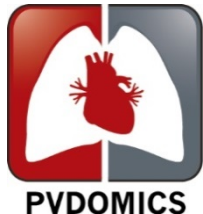


PVDOMICS

Lung Physiology Core

Pulmonary Function Core

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NHLBI Pulmonary Vascular Disease Phenomics Program

*Funded by the National Heart, Lung, and Blood Institute of the
National Institutes of Health with support from
the Pulmonary Hypertension Association*

Six Minute Walk Reporting

- Test results will be recorded on Form 133-6 Minute Walk and entered into the DCC database.
- PVDOMICS Study ID, alphacode and date of test
- Resting variables (walking aid if used)
- Blood pressure, heart rate, Borg scale, and room air SpO2, Oximeter probe site (finger, forehead, ear)
- Exercise variables
 - Total distance walked
 - Oxygen usage if applicable
 - Liter flow (continuous or pulsed)
 - Delivery device (nasal cannula, other)
 - Mode of transport (pulled tank or pushed tank using rollator)
 - Borg Dyspnea scale
 - Reason for early termination, if applicable.
 - Cumulative time spent resting (breaks during walk), in seconds.
 - Heart rate and SpO2 obtained at 1 and 2 minutes after termination of the walk. Timer to begin when the participant is seated in a chair after the walk is terminated.

Procedural Considerations

- Sources of variability-There are many sources of variability in this test including height, age, weight, disease, and musculoskeletal disorders. Procedural sources of variability will be controlled as much as possible.
- Supplemental O₂ should be administered at the flow rate prescribed for the **subject at home during exercise or the amount used during their previous six minute walk test**. If the resting oxygen saturation before the test is $< 92\%$, the oxygen flow rate can be up-titrated to achieve a resting SpO₂ $\geq 92\%$. The type of O₂ delivery device/cannula will also be noted on the report. The subject should be transitioned to an E cylinder from their own oxygen system.

Procedure

- Position the participant at the starting point.
- As soon as the participant starts to walk, start the timer. **Do not walk with the participant.**
- During the walk, do not talk to anyone else except the participant. Each time the participant returns to the starting line, click the lap counter once (or mark the lap on the worksheet).
- Walk the participant (if able) to the room where you started. When the participant sits down start the elapsed timer.
- Take a post-walk blood pressure, but be sure to notice the HR shown on the oximeter when the elapsed timer indicates the first minute has passed. Record the post-walk heart rate.
- Record the post-walk dyspnea score using the Borg scale. During post walk recovery, record the heart rates and SpO2 at 1 and 2 minutes minutes.
- Record the number of laps from the counter (or tick marks on the worksheet) and the additional distance covered (the number of feet in the first (if walk was started from any point on the 6m walk track other than the starting point) and final partial lap) using incremental markers on the wall or floor as distance guides.
- Calculate and record the total distance walked.
- Note: If the participant stops during the test, and needs to rest, say, “You can lean against the wall if you would like; then continue walking whenever you feel able.”
- Do not stop the timer. If the participant stops before the 6 minutes are up and refuses to continue (or you decide that they should not continue), take a chair over the participant to sit on, discontinue the walk, and note on the worksheet the distance, the time stopped, and reason for stopping prematurely.

PFT Core Q/A Results

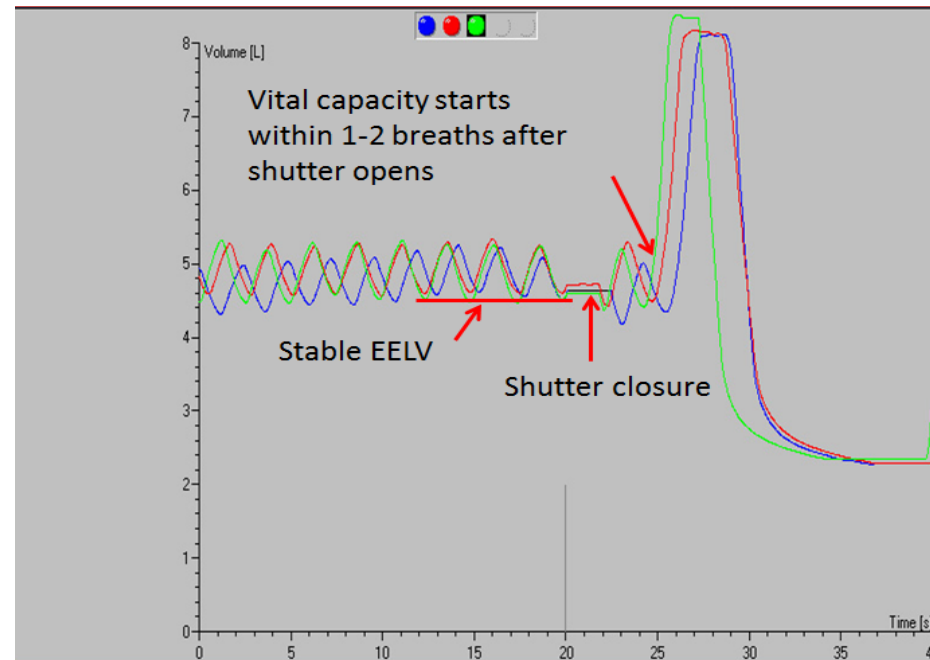
- Documentation is improving
- We need ALL data from ALL sites sent:
 - Pre/Post BD spirometry
 - DLCO- SB DLCO vs RT DLCO (allowable Vital Capacity (VC))
 - SB- VC of 1.5L or great
 - RT- VC of 1.0L or greater
 - Both can be effected by severely low FEV1
 - Lung Volumes
 - Plethysmograph only acceptable LV
 - Preferred method is linked (document if obtainable)
 - Screen shots of curves from EACH repeated effort
 - Data from each repeated efforts
 - Tabulated data

Body Plethysmograph Testing Procedure

- **Lung Volumes by Plethysmography**

- **Every effort is linked!!!!**

- EELV-TGV-VC all measured **without coming off mouthpiece**
- Airway resistance panting is not done during this measurement



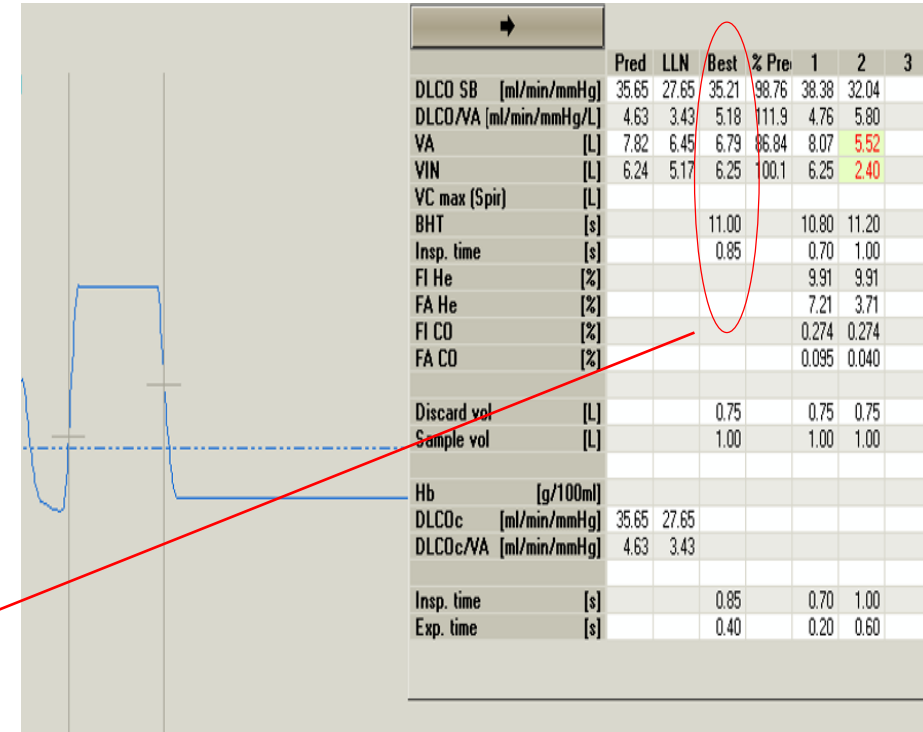
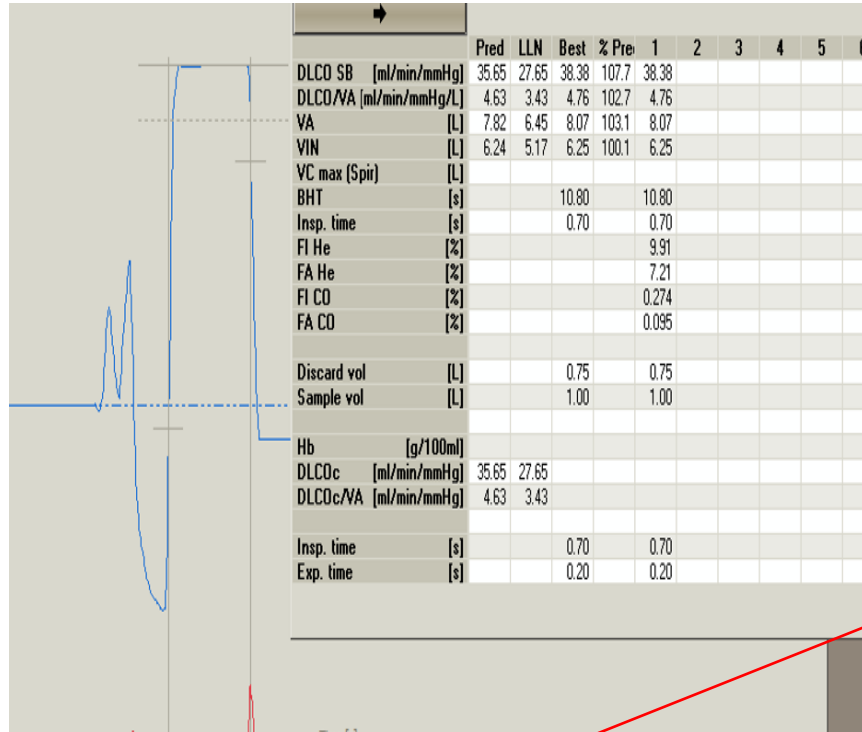
Body PlethysmogrAph Testing Procedure AND FRC SELECTION



FRCpl	5.53	4.07	2.61	5.28	129.7	4.64	→	5.91
ERV				2.13		2.15	→	2.11
RV	2.83	2.07	1.31	3.15	152.0	2.49	→	3.81
IC				4.49		4.27		4.51
VC	7.32	6.24	5.17	6.62	106.0	6.41		6.62
TLC	9.58	7.97	6.36	9.77	122.5	8.90	→	10.43
RV%TLC	34.60	25.80	17.00	32.23	124.9	27.96	→	36.52

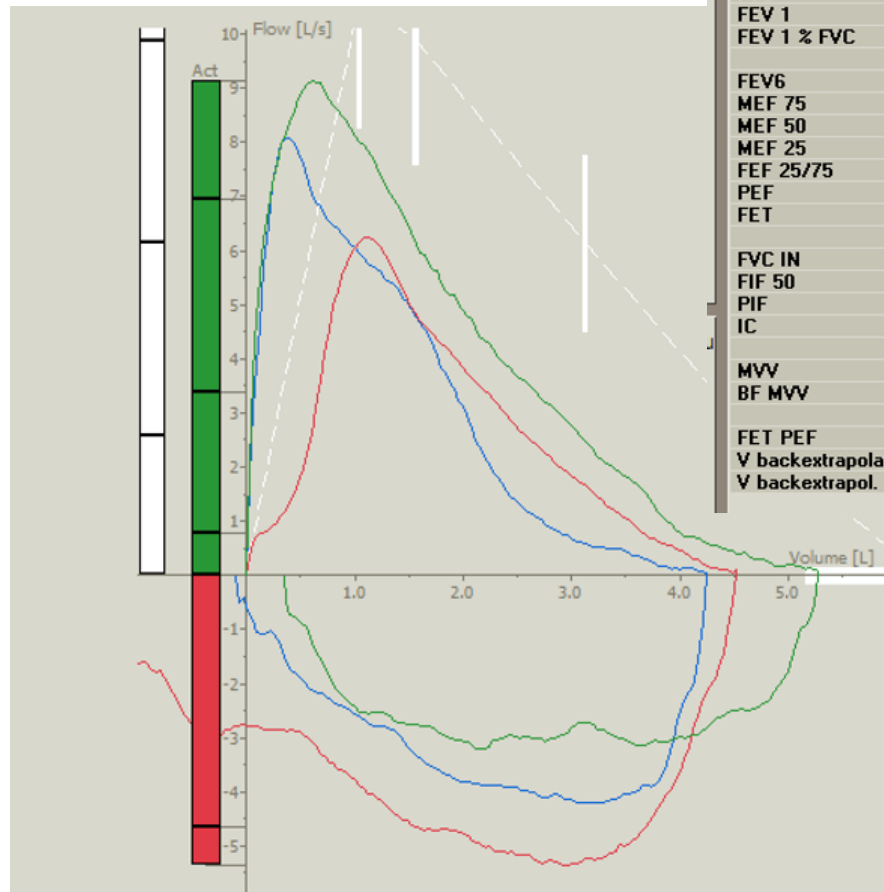
An increase in FRC can lead to misinterpretation of results and cause other parameters to be falsely reported as well.

Importance HAVING all SCREEN SHOT EFFORTS TRANSMITTED



This is an average of the 1st and 2nd effort, this also let's us know if the two efforts were acceptable/repeatable per ATS/ERS 2005 standards.

Importance HAVING all SCREEN SHOT EFFORTS TRANSMITTED (CONT.)



FVC	[L]	7.32	6.24	5.17	5.28	84.6	4.26	4.53	5.28
FEV 1	[L]	5.86	4.95	4.04	3.84	77.6	2.90	3.39	3.84
FEV 1 % FVC	[%]	89.89	80.22	70.54	72.79	90.7	68.26	74.93	72.79
FEV6	[L]				5.25		4.15	4.52	5.25
MEF 75	[L/s]	12.14	9.86	7.58	6.94	70.4	5.86	6.22	6.94
MEF 50	[L/s]	7.76	6.13	4.51	3.38	55.1	2.34	3.27	3.38
MEF 25	[L/s]	3.45	2.56	1.68	0.79	30.9	0.53	1.18	0.79
FEF 25/75	[L/s]	6.42	4.58	2.73	2.59	56.6	1.61	2.76	2.59
PEF	[L/s]	12.99	10.63	8.27	9.12	85.8	8.08	6.24	9.12
FET	[s]				6.55		7.39	6.41	6.55
FVC IN	[L]	7.32	6.24	5.17	5.87	94.1	4.35	5.87	4.94
FIF 50	[L/s]				4.64		3.83	4.64	3.02
PIF	[L/s]				5.36		4.22	5.36	3.22
IC	[L]								
MVV	[L/min]	184.84	184.84	184.84					
BF MVV	[l/min]								
FET PEF	[s]				0.07		0.05	0.18	0.07
V backextrapolation ex	[L]				0.14		0.08	0.46	0.14
V backextrapol. % FVC	[%]				2.59		1.93	10.19	2.59

Repeatability and Acceptability confirmation needed.

Each FVC and FEV1 should match with 0.15ml, Back Extrapolated volume needs to be ≤ 0.15 L for an FVC > 3.00 L or $< 5\%$ for an FVC < 3.00 L and Time to Peak must be ≤ 0.12 s.