Alder Hey Children's NHS
NHS Foundation Trust

Hot topics in Paediatric Transfusion and the Emergency Provision from the Blood Transfusion Laboratory

Margaret Slade

Inspired by Children

What is the difference between Transfusion Practice in Paediatrics and Adults?

Age dependent requirements

- 44 week gestational age require products suitable for neonatal use
- 4 months grouping technique changes

Product range

- Neonatal products
- Large volume red cells
- Methylene Blue Treated Frozen Products
- Aphersis Platelets

Children don't
- Drive
- Drink
- Take Drugs (usually)

therefore are less likely to be involved in accidents or trauma situations

Children are immunocompromised for the 1st 4-6 months of life and are less likely to develop antibodies

Major haemorrhage protocols

Blood grouping Neonates

Use of O Negative Blood

2 sample rule

Apheresis Platelets

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Major Haemorrhage Policy

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Major Haemorrhage pack 1 (MHP 1)

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Weight	Red cells	FFP
<5kg	1 adult unit LVT or Standard (250 ml)	2 'neonatal' units FFP (100ml)
5-10kg	1 adult unit (500 ml)	1 unit FFP (225ml)
10-20kg	2 adult units (500 ml)	2 units FFP (450ml)
> 20 kg	4 adult units (1000 ml)	4 units FFP (900ml)

Major Haemorrhage pack 2 (MHP 2)

Similar to above BUT with the added complication of the provision of cryoprecipitate and platelets in both neonatal and adult pack sizes

Table 1 – Major Haemorrhage pack 1 (MHP 1)

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Red cells	OCT
4 adult units(1000ml)	4 units(800ml)

Major Haemorrhage pack 2 (MHP 2)

Red cells	OCTAPLAS	Cryoprecipitate	Platelets
4 adult units (1000 ml)	4 units (800 ml)	10 units (400 ml)	1 adult pack (200 ml)

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Problems encountered when blood grouping Neonates

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Group and DAT testing cord samples

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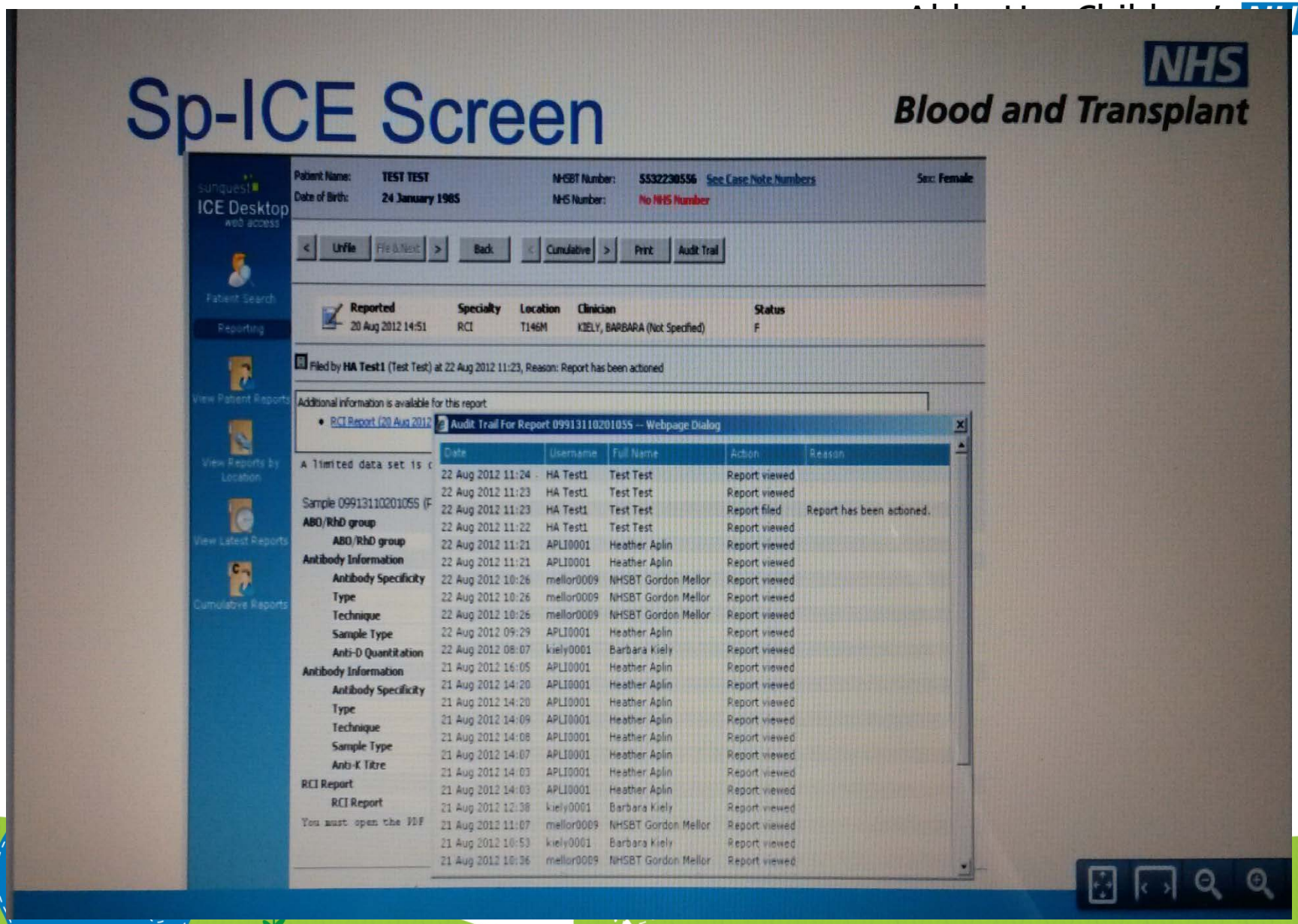
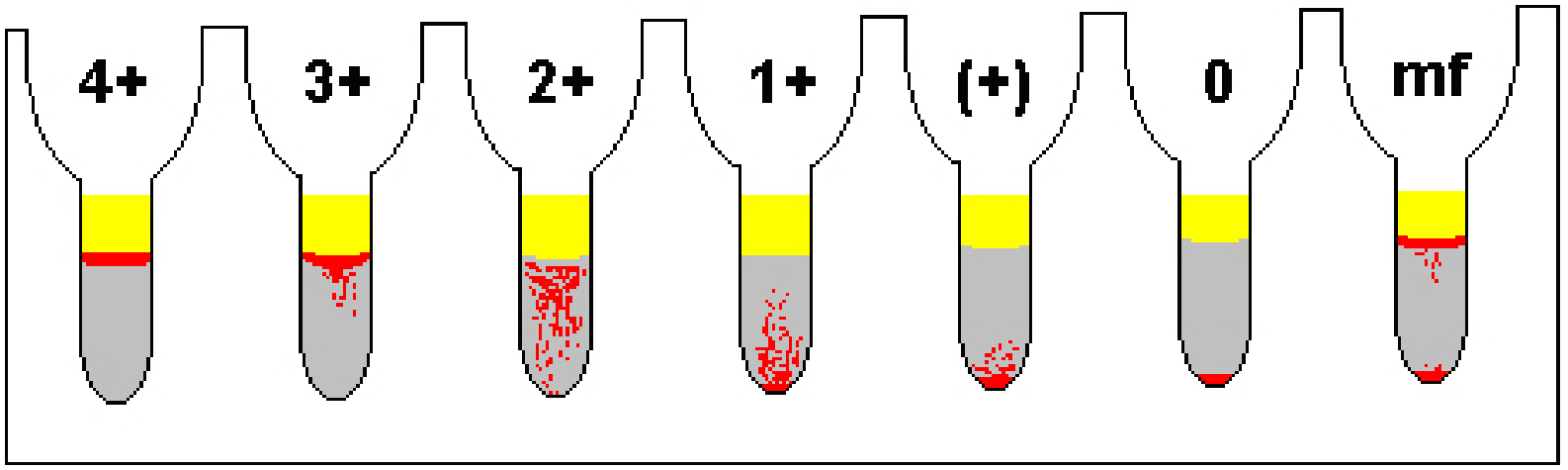
Paediatrician to decide if further testing is required

Sp-ICE Screen

NHS Blood and Transplant




4+
3+
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Weak
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Mixed Field

Use of O Negative red cells

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3 units of O Negative emergency blood was used in the last 6 months.

Liverpool Women's Hospital

30 Paediatric units of O Negative blood was used in the same period

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EMERGENCY O NEGATIVE BLOODTRANSFUSION DEPARTMENT
ALDER HEY CHILDREN'S HOSPITAL

IF EMERGENCY O NEGATIVE BLOOD IS USED ALL INFORMATION MUST BE RECORDED BELOW AND THE TRANSFUSION DEPARTMENT INFORMED ASAP ON EXT 2491 or 2492

DATE CLINICAL INDICATION FOR USE	NAME	HOSPITAL NUMBER	WARD	BAG NUMBER	EXPIRY DATE

RETURN THIS FORM TO THE TRANSFUSION DEPARTMENT AS SOON AS POSSIBLE.

CLINICAL INDICATION FOR USE

USE OF EMERGENCY O NEGATIVE BLOOD MUST BE AUTHORISED BY CONSULTANT STAFF

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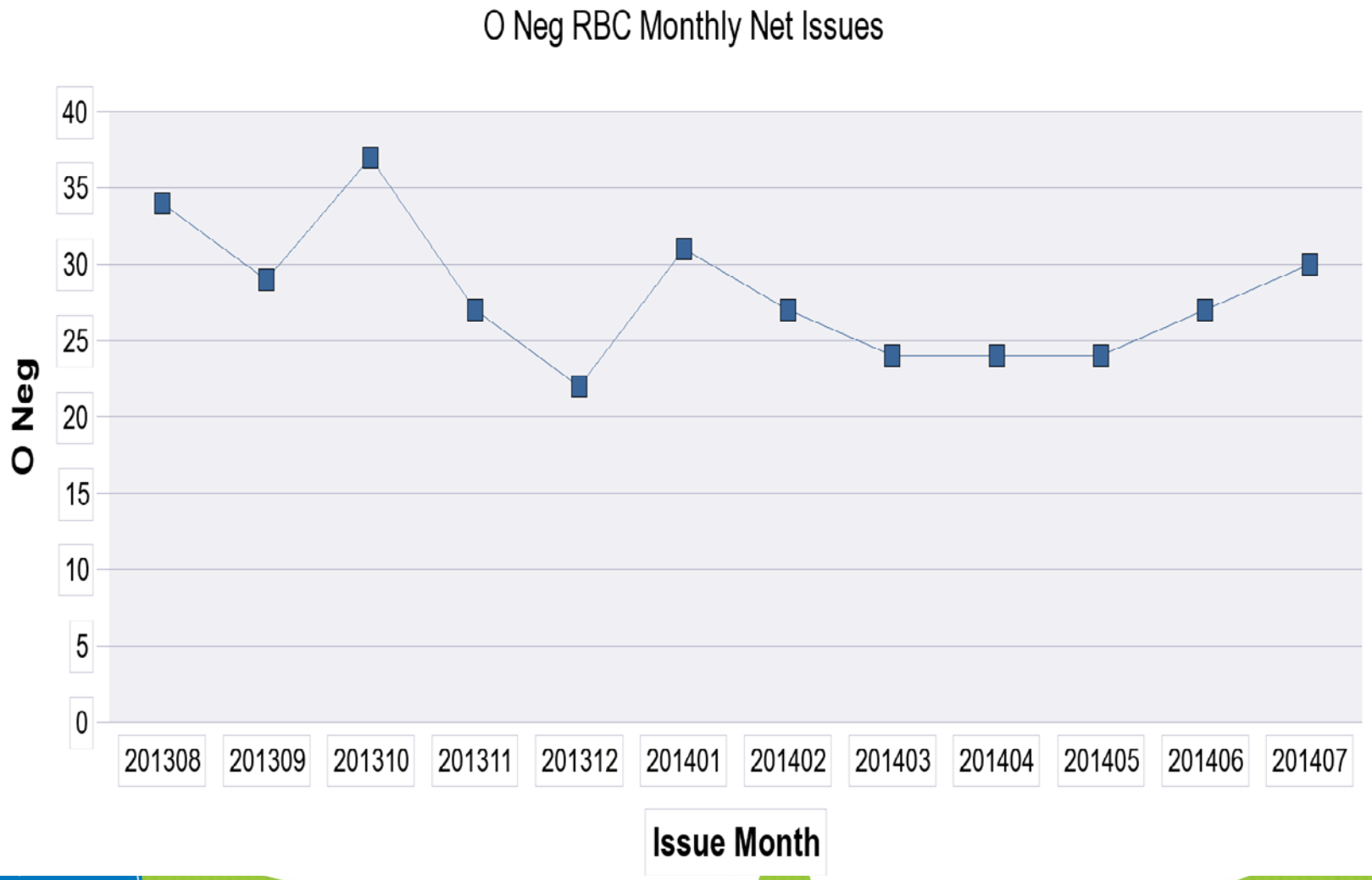
Msoft tracking system

There should be a picture of our alarm system here – one of the disadvantages of agreeing to speak after retirement is a lack of access to all those tools you are used to- sorry


O Neg RBC Monthly Net Issues
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Issue Month

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Stock holding at Alder Hey Children's Hospital

4 A Positive red cells

4 A Negative red cells

2 A Negative large volume red cells

2 A Negative irradiated red cells

2 B Positive red cells

4 O Positive red cells

4 O Negative red cells

2 O Negative large volume red cells

2 O Negative irradiated red cells

2 samples in paediatric transfusion

What can we do to move towards compliance?

- We have completed a Gap analysis using the BCSH Taskforce documents
- We have contacted our users to ask for assistance in making this happen
- We have reviewed our WBIT figures for both Blood Science and specifically Blood Transfusion

During April 2013 we crossmatched 189 patients, 48 of whom were crossmatched on the 1st sample received = 25%

12 of these patients were for Cardiac surgery

18 were neurosurgical patients who came from anywhere from Aberdeen to West Sussex

7 were NICU patients. 2 patients had 2 transfusions before a second sample was received

9 were emergency admissions to PICU

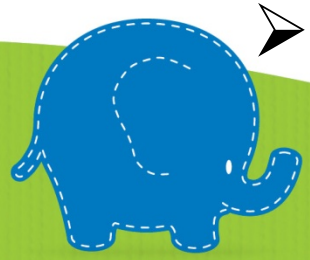
Paediatrics is different to adult medicine in so many ways.
Samples are a very precious resource.

Our WIBT rate is very low

Apheresis platelets

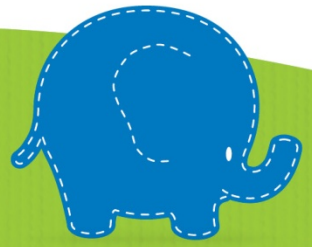
Apheresis platelets should be used for all children <16 years old (born on or after 01.01.96)

- Reduce HLA immunisation
- Reduce exposure to potentially infectious donors
- Reduce number of febrile non haemolytic reactions
- Give a better response in refractory patients



SaBTO have removed the requirement for 80% of platelets to be produced by apheresis . This percentage will drop to 60% by 2016 according to NHSBT

The NHSBT will continue to provide apheresis platelets where they are readily available, with the option of providing a pool where this is not possible



NHSBT are confident that we can continue to meet the clinical need of patients including those who may need platelets donated by apheresis for the following indications:

- Intrauterine and neonatal transfusion (by pack specification)
- Children and young adults born after 01.01.96

Thank you for you time .

Contact details

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