

Assisting with Respiratory Health for Patients with COVID-19

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Introduction:

As COVID -19 advances across our cities in the United States, I want to remind our rehabilitation professionals of a potentially life-saving technique to assist with respiration. PT/PTA programs include Percussion and Postural Drainage (**P&PD** or PD) in your cardiopulmonary training. Hospitals often use respiratory therapists and/or vests to perform these techniques currently. These resources may not be available in the numbers anticipated in the foreseeable future with the COVID-19 pandemic.

Discussion:

An individual with potential COVID-19 symptoms will be triaged if they have a fever over 100°F, shortness of breath and a cough. This P&PD technique is for the individual who has not admitted into the hospital setting and is being treated at home with early signs of congestion OR perhaps has chosen not to enter the healthcare system. I think of our seniors with Do Not Resuscitate (DNR) orders in place and are at home or senior living facilities.

The CDC outlined precautions regarding spread of the virus and prevention recommendations. If an individual has multiple risk factors and if the fever is advancing/unresponsive to acetaminophen, (Tylenol) and the shortness of breath is worsening, then steps should be accelerated to seek treatment outside of the home.

For more stable conditions at home, P&PD such as postural drainage can be considered as an intervention to assist in providing more oxygen to various lobes of the lungs by using postures and gravity.

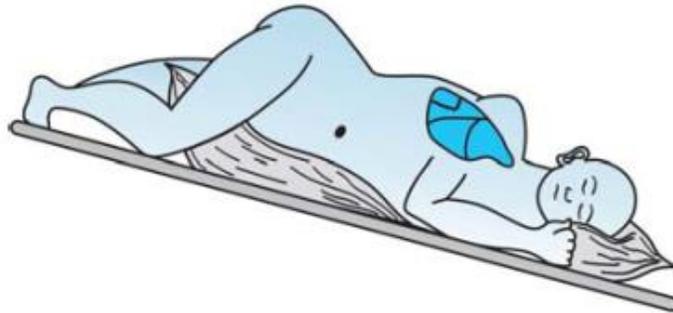
The research on this technique in regards to evidence based medicine for the COVID-19 virus is scant; however, the use of postural drainage for viral pneumonia has cited in our rehab literature for decades as an effective intervention. These techniques are most recognized in our pediatric cystic fibrosis community and other chronic pulmonary diagnosis.

Postural Drainage can also be taught to an individual without putting another family member or care giver at risk of exposure to the expectorant/mucus.

I have included pictures of 3 possible postures that can be used for postural drainage. In addition, I was given permission to use a video link by Amelia Lindberg PT. Her 8 minute video link offers gentle postures and descriptions with calming music to incorporate for a home postural program. **Please share:**

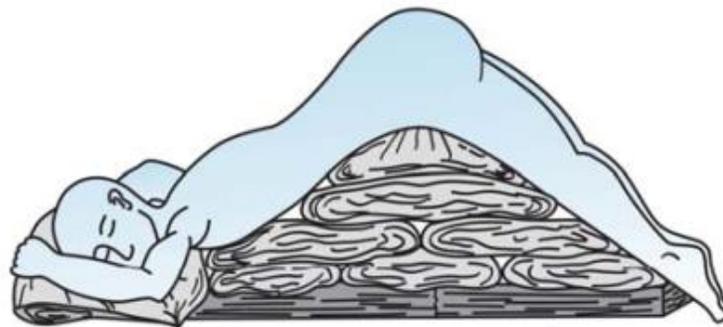
<https://youtu.be/C88Qt5eOZRw>

POSTURAL DRAINAGE: maintain 10-15 minutes



Lateral basal segment of the right lower lobe

ALTERNATIVE METHOD OF POSTURAL DRAINAGE



Postural drainage over towels



Postural drainage over chair

I also wanted to share from a peer doctor of PT, Lauren Hebert PT, DPT, OCS, about his experience with postural drainage.

POTENTIALLY LIFESAVING ADVICE:

If you end up with pulmonary symptoms of corona virus pneumonia... there can be lethal damage from effusion (mucous filling lungs) or cytokine storm (body over-reacts with more effusion).

This kills people... ESPECIALLY when the number of patients is greater than the number of ICU beds or ventilators. You will be left to drown in your mucous. That mucous can also be infected by other germs during your struggle. That is happening in Italy where there are 5x more patients than they have hospital beds. And the USA has far FEWER beds per population than does Italy. Many years ago, physical therapists have successfully treated this with POSTURAL DRAINAGE... where the patient is tipped over a wedge to tilt the lungs and bronchial tubes upside down... to allow the mucous to flow out, where it can be coughed out.

Google it. It is EASY to do for yourself and family members.

Simply get in position and let it flow, **helping it along with breathing techniques that emphasize full, prolonged exhale, while puffing your cheeks and you blow out long and steady.** Follow CDC guidelines for mucus. Have a lot of paper towels to collect the mucous. Start as soon as you feel lungs getting filled. Don't wait until you are too sick to bother. 3-5 minutes several times per day.

A PT did this inside a nursing home in VT during the 1976 flu epidemic for resident patients. They did not lose anyone, while other nursing homes lost dozens. **It is an old PT technique that has faded away since we have ventilators and related machines. BUT this time, we will NOT have nearly enough ventilators, not the ICU beds where they are provided.**

One easy way to get into position is to lie over an EXERCISE BALL.

One more 5 min YouTube instructional link for Postural drainage, percussion, vibration technique is below.

<https://youtu.be/vxFUPdFc1eM>

Resources:

- Recommendations for respiratory rehabilitation of COVID-19 in adult. Zhonghua J, He He Hu Zi Za Zhi, 43 (0), E029; 2020 Mar 3.
- Juliano Ferreira Arcuri,¹Ebun Abarshi,² Nancy J. Preston,² Jenny Brine,³ and Valéria Amorim Pires Di Lorenzo¹ Benefits of interventions for respiratory secretion management in adult palliative care patients—a systematic review; BMC Palliat Care. 2016; 15: 74. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4979117/>
- CDC Standard Precautions and Infection Control: <https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html>
- CDC on COVID 19: <https://www.cdc.gov/coronavirus/2019-ncov/index.html>
- OSHA Guidelines for COVID-19 Management: <https://www.osha.gov/SLTC/covid-19/>
- PPE Guide for Healthcare Professionals: <https://www.cdc.gov/hai/pdfs/ppe/PPE-Sequence.pdf>