

BUYING TIME: REDUCING THE DEMAND FOR MECHANICAL VENTILATION BY PATIENTS SUFFERING FROM COVID-19

By: Michael Stenta BS, OMS-II

Buying patients time between symptom onset and the need for mechanical ventilation will decrease mortalities from acute respiratory distress syndrome (ARDS) stemming from SARS-CoV-2 infections. Ventilator access in the United States is the rate limiting step for decreasing mortalities due to the COVID-19 pandemic. Delaying patients' need for mechanical ventilation with osteopathic manipulative medicine (OMM) can relieve our healthcare infrastructure.

The root cause of mortality following SARS-CoV-2 infection stems from the accumulation of lymph in the lung's interstitium. To reduce the mortality caused by this virus, one must decrease lymph accumulation in the lung by aiding the body's own physiological mechanism for pulmonary lymphatic drainage – the expansion of the chest cavity through respiration. Respirations become more labored as ARDS progresses, activating a positive feedback loop of lymph accumulation within the lung interstitium due to a decreased ability to breathe and expand the chest cavity. Disrupting this feedback loop will provide the body time to develop an effective adaptive immune response to SARS-CoV-2; this may preclude or delay the need for mechanical ventilation and subsequently, increase ventilator vacancies. Buying time saves lives.

OMM when used as adjunct therapy has been shown to decrease mortality in ventilator-dependent respiratory failure [1], to reduce length of pneumonia patients' stays in hospital [1], to increase lymphatic outlet flow [2], and to reduce mortality during the 1917-1918 Spanish flu pandemic [3]. OMM should be utilized as standard adjunct therapy to reduce mortality by delaying patients' need for mechanical ventilation.

The following treatments are proposed as a strategy to enhance lymph drainage from the lung interstitium. Success can be maximized with implementation in the recommended order below:

- 1.) Rib Raising - allows chest cavity to move more freely and normalizes/restores sympathetic nervous system variability via sympathetic chain ganglion activation
<https://www.youtube.com/watch?v=ZN8wtuQaEso> or
<https://www.youtube.com/watch?v=uUvvFy7lpSg>
- 2.) Sub-Occipital Release – normalizes/restores parasympathetic nervous system variability via vagal stimulation to restore/maximize natural lymphatic flow
<https://www.youtube.com/watch?v=D9OocpCV4bU>
- 3.) Thoracic Inlet Technique – reduces restrictions to pulmonary lymphatic outflow
<https://www.youtube.com/watch?v=caNkfxGIPMU>
- 4.) Thoracic Pump Technique – mechanically mobilizes pulmonary lymphatic fluid drainage and return to central circulation once restrictions to outflow have been reduced/normalized . Perform this technique three times with a thirty second pause between cycles.
<https://www.youtube.com/watch?v=7YRDZDc1sFE>

These low-risk, non-invasive, readily learned and applied techniques may be useful in the treatment of COVID-19. To reduce population group mortality, OMM treatments can be used as adjunct therapy to buy patients more time between COVID-19 symptom onset and the need for mechanical ventilation.

For more information visit:

<https://drive.google.com/drive/folders/11sdoGxwm3Ih6K1W1t9IKhThT5NBfzOrt?usp=sharing>

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Citations

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- [2] Knott M, Tune JD, Stoll ST, Downey HF. Lymphatic pump treatments increase thoracic duct flow. J Am Osteopath Assoc. 2005;105:447–456
- [3] Smith RK: One hundred thousand cases of influenza with a death rate of one-fortieth of that officially reported under conventional medical treatment. JAOA 1920, 20:172-175. Reprinted in: JAOA, 2000;100:320–323

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