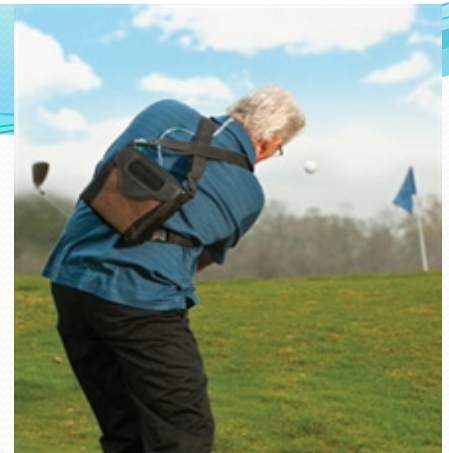


# Oxygen at Home and Away

Nancy Davis, RRT, AE-C

## PULSE DOSE ONLY



## PULSE DOSE AND CONTINUOUS FLOW





# Intermittent or Pulse Dose

- **Fixed Bolus Volume – mL/breath**

A **predetermined bolus size** is delivered regardless of breathing rate.

At very high respiratory rates, there may be a drop in oxygen purity because the total volume of O<sub>2</sub> being delivered in the course of each minute exceeds the production capacity of the POC.



# Intermittent or Pulse Dose

- **Fixed Minute Volume**

A **predetermined volume** of O<sub>2</sub> is produced for each POC setting over the course of a minute. The bolus size is determined by respiratory rate (minute volume/respiratory rate).

At higher respiratory rates, bolus size decreases, but **total** amounts of oxygen delivered per minute and oxygen purity remain the same.



# Continuous Flow vs. Pulse Dose

## **Continuous Flow**

- Most tolerate CF and maintain better oxygenation levels
- Works well with mouth breathers
- POC's are larger, heavier, batteries don't last as long

## **Pulse Dose**

- Must breathe through nose for POC to sense inhalation
- Lighter, smaller, batteries last 2-5 times longer with PD
- Some small models are very noisy




## Keep in mind

- The higher a person's oxygen requirement, the less likely pulse dose will work effectively for them
- Oxymizers can only be used with continuous flow

<u>Portable Oxygen Concentrators</u>	<u>Dimensions</u>	<u>Bolus Size</u>						<u>Continuous Flow</u>	<u>Battery Duration</u>	<u>Max.O2 Capacity</u>	<u>Weight</u>
		1	2	3	4	5	6				
AirSep Focus	6.4 x 4.8 x 2.5		333ml/min						3 hrs @ 2PD*	333ml/min	2.8#*
Invacare XPO2	10 X 7 X 4	15	23	31	37	42			2.5 hrs @ 2PD	900ml/min	7# w/bag
Inogen One G2	9.5 x 10.7 x 3.9	12	25	37	49	62			3.5 hrs @2PD	750ml/min	7#
Respironics Simply Go	11.5 x 10 x 6	12	24	36	48	60	72	0.5 - 2L/min	3.5 hrs @ 2PD 0.7 hrs @ 2CF	2000ml/min	10# w/cart
SeQual Equinox	13.6 x 10.6 x 7.4	16	32	48	64	80	96	0.5 - 3L/min	2.7 hrs @ 2PD 5.9 hrs @ 2PD** 1.2 hrs @ 2CF 2.75 hrs @ 2CF**		14# w/cart
SeQual Eclipse	19.3 x 12.3 x 7.1	16	32	48	64	80	96	0.5 - 3L/min	5.2 hrs @ 2PD***	3000ml/min	20# w/cart





<u>Portable Liquid Containers</u>	<u>Dimensions in inches</u>	<u>Flow Settings</u>	<u>Duration</u>	<u>Weight</u>
Marathon	15"H	2 - 6L/min	3 hours @ 4L/min 2 hours @ 6L/min	5.6#
Companion C1000	13.8"H	0.25 - 6L/min	4 hours @ 4L/min 2.8 hours @ 6L/min	8.1#
Companion C1000T	14.5"H	0.5 - 15L/min	2 hours @ 8L/min 1.7 hours @ 10L/min 1.2 hours @ 15L/min	8.7#





# E Tank

3000 psi 3.5 hours @ 4L/min  
2.3 hours @ 6L/min  
1.7 hours @ 8L/min  
1.4 hours @ 10L/min

2000 psi 2.3 hours @ 4L/min  
1.5 hours @ 6L/min  
1 hour @ 8L/min  
.9 hour @ 10L/min