

Name _____

Exercise 3

ABO and D Typing Study Questions

1. What is the most common cause of transfusion related fatalities? (1 point)
2. State the immunological reason why ABO typing is the most important test performed in pretransfusion testing. (1 point)
3. Define the terms “D positive” and “D negative”. (1 point)
4. What is being detected in the forward typing test? (0.5)
5. What is being detected in the reverse grouping test? (0.5)
6. State the purpose for using anti-A,B typing sera.

7. List the three ABO typing seras **AND** state the blood group which produces each. (1.5 points)

8. For each of the blood groups listed below state what antibodies will be detected in the serum and fill in the expected reactions (positive or negative) with the A¹ and B cells. (4.5 points)

Blood Group	Antibodies Present in the Serum	Expected reaction of serum with A cells	Expected reaction of serum with B cells
a. 0			
b. A			
c. B			
d. AB			

9. State 4 conditions/reasons which may result in an ABO discrepancy. (2 points)

10. List 4 techniques which may be utilized to resolve ABO discrepancies. (2 points)

11. Define “immunogenicity” as it relates to the D antigen? (1 point)

12. What percentage of the population is D positive? D negative? (1 point)

13. For the following interpret the D typing. (1.5 points)

	Anti-D	D ctrl	D ^u	D ^u ctrl	Interpretation
A.	4+	NA	NA	NA	
B.	0	0	0	0	
C.	0	0	4+	0	

14. D controls are unnecessary when using saline or chemically modified anti-D **EXCEPT** when the patient is which ABO or D type. Explain in detail why a control must be run in these situations. (1.5 points)

18. According to the reporting format demonstrated, interpret the following ABO/D. Notice that you are to write your interpretation of the forward type in the “Interp Forward” column, the reverse type in the “Interp Reverse” column, then compare the 2 determine validity of the results. Once you have compared the results write “yes” for valid (forward and reverse match) or “no” for invalid (forward and reverse did not match). (2 points each)

	Forward Typing					Interp Forward	Reverse Typing		Interp Reverse	Valid? Yes/No
	anti-A	anti-B	anti-A,B	anti-D	D control		A ₁ cells	B Cells		
a.	O	O	O	O	NA		4+	4+		
b.	O	O	1+	3+	NA		O	4+		
c.	O	4+	4+	3+	NA		4+	O		
d.	4+	4+	4+	3+	3+		O	O		
e.	4+	4+	4+	O	O		O	O		
f.	3+	4+	4+	4+	O		1+	O		

If you answered “No” in the “Valid?” column attempt to give an explanation. Extra credit awarded for correct problem solving.