Arch Bronconeumol. (2021);57(6):434

Sociedad Española de Neumología y Cirugía Torácica SEPAR

ARCHIVOS DE Bronconeumología

www.archbronconeumol.org

Clinical Image

Dead Space Volume in N95 Masks

Espacio muerto en una máscara N95

Santiago C. Arce*, Fernando Chiodetti, Eduardo L. De Vito

Instituto de Investigaciones Médicas A. Lanari, University of Buenos Aires, Argentina

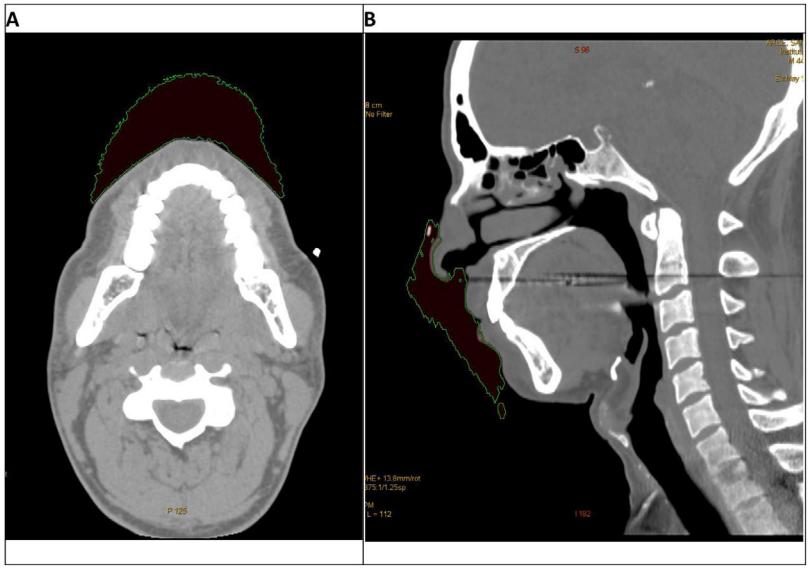

Fig. 1.

A health-worker's CT scan showing the air space between the mask (3 M Aura 1870+) and the face skin (138 mL). This volume remains relatively constant throughout the respiratory cycle, since its shape and material confers certain rigidity (fig. 1). Dead space of the respiratory airways is increased by about 50–80%, compensated with a raise in pulmonary ventilation to keep alveolar ventilation and CO_2 stable[1]. This could have an impact in severely impaired respiratory patients.

Supports/contributions

None.

Reference

1. Hinds WC, Bellin P. The effect of respirator dead space and lung retention on exposure estimates. Am Ind Hyg Assoc J. 1993;54:711–22.

* Corresponding author.
E-mail address: arcesantiago@fibertel.com.ar (S.C. Arce).

https://doi.org/10.1016/j.arbres.2020.11.006