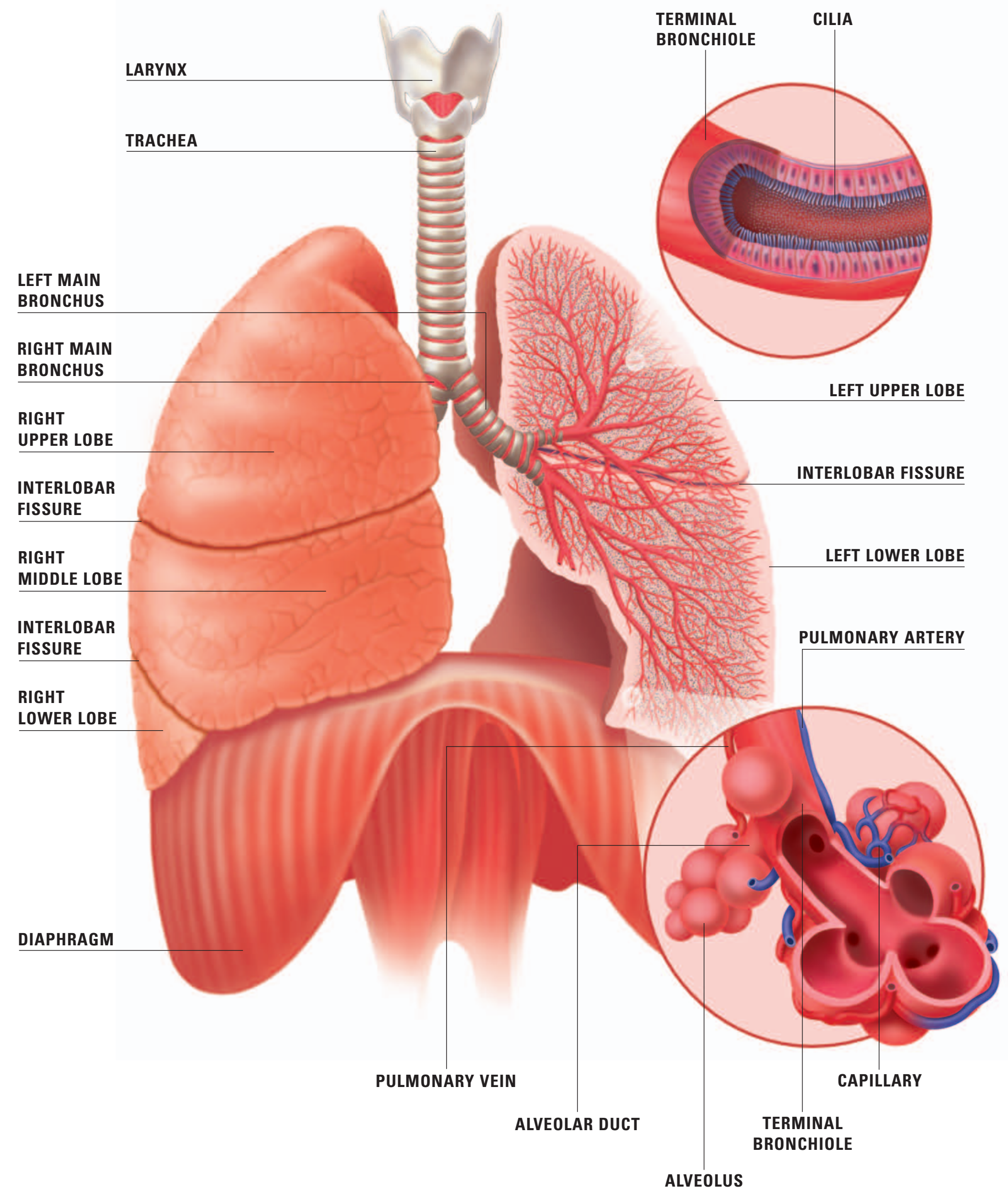
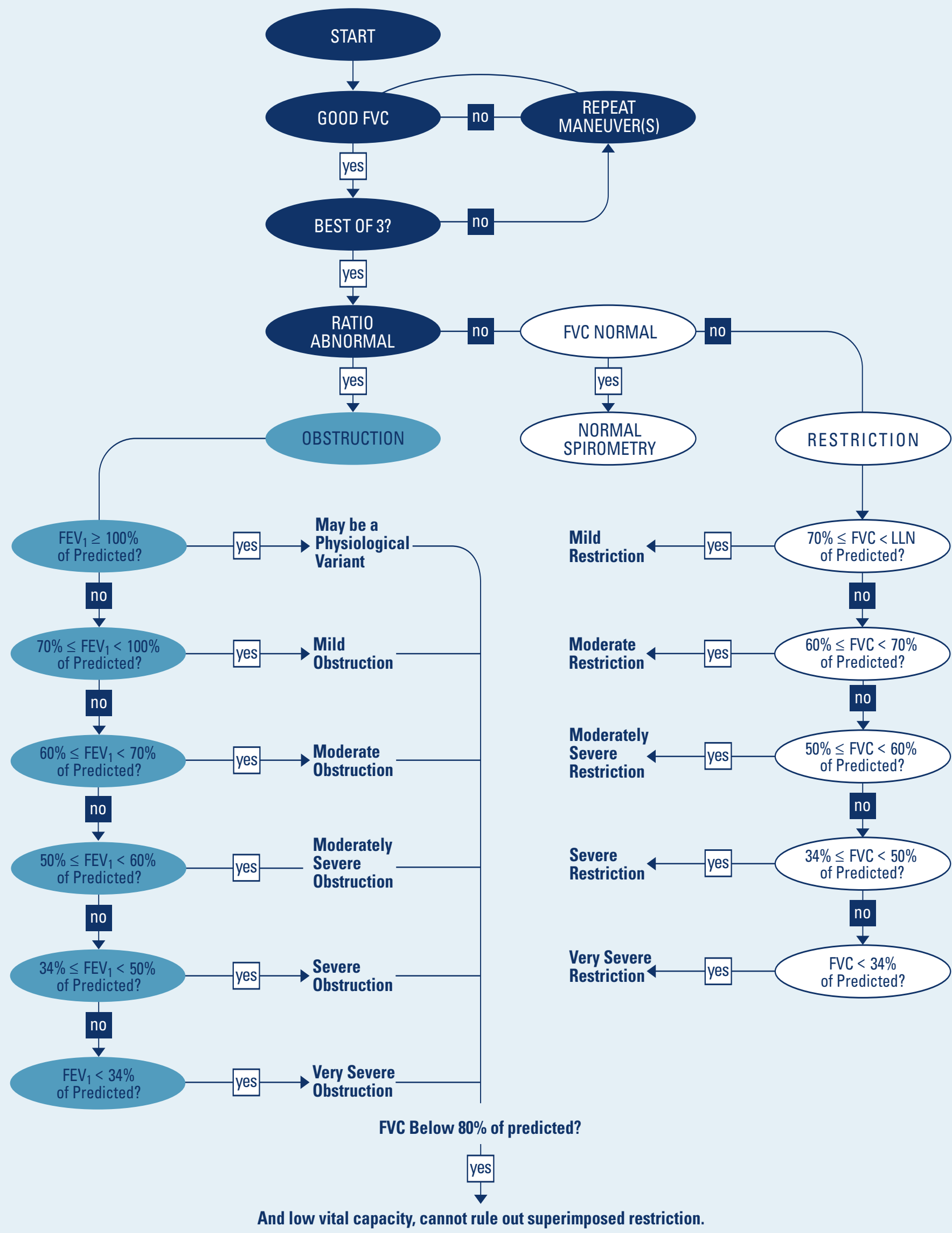


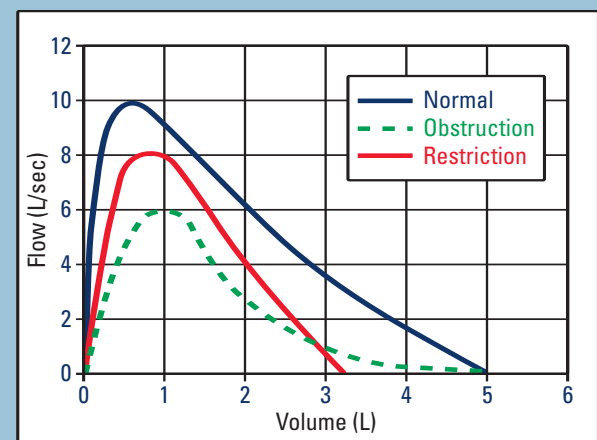
Spirometry Reference Chart



This flowchart follows The American Thoracic Society Example For Interpretation.

Typical Spirograms ranging from normal limits to severe restriction.

Typical Spirogram curve for normal, obstruction and restriction patterns



For your protection, all of Welch Allyn Spirometers use disposable flow transducers that minimize the risk of cross contamination.

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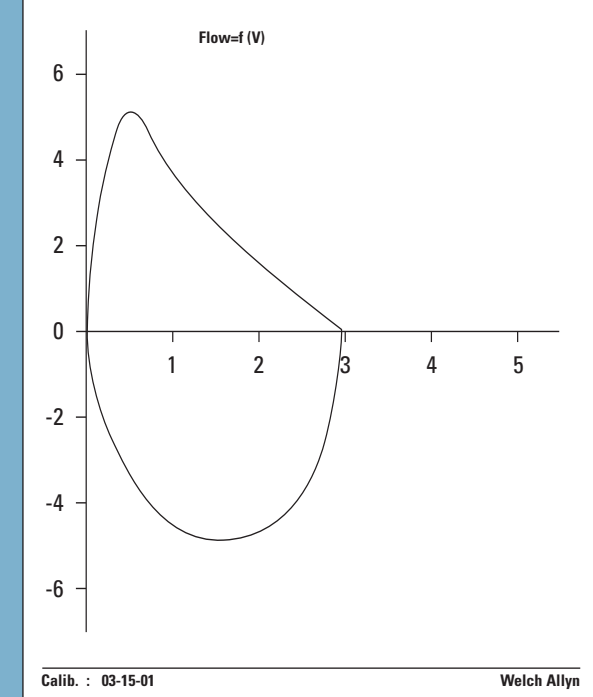
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Normal Spirometry

Note the sharp initial peak flow, then relatively straight descent at about 45 degrees to the baseline. All of the parameters are within normal limits.

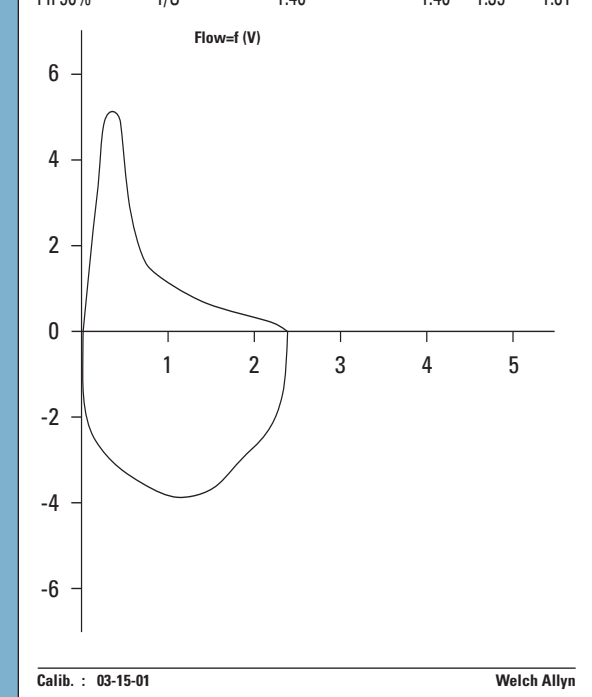
Pat-Name: LECKY-CATHERINE		CARMEN A GASPERO MD	
Pat-Number: 0258974632		06-21-01 18:21	
Age: 67 year	Height: 70 ins	Ethnic: C	Smoker: N
Gender: F	Weight: 131 lbs		
Normals: NHANES III			
Diagnosis: RESULTS APPEAR NORMAL UNCONFIRMED REPORT		ATS criteria met	
	PRED MEAS1 % PRED	MEAS1 MEAS2 MEAS3	
FVC	1 3.69 2.94 80	2.94 2.89 2.78	
FEV1	1 2.80 2.22 80	2.22 2.23 2.19	
FEV1/FVC	% 76.0 75.5 99	75.5 77.1 78.5	
FEV3/FVC	% 90.6 96.1 106	96.1 97.8 98.1	
FEF2-12	1/s 5.21 4.10 79	4.10 4.00 3.91	
FEF25-75%	1/s 2.54 1.76 69	1.76 1.86 1.89	
FEF75-85%	1/s 0.66 0.56 85	0.56 0.54 0.62	
PEF	1/min 375 313 83	313 307 310	
FEF25%	1/s 5.70 4.67 82	4.67 4.50 4.27	
FEF50%	1/s 3.44 2.31 67	2.31 2.24 2.21	
FEF75%	1/s 1.09 0.65 60	0.65 0.60 0.63	
FVC	1 3.11	3.11 3.26 3.38	
FIV1	1 3.01	3.01 2.95 3.07	
FIV1/FVC	% 96.7	96.7 90.4 90.7	
PIF	1/s 4.78	4.78 5.01 4.82	
PIF50%	1/s 4.75	4.75 4.98 4.82	



Mild Obstruction

The FEV1/FVC% predicted is abnormal (79%), indicating obstruction. The severity of the obstruction is mild as judged by the FEV1, which is 62% of the predicted. Mild obstruction occurs gradually over many years.

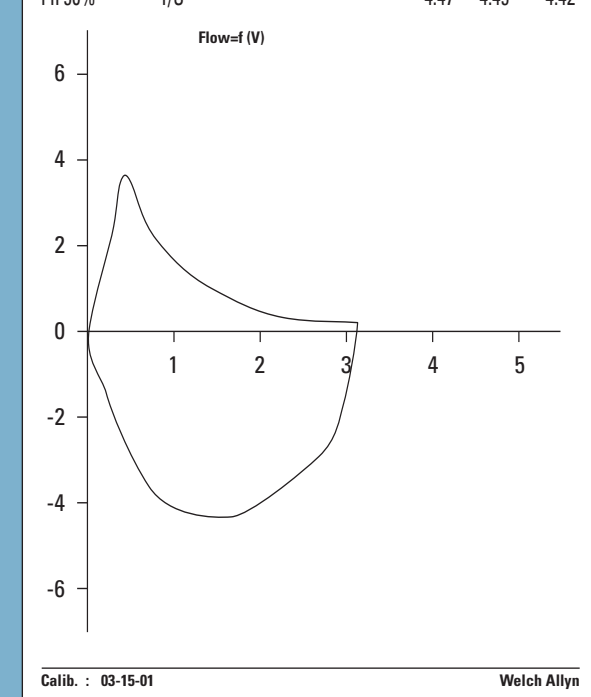
Pat-Name: EVANGELISTA-NORMAN		JAE C CHANG MD	
Pat-Number: 0258975912		06-05-01 21:57	
Age: 86 year	Height: 71 ins	Ethnic: C	Smoker: N
Gender: M	Weight: 202 lbs		
Normals: NHANES III			
Diagnosis: MILD OBSTRUCTION UNCONFIRMED REPORT		ATS criteria met	
	PRED MEAS1 % PRED	MEAS1 MEAS2 MEAS3	
FVC	1 3.77 2.48 66	2.48 2.34 2.34	
FEV1	1 2.85 1.49 62	1.49 1.55 1.37	
FEV1/FVC	% 75.9 59.9 79	59.9 66.2 58.7	
FEV3/FVC	% 88.3 90.1 102	90.1 89.1 89.7	
FEF2-12	1/s 1.74	1.74 2.03 1.43	
FEF25-75%	1/s 3.59 0.96 27	0.96 0.89 0.89	
FEF75-85%	1/s 0.32	0.32 0.25 0.30	
PEF	1/min 477 128 27	128 217 117	
FEF25%	1/s 7.24 1.97 27	1.97 2.39 1.77	
FEF50%	1/s 5.76 1.03 18	1.03 1.23 0.99	
FEF75%	1/s 2.76 0.45 16	0.45 0.36 0.43	
FVC	1 2.55	2.55 2.13 3.12	
FIV1	1 1.39	1.39 1.20 1.72	
FIV1/FVC	% 54.7	54.7 56.3 55.1	
PIF	1/s 1.61	1.61 1.42 1.95	
PIF50%	1/s 1.40	1.40 1.35 1.81	



Moderate Obstruction

The FEV1/FVC% predicted is abnormal, indicating obstruction. The FEV1 % predictive is 63% indicating the obstruction is moderate in severity. Note the concave shape of the flow volume curve with low flows after the initial sharp peak flow.

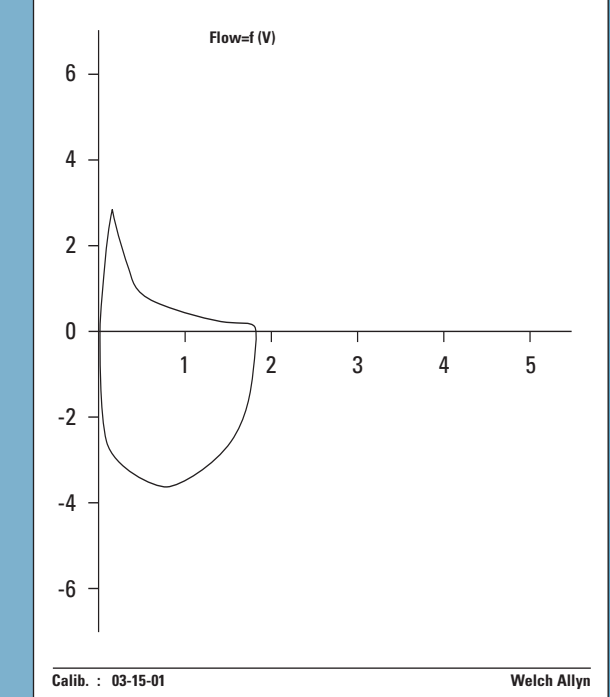
Pat-Name: HEART-JULIETTE		PETER J JALAU MD	
Pat-Number: 0258972445		03-15-01 16:12	
Age: 51 year	Height: 60 ins	Ethnic: C	Smoker: N
Gender: F	Weight: 120 lbs		
Normals: NHANES III			
Diagnosis: MODERATE OBSTRUCTION UNCONFIRMED REPORT		ATS criteria not met	
	PRED MEAS1 % PRED	MEAS1 MEAS2 MEAS3	
FVC	1 3.69 3.87 105	3.87 3.05 2.79	
FEV1	1 2.80 1.77 63	1.77 2.32 2.14	
FEV1/FVC	% 76.0 45.6 60	45.6 75.3 76.7	
FEV3/FVC	% 90.6 92.2 63	92.2 95.2 96.8	
FEF2-12	1/s 5.21 2.85 55	2.85 4.44 3.51	
FEF25-75%	1/s 2.54 0.24 9	0.24 1.84 1.77	
FEF75-85%	1/s 0.66 1.40 211	1.40 0.48 0.53	
PEF	1/min 375 194 52	194 341 286	
FEF25%	1/s 5.70 2.67 47	2.67 4.70 3.82	
FEF50%	1/s 3.44 0.32 9	0.32 2.23 1.95	
FEF75%	1/s 1.09 1.86 170	1.86 0.72 0.78	
FVC	1 3.85 3.17 3.35		
FIV1	1 3.40 3.05 3.00		
FIV1/FVC	% 88.3 96.1 89.8		
PIF	1/s 4.70 4.62 4.43		
PIF50%	1/s 4.47 4.45 4.42		



Severe Obstruction

Severe obstruction with a low vital capacity. All of the parameters are abnormally low. The low FEV1/FVC% indicates obstruction, and the FEV1 of only 28% of normals shows that the obstruction is severe. A superimposed restriction may also be present since the FVC is abnormally low (46%).

Pat-Name: O'BRIAN-DAVID		JOHN P HEYWOOD MD	
Pat-Number: 0258974632		05-07-01 14:37	
Age: 56 year	Height: 66 ins	Ethnic: C	Smoker: N
Gender: M	Weight: 149 lbs		
Normals: NHANES III			
Diagnosis: SEVERE OBSTRUCTION UNCONFIRMED REPORT		ATS criteria met (PRE)	
	PRED MEAS1 % PRED	MEAS1 % PRED	% CH
FVC	1 3.96 1.83 46	2.48 63 35	
FEV1	1 3.14 0.89 28	1.22 39 38	
FEV1/FVC	% 81.9 48.4 59	48.3 60 2	
FEV3/FVC	% 94.2 81.8 87	77.9 83 -5	
FEF2-12	1/s 0.58	1.11 91 91	
FEF25-75%	1/s 4.10 0.42 10	0.51 12 20	
FEF75-85%	1/s 0.22	0.21 -5	
PEF	1/min 478 157 33	207 43 32	
FEF25%	1/s 7.35 0.89 12	1.39 19 56	
FEF50%	1/s 5.40 0.48 9	0.59 11 23	
FEF75%	1/s 2.82 0.26 10	0.26 10 0	
FVC	1 2.11	2.69 28	
FIV1	1 2.10	2.51 19	
FIV1/FVC	% 99.5	93.2 -5	
PIF	1/s 3.65	3.70 1	
PIF50%	1/s 3.64	3.65 1	



Severe Restriction

FEV1/FVC% prediction of 101% is normal, so obstruction does not exist. The FVC however is only 41% of normal, indicating severe restriction. FEV1 is also decreased 44% but to a lesser degree than the FVC in restrictive disorders. Note the sharp peak and rapid, straight, and steep decline of the flow volume curve.

Pat-Name: MEYRS-STEVEN		DENISE R MADRICK MD	
Pat-Number: 0258970824		07-22-01 18:39	
Age: 81 year	Height: 74 ins	Ethnic: C	Smoker: N
Gender: M	Weight: 201 lbs		
Normals: NHANES III			
Diagnosis: SEVERE RESTRICTION UNCONFIRMED REPORT		ATS criteria met	
	PRED MEAS1 % PRED	MEAS1 MEAS2 MEAS3	
FVC	1 4.89 2.01 41	2.01 1.81 1.65	
FEV1	1 3.62 1.58 44	1.58 1.53 1.44	
FEV1/FVC	% 78.2 78.8 101	78.8 84.6 87.3	
FEV3/FVC	% 88.6 99.0 112	99.0	
FEF2-12	1/s 6.27 2.46 39	2.46 2.45 2.09	
FEF25-75%	1/s 3.43 1.53 45	1.53 1.68 1.74	
FEF75-85%	1/s 0.31 0.34 110	0.34 0.46 0.50	
PEF	1/min 531 171 32	171 285 256	
FEF25%	1/s 7.77 2.71 35	2.71 4.55 4.22	
FEF50%	1/s 4.48 2.43 54	2.43 2.08 2.02	
FEF75%	1/s 1.48 0.51 35	0.51 0.65 0.73	
FVC	1 2.08	2.08 2.45 1.80	
FIV1	1 0.55	0.55 1.94 1.77	
FIV1/FVC	% 26.3	26.3 79.1 98.6	
PIF	1/s 1.89	1.89 2.85 2.82	
PIF50%	1/s 1.82	1.82 2.84 2.80	

