

October 30, 2020



CTS INSPIRATIONS

CTS NEWS

CTS Position Statement on the November 3rd Election: October 2020

Ordinarily, the 2020 elections would have stood out simply due to the pivotal decisions that we face as individuals and healthcare professionals as we look towards the policies and politicians that will represent us and shape our lives, communities, and practices. The mere existence of the Affordable Care Act, with hotly debated topics including reimbursement for healthcare providers, the taxpayer and individual cost and breadth of health insurance coverage, and the ever increasing burden of EMR would have been ample cause for potent discussions involving clinicians, patients and politicians. Statewide, discussions about healthcare benefits for gig economy workers, tighter regulations on dialysis centers, and taxes on business property also result in vigorous debates pertinent to our professional expertise. From a social policy standpoint, how the pillars of institutional racism are carried forward, or systematically dismantled, by the people we elect and measures we support directly affects the healthcare disparities that we see in our practices every day. (1)

Physicians have traditionally occupied a unique status within society. In exchange for respect, professional autonomy, and the privilege of self-regulation, we are expected to be competent, altruistic, and moral. There is an implicit neutrality that requires us to address the healthcare needs of individual patients and society without bias. And yet, we unavoidably exert social and political influence as healthcare professionals, community leaders and patient advocates. For instance, some of us sit on hospital, city, county, or state government health district boards. Many respiratory professionals carry civic respiratory health advocacy to another level, through professional societies like CTS and ATS advocating for the rights of all of our patients to a safe environment and equitable access to healthcare. Ultimately, however, voting is the most powerful tool we possess to shape our local, statewide, and federal government. *Our role is vital:* our disenfranchised patients are the ones least able to vote, making our vote their representation. Despite this enormous responsibility, we as a profession [underutilize](#) our ability to vote.

The need for medical community to individually and collectively advocate for our patients is more urgent than ever. While frontline RTs, RNs, and physicians have benefitted from the outpour of support and understanding from our communities during the COVID pandemic, physicians and scientists, and healthcare in general have also faced the same cynicism more typically accorded politicians and politics as being slow to change and not trustworthy. Science is not immune from fears, lies and political gamesmanship. Misinformation, as we have previously highlighted in this Newsletter, is being deliberately used to question the authority of science and our scientists.

CTS' mission is: *to improve California lung health and, through advocacy and education, advance the science and practice of pulmonary and critical care medicine.* We stand with our sister societies in advocating for the wide-use of masks and thoroughly studied vaccines as critical steps in controlling the virus and vital for our health and economic recovery. Our livelihood as clinicians, particularly those of us in community practice, has been impacted as any other small business. We

strive for thoughtful, respectful discourse, with civil discussion based on the pillars of science. It is through this civility that the pressing issues affecting medicine can be addressed, including: economic lockdowns, school re-opening, health outcomes disparities, crowded ICUs, allocation of scarce resources, vaccine trials and their dissemination.

There is so much at stake in this election. (3)

At CTS, we issue a call to action: Vote on or before November 3rd. Empower your staff to vote. Empower your trainees to vote. Make your voice, and that of your patients and community, heard.

Sincerely,

California Thoracic Society *Inspirations* Editorial Staff

References:

1. [Contribution of Individual and Neighborhood Factors to Racial Disparities in Respiratory Outcomes](#)
2. <https://www.hcplive.com/view/doctors-and-politics-why-dont-they-vote-and-will-this-time-be-different>
3. [The Structural and Social Determinants of the Racial/Ethnic Disparities in the U.S. COVID-19 Pandemic. What's Our Role?](#)

JOIN THE CTS INSPIRATIONS NEWSLETTER EDITORIAL TEAM!!

CTS is looking for someone to join their *Inspirations* Newsletter Editorial team.

The success of CTS relies on volunteers. Volunteers make up our teams, and every participant is valued. Our newsletter editors interact with experts from throughout the state. You will also help shape the content shared in the Newsletter. Please submit nominations (self included) by **November 14th at 5 pm PDT**.

Nominations should be submitted to **Suchin Gupta** at sachin.gupta@comcast.net.

Nominations must include:

- ◆ a brief biography (up to 200 words), including a listing of the candidate's editorial experience;
- ◆ the candidate's CV;
- ◆ optionally, a statement of interest of up to 500 words stating the nominee's vision for the newsletter.
- ◆ CTS believes in culturally competent, diverse, and prepared teams that are dedicated to improved health and health equity.

Portable Oxygen Concentrators (POCs) by Chris Garvey NP

Portable oxygen concentrators (POCs) offer many advantages for persons needing oxygen. Like most technology, understanding a device's use and limitations is essential for effectiveness and safety. Manufacturers may not uniformly provide detailed device information, which may limit informed clinician prescribing as well as user knowledge and preparedness. Below are considerations that may help prospective and current users get the most out of POCs. *The following information is not a substitute for your provider's care and recommendations.*

POCs offer benefits as well as limitations. Favorable device features include:

- Less dependence on durable medical equipment companies (DMEs) for oxygen delivery.
- Light weight devices may support activities outside of the home.
- Improved potential for independence with travel including air travel.

POCs have important limitations that require caution. There are important but poorly understood or unknown aspects of POC technology. Some challenges include:

- Smaller, lighter units produce a limited amount of oxygen (*often a maximum of 1 liter per minute or less*), and less than larger units.
- POCs generally rely on "pulse dose" oxygen delivery, providing oxygen only during parts of the breath (generally at the beginning of inspiration).
- Devices using pulse dose (vs. continuous flow) are not a substitute for continuous flow oxygen during sleep, use with CPAP or bi-level, or with an OxyMizer cannula (unless the POC device has continuous flow setting, e.g., SimplyGo or Sequal Eclipse).
- POCs are expensive and may not be covered by insurance or provided by DMEs.

A few important words of caution: While using pulse dose devices, the increase in respiratory rate such as occurs with exercise results in lower oxygen pulse volume per breath, especially if the pulse setting is not increased to compensate for increased respiratory rate. This may result in lower oxygen saturation levels in your blood during exercise. Further, **POC's oxygen pulse-dose settings do not correspond to continuous 'liters/minute' flow rates prescribed by most providers. Users need to check oxygen saturation (SpO₂) levels with a pulse oximeter under various circumstances during POC use to assure the oxygen saturation is high enough**, e.g., for most 88% or above based on *the provider's recommendations*.


Before buying a POC, ask your pulmonary doctor or pulmonary rehabilitation staff for guidance regarding your oxygen needs. See 'maximum oxygen production' in the chart below (line 2) to determine if a POC will meet your needs. Consider that a flair-up (exacerbation), pneumonia, worsening of lung disease, exercise and travel (high altitude or in an aircraft) normally *increase your oxygen needs*.

Ask your provider if you should always keep your oxygen setting at the same level or adjust it based on your SpO₂ reading – known as '*titrate to migrate*' or '*titrate to saturate*'. You need to purchase an oximeter and understand how to use it. If you aren't sure, ask your provider or pulmonary rehab staff. Read credible sources (see resources) to understand how POCs work. Find out:

- The amount of oxygen a POC produces, settings, battery life (time between charging), size, weight, sound level and how to carry or roll it.
- Explore POC manufacturers and seller's ratings and owner's manual, warranty and return and repair policy before buying.
- Understand that your oxygen needs may increase over time and may exceed your POC's oxygen supply capability.
- When you buy a POC, read the owner's manual carefully and view YouTube videos for the POC.

Portable Oxygen Concentrators (POCs)

The table below does not represent all available POCs. See device brochures for details, operations, limitations, etc. All POCs below are FAA approved for flight. Prices should be considered estimates of retail costs.

	 Inogen One G 5	 Inogen One G 4	 Inogen One G 3	 Invacare Platinum	 Precision EasyPulse 3/5
Maximum oxygen production (LPM)	1.26 LPM	0.63 LPM	1.05 LPM	0.88 LPM	0.52 LPM (EP3) 0.78 LPM (EP5)
Pulse delivery	Minute Volume	Minute Volume	Minute Volume	Minute Volume	Minute Volume
Max. delivered pulse volume (BPM=breaths/min)	15 BPM 84 ml 30 BPM 42 ml	15 BPM 42 ml 30 BPM 21 ml	15 BPM 70 ml 30 BPM 35 ml	15 BPM 59 ml 30 BPM 29 ml	15 BPM 35/ 52 ml 30 BPM 17/26 ml
Weight + 1 battery*	5 lb.	3 lb.	5 lb.	6 lb.	5 lb. /7 lb.
Battery life	4 hours	2.3 hours	3 hours	2.5 hours	4 / 3.4hours
Max altitude	10,000 ft.	10,000 ft.	10,000 ft.	10,000 ft.	9,000 ft.
Estimated price	\$1895 <small>store.mainclinicsupply.com</small>	\$1795 <small>oxigenone.com</small>	\$1965 <small>oxygendirect.com</small>	\$1995 <small>healthproductsforyou.com</small>	\$1665 <small>healthproductsforyou.com</small>
	 AirSep FreeStyle3/5	 AirSep FreeStyle Comfort	 Respironics SimplyGoMini	 Respironics SimplyGo	 SeQual Eclipse 5
Maximum oxygen production (LPM)	0.5 (FS3) 1.05 (FS5)	1.05 LPM	1.0 LPM	2.0 LPM	3.0 LPM
Pulse delivery	Minute Volume	Minute Volume	Combo Fixed / Minute Volume	Combo Fixed / Minute Volume**	Continuous: 0.5 - 3 LPM Pulse: 16 to 192 mL
Max. delivered pulse volume (BPM=breaths/min)	15 BPM 33/ 67 ml 30 BPM 17/33 ml	15 BPM 70 ml 30 BPM 35 ml	15 BPM 55 ml 30 BPM 33 ml	15 BPM 72 ml 30 BPM 66 ml	96 ml
Weight + 1 battery*	5/7 lb.	5 lb.	5 lb.	10 lb.	18.4 lb.
Battery life	3.5 / 2.5 hours	4 hours	4.5 hours	3 hours	3 hours
Max altitude	12,000 ft.	10,000 ft.	10,000 ft.	10,000 ft.	10,000 ft.
Estimated price	\$1820 <small>tigermedical.com</small>	\$2495 <small>oxygendirect.com</small>	\$1995 <small>healthproductsforyou.com</small>	\$2090 <small>healthproductsforyou.com</small>	\$2500 <small>directhomemedical.com</small>

*Add ≥ 5 lb. for accessories **Pulse & night mode; pulse volumes shown; night mode: minute volume. *** See device manual.

Adapted from *The Pulmonary Paper* and Ryan Diesem. <https://www.pulmonarypaper.org/portable-oxygen-concentrators-comparison-chart-2019/>

- Resources: **The Pulmonary Paper** <https://www.pulmonarypaper.org/portable-oxygen-concentrators-comparison-chart-2019/>
- AARC Guide to POCs <https://www.copdfoundation.org/Downloads/POC-Final.pdf>
- Adventures of an Oxyphile-2 T Petty <https://www.drtonpetty.org/wp-content/uploads/2012/03/Adventures-of-an-Oxy-Phile-2.pdf>
- <https://www.copdfoundation.org/COPD360social/Community/COPD-Digest/Article/309/How-a-Pulse-Oximeter-Works.aspx>
- Clinician Strategies to Improve Care of Patients Using Supplemental Oxygen [https://journal.chestnet.org/article/S0012-3692\(19\)31239-5/fulltext](https://journal.chestnet.org/article/S0012-3692(19)31239-5/fulltext)