

**Part I Case Studies in Transfusion Medicine, Immunohematology,
Therapeutic Apheresis, and Hemostasis**

1	Basic Antibody Identification: It's All Greek to Me.....	3
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
2	Rhesus Pieces.....	9
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
3	The ABC's of ABO Discrepancy.....	15
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
4	Crossmatch Crisscross.....	21
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
5	Cold Case.....	29
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
6	I "PiTTy" Thee.....	35
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
7	Buried Treasure.....	43
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
8	I Can See Clearly Now.....	51
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	

9	You Really “Oughta” Get This	57
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
10	What the Kell!	67
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
11	EeeeeK!!!	75
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
12	Are You Kidding?	83
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
13	Oh! Are You My Type?.....	93
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
14	Hey, How Did That Antibody Get There?.....	101
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
15	Don’t “Cryo” for FFP, Marge and Tina	109
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
16	Radioactive	113
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
17	Je Ne Sais Pas	119
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
18	Wo Rho, No!.....	129
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
19	G-Force	137
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
20	Hide and Seek.....	147
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
21	Reaction Infraction	155
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	

22 What’s This Junk?163
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

23 Chiller169
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

24 The Platelet Transfusion.....179
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

25 Just Another Autoantibody185
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

26 I Got You Baby.....193
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

27 You Got that Right.....199
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

28 The Case of Low Platelets205
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

29 Dial M for Maternal Antibody213
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

30 Decisions, Decisions!221
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

31 Bad Medicine.....229
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

32 All Washed Up.....235
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

33 The Red Pee.....243
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

34 Emergency!.....257
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

35	Absolutely Necessary!	263
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
36	Cruising for a Bruising	271
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
37	Head Shot!	279
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
38	Carpe Diem!	285
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
39	Proficiency Deficiency	291
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
40	Six Degrees of Separation	295
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
41	Eltromplostim What?	299
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
42	L'inspecteur	303
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
43	Chairman of the Board	307
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
44	Enzymatic Fanatic	313
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
45	Stop the Hemolysis!	323
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
46	To KB or Not to KB, That Is the Question	331
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
47	Fuggedaboutit	339
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	

48 Gene Genius.....349
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

49 In the Clouds359
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

50 Hot and Cold369
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

51 Baby Fate.....377
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

52 Thromboelastography, My Dear Doctor.....383
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

53 Malus Sanguis!393
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

54 Do the Math!.....403
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

55 Eight Is Enough!411
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

56 It’s So “Vonderful”415
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

57 Of Wind and Water421
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

58 Thromboelastography, My Dear Doctor Revisited431
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

59 Serendipity, C’est La Vie.....437
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

60 Omakase Medicine. Caveat Emptor! Don’t Trim the Facts.....443
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

61	Oops! Something Went Wrong	447
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
62	It's Complicated	453
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
63	The Perils of Transfusing the Sickle Cell Patient	465
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
64	Passengers and Hitchhikers	475
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
65	How “Dara” You!	485
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
66	Polly Wants a Cracker!	495
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
67	Golden Grans	503
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
68	Spoiled Rotten!	509
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
69	“HIT” Me with Your Best Shot!	517
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
70	Holy Cow! (“I’m Bloodless”)	523
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
71	Identity Crisis	529
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	
72	Wolf Bite	535
	Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen, H. Deniz Gur, and Timothy Hilbert	

73 The X Files.....545
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

74 Heavy Metal.....553
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

75 Aggregation Aggravation561
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

76 IDA? IDK.....571
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

77 Clots of Love.....579
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

78 Tragic!.....585
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

79 Snakes and a Plane!591
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

80 Unparalleled Experience599
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

81 Coagulation Testing: Looking Beyond the PT and aPTT.....605
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

82 KB Conundrum.....613
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

83 Gem City Fallout.....621
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

84 Prime Time629
Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
H. Deniz Gur, and Timothy Hilbert

Part II Cases Studies in Blood Donor Collection and Cellular Therapy

85 Total Recall.....637
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

86 The Young and Restless641
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

87 Of Broken Vows and Mad Cows647
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

88 The “ART” of “PEP” Talk: All “PrEP”-Ped and Ready651
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

89 Don’t Lean on Me, Just Show Me the Money.....655
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

90 Some Nerve!.....661
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

91 A Family Affair665
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

92 Liquid Gold671
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

93 “STEM” Education.....679
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

94 Mix and Match685
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert

95 “CAR T”-esian Thinking.....693
 Mark T. Friedman, Kamille A. West, Peyman Bizargity, Kyle Annen,
 H. Deniz Gur, and Timothy Hilbert