Case 1: Know your numbers
Case 1

Patient: 32 year old female

- Hb 4g/dl
- Bleeding Duodenal Ulcer
- Dubious biochemistry results

What might you query?
Case 1 cont.

• BMS queried sample taken from drip arm
• Repeat sample requested but ward insisted that the sample was genuine and that the patient had had a massive bleed
• No repeat sample taken
• Patient received 4 units overnight

Was this appropriate?
What should have been done?
Case 1 cont.

- The following afternoon the patient went for an endoscopy and experienced another bleed
- 6 more units were requested
- 6 units crossmatched and issued at 16:50
- 18:00 sample received for FBC
- Hb 14.5g/dl

What would have prevented this?
What should be done now?
Case 1 cont.

- The lab telephoned the results to the ward at 19:45

- The nurse reported that the doctor had told them the patient’s Hb was 8.9g/dl and a second unit had been started at 18:45
  - The 8.9 taken to be the Hb was actually the date

- What should they have done now?
Case 1 cont.

• The ward was told not to give any more blood to the patient – the remaining 2 units were returned to the laboratory

• On checking it became obvious that two more units had been transfused

AFTER the Hb result of 14.5g/dl had been phoned

• The nurse / junior doctor had been told to transfuse to a Hb 10g/dl – They had mistaken this for transfuse 10 units

• The following afternoon a sample was received in the lab – Hb 19g/dl

What could be done to stop this happening again?

‘We can not solve our problems with the same thinking we used to create them’

Albert Einstein
Case 2 – Whose life is it anyway?

Overuse of blood transfusions increases infection risk in dogs
Science Daily, September 17, 2007
http://vetscite.org/cartoons/
Case 2

• A young woman with menorrhagia presented at her GP surgery - blood tests revealed iron deficiency anaemia with a Hb 55g/L

• What should her treatment be?
  • GP referred her to the Emergency Department for a blood transfusion

• What should ED have done?
  • Patient stated that she did not want a blood transfusion and she was sent home with a supply of iron tablets

• Did the patient receive the correct treatment?
Case 2 cont.

• The GP was not satisfied and sent her back to the ED

• **Who could the ED department contact?**

• The transfusion practitioner discussed the patient’s concerns with her and requested that the GP reconsider alternative treatment

• The patient was sent home

• The GP still was not satisfied and sent the patient back to ED with a letter instructing ED that a transfusion was needed

• The patient was reluctantly transfused

• **Did the patient receive an appropriate transfusion?**

• **Could this have been prevented and what might the consequences have been?**

• **How would things have been different with good leadership?**
Blood groups on red cells

https://www.nobelprize.org/educational/medicine/bloodtypinggame

The presence of A and / or B **antigens** on the surface of red cells determines the ABO group.

Blood groups are inherited
Case 3
A Never Event
What group is this?

AB Pos!

No

O Pos
Yes this really happened!

- Patient JJ, age 76
- Wrongly typed as AB neg by lab and transfused A neg
- Died of multi-organ failure 4 days later
- The patient was in for ankle surgery
- When was the transfusion requested?
  - Post-op recovery
- Have a guess at the Hb level…
  - Hb 118g/L
- What about the reason for the transfusion?
  - Patient on aspirin
- ‘let’s pink her up a bit’...!!
The Biomedical Scientist

• Wrongly grouped 2 patients as AB
• Missed the incompatibility in the serological crossmatch for JJ
  – these units were not electronically issued

• Why might this have happened?
  
• Failed to follow lab procedures
• Used expired cards
• What image have you got in your head?!
• No! Deputy manager of the transfusion lab of 25 years experience

• What do you have in place to stop this happening?
The Transfusion...

- JJ collapsed after transfusion of unit 1 (Group A)

- What should be done at this point?

- Signs & symptoms of acute HTR NOT recognised
- Patient’s ‘state’ attributed to prolific bleeding into ankle
- Unit 2 given to ‘correct’
- No improvement seen
- Another blood sample taken & further units ordered
Mistake spotted

- Second sample correctly typed as group O (different BMS)
What happened next

• Reported to Serious Hazards of Transfusion (SHOT) and investigation started

• BMS
  – Reported to the Health and Care Professions Council
  – Suspended from job pending investigations
  – Suspended from BMS register
  – Interim Order; suspended for 18 months
  – On trial for gross negligence manslaughter but case collapsed
  – Dismissed from hospital
  – Struck-off by HCPC
Case 4
Spellbound
Case 4

- 86 year old female
- Elective aortic aneurysm repair
- Transferred to another hospital
- Blood requested, 6 units crossmatched and sent to the theatre
Always involve the patient by asking them to state their name and date of birth, where possible.

http://www.transfusionguidelines.org.uk/
Blood returned

• Theatre noticed discrepancy and returned blood (one letter in first name)

• Was this the right option?

• Blood compared with case notes as wristband was not accessible during operation

• Was this the right option and what should you do next?

• Two new samples sent to lab who advised a 45-50 minute delay

• Surgical complications resulted in urgent need for blood

• What should they have done now?

• No emergency blood available – failed to instigate a major haemorrhage call
Case 4 cont.

- Delay in provision of blood
- Patient deteriorated and developed coagulopathy
- She died later that night
- Delay in transfusion contributed to her death (SHOT 2015)

- What was the root cause of this incident?

“Once the practice of anaesthesia became established, although the surgeon caused the bleeding, the anaesthetist took the blame

JM Leigh The history of controlled hypotension BJ Anesth 1975
Final Thoughts

When used correctly, blood saves lives and improves health. However, there are some patients who will die without transfusion, and there are some that will die because of transfusion. Save Blood: Save Lives. Prof Ian Roberts (Nature 2015).

It's a balance of the risk of having a transfusion against the risk of not having one.

http://www.freepmstudy.com/
For more information on Transfusion Related Cases

Annual SHOT Reports

www.shotuk.org
That's all Folks!

Any Question?