
So-Osman 2014 A[414]	Reports combined results for (ICS+PCS)+PCS as AUTO group; does not meet protocol
So-Osman 2014B[411]	Abstract
Specchiulli 2011[420]	Conference abstract
Sukeik 2011[435]	Orthognathic surgery- not all surgeries included
Sun 2008[436]	Systematic review: methods are not adequate/unclear

Taj 2014[437]	No outcomes of interest
Tan2013[438]	Meta-analysis
Thomassen 2011[442]	Abstract
Toda 2013[449]	Conference abstract
Vacharaksa 2002[461]	Incorrect interventions
Vela 2012[468]	Conference abstract
Wang 2009[483]	Systematic review: methods are not adequate/unclear
Wardrop 2012[485]	Conference abstract
Washington 2009[487]	Abstract
Waters 2012[490]	Systematic review: methods are not adequate/unclear
Weltert 2013[493]	Inappropriate comparison
Williams 2009[502]	Abstract
Yagi 2012[504]	Incorrect study design
Yang 2012[508]	Systematic review: methods are not adequate/unclear
Yang 2013[505]	Systematic review: methods are not adequate/unclear
Yassen 1993[509]	Not review population
Yutthakasemsunt2013[512]	Incorrect population- non-surgical patients with traumatic brain injury
Zaporozhan 2013[515]	Conference abstract
Zhang 2012[516]	Systematic review: methods are not adequate/unclear
Zhang 2014 [517]	Systematic review of TXA in patients undergoing TKA. Checked references.
Zhaohui 2014 [519]	Incorrect comparisons- TXA +epinephrine vs. Epinephrine
Zhaoyu 2014 [518]	Meta-analysis of TXA in patients undergoing primary TKA. All references checked.
Zheng 2000[520]	Conference abstract
Zhou 2013[521]	Systematic review: methods are not adequate/unclear
Zhu 2010[522]	Conference abstract

P.3 Red blood cells RBC Targets

Study	Exclusion reason
Alvarez 2001[17]	Review article
Bellomo 2001[35]	Abstract
Berns 2010[38]	Incorrect study design. Narrative review
Bracey 1999[54]	Incorrect interventions
Carson 1998[73]	Narrative review
Carson 1998[74]	Incorrect interventions. Inappropriate comparison
Carson 2002[77]	Systematic review conducted in 2002 (all relevant references noted)
Carson 2011[78]	Incorrect interventions

Carson 2012[76]	clinical practice guideline
Carson 2013[75]	Incorrect interventions
Colomo 2008[103]	Incorrect interventions
De gast-bakker 2013[122]	Incorrect interventions
Foss 2009[150]	Incorrect interventions
Grover 2006[184]	Incorrect interventions
Hardy 2003[192]	Narrative review
Hebert 2000[196]	Review article
Hogshire 2013[203]	Literature review
Holst 2013[205]	Incorrect interventions
Jairath 2013[219]	Incorrect interventions
Johnson 1992[224]	Incorrect interventions
Karam 2011[228]	Incorrect interventions
Kennedy 2002[235]	Incorrect interventions
Lum 1997[274]	Incorrect study design
Napolitano 2004[325]	Narrative review
Nielsen 2012[330]	Incorrect interventions
O'hara 1999[334]	Review of medical records. Incorrect study design
Palmieri 2007[345]	Incorrect study design
Parker 2013[349]	Incorrect interventions
Rosland 2014[374]	Cohort study
Rouette 2010[376]	Incorrect interventions
Shehata 2012[393]	Incorrect interventions
Singh 2008[402]	Incorrect study design. Critical review
So-osman 2010[412]	Incorrect interventions
So-osman 2013[413]	Incorrect interventions
Strippoli giovanni 2006[434]	Only includes patients with chronic kidney disease
Tay 2011[439]	Protocol for study
Valeri 1998[464]	Article
Vichinsky 1995[471]	Patients with haemoglobinopathies
Viele 1994[472]	Literature review
Wali 2003[475]	Patients with haemoglobinopathies
Walsh 2013[478]	Incorrect interventions
Wang 2013[484]	Includes only upper GI bleeding
Webert 2008[492]	Incorrect interventions
Whyte 2011[496]	Infants

Willems 2010[500]	Sub group analysis of cardiac surgery patients in TRIPICU study (Lacroix 2007 which has been included)

P.4 RBC Doses

Study	Exclusion reason
Arslan 2004[25]	Incorrect interventions
Carson 2013[75]	Incorrect interventions
Cooper 2011[105]	Incorrect interventions
Lightdale 2012[265]	Incorrect study design
Parker 2013[349]	Incorrect interventions
Shehata 2012[393]	Incorrect interventions
Slight 2008[407]	Incorrect interventions
Smith 2013[409]	Review- checked references
Walsh 2013[478]	Incorrect interventions
Wang 2013[484]	Incorrect interventions

P.5 Platelets

P.5.1 Platelet thresholds and targets

Study	Exclusion reason
Callow 2002[65]	Incorrect study design
Cameron 2007[66]	Incorrect study design
Goodnough 2002[172]	Abstract
Heddle 2009[198]	Incorrect interventions
Khan Assir 2013[237]	Incorrect interventions
Klumpp 1999[243]	Incorrect interventions
Nevo 2007[326]	Incorrect study design
Razzaghi 2012[366]	Only includes patients with upper GI bleeding
Rebulla 1996[367]	conference abstract
Sensebe 2005[389]	Incorrect interventions
Solomon 1978[416]	Incorrect interventions
Stanworth 2004[423]	This Cochrane review has been updated in 2012
Tinmouth 2002[446]	Incorrect interventions
Tinmouth 2004[447]	Incorrect interventions
Wandt 1995[480]	Incorrect study design. conference abstract
Wandt 1998[479]	Incorrect study design
Wandt 2009[481]	conference abstract
Zahur-ur-rehman 2002[513]	Incorrect interventions

Platelet targets

Study	Exclusion reason
Callow 2002[65]	Incorrect interventions
Cameron 2007[66]	Incorrect interventions
Diedrich 2005[128]	Incorrect interventions
Estcourt 2012[141]	Incorrect interventions

Goodnough 2002[172]	Incorrect interventions
Heckman 1997[197]	Incorrect interventions
Heddle 2009[198]	Incorrect interventions
Khan Assir 2013[237]	Incorrect interventions
Klumpp 1999[243]	Incorrect interventions
Nevo 2007[326]	Incorrect interventions
Razzaghi 2012[366]	Incorrect interventions
Rebulla 1996[367]	Incorrect interventions
Rebulla 1997[368]	Incorrect interventions
Sensebe 2005[389]	Incorrect interventions
Stanworth 2004[423]	Incorrect interventions
Stanworth 2010[428]	Incorrect interventions
Stanworth 2013[429]	Incorrect interventions
Tinmouth 2002[446]	Incorrect interventions
Tinmouth 2004[447]	Incorrect interventions
Wandt 1995[480]	Incorrect interventions
Wandt 1998[479]	Incorrect interventions
Wandt 2009[481]	Incorrect interventions
Wandt 2012[482]	Incorrect interventions
Zahur-ur-rehman 2002[513]	Incorrect interventions
Zumberg 2002[525]	Incorrect interventions

P.5.2 Platelet doses

Study	Exclusion reason
Ackerman 2000[5]	Incorrect interventions
Cid 2007[99]	Systematic review: methods are not adequate/unclear
Estcourt 2014[142]	Protocol for Cochrane review
Herman 1995[199]	Abstract
Josephson 2009[225]	Abstract
Kaufman 2015[232]	Secondary analysis of PLADO study. The study examined the frequency of transfusion related adverse events (TRAE) and whether the risk of TRAEs varied depending on the platelet characteristics.
Klumpp 1995[242]	Abstract
Klumpp 1999[243]	Crossover study
Lu 2011[272]	Abstract
Lu 2013[273]	Abstract
Murphy 2003[320]	Inappropriate comparison. not randomised to compare platelet doses
Murphy 2006[321]	Inappropriate comparison. not randomised to compare platelet dose
Norol 1995[332]	Abstract
Pedrazzoli 1997[353]	Abstract
Sahin 2013[379]	Abstract
Schiffer 1976[384]	Incorrect interventions
Schiffer 1976[385]	Incorrect interventions

Slichter 2005[406]	Incorrect interventions
Slichter 2006[405]	Narrative paper; background and rationale for PLADO trial
Slichter 2009[404]	Abstract
Stanworth 2004[423]	Systematic review; updated in 2012 (Estcourt 2012)
Steffens 2002[431]	Inappropriate comparison
Tinmouth 2002[446]	Abstract
Tinmouth 2003[448]	Systematic review: methods are not adequate/unclear
Triulzi 2009[455]	Abstract
Triulzi 2012[456]	Secondary analysis of Slichter 2010; outcomes not relevant to protocol
Van rhenen 2003[466]	Incorrect interventions
Wandt 2009[481]	Abstract

P.6 FFP

P.6.1 FFP thresholds and targets

Study	Exclusion reason
Casbard 2004[79]	Systematic review is not relevant to review question or unclear PICO
Dara 2005[119]	Incorrect study design
Doussau 2014[130]	Incorrect interventions
Levy 2011[261]	Conference abstract
Muller 2011[313]	Incorrect interventions
Stanworth 2004[421]	Systematic review is not relevant to review question or unclear PICO
Stanworth 2006[422]	Narrative review
Stanworth 2007[424]	Systematic review is not relevant to review question or unclear PICO
Stanworth 2011[426]	Incorrect study design
Tinmouth 2008[445]	Conference abstract
Williamson 1999[503]	Incorrect interventions

P.6.2 FFP doses

Study	Exclusion reason
Abdel-wahab 2006[3]	Incorrect interventions
Anwar 2012[22]	conference abstract
Besandre 2012[40]	Conference abstract. Full paper not published so far.
Boldt 1989[50]	Not in English
Carino 2009[71]	conference abstract
Casbard 2004[79]	Systematic review is not relevant to review question or unclear PICO
Despotis 1994[126]	Incorrect interventions
Dzik 2004[136]	Narrative review
Khan 2007[238]	Incorrect interventions
Labarinas 2013[251]	Literature review

Lauzier 2007[254]	Inappropriate comparison. Incorrect interventions
Lerner 2000[260]	Incorrect interventions
Levy 2011[261]	Incorrect interventions. conference abstract
Matsumoto 2007[291]	Incorrect interventions. Inappropriate comparison
Motta 2014[308]	Neonates
Muller 2011[313]	Study protocol
Noddeland 2002[331]	Incorrect interventions. Inappropriate comparison
Puronen 2009[361]	Incorrect interventions. conference abstract
Sezik 2014[390]	Incorrect study design.
Stanworth 2004[421]	Not relevant comparisons. References noted. Incorrect interventions
Stanworth 2006[422]	Literature review
Stanworth 2007[424]	Review article
Stanworth 2007[427]	Literature review
Tollofsrud 2003[451]	Inappropriate comparison. Incorrect interventions
Trimble 1964[453]	Incorrect interventions. Inappropriate comparison
Tripodi 2012[454]	Incorrect study design
Urwyler 2009[460]	Study protocol
Verghese 2008[469]	Narrative review
Walsh 2011[477]	Conference abstract. Study included
White 2011[495]	conference abstract
Willems 2014[501]	Incorrect interventions
Williamson 1999[503]	Incorrect interventions
Yang 2012[506]	Not all comparisons relevant. One study reference identified.
Youssef 2003[511]	Incorrect interventions. Inappropriate comparison

P.7 Cryoprecipitate

P.7.1 Cryoprecipitate thresholds and targets

Study	Exclusion reason
Abbott 2009[2]	Inappropriate comparison
Fenger-eriksen 2009[147]	Incorrect interventions
French 2003[151]	Incorrect interventions. Inappropriate comparison
Galas 2012[156]	Inappropriate comparison. conference abstract
Goldenberg 2006[169]	Review article
Hesselvik 1987[200]	Not review population
Hwang 1991[211]	Not review population
Iyengar 2013[216]	Incorrect interventions
Karlsson 2009[229]	Incorrect interventions
Ketchum 2006[236]	Review article
Kostousov 2012[246]	Incorrect interventions. conference abstract
Lang 1993[252]	Incorrect interventions. Inappropriate comparison
Lee 2014[258]	cohort study <1000 patients
Stevens 1986[432]	Not review population

Teitel 2011[440]	Incorrect interventions
Tinegate 2011[444]	Survey
Warmuth 2012[486]	Systematic review is not relevant to review question or unclear PICO. Relevant papers ordered
Wikkelsø 2013[499]	Incorrect interventions
Zakout 2009[514]	conference abstract

P.7.2 Cryoprecipitate doses

Study	Exclusion reason
Abbott 2009[2]	Inappropriate comparison. Incorrect interventions
Fenger-eriksen 2009[147]	Incorrect interventions
French 2003[151]	Incorrect interventions. Inappropriate comparison
Galas 2012[156]	Incorrect interventions. Inappropriate comparison
Goldenberg 2006[169]	Incorrect interventions. Inappropriate comparison
Hesselvik 1987[200]	Incorrect interventions. Inappropriate comparison
Holcomb 2013[204]	Incorrect interventions. Inappropriate comparison
Hwang 1991[211]	Incorrect interventions. Inappropriate comparison
Iyengar 2013[216]	Incorrect interventions
Karlsson 2009[229]	Incorrect interventions
Ketchum 2006[66]	Incorrect interventions
Kostousov 2012[246]	Incorrect interventions. Inappropriate comparison
Lang 1993[252]	Incorrect interventions. Inappropriate comparison
Lee 2014[258]	Incorrect interventions
Stevens 1986[432]	Incorrect interventions. Inappropriate comparison
Teitel 2011[440]	Inappropriate comparison. conference abstract
Warmuth 2012[486]	Incorrect interventions. Inappropriate comparison
Wikkelsø 2013[499]	Incorrect interventions. Inappropriate comparison

P.8 PCC

P.8.1 PCC thresholds and targets

Study	Exclusion reason
Arshad 2013[24]	Protocol for study- for follow up
Awad 2013[27]	Review
Bechtel 2011[33]	Review. Not directly relevant to review question
Bershad 2010[39]	Literature review
Cabral 2013[63]	Retrospective case series review of 30 patients; not information on thresholds/targets
Chong 2010[95]	Case series of 7 patients; evaluates PCC + FFP
Desmettre 2012[125]	Paper not available
Eerenberg 2011[137]	Healthy volunteer study; comparisons not relevant
Dowlatshahi 2012[131]	Canadian registry. n=141. Does not compared PCC transfusion at different thresholds/target levels

Huynh 2014[210]	n=44. Small retrospective study
Johansen 2013[223]	Protocol for Cochrane review on PCC for peri-operative reversal of Vitamin K antagonist
Junagade 2007[226]	Abstract
Knight 2009[244]	Systematic review on efficacy of r FactorVIIa and aPCC
Leal-noval 2013[255]	Do not report number of patients in allocated to low (15 IU/kg) and high dose groups (25 IU/kg)
Lin 2013[267]	Systematic review of PCCs and fibrinogen concentrates (FIBCs) in combination
Lusher 1980[278]	RCT evaluating efficacy of 2 PCC preparations with placebo; does not evaluate INR thresholds or targets-wrong comparison
Lusher 1983[277]	Compares 2 different types of PCCs, not relevant comparison
Lusher 1984[276]	Narrative review of PCC and Factor VIII inhibitors
Mai 2013[283]	Abstract
Otite 2013[339]	Abstract
Pabinger 2008[341]	44 patients, no control arm, prospective study
Pabinger 2010[342]	Evaluates impact of speed of PCC infusion
Patanwala 2011[351]	Systematic review- relevant papers ordered
Solbeck 2012[415]	Systematic review- checked references
Staudinger 1999[430]	Cohort study, n=16.
Varga 2013[467]	Retrospective case series on efficacy of PCC dose; to include if RCTs included of every low quality/ do not provide helpful evidence; Info for other considerations
Valentino 2009[463]	Abstract
Voils 2012[474]	Systematic review- relevant references noted

P.8.2 PCC doses

Study	Exclusion reason
Bershad 2010[39]	Literature review
Cabral 2013[63]	No comparison groups
Chong 2010[95]	Case series of 7 patients; evaluates PCC + FFP
Desmettre 2012[125]	Paper not available
Eerenberg 2011[137]	Healthy volunteer study; comparisons not relevant
Huynh 2014[210]	Small retrospective study, n=44.
Knight 2009[244]	Systematic review on efficacy of Factor VII and PCC
Leal-Noval 2013[255]	Does not report number of patients in allocated to low (15 IU/kg) and high dose groups (25 IU/kg)
Lusher 1980[278]	RCT evaluating efficacy of 2 PCC preparations with placebo; dose not evaluate INR thresholds or targets-wrong comparison
Lusher 1983[277]	Compares 2 different types of PCCs, not relevant comparison
Lusher 1984[276]	Narrative review of PCC and Factor VIII inhibitors
Pabinger 2008[341]	Does not report outcomes/results according to the different doses of PCC
Pabinger 2010[342]	Evaluates impact of speed of PCC infusion

Varga 2013[467]	Retrospective case series on efficacy of PCC dose

P.9 Monitoring for acute reactions

None

P.10 Electronic decision support

Reference	Reason for exclusion
Choi 2014[91]	Abstract
Cotterell 2013[110]	Systematic review
Estcourt 2013[140]	Abstract
Goodnough 2013[174]	Abstract
Rao 2013[364]	Abstract
Morris 2011[307]	Abstract
Mascotti 2009[288]	Abstract
Kuo 2011[250]	Abstract
Gregurek 2010[182]	Abstract
Gregurek 2009[181]	Abstract
Goddard 2010[167]	Abstract
Rothschild 2004[375]	Abstract
Uriz 2011[459]	Intervention does not match protocol (for patient identification)
Alves 2002[18]	Population does not match protocol (In neonates)
Schnurr 2010[386]	Intervention does not match protocol
Febra 2011[146]	Abstract
Guerra 2010[187]	Abstract
Martinez 2011[286]	Abstract
McCrory 2010[293]	Abstract
Waters 2012[489]	Abstract
Zijlker 2013[523]	Abstract
Shojania 2009[397]	Review (not relevant comparisons)
Philcox 1987[356]	Incorrect intervention
Palo 2006[346]	Intervention does not match protocol(database system to manage blood component use in hospital)
Morgan 1973[305]	Intervention does not match protocol(computer controlled automated transfusion, not for decision support)

P.11 Electronic patient identification

Study	Exclusion reason
Aandahl 2007[1]	Incorrect interventions. Narrative review
Baele 1994[29]	Incorrect interventions
Brewer 1977[56]	Incorrect interventions. Narrative paper
Burrows 2009[60]	Incorrect interventions. Evaluates inaccessibility of identification bands in operating theatre
Clark 1984[100]	Narrative paper

Study	Exclusion reason
Clifford 2013[101]	Incorrect interventions
Cottrell 2013[110]	Audit of transfusion practice. Incorrect interventions
Davis 2012[121]	Incorrect interventions
Dzik 2003 [135]	Review
Dzik 2007[134]	Narrative paper
Finlay 2005[148]	Incorrect interventions
Galusha 2003[157]	Narrative paper
Goodnough 2009[176]	Incorrect interventions
Goodnough 2012[175]	Incorrect interventions. Narrative paper
Green 2008[180]	Inappropriate comparison. Narrative paper
Grimm 2010[183]	Inappropriate comparison. Survey; no co-relation presented between patient identification by electronic methods and inappropriate transfusions
Gumpeni 2006[188]	Narrative paper
Ibojie 2000[212]	Incorrect interventions
Mercuriali 1996[295]	Incorrect interventions (only non-electronic patient identification)
Murphy 2007[319]	Incorrect interventions
Novis 2003[333]	Incorrect interventions
Ohsaka 2009[336]	Incorrect interventions
Pagliaro 2006[343]	narrative review
Quillen 2006[362]	Incorrect interventions
Renner 1993[370]	Incorrect interventions
Rentas 1999[371]	Incorrect interventions
Sandler 2007[380]	Wrong comparison (only evaluates if RFID system can be implemented, does not evaluate prevention of errors)
Schulmeister 2008[388]	Narrative paper
Smith 2011[410]	Incorrect interventions
Thomas 2004[441]	Incorrect interventions. Narrative paper
Tiehen 1998[443]	Narrative paper
Valenstein 2004 [462]	Review, not systematic
Wenz 1991[494]	Incorrect interventions (only non-electronic patient identification)
Wickham 2006[498]	Inappropriate comparison
Wickham 2006[497]	Abstract

P.12 Patient information

Reference	Reason for exclusion
Benson 1996[36]	Evaluates patients views regarding receiving home transfusions
Bielby 2013[43]	Abstract
Bishop 2009[45]	Abstract
Bishop 2010[46]	Does not address review question; no information on patients views regarding info
Burgess 2006[59]	Audit results and recommendations for practice
Busby 2012[62]	Abstract
Busby 2013[61]	Abstract

Reference	Reason for exclusion
Cankovic 2009[69]	Abstract
Cankovic 2011 [70]	Abstract
Carruther 2001[72]	Audit and survey of hospital practices regarding consent; patients views not reported
Cassidy 2013[80]	Abstract
Cong 2009[104]	Abstract
Corkery2013[106]	Abstract
Court2010[112]	Abstract
Court2012[111]	Abstract
Davis2012[121]	Survey to assess patients willingness to participate in transfusion related behaviours related to identity checking and administration of blood
Friedman2011[152]	Abstract
Islam2011[215]	Abstract
Khan2012[239]	Evaluates use of a clinician tool to aid patient counselling before blood transfusion
Latreille2010[253]	Abstract
Lee2003[257]	Evaluates people's perception of the risk of blood transfusion in comparison to other hazards (for example, pesticides, caffeine); wrong objective
Lowe2001[270]	Evaluates perception of risk of blood transfusion with respect to receiving own blood/blood substitutes
Mahapatra2013[282]	Abstract
Mccarthy2001[292]	Abstract
Muhammad2014[311]	Abstract
Naim2011a[324]	Abstract
Naim2011b[323]	Abstract
Naim2012[322]	Abstract
Ngo2013[328]	Qualitative Systematic review
Orme2013[338]	Evaluates experiences of patients' experience of living with anaemia and receiving transfusion at a day hospice; does not look at what information people want
Tolich2010 [450]	Abstract
Twiss2011[458]	Abstract
Vetter2014[470]	Survey of patients perception of risk of blood transfusion and associated patients characteristics; no reporting of what info people may want

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P.12.1 RBC Thresholds

Study	Exclusion reason
Carson 2012[76]	Clinical practice guideline
Chatterjee 2013[84]	Systematic review: literature search not sufficiently rigorous
Chirico 2011[90]	Pre-term infants
Curley 2014[115]	Systematic review- checked references
Desjardins 2012[124]	Systematic review: study designs inappropriate
Fischer 2010[149]	Incorrect interventions
Gauvin 2010[162]	Analytic cohort analysis
Hearnshaw 2010[195]	Incorrect study design
Holst 2013[205]	Protocol- TRISS trial
Jairath 2013[219]	Protocol
Kahan 2013[227]	Statistical analysis plan- TRIGGER trial
Lightdale 2012[265]	Incorrect study design
Parker 2013[349]	Incorrect interventions. Inappropriate comparison
Parker 2014[350]	Systematic review- checked references
Rouette 2010[376]	Sub group analysis of surgery patients in TRIPICU study- we are only updating the Cochrane review (that is, including studies after 2011)
Shah 2015[391]	Review article
So-Osman 2010[412]	Incorrect interventions
So-Osman 2013[413]	Post-hoc analysis
Tay 2011[439]	Protocol -TRIST trial
Wang 2013[484]	Includes only upper GI bleeding
Whyte 2011[496]	Low birth-weight infants
Willems 2010[500]	Sub group analysis of cardiac surgery patients in TRIPICU study (Lacroix 2007 which has been included)

Appendix Q: Excluded economic studies

Q.1 Erythropoietin and iron

Reference	Reason for exclusion
Bedair 2015[34]	This US within trial (prospective cohort) cost consequence analysis of erythropoietin was assessed as partially applicable with potentially serious limitations. The GDG judged the three cost utility analyses (two UK and one USA) and one German cost consequence analysis, were of greater applicability and methodological quality, and therefore this study was selectively excluded.

Q.2 Alternatives to blood transfusion

Reference	Reason for exclusion
Murphy 2005[318]	This UK cost–consequence analysis of cell salvage was assessed as partially applicable with potentially serious limitations. However, the GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Crotty 2006[113]	This UK cost–comparison of cell salvage was assessed as partially applicable with very serious limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Savvidou 2009[383]	This Greek cost-consequence analysis of cell salvage was assessed as partially applicable with potentially limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Boese 2011[49]	This US cost–consequence analysis of cell salvage was assessed as partially applicable with very serious limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Dobosz 2012[129]	This Polish cost-consequence analysis of cell salvage was assessed as partially applicable with potentially limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Rao 2012[365]	This US cost–comparison of cell salvage was assessed as partially applicable with very serious limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Canan 2013[68]	This US cost–utility analysis of cell salvage was assessed as not applicable with very serious limitations: QALYs estimated from expert opinion, time frame and discounting unclear, patient perspective taken, and very high unit cost of allogeneic blood which is not representative of current UK unit costs. Therefore this study was excluded.

Reference	Reason for exclusion
Munoz 2013[317]	This Spanish cost-consequence analysis of cell salvage was assessed as partially applicable with potentially limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Albright 2014[9]	This US comparative cost analysis of cell salvage was assessed as partially applicable and with potentially serious limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Bilgili 2014[44]	This Turkish cost-consequence analysis of cell salvage was assessed as partially applicable with very serious limitations. Health outcome not expressed as QALYs. No information provided on how the total costs were estimated. Effectiveness data from a retrospective study and therefore not included in the clinical review. Therefore this study was excluded.
Munoz 2014[315]	This Spanish cost-consequence analysis of cell salvage was assessed as partially applicable with potentially limitations. The GDG judged that the available UK cost–utility analysis[120] was of greater applicability and methodological quality, and therefore this study was selectively excluded.
Lozano 2008[271]	This Spanish within trial (retrospective observational) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
Gill 2009[164]	This US within trial (RCT) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
Irisson 2012[214]	This French within trial (retrospective cohort) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
Panchmatia 2012[347]	This UK within trial (prospective cohort) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
Gillette 2013[166]	This US within trial (retrospective cohort) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.

Reference	Reason for exclusion
Slover 2014[408]	This US cost-effectiveness analysis (decision tree) was assessed as partially applicable with very serious limitations. Relative treatment effects were not reported or referenced in this analysis. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
Vigna-Taglianti 2014[473]	This Italian within trial (before and after study with regression analysis) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
Tuttle 2014[457]	This US within trial (retrospective cohort) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.
George 2015[163]	This UK within trial (retrospective cohort) cost consequence analysis of tranexamic acid was assessed as partially applicable with potentially serious limitations. This study was selectively excluded as it was superseded by two recent UK cost consequence analyses[13,363], both of which were within-trial analyses of RCTs that are included in clinical review and therefore more applicable to the UK NHS context.

Q.3 Red blood cells

Reference	Reason for exclusion
Palmieri 2007[345]	This study was assessed as partially applicable with very serious limitations. Based on a before and after study that was excluded from the clinical review. Savings are a product of blood usage and cost of a unit of blood (US cost). Therefore this study was excluded.
Zilberberg 2007[524]	This study was assessed as partially applicable with very serious limitations. Savings are a product of blood usage and cost of a unit of blood (US cost). Therefore this study was excluded.

Q.4 Platelets

Q.4.1 Platelet thresholds and targets

Reference	Reason for exclusion
Sarode 2010[381]	This study was assessed as partially applicable with very serious limitations. Based on a before and after study that was excluded from the clinical review protocol. Not all costs are included and source of unit costs unclear (appears to be based on a US hospital). Therefore this study was excluded.

Q.4.2 Platelet dose

Reference	Reason for exclusion
Riley 2012[372]	This study was assessed as partially applicable with very serious limitations. Based on platelet doses that are not UK standard doses.

Reference	Reason for exclusion
	Assumes same health outcomes for all doses and unit costs are from a US perspective. Therefore this study was excluded.

Q.5 Fresh frozen plasma

Q.5.1 Fresh frozen plasma thresholds and targets

Reference	Reason for exclusion
Sarode 2010[381]	This study was assessed as partially applicable with very serious limitations. Based on a before and after study that was excluded from the clinical review protocol. Not all costs are included and source of unit costs unclear (appears to be based on a US hospital). Therefore this study was excluded.

Appendix R: NICE technical team

Name	Role
Sharon Summers-Ma	Guideline Lead
Martin Allaby	Clinical Advisor
Beth Shaw	Technical Lead
Bhash Naidoo	Health Economist
Louise Shires	Guideline Commissioning Manager
Joy Carvill	Guideline Coordinator
James Hall	Editor

References

1 Aandahl GS, Knutsen TR, Nafstad K. Implementation of ISBT 128, a quality system, a standardized bar code labeling of blood products worldwide, electronic transfusion pathway: four years of experience in Norway. Transfusion. 2007; 47(9):1674-1678

2 Abbott LS, Deevska M, Fernandez CV, Dix D, Price VE, Wang H et al. The impact of prophylactic fresh-frozen plasma and cryoprecipitate on the incidence of central nervous system thrombosis and hemorrhage in children with acute lymphoblastic leukemia receiving asparaginase. Blood. 2009; 114(25):5146-5151

3 Abdel-Wahab OI, Healy B, Dzik WH. Effect of fresh-frozen plasma transfusion on prothrombin time and bleeding in patients with mild coagulation abnormalities. Transfusion. 2006; 46(8):1279-1285

4 Abdullah A, Javed A. Does topical tranexamic acid reduce post-turp hematuria: A double blind randomized control trial. Urology. 2012; 80(3 Suppl 1):S221-S222

5 Ackerman SJ, Klumpp TR, Guzman GI, Herman JH, Gaughan JP, Bleecker GC et al. Economic consequences of alterations in platelet transfusion dose: analysis of a prospective, randomized, double-blind trial. Transfusion. 2000; 40(12):1457-1462

6 Adamson J. Perisurgical use of epoetin alfa in orthopedic surgery patients. Seminars in Hematology. 1996; 33(2 Suppl 2):55-59

7 Adler Ma SC, Brindle W, Burton G, Gallacher S, Hong FC, Manelius I et al. Tranexamic acid is associated with less blood transfusion in off-pump coronary artery bypass graft surgery: a systematic review and meta-analysis. Journal of Cardiothoracic and Vascular Anesthesia. 2011; 25(1):26-35

8 Aggarwal V, Kapoor PM, Choudhury M, Kiran U, Chowdhury U. Utility of Sonoclot analysis and tranexamic acid in tetralogy of Fallot patients undergoing intracardiac repair. Annals of Cardiac Anaesthesia. 2012; 15(1):26-31

9 Albright CM, Rouse DJ, Werner EF. Cost savings of red cell salvage during cesarean delivery. Obstetrics and Gynecology. 2014; 124(4):690-696

10 Alipour M, Tabari M, Keramati M, Zarmehri AM, Makhmalbaf H. Effectiveness of oral tranexamic acid administration on blood loss after knee artroplasty: a randomized clinical trial. Transfusion and Apheresis Science. 2013; 49(3):574-577

11 Allanki S. Transfusion alternatives in liver transplantation: single center study. Vox Sanguinis. 2009; 96:242

12 Almeida RM, Leitao L. The use of cell saver system in cardiac surgery with cardiopulmonary bypass. Revista Brasileira De Cirurgia Cardiovascular. 2013; 28(1):76-82

13 Alshryda S, Mason J, Sarda P, Nargol A, Cooke N, Ahmad H et al. Topical (intra-articular) tranexamic acid reduces blood loss and transfusion rates following total hip replacement: a randomized controlled trial (TRANX-H). Journal of Bone and Joint Surgery American Volume. 2013; 95(21):1969-1974

14 Alshryda S, Sarda P, Sukeik M, Nargol A, Blenkinsopp J, Mason JM. Tranexamic acid in total knee replacement: a systematic review and meta-analysis. Journal of Bone and Joint Surgery British Volume. 2011; 93(12):1577-1585

15 Alshryda S, Sukeik M, Sarda P, Blenkinsopp J, Haddad FS, Mason JM. A systematic review and meta-analysis of the topical administration of tranexamic acid in total hip and knee replacement. Bone and Joint Journal. 2014; 96 B(8):1005-1015

16 Aluri S, Wrench IJ, Wilson M. Cell salvage during caesarean section reduces perioperative allogeneic red cell transfusion in suitable patients. International Journal of Obstetric Anesthesia. 2012; 21:S17

17 Alvarez G, Hebert PC, Szick S. Debate: transfusing to normal haemoglobin levels will not improve outcome. Critical Care. 2001; 5(2):56-63

18 Alves-Dunkerson JA, Hilsenrath PE, Cress GA, Widness JA. Cost analysis of a neonatal point-of-care monitor. American Journal of Clinical Pathology. 2002; 117(5):809-818

19 Andrews CM, Lane DW, Bradley JG. Iron pre-load for major joint replacement. Transfusion Medicine. 1997; 7(4):281-286

20 Antinolfi P, Innocenti B, Caraffa A, Cerulli G. Blood loss in total knee arthroplasty: Mechanical vs pharmacological approach. European Surgical Research. 2010; 45(3-4):293

21 Antonopoulou E, Digas G, Meletiadis G, Koutsogiannis I, Netzadin N, Tanasidis A et al. The effectiveness of tranexamic acid in total knee replacement. Regional Anesthesia and Pain Medicine. 2013; 38(5 Suppl 1):E177

22 Anwar F, Mahmoud Y, Merenkov ZA, Mohd FA, Al Malki A. Auditing ffp usage: Using pre and post coagulation testing as a tool. Vox Sanguinis. 2012; 103:76

23 Aoki M, Okawa Y, Goto Y, Ogawa S, Baba H. Local administration of tranexamic acid in off-pump coronary artery bypass. Asian Cardiovascular and Thoracic Annals. 2012; 20(6):658-662

24 Arshad F, Ickx B, Beem RT, Polak W, Grüne F, Nevens F et al. Prothrombin complex concentrate in the reduction of blood loss during orthotopic liver transplantation: PROTON-trial. BMC Surgery. 2013; 13:22

25 Arslan O, Toprak S, Arat M, Kayalak Y. Hb content-based transfusion policy successfully reduces the number of RBC units transfused. Transfusion. 2004; 44(4):485-488

26 Atabek U, Alvarez R, Pello MJ, Alexander JB, Camishion RC, Curry C et al. Erythropoetin accelerates hematocrit recovery in post-surgical anemia. American Surgeon. 1995; 61(1):74-77

27 Awad NI, Cocchio C. Activated prothrombin complex concentrates for the reversal of anticoagulant-associated coagulopathy. P and T. 2013; 38(11):696-701

28 Badeaux J, Hawley D. A systematic review of the effectiveness of intravenous tranexamic Acid administration in managing perioperative blood loss in patients undergoing spine surgery. Journal of Perianesthesia Nursing. 2014; 29(6):459-465

29 Baele PL, De Bruyere M, Deneys V, Dupont E, Flament J, Lambermont M et al. Bedside transfusion errors. A prospective survey by the Belgium SAnGUIS Group. Vox Sanguinis. 1994; 66(2):117-121

30 Baldus CR, Bridwell KH, Lenke LG, Okubadejo GO. Can we safely reduce blood loss during lumbar pedicle subtraction osteotomy procedures using tranexamic acid or aprotinin? A comparative study with controls. Spine. 2010; 35(2):235-239

31 Barbara E, Di Spigno N, Perazzo P, Scardino M. A new concept in the post-operative autologous blood reinfusion in orthopaedic surgery. Regional Anesthesia and Pain Medicine. 2010; 35(5):E67

32 Basta MN, Stricker PA, Taylor JA. A systematic review of the use of antifibrinolytic agents in pediatric surgery and implications for craniofacial use. Pediatric Surgery International. 2012; 28(11):1059-1069

33 Bechtel BF, Nunez TC, Lyon JA, Cotton BA, Barrett TW. Treatments for reversing warfarin anticoagulation in patients with acute intracranial hemorrhage: a structured literature review. International Journal of Emergency Medicine. 2011; 4(1):40

34 Bedair H, Yang J, Dwyer MK, McCarthy JC. Preoperative erythropoietin alpha reduces postoperative transfusions in THA and TKA but may not be cost-effective. Clinical Orthopaedics and Related Research. 2015; 473:590-596

35 Bellomo R. Will less liberal red-cell transfusion (with a lower haemoglobin threshold) still reduce rates of death and organ failure? Medical Journal of Australia. 2001; 175(7):387

36 Benson K, Balducci L, Milo KM, Heckel L, Lyman GH. Patients' attitudes regarding out-of-hospital blood transfusion. Transfusion. 1996; 36(2):140-143

37 Beris P, Munoz M, Garcia-Erce JA, Thomas D, Maniatis A, Van der Linden P. Perioperative anaemia management: consensus statement on the role of intravenous iron. British Journal of Anaesthesia. 2008; 100(5):599-604

38 Berns JS. Are there implications from the Trial to Reduce Cardiovascular Events with Aranesp Therapy study for anemia management in dialysis patients? Current Opinion in Nephrology and Hypertension. 2010; 19(6):567-572

39 Bershad EM, Suarez JI. Prothrombin complex concentrates for oral anticoagulant therapy-related intracranial hemorrhage: a review of the literature. Neurocritical Care. 2010; 12(3):403-413

40 Besandre R, Soundar EP, Hartman SK, Teruya J, Hui SR. The incidence and effectiveness of plasma transfusion in correcting mild coagulopathy. Transfusion. 2012; 52:113A-114A

41 Bhandal N, Russell R. Intravenous versus oral iron therapy for postpartum anaemia. BJOG: An International Journal of Obstetrics and Gynaecology. 2006; 113(11):1248-1252

42 Bhavana G, Mittal S. Evaluation of efficacy of prophylactic injection tranexamic acid in decreasing blood loss before and after caesarean section. BJOG: An International Journal of Obstetrics and Gynaecology. 2013; 120:32

43 Bielby LJ, Stevenson L, Perillo J, Glazebrook B, Beard P, Hennessy C et al. Consent for blood transfusion-are we informing patients? Vox Sanguinis. 2013; 105:82

44 Bilgili MG, Ercin E, Peker G, Kural C, Basaran SH, Duramaz A et al. Efficiency and cost analysis of cell saver auto transfusion system in total knee arthroplasty. Balkan Medical Journal. 2014; 31(2):149-153

45 Bishop L. Controversies in anaemia: Making blood transfusion decisions. European Journal of Cancer, Supplement. 2009; 7(2-3):47

46 Bishop L, Faithfull S, Allan H. An exploration of the influences on clinical decision making and the culture of blood transfusion practise in cancer-related anaemia using an ethnographic methodology. Supportive Care in Cancer. 2010; 19(2):203-210

47 Blatsoukas KS, Drosos GI, Kazakos K, Papaioakim M, Gioka T, Chloropoulou P et al. Prospective comparative study of two different autotransfusion methods versus control group in total knee replacement. Archives of Orthopaedic and Trauma Surgery. 2010; 130(6):733-737

48 Boenigk K, Verma K, Hoelscher C, Huncke KT, Lonner B, Errico T. The efficacy of antifibrinoly tics at reducing blood loss in major spine surgery: A prospective randomized comparison of tranexamic acid, aminocaproic acid, and placebo. European Journal of Anaesthesiology. 2011; 28:90

49 Boese CK, Gallo TJ, Weis M, Baker R, Plantikow CJ, Cooley B. Efficacy and cost-effectiveness of a blood salvage system in primary total knee arthroplasty: a retrospective match-controlled chart review. Iowa Orthopaedic Journal. United States 2011; 31:78-82

50 Boldt J, Kling D, von Bormann B, Zuge M, Hempelmann G. Homologous fresh frozen plasma in heart surgery. Myth or necessity. Der Anaesthesist. 1989; 38(7):353-359

51 Borisov D, Yudin S, Krylov O, Markov B, Istomina N. Tranexamic acid in hip arthroplasty: a dose-response study. European Journal of Anaesthesiology. 2011; 28:88

52 Bouali Y, Rais K, Belhaj H, Jabri H, Kaabachi O. Continuous vs. repeated bolus of tranexamic acid for total knee arthroplasty. European Journal of Anaesthesiology. 2011; 28:89-90

53 Bracey A, Allison PM, Giesecke NM, Reul RM, Radovancevic R. Evaluation of automated autotransfusion system in cardiovascular surgery. Transfusion. 2009; 49:168A

54 Bracey AW, Radovancevic R, Riggs SA, Houston S, Cozart H, Vaughn WK et al. Lowering the hemoglobin threshold for transfusion in coronary artery bypass procedures: effect on patient outcome. Transfusion. 1999; 39(10):1070-1077

55 Braga M. Randomized multicentre trial of the influence of recombinant human erythropoietin on intraoperative and postoperative transfusion need in anaemic patients undergoing right hemicolectomy for carcinoma. British Journal of Surgery. 1998; 85(9):1306-1307

56 Brewer MK, Bass G, Wenk RE. Mechanical random access of blood bank records. Journal of Medical Systems. 1977; 1(3):275-282

57 Breymann C, Zimmermann R, Huch R, Huch A. Use of recombinant human erythropoietin in combination with parenteral iron in the treatment of postpartum anaemia. European Journal of Clinical Investigation. 1996; 26(2):123-130

58 Briganti A, Landoni G, Salonia A, Bertarelli G, Bianchi M, Tutolo M et al. Effectiveness of short-term tranexamic acid in reducing bleeding and transfusion rate in patients undergoing radical

retropubic prostatectomy: Results of a prospective, randomized, double-blind controlled trial. European Urology, Supplements. 2011; 10(2):282

59 Burgess R. Blood transfusion in A&E. Emergency Nurse. 2006; 13(10):18-22

60 Burrows JM, Callum JL, Belo S, Etchells E, Leeksma A. Variable pre-transfusion patient identification practices exist in the perioperative setting. Canadian Journal of Anaesthesia. 2009; 56(12):901-907

61 Busby H. Informed consent to blood transfusion in the NHS: 'doing consent' versus 'what consent can do'. Transfusion Medicine. 2013; 23:43-44

62 Busby H, Farrell A, Kent J. Risk, safety and consent in blood services in the UK: exploring the perspectives of patients, professionals and policy makers. Transfusion Medicine. 2012; 22:42-43

63 Cabral KP, Fraser GL, Duprey J, Gibbons BA, Hayes T, Florman JE et al. Prothrombin complex concentrates to reverse warfarin-induced coagulopathy in patients with intracranial bleeding. Clinical Neurology and Neurosurgery. 2013; 115(6):770-774

64 Cacheux C, Faraoni D, Van Aelbrouck C, Ickx B, Huybrechts I, Van Obbergh L. Effect of high versus low dose of tranexamic acid (TXA) on fibrinolysis during cardiac surgery. European Journal of Anaesthesiology. 2012; 29:95

65 Callow CR, Swindell R, Randall W, Chopra R. The frequency of bleeding complications in patients with haematological malignancy following the introduction of a stringent prophylactic platelet transfusion policy. British Journal of Haematology. 2002; 118(2):677-682

66 Cameron B, Rock G, Olberg B, Neurath D. Evaluation of platelet transfusion triggers in a tertiary-care hospital. Transfusion. 2007; 47(2):206-211

67 Campbell J, Holland C, Richens D, Skinner H. Impact of cell salvage during cardiac surgery on the thrombelastomeric coagulation profile: a pilot study. Perfusion. 2012; 27(3):221-224

68 Canan CE, Myers JA, Owens RK, Crawford CH, Djurasovic M, Burke LO et al. Blood salvage produces higher total blood product costs in single-level lumbar spine surgery. Spine. 2013; 38(8):703-708

69 Cankovic KM, Petrovic I. Content analysis of book of impressions as a method of evaluating clinical transfusion therapeutic treatment. Vox Sanguinis. 2009; 96:187

70 Cankovic KM, Petrovic IB. The effects of doctor-patient relationship in transfusion therapy. Vox Sanguinis. 2011; 101:88-89

71 Carino G, Tsapenko A, Sweeney J. Fresh frozen plasma use before line insertion in critically-ill patients with coagulation abnormalities. Critical Care Medicine. 2009; 37(12 Suppl):A468

72 Carruthers J, O'Hoski P, Warkentin TE, Heddle NM. A survey of transfusion practice related to informed consent and post transfusion notification. Canadian Journal of Medical Laboratory Science. 2001; 63(5):179-188

73 Carson JL, Chen AY. In search of the transfusion trigger. Clinical Orthopaedics and Related Research. 1998;(357):30-35

74 Carson JL, Terrin ML, Barton FB, Aaron R, Greenburg AG, Heck DA et al. A pilot randomized trial comparing symptomatic vs. hemoglobin-level-driven red blood cell transfusions following hip fracture. Transfusion. 1998; 38(6):522-529

75 Carson JL, Brooks MM, Abbott JD, Chaitman B, Kelsey SF, Triulzi DJ et al. Liberal versus restrictive transfusion thresholds for patients with symptomatic coronary artery disease. American Heart Journal. 2013; 165(6):964-971

76 Carson JL, Grossman BJ, Kleinman S, Tinmouth AT, Marques MB, Fung MK et al. Red blood cell transfusion: a clinical practice guideline from the AABB*. Annals of Internal Medicine. 2012; 157(1):49-58

77 Carson JL, Hill S, Carless P, Hebert P, Henry D. Transfusion triggers: a systematic review of the literature. Transfusion Medicine Reviews. 2002; 16(3):187-199

78 Carson JL, Terrin ML, Noveck H, Sanders DW, Chaitman BR, Rhoads GG et al. Liberal or restrictive transfusion in high-risk patients after hip surgery. New England Journal of Medicine. 2011; 365(26):2453-2462

79 Casbard AC, Williamson LM, Murphy MF, Rege K, Johnson T. The role of prophylactic fresh frozen plasma in decreasing blood loss and correcting coagulopathy in cardiac surgery. A systematic review. Anaesthesia. 2004; 59(6):550-558

80 Cassidy SK, Wenzel J, Dilley M, Livingston M, Mascotti K. Transfusion consent: empowering the patient. Transfusion. 2013; 53:233A

81 Cavolli R, Uymaz B, Memishaj S, Eren NT. Cell saver in off-pump surgery. Heart Surgery Forum. 2011; 14:S35

82 Celebi N, Celebioglu B, Selcuk M, Canbay O, Karagoz AH, Aypar U. The role of antifibrinolytic agents in gynecologic cancer surgery. Saudi Medical Journal. 2006; 27(5):637-641

83 Chan CC, Chan YY, Tanweer F. Systematic review and meta-analysis of the use of tranexamic acid in tonsillectomy. European Archives of Oto-Rhino-Laryngology. 2013; 270(2):735-748

84 Chatterjee S, Wetterslev J, Sharma A, Lichstein E, Mukherjee D. Association of blood transfusion with increased mortality in myocardial infarction: a meta-analysis and diversity-adjusted study sequential analysis. JAMA Internal Medicine. 2013; 173(2):132-139

85 Chen CC, Wang CC, Wang CP, Lin TH, Lin WD, Liu SA. Prospective, randomized, controlled trial of tranexamic acid in patients who undergo head and neck procedures. Otolaryngology--Head and Neck Surgery. 2008; 138(6):762-767

86 Chen TT, Jiandong L, Wang G, Jiang SL, Li LB, Gao CQ. Combined treatment of ulinastatin and tranexamic acid provides beneficial effects by inhibiting inflammatory and fibrinolytic response in patients undergoing heart valve replacement surgery. Heart Surgery Forum. 2013; 16(1):E38-E47

87 Chen Y, Tai BC, Nayak D, Kumar N, Chua KH, Lim JW et al. Blood loss in spinal tumour surgery and surgery for metastatic spinal disease: a meta-analysis. Bone and Joint Journal. 2013; 95-B(5):683-688

88 Cherian JJ, Kapadia BH, Issa K, Banerjee S, McInerney VK, Harwin SF et al. Preoperative blood management strategies for total hip arthroplasty. Surgical Technology International. 2013; 23:261-266

89 Cheriyan T, Bianco K, Maier II SP, Slobodyanyuk K, Schwab FJ, Lonner BS et al. Efficacy of tranexamic acid and aminocaproic acid on bleeding in spine surgery: A meta-analysis. Spine Journal. 2013; 13(9 Suppl 1):S81

90 Chirico G, Beccagutti F, Sorlini A, Motta M, Perrone B. Red blood cell transfusion in preterm infants: restrictive versus liberal policy. Journal of Maternal-Fetal and Neonatal Medicine. 2011; 24 Suppl 1:20-22

91 Choi JS, Hong CH, Kwack MJ, Lee CK, Cho Y, Park JH. Establishiment of computerized clinical decision support program for improving transfusion practice. Vox Sanguinis. 2014; 107:21

92 Cholette J, Powers K, Alfieris G, Angona R, Henrichs K, Blumberg N. Cell saver for volume replacement in children following cardiopulmonary bypass reduces the number of RBC and blood product transfusions and donor exposures. Critical Care Medicine. 2011; 39:7

93 Cholette JM, Powers KS, Alfieris GM, Angona R, Henrichs KF, Masel DS et al. Transfusion of salvaged blood in pediatric heart surgery reduces allogeneic transfusions: a prospective, randomized trial. Transfusion. 2012; 52:121A

94 Cholette JM, Powers KS, Alfieris GM, Angona R, Henrichs KF, Masel D et al. Transfusion of cell saver salvaged blood in neonates and infants undergoing open heart surgery significantly reduces RBC and coagulant product transfusions and donor exposures: results of a prospective, randomized, clinical trial. Pediatric Critical Care Medicine. 2013; 14(2):137-147

95 Chong CT, Lew TWK, Kuperan P, Tan JJE, Tan HL, Kwek TK. Rapid reversal of coagulopathy in warfarin-related intracranial haemorrhages with prothrombin complex concentrates. Anaesthesia and Intensive Care. 2010; 38(3):474-480

96 Christabel A, Muthusekhar MR, Narayanan V, Ashok Y, Soh CL, Ilangovan M et al. Effectiveness of tranexamic acid on intraoperative blood loss in isolated Le Fort I osteotomies - a prospective, triple blinded randomized clinical trial. Journal of Cranio-Maxillo-Facial Surgery. 2014; 42(7):1221-1224

97 Chu M, Losenno K, Moore K, Berta D, Hewitt J, Ralley F. Blood conservation strategies reduce the need for transfusions in ascending and aortic arch surgery. Perfusion. 2013; 28(4):315-321

98 Chua D, Amadio A, San C. Epoetin dosing for blood conservation in Jehovah's witness patients undergoing cardiac surgery-a systematic review. Canadian Journal of Cardiology. 2014; 30(10 Suppl 1):S234

99 Cid J, Lozano M. Lower or higher doses for prophylactic platelet transfusions: results of a meta-analysis of randomized controlled trials. Transfusion. 2007; 47(3):464-470

100 Clark IR. Hospital blood bank laboratory data processing system. Journal of Clinical Pathology. 1984; 37(10):1157-1166

101 Clifford L, Singh A, Wilson GA, Toy P, Gajic O, Malinchoc M et al. Electronic health record surveillance algorithms facilitate the detection of transfusion-related pulmonary complications. Transfusion. 2013; 53(6):1205-1216

102 Collaborators Intracranial Bleeding Study. Effect of tranexamic acid in traumatic brain injury: a nested randomised, placebo controlled trial (CRASH-2 Intracranial Bleeding Study). BMJ. 2011; 343:d3795

103 Colomo A, Hernandez G, Muñiz-Diaz E, Madoz P, Aracil C, Alvarez-Urturi C. Transfusion strategies in patients with cirrhosis and acute gastrointestinal bleeding. Hepatology. 2008; 48(4 Suppl):413A

104 Cong Z, Ireland A, Stull D, McGarvey N, Brooks A, Kleinman L. Patients experience with treatments of chemotherapy induced anemia (CIA) and myelodysplastic syndromes (MDS). European Journal of Cancer, Supplement. 2009; 7(2-3):199-200

105 Cooper HA, Rao SV, Greenberg MD, Rumsey MP, McKenzie M, Alcorn KW et al. Conservative versus liberal red cell transfusion in acute myocardial infarction (the CRIT Randomized Pilot Study). American Journal of Cardiology. 2011; 108(8):1108-1111

106 Corkery C, Charlewood R, Rishworth S, Wright A, King F, Thrift L et al. Recipients' perceptions of red cell transfusions and Anti-D administration. Transfusion Medicine. 2013; 23(4):296

107 Corwin HL. Anemia and blood transfusion in the critically ill patient: role of erythropoietin. Critical Care. 2004; 8 Suppl 2:S42-S44

108 Corwin HL, Gettinger A, Fabian TC, May A, Pearl RG, Heard S et al. Efficacy and safety of epoetin alfa in critically ill patients. New England Journal of Medicine. 2007; 357(10):965-976

109 Corwin HL, Gettinger A, Pearl RG, Fink MP, Levy MM, Shapiro MJ et al. Efficacy of recombinant human erythropoietin in critically ill patients: a randomized controlled trial. JAMA. 2002; 288(22):2827-2835

110 Cottrell S, Davidson V. National audit of bedside transfusion practice. Nursing Standard. 2013; 27(43):41-48

111 Court E, Robinson J, Hocken D, Venn M, Caldwell S. Re-audit of informed consent and patient understanding of blood transfusion. Transfusion Medicine. 2012; 22:14-15

112 Court EL, Robinson JA, Hocken DB. An evaluation of informed consent and patient understanding of blood transfusion. British Journal of Haematology. 2010; 149:64

113 Crotty B. Recycling blood: sharing the benefits of cell salvage. Applied Health Economics and Health Policy. 2006; 5(1):5-10

114 Cuenca J, Garcia-Erce JA, Martinez F, Cardona R, Perez-Serrano L, Munoz M. Preoperative haematinics and transfusion protocol reduce the need for transfusion after total knee replacement. International Journal of Surgery. 2007; 5(2):89-94

115 Curley GF, Shehata N, Mazer CD, Hare GMT, Friedrich JO. Transfusion triggers for guiding RBC transfusion for cardiovascular surgery: a systematic review and meta-analysis. Critical Care Medicine. 2014; 42(12):2611-2624

116 Dadure C, Sauter M, Bringuier S, Bigorre M, Raux O, Rochette A et al. Intraoperative tranexamic acid reduces blood transfusion in children undergoing craniosynostosis surgery: a randomized double-blind study. Anesthesiology. 2011; 114(4):856-861

117 Dalmau A, Sabate A, Acosta F, Garcia-Huete L, Koo M, Sansano T et al. Tranexamic acid reduces red cell transfusion better than epsilon-aminocaproic acid or placebo in liver transplantation. Anesthesia and Analgesia. 2000; 91(1):29-34

118 Damgaard S, Nielsen CH, Andersen LW, Bendtzen K, Tvede M, Steinbruchel DA. Cell saver for on-pump coronary operations reduces systemic inflammatory markers: a randomized trial. Annals of Thoracic Surgery. 2010; 89(5):1511-1517

119 Dara SI, Rana R, Afessa B, Moore SB, Gajic O. Fresh frozen plasma transfusion in critically ill medical patients with coagulopathy. Critical Care Medicine. 2005; 33(11):2667-2671

120 Davies L, Brown TJ, Haynes S, Payne K, Elliott RA, McCollum C. Cost-effectiveness of cell salvage and alternative methods of minimising perioperative allogeneic blood transfusion: A systematic review and economic model. Health Technology Assessment. 2006; 10(44):1-114

121 Davis R, Murphy MF, Sud A, Noel S, Moss R, Asgheddi M et al. Patient involvement in blood transfusion safety: patients' and healthcare professionals' perspective. Transfusion Medicine. 2012; 22(4):251-256

122 de Gast-Bakker DH, de Wilde RBP, Hazekamp MG, Sojak V, Zwaginga JJ, Wolterbeek R et al. Safety and effects of two red blood cell transfusion strategies in pediatric cardiac surgery patients: a randomized controlled trial. Intensive Care Medicine. 2013; 39(11):2011-2019

123 Del Campo C, Lukman H, Mehta H, McKenzie FN. Iron therapy after cardiac operation: one prescription less? Journal of Thoracic and Cardiovascular Surgery. 1982; 84(4):631-633

124 Desjardins P, Turgeon AF, Tremblay MH, Lauzier F, Zarychanski R, Boutin A et al. Hemoglobin levels and transfusions in neurocritically ill patients: a systematic review of comparative studies. Critical Care. 2012; 16(2):R54

125 Desmettre T, Dubart AE, Capellier G, Fanara B, Puyraveau M, Kepka S et al. Emergency reversal of anticoagulation: the real use of prothrombin complex concentrates: a prospective multicenter two year French study from 2006 to 2008. Thrombosis Research. 2012; 130(3):e178-e183

126 Despotis GJ, Grishaber JE, Goodnough LT. The effect of an intraoperative treatment algorithm on physicians' transfusion practice in cardiac surgery. Transfusion. 1994; 34(4):290-296

127 Dhariwal SK, Khan KS, Allard S, Wilson M, Moore P, SALVO study group. Does current evidence support the use of intraoperative cell salvage in reducing the need for blood transfusion in caesarean section? Current Opinion in Obstetrics and Gynecology. 2014; 26(6):425-430

128 Diedrich B, Remberger M, Shanwell A, Svahn BM, Ringden O. A prospective randomized trial of a prophylactic platelet transfusion trigger of 10 x 10(9) per L versus 30 x 10(9) per L in allogeneic hematopoietic progenitor cell transplant recipients. Transfusion. 2005; 45(7):1064-1072

129 Dobosz B, Dutka J, Dutka L, Maleta P. Clinical and cost effectiveness-related aspects of retransfusion in total hip and knee arthroplasty. Ortopedia, Traumatologia, Rehabilitacja. 2012; 14(5):421-428

130 Doussau A, Perez P, Puntous M, Calderon J, Jeanne M, Germain C et al. Fresh-frozen plasma transfusion did not reduce 30-day mortality in patients undergoing cardiopulmonary bypass

cardiac surgery with excessive bleeding: the PLASMACARD multicenter cohort study. Transfusion. 2014; 54(4):1114-1124

131 Dowlatshahi D, Butcher KS, Asdaghi N, Nahirniak S, Bernbaum ML, Giulivi A et al. Poor prognosis in warfarin-associated intracranial hemorrhage despite anticoagulation reversal. Stroke; a Journal of Cerebral Circulation. 2012; 43(7):1812-1817

132 Duh MS, Weiner JR, White LA, Lefebvre P, Greenberg PE. Management of anaemia: a critical and systematic review of the cost effectiveness of erythropoiesis-stimulating agents. Pharmacoeconomics. 2008; 26(2):99-120

133 Duran de la Fuente P, Garcia-Fernandez J, Perez-Lopez C, Carceller F, Gilsanz RF. Usefulness of tranexamic acid in cranial remodeling surgery. Revista Espanola De Anestesiologia y Reanimacion. 2003; 50(8):388-394

134 Dzik S. Radio frequency identification for prevention of bedside errors. Transfusion. 2007; 47

135 Dzik WH, Corwin H, Goodnough LT, Higgins M, Kaplan H, Murphy M et al. Patient safety and blood transfusion: new solutions. Transfusion Medicine Reviews. 2003; 17(3):169-180

136 Dzik WH. Predicting hemorrhage using preoperative coagulation screening assays. Current Hematology Reports. 2004; 3(5):324-330

137 Eerenberg ES, Kamphuisen PW, Sijpkens MK, Meijers JC, Buller HR, Levi M. Reversal of rivaroxaban and dabigatran by prothrombin complex concentrate: a randomized, placebo-controlled, crossover study in healthy subjects. Circulation. 2011; 124(14):1573-1579

138 Elgafy H, Bransford RJ, McGuire RA, Dettori JR, Fischer D. Blood loss in major spine surgery: are there effective measures to decrease massive hemorrhage in major spine fusion surgery? Spine. 2010; 35(9 Suppl):S47-S56

139 Espahbod C, Veitz-Keenan A. Tranexamic acid reduces intraoperative blood loss in orthognathic surgery. Evidence-Based Dentistry. 2014; 15(2):63

140 Estcourt L, McSporran W, Dhesi A. The new platelet transfusion mobile site-a bedside tool to aid decision making. Transfusion Medicine. 2013; 23:45

141 Estcourt L, Stanworth S, Doree C, Hopewell S, Murphy MF, Tinmouth A et al. Prophylactic platelet transfusion for prevention of bleeding in patients with haematological disorders after chemotherapy and stem cell transplantation. Cochrane Database of Systematic Reviews. 2012; Issue 5:CD004269

142 Estcourt LJ, Stanworth S, Doree C, Trivella M, Hopewell S, Murphy MF et al. Different doses of prophylactic platelet transfusion for preventing bleeding in patients with haematological disorders after chemotherapy or stem cell transplantation. Cochrane Database of Systematic Reviews. 2014; Issue 3:CD010984. DOI:10.1002/14651858.CD010984

143 Faraoni D, Van der Linden P. What do we know about the use of tranexamic acid in pediatric cardiac surgery? Transfusion Alternatives in Transfusion Medicine. 2011; 12(1):39

144 Faraoni D, Goobie SM. The efficacy of antifibrinolytic drugs in children undergoing noncardiac surgery: a systematic review of the literature. Anesthesia and Analgesia. 2014; 118(3):628-636

145 Faraoni D, Willems A, Melot C, De Hert S, Van der Linden P. Efficacy of tranexamic acid in paediatric cardiac surgery: a systematic review and meta-analysis. European Journal of Cardio-Thoracic Surgery. 2012; 42(5):781-786

146 Febra C, Ressurreicao M, Conceicao A, Melo F, Pimentel I, Soares F et al. Improving patient safety in blood transfusion: An innovative application of informatics system managing blood transfusion process. Vox Sanguinis. 2011; 101:83

147 Fenger-Eriksen C, Jensen TM, Kristensen BS, Jensen KM, Tonnesen E, Ingerslev J et al. Fibrinogen substitution improves whole blood clot firmness after dilution with hydroxyethyl starch in bleeding patients undergoing radical cystectomy: a randomized, placebo-controlled clinical trial. Journal of Thrombosis and Haemostasis. 2009; 7(5):795-802

148 Finlay HE, Cassorla L, Feiner J, Toy P. Designing and testing a computer-based screening system for transfusion-related acute lung injury. American Journal of Clinical Pathology. 2005; 124(4):601-609

149 Fischer M, Matsuo K, Gonen M, Grant F, Dematteo RP, D'Angelica MI et al. Relationship between intraoperative fluid administration and perioperative outcome after pancreaticoduodenectomy: results of a prospective randomized trial of acute normovolemic hemodilution compared with standard intraoperative management. Annals of Surgery. 2010; 252(6):952-958

150 Foss NB, Kristensen MT, Jensen PS, Palm H, Krasheninnikoff M, Kehlet H. The effects of liberal versus restrictive transfusion thresholds on ambulation after hip fracture surgery. Transfusion. 2009; 49(2):227-234

151 French CJ, Bellomo R, Angus P. Cryoprecipitate for the correction of coagulopathy associated with liver disease. Anaesthesia and Intensive Care. 2003; 31(4):357-361

152 Friedman MT, Aksamawati Dit AW, Batra R, Daniel S, Hoehn D, MondolfiPaniz AE et al. Study to assess transfusion consent. Transfusion. 2011; 51:193A-194A

153 Froessler B, Tufanaru C, Cyna A, Pearson A. Preoperative anemia management with intravenous iron: a systematic review. JBI Database of Systematic Reviews and Implementation Reports. 2013; 11(10):157-189

154 Froessler B, Tufanaru C, Pearson A, Cyna A. Effectiveness and efficiency of pre-operative anaemia management with intravenous iron: A systematic review. JBI Library of Systematic Reviews. 2012; 10(14 Suppl)

155 Fu DJ, Chen C, Guo L, Yang L. Use of intravenous tranexamic acid in total knee arthroplasty: a meta-analysis of randomized controlled trials. Chinese Journal of Traumatology. 2013; 16(2):67-76

156 Galas F, Hajjar L, Sorensen B, Almeida J, Sundin M, Guimaraes V et al. Randomized comparison of fibrinogen concentrate versus cryoprecipitate for bleeding control in pediatric cardiac surgery (FICCS study). Critical Care. 2012; 16:S156-S157

157 Galusha C, Brown M, Kelly J. Bedside bar codes: protecting patients and nurses. Online Journal of Nursing Informatics. 2003; 7(3):-6p

158 Gandhi R, Evans HMK, Mahomed SR, Mahomed NN. Tranexamic acid and the reduction of blood loss in total knee and hip arthroplasty: a meta-analysis. BMC Research Notes. 2013; 6:184

159 Garg B, Dhatt S, Chakraborty S. Use of single-dose tranexamic acid to reduce blood loss in operative thoracolumbar trauma: a comparative study. Spine Journal. 2012; 12(9 Suppl 1):93S

160 Gautam PL, Katyal S, Yamin M, Singh A. Effect of tranexamic acid on blood loss and transfusion requirement in total knee replacement in the Indian population: A case series. Indian Journal of Anaesthesia. 2011; 55(6):590-593

161 Gautam VK, Sambandam B, Singh S, Gupta P, Gupta R, Maini L. The role of tranexamic acid in reducing blood loss in total knee replacement. Journal of Clinical Orthopaedics and Trauma. 2013; 4(1):36-39

162 Gauvin F, Spinella PC, Lacroix J, Choker G, Ducruet T, Karam O et al. Association between length of storage of transfused red blood cells and multiple organ dysfunction syndrome in pediatric intensive care patients. Transfusion. 2010; 50(9):1902-1913

163 George DA, Sarraf KM, Nwaboku H. Single perioperative dose of tranexamic acid in primary hip and knee arthroplasty. European Journal of Orthopaedic Surgery and Traumatology. 2015; 25:129-133

164 Gill JB, Chase E, Rosenstein AD. The use of tranexamic acid in revision total hip arthroplasty: a pilot study. Current Orthopaedic Practice. United States 2009; 20(2):152-156

165 Gill JB, Chin Y, Levin A, Feng D. The use of antifibrinolytic agents in spine surgery. A meta-analysis. Journal of Bone and Joint Surgery American Volume. 2008; 90(11):2399-2407

166 Gillette BP, Maradit Kremers H, Duncan CM, Smith HM, Trousdale RT, Pagnano MW et al. Economic impact of tranexamic acid in healthy patients undergoing primary total hip and knee arthroplasty. Journal of Arthroplasty. 2013; 28(8 Suppl):137-139

167 Goddard K, Shabestari O, Kay JDS, Roudsari A. Formatively evaluating the importance of different aspects of an electronic blood transfusion system from the end users' point of view: A questionnaire study. Studies in Health Technology and Informatics. 2010; 160(Part 1):1211-1215

168 Golab HD, Scohy TV, de Jong PL, Takkenberg JJM, Bogers AJJC. Intraoperative cell salvage in infants undergoing elective cardiac surgery: a prospective trial. European Journal of Cardio-Thoracic Surgery. 2008; 34(2):354-359

169 Goldenberg NA, Manco-Johnson MJ. Pediatric hemostasis and use of plasma components. Best Practice and Research Clinical Haematology. 2006; 19(1):143-155

170 Gomez C, Arzani Y, Ochoa J, Bertolotti A, Absi D. Prophylactic use of tranexamic acid and e-aminocaproic acid in heart surgery. British Journal of Anaesthesia. 2012; 108:ii362-ii363

171 Goobie SM, Meier PM, Pereira LM, McGowan FX, Prescilla RP, Scharp LA et al. Efficacy of tranexamic acid in pediatric craniosynostosis surgery: a double-blind, placebo-controlled trial. Anesthesiology. 2011; 114(4):862-871

172 Goodnough LT, McCullough J, Slichter S, Strauss R, Lin J-S, Conlan M. A platelet transfusion threshold of 20 x 109/L compared to 10 x 109/L is associated with increased pre-transfusion

bleeding and increased platelet transfusions: results of the SPRINT study. Transfusion. 2002; 42(9S):17S

173 Goodnough LT, Price TH, Parvin CA, Friedman KD, Vogler WR, Khan N et al. Erythropoietin response to anaemia is not altered by surgery or recombinant human erythropoietin therapy. British Journal of Haematology. 1994; 87(4):695-699

174 Goodnough LT, Shah N, Hadhazy E, Shieh L, Maggio P. Improved hospital-wide RBC utilization via clinical decision support is associated with stable or improving patient outcomes. Blood. 2013; 122(21)

175 Goodnough L. Operational, quality, and risk management in the transfusion service: lessons learned. Transfusion Medicine Reviews. 2012; 26(3):252-261

176 Goodnough LT, Viele M, Fontaine MJ, Jurado C, Stone N, Quach P et al. Implementation of a two-specimen requirement for verification of ABO/Rh for blood transfusion. Transfusion. 2009; 49(7):1321-1328

177 Gourlay T, Gunaydin S. Clinical outcome of transfusion processed by ultrafiltration in patients undergoing coronary bypass. Transfusion Medicine. 2013; 23:28

178 Goz V, Slobodyanyuk K, Cheriyan T, Schwab FJ, Verma K, Hoelscher CM et al. Antifibrinolytics reduce blood loss in adult spinal deformity surgery: A prospective randomized controlled trial. Spine Journal. 2013; 13(9 Suppl 1):1S

179 Grassin-Delyle S, Couturier R, Abe E, Alvarez JC, Devillier P, Urien S. A practical tranexamic acid dosing scheme based on population pharmacokinetics in children undergoing cardiac surgery. Anesthesiology. 2013; 118(4):853-862

180 Green M. Development. Introducing an electronic blood-tracking system. Nursing Times. 2008; 104(6):33-34

181 Gregurek S, Waters K, Cruz JL, Smith DS. Adult transfusion order sets are a useful adjunct in blood utilization programs. Transfusion. 2009; 49:174A

182 Gregurek SF, Waters KM, Limiac A, Smith DS. Development and validation of a robust automated screening tool to categorize transfusion indication during blood utilization review. Transfusion. 2010; 50:267A

183 Grimm E, Friedberg RC, Wilkinson DS, Aubuchon JP, Souers RJ, Lehman CM. Blood bank safety practices: mislabeled samples and wrong blood in tube--a Q-Probes analysis of 122 clinical laboratories. Archives of Pathology and Laboratory Medicine. 2010; 134(8):1108-1115

184 Grover M, Talwalkar S, Casbard A, Boralessa H, Contreras M, Boralessa H et al. Silent myocardial ischaemia and haemoglobin concentration: a randomized controlled trial of transfusion strategy in lower limb arthroplasty. Vox Sanguinis. 2006; 90(2):105-112

185 Grundsell H, Larsson G, Bekassy Z. Use of an antifibrinolytic agent (tranexamic acid) and lateral sutures with laser conization of the cervix. Obstetrics and Gynecology. 1984; 64(4):573-576

186 Guay J, de Moerloose P, Lasne D. Minimizing perioperative blood loss and transfusions in children. Canadian Journal of Anaesthesia. 2006; 53(6 Suppl):S59-S67

187 Guerra Hernando JM, Bargay LJ, Cladera SA, Alcover AS, Ponseti Socias M, Del Campo GR et al. Experience in integration of the blood transfusion process into computerized clinical record, from request to results. Improvements in ergonomics and security. Transfusion. 2010; 50:187A-188A

188 Gumpeni P, Wolf CFW. New technologies for monitoring and improving the safe administration of blood products. Laboratory Medicine. 2006; 37(12):737-741

189 Gurusamy KS, Pissanou T, Pikhart H, Vaughan J, Burroughs AK, Davidson BR. Methods to decrease blood loss and transfusion requirements for liver transplantation. Cochrane Database of Systematic Reviews. 2011; Issue 12:CD009052

190 Haien Z, Yong J, Baoan M, Mingjun G, Qingyu F. Post-operative auto-transfusion in total hip or knee arthroplasty: a meta-analysis of randomized controlled trials. PloS One. 2013; 8(1):e55073

191 Halder S, Samanta B, Sardar R, Chattopadhyay S. Tranexomic acid used before caesarean section reduces blood loss based on pre- and postoperative hemoglobin level: a case-control study. Journal of the Indian Medical Association. 2013; 111(3):184-186

192 Hardy JF. Should we reconsider triggers for red blood cell transfusion? Acta Anaesthesiologica Belgica. 2003; 54(4):287-295

193 Hashimoto T, Kokudo N, Orii R, Seyama Y, Sano K, Imamura H et al. Intraoperative blood salvage during liver resection: a randomized controlled trial. Annals of Surgery. 2007; 245(5):686-691

194 Hassani E, Mahoori A, Mehdizadeh H, Noroozinia H, Aghdashi MM, Saeidi M. The effects of tranexamic acid on postoperative bleeding in coronary artery bypass graft surgery. Tehran University Medical Journal. 2012; 70(3):176-182

195 Hearnshaw SA, Logan RFA, Palmer KR, Card TR, Travis SPL, Murphy MF. Outcomes following early red blood cell transfusion in acute upper gastrointestinal bleeding. Alimentary Pharmacology and Therapeutics. 2010; 32(2):215-224

196 Hebert PC. Red cell transfusion strategies in the ICU. Transfusion Requirements in Critical Care Investigators and the Canadian Critical Care Trials Group. Vox Sanguinis. 2000; 78 Suppl 2:167-177

197 Heckman KD, Weiner GJ, Davis CS, Strauss RG, Jones MP, Burns CP. Randomized study of prophylactic platelet transfusion threshold during induction therapy for adult acute leukemia: 10,000/microL versus 20,000/microL. Journal of Clinical Oncology. 1997; 15(3):1143-1149

198 Heddle NM, Cook RJ, Tinmouth A, Kouroukis CT, Hervig T, Klapper E et al. A randomized controlled trial comparing standard- and low-dose strategies for transfusion of platelets (SToP) to patients with thrombocytopenia. Blood. 2009; 113(7):1564-1573

199 Herman JH, Klumpp TR, Christman RA, Russo RR, Goldberg SL, Mangan KF. The effect of platelet dose on the outcome of prophylactic platelet transfusion. Transfusion. 1995; 35(10S):46S

200 Hesselvik F, Brodin B, Carlsson C, Cedergren B, Jorfeldt L, Lieden G. Cryoprecipitate infusion fails to improve organ function in septic shock. Critical Care Medicine. 1987; 15(5):475-483

201 Hoelscher C, Verma K, Errico T, Dryer J, Huncke T, Boenigk K et al. Are anti-fibrinolytics effective at reducing peri-operative blood loss in adolescent idiopathic scoliosis? Spine Journal. 2011; 11(10 Suppl 1):67S

202 Hogan M, Needham A, Ortmann E, Bottrill F, Besser M, Klein A. A randomized controlled trial of the effect of concentrating residual cardiopulmonary bypass blood using Hemosep on patient haematocrit after cardiac surgery. Applied Cardiopulmonary Pathophysiology. 2014; 18:51-52

203 Hogshire L, Carson JL. Red blood cell transfusion: what is the evidence when to transfuse? Current Opinion in Hematology. 2013; 20(6):546-551

204 Holcomb JB, Fox EE, Zhang X, White N, Wade CE, Cotton BA et al. Cryoprecipitate use in the PROMMTT study. Journal of Trauma and Acute Care Surgery. 2013; 75(1 Suppl 1):S31-S39

205 Holst LB, Haase N, Wetterslev J, Wernerman J, Aneman A, Guttormsen AB et al. Transfusion requirements in septic shock (TRISS) trial - comparing the effects and safety of liberal versus restrictive red blood cell transfusion in septic shock patients in the ICU: protocol for a randomised controlled trial. Trials. 2013; 14:150

206 Huang F, Wu D, Ma G, Yin Z, Wang Q. The use of tranexamic acid to reduce blood loss and transfusion in major orthopedic surgery: a meta-analysis. Journal of Surgical Research. 2014; 186(1):318-327

207 Huet C, Salmi LR, Fergusson D, Koopman-Van Gemert AW, Rubens F, Laupacis A. A meta-analysis of the effectiveness of cell salvage to minimize perioperative allogeneic blood transfusion in cardiac and orthopedic surgery. International Study of Perioperative Transfusion (ISPOT) Investigators. Anesthesia and Analgesia. 1999; 89(4):861-869

208 Hutton B, Joseph L, Fergusson D, Mazer D, Shapiro S, Tinmouth A. Combining randomized and observational data using network meta-analysis to explore drug safety: The case of antifibrinolytics in cardiac surgery. Clinical Trials. 2012; 9(4):483-484

209 Hutton B, Joseph L, Fergusson D, Mazer CD, Shapiro S, Tinmouth A. Risks of harms using antifibrinolytics in cardiac surgery: systematic review and network meta-analysis of randomised and observational studies. BMJ. 2012; 345:e5798

210 Huynh TK, Costello JL, Rebuck JA. Optimizing the dose of three-factor prothrombin complex concentrate in traumatic brain injury patients on warfarin therapy. Pharmacotherapy. 2014; 34(3):260-264

211 Hwang T-L, Chen M-F. Treatment of severely septic patients with fibrinectin-rich cryoprecipitate: a randomised trial. Acta Chirurgica - European Journal of Surgery. 1991; 157(11-12):653-655

212 Ibojie J, Urbaniak SJ. Comparing near misses with actual mistransfusion events: a more accurate reflection of transfusion errors. British Journal of Haematology. 2000; 108(2):458-460

213 Ipema HJ, Tanzi MG. Use of topical tranexamic acid or aminocaproic acid to prevent bleeding after major surgical procedures. Annals of Pharmacotherapy. 2012; 46(1):97-107

214 Irisson E, Hemon Y, Pauly V, Parratte S, Argenson JN, Kerbaul F. Tranexamic acid reduces blood loss and financial cost in primary total hip and knee replacement surgery. Orthopaedics and Traumatology: Surgery and Research. France 2012; 98(5):477-483

215 Islam S, Robertson B, Fulkes V, Robinson S, Harrison C. A pilot survey of patient's perception of a special transfusion card - An inner city teaching Hospital experience. Transfusion Medicine. 2011; 21:41

216 Iyengar A, Scipione CN, Sheth P, Ohye RG, Riegger L, Bove EL et al. Association of complications with blood transfusions in pediatric cardiac surgery patients. Annals of Thoracic Surgery. 2013; 96(3):910-916

217 Jahanshahi J, Hashemian F, Pazira S, Bakhshaei MH, Farahani F, Abasi R et al. Effect of topical tranexamic acid on bleeding and quality of surgical field during functional endoscopic sinus surgery in patients with chronic rhinosinusitis: a triple blind randomized clinical trial. PloS One. 2014; 9(8):e104477

218 Jairath V, Shakur H, Edwards P, Ker K, Manno D, Gilmore I et al. Update on the halt-it trial progress: tranexamic acid for the treatment of gastrointestinal haemorrhage - an international, randomised, double blind placebo controlled trial. Gut. 2014; 63:A120

219 Jairath V, Kahan BC, Gray A, Dore CJ, Mora A, Dyer C et al. Restrictive vs liberal blood transfusion for acute upper gastrointestinal bleeding: rationale and protocol for a cluster randomized feasibility trial. Transfusion Medicine Reviews. 2013; 27(3):146-153

220 Jaspers A, Baron F, Willems E, Seidel L, Hafraoui K, Vanstraelen G et al. Erythropoietin therapy after allogeneic hematopoietic cell transplantation: A prospective, randomized trial. Blood. 2014; 124(1):33-41

221 Jeong O, Park YK. Effect of intravenous iron supplementation for acute postoperative anemia in patients undergoing gastrectomy for gastric carcinoma: a pilot study. Annals of Surgical Oncology. 2014; 21(2):547-552

222 Jimenez-Yuste V, Prim MP, Diego JI, Villar A, Quintana M, Rabanal I et al. Otolaryngologic surgery in children with von Willebrand disease. Archives of Otolaryngology: Head and Neck Surgery. 2002; 128(12):1365-1368

223 Johansen M, Wikkelsø A, Lunde J, Wetterslev J, Afshari A. Prothrombin complex concentrate for perioperative reversal of vitamin K antagonist treatment in bleeding and non-bleeding patients requiring acute surgical intervention. Cochrane Database of Systematic Reviews. 2013; Issue 6:CD010555. DOI:10.1002/14651858.CD010555

224 Johnson RG, Thurer RL, Kruskall MS, Sirois C, Gervino EV, Critchlow J et al. Comparison of two transfusion strategies after elective operations for myocardial revascularization. Journal of Thoracic and Cardiovascular Surgery. 1992; 104(2):307-314

225 Josephson C, Sloan S, Granger S, Castillejo M, Strauss RG, Slichter S et al. Increased incidence of grade 2 and higher bleeding in pediatric PLADO trial patients. Transfusion. 2009; 49:19A-20A

226 Junagade P, Grace R, Gover P. Fixed dose prothrombin complex concentrate for the reversal of oral anticoagulation therapy. Hematology. 2007; 12(5):439-440

227 Kahan BC, Jairath V, Murphy MF, Dore CJ. Update on the transfusion in gastrointestinal bleeding (TRIGGER) trial: statistical analysis plan for a cluster-randomised feasibility trial. Trials. 2013; 14:206

228 Karam O, Tucci M, Ducruet T, Hume HA, Lacroix J, Gauvin F et al. Red blood cell transfusion thresholds in pediatric patients with sepsis. Pediatric Critical Care Medicine. 2011; 12(5):512-518

229 Karlsson M, Ternstrom L, Hyllner M, Baghaei F, Flinck A, Skrtic S et al. Prophylactic fibrinogen infusion reduces bleeding after coronary artery bypass surgery. A prospective randomised pilot study. Thrombosis and Haemostasis. 2009; 102(1):137-144

230 Kashefi P, Heidari SM, Saryazdi H, Javdan M. Evaluation of tranexemic acid effect on blood loss and transfusion in femoral shaft surgery. Journal of Isfahan Medical School. 2012; 30(192)

231 Kaste M, Ramsay M. Tranexamic acid in subarachnoid hemorrhage. A double-blind study. Stroke; a Journal of Cerebral Circulation. 1979; 10(5):519-522

232 Kaufman RM, Assmann SF, Triulzi DJ, Strauss RG, Ness P, Granger S et al. Transfusion-related adverse events in the Platelet Dose study. Transfusion. 2015; 55(1):144-153

233 Keating GM. Ferric carboxymaltose: a review of its use in iron deficiency. Drugs. 2015; 75:101-127

234 Kelley TC, Tucker KK, Adams MJ, Dalury DF. Use of tranexamic acid results in decreased blood loss and decreased transfusions in patients undergoing staged bilateral total knee arthroplasty. Transfusion. 2014; 54(1):26-30

235 Kennedy MS, Kalish LA, Mohandas K, Gernsheimer T, Townsend-McCall D, Viral Activation Transfusion Study Group. The transfusion trigger and number of units transfused in patients with HIV: associations with disease stage and functional status. Transfusion. 2002; 42(4):456-461

236 Ketchum L, Hess JR, Hiippala S. Indications for early fresh frozen plasma, cryoprecipitate, and platelet transfusion in trauma. Journal of Trauma - Injury, Infection and Critical Care. 2006; 60(6 Suppl):S51-S56

237 Khan Assir MZ, Kamran U, Ahmad HI, Bashir S, Mansoor H, Anees SB et al. Effectiveness of platelet transfusion in dengue fever: a randomized controlled trial. Transfusion Medicine and Hemotherapy. 2013; 40(5):362-368

238 Khan H, Belsher J, Yilmaz M, Afessa B, Winters JL, Moore SB et al. Fresh-frozen plasma and platelet transfusions are associated with development of acute lung injury in critically ill medical patients. Chest. 2007; 131(5):1308-1314

239 Khan MH, Watson HG, Dombrowski SU. Perceived hazards of transfusion: can a clinician tool help patients' understanding? Transfusion Medicine. 2012; 22(4):294-297

240 Kim TK, Chang CB, Koh IJ. Practical issues for the use of tranexamic acid in total knee arthroplasty: a systematic review. Knee Surgery, Sports Traumatology, Arthroscopy. 2014; 22(8):1849-1858

241 Klinck JR, Boylan JF, Sandler AN, Greig PD, Roger S, Nierenberg H. Tranexamic acid prophylaxis during liver transplantation: a randomized controlled trial. Hepatology. 1993; 18:728

242 Klumpp TR, Herman JH, Christman RA, Russo RR, Goldberg SL, Macdonald JS et al. The effect of platelet dose on the interval between platelet transfusions in patients undergoing bone marrow or peripheral blood stem cell transplantation. Proceedings of the American Society of Clinical Oncology. 1995; 14:536

243 Klumpp TR, Herman JH, Gaughan JP, Russo RR, Christman RA, Goldberg SL et al. Clinical consequences of alterations in platelet transfusion dose: a prospective, randomized, double-blind trial. Transfusion. 1999; 39(7):674-681

244 Knight C, Dano AM, Kennedy-Martin T. Systematic review of efficacy of rFVIIa and aPCC treatment for hemophilia patients with inhibitors. Advances in Therapy. 2009; 26(1):68-88

245 Konig G, Yazer MH, Waters JH. The effect of salvaged blood on coagulation function as measured by thromboelastography. Transfusion. 2013; 53(6):1235-1239

246 Kostousov V, Nguyen K, Hui SR, Teruya J. Influence of apheresis platelets and cryoprecipitate on heparin activity measured by PTT and anti-Xa in vitro. Transfusion. 2012; 52:191A

247 Krafft A, Breymann C. Iron sucrose with and without recombinant erythropoietin for the treatment of severe postpartum anemia: a prospective, randomized, open-label study. Journal of Obstetrics and Gynaecology Research. 2011; 37(2):119-124

248 Kristensen PW, Sorensen LS, Thyregod HC. Autotransfusion of drainage blood in arthroplasty. A prospective, controlled study of 31 operations. Acta Orthopaedica Scandinavica. 1992; 63(4):377-380

249 Kumar N, Chen Y, Zaw AS, Nayak D, Ahmed Q, Soong R et al. Use of intraoperative cell-salvage for autologous blood transfusions in metastatic spine tumour surgery: a systematic review. Lancet Oncology. 2014; 15(1):e33-e41

250 Kuo SF, Lin JS, Young LH, Wu CW. Improvement of blood component transfusion appropriateness with a prospective audit program at a medical center: A 2-year experience. Vox Sanguinis. 2011; 101:45

251 Labarinas S, Arni D, Karam O. Plasma in the PICU: why and when should we transfuse? Annals of Intensive Care. 2013; 3(1):1-7

252 Lang P, Bierling P, Buisson C, Fruchaud G, Busson M, Belghiti D et al. Influence of posttransplantation blood transfusion on kidney allograft survival: A one-center, double-blind, prospective, randomized study comparing cryopreserved and fresh red blood cell concentrates. Transplantation Proceedings. 1993; 25(1):616-618

253 Latreille M, Fortin S, Lacroix J, Tucci M, Robitaille N. Patient's and their parent's representations of blood and blood transfusion in a children's hospital: an anthropological study. Transfusion Alternatives in Transfusion Medicine. 2010; 11:16-17

254 Lauzier F, Cook D, Griffith L, Upton J, Crowther M. Fresh frozen plasma transfusion in critically ill patients. Critical Care Medicine. 2007; 35(7):1655-1659

255 Leal-Noval SR, Lopez-Irizo R, Bautista-Paloma J, Casado M, Arellano-Orden V, Leal-Romero M et al. Efficacy of the prothrombin complex concentrate prothromplex in patients requiring urgent reversal of vitamin K antagonists or presenting with uncontrolled bleeding: A retrospective, single center study. Blood Coagulation and Fibrinolysis. 2013; 24(8):862-868

256 Lee BW, Park MG, Cho DY, Park SS, Yeo JK. Preoperative erythropoietin administration in patients with prostate cancer undergoing radical prostatectomy without transfusion. Korean Journal of Urology. 2014; 55(2):102-105

257 Lee DH, Mehta MD, James PD. Differences in the perception of blood transfusion risk between laypeople and physicians. Transfusion. 2003; 43(6):772-778

258 Lee SH, Lee SM, Kim CS, Cho HS, Lee J-H, Lee CH et al. Fibrinogen recovery and changes in fibrin-based clot firmness after cryoprecipitate administration in patients undergoing aortic surgery involving deep hypothermic circulatory arrest. Transfusion. 2014; 54(5):1379-1387

259 Leelahanon S, Singhatanadgige S, Luengtaviboon K. Can tranexamic acid improve post cardiopulmonary bypass hemostasis? a double-blind prospective randomized placebo-controlled study. Thai Journal of Surgery. 2002; 23:138

260 Lerner RG, Nelson J, Sorcia E, Grima K, Kancherla RR, Zarou-Naimo CM et al. Evaluation of solvent/detergent-treated plasma in patients with a prolonged prothrombin time. Vox Sanguinis. 2000; 79(3):161-167

261 Levy JH, Petrozzino J, Jones C, Hoesche J. Perceptions about 'rapid' warfarin reversal to reduce the international normalized ratio with fresh frozen plasma: a double-blinded survey of U.S. trauma centers. Journal of Thrombosis and Haemostasis. 2011; 9:361

262 Li N, Li P, Liu M, Wang D, Xia L. Comparison between autologous blood transfusion drainage and no drainage/closed-suction drainage in primary total hip arthroplasty: a meta-analysis. Archives of Orthopaedic and Trauma Surgery. 2014; 134(11):1623-1631

263 Li ZJ, Fu X, Xing D, Zhang HF, Zang JC, Ma XL. Is tranexamic acid effective and safe in spinal surgery? A meta-analysis of randomized controlled trials. European Spine Journal. 2013; 22(9):1950-1957

264 Lian C-W, Li H, Li Q, Liu B. Tranexamic acid for coronary artery bypass grafting with on-pump: a systematic review. Chinese Journal of Evidence-Based Medicine. 2011; 11(2):150-160

265 Lightdale JR, Randolph AG, Tran CM, Jiang H, Colon A, Houlahan K et al. Impact of a conservative red blood cell transfusion strategy in children undergoing hematopoietic stem cell transplantation. Biology of Blood and Marrow Transplantation. 2012; 18(5):813-817

266 Lin DM, Lin ES, Tran MH. Efficacy and safety of erythropoietin and intravenous iron in perioperative blood management: a systematic review. Transfusion Medicine Reviews. 2013; 27(4):221-234

267 Lin DM, Murphy LS, Tran MH. Use of prothrombin complex concentrates and fibrinogen concentrates in the perioperative setting: a systematic review. Transfusion Medicine Reviews. 2013; 27(2):91-104

268 Lin PC, Hsu CH, Chen WS, Wang JW. Does tranexamic acid save blood in minimally invasive total knee arthroplasty? Clinical Orthopaedics and Related Research. 2011; 469(7):1995-2002

269 Liu JM, Peng HM, Shen JX, Qiu GX. A meta-analysis of the effectiveness and safety of using tranexamic acid in spine surgery. Chinese Journal of Surgery. 2010; 48(12):937-942

270 Lowe KC, Farrell K, Ferguson EM, James V. Current perceived risks of transfusion in the UK and relevance to the future acceptance of blood substitutes. Artificial Cells, Blood Substitutes, and Immobilization Biotechnology. 2001; 29(3):179-189

271 Lozano M, Basora M, Peidro L, Merino I, Segur JM, Pereira A et al. Effectiveness and safety of tranexamic acid administration during total knee arthroplasty. Vox Sanguinis. 2008; 95:39-44

272 Lu FQ, Wang WM, Yu M. Effect of reducing prophylactic platelet transfusion dose on bleeding in thrombocytopenia patients. Vox Sanguinis. 2011; 101:310

273 Lu FQ, Zhao DW, Peng Y. Clinical study on the effect of reducing prophylactic platelet transfusion dose on bleeding in stable thrombocytopenia patients. Vox Sanguinis. 2013; 105:262

274 Lum G. Should the transfusion trigger and hemoglobin low critical limit be identical? Annals of Clinical and Laboratory Science. 1997; 27(2):130-134

275 Lundin E, Johansson T, Zachrisson H, Leandersson U, Backman F, Falknas L et al. Single dose of tranexamic acid reduces blood loss and transfusions in surgery for advanced ovarian cancer. International Journal of Gynecological Cancer. 2013; 23(8 Suppl 1):63

276 Lusher JM. Controlled clinical trials with prothrombin complex concentrates. Progress in Clinical and Biological Research. 1984; 150:277-290

277 Lusher JM, Blatt PM, Penner JA, Aledort LM, Levine PH, White GC et al. Autoplex versus proplex: a controlled, double-blind study of effectiveness in acute hemarthroses in hemophiliacs with inhibitors to factor VIII. Blood. 1983; 62(5):1135-1138

278 Lusher JM, Shapiro SS, Palascak JE, Rao AV, Levine PH, Blatt PM. Efficacy of prothrombin-complex concentrates in hemophiliacs with antibodies to factor VIII: a multicenter therapeutic trial. New England Journal of Medicine. 1980; 303(8):421-425

279 Ma A, Smith A, Alston P, Brindle W, Burton G, Manelius I et al. Mechanical cell salvage and off-pump coronary artery bypass grafting surgery: a systematic review and meta-analysis. Journal of Cardiothoracic and Vascular Anesthesia. 2010; 24(3 Suppl 1):S12-S13

280 MacGillivray RG, Tarabichi SB, Hawari MF, Raoof NT. Tranexamic acid to reduce blood loss after bilateral total knee arthroplasty: a prospective, randomized double blind study. Journal of Arthroplasty. 2011; 26(1):24-28

281 MacLaren R, Gasper J, Jung R, Vandivier RW. Use of exogenous erythropoietin in critically ill patients. Journal of Clinical Pharmacy and Therapeutics. 2004; 29(3):195-208

282 Mahapatra P, Neffendorf JE, Wilson S. Consent for blood transfusions-are we making progress? Vox Sanguinis. 2013; 105:62-63

283 Mai J, Sikand H. Is low dose 3-factor PCC effective for warfarin reversal? Critical Care Medicine. 2013; 41(12 Suppl 1):A226

284 Maniar RN, Kumar G, Singhi T, Nayak RM, Maniar PR. Most effective regimen of tranexamic acid in knee arthroplasty: a prospective randomized controlled study in 240 patients. Clinical Orthopaedics and Related Research. 2012; 470(9):2605-2612

285 Markar SR, Jones GG, Karthikesalingam A, Segaren N, Patel RV. Transfusion drains versus suction drains in total knee replacement: meta-analysis. Knee Surgery, Sports Traumatology, Arthroscopy. 2012; 20(9):1766-1772

286 Martinez A, Fernandez De Gamarra A, Font A, Belaouchi M, Gomez AM, Moral V. Predicting blood transfusion needs in off-pump coronary cardiac surgery: development, validation and comparison of a prognostic index. European Journal of Anaesthesiology. 2011; 28:82

287 Martinez-Sanz R, Jimenez JJ, Iribarren JL, De La Llana RJ, Nassar IM, Garrido P et al. Single or double tranexamic acid dose to minimize fibrinolysis and inflammatory response after open heart surgery? a randomized doubleblind phase iv clinical trial. Heart Surgery Forum. 2011; 14:S117

288 Mascotti K, Wenzel JJ, Hustead VA, Gulke R, Zier J, Flynn M et al. Standardizing transfusion practices through computerized physician order entry in a pediatric hospital setting. Transfusion. 2009; 49:202A

289 Mason L, Fitzgerald C, Powell-Tuck J, Rice R. Intraoperative cell salvage versus postoperative autologous blood transfusion in hip arthroplasty: a retrospective service evaluation. Annals of the Royal College of Surgeons of England. 2011; 93(5):398-400

290 Matkovic M, Vuksanovic M, Putnik S. The efficacy of intraoperative cell salvage during coronary artery bypass grafting. European Journal of Medical Research. 2010; 15:223

291 Matsumoto M, Kawa K, Uemura M, Kato S, Ishizashi H, Isonishi A et al. Prophylactic fresh frozen plasma may prevent development of hepatic VOD after stem cell transplantation via ADAMTS13-mediated restoration of von Willebrand factor plasma levels. Bone Marrow Transplantation. 2007; 40(3):251-259

292 McCarthy T, Mullett H, Carey M, Burke TE. Irish orthopaedic patients' attitudes to blood transfusion. Irish Medical Journal. 2001; 94(4):110-111

293 McCrory MC, Strouse JJ, Takemoto C, Easley RB. Safety and efficacy of a manual isovolumetric double volume exchange transfusion protocol in children. American Journal of Respiratory and Critical Care Medicine. 2010; 181(1 MeetingAbstracts)

294 Mercuriali F, Gualtieri G, Inghilleri G, Biffi E, Vinci A, Colotti MT. Erythropoietin for autologous blood donation in anemic rheumatoid patients undergoing major orthopedic surgery. British Journal of Haematology. 1994; 87(Suppl 1):159

295 Mercuriali F, Inghilleri G, Colotti MT, Fare M, Biffi E, Vinci A et al. Bedside transfusion errors: analysis of 2 years' use of a system to monitor and prevent transfusion errors. Vox Sanguinis. 1996; 70(1):16-20

296 Meybohm P, Herrmann E, Nierhoff J, Zacharowski K. Aprotinin may increase mortality in low and intermediate risk but not in high risk cardiac surgical patients compared to tranexamic acid and -aminocaproic acid -- a meta-analysis of randomised and observational trials of over 30.000 patients. PloS One. 2013; 8(3):e58009

297 Miao Y-L, Ma H-S, Guo W-Z, Wu J-G, Liu Y, Shi W-Z et al. The efficacy and cost-effectiveness of cell saver use in instrumented posterior correction and fusion surgery for scoliosis in school-aged children and adolescents. PloS One. 2014; 9(4)

298 Moguilevitch M, Sarwahi V. Methods to reduce blood loss in pediatric scoliosis surgery. European Journal of Anaesthesiology. 2011; 28:88-89

299 Molloy DO, Archbold HA, Ogonda L, McConway J, Wilson RK, Beverland DE. Comparison of topical fibrin spray and tranexamic acid on blood loss after total knee replacement: a prospective, randomised controlled trial. Journal of Bone and Joint Surgery British Volume. 2007; 89(3):306-309

300 Monk TG, Goodnough LT, Brecher ME, Colberg JW, Andriole GL, Catalona WJ. A prospective randomized comparison of three blood conservation strategies for radical prostatectomy. Anesthesiology. 1999; 91(1):24-33

301 Moonen AFCM, Thomassen BJW, Knoors NT, van Os JJ, Verburg AD, Pilot P. Pre-operative injections of epoetin-alpha versus post-operative retransfusion of autologous shed blood in total hip and knee replacement: a prospective randomised clinical trial. Journal of Bone and Joint Surgery British Volume. 2008; 90(8):1079-1083

302 Moore K, Berta D, Hewitt J, Ralley F, Chu M. Blood conservation strategies in ascending aortic arch surgery. Canadian Journal of Cardiology. 2011; 27(5 Suppl 1):S194-S195

303 Morales M, Udina E, Asbert R. Implementation of a program to reduce allogeneic blood transfusion in total hip arthroplasty. European Journal of Anaesthesiology. 2013; 30:96-97

304 Moret F, Flo A, Escudero A, Masso E. Tranexamic acid reduces postoperative bleeding but not allogeneic transfusion requirements in valve replacement cardiac surgery. European Journal of Anaesthesiology. 2006; 23:2-3

305 Morgan A, Anderson W, Bevilacqua R, Cohn L, Moore FD, Collins JJJ. Effects of computer-controlled transfusion on recovery from cardiac surgery. Annals of Surgery. 1973; 178(4):391-398

306 Morgenschweis K, Gierth T, Hering R. Effects of cell saver autologous blood transfusion on allogeneic blood transfusion in patients undergoing primary hip and knee replacement. Transfusion Alternatives in Transfusion Medicine. 2011; 12(1):26

307 Morris AH. Decision-support for clinicians - How to implement. Journal of Clinical Monitoring and Computing. 2011; 25(1):28-29

308 Motta M, Del Vecchio A, Perrone B, Ghirardello S, Radicioni M. Fresh frozen plasma use in the NICU: a prospective, observational, multicentred study. Archives of Disease in Childhood Fetal and Neonatal Edition. 2014; 99(4):F303-F308

309 Mudge DW, Tan KS, Miles R, Johnson DW, Campbell SB, Hawley CM et al. Intravenous versus oral iron supplementation for correction of post-transplant anaemia in renal transplant patients. BMC Nephrology. 2009; 10:14

310 Mudge DW, Tan K-S, Miles R, Johnson DW, Badve SV, Campbell SB et al. A randomized controlled trial of intravenous or oral iron for posttransplant anemia in kidney transplantation. Transplantation. 2012; 93(8):822-826

311 Muhammad N, Jamlos NF, Wahab NH, Alias NF, Ismail R, Hamzah N. Informed consent in blood transfusion: Patients' perspectives. Vox Sanguinis. 2014; 107:216

312 Muller MC, Straat M, Meijers JC, Klinkspoor JH, de JE, Arbous MS et al. Fresh frozen plasma transfusion fails to influence the hemostatic balance in critically ill patients with a coagulopathy. Journal of Thrombosis and Haemostasis : JTH. 2015; 13(6):989-997

313 Muller MCA, de Jonge E, Arbous MS, Spoelstra-de Man AME, Karakus A, Vroom MB et al. Transfusion of fresh frozen plasma in non-bleeding ICU patients--TOPIC trial: study protocol for a randomized controlled trial. Trials. 2011; 12:266

314 Munoz M, Breymann C, Garcia-Erce JA, Gomez-Ramirez S, Comin J, Bisbe E. Efficacy and safety of intravenous iron therapy as an alternative/adjunct to allogeneic blood transfusion. Vox Sanguinis. 2008; 94(3):172-183

315 Munoz M, Iglesias D, Garcia-Erce JA, Cuenca J, Herrera A, Martin-Montanez E et al. Utility and cost of low-vacuum reinfusion drains in patients undergoing surgery for subcapital hip fracture repair: a before and after cohort study. Vox Sanguinis. 2014; 106(1):83-91

316 Munoz M, Naveira E, Seara J, Palmer JH, Cuenca J, Garcia-Erce JA. Role of parenteral iron in transfusion requirements after total hip replacement. A pilot study. Transfusion Medicine. 2006; 16(2):137-142

317 Munoz M, Ariza D, Campos A, Martin-Montanez E, Pavia J. The cost of post-operative shed blood salvage after total knee arthroplasty: an analysis of 1,093 consecutive procedures. Blood Transfusion. 2013; 11(2):260-271

318 Murphy GJ, Rogers CS, Lansdowne WB, Channon I, Alwair H, Cohen A et al. Safety, efficacy, and cost of intraoperative cell salvage and autotransfusion after off-pump coronary artery bypass surgery: a randomized trial. Journal of Thoracic and Cardiovascular Surgery. 2005; 130(1):20-28

319 Murphy MF, Casbard AC, Ballard S, Shulman IA, Heddle N, Aubuchon JP et al. Prevention of bedside errors in transfusion medicine (PROBE-TM) study: a cluster-randomized, matched-paired clinical areas trial of a simple intervention to reduce errors in the pretransfusion bedside check. Transfusion. 2007; 47(5):771-780

320 Murphy S, Snyder E, Cable R, Slichter S, Strauss R, McCullough J. Transfusion of INTERCEPT platelets vs. reference platelets at doses >/=3.0x1011 results in comparable hemostasis and platelet and RBC transfusion requirements. Results of the SPRINT trial. Blood. 2003; 102(11 Pt 1):815a

321 Murphy S, Snyder E, Cable R, Slichter SJ, Strauss RG, McCullough J et al. Platelet dose consistency and its effect on the number of platelet transfusions for support of thrombocytopenia: an analysis of the SPRINT trial of platelets photochemically treated with amotosalen HCl and ultraviolet A light. Transfusion. 2006; 46(1):24-33

322 Naim A, Gollins JR, Reynolds C, Walls D. Examining knowledge and information seeking behaviors towards blood transfusion among individuals with cancer. Value in Health. 2012; 15(4):A227

323 Naim A, Walls D, Gollins J, Reynolds C. Examining the patient-centered decision making attributes towards blood transfusion among individuals with Chronic Kidney Disease (CKD). Pharmacotherapy. 2011; 31(10):406e

324 Naim AB, Walls D, Gollins J, Reynolds C. Examining the role of caregiver towards blood transfusion decisions among individuals with chronic kidney disease. Blood. 2011; 118(21)

325 Napolitano LM, Corwin HL. Efficacy of red blood cell transfusion in the critically ill. Critical Care Clinics. 2004; 20(2):255-268

326 Nevo S, Fuller AK, Hartley E, Borinsky ME, Vogelsang GB. Acute bleeding complications in patients after hematopoietic stem cell transplantation with prophylactic platelet transfusion triggers of 10 x 109 and 20 x 109 per L. Transfusion. 2007; 47(5):801-812

327 Ngaage DL, Bland JM. Lessons from aprotinin: is the routine use and inconsistent dosing of tranexamic acid prudent? Meta-analysis of randomised and large matched observational studies. European Journal of Cardio-Thoracic Surgery. 2010; 37(6):1375-1383

328 Ngo LT, Bruhn R, Custer B. Risk perception and its role in attitudes toward blood transfusion: a qualitative systematic review. Transfusion Medicine Reviews. 2013; 27(2):119-128

329 Nicolai P, Leggetter PP, Glithero PR, Bhimarasetty CR. Autologous transfusion in acetabuloplasty in children. Journal of Bone and Joint Surgery British Volume. 2004; 86(1):110-112

330 Nielsen K, Dahl B, Johansson PI, Henneberg SW, Rasmussen LS. Intraoperative transfusion threshold and tissue oxygenation: a randomised trial. Transfusion Medicine. 2012; 22(6):418-425

331 Noddeland H, Tollofsrud S, Svennevig J, Bentsen G, Brosstad F, Solheim B. Universal solvent/detergent-treated fresh frozen plasma (Uniplas--rationale and clinical properties. Thrombosis Research. 2002; 107 Suppl 1:S33-S37

332 Norol F, Duedari N, Kuentz M, Vernant JP. Comparison of different 'doses' of platelet transfusion. Blood. 1995; 86(10 Suppl 1):353a

333 Novis DA, Miller KA, Howanitz PJ, Renner SW, Walsh MK, College of American Pathologists. Audit of transfusion procedures in 660 hospitals. A College of American Pathologists Q-Probes study of patient identification and vital sign monitoring frequencies in 16494 transfusions. Archives of Pathology and Laboratory Medicine. 2003; 127(5):541-548

334 O'Hara J, Sprung J, Klein EA, Dilger JA, Domen RE, Piedmonte MR. Use of preoperative autologous blood donation in patients undergoing radical retropubic prostatectomy. Urology. 1999; 54(1):130-134

335 Offierski CM, Gagne S, Bishop C. Efficacy of tranexamic acid for blood conservation in primary total joint arthroplasty. Transfusion Medicine. 2013; 23:43

336 Ohsaka A, Abe K, Nakamura Y, Ohsawa T, Sugita S. Issuing of blood components dispensed in syringes and bar code-based pretransfusion check at the bedside for pediatric patients. Transfusion. 2009; 49(7):1423-1430

337 Oishi CS, D'Lima DD, Morris BA, Hardwick ME, Berkowitz SD, Colwell CWJ. Hemodilution with other blood reinfusion techniques in total hip arthroplasty. Clinical Orthopaedics and Related Research. 1997;(339):132-139

338 Orme J, Still D, Day R, Evans J, Perkins P. The experiences of patients undergoing blood transfusion in a day hospice. International Journal of Palliative Nursing. 2013; 19(4):171-176

339 Otite F, Cai X, Bresette L, Henderson G, Sorond F, Feske S et al. PCC decreases time to surgery but does not reduce mortality in warfarin-associated SDH. Critical Care Medicine. 2013; 41(12 Suppl 1):A114

340 Ozal E, Kuralay E, Bingol H, Cingoz F, Ceylan S, Tatar H. Does tranexamic acid reduce desmopressin-induced hyperfibrinolysis? Journal of Thoracic and Cardiovascular Surgery. 2002; 123(3):539-543

341 Pabinger I, Brenner B, Kalina U, Knaub S, Nagy A, Ostermann H et al. Prothrombin complex concentrate (Beriplex P/N) for emergency anticoagulation reversal: a prospective multinational clinical trial. Journal of Thrombosis and Haemostasis. 2008; 6(4):622-631

342 Pabinger I, Tiede A, Kalina U, Knaub S, Germann R, Ostermann H et al. Impact of infusion speed on the safety and effectiveness of prothrombin complex concentrate: a prospective clinical trial of emergency anticoagulation reversal. Annals of Hematology. 2010; 89(3):309-316

343 Pagliaro P, Rebulla P. Transfusion recipient identification. Vox Sanguinis. 2006; 91(2):97-101

344 Pajoumand M, Erstad BL, Camamo JM. Use of epoetin alfa in critically ill patients. Annals of Pharmacotherapy. 2004; 38(4):641-648

345 Palmieri TL, Lee T, O'Mara MS, Greenhalgh DG. Effects of a restrictive blood transfusion policy on outcomes in children with burn injury. Journal of Burn Care and Research. United States 2007; 28(1):65-70

346 Palo R, Ali-Melkkila T, Hanhela R, Jantti V, Krusius T, Leppanen E et al. Development of permanent national register of blood component use utilizing electronic hospital information systems. Vox Sanguinis. 2006; 91(2):140-147

347 Panchmatia JR, Chegini S, Lobban C, Shah G, Stapleton C, Smallman JM et al. The routine use of tranexamic acid in hip and knee replacements. Bulletin of the NYU Hospital for Joint Diseases. United Kingdom 2012; 70(4):246-249

348 Panteli M, Papakostidis C, Dahabreh Z, Giannoudis PV. Topical tranexamic acid in total knee replacement: a systematic review and meta-analysis. Knee. 2013; 20(5):300-309

349 Parker MJ. Randomised trial of blood transfusion versus a restrictive transfusion policy after hip fracture surgery. Injury. 2013; 44(12):1916-1918

350 Parker RI. Transfusion in critically ill children: indications, risks, and challenges. Critical Care Medicine. 2014; 42(3):675-690

351 Patanwala AE, Acquisto NM, Erstad BL. Prothrombin complex concentrate for critical bleeding. Annals of Pharmacotherapy. 2011; 45(7-8):990-999

352 Patel JN, Spanyer JM, Smith LS, Huang J, Yakkanti MR, Malkani AL. Comparison of intravenous versus topical tranexamic acid in total knee arthroplasty: a prospective randomized study. Journal of Arthroplasty. 2014; 29(8):1528-1531

353 Pedrazzoli P, Perotti C, Prada GA, Battaglia M, Noris P, Preti P et al. Autologous platelet transfusion in patients receiving high-dose chemotherapy and circulating progenitor cell transplantation for high risk breast cancer. Proceedings of the American Society of Clinical Oncology. 1997; 16:102a

354 Peitsidis P, Koukoulomati A. Tranexamic acid for the management of uterine fibroid tumors: a systematic review of the current evidence. World Journal of Clinical Cases. 2014; 2(12):893-898

355 Pfeffer MA, Burdmann EA, Chen CY, Cooper ME, de Zeeuw D, Eckardt KU et al. A trial of darbepoetin alfa in type 2 diabetes and chronic kidney disease. New England Journal of Medicine. 2009; 361(21):2019-2032

356 Philcox DJ. Computer potential in transfusion laboratories. IMLS Gazette. 1987;

357 Pieracci FM, Henderson P, Rodney JRM, Holena DN, Genisca A, Ip I et al. Randomized, double-blind, placebo-controlled trial of effects of enteral iron supplementation on anemia and risk of infection during surgical critical illness. Surgical Infections. 2009; 10(1):9-19

358 Proctor MR, Meier P, Pereira L, McGowan F, Scharp L, Rogers G et al. Efficacy of tranexamic acid on blood loss and transfusion rates in pediatric craniosynostosis surgery: A double blind placebo controlled study. Journal of Neurosurgery. 2011; 115(2):A419-A420

359 Prokopchuk-Gauk O, Rosin M, Mycyk T, Lim H, Brose K. Topical application of tranexamic acid to reduce post-operative bleeding in coronary artery bypass surgery. Blood. 2012; 120(21)

360 Pundir V, Pundir J, Georgalas C, Fokkens WJ. Role of tranexamic acid in endoscopic sinus surgery - a systematic review and meta-analysis. Rhinology. 2013; 51(4):291-297

361 Puronen C, Libby E. Reversal of excessive warfarin anticoagulation with fresh frozen plasma: a study of the turnaround time for plasma administration from ordering to infusion. Haemophilia. 2009; 15(2):627

362 Quillen K, Murphy K. Quality improvement to decrease specimen mislabeling in transfusion medicine. Archives of Pathology and Laboratory Medicine. 2006; 130(8):1196-1198

363 Rajesparan K, Biant LC, Ahmad M, Field RE. The effect of an intravenous bolus of tranexamic acid on blood loss in total hip replacement. Journal of Bone and Joint Surgery British Volume. 2009; 91(6):776-783

364 Rao M, Caceres J, Timothy AD, Cotto L, Garcia SR. Implementation of an educational intervention and an electronic decision support model with computerized order entry to reduce inappropriate red blood cell transfusions. Journal of General Internal Medicine. 2013; 28:S103

365 Rao VK, Dyga R, Bartels C, Waters JH. A cost study of postoperative cell salvage in the setting of elective primary hip and knee arthroplasty. Transfusion. 2012; 52(8):1750-1760

366 Razzaghi A, Barkun AN. Platelet transfusion threshold in patients with upper gastrointestinal bleeding: a systematic review. Journal of Clinical Gastroenterology. 2012; 46(6):482-486

367 Rebulla P. Interim report from the platelet transfusion trigger trial (PTTT): a prospective controlled study on bleeding risk in acute myeloblastic leukemia (AML) patients randomized to be transfused at £10 versus £20 x 109/L platelets. Blood. 1996; 88(10):443a

368 Rebulla P, Finazzi G, Marangoni F, Avvisati G, Gugliotta L, Tognoni G et al. The threshold for prophylactic platelet transfusions in adults with acute myeloid leukemia. Gruppo Italiano Malattie Ematologiche Maligne dell'Adulto. New England Journal of Medicine. 1997; 337(26):1870-1875

369 Reim D, Kim YW, Nam BH, Kim MJ, Yook JH, Park YK et al. FAIRY: a randomized controlled patient-blind phase III study to compare the efficacy and safety of intravenous ferric carboxymaltose (Ferinject) to placebo in patients with acute isovolemic anemia after gastrectomy - study protocol for a randomized controlled trial. Trials. 2014; 15:111

370 Renner SW, Howanitz PJ, Bachner P. Wristband identification error reporting in 712 hospitals: a College of American Pathologists' Q-Probes study of quality issues in transfusion practice. Archives of Pathology and Laboratory Medicine. 1993; 117(6):573-577

371 Rentas FJ, Clark PA. Blood type discrepancies on military identification cards and tags: a readiness concern in the U.S. Army. Military Medicine. 1999; 164(11):785-787

372 Riley W, Smalley B, Pulkrabek S, Clay ME, McCullough J. Using lean techniques to define the platelet (PLT) transfusion process and cost-effectiveness to evaluate PLT dose transfusion strategies. Transfusion. 2012; 52(9):1957-1967

373 Risch A, Dorscheid E, Stein G, Seyfert UT, Grundmann U. The effect of aprotinin and tranexamic acid on fibrinolysis and thrombin generation during cardiopulmonary bypass. Der Anaesthesist. 2000; 49(4):279-285

374 Rosland RG, Hagen MU, Haase N, Holst LB, Plambech M, Madsen KR et al. Red blood cell transfusion in septic shock - clinical characteristics and outcome of unselected patients in a prospective, multicentre cohort. Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine. 2014; 22:14

375 Rothschild JM, McGurk S, Honour M, Fiskio J, Avorn J, Cook EF et al. The impact of computerized decision support guidelines on transfusion practice. Transfusion. 2004; 44(s1):3A

376 Rouette J, Trottier H, Ducruet T, Beaunoyer M, Lacroix J, Tucci M. Red blood cell transfusion threshold in postsurgical pediatric intensive care patients: a randomized clinical trial. Annals of Surgery. 2010; 251(3):421-427

377 Rowlands M, Forward DP, Sahota O, Moppett IK. The effect of intravenous iron on postoperative transfusion requirements in hip fracture patients: study protocol for a randomized controlled trial. Trials. 2013; 14:288

378 Rybo G, Westerberg H. The effect of tranexamic acid (AMCA) on postoperative bleeding after conization. Acta Obstetricia Et Gynecologica Scandinavica. 1972; 51(4):347-350

379 Sahin DG, Akay OM, Karagulle M, Gunduz E, Gulbas Z. Thromboelastographic follow-up of prophylactic thrombocyte transfusion. Blood. 2013; 122(21)

380 Sandler SG, Langeberg A, Debandi L, Gibble J, Wilson C, Feldman CL. Radiofrequency identification technology can standardize and document blood collections and transfusions. Transfusion. 2007; 47(5):763-770

381 Sarode R, Refaai MA, Matevosyan K, Burner JD, Hampton S, Rutherford C. Prospective monitoring of plasma and platelet transfusions in a large teaching hospital results in significant cost reduction. Transfusion. 2010; 50(2):487-492

382 Sasanuma H, Sekiya H, Takatoku K, Takada H, Sugimoto N, Hoshino Y. Efficient strategy for controlling postoperative hemorrhage in total knee arthroplasty. Knee Surgery, Sports Traumatology, Arthroscopy. 2011; 19(6):921-925

383 Savvidou C, Chatziioannou SN, Pilichou A, Pneumaticos SG. Efficacy and cost-effectiveness of cell saving blood autotransfusion in adult lumbar fusion. Transfusion Medicine. 2009; 19(4):202-206

384 Schiffer CA, Aisner J, Wiernik PH. Clinical experience with transfusion of cryopreserved platelets. British Journal of Haematology. 1976; 34(3):377-385

385 Schiffer CA, Buchholz DH, Aisner J. Frozen autologous platelets in the supportive care of patients with leukemia. Transfusion. 1976; 16(4):321-329

386 Schnurr C, Csecsei G, Eysel P, Konig DP. The effect of computer navigation on blood loss and transfusion rate in TKA. Orthopedics. 2010; 33(7):474

387 Schouten ES, van de Pol AC, Schouten ANJ, Turner NM, Jansen NJG, Bollen CW. The effect of aprotinin, tranexamic acid, and aminocaproic acid on blood loss and use of blood products in major pediatric surgery: a meta-analysis. Pediatric Critical Care Medicine. 2009; 10(2):182-190

388 Schulmeister L. Patient misidentification in oncology care. Clinical Journal of Oncology Nursing. 2008; 12(3):495-498

389 Sensebe L, Giraudeau B, Bardiaux L, Deconinck E, Schmidt A, Bidet ML et al. The efficiency of transfusing high doses of platelets in hematologic patients with thrombocytopenia: results of a prospective, randomized, open, blinded end point (PROBE) study. Blood. 2005; 105(2):862-864

390 Sezik S, Aksay E, Kilic TY. The effect of fresh frozen plasma transfusion on international normalized ratio in emergency department patients. Journal of Emergency Medicine. 2014; 47(5):596-600

391 Shah A, Stanworth SJ, McKechnie S. Evidence and triggers for the transfusion of blood and blood products. Anaesthesia. 2015; 70 Suppl 1:10-e3

392 Shantikumar S, Patel S, Handa A. The role of cell salvage autotransfusion in abdominal aortic aneurysm surgery. European Journal of Vascular and Endovascular Surgery. 2011; 42(5):577-584

393 Shehata N, Burns LA, Nathan H, Hebert P, Hare GMT, Fergusson D et al. A randomized controlled pilot study of adherence to transfusion strategies in cardiac surgery. Transfusion. 2012; 52(1):91-99

394 Shen J, Liang J, Chua S. Does intraoperative cell salvage system effectively decrease the need for allogeneic transfusions in scoliotic patients undergoing posterior spinal fusion: A prospective randomized study. European Spine Journal. 2013; 22(5 Suppl 1):S758-S759

395 Shimizu K, Toda Y, Iwasaki T, Takeuchi M, Morimatsu H, Egi M et al. Effect of tranexamic acid on blood loss in pediatric cardiac surgery: a randomized trial. Journal of Anesthesia. 2011; 25(6):823-830

396 Shimpo H, Mizumoto T, Tanaka K, Yada I, Kusagawa M. Recombinant human erythropoietin (EPO) in pediatric open heart surgery. Japanese Journal of Artificial Organs. 1994; 23(3):956-959

397 Shojania KG, Jennings A, Mayhew A, Ramsay CR, Eccles MP, Grimshaw J. The effects of on-screen, point of care computer reminders on processes and outcomes of care. Cochrane

Database of Systematic Reviews. 2009; Issue 3:CD001096. DOI:10.1002/14651858.CD001096.pub2

398 Shulman G, Solanki DR, Hadjipavlou A. Augmented autologous transfusions in major reconstructive spine surgery. Journal of Clinical Apheresis. 1998; 13(2):62-68

399 Silva LLM, Andres AJB, Senger R, Stuermer R, Godoy MCM, Correa EFM et al. Impact of autologous blood transfusion on the use of pack of red blood cells in coronary artery bypass grafting surgery. Brazilian Journal of Cardiovascular Surgery. 2013; 28(2):183-189

400 Sinclair KC, Clarke HD, Noble BN. Blood management in total knee arthroplasty: a comparison of techniques. Orthopedics. 2009; 32(1):19

401 Singh AK, Szczech L, Tang KL, Barnhart H, Sapp S, Wolfson M et al. Correction of anemia with epoetin alfa in chronic kidney disease. New England Journal of Medicine. 2006; 355(20):2085-2098

402 Singh AK, Fishbane S. The optimal hemoglobin in dialysis patients- a critical review. Seminars in Dialysis. 2008; 21(1):1-6

403 Singh J, Ballal MS, Mitchell P, Denn PG. Effects of tranexamic acid on blood loss during total hip arthroplasty. Journal of Orthopaedic Surgery. 2010; 18(3):282-286

404 Slichter SJ, Kaufman RM, Assmann SF, Brecher ME, Gernsheimer T, Hillyer CD et al. Effects of prophylactic platelet (Plt) dose on transfusion (Tx) outcomes (PLADO trial). Blood. 2009; 112(11):111-112

405 Slichter SJ. Background, rationale, and design of a clinical trial to assess the effects of platelet dose on bleeding risk in thrombocytopenic patients. Journal of Clinical Apheresis. 2006; 21(1):78-84

406 Slichter SJ, Davis K, Enright H, Braine H, Gernsheimer T, Kao KJ et al. Factors affecting posttransfusion platelet increments, platelet refractoriness, and platelet transfusion intervals in thrombocytopenic patients. Blood. 2005; 105(10):4106-4114

407 Slight RD, O'Donohoe P, Fung AKY, Alonzi C, McClelland DBL, Mankad PS. Rationalizing blood transfusion in cardiac surgery: the impact of a red cell volume-based guideline on blood usage and clinical outcome. Vox Sanguinis. 2008; 95(3):205-210

408 Slover J, Bosco J. Cost analysis of use of tranexamic acid to prevent major bleeding complications in hip and knee arthroplasty surgery. American Journal of Orthopedics. 2014; 43(10):E217-E220

409 Smith AH, Laussen PC. Cardiac critical care: What really makes a difference. Current Opinion in Pediatrics. 2013; 25(5):567-573

410 Smith AF, Casey K, Wilson J. Wristbands as aids to reduce misidentification : an ethnographically guided task analysis. International Journal for Quality in Health Care. 2011; 23(5):590-599

411 So-Osman C. Cost effectiveness of patient blood management methods. Vox Sanguinis. 2014; 107:11-12

412 So-Osman C, Nelissen R, Slaa R, Coene L, Brand R, Brand A. A randomized comparison of transfusion triggers in elective orthopaedic surgery using leucocyte-depleted red blood cells. Vox Sanguinis. 2010; 98(1):56-64

413 So-Osman C, Nelissen R, Brand R, Faber F, Slaa RT, Stiggelbout A et al. The impact of a restrictive transfusion trigger on post-operative complication rate and well-being following elective orthopaedic surgery: a post-hoc analysis of a randomised study. Blood Transfusion. 2013; 11(2):289-295

414 So-Osman C, Nelissen RGHH, Koopman-van Gemert AWMM, Kluyver E, Poll RG, Onstenk R et al. Patient blood management in elective total hip- and knee-replacement surgery (part 1): a randomized controlled trial on erythropoietin and blood salvage as transfusion alternatives using a restrictive transfusion policy in erythropoietin-eligible patients. Anesthesiology. 2014; 120(4):839-851

415 Solbeck S, Ostrowski SR, Johansson PI. A review of the clinical utility of INR to monitor and guide administration of prothrombin complex concentrate to orally anticoagulated patients. Thrombosis Journal. 2012; 10(1):5

416 Solomon J, Bofenkamp T, Fahey JL, Chillar RK, Beutel E. Platelet prophylaxis in acute non-lymphoblastic leukaemia. Lancet. 1978; 1(8058):267

417 Song G, Yang P, Hu J, Zhu S, Li Y, Wang Q. The effect of tranexamic acid on blood loss in orthognathic surgery: a meta-analysis of randomized controlled trials. Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology. 2013; 115(5):595-600

418 Song G, Yang P, Zhu S, Luo E, Feng G, Hu J et al. Tranexamic Acid reducing blood transfusion in children undergoing craniosynostosis surgery. Journal of Craniofacial Surgery. 2013; 24(1):299-303

419 Sowade B, Sowade O, Mocks J, Franke W, Warnke H. The safety of treatment with recombinant human erythropoietin in clinical use: a review of controlled studies. International Journal of Molecular Medicine. 1998; 1(2):303-314

420 Specchiulli F, Rendina M, Berardi M. Reduction of blood loss using tranexamic acid in total knee and hip arthroplasties. Journal of Orthopaedics and Traumatology. 2011; 12:S87

421 Stanworth SJ, Brunskill SJ, Hyde CJ, McClelland DBL, Murphy MF. Is fresh frozen plasma clinically effective? A systematic review of randomized controlled trials. British Journal of Haematology. 2004; 126(1):139-152

422 Stanworth SJ, Brunskill SJ, Hyde CJ, Murphy MF, McClelland DBL. Appraisal of the evidence for the clinical use of FFP and plasma fractions. Best Practice and Research Clinical Haematology. 2006; 19(1):67-82

423 Stanworth SJ, Hyde C, Heddle N, Rebulla P, Brunskill S, Murphy MF. Prophylactic platelet transfusion for haemorrhage after chemotherapy and stem cell transplantation. Cochrane Database of Systematic Reviews. 2004; Issue 4:CD004269

424 Stanworth SJ, Hyde CJ, Murphy MF. Evidence for indications of fresh frozen plasma. Transfusion Clinique Et Biologique. 2007; 14(6):551-556

425 Stanworth SJ, Walsh TS, Prescott RJ, Lee RJ, Watson DM, Wyncoll D. A national study of plasma use in critical care: Clinical indications, dose and effect on prothrombin time. Critical Care. 2011; 15(2):R108

426 Stanworth SJ, Walsh TS, Prescott RJ, Lee RJ, Watson DM, Wyncoll D. A national study of plasma use in critical care: Clinical indications, dose and effect on prothrombin time. Critical Care. 2011; 15(2):R108

427 Stanworth SJ. The evidence-based use of FFP and cryoprecipitate for abnormalities of coagulation tests and clinical coagulopathy. Hematology. 2007;179-186

428 Stanworth SJ, Dyer C, Choo L, Bakrania L, Copplestone A, Llewelyn C et al. Do all patients with hematologic malignancies and severe thrombocytopenia need prophylactic platelet transfusions? Background, rationale, and design of a clinical trial (trial of platelet prophylaxis) to assess the effectiveness of prophylactic platelet transfusions. Transfusion Medicine Reviews. 2010; 24(3):163-171

429 Stanworth SJ, Estcourt LJ, Powter G, Kahan BC, Dyer C, Choo L et al. A no-prophylaxis platelet-transfusion strategy for hematologic cancers. New England Journal of Medicine. 2013; 368(19):1771-1780

430 Staudinger T, Frass M, Rintelen C, Quehenberger P, Wagner O, Stoiser B et al. Influence of prothrombin complex concentrates on plasma coagulation in critically ill patients. Intensive Care Medicine. 1999; 25(10):1105-1110

431 Steffens I, Harrison JF, Taylor CPF. A dose response study of platelet transfusion: comparison between triple dose apheresis platelet transfusion and three split standard transfusions. 7th Congress of the European Hematology Association. 2002;

432 Stevens LE, Clemmer TP, Laub RM, Miya F, Robbins L. Fibronectin in severe sepsis. Surgery, Gynecology and Obstetrics. 1986; 162(3):222-228

433 Straat M, Muller MC, Meijers JC, Arbous MS, Spoelstra-de Man AM, Beurskens CJ et al. Effect of transfusion of fresh frozen plasma on parameters of endothelial condition and inflammatory status in non-bleeding critically ill patients: a prospective substudy of a randomized trial. Critical Care (London, England). 2015; 19:163

434 Strippoli Giovanni FM, Navaneethan SD, Craig JC, Palmer SC. Haemoglobin and haematocrit targets for the anaemia of chronic kidney disease. Cochrane Database of Systematic Reviews. 2006; Issue 4:CD003967. DOI:10.1002/14651858.CD003967.pub2

435 Sukeik M, Alshryda S, Haddad FS, Mason JM. Systematic review and meta-analysis of the use of tranexamic acid in total hip replacement. Journal of Bone and Joint Surgery British Volume. 2011; 93(1):39-46

436 Sun SL, Tian JH, Yang KH, Gao M, Liu R, Li J. Intraoperative blood salvage for penetrating abdominal and thoracic trauma. Cochrane Database of Systematic Reviews. 2008; Issue 4:CD007379

437 Taj N, Firdous A, Akhtar N, Chaudhary MH, Sarah, Bajwa Z et al. Efficacy of tranexamic acid in reducing blood loss during and after Cesarean section. Rawal Medical Journal. 2014; 39(3):311-313

438 Tan J, Chen H, Liu Q, Chen C, Huang W. A meta-analysis of the effectiveness and safety of using tranexamic acid in primary unilateral total knee arthroplasty. Journal of Surgical Research. 2013; 184(2):880-887

439 Tay J, Tinmouth A, Fergusson D, Allan D. Transfusion of red cells in hematopoietic stem cell transplantation (TRIST): study protocol for a randomized controlled trial. Trials. 2011; 12:207

440 Teitel J, Rockman G, Mazer CD, Pavenski K. Hypofibrinogenemia and cryoprecipitate use in on-pump cardiac surgery. Journal of Thrombosis and Haemostasis. 2011; 9:476

441 Thomas P, Evans C. An identity crisis? Aspects of patient misidentification. Clinical Risk. 2004; 10(1):18-22

442 Thomassen BJW, Pilot P, Grohs JG, Holen K, Bisbe E, Poolman RW. A prospective, randomized, controlled trial of retransfusion of intra-operatively collected filtered whole blood in total hip surgery with the Sangvia Blood Reinfusion System. Transfusion Alternatives in Transfusion Medicine. 2011; 12(1):28

443 Tiehen A, Swanson S. Implementing the ISBT 128 labeling standard in a transfusion service. MLO: Medical Laboratory Observer. 1998; 30(5):18

444 Tinegate H, Grant-Casey J, Hennem S, Kilner M, Rowley M, Seeney F et al. Is cryoprecipitate transfusion guided by fibrinogen level? A survey of use in three english regions. Transfusion Medicine. 2011; 21:4

445 Tinmouth A, Chatelain E, Fergusson D, McIntyre L, Giulivi A, Hebert P. A randomized controlled trial of high and standard dose frozen plasma transfusions in critically ill patients. Transfusion. 2008; 48(Suppl):26A-27A

446 Tinmouth A, Kotchetkova N, Tomlinson G, Crump M, Brandwein J, Tannock I et al. A randomized phase II trial of low dose and standard dose platelet transfusions during induction therapy for acute leukemia or autologous stem cell transplantation. Vox Sanguinis. 2002; 83:8

447 Tinmouth A, Tannock IF, Crump M, Tomlinson G, Brandwein J, Minden M et al. Low-dose prophylactic platelet transfusions in recipients of an autologous peripheral blood progenitor cell transplant and patients with acute leukemia: a randomized controlled trial with a sequential Bayesian design. Transfusion. 2004; 44(12):1711-1719

448 Tinmouth AT, Freedman J. Prophylactic platelet transfusions: which dose is the best dose? A review of the literature. Transfusion Medicine Reviews. 2003; 17(3):181-193

449 Toda Y, Iwasaki T, Shimizu K, Yamaoka M, Kawade K, Kanazawa T et al. Relationship between serum concentration of tranexamic acid and blood loss in paediatric cardiac surgery. Applied Cardiopulmonary Pathophysiology. 2013; 17(2):207-208

450 Tolich DJ. Patient descriptions of receiving a blood transfusion. Transfusion. 2010; 50(11):2516

451 Tollofsrud S, Noddeland H, Svennevig JL, Bentsen G, Mollnes TE, Solheim BG. Universal fresh frozen plasma (Uniplas): a safe product in open-heart surgery. Intensive Care Medicine. 2003; 29(10):1736-1743

452 Tran DHD, Wong GTC, Chee YE, Irwin MG. Effectiveness and safety of erythropoiesis-stimulating agent use in the perioperative period. Expert Opinion on Biological Therapy. 2014; 14(1):51-61

453 Trimble AS, Osborn JJ, Kerth WJ, Gerbode F. The prophylactic use of fresh frozen plasma after extracoporeal circulation. Journal of Thoracic and Cardiovascular Surgery. 1964; 48:314-316

454 Tripodi A, Chantarangkul V, Primignani M, Clerici M, Dell'era A, Aghemo A et al. Thrombin generation in plasma from patients with cirrhosis supplemented with normal plasma: considerations on the efficacy of treatment with fresh-frozen plasma. Internal and Emergency Medicine. 2012; 7(2):139-144

455 Triulzi D, Assmann S, Strauss RG, Ness PM, Hess JR, Granger S et al. Characteristics of transfused platelets do not affect bleeding outcomes in hypoproliferative thrombocytopenia. Blood. 2009; 114(22)

456 Triulzi DJ, Assmann SF, Strauss RG, Ness PM, Hess JR, Kaufman RM et al. The impact of platelet transfusion characteristics on posttransfusion platelet increments and clinical bleeding in patients with hypoproliferative thrombocytopenia. Blood. 2012; 119(23):5553-5562

457 Tuttle JR, Ritterman SA, Cassidy DB, Anazonwu WA, Froehlich JA, Rubin LE. Cost benefit analysis of topical tranexamic acid in primary total hip and knee arthroplasty. Journal of Arthroplasty. 2014; 29(8):1512-1515

458 Twiss J, McKenna SP, Crawford SR, Wilburn JN, Loth K, Mufti GJ. Myelodysplasia (MDS) patients' experiences with blood transfusions. Blood. 2011; 118(21)

459 Uriz MJ, Antelo ML, Zalba S, Ugalde N, Pena E, Corcoz A. Improved traceability and transfusion safety with a new portable computerised system in a hospital with intermediate transfusion activity. Blood Transfusion. 2011; 9(2):172-181

460 Urwyler N, Trelle S, Theiler L, Juni P, Staub LP, Luyet C et al. Does point of care prothrombin time measurement reduce the transfusion of fresh frozen plasma in patients undergoing major surgery? The POC-OP randomized-controlled trial. Trials. 2009; 10:107

461 Vacharaksa K, Prakanrattana U, Suksompong S, Chumpathong S. Tranexamic acid as a means of reducing the need for blood and blood component therapy in children undergoing open heart surgery for congenital cyanotic heart disease. Journal of the Medical Association of Thailand. 2002; 85 Suppl 3:S904-S909

462 Valenstein PN, Sirota RL. Identification errors in pathology and laboratory medicine. Clinics in Laboratory Medicine. 2004; 24(4):979-996

463 Valentino LA. Assessing the benefits APCC prophylaxis in hemophilia patients with inhibitors. Journal of Thrombosis and Haemostasis. 2009; 7(S2):824

464 Valeri CR, Crowley JP, Loscalzo J. The red cell transfusion trigger: has a sin of commission now become a sin of omission? Transfusion. 1998; 38(6):602-610

465 Van Loo A, Vanholder R, Bernaert P, De Roose J, Lameire N. Recombinant human erythropoietin corrects anaemia during the first weeks after renal transplantation: a randomized prospective study. Nephrology, Dialysis, Transplantation. 1996; 11(9):1815-1821

466 van Rhenen D, Gulliksson H, Cazenave JP, Pamphilon D, Ljungman P, Kluter H et al. Transfusion of pooled buffy coat platelet components prepared with photochemical pathogen inactivation treatment: the euroSPRITE trial. Blood. 2003; 101(6):2426-2433

467 Varga C, Al-Touri S, Papadoukakis S, Caplan S, Kahn S, Blostein M. The effectiveness and safety of fixed low-dose prothrombin complex concentrates in patients requiring urgent reversal of warfarin. Transfusion. 2013; 53(7):1451-1450

468 Vela E, Alvarez JC, Vollmer I, Maiques J, Puig L, Santiveri FX. Tranexamic acid reduces blood transfusion without increases in thrombotic complications in joint replacement surgery. European Journal of Anaesthesiology. 2012; 29:96

469 Verghese SG. Elective fresh frozen plasma in the critically ill: what is the evidence? Critical Care and Resuscitation. 2008; 10(3):264-268

470 Vetter TR, Adhami LF, Porterfield JRJ, Marques MB. Perceptions about blood transfusion: a survey of surgical patients and their anesthesiologists and surgeons. Anesthesia and Analgesia. 2014; 118(6):1301-1308

471 Vichinsky EP, Haberkern CM, Neumayr L, Earles AN, Black D, Koshy M et al. A comparison of conservative and aggressive transfusion regimens in the perioperative management of sickle cell disease. The Preoperative Transfusion in Sickle Cell Disease Study Group. New England Journal of Medicine. 1995; 333(4):206-213

472 Viele MK, Weiskopf RB. What can we learn about the need for transfusion from patients who refuse blood? The experience with Jehovah's Witnesses. Transfusion. 1994; 34(5):396-401

473 Vigna-Taglianti F, Basso L, Rolfo P, Brambilla R, Vaccari F, Lanci G et al. Tranexamic acid for reducing blood transfusions in arthroplasty interventions: a cost-effective practice. European Journal of Orthopaedic Surgery and Traumatology. 2014; 24(4):545-551

474 Voils SA, Baird B. Systematic review: 3-factor versus 4-factor prothrombin complex concentrate for warfarin reversal: does it matter? Thrombosis Research. 2012; 130(6):833-840

475 Wali YA, al Okbi H, al Abri R. A comparison of two transfusion regimens in the perioperative management of children with sickle cell disease undergoing adenotonsillectomy. Pediatric Hematology and Oncology. 2003; 20(1):7-13

476 Walpoth B, Galliker B, Spirig P, Haeberli A, Rosenmund A, Althaus U et al. Use of epoetin alfa in autologous blood donation programs for patients scheduled for elective cardiac surgery. Seminars in Hematology. 1996; 33(2 Suppl 2):75-77

477 Walsh T. FFP use in ITU. Transfusion Medicine. 2011; 21:10

478 Walsh TS, Boyd JA, Watson D, Hope D, Lewis S, Krishan A et al. Restrictive versus liberal transfusion strategies for older mechanically ventilated critically ill patients: a randomized pilot trial. Critical Care Medicine. 2013; 41(10):2354-2363

479 Wandt H, Frank M, Ehninger G, Schneider C, Brack N, Daoud A et al. Safety and cost effectiveness of a 10 x 10(9)/L trigger for prophylactic platelet transfusions compared with the traditional 20 x 10(9)/L trigger: a prospective comparative trial in 105 patients with acute myeloid leukemia. Blood. 1998; 91(10):3601-3606

480 Wandt H, Frank M, Link H, Schneider C, Brack N, Daoud A et al. The 10/NL trigger for prophylactic platelet transfusion in AML: a prospective comparative multicenter study. Annals of Hematology. 1995; 70 Suppl 1:A140

481 Wandt H, Schaefer-Eckart K, Wendelin K, Rottmann M, Thalmeimer M, Schubert MS et al. A therapeutic platelet transfusion strategy without routine prophylactic transfusion is feasible and safe and reduces platelet transfusion numbers signifcantly: final analysis of a randomised study after high-dose chemotherapy and PBSCT. Bone Marrow Transplantation. 2009; 43(Suppl 1s):S23

482 Wandt H, Schaefer-Eckart K, Wendelin K, Pilz B, Wilhelm M, Thalheimer M et al. Therapeutic platelet transfusion versus routine prophylactic transfusion in patients with haematological malignancies: an open-label, multicentre, randomised study. Lancet. 2012; 380(9850):1309-1316

483 Wang G, Bainbridge D, Martin J, Cheng D. The efficacy of an intraoperative cell saver during cardiac surgery: a meta-analysis of randomized trials. Anesthesia and Analgesia. 2009; 109(2):320-330

484 Wang J, Bao YX, Bai M, Zhang YG, Xu WD, Qi XS. Restrictive vs liberal transfusion for upper gastrointestinal bleeding: a meta-analysis of randomized controlled trials. World Journal of Gastroenterology. 2013; 19(40):6919-6927

485 Wardrop D, Estcourt L, Brunskill SJ, Doree C, Trivella M, Stanworth S et al. Anti-fibrinolytics (lysine analogues) for the prevention of bleeding in patients with hematological disorders: A systematic review. Blood. 2012; 120(21)

486 Warmuth M, Mad P, Wild C. Systematic review of the efficacy and safety of fibrinogen concentrate substitution in adults. Acta Anaesthesiologica Scandinavica. 2012; 56(5):539-548

487 Washington B, Liakonis C, Pagnanelli R, Salerno C, Barnett L, Lonquist J et al. Post-operative cell salvage reduces allogeneic RBC transfusion rate in patients undergoing cardiovascular surgery. Transfusion. 2009; 49(10):2257-2258

488 Watanabe Y, Fuse K, Naruse Y, Kobayashi T, Yamamoto S, Konishi H et al. Subcutaneous use of erythropoietin in heart surgery. Annals of Thoracic Surgery. 1992; 54(3):479-4

489 Waters JH. How to implement a hospital-based blood management program. Vox Sanguinis. 2012; 103:38

490 Waters JH, Yazer M, Chen YF, Kloke J. Blood salvage and cancer surgery: a meta-analysis of available studies. Transfusion. 2012; 52(10):2167-2173

491 Weber EWG, Slappendel R, Hemon Y, Mahler S, Dalen T, Rouwet E et al. Effects of epoetin alfa on blood transfusions and postoperative recovery in orthopaedic surgery: the European Epoetin Alfa Surgery Trial (EEST). European Journal of Anaesthesiology. 2005; 22(4):249-257

492 Webert KE, Cook RJ, Couban S, Carruthers J, Lee KA, Blajchman MA et al. A multicenter pilot-randomized controlled trial of the feasibility of an augmented red blood cell transfusion strategy for patients treated with induction chemotherapy for acute leukemia or stem cell transplantation. Transfusion. 2008; 48(1):81-91

493 Weltert L, Nardella S, Rondinelli MB, Pierelli L, De Paulis R. Reduction of allogeneic red blood cell usage during cardiac surgery by an integrated intra- and postoperative blood salvage strategy: results of a randomized comparison. Transfusion. 2013; 53(4):790-797

494 Wenz B, Burns ER. Improvement in transfusion safety using a new blood unit and patient identification system as part of safe transfusion practice. Transfusion. 1991; 31(5):401-403

495 White L, Friedman M, Nichols C, Menzin J, Hoesche J, Jones C. Failure to correct international normalized ratio following fresh frozen plasma administration among patients with anticoagulant-related major bleeding in clinical practice. Annals of Emergency Medicine. 2011; 58(4 Suppl 1):S278

496 Whyte R, Kirpalani H. Low versus high haemoglobin concentration threshold for blood transfusion for preventing morbidity and mortality in very low birth weight infants. Cochrane Database of Systematic Reviews. 2011; Issue 11:CD000512

497 Wickham S. Thinking outside the box. Blood, barcodes and normalisation. Practising Midwife. 2006; 9(9):43

498 Wickham V, Miedema F, Gamerdinger K, DeGooyer J. Bar-coded patient ID: review an organizational approach to vendor selection. Nursing Management. 2006; 37(12):22

499 Wikkelsø A, Lunde J, Johansen M, Stensballe J, Wetterslev J, Møller AM et al. Fibrinogen concentrate in bleeding patients. Cochrane Database of Systematic Reviews. 2013; Issue 8:CD008864. DOI:10.1002/14651858.CD008864.pub2

500 Willems A, Harrington K, Lacroix J, Biarent D, Joffe AR, Wensley D et al. Comparison of two red-cell transfusion strategies after pediatric cardiac surgery: a subgroup analysis. Critical Care Medicine. 2010; 38(2):649-656

501 Willems A, Van Lerberghe C, Gonsette K, De Ville A, Melot C, Hardy J-F et al. The indication for perioperative red blood cell transfusions is a predictive risk factor for severe postoperative morbidity and mortality in children undergoing cardiac surgery. European Journal of Cardio-Thoracic Surgery. 2014; 45(6):1050-1057

502 Williams D, Smith L, Langkamer VG. A randomised prospective study of post operative blood salvage with autologous retransfusion in primary total hip replacement. Journal of Bone and Joint Surgery British Volume. 2009; 91-B(Suppl I):102-10d

503 Williamson LM, Llewelyn CA, Fisher NC, Allain JP, Bellamy MC, Baglin TP et al. A randomized trial of solvent/detergent-treated and standard fresh-frozen plasma in the coagulopathy of liver disease and liver transplantation. Transfusion. 1999; 39(11-12):1227-1234

504 Yagi M, Hasegawa J, Nagoshi N, Iizuka S, Kaneko S, Fukuda K et al. Does the intraoperative tranexamic acid decrease operative blood loss during posterior spinal fusion for treatment of adolescent idiopathic scoliosis? Spine. 2012; 37(21):E1336-E1342

505 Yang B, Li H, Wang D, He X, Zhang C, Yang P. Systematic review and meta-analysis of perioperative intravenous tranexamic acid use in spinal surgery. PloS One. 2013; 8(2):e55436

506 Yang L, Stanworth S, Hopewell S, Doree C, Murphy M. Is fresh-frozen plasma clinically effective? An update of a systematic review of randomized controlled trials (CME). Transfusion. 2012; 52(8):1673-1686

507 Yang Y, Li H, Li B, Wang Y, Jiang S, Jiang L. Efficacy and safety of iron supplementation for the elderly patients undergoing hip or knee surgery: a meta-analysis of randomized controlled trials. Journal of Surgical Research. 2011; 171(2):e201-e207

508 Yang ZG, Chen WP, Wu LD. Effectiveness and safety of tranexamic acid in reducing blood loss in total knee arthroplasty: a meta-analysis. Journal of Bone and Joint Surgery American Volume. 2012; 94(13):1153-1159

509 Yassen K, Bellamy MC, Sadek SA, Webster NR. Tranexamic acid reduces blood loss during orthotopic liver transplantation. Clinical Transplantation. 1993; 7(5):453-458

510 Yazicioglu L, Eryilmaz S, Sirlak M, Inan MB, Aral A, Tasoz R et al. Recombinant human erythropoietin administration in cardiac surgery. Journal of Thoracic and Cardiovascular Surgery. 2001; 122(4):741-745

511 Youssef WI, Salazar F, Dasarathy S, Beddow T, Mullen KD. Role of fresh frozen plasma infusion in correction of coagulopathy of chronic liver disease: a dual phase study. American Journal of Gastroenterology. 2003; 98(6):1391-1394

512 Yutthakasemsunt S, Kittiwatanagul W, Piyavechvirat P, Thinkamrop B, Phuenpathom N, Lumbiganon P. Tranexamic acid for patients with traumatic brain injury: a randomized, double-blinded, placebo-controlled trial. BMC Emergency Medicine. 2013; 13:20

513 Zahur-ur-Rehman A, Alam M. Platelet transfusion practice in a tertiary care hospital. Journal of the College of Physicians and Surgeons--Pakistan. 2002; 12(8):485-487

514 Zakout G, Greiss MA. A 10-year look-back on use of cryoprecipitate in a tertiary care hospital. Haematologica. 2009; 94:281

515 Zaporozhan V, Tarabrin O, Gavrychenko D, Mazurenko G, Saleh O, Lyoshenko I. Efficacy of tranexamic acid in decreasing blood loss during cesarean section. Critical Care. 2013; 17:S135-S136

516 Zhang H, Chen J, Chen F, Que W. The effect of tranexamic acid on blood loss and use of blood products in total knee arthroplasty: a meta-analysis. Knee Surgery, Sports Traumatology, Arthroscopy. 2012; 20(9):1742-1752

517 Zhang Y, Fu X, Liu WX, Li YM, Ma XL, Li ZJ. Safety and efficacy of intra-articular injection of tranexamic acid in total knee arthroplasty. Orthopedics. 2014; 37(9):e775-e782

518 Zhao-Yu C, Yan G, Wei C, Yuejv L, Ying-Ze Z. Reduced blood loss after intra-articular tranexamic acid injection during total knee arthroplasty: a meta-analysis of the literature. Knee Surgery, Sports Traumatology, Arthroscopy. 2014; 22(12):3181-3190

519 Zhaohui L, Wanshou G, Qidong Z, Guangduo Z. Topical hemostatic procedures control blood loss in bilateral cemented single-stage total knee arthroplasty. Journal of Orthopaedic Science. 2014; 19(6):948-953

520 Zheng SR, Chi GZ. Effects of tranexamic acid on decreasing blood loss within two hours after delivery. A multicenter randomized comparative study. Blood. 2000; 96:846a

521 Zhou XD, Tao LJ, Li J, Wu LD. Do we really need tranexamic acid in total hip arthroplasty? A meta-analysis of nineteen randomized controlled trials. Archives of Orthopaedic and Trauma Surgery. 2013; 133(7):1017-1027

522 Zhu DM, Shen J. The effect of tranexamic acid on hemostasis in pediatric cyanotic cardiac surgery. Cardiology in the Young. 2010; 20:124-125

523 Zijlker-Jansen PY, Janssen MP, Wiersum-Osselton JC, Van Tilborgh-De Jong AJ, Schipperus MR. Quality indicators for the hospital transfusion chain: a survey conducted in the Dutch hospitals. Vox Sanguinis. 2013; 105:279

524 Zilberberg MD, Shorr AF. Effect of a restrictive transfusion strategy on transfusion-attributable severe acute complications and costs in the US ICUs: a model simulation. BMC Health Services Research. United States 2007; 7:138

525 Zumberg MS, del Rosario ML, Nejame CF, Pollock BH, Garzarella L, Kao KJ et al. A prospective randomized trial of prophylactic platelet transfusion and bleeding incidence in hematopoietic stem cell transplant recipients: 10,000/L versus 20,000/microL trigger. Biology of Blood and Marrow Transplantation. 2002; 8(10):569-576