

# Physiological applications of Laplace Law

In physiology, the Laplace Law describes the relationship between the pressure required to keep a spherical hollow organ open:

$$P = 2T/r$$

For pressure  $P$  (dynes/cm<sup>2</sup>), surface tension  $T$  (dynes/cm), and the radius  $r$  (cm)

This means that to stay open, small organs require either a lot of pressure or decreased surface tension.

Such organs include not only the alveoli but also the heart and bladder.

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*This article needs to also explain/link to the relationship between the pressure-volume loop and law of Laplace from cardiology and include an appropriate graph.*

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## References

Costanzo, L., 2019. *Physiology - Board Review Series*. 7th ed. Philadelphia: Wolters Kluwer, p.121.