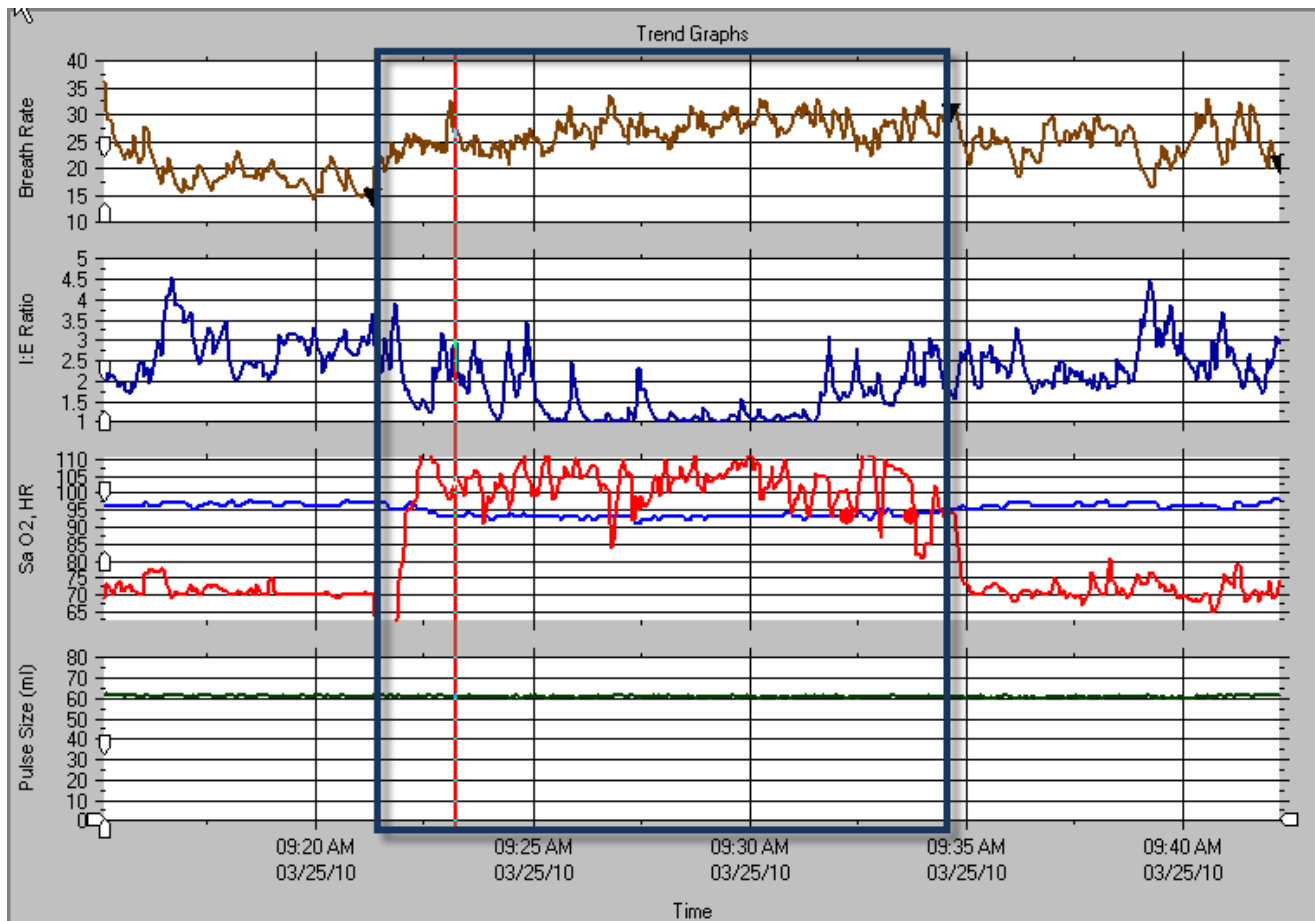


Testing done at Mount St. Mary's Hospital Cardiac & Pulmonary Rehabilitation Center.

A male patient was tested with his existing oxygen system and with SmartDose using the Inspired Technologies Clinical Oxygen Dose Recorder (CODR). The CODR tracks breath rate, IE ratio, heart rate, oximetry, and oxygen dose at each breath and trends this as a function of time. The patient first was tested with his existing oxygen equipment – a gas cylinder with a DeVilbiss PD1000 conserver. The patient was on a “3” setting and was well saturated at rest and at exercise. Reviewing Figure 1, we see the following:

Figure 1: Patient on DeVilbiss PD1000 at “3” setting

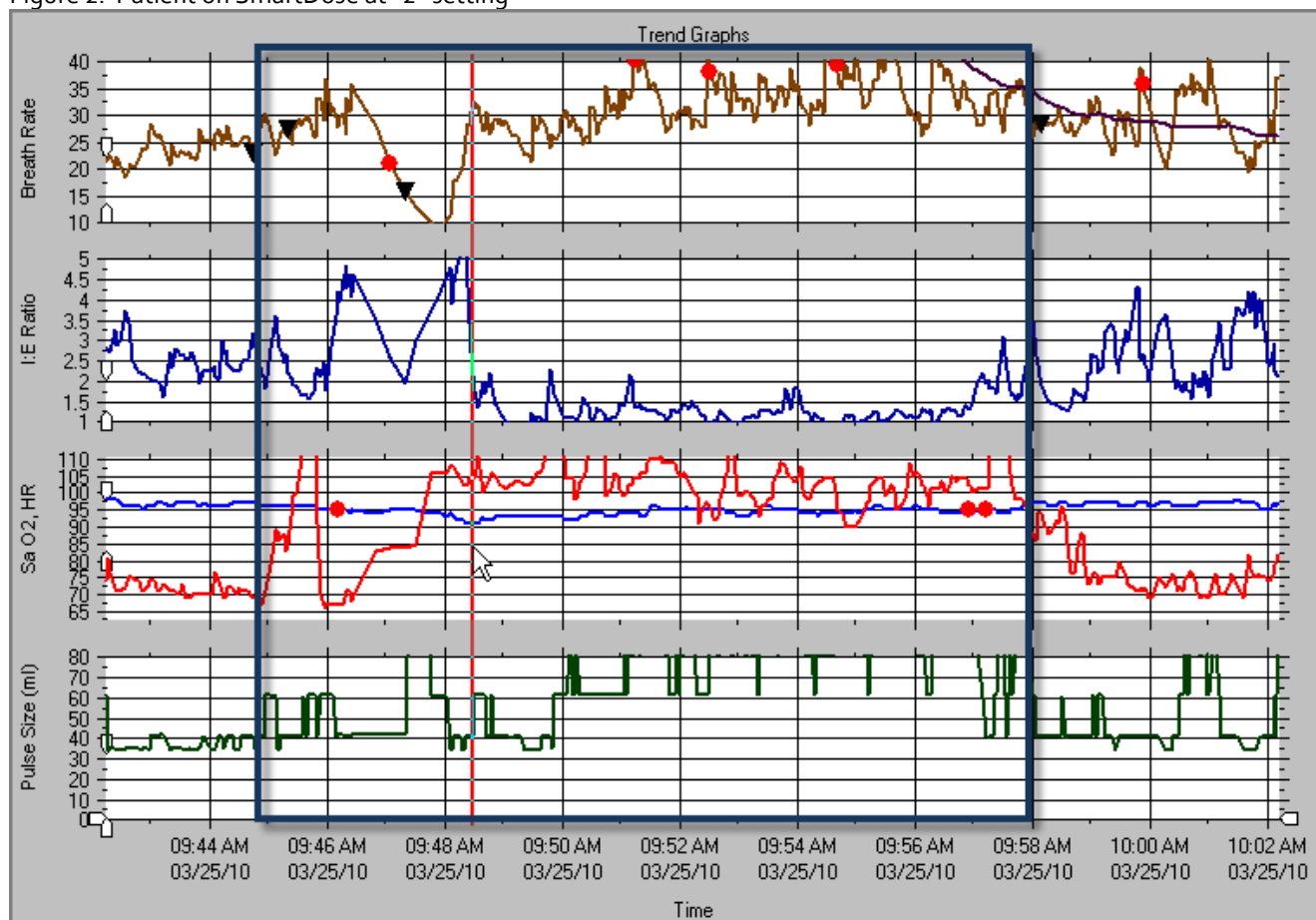


Notes:

- Exercise period highlighted by blue outline
- Notice heart rate increase during exercise period
- Unit gives 60 ml per breath on “3” setting
- The PD1000 does not change dose regardless of exertion
- Lowest S_pO₂ is 91% during exercise period

Patient was then switched to SmartDose oxygen system and was placed on "2" setting. SmartDose auto-adjusts up during exertion periods.

Figure 2: Patient on SmartDose at "2" setting



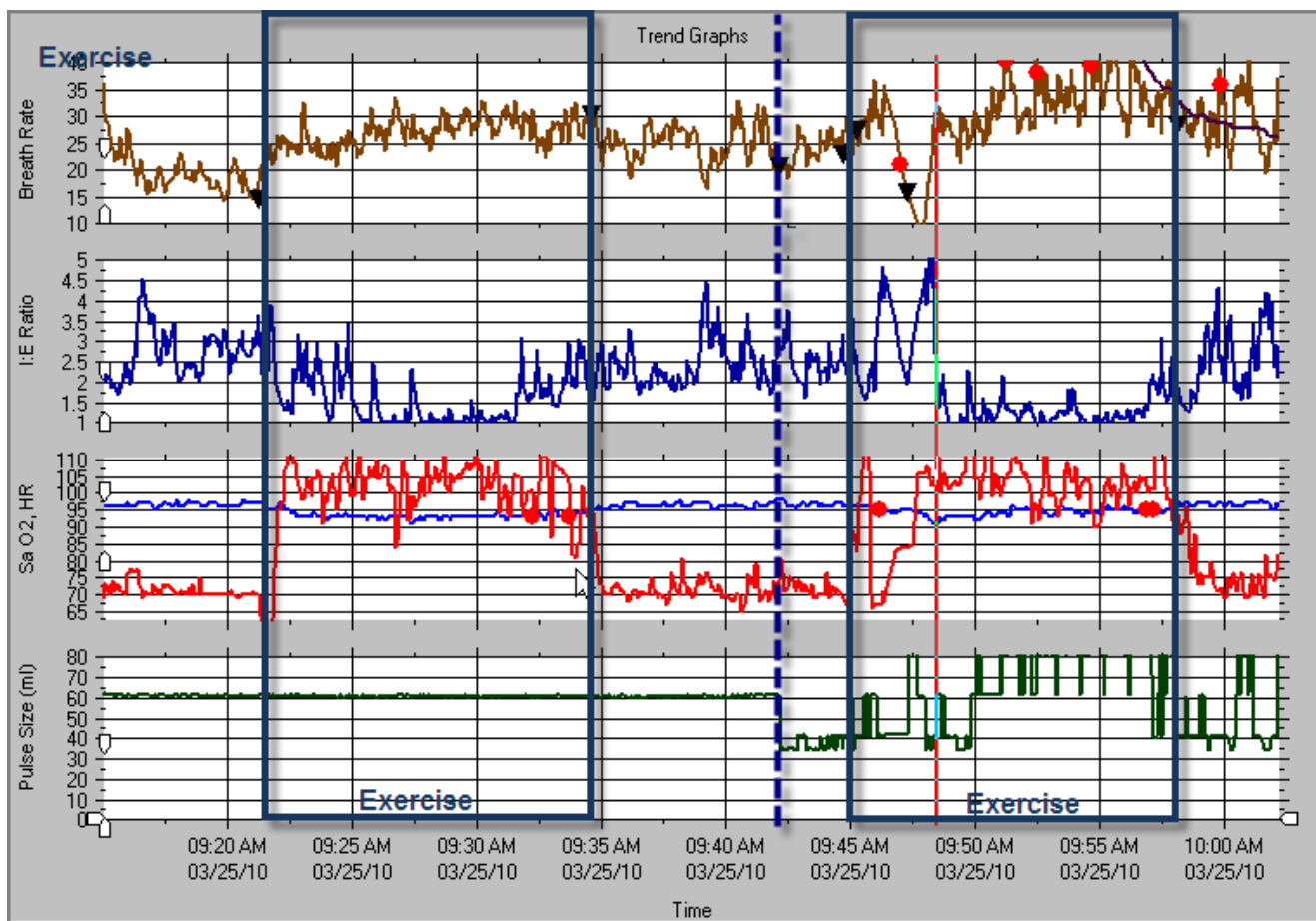
Notes:

- Exercise period highlighted by blue outline
- Notice heart rate increase during exercise period
- Unit gives 35 ml per breath at "2" setting
- SmartDose adjusts up during exercise period. Patient maintains saturation at lower setting and achieves longer duration from ambulatory system.
- Lowest S_pO₂ is 91% during exercise period at approximately 9:48:30, but then SmartDose adjusts oxygen dose up and saturation then CLIMBS during the remainder of exercise.

If we review both tests together in Figure 3, we see:

Figure 3: Testing of PD1000 (left) and SmartDose (right).

- SmartDose allows lower dose during rest and higher dose during exercise to maintain saturations better overall with lower use of oxygen.
- Patients tend to rest more than exercise – auto-adjusting allows for “right” oxygen at both rest and exercise to give best saturation AND duration.
- PD1000 is giving enough to maintain saturation at exercise on this patient but is likely giving more than needed at rest, wasting oxygen.
- Notice that patient on Smartdose had increasing S_pO_2 during exercise as the unit auto-adjusted the dose higher.
- Patient stated that he felt better after the second walk test and felt like he could continue further.



Conclusions: Patient was well maintained with his existing unit at rest and at exercise; however, he is likely getting more oxygen than he requires during rest. By placing him on the SmartDose auto-adjusting oxygen dosing system, he can remain well saturated by giving less during rest and more during exercise. The auto-adjusting system requires no patient interaction to adjust the settings. The patient stated that he felt better at the end of exercise with the SmartDose system and data shows that his S_pO_2 is higher at the end of exercise with the SmartDose system.

Clinical Oxygen Dose Recorder

Summary Report

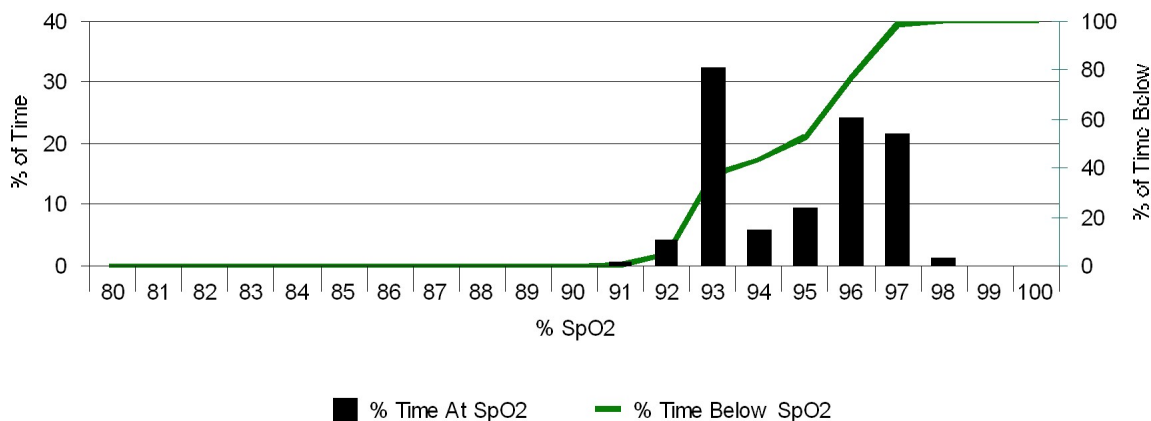
Patient ID Ron
 Device Name PD1000
 Device Setting 3
 Clinician Rich

Date of Test 3/25/2010 9:15:12 AM
 Notes

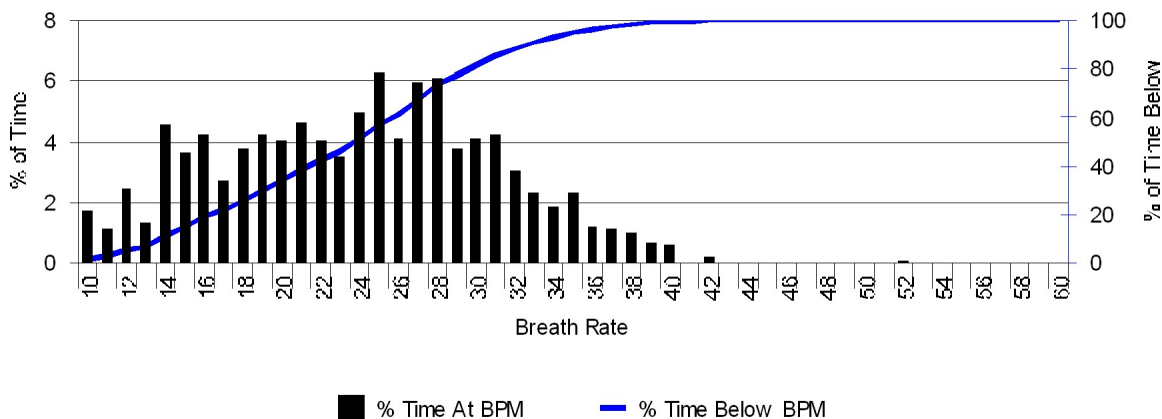
File Name C:\Documents and Settings\rkocinski\COPDPARTNERS\My Documents\COPD\ClinicalDoseRecorder\CODR DATA\2010-03-25 09_15_08 RonPD1000.csv

Test Length	0:25:24				
Average SpO2	94.9%	Std Dev 1.7	Time Below 86%	0:00:00	Total O2 Used 35.232 L
Average HR	86	Std Dev 16.5	Time Above 110	0:00:45	O2 / min 1387 ml/min
Average BPM	23.9	Std Dev 7.1			Average Dose 61.3 ml
Average I:E	1:2.0		% Doses in 66.0% of inhale 54%		
# Missed Doses	1	% Doses Missed		0.17%	

SpO2 Histogram



Breath Rate Histogram



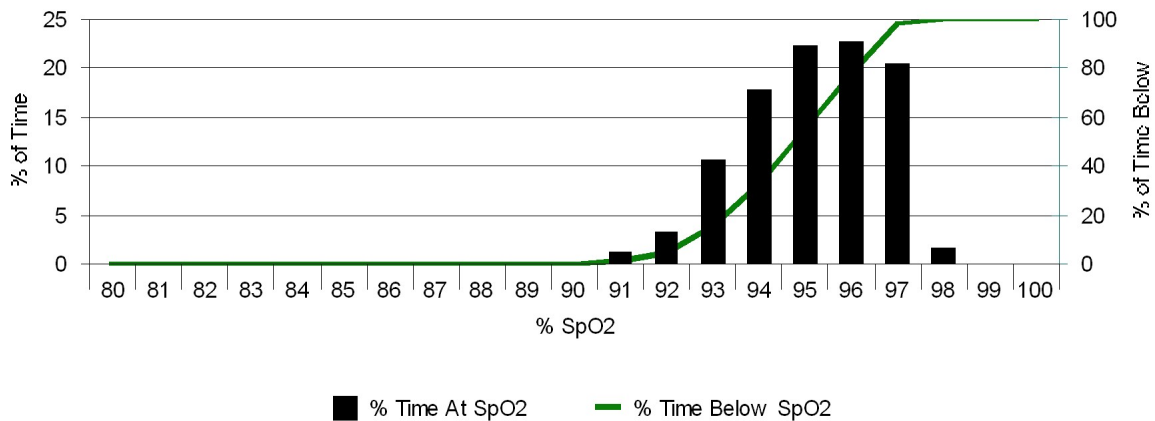
Clinical Oxygen Dose Recorder

Summary Report

Patient ID	Ron	Date of Test	3/25/2010 9:42:15 AM
Device Name	SmartDose	Notes	
Device Setting	2		
Clinician	Rich		
File Name	C:\Documents and Settings\rkocinski\COPDPARTNERS\My Documents\COPD\ClinicalDoseRecorder\CODR DATA\2010-03-25 09_15_08 RonSmartDose.csv		

Test Length	0:18:38		
Average SpO2	95.1%	Std Dev 1.5	Time Below 86% 0:00:00
Average HR	91	Std Dev 15.6	Time Above 110 0:01:28
Average BPM	27.9	Std Dev 9.5	Average Dose 64.7 ml
Average I:E	1:1.9		% Doses in 66.0% of inhale 43%
# Missed Doses	1		% Doses Missed 0.20%

SpO2 Histogram



Breath Rate Histogram

