LET'S TRY SOME ALTERNATIVES!

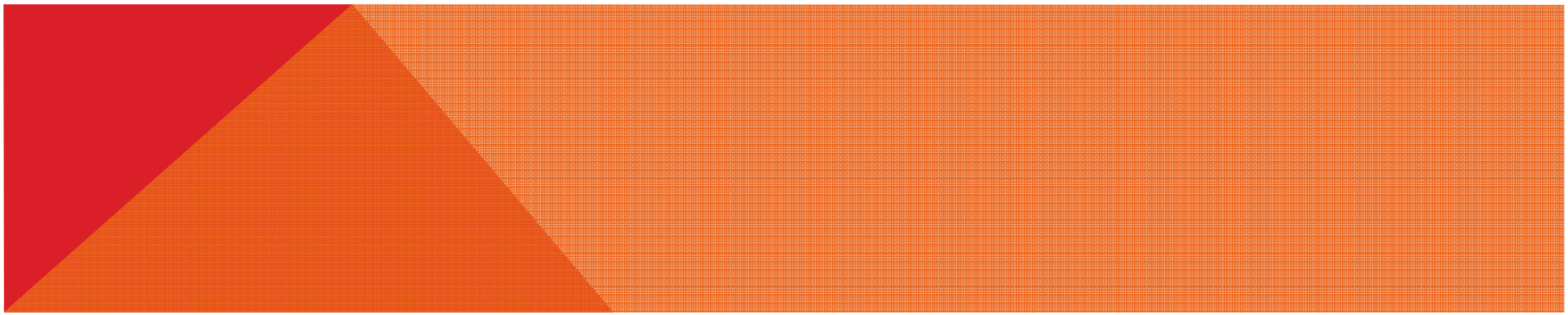
SUE WARDLE

TRANSFUSION PRACTITIONER

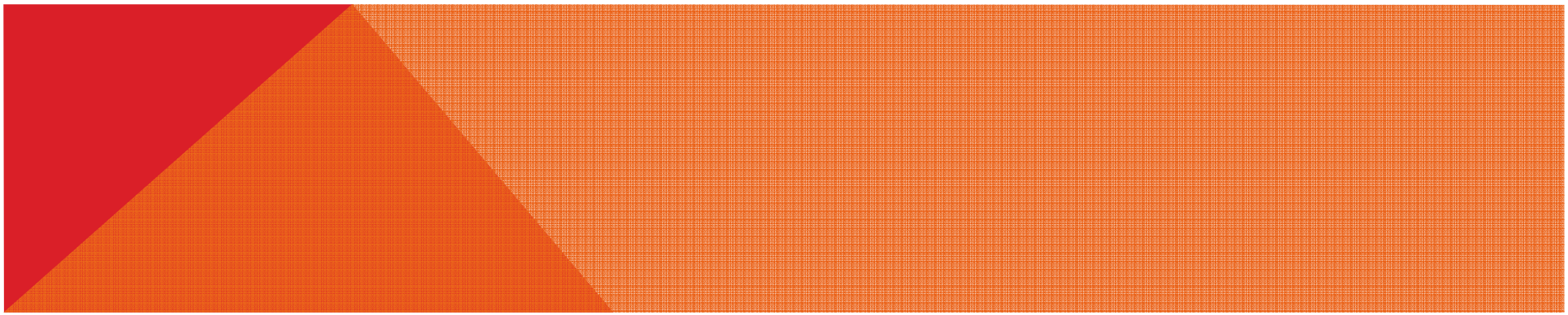
SOUTH TEES HOSPITALS NHS TRUST

WHY DO WE NEED AN ALTERNATIVE?

- Risks of donor blood
  - Infection
  - Wrong blood
  - Reactions
- Limited supply of donors
- Healthcare costs
- Religious reasons
- Patient choice

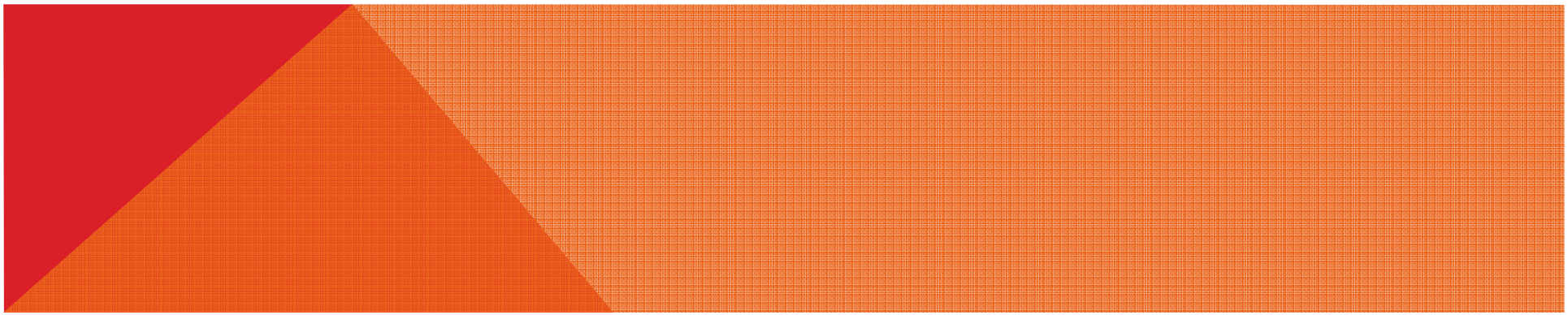


SHOT DATA 2014



WHAT CAN WE DO INSTEAD?

- Better preparation for planned surgery
- Oral/IV iron preparations
- Pharmacological intervention
- Surgical techniques
- Intra /Post operative Cell Salvage
- Consider an individual transfusion trigger for each individual patient



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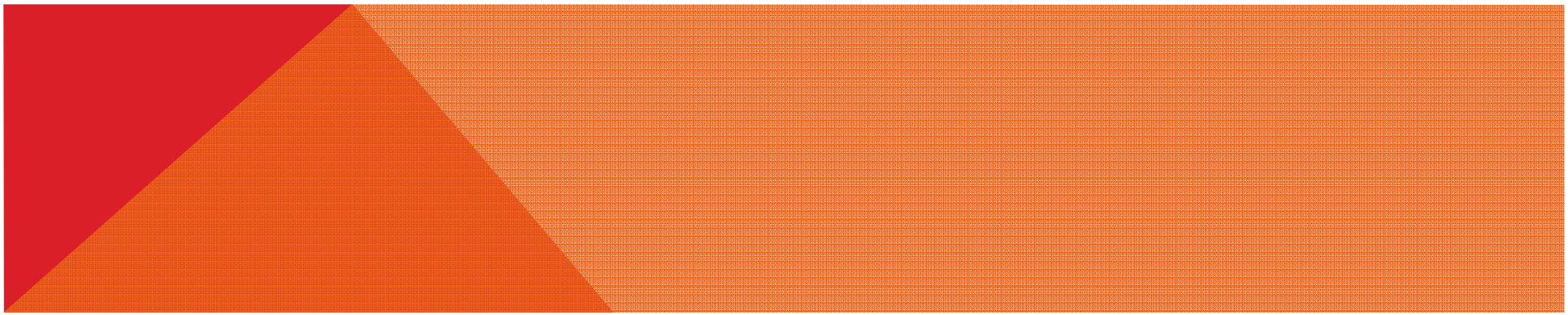
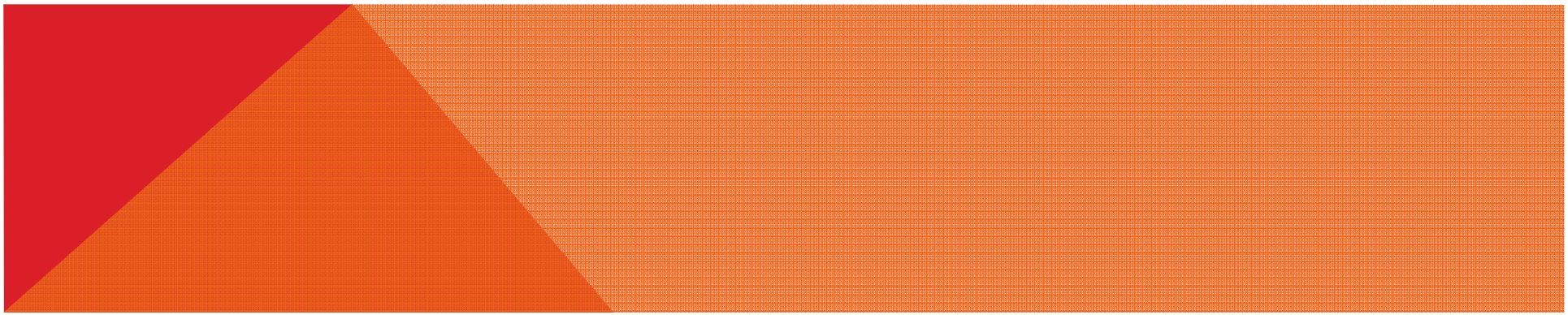


- Hb and Ferritin estimation at least 6 weeks prior to surgery
- Ensure Hb meets guidelines (Hb 12 – 13g/l) and if not, treat early
- Check Hb again before surgery
- Stop oral anticoagulants & antiplatelet drugs if appropriate eg warfarin, dabigatran, apixaban, rivaroxaban, clopidogrel, aspirin
- Ensure patient has information on available alternatives and advice on diet



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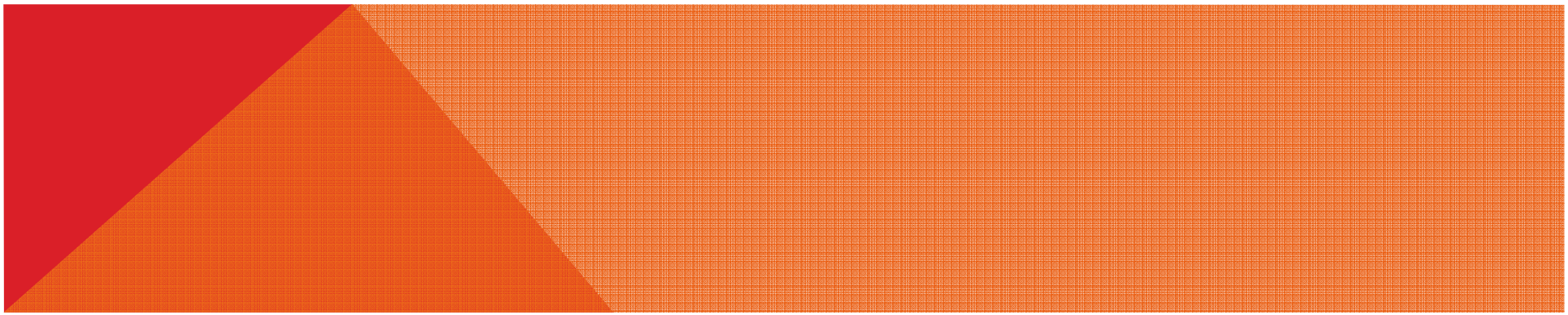
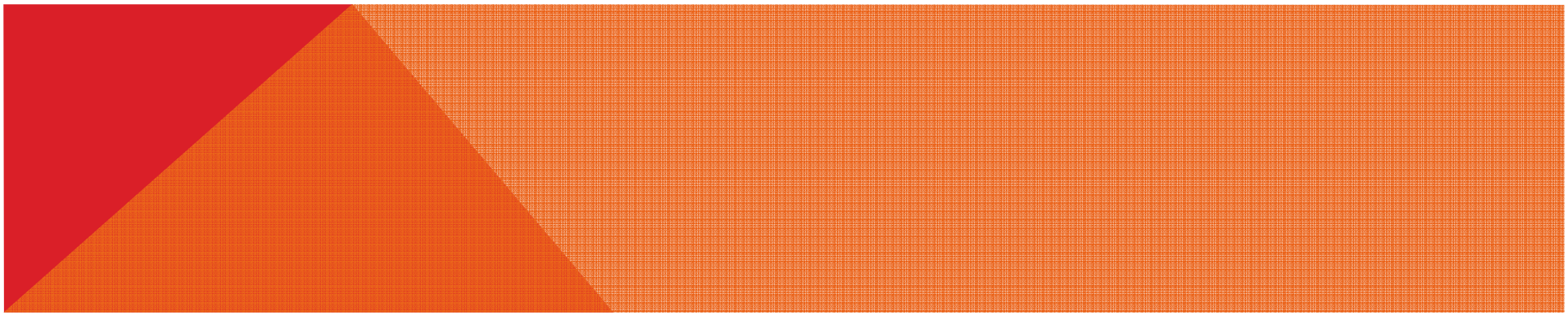


- Once Hb is found to be below 12g/dl (women) or 13g/dl (men) and Ferritin level has been assessed we can give an iron preparation to raise the Hb prior to surgery
- This can be either oral or IV iron, depending on the patient's needs (eg required timescale, ability to tolerate oral iron)
- Rise in Hb & iron stores before date of surgery, hence reducing the need for intra & post op transfusion.



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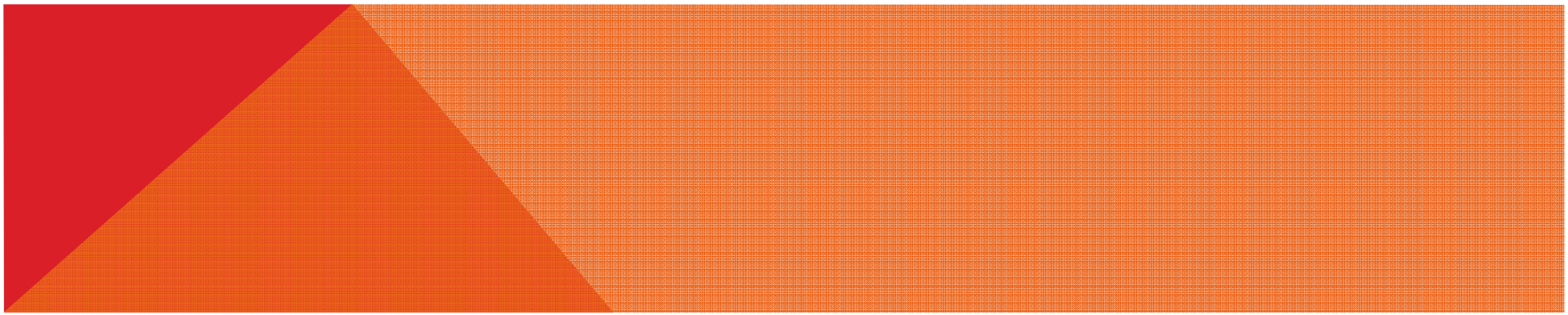
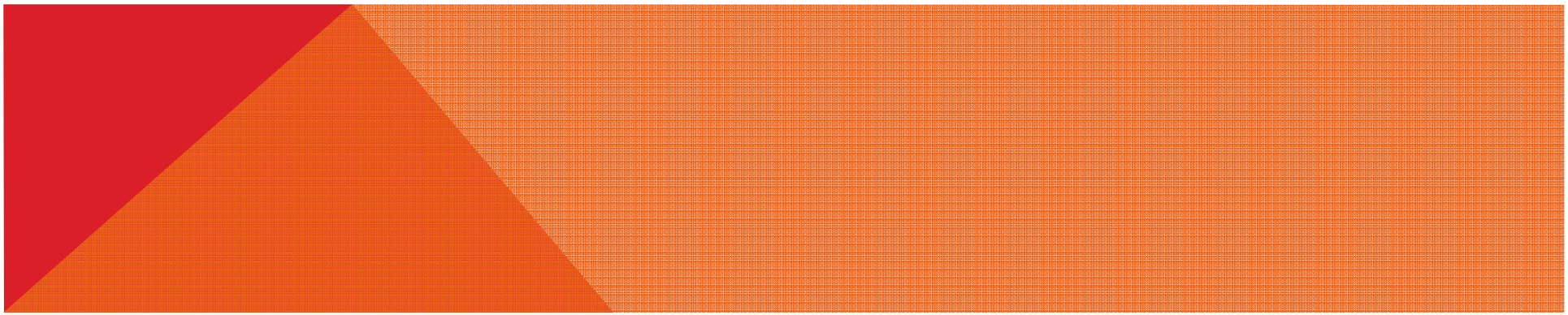


The use of pharmacological agents can help to reduce the amount of blood loss during the surgical procedure or encourage production of red cells.

- Tranexamic Acid (an antifibrinolytic drug to prevent breakdown of clots)
- DDAVP (enhances clotting)
- Factor VIIa
- Tissue sealants (biological glues)



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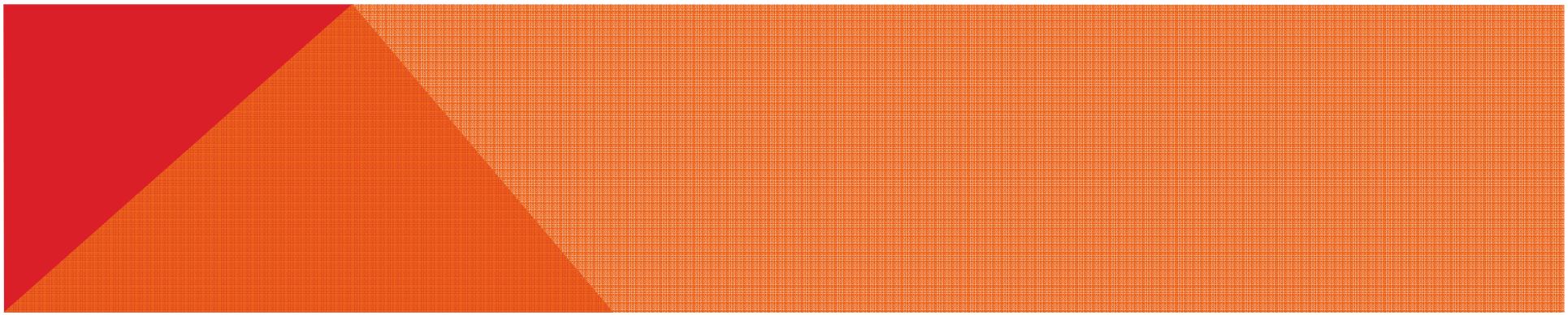
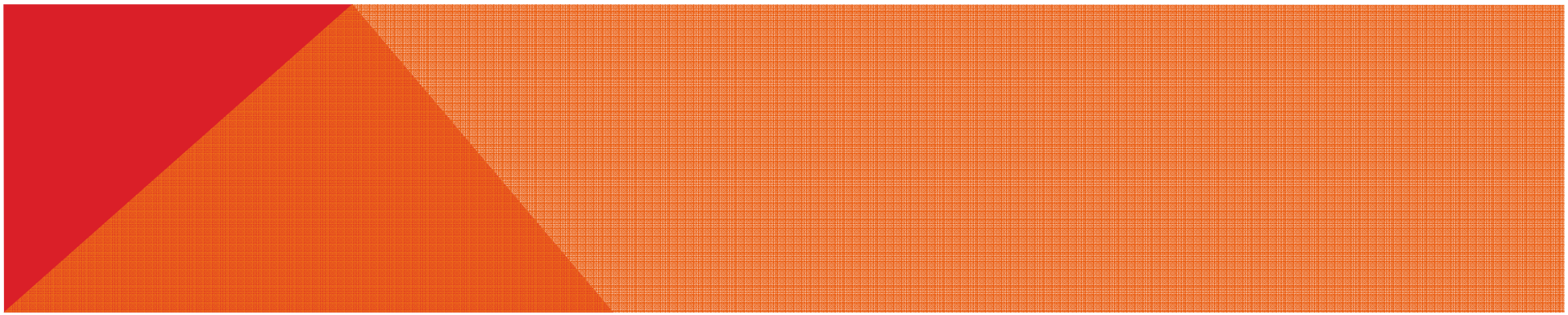


- ‘Keyhole’ surgery
- Positioning of patients
- Harmonic scalpels
- Diathermy
- Control of blood pressure



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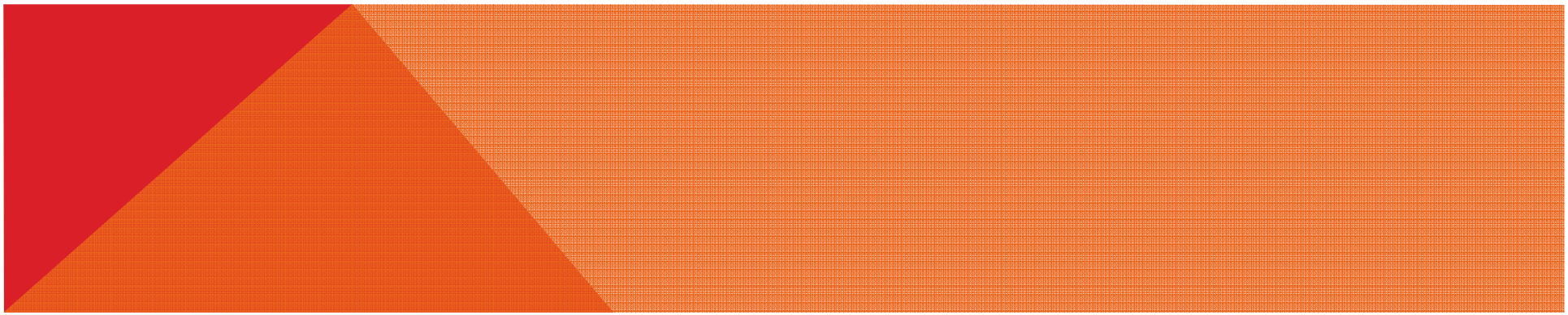
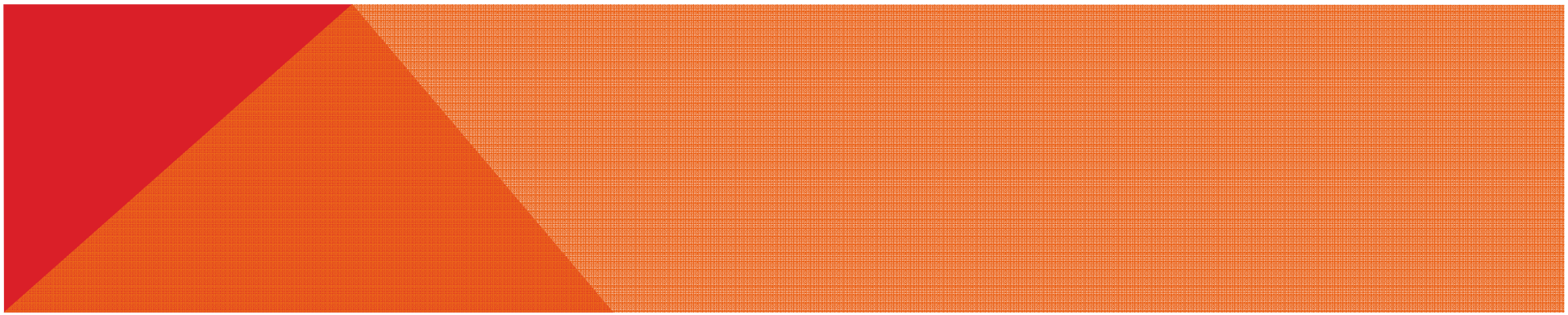
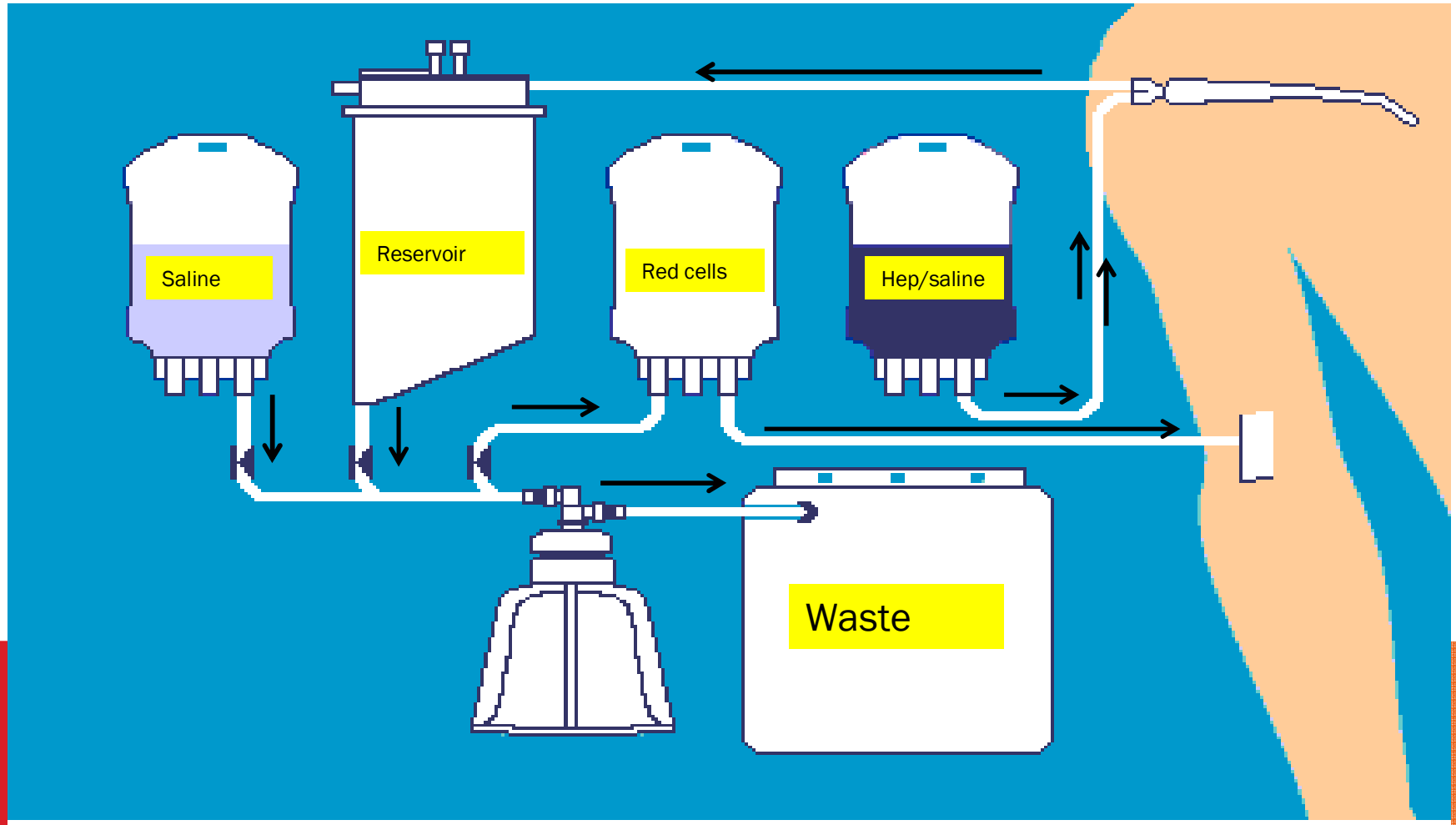


- Intra operative cell salvage is used in patients where a minimum of 1500mls of blood loss is expected
- Blood shed during surgery is:
  - 'hoovered' into a suction jar with heparin/saline to prevent clotting
  - washed with saline and spun to remove debris
  - transfused back to the patient so they receive their own cells
  - Exposure to Donor blood is reduced
  - Use of Donor blood is reduced
  - Procedure is cost effective



THE PROCEDURE



1. Shed blood is suctioned from the surgical field.

IS IT COST EFFECTIVE?

The cost of the service

The machines are on loan

Cost of consumables £60

The cost a unit of packed cells £120

South Tees cost savings in open AAA's

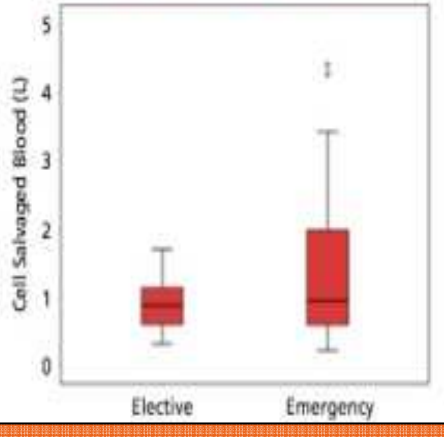
Results

- 41 patients were identified.
- Intraoperative cell salvage was implemented in all patients.
- Allogenic red cell transfusion was avoided in 73% of elective and 8% of emergency patients.
- The equivalent of 162 units of red cells were re-transfused using cell salvage.
- Estimated savings were £16,150 compared with allogenic blood transfusion.

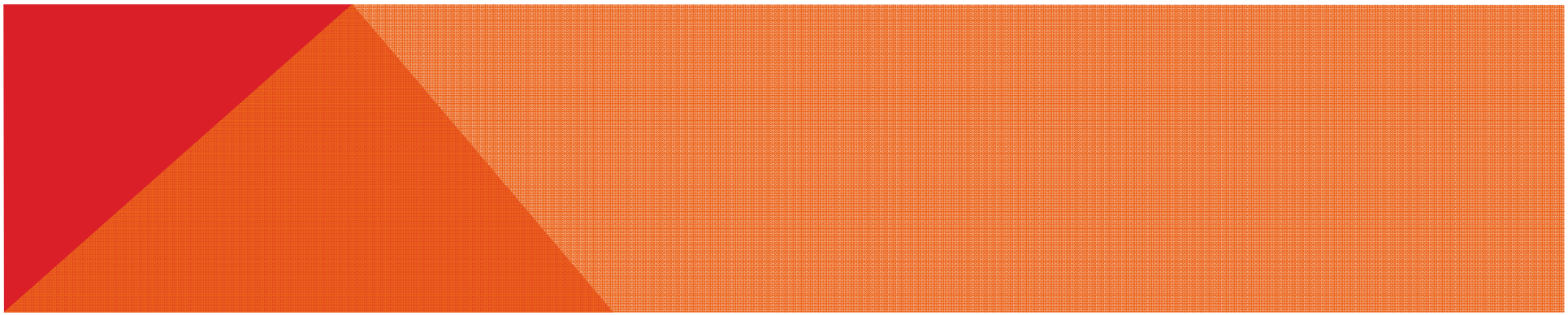
Summary of results

	Elective	Emergency
n	16	25
Median (range) salvaged blood re-transfused	880 ml (305-1699)	945 ml (207-4400)
Equivalent allogenic packed red cell units "saved"	44	118
Cost of "saved" packed red cells	£5,500	£14,750
Cost of ICS disposables	£1,600	£2,500
Overall savings	£3,900	£12,250

Salvaged blood re-transfused

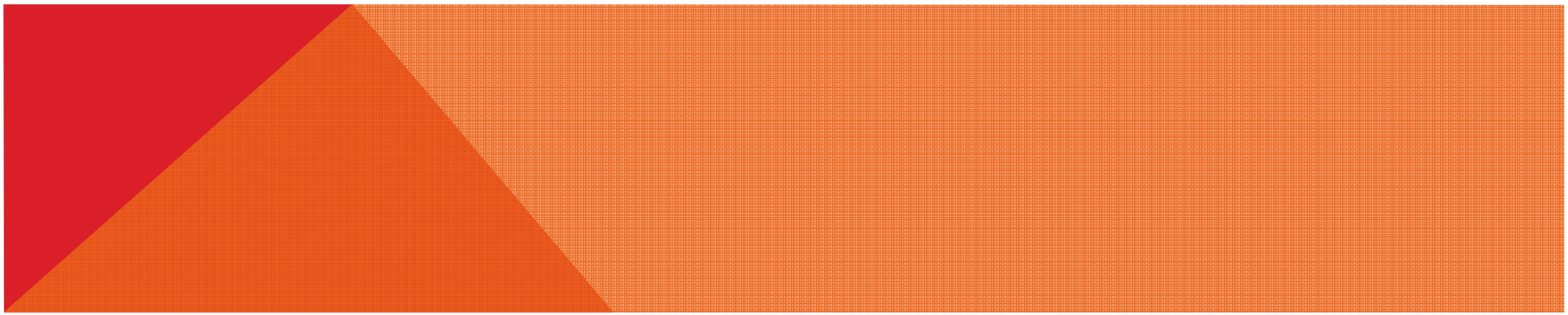


- In Post operative cell salvage a drain is used to collect blood lost after surgery.
- The salvaged blood may be:
  - washed and processed in a similar way to IOS, using a machine
  - returned to the patient by reinfusing the contents of the drain through a filter to remove aggregates and clots
- Post operative cell salvage is used less often because it is now believed that by inserting a drain post operatively more bleeding is encouraged.



- Cell salvage is unsuitable for:
  - Infected surgery
  - Low blood loss surgery
  - Sickle cell disease or trait

- Cell salvage may be unsuitable for
  - Malignancy



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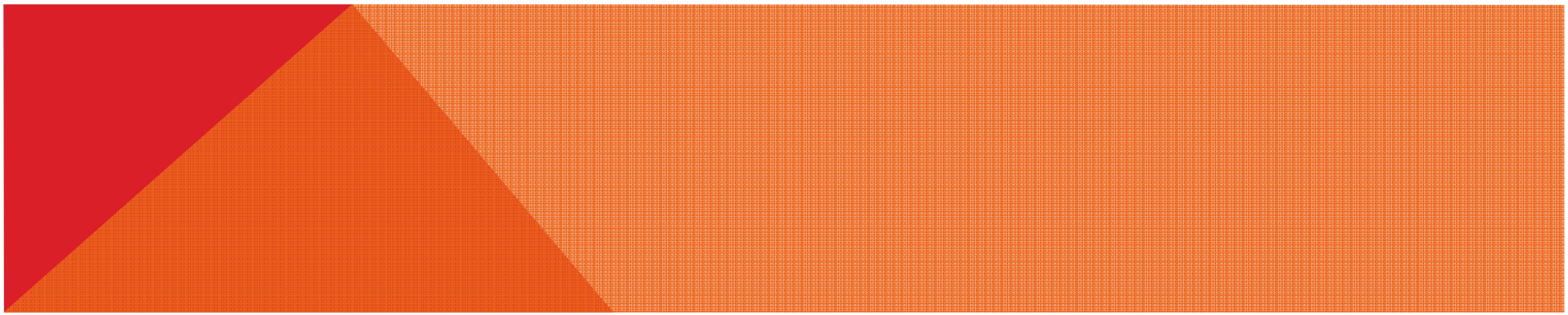
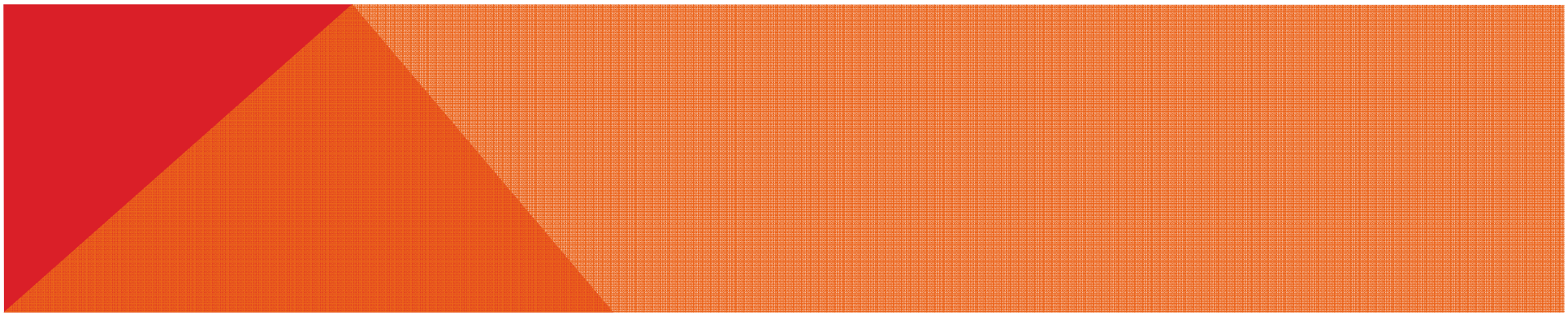


- All patients are individuals. Some have additional co-morbidities requiring a higher trigger
- Careful and individual assessment of the patients and documentation of an appropriate trigger for this particular person.
- **One size does not fit all!!**



WHY DO WE NEED AN ALTERNATIVE?

- Risks of donor blood
  - Infection
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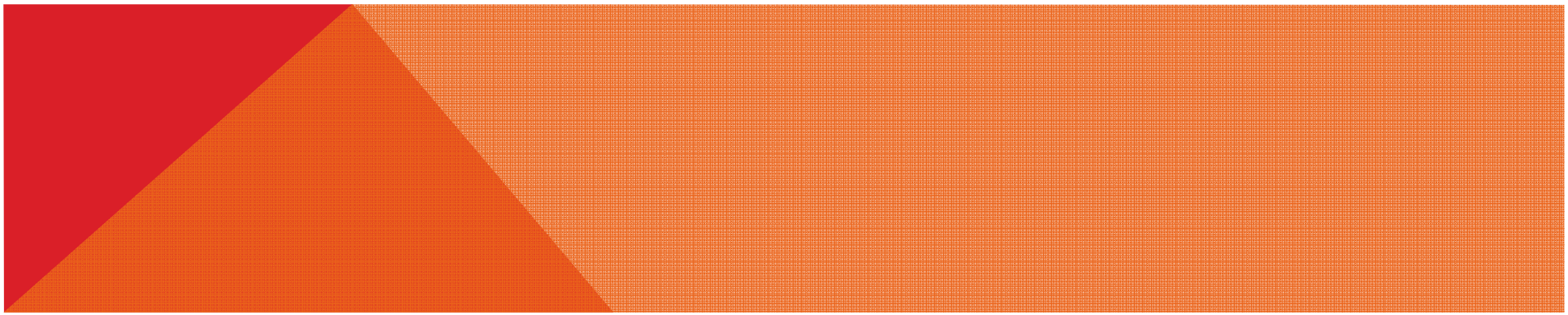
  - Reactions

  } Removed
- Limited supply of donors — Not used
- Healthcare costs — Less than donor blood
- Religious reasons — Addressed
- Patient choice — Addressed



Thank you...

....any questions?