

# Transfusion Myths and Legends



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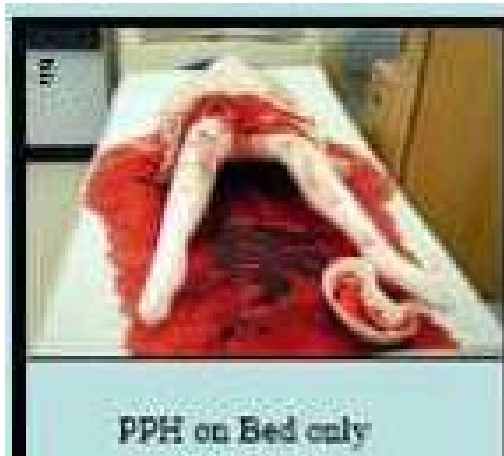
# Introduction

- Similar issues across the area
- Different hospitals have different policies BUT all work to the same legislation and guidelines.
- All have cards A,B,C &D
- Questions based on suggestions from across the RTC area.



# Estimated Blood Loss

Estimate the blood loss



**A**

2000ml

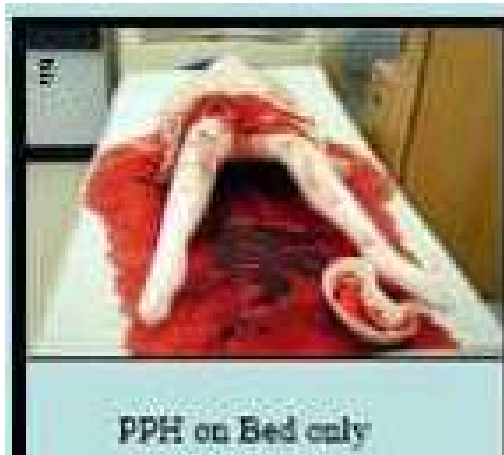
**B**

1000ml



# Estimated Blood Loss

Estimate the blood loss



**B**  
1000ml

**Clinical Staff:** Be aware of over ordering components.

**Lab Staff:** Be aware of what may be happening at the other end of the phone/request.

# Emergency ordering

Emergency O D negative red cells are suitable for all patients

**A**

Yes, O Neg is a  
universal  
donor

**B**

No, it's a bit  
more  
complicated



# **Emergency ordering**

Emergency O D negative red cells are suitable for all patients

Situations in which O D neg may not be suitable

- Patient has red cell antibodies.
- Patient requires irradiated components.
- Patient is under 1 year old.
- O D positive red cells can be used for male patients and female over 50 years old.



# Emergency Ordering

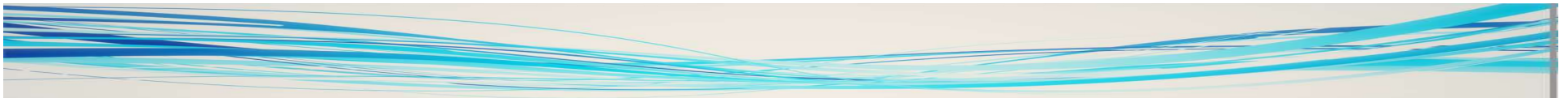
Group O FFP is used as an emergency FFP component?

**A**

Yes, O Neg is a  
universal  
donor

**B**

No



# **Emergency Ordering**

Group O FFP is used as an emergency FFP component

Group O plasma contains Anti-A and Anti-B which can cause a transfusion reaction.

Hospitals generally use group AB or A as emergency FFP.





# Components

What microbiology markers are blood donors  
routinely screened for?

**A**

HIV, Hep B,  
Hep C, HEV

**B**


HIV, Hep B,  
Hep C, Syphilis,  
HTLV, HEV

**C**

HIV, Hep B,  
Hep C, CMV

**D**

HIV, Hep C,  
Syphilis, CMV

A decorative horizontal band at the bottom of the slide featuring multiple overlapping, wavy lines in shades of blue and teal, creating a sense of motion or a stylized horizon.

# Components

What microbiology markers are blood donors routinely screened for?

**B**

HIV, Hep B,  
Hep C, Syphilis,  
HTLV, HEV

Additional testing due to specific risk include;

- Plasmodium sp.
- Trypanosoma cruzi
- West Nile Virus



# O D Negative red cells

How many O D neg red cells are routinely held in stock, in a DGH?

**A**  
30

**B**  
20

**C**  
8

**D**  
25



# O D Negative red cells

How many O D neg red cells are routinely held in stock, in a DGH?



6 in stock after a day of crossmatching. Order to make up to 8.

O D neg donors comprise around 7% of the donor population but use in hospitals is around 12-13%

# O D Negative red cells

How many O D neg red cells are routinely held in stock, in Sheffield NHSBT?

**A**  
300

**B**  
100

**C**  
40

**D**  
25





All donations collected are processed in Manchester or Bristol.

NHBST move stock around the country on a daily basis.

The Sheffield site distributes stock to 16 hospitals including 2 major trauma centres.



# Laboratory Testing

How long does it take to perform a routine Group and Screen?

**A**

10 minutes

**B**

20 minutes

**C**

1 Hour

**D**

50 mins



# Laboratory Testing

How long does it take to perform a routine Group and Screen?

- Different hospitals have different assays and processes.
- Emergency products are always available.





# Laboratory Testing

How many different blood group systems have been identified?

**A**  
101

**B**  
240

**C**  
2

**D**  
39



# Laboratory Testing

How many different blood group systems have been identified?

001	ABO	ABO	ABO	4	9q34.2	
002	MNS	MNS	GYPA, GYPB, GYPE	49	4q31.21	CD235a CD235b
003	P1PK	P1PK	A4GALT	3	22q13.2	CD77
004	Rh	RH	RHD, RHCE	55	1p36.11	CD240
005	Lutheran	LU	BCAM	25	19q13.2	CD239
006	Kell	KEL	KEL	36	7q33	CD238
007	Lewis	LE	FUT3	6	19p13.3	
008	Duffy	FY	ACKR1	5	1q21-q22	CD234
009	Kidd	JK	SLC14A1	3	18q11-q12	
010	Diego	DI	SLC4A1	22	17q21.31	CD233
011	Yt	YT	ACHE	5	7q22	
012	Xg	XG	XG, MIC2	2	Xp22.32	CD99†
013	Scianna	SC	ERMAP	7	1p34.2	
014	Dombrock	DO	ART4	10	12p13-p12	CD297
015	Colton	CO	AQP1	4	7p14	
016	Landsteiner-Wiener	LW	ICAM4	3	19p13.2	CD242
017	Chido/Rodgers	CH/RG	C4A, C4B	9	6p21.3	
018	H	H	FUT1	1	19q13.33	CD173
019	Kx	XX	XX	1	Xp21.1	
020	Gerbich	GE	GYPE	11	2q14-q21	CD236

Page 1 of 2

ISBT list 39 different blood group systems.  
(August 2019)

In addition they list the 200 series, 700 series  
and 900 series

Table of blood group systems v6.0\_6th August 2019

No.	System name	System symbol	Gene name(s)*	Number of antigens	Chromosomal location	CD numbers
021	Cromer	CROM	CD55	20	1q32	CD55
022	Knops	KN	CR1	9	1q32.2	CD35
023	Indian	IN	CD44	6	11p13	CD44
024	Ok	OK	BSG	3	19p13.3	CD147
025	Raph	RAPH	CD151	1	11p15.5	CD151
026	John Milton Hagen	JMH	SEMA7A	6	15q22.3-q23	CD108
027	I	I	GCNT2	1	6p24.2	
028	Globoside	GLOB	B3GALNT1	2	3q25	
029	Gill	GIL	AQP3	1	9p13	
030	Rh-associated glycoprotein	RHAG	RHAG	3	6p12.3	CD241



# Laboratory Testing

If a patient has been previously grouped they are eligible for Electronic issue?

**A**

Yes

**B**

No

**C**

Maybe



# Laboratory Testing

If a patient has been previously grouped they are eligible for Electronic issue.

Exclusions from EI;

- Presence of red cell antibodies, including Anti-D Ig.
- Positive DAT.
- 'Manual entry' or alteration of the blood group between the analyser and LIMS.



# Components

How much does a bag of red cells cost?

**A**

£54.13

**B**

£123

**C**

£ 0

**D**

£133.44



# Components

How much does a bag of red cells cost?



# Components

How long do you have to wait after a red cell transfusion to re-check the patients Hb

**A**

20 mins

**B**

2 Hours

**C**

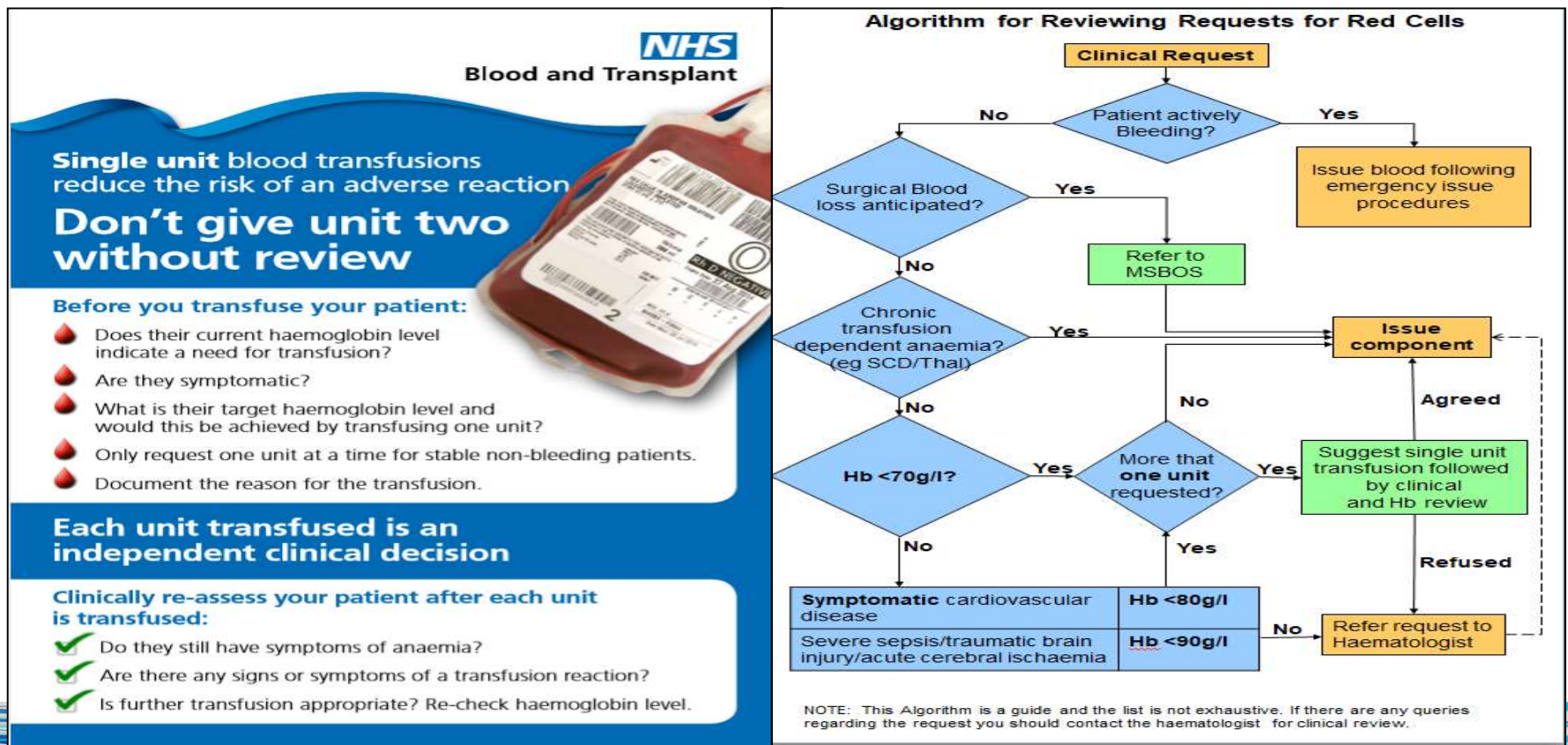
24 hours

**D**

15 mins



Single unit transfusion applies to stable, normovolaemic adult in-patients who **do not** have evidence of clinically significant bleeding.





# Components

What is the volume specification of a bag of red cells

**A**

200-300ml

**B**

220-340ml

**C**

320-400ml

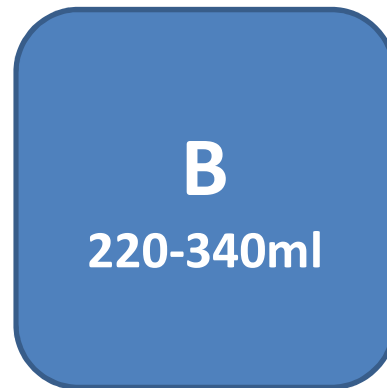
**D**

380-490ml



# Components

What is the volume specification of a bag of red cells



# Components

How long can a bag of red cell be out of a controlled temperature environment?

**A**

4 hours

**B**

There isn't a  
time limit

**C**

60 mins

**D**

30 mins



# Components

How long can a bag of red cell be out of a controlled temperature environment?

## ***Change Notification UK National Blood Services No. 33 - 2016***

- If possible, time out of a controlled temperature environment should be restricted to under 30 minutes.
- if 30 minutes is exceeded the unit should **not** be returned to the issue location in the refrigerator, but returned to the transfusion laboratory or quarantined remotely using electronic blood tracking ...up to 60 minutes out of controlled temperature is acceptable, provided the unit is then quarantined by placing in a secure refrigerator for at least 6 hours prior to reissue, to allow the unit to return to 2-6°C .
- Transfusion should be completed within 4 hours of issue out of a controlled temperature environment.



# Collection

Any member of staff can collect blood for a patient

**A**

Yes

**B**

No



# Collection

Any member of staff can collect blood for a patient

**B**  
No

Staff collecting blood for transfusion must be trained and competency assessed.

