

13.5 Patient Model Libraries

There exist two patient model libraries in the ASL 5000 software, one for the Interactive Control Panel (see 0, page 47) as well as one that is behind the selections for **QuickChoice** menus of patient/disease state/severity.

13.5.1 Interactive Control Panel Patient Model Library

1 Compartment Static Models												
								Inspiration				
	vr3-File Name	URC	Rin	Rout	C	Effort	Rate	Pmax	Increase	Hold	Release	
Adult	Adult_Normal	0.5	6	6	50	Sinusoidal	15	11	30	0	10	
	Adult_Passive	0.5	6	6	50	Sinusoidal	15	0	30	0	10	
	Adult_ChBronchitis	0.5	30	30	80	Sinusoidal	18	7	20	0	20	
	Adult_Emphysema	0.8	6	10	150	Sinusoidal	17	5	10	0	25	
	Adult_Normal	0.5	6	6	50	Sinusoidal	15	11	30	0	10	
	Adult_Normal_unassisted	0.5	3	3	80	Sinusoidal	15	7	30	0	10	
	Adult_Passive	0.5	6	6	50	Sinusoidal	15	0	30	0	10	
	Adult_ARDS	0.5	11	16	30	Sinusoidal	25	21	27	0	20	
	Adult_COPD	0.8	21	23	53	Sinusoidal	18	24	35	0	23	
	Adult_COPD_unassisted	0.8	12	25	66	Sinusoidal	20	25	35	0	23	
	Adult_Asthma	0.5	30	50	30	Sinusoidal	22	27	20	0	15	
	Adult_CF	0.5	10	25	45	Sinusoidal	22	17	20	0	20	
	Pediatric	Premature_Neonate	0.2	150	150	0.5	Sinusoidal	45	15.5	23	0	23
		Neonate_Normal	0.2	40	40	8	Sinusoidal	32	8	18	0	10
Neonate_Passive		0.2	40	40	8	Sinusoidal	32	0	18	0	10	
Neonate_Normal		0.2	40	40	8	Sinusoidal	32	8	18	0	10	
Neonate_Passive		0.2	40	40	8	Sinusoidal	32	0	18	0	10	
Neonate_BPD		0.2	69	87	2	Sinusoidal	50	30	43	0	20	
Neonate_RDS		0.2	125	125	0.5	Sinusoidal	60	16	25	0	25	
Infant_Bronchiolitis		0.2	21	25	12	Sinusoidal	29	5	43	0	20	
Toddler_Normal		0.375	25	25	15	Sinusoidal	24	10.5	19	0	12	
Toddler_Obstructive		0.9	50	50	15	Sinusoidal	24	20	19	0	12	
Toddler_Restrictive		0.225	20	20	7.5	Sinusoidal	24	18	19	0	12	
Ped_10kg_Normal		0.4	25	25	10	Sinusoidal	30	12	19	0	12	
Ped_10kg_Obstructive		0.6	50	50	10	Sinusoidal	30	18	16	0	13	
Ped_10kg_Restrictive		0.15	25	25	5	Sinusoidal	30	19	20	0	13	
Pediatric5yo_Asthma	0.4	15	75	20	Sinusoidal	28	20	37	0	15		
Pediatric5yo_Normal	0.4	15	15	20	Sinusoidal	20	12.5	25	0	10		
Pediatric6-12yo_Normal	0.5	20	20	30	Sinusoidal	22	14	30	0	10		
Adolescent_Normal	0.5	15	15	40	Sinusoidal	15	16	20	0	20		
Kussmaul's	Kussmauls_1	0.5	3	3	80	Trapezoidal	18	12	30	0	10	
	Kussmauls_2	0.5	3	3	80	Trapezoidal	25	20	30	0	10	
	Kussmauls_3	0.5	3	3	80	Trapezoidal	40	35	30	0	10	

2 Compartment Static Models										
vr3-File Name	URC	Rin	Rout	C	Effort	Rate	Pmax	Increase	Hold	Release
Adult_Right_Pneumothorax	0.5	Rtin: 75 R1in: 15 R2in: 3	Rtout: 75 R1out: 3 R2out: 1	C1: 7 C2: 1	Sinusoidal	20	30	30	0	10

Time-Varying Models (1 Compartment)											
vr3-File Name	Compartment	URC	Rin	Rout	C	Effort	Rate	Inspiration			
								Pmax	Increase	Hold	Release
Adult_Normal_variable	1	0.5	6	6	50	Sinusoidal	Random-Uniform Reps:1000 Mean: 15 Seed: 1 Ampl: 6	Random-Uniform Reps: 1000 Mean: 11 Seed: 1 Ampl: 4.4	30	0	10
Adult_Normal_unassisted_variable	1	0.5	3	3	80	Sinusoidal	Random-Uniform Reps:1000 Mean: 15 Seed: 1 Ampl: 6	Random-Uniform Reps: 1000 Mean: 7 Seed: 1 Ampl: 2.8	30	0	10
Improved_Compliance_Adult_1	1	0.5	6	6	Endpoints Reps: 50 Start: 8 End: 50	Sinusoidal	15	11	30	0	10
Improved_Compliance_Adult_2	1	0.5	6	6	Random-Uniform Reps: 50 Mean: 50 Seed: 1 Ampl: 20	Sinusoidal	15	11	30	0	10
Improved_Resistance_Adult_1	1	0.5	Endpoints Reps:50 Start:30 End:13	Endpoints Reps: 50 Start: 50 End: 15	50	Sinusoidal	15	11	30	0	10
Improved_Resistance_Adult_2	1	0.5	Random-Uniform Reps:50 Mean:13 Seed:1 Ampl:5.2	Random-Uniform Reps: 50 Mean:15 Seed:1 Ampl:6	50	Sinusoidal	15	11	30	0	10
Anesthetized_Adult	1	0.5	3	3	80	Sinusoidal	15	Endpoints Reps: 50 Start: 10 End: 0	30	0	10
Adult_Pneumonia	1	0.5	Random-Uniform Reps: 1000 Mean: 12 Seed: 1 Ampl: 12	Random-Uniform Reps: 1000 Mean: 12 Seed: 1 Ampl: 12	31	Sinusoidal	30	22	31	0	22

13.5.2 QuickChoice Patient Model Library

Adult Normal						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
High	50	6	25	18	40%	10%
Medium	50	6	15	11	25%	10%
Low	50	6	8	5	13%	10%
				Passive (0)		

Adult Asthma						
	Compliance	Insp/Exp Resistance	Patient Rate	Effort	Rise %	Release %
Mild/High	80	30/50	35	30	40%	10%
Moderate/Medium	60	40/70	25	20	35%	10%
Severe/Low	40	50/90	15	10	20%	10%
Passive				Passive (0)		

Adult ARDS						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
Mild/High	40	8	25	25	35%	10%
Moderate/Medium	25	15	15	18	20%	10%
Severe/Low	10	22	8	10	13%	10%
Passive				Passive (0)		
Severe	10	24	35	10	35	15

Adult COPD						
	Compliance	Insp/Exp Resistance	Patient Rate	Effort	Rise %	Release %
Mild/High	50	12/14	30	30	35%	20%
Moderate/Medium	75	21/23	18	20	25%	20%
Severe/Low	100	30/32	10	10	15%	10%
Passive				Passive (0)		

Ped Normal						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
Mild/High	12	20	40	12	40%	10%
Moderate/Medium	8	30	30	8	30%	10%
Severe/Low	5	40	25	5	25%	10%
Passive				Passive (0)		

Ped Asthma						
	Compliance	Insp/Exp Resistance	Patient Rate	Effort	Rise %	Release %
Mild	15	20/40	60	20	50%	10%
Moderate	10	30/60	45	15	40%	10%
Severe	5	40/80	30	8	30%	10%
Passive				Passive (0)		

Ped ARDS						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
Mild/High	10	25	50	15	45%	10%
Moderate/Medium	7	35	40	10	40%	10%
Severe/Low	4	45	25	5	25%	10%
Passive				Passive (0)		

Ped CF						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
Mild/High	20	15	40	12	40%	10%
Moderate/Medium	10	30	30	8	30%	10%
Severe/Low	5	50	20	5	20%	10%
Passive				Passive (0)		

Neo Normal						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
Mild	8	20	50	6	35%	10%
Moderate	4	40	40	4	30%	10%
Severe	2	60	30	2	25%	10%

Neo BPD						
	Compliance	Insp/Exp Resistance	Patient Rate	Effort	Rise %	Release %
Mild	3	50/70	80	15	45%	20%
Moderate	1.5	60/80	70	10	40%	20%
Severe	0.5	70/90	60	5	35%	20%

Neo IRDS						
	Compliance	Resistance	Patient Rate	Effort	Rise %	Release %
Mild	1.5	75	80	50	45%	20%
Moderate	1	100	65	35	40%	20%
Severe	0.5	125	50	20	35%	20%