

**STEVE PARK**

PAP Patient Education Day



# A Patient's Perspective on Oxygen

*Getting the Right Oxygen Equipment to  
Meet Your Needs and Lifestyle*



# Oxygen Equipment

DISCLAIMER

- ▶ I am not endorsing or recommending any specific oxygen brand, product, or device. I am simply reviewing some of the products available and what some of the pros and cons are for each type of equipment or device.
- ▶ You should consult your doctor, health insurance, and oxygen provider, and your “pocketbook”, as to what equipment and products are best for you.



# Oxygen



- ▶ When should I be using supplemental oxygen?
- ▶ Generally, when your pulse oxygen saturation rate is <math><95\%</math> for extended time you may need supplemental oxygen. If below 90% you should see a doctor immediately. Get a pulse oximeter to measure and monitor your oxygen levels.
- ▶ Consult your doctor about needing supplemental oxygen.
- ▶ Imperative that you use your oxygen to keep your body healthy, particularly the brain and heart. By using your oxygen you will feel better and have more energy.

**GET OVER YOUR VANITY AND USE IT!**

# What types of O<sub>2</sub> equipment should I use?

- ▶ Depends on how much O<sub>2</sub> you need.
- ▶ Is your need Low or High? High flow is greater than 4L/min
- ▶ Does your O<sub>2</sub> need fluctuate between lavages?
- ▶ Lifestyle
  - ✓ How active are you?
  - ✓ Are you mostly a stay at home person?
  - ✓ Do you play sports or exercise frequently?
  - ✓ Do you need to travel or fly often?
  - ✓ What is your work situation?
- ▶ You may need/want a combination of the different types of oxygen equipment.
- ▶ Be proactive with your doctor, insurance, and oxygen provider in obtaining the oxygen equipment that best suites your needs and lifestyle.

# Types Of Oxygen Equipment And Devices



# Concentrators – How do they work?



- ▶ Taking in the surrounding air
- ▶ Compressing the air
- ▶ Removing the nitrogen
- ▶ Delivering purified oxygen (through a nasal cannula)

## Types of Concentrators

Home concentrators – need electricity

Portable oxygen concentrators (POCs) –  
run on electricity or battery

# Home Concentrators

Some can delivery up to 10L/min, can combine two to get up to 20L/min, some come with humidifier to help with nasal dryness, need electricity, noisy. Can add adaptors to refill tanks.



# Portable Concentrators

- ▶ Only oxygen device approved for airline travel.
- ▶ Wide variety on the market.
- ▶ Run on electricity and rechargeable batteries.
- ▶ Depending on brand and number of batteries, delivery time is about 2.5 to 12 hours.
- ▶ Most deliver continuous flow up to 5L/min.
- ▶ Some units can deliver up to 9L with pulse activated flow.
- ▶ Not all O<sub>2</sub> providers have these available for rent.
- ▶ Expensive - \$1,200 to \$3,000
- ▶ Quality and performance varies. Need to research prior to purchase.





# Compressed Gas

- ▶ Readily Available
- ▶ OK for short term use.
- ▶ Need to be delivered regularly by O<sub>2</sub> provider.
- ▶ Can be refilled at home by using an adapter on a home oxygen concentrator.
- ▶ Small cylinders can be easily carried.
- ▶ Large cylinders are bulky and heavy, not easily transported.
- ▶ Limited duration time compared to liquid oxygen.
- ▶ Can be fitted with pulse regulator to extend delivery time.



Flow Rate LPM	Mini M-6 Cylinder	ML-6 Cylinder	“C” Cylinder	“D” Cylinder	“E” Cylinder
.5	16.5 hours	17.2 hours	24.2 hours	41.9 hours	68.9 hours
.75	11.0 hours	11.4 hours	16.2 hours	28.0 hours	45.9 hours
1.0	8.3 hours	8.6 hours	12.1 hours	21.0 hours	34.4 hours
1.5	5.5 hours	5.7 hours	8.1 hours	14.0 hours	23.0 hours
2.0	4.1 hours	4.3 hours	6.1 hours	10.5 hours	17.2 hours
2.5	3.3 hours	3.4 hours	4.9 hours	8.4 hours	13.8 hours
3.0	2.8 hours	2.9 hours	4.0 hours	7.0 hours	11.5 hours
3.5	2.4 hours	2.4 hours	3.5 hours	6.0 hours	9.8 hours
4.0	2.1 hours	2.1 hours	3.0 hours	5.2 hours	8.6 hours
5.0	1.7 hours	1.7 hours	2.4 hours	4.2 hours	6.9 hours
6.0	1.4 hours	1.4 hours	2.0 hours	3.5 hours	5.8 hours

**Note:** Usage times for conserving devices vary depending upon cylinder size, device type, and patient. This chart is meant to be a general guide only; your actual usage times may vary.

# Liquid Oxygen (LOX)



- ▶ Higher oxygen output, more pure, than compressed or concentrated.
- ▶ Provides higher continuous flow volumes up to 15 LPM.
- ▶ Long oxygen supply duration.
- ▶ Quiet.
- ▶ More discreet oxygen therapy with less attention being drawn from others.
- ▶ Requires no electricity.
- ▶ Large oxygen capacity.
- ▶ Lightweight portables.
- ▶ Reservoir doubles as a home oxygen dispenser and as a refill station for the portable units.
- ▶ Limited availability of liquid oxygen service providers in many areas to refill the reservoir tank.
- ▶ Limited shelf life due to evaporation loss, (around 1.2 pounds daily).
- ▶ Requires regular reservoir refills from a medical oxygen service.
- ▶ Produces annoying noise while refilling the portable units.
- ▶ The connection between the reservoir and the portable unit can become frozen if the filling is not done properly.
- ▶ If portables are tipped over they can vent O<sub>2</sub> and freeze up.



# Liquid Oxygen - Time Duration Chart



Model	Off	0.12	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	8.00	10.00	12.00	15.00
HELiOS Plus	21.9	21.9	17.8	12.0	7.6	18.4	12.2	9.2	7.3	6.1	5.2	4.6	-	-	-	-	-	-
HELiOS Marathon	48.2	-	-	-	-	12.1	29.3	6.1 22.0	17.6	4.0 14.6	-	3.0 11.0	2.4	2.0	-	-	-	-
Spirit 300	15.8	-	-	-	-	15.1	10.7	2.4 8.0	-	5.4	-	4.0	3.2	-	-	-	-	-
Spirit 600	31.7	-	-	-	-	30.3	21.4	4.8 16.1	-	10.7	-	8.0	6.4	-	-	-	-	-
Spirit 1200	60.0	-	-	-	-	57.4	40.5	9.2 30.4	-	20.3	-	15.2	12.2	-	-	-	-	-
Sprint	31.7	-	18.0	12.2	9.3	7.5	5.5	4.3	3.6	3.1	-	2.4	2.0	1.7	-	-	-	-
Stroller	60.0	-	34.0	23.0	17.4	14.1	10.2	8.0	6.6	5.6	-	4.4	3.6	3.0	-	-	-	-
Hi Flow Stroller	60.0	-	-	23.0	-	14.1	-	8.0	6.6	5.6	-	4.4	-	3.0	2.3	1.9	1.6	1.4
C1000	54.5	-	30.8	21.5	16.5	13.4	9.7	7.7	6.3	5.4	-	4.1	3.3	2.8	-	-	-	-
C1000T	54.5	-	-	21.5	-	13.4	9.7	7.7	-	5.4	-	4.1	3.3	2.8	2.1	1.7	-	1.2
C500	27.9	-	27.9	18.3	12.2	9.1	6.1	4.6	3.7	3.0	-	2.3	1.8	1.5	-	-	-	-
C550	27.9	-	27.9	18.3	12.2	9.1 12.1	6.1 8.1	4.6 6.1	3.7 4.9	3.0 4.0	-	2.3 3.0	1.8 2.4	1.5 2.0	-	-	-	-
Reservoirs																		
Liberator 10	21.4	-	19.8	13.3	8.7	6.5	4.3	3.2	2.6	2.2	-	1.6	1.3	1.1	-	-	-	-
Liberator 20	34.6	-	34.6	26.9	17.5	13.0	8.7	6.5	5.2	4.3	-	3.3	2.6	2.2	1.6	1.3	1.1	0.9
Liberator 30	49.9	-	49.9	38.9	25.3	18.8	12.6	9.4	7.5	6.3	-	4.7	3.8	3.1	2.4	1.9	1.6	1.3
Liberator 37	61.3	-	61.3	47.7	31.1	23.1	15.4	11.6	9.3	7.7	-	5.8	4.6	3.9	2.9	2.3	1.9	1.5
Liberator 45	74.6	-	74.6	58.0	37.8	28.1	18.8	14.1	11.3	9.4	-	7.0	5.6	4.7	3.5	2.8	2.3	1.9
Liberator 60	90.0	-	90.0	74.7	48.7	36.2	24.2	18.1	14.5	12.1	-	9.1	7.2	6.0	4.5	3.6	3.0	2.4

# Oxymizing Cannulas



**Pendant**



**Moustache**

# Oxygen Savings



The Oxymizer<sup>®</sup> offers a savings ratio of up to 4:1 over continuous flow. The chart below illustrates conservation saving for a variety of liter flow settings.



OXYGEN REQUIREMENTS WITH STANDARD NASAL CANNULA	OXYGEN REQUIREMENTS WITH OXYMIZER <sup>®</sup> DEVICES	RESULTING OXYGEN SAVINGS*	SAVINGS RATIO (OVER CF)
2.0 lpm	0.5 lpm	75.00 %	4:1
3.0 lpm	1.0 lpm	66.60 %	3:1
3.5 lpm	1.5 lpm	57.14 %	2.3:1
4.0 lpm	2.0 lpm	50.00 %	2:1
5.0 lpm	2.5 lpm	50.00 %	2:1
5.5 lpm	3.0 lpm	45.45 %	1.8:1
6.0 lpm	3.5 lpm	41.67 %	1.7:1
6.5 lpm	4.0 lpm	38.46 %	1.6:1
7.0 lpm	4.5 lpm	35.71 %	1.5:1
7.5 lpm	5.0 lpm	33.33 %	1.5:1

*\*Average savings. Your patient's actual oxygen level may vary. ATS-ERS COPD Guidelines recommend titrating using the prescribed delivery devices/*

	Litter Flow Settings									
STANDARD CANNULA OXYMIZER <sup>®</sup> EQUIVALENCY SETTINGS	2	3	3.5	4	5	5.5	6	6.5	7	7.5
	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5

# Keys to Living with Oxygen



- ▶ Measure and monitor your oxygen level with a pulse oximeter.
- ▶ Determine the level of oxygen needed to keep your levels at a safe level.
- ▶ Evaluate your lifestyle, activity, and expectations for your quality of life.
- ▶ Educate yourself about the different types of oxygen equipment.
- ▶ Consult with your doctor and oxygen provider and choose the oxygen equipment, or combination thereof, that best meets your needs.
- ▶ Be proactive in obtaining the equipment that best meets your needs. Don't be afraid to push for what you want or need.
- ▶ Above all, get over your vanity and wear your oxygen. Don't be embarrassed to wear your oxygen in public. Your health is more important than your vanity.