

# SW PBM Group Meeting

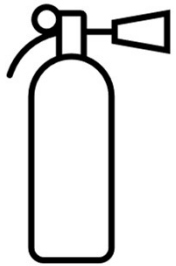
26th September 2023

Oake Manor, Taunton



**Chair - Elmarie Cairns**  
**Clinical Lead: Dr Oliver Pietroni**  
**Support - Jackie McMahon RTC administrator**

# Housekeeping



Fire drills and fire escapes –  
no fire alarm tests/drills planned

# Agenda



South West Regional Transfusion Committee

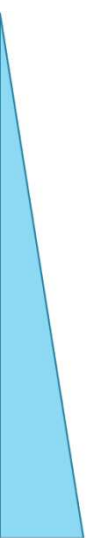
South West Patient Blood Management Group

Date: 26 September 2023

10:30 - 15:30, ~~Qake~~ Oak Manor, nr Taunton

AGENDA			
Minute No.		App No:	Lead
1.	Apologies for Absence		
2.	Freedom of Information This group will observe the requirements of the Freedom of Information Act 2000 which allows a general right of access to recorded information including minutes of meetings, subject to specific exemptions. No one present today had any objections to their names being distributed in the minutes.		
3.	Declaration of Any Other Business		
4.	Summary of previous meeting and matters arising		EC
5.	RTC & PBM Update		OP/ST
6.	Transfusion Survey		EC
7.	UKCSAG Update		EC
8.	Regional Cell Salvage Data Update & Future Direction/KPIs		OP
	Lunch (12.15 – 13.15)		
9.	EPO and IV Iron		SS
10.	Case Review		EC
11.	Maternal Anaemia		SC
12.	<del>AOB</del> + 2024 Meeting Dates		

# Declaration of Any Other Business



# Summary of Previous Meeting and Matters Arising:

- Informal meeting in June – good group discussions had, sharing ideas, supporting one another
- ToR's for SWPBM group – currently being updated.
- SWPBM Chair

Minutes and presentations from previous meetings are available via the SW PBMG SharePoint and the SW RTC website



# RTC Update/PBM Update

Oliver Pietroni/Sam Timmins

## PBMP update



- We remain at Pre-Amber status for A D negative Platelets
- Stocks remain stable at the moment for Red Cells and the rest of the platelet groups  
<https://hospital.blood.co.uk/business-continuity/blood-stocks/>



New and updated resources to support consent. Including patient focused content  
[Consent for Blood Transfusion - Guidance for Healthcare Practitioners in the UK](https://www.transfusionguidelines.org)  
([transfusionguidelines.org](https://www.transfusionguidelines.org))



- NCA updates:
- Acute upper gastrointestinal bleeding (AUGIB);  
PBM in paediatric surgery (Reports for above expected Spring 2023)  
**(Open)**
- Blood sample collection and labelling  
**(Report now available)**
- NICE Quality Standard QS138-  
**(Report pending)**
- Bedside transfusion practice  
**(March)**



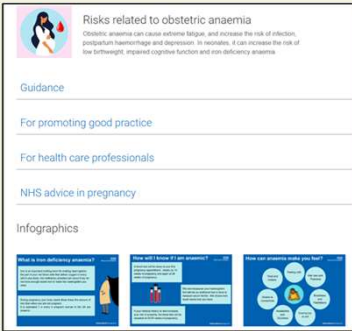
# PBMP update



QI tool live, Wales now signing up hospitals



Updated Anti-D aide memoire  
Monthly news letter



New Obstetric and maternal anaemia toolkit and infographics

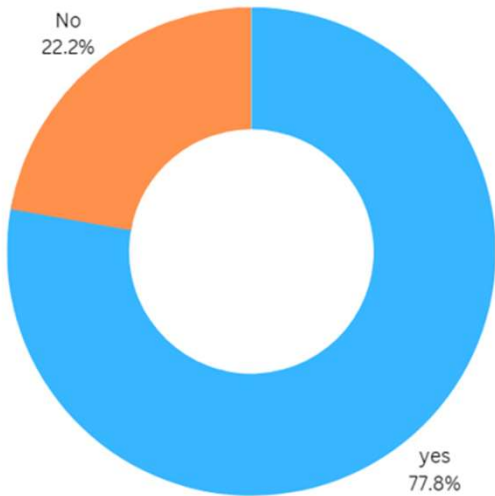


# Transfusion Survey

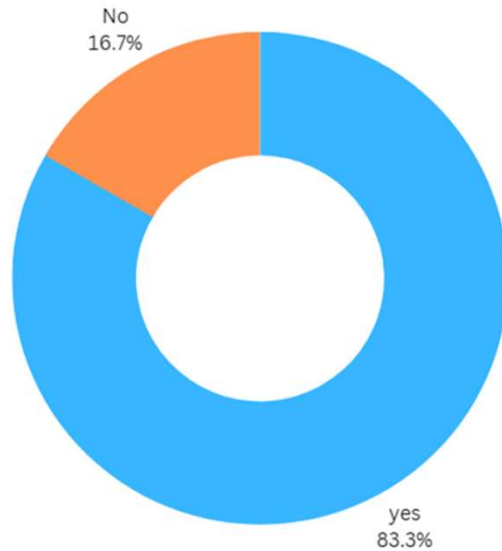
Elmarie Cairns

# Snapshot view of some PBM aspects through the region:

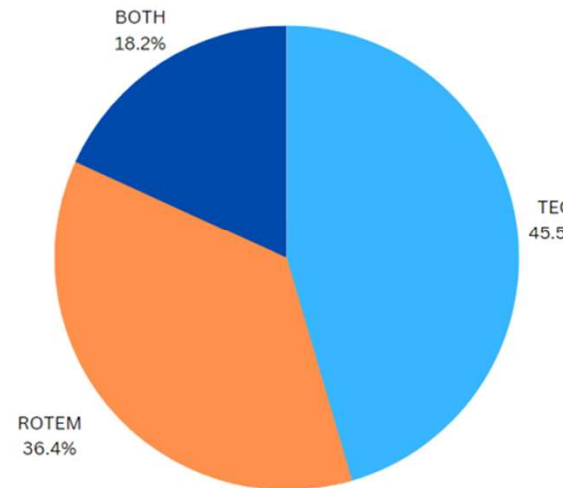
Do you have MSBOS?



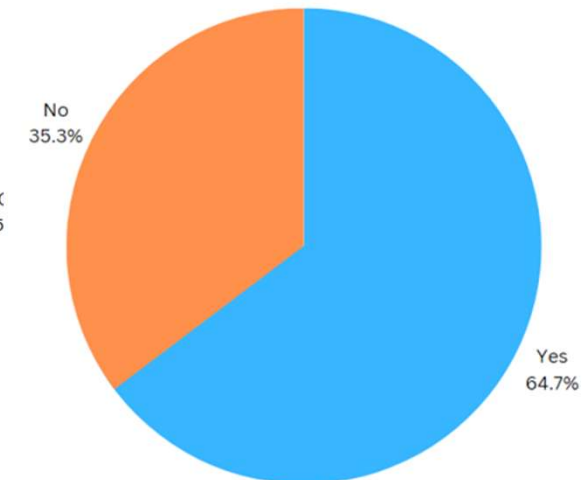
Single unit policy?



Viscoelastic technology



EPO



MSBOS/Single unit policy – for those that don't have one would they be interested in examples from other Trusts, these could be added to SharePoint if useful.

Viscoelastic testing 11/17

94.1 % had pre-op I.V iron optimisation and 65% use EPO as part of pre-operative optimisation –

Sue Scott sharing RUH's protocol with us later.11/17 EPO

94% offered I.V iron to obstetric patients.

TXA was used by all however 4/17 had specific policies and not >500ml blood loss



# UKCSAG Update

Elmarie Cairns

# UKCSAG Update

- 2 meetings since our last PBM meeting
- BMJ submission of survey report and Winter scientific abstract submission for AoA
- Main report findings:
  1. Used across UK in various specialty areas
  2. Majority have appropriately trained operator and 24-hour service provided
  3. Documentation and data collection need improvements
  4. Evident that ICS makes a significant contribution to patient blood management reducing the workload and the financial burden on blood transfusion services.
  5. Need to develop record keeping, incident reporting, QC and encourage all organisations to review ICS service with a view to improving delivery and safety of the service

# UKCSAG cont

- Fact sheet documentation will be updated on JPAC by end of year.
- Query regarding use of expired blood for training – more info requested
- Digital notes systems and how Trusts record cell salvage discussed – manufacturer input needed.
- Twice yearly newsletter and SHOT snip its
- SWPBM Questions answered:
  - ❖ Try not to aspirate fragments/particles in revision surgery – no difference in process
  - ❖ Sickle cell anaemia trait – use with caution
  - ❖ Malignancy – safe to use as long as LDF applied
  - ❖ Kliehaur Test 72 hours post cell salvage reinfusion recommendation from SHOT aide memoirs- UKCSAG response being sent.

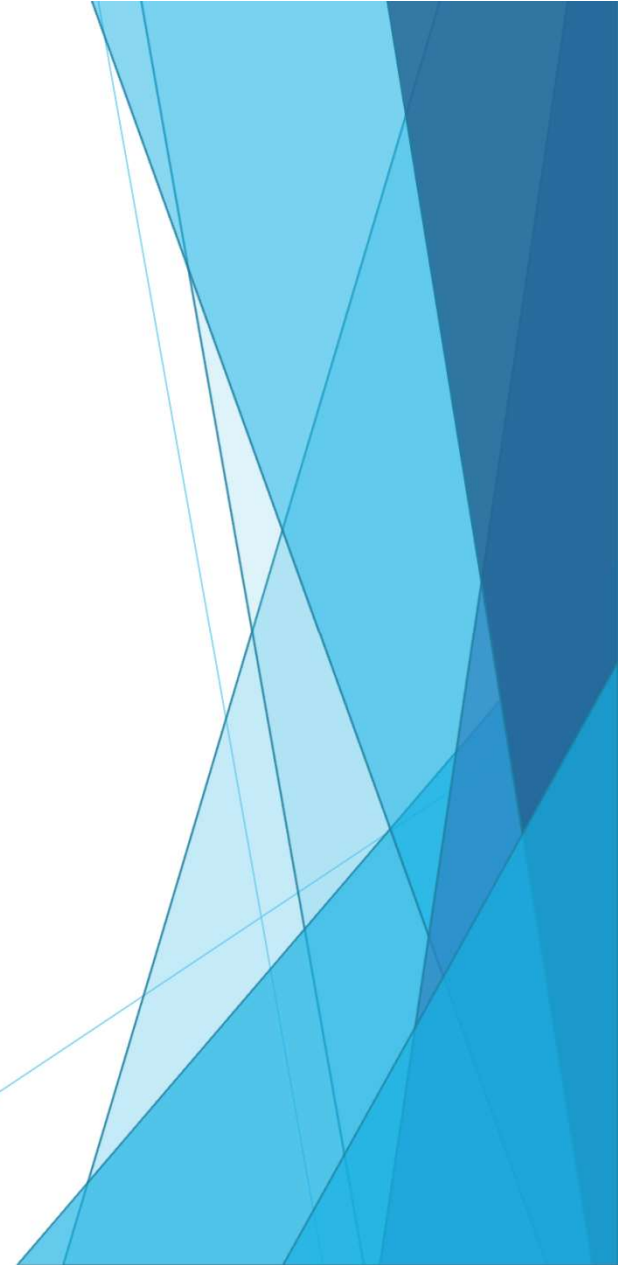
# Regional Cell Salvage Data Update & Future Direction/KPIs

Oliver Pietroni





# Lunch



# Use of Epo in Preoperative Anaemia

**Sue Scott**

**Transfusion Nurse  
Practitioner**

[susan.scott7@nhs.net](mailto:susan.scott7@nhs.net)

**The RUH, where you matter**



# Anaemia – why is it a problem in surgery?

- Anaemia defined by WHO as Hb <130g/L in men and <120g/L in women
- Common in patients undergoing major surgery (higher than general population)\*
  - Prevalence can reach up to 75%
  - Increases post op
- Associated with increased morbidity and mortality\*
  - Higher risk of complications
  - Longer hospital stay
  - Increased risk of receiving a blood transfusion
  - Poorer patient outcomes and risk of adverse events

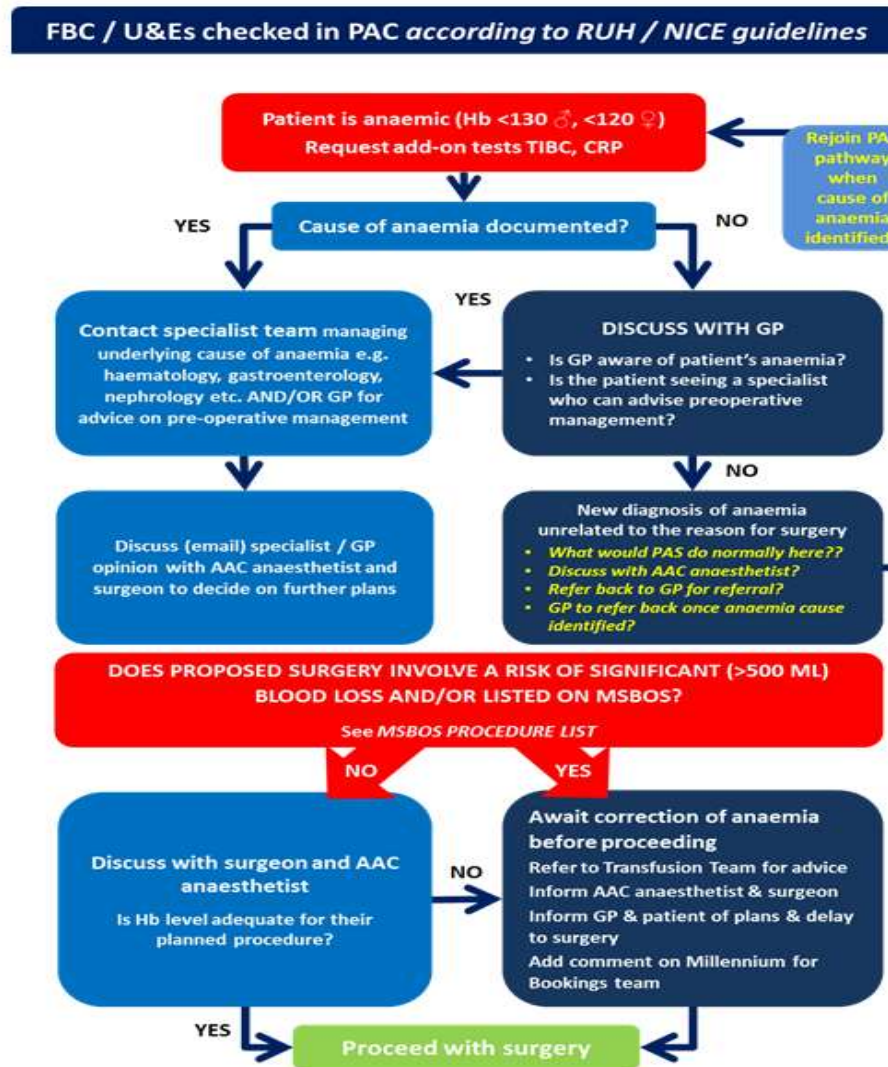
*\*The UK Cardiac and Vascular Surgery Interventional Anaemia Response (CAVIAR) Study: protocol for an observational cohort study to determine the impact and effect of preoperative anaemia management in cardiac and vascular surgical patients. Chau M, Richards T, Evans C, et al, BMJ Open 2017*



# RUH Preoperative Anaemia Guidelines

## Key Points

- Anaemia of unknown cause
- Blood Tests including G&S if no sample on system
- Transferrin saturations or Ferritin?
- What level of Hb
- PMH?
- Can we delay surgery?
- Timing – the sooner the better!
- Iron replete – what else?



The RUH, where you matter

Ref.: ANAESTH-002  
 Approved by:  
 Author: Rowan Hardy, Consultant Anaesthetist  
 Date of Issue:

Version:  
 Approved on:  
 Review date:  
 Page 7 of 9

# Treatment Options

- Oral Iron** Cheap and can be useful but has issues
- IV iron** Quick, easy but invasive, more expensive and resources
- Blood** Guaranteed increment but really!
- Epo** Commonly incorporated into Guidelines for treating patients who will not accept Blood Products but not widely used in surgical optimisation



## Erythropoiesis Stimulating Agents (ESAs)

Consider ESAs pre-operatively and discuss with Transfusion Team [ruh-TransfusionTeam@nhs.net](mailto:ruh-TransfusionTeam@nhs.net) :

- anaemic patients listed for elective joint replacement surgery
- patient refusing blood transfusion (e.g. Jehovah's Witness) refer to [Jehovahs Witness policy](#)
- patient with complex antibodies and blood provision could be problematic.
- patient does not meet these criteria but a rapid rise in haemoglobin is required

If the patient has anaemia with chronic kidney disease (stage 3 or 4 CKD) but is not on dialysis, then treatment with ESAs to increase haemoglobin values in the short term is appropriate (NICE NG8).

*NB: If the patient's anaemia is symptomatic and they are not already under a renal team, write to their GP advising referral to a renal specialist.*

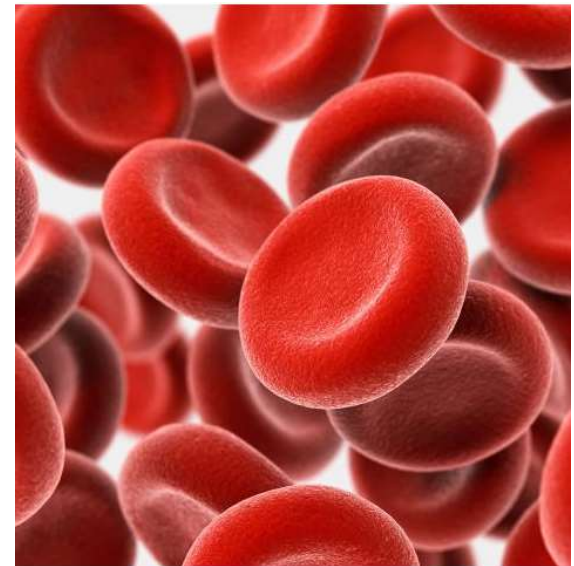
If the patient responds, an increment in their haemoglobin value is seen after 2-3 weeks, peaking at around 3-4 weeks post injection, with the haemoglobin returning to pre-injection levels after about 6 weeks. The timing of the injection is therefore crucial.

# What does Erythropoietin do?

Erythropoietin (EPO) is a hormone that is produced in the kidneys. It stimulates stem cells in the bone marrow to increase the production of red blood cells and also acts on RBC to protect them against destruction.

Cells in the kidney are capable of detecting and responding to low levels of oxygen through increasing production of Epo.

The production of erythropoietin is reduced in certain conditions such as kidney failure, chronic diseases like [HIV/AIDS](#), and certain cancers and in chronic inflammatory diseases like rheumatoid arthritis.




# Erythropoietin - EPO

- A synthetically produced form of EPO injected subcutaneously
- Has commonly been used to treat anaemia due to chronic disease and malignancy.
- Different forms of Epoetin licenced for different uses – **Darbepoetin alfa** – renal and non-myloid malignancies, **Epoetin beta** – renal, non-myloid malignancies
- **Epoetin alfa** “Eprex” and **Epoetin zeta** “Retacrit”– renal, anaemia due to chemo, pre op autologous blood donation and for *moderate anaemia prior to elective orthopaedic surgery*
- Dosing – 600 units/Kg every week for 3 weeks before surgery and on day of surgery.  
**Or**  
300 units /Kg daily for 15 days starting 10 days before surgery

**Practically we use** : 1 or 2 injections of 30,000 iu or 40,000 iu depending on patient weight once a week prior to TCI date  
Prefer Eprex if patient self administering though Retacrit is “cheaper”



# Case Studies

Case Description	Lab Results
<p>75 year old female booked for TKR. PMH Aortic stenosis, diabetes type 2, Hypertension, osteoarthritis AAC requested optimisation as booked for complex Rev THR</p>	<ul style="list-style-type: none"> <li>• Hb107g/l and Transferrin 12%.</li> <li>• 1.2 gram IV iron back in October. Incremented to 121g/l in December but dropped to 115g/l in July with Transferrin 22%.</li> <li>• 40,000 iu Eprex administered a week before</li> <li>• Hb OA not done</li> <li>• Post op Hb110g/l</li> <li>• Discharged home c  y 3 no RBC Tx</li> </ul>
<p>78 year old male waiting for THR. PMH Diabetes, Arthritis, Hypertension, CVA</p>	<ul style="list-style-type: none"> <li>• Preop Hb116g/l Transferrin 23%</li> <li>• Epo 40.000 self administered week before</li> <li>• Hb OA 121g/l and post op 111g/l</li> <li>• Patient discharged home next day no RBC Tx</li> </ul>
<p>88 year old male waiting for Rev THR. PMH of RA, Anaemia and Glaucoma</p>	<ul style="list-style-type: none"> <li>• Preop Hb102g/l and Transferrin 39%</li> <li>• 2 x 40,000 Epo - first administered in clinic and second self administered</li> <li>• Hb OA 127g/l and post op 117g/l.</li> <li>• Discharged home 10 days later Hb 100g/l no RBC Tx</li> </ul>





# Special Warnings and Concerns

- All other causes of anaemia should be treated prior to initiating therapy.
- For optimum response ensure adequate iron stores.
- Can cause thromboembolism
- Patients who cannot receive adequate thrombo prophylaxis
- Untreated or poorly controllable hypertension
- Contraindicated in patients with severe coronary, peripheral arterial, carotid or cerebral vascular disease
- Patients with recent myocardial infarction or cerebral vascular accident.
- Use with caution in patients with epilepsy and chronic liver failure
- Is a growth factor that primarily stimulates red blood cell production. However, the possibility that it can act as a growth factor for any tumour type, particularly myeloid malignancies, cannot be excluded
- If haemoglobin level reaches 150 g/L, or higher, preoperatively, administration should be stopped

**The RUH, where you matter**



Erythropoietin therapy leads to better outcomes, considering the optimization of preoperative anemia, if given preoperatively in major elective surgical procedures. The benefits of erythropoietin are significantly higher, compared to the control group, while the risks remain equivocal in both groups. The number of trials included in this systematic review is small (n = 8) to conclude that EPO leads to better outcomes.

Sheikh Muhammad Ebad Ali, Muhammad Hassan Hafeez, Omar Nisar, Sarosh Fatima, Humaira Ghous, Mahwish Rehman, Role of preoperative erythropoietin in the optimization of preoperative anemia among surgical patients — A systematic review and meta-analysis, Hematology, Transfusion and Cell Therapy, Volume 44, Issue 1, 2022,

- Limited license
- Timing
- Response
- Cost
- Availability
- Concerns
- Prescribing
- Practical Pros and Cons





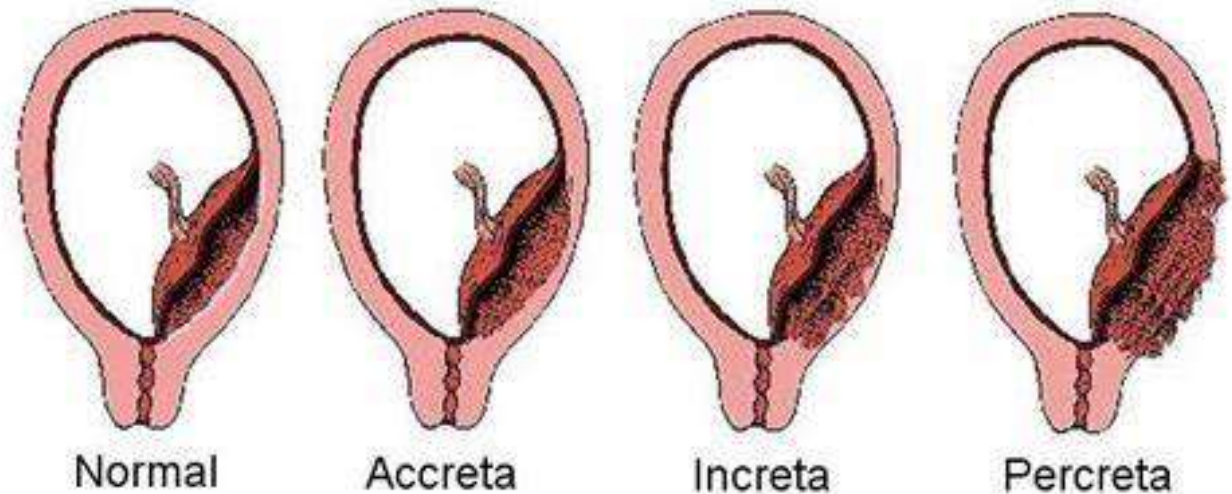
# When the electronic blood fridge breaks in a MH case review

Elmarie Cairns  
Blood Conservation Coordinator  
NBT

# Background:

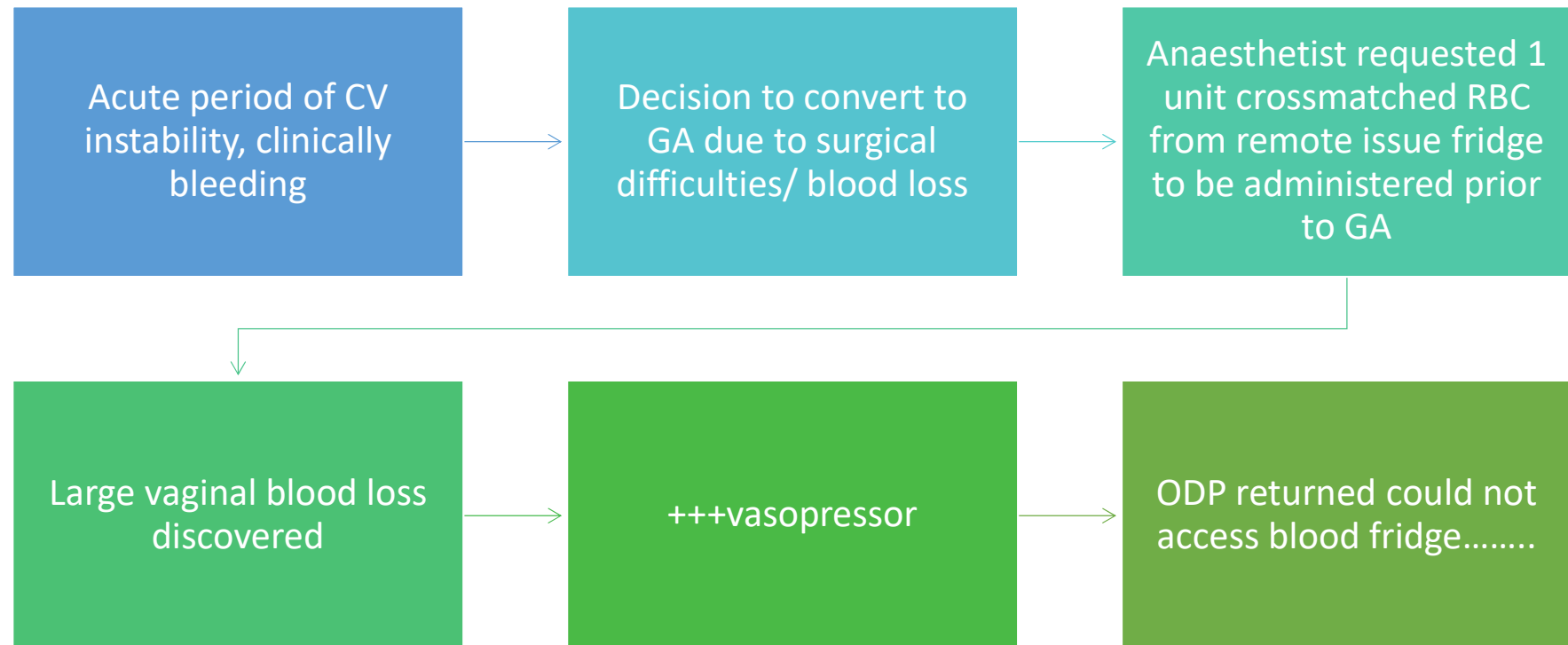
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- 32 year old lady, 2 previous deliveries (forcep/ LSCS)
- Care transferred – recent 300ml APH
- MDT review and PAS confirmed- complete previa on MRI with bladder involvement.
- 34+3 weeks for elective caesarean section +/- hysterectomy
- PAS team/ PAS care – combined spinal/epidural anaesthesia



# Events:

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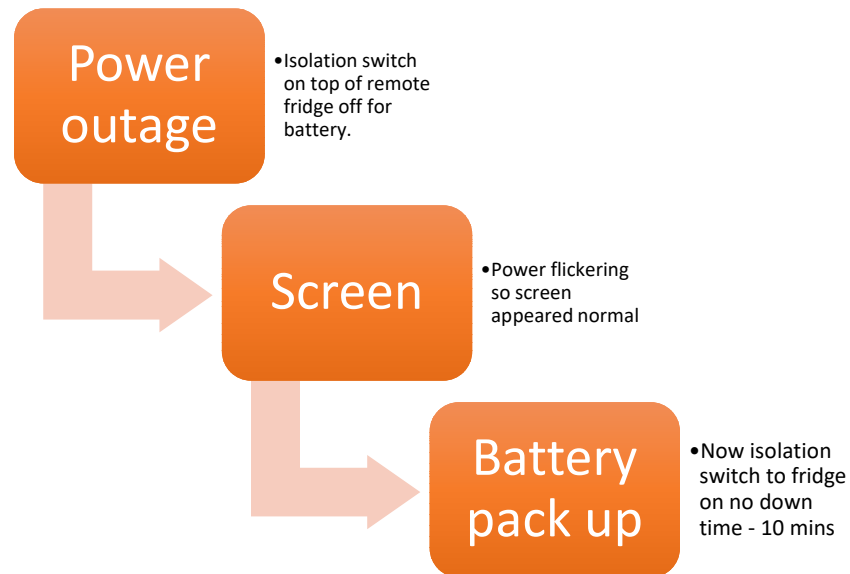


# Deteriorating patient:

- ODP/ Senior ODP comms with Lab
- Tried to reset scanner
- Code red called
- 2 x ICS machines running in MH mode (1 vaginal/ 1 abdominal)
- Blood arrived from code red, patient rapidly transfused 3 units RBC/ 4 units FFP – converted to GA
- TEG run- FFP not indicated but in situation given for volume expansion/ 3g Fibrinogen Concentrate administered.
- 2 x TXA administered
- 2048mls autologous reinfusion (1140mls abdominally, 898mls vaginally)
- 8533ml Blood Loss

# Outcomes

- Patient had caesarian hysterectomy - extubated and stayed on CDS
- Patient discharged 5 days PO
- Full investigation into Blood fridge issue:



# Learning Outcomes:



ALL REMOTE FRIDGES WITHIN NBT HAVE BEEN CHECKED AND TESTED TO PREVENT ISSUES WITH ACCESS TO THE BLOOD FRIDGE IN THE FUTURE



DEBRIEF/ MH CASE REVIEW AND FULL FOLLOW UP SUPPORT GIVEN TO THE PATIENT



EXCELLENT MH MANAGEMENT IN DIFFICULT STRESSFUL SITUATION



Thoughts?  
Questions?





# Maternal Anaemia

Stuart Cleland



## **AOB and Future Meeting Dates:**

