Guidelines for pre-transfusion compatibility procedures in blood transfusion laboratories 2012

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- Accepted for publication Sept 2012
- Replacement of 2004
- 19 Key recommendations

Key recommendation 4

- Serological studies should be performed using blood collected no more than 3 days in advance of the actual transfusion when the patient has been transfused or pregnant within the preceding 3 months

Patient transfused within	Sample to be taken no more than
3-14 days	24h before transfusion
15-28 days	72h before transfusion
>29 days	1 week before transfusion

- Some samples will have longer expiries while others will be shorter expiries
- ICU will benefit
- Haematology Day Unit and Renal will have a mix

- SHOT data shows majority of delayed HTR are noted 3-14 days post transfusion
- A survey of UK laboratory practice found the minority of laboratories complied with the 24 hour rule
- Approximately 80% transfused within 72 hours of a new sample
- There does not appear to be significant numbers of additional delayed HTR being reported as a result of this.

- Therefore the previous 24 h recommendation could be unnecessarily tight
- The writing group felt that a change that represented a balance of safety with achievability was required
- 72 hours offered the best balance of safety and achievability

- Could interpret this as a 24h sample life + 48h reservation period,
- Or 48h sample life with 24h dereservation period
- Could be more lenient but a risk assessment required. E.g. chronic transfused patients

Key recommendation 5

- A pre-transfusion sample should be retained for at least 3 days post transfusion, to ensure that repeat ABO grouping of the pre-transfusion sample can be performed in the event of an acute transfusion reaction.
- It is useful to keep plasma for 7-14 days post tx (freezing) incase of DTR

- North Bristol Trust keep samples for provision of blood for a maximum of 5 days
- Keeps samples in the fridge for a further 3

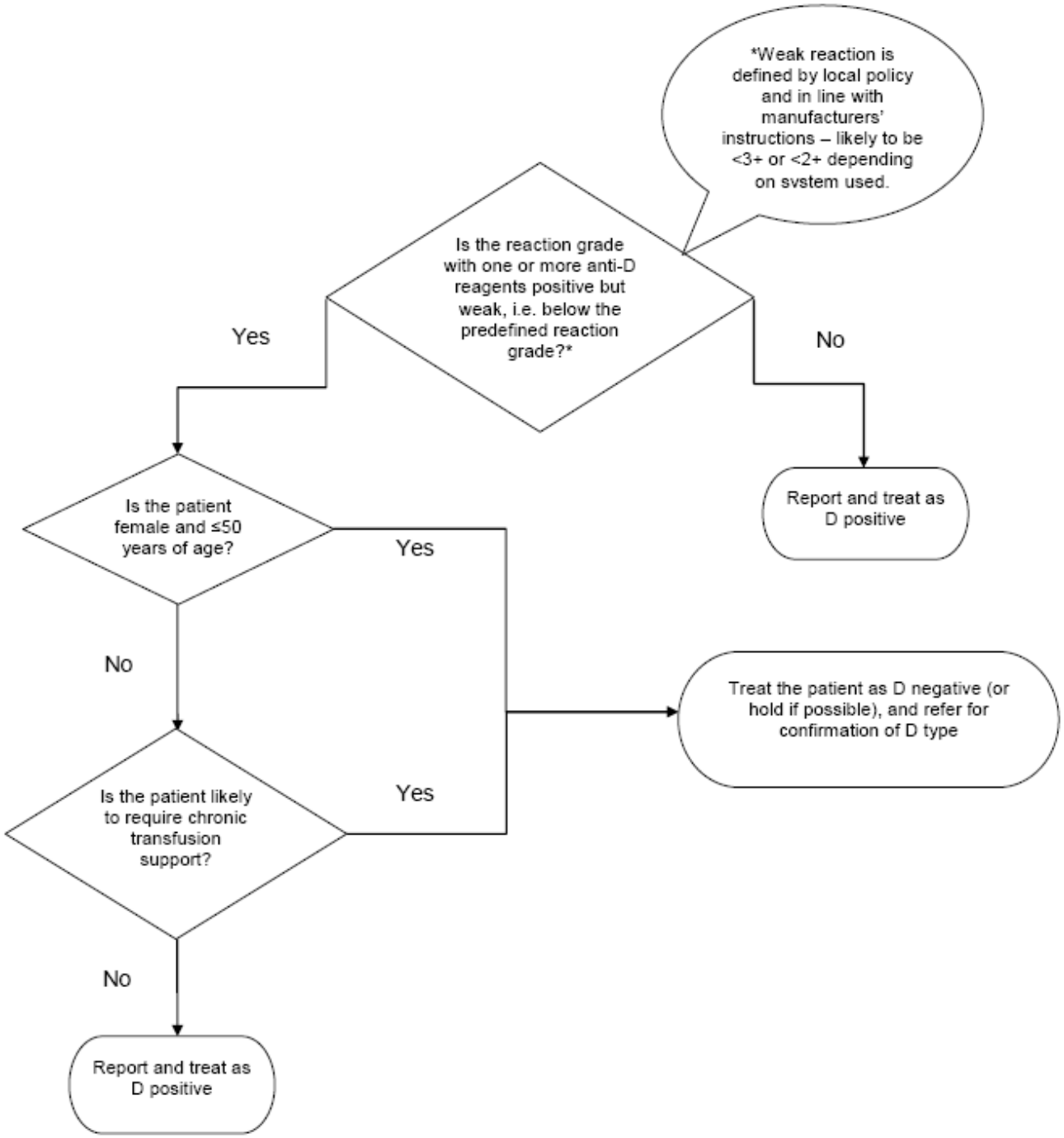
Key recommendation 8

- Any abbreviation of the ABO group must be fully risk assessed.
- Omitting reverse group must be fully automated and risk assessed. Consider after two gps due to first gp possible WBIT (1:2000)
- Historical gp should be performed by automated method and no manual edits

- the distinction between weak D and partial D is no longer considered straight forward.

- Where secure automation is used, D typing may be undertaken using a single IgM monoclonal anti-D reagent, which should not detect DVI.

Fig. 2 – Reporting of D typing anomalies and selection of red cells



Key recommendation12

- Unless secure electronic patient identification systems are in place, a second sample should be requested for confirmation of the ABO group of a first time patient prior to transfusion, where this does not impede the delivery of urgent red cells or other components.

Patients Tx in ED April 13

Patient	Blood Group	Sample taken	Emergency O Neg used	total units tx in ED	Time first unit started	Historical group	Comment
1	A Neg	22:00	0	1	23:45	Yes	
2	A Pos	13:20	0	2	14:00	No	
3	A Pos	14:30	5	5	14:00	No	Mixed field
4	A Pos	13:30	0	2	14:35	Yes	
5	A Pos	09:15	0	2	14:15	No	
6	B Pos	00:05	0	2	02:50	Yes	
7	B Pos	13:50	1	5	14:15	Yes	
8	O Neg	18:00	0	4	19:55	No	
9	O Pos	01:40	0	1	04:35	No	
10	O Pos	09:00	1	3	08:50	No	Not mixed field
11	O pos	14:20	0	1	19:43	No	

- 3 of 11 required Emergency Blood
- 4 of 11 had an historical blood group
- 7 of 11 were not group O
- Of these non-O 1 was Rh D negative
- 7 of the 11 the transfused was not started within 1 hour

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ED

- When a trauma pack is requested a sample and form are sent with the O Neg blood
- Sample bottle not different from routine
- Sent as a reminder to take second sample
- Agreed with ED patients will get first sample as they arrive
- Second sample when patient sent to CT or when they receive sample with blood

- For large volume blood replacement (e.g. more than 8 units of red cells), D positive red cells should be issued to females over the age of 50 and adult males in whom no anti-D is detectable,
- The following should be covered by a concessionary release procedure

Key recommendation 18

- Following an emergency rapid group, a second test to detect ABO incompatibility should be undertaken prior to release of group specific red cells.
- Consider giving group O where there are not two samples

Childbearing age

- 60 to 50
- D negative women of childbearing potential (<51 years).
- **Childbearing potential** - females less than 50 years of age where sensitisation to an antigen could put a baby at risk of haemolytic disease of the fetus and newborn.

Conclusion

- Three major changes
- Two samples for first time patient or consider giving group O
- Sample validity (72 hours)
- Sample storage (3 days post transfusion)