Suggested Product Selection

Predicted phenotype	Potential Ab	Product advice without Ab	Product advice with Ab	Rationale
D+	-D (Autoanti-D or alloanti-D due to D variant)	D+	D–	D– advisable even with autoantibodies since there is no antithetical antigen
D+^{var}	-D	D–	D–	D– advisable since there is no antithetical antigen. If there is a history of D+ transfusion, without production of anti-D, D+ RBC may be considered.
D+ E+ e+^{var}	-hr^{S}/-hr^{B}	e–	e– (D+E+)	D+ E+ e–
D+ E– e+^{var}	-hr^{S}/-hr^{B} -E	E–	1. E– 2. E– and IvIg cover 3. If unacceptable haemolysis D+ E+ e–	Provision of E- e variant matched blood is not possible. Preventing E immunisation is first priority; e like antibodies are often not clinically significant. In patients with haemolysis due to anti hr^{S}/hr^{B}, Tx of E+ e– may be of benefit until the development on anti-E
D– E– e+^{var}	-D, -hr^{S}/-hr^{B}, -E	D– E–	1. D– E– 2. D– E– and IvIg cover 3. If unacceptable haemolysis r''r'' (C-c+D-E+e-).	Provision of E– e variant matched blood is not possible. Preventing D immunisation is first priority Preventing E immunisation is second priority; e like antibodies are often not clinically significant. In patients with haemolysis due to anti hr^{S}/hr^{B}, Tx of D– E+ e– may be of benefit until the development on anti-E.
D+ C+^{var} c+	-C	C–	C–	C+^{var} phenotype will be associated with c+ phenotype, therefore c+ RBC can safely be transfused.
D– C+^{var} c+	-D -C	D– C–	D– C–	C+^{var} phenotype will be associated with c+ phenotype, therefore c+ RBC can safely be transfused.

D+^{var} C+^{var} e+^{var} E-	-D –C –hr^{s}/hr^{B} -E	D- C- e+ E-	1. D- C- e+ E- 2. D- C- e+ E- IvIg cover 3. If unacceptable haemolysis r''r'' (C-c+D-E+e-).	Provision of E– e variant matched blood is not possible. Preventing D immunisation is first priority Preventing E immunisation is second priority; e like antibodies are often not clinically significant. C+^{var} phenotype will be associated with c+ phenotype, therefore c+ RBC can safely be transfused. In patients with haemolysis due to anti-hr^{S}/-hr^{B}, Tx of r''r'' (C-c+D-E+e-) may be of benefit until the development on anti-E.
D+^{var} C+^{var} e+^{var} E+	-D –C –hr^{s}/hr^{B}	D- C- e+ E-	1. D- C- e+ E- 2. D- C- e+ E- IvIg cover 3. If unacceptable haemolysis r''r'' (C-c+D-E+e-).	Preventing D immunisation is first priority C+^{var} phenotype will be associated with c+ phenotype, therefore c+ rbc can safely be transfused. r''r'' (C-c+D-E+e-) blood is rare; it will not be issued in the absence anti-e-like; e-like antibodies are often not clinically significant. In patients with haemolysis due to anti-hr^{S}/-hr^{B}, Tx of r''r'' (C-c+D-E+e-) may be considered.

NOTES:
1. Due to lack of an antithetical antigen D variants should receive D- blood. However, if there is a history of D+ transfusion, without production of anti-D, D+ RBC may be considered.
2. Individuals with variant C and/or variant e phenotypes often tolerate transfusion of antigen positive blood without immunisation.
3. Only in exceptional circumstances should a patient who is E- with anti-e-like and is not tolerating e+ blood, should e- E+ blood be considered for transfusion (due to the possibility of immunisation to E). Allo anti-E is considered more clinically significant than anti-e-like.
4. Please note: e– red cells are hr^{S}– and hr^{B}–. However, e– red cells are not Hr– or Hr^{B}–.

Report Comments for Transfusion

Predicted phenotype	Exam comment (will appear on report)	Comment code	Patient comment (will appear in Hematos only)	Comment code
D+^{var}	Due to the predicted presence of a D variant phenotype this patient should receive D- red cells for transfusion.	E059	The genotype predicts a D variant phenotype. In the presence of antibodies consult INF1302.	E060
D+ E+ e+^{var}	In the absence of antibodies consider providing D+ E+ e- red cells for transfusion. Product selection for patients with Rh antibodies may differ. INF1302 “Extended red cell genotyping – phenotype prediction and product selection” is available at https://ibgrl.blood.co.uk/.	E056	The genotype predicts a e variant phenotype. In the presence of antibodies consult INF1302.	E058
D- or D+^{var}, E+ e+^{var}	In the absence of antibodies consider providing D- e+ red cells for transfusion. Product selection for patients with Rh antibodies may differ. INF1302 “Extended red cell genotyping – phenotype prediction and product selection” is available at https://ibgrl.blood.co.uk/.	E073	The genotype predicts a e variant phenotype. In the presence of antibodies consult INF1302.	E058
D+ E– e+^{var}	In the absence of antibodies consider providing E- e+ red cells for transfusion. Product selection for patients with Rh antibodies may differ. INF1302 “Extended red cell genotyping – phenotype prediction and product selection” is available at https://ibgrl.blood.co.uk/.	E057	The genotype predicts a e variant phenotype. In the presence of antibodies consult INF1302.	E058
D- or D+^{var}, E- e+^{var}	In the absence of antibodies consider providing D- E- e+ red cells for transfusion. Product selection for patients with Rh antibodies may differ. INF1302 “Extended red cell genotyping – phenotype prediction and product selection” is available at https://ibgrl.blood.co.uk/.	E074	The genotype predicts a e variant phenotype. In the presence of antibodies consult INF1302.	E058

C+^{var} c+	In the absence of antibodies consider providing C- c+ red cells for transfusion. Product selection for patients with Rh antibodies may differ. INF1302 “Extended red cell genotyping – phenotype prediction and product selection” is available at https://ibgrl.blood.co.uk/.	E054	The genotype predicts a C variant phenotype. In the presence of antibodies consult INF1302.	E055
U+^{var}	Homozygous or compound heterozygous mutations were identified in the Glycophorin B gene.	E069	None	None
As appropriate	This extended genotyping report contains new information / advice which supersedes that contained in previous reports.	E087	IBGRL extended genotyping report issued (DATE) contains new information and transfusion advice for this patient.	E103

Unlikely Scenarios for Consideration

Predicted phenotype	Potential Ab	Product advice (without Ab)	Product advice (with Ab)	Rationale
D+ C+ c^{var}	–c	D+ C+ c–	D+ C+ c–	
D+ C– c^{var}	–C –c	D+/– C– c+	D+ C– c+	Provision of C- c variant matched blood is not possible. Preventing C immunisation is first priority. In patients with haemolysis due to anti-c, Tx of C+ c– may be of benefit until the development on anti-C.
D– C+ c^{var}	–D –c	D– C+/– c+	D– C+ c–	D– C+ c– (r'r') may be available in sufficient quantity to meet demand for immunised cases only.
D– C– c^{var}	–D –C –c	D– C– c+	D– C– c+	Provision of C- c variant matched blood is not possible. Preventing D immunisation is first priority. Preventing C immunisation is second priority. In patients with haemolysis due to anti-c, Tx of D– C+ c– may be of benefit until the development on anti-C.
D+ E^{var} e+	–E	D+/– E– e+	D+/– E– e+	
D+ E^{var} e–	–E –e	D+ E+ e–	D+ E+ e–	Provision of e– E variant matched blood is not possible. Preventing e immunisation is first priority. In patients with **severe** haemolysis due to anti-E, Tx of E– e+ may be of benefit until the development of anti-e.
D– E^{var} e+	–D –E	D– E– e+	D– E– e+	
D– E^{var} e–	–D –E –e	D– E+ e–	D– E+ e–	Provision of D– e–- E variant matched blood is not possible. Preventing D immunisation is first priority. Preventing e immunisation is second priority. In patients with **severe** haemolysis due to anti-E, Tx of D– E– e+ may be of benefit until the development on anti-e.
D+ C^{var} c–	-C -c	c–	1. c– 2. c– + IVIG cover. 3. If unacceptable haemolysis C–.	Provision of c– C variant matched blood is not possible. Avoiding c immunisation is first priority. Individuals with C variants rarely produce anti-C. In patients with haemolysis due to anti-C, Tx of c+ C– may be of benefit until the development of anti-c.

D– C^{var} c–	-D -C -c	D– c–	1. D– c– 2. D– c– + IVIG cover. 3. If unacceptable haemolysis C–.	Provision of c– C variant matched blood is not possible. Avoiding D immunisation is first priority. Avoiding c immunisation is second priority. Individuals with C variants rarely produce anti-C. D– C+ c– (r'r') may be available in sufficient quantity to meet demand for immunised cases only. In patients with haemolysis due to anti-C, Tx of c+ C– may be of benefit until the development of anti-c.
D-/var E+ e-	-D -e,	rr	r''r''	Very unlikely (r'' not described in Africans). First priority is avoiding D immunisation. Not justified to use frozen blood for prevention.
D-/var E+ e var	-D -hr^S/-hr^B	rr	1. rr (+/- IVIG) 2. r''r''	Unlikely (r'' not described in Africans). First priority is avoiding D immunisation. Anti-e-like are often not clinically significant.