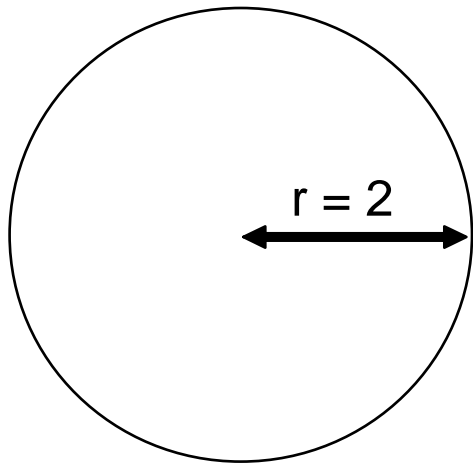


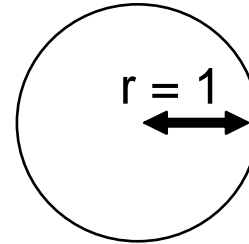
Resistance and Airflow Patterns

Equal Pressure Point

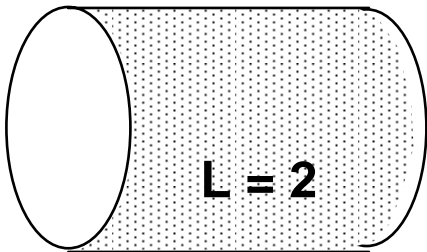
Relationship between Effort and
Airflow



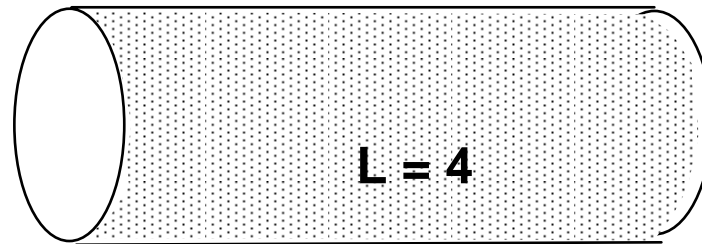
Resistance ~ 1



Resistance ~ 16



Resistance ~ 2

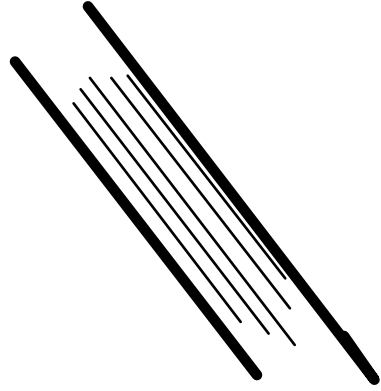
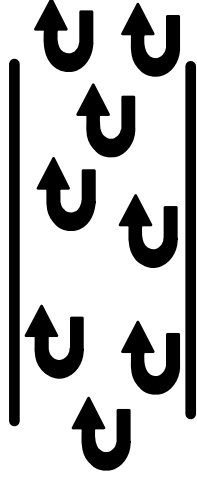
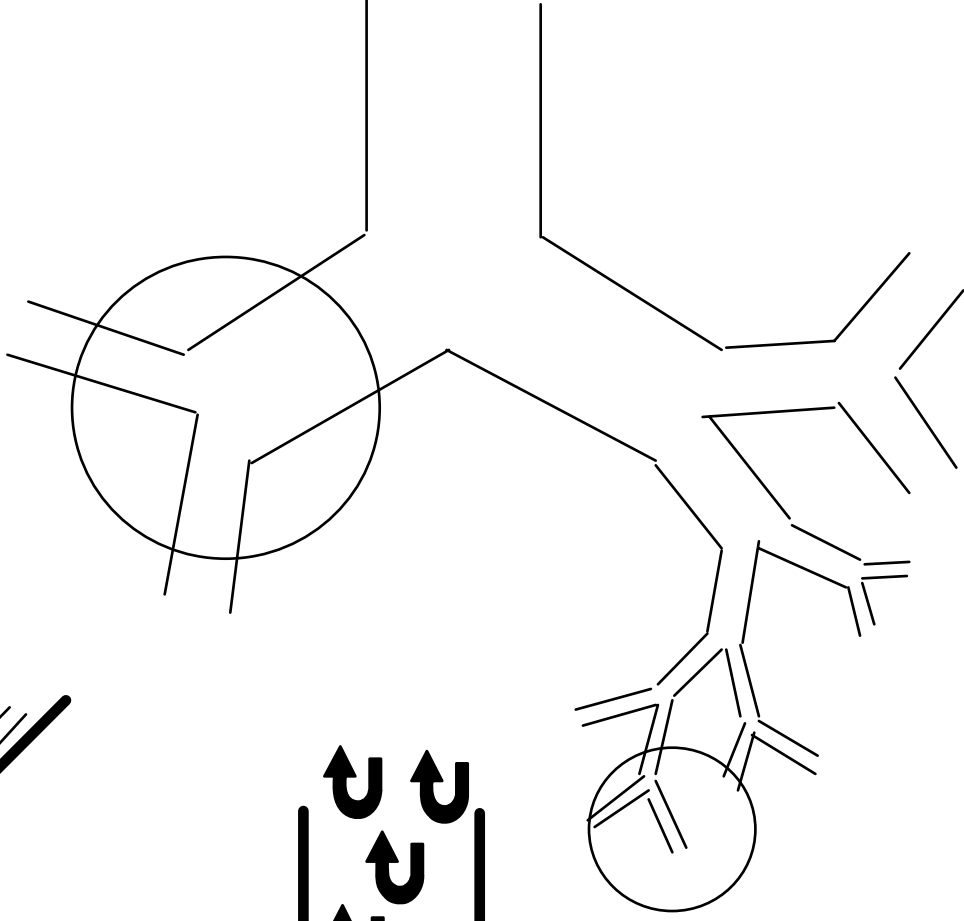
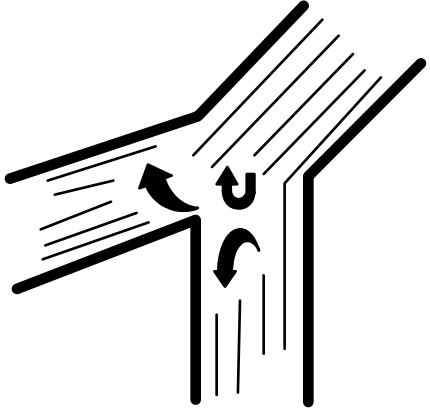


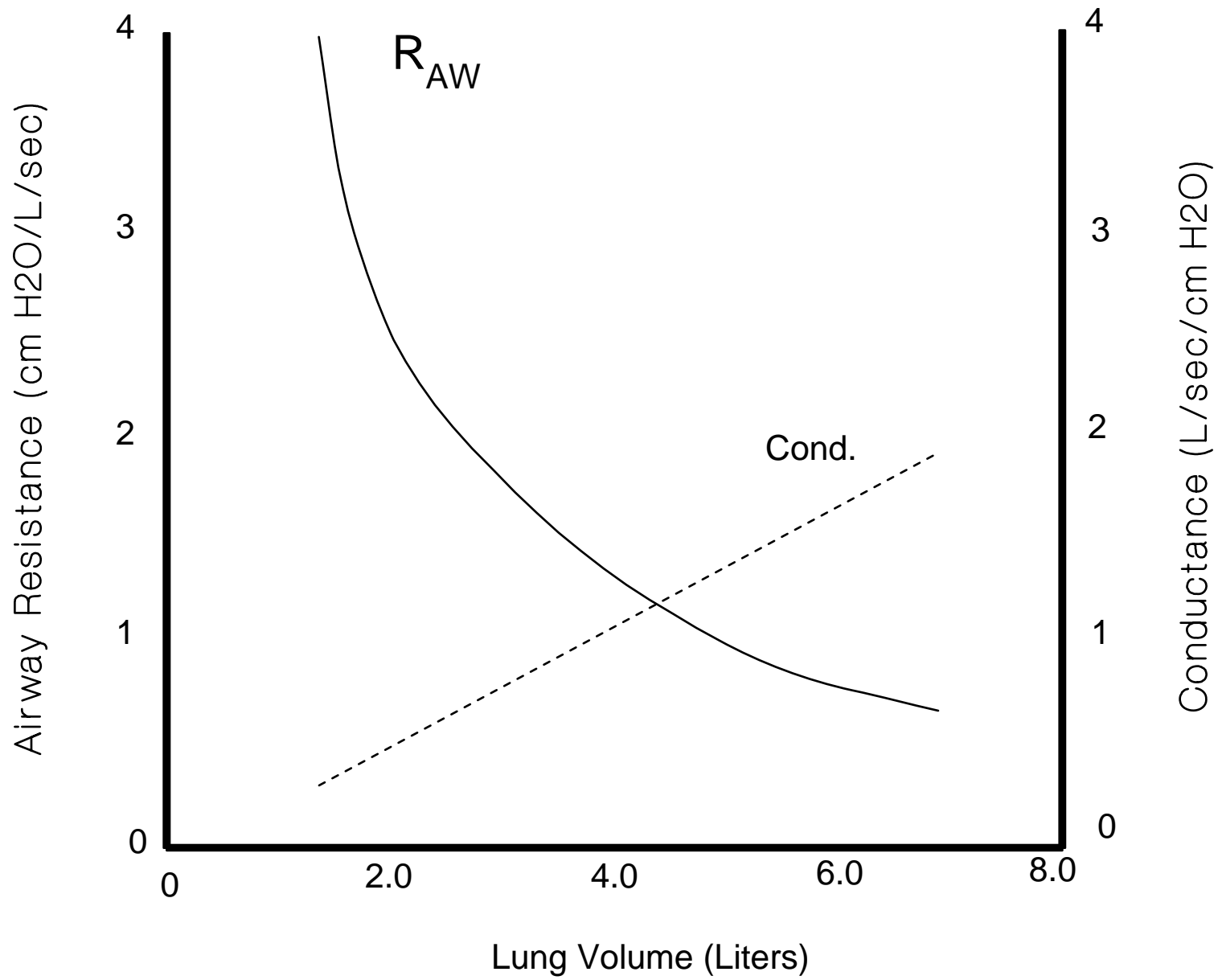
Resistance ~ 4

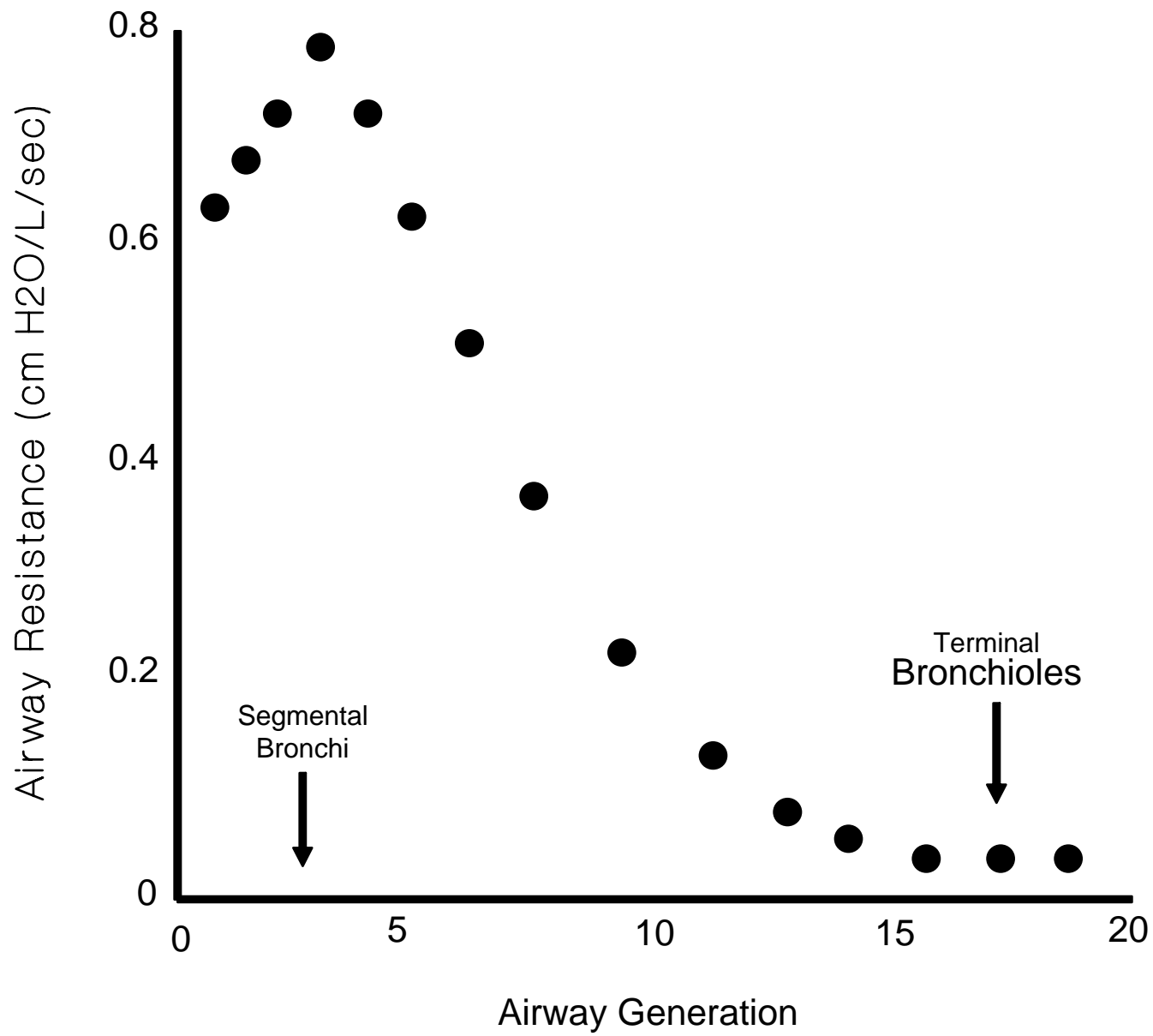
Poiseuille's Law

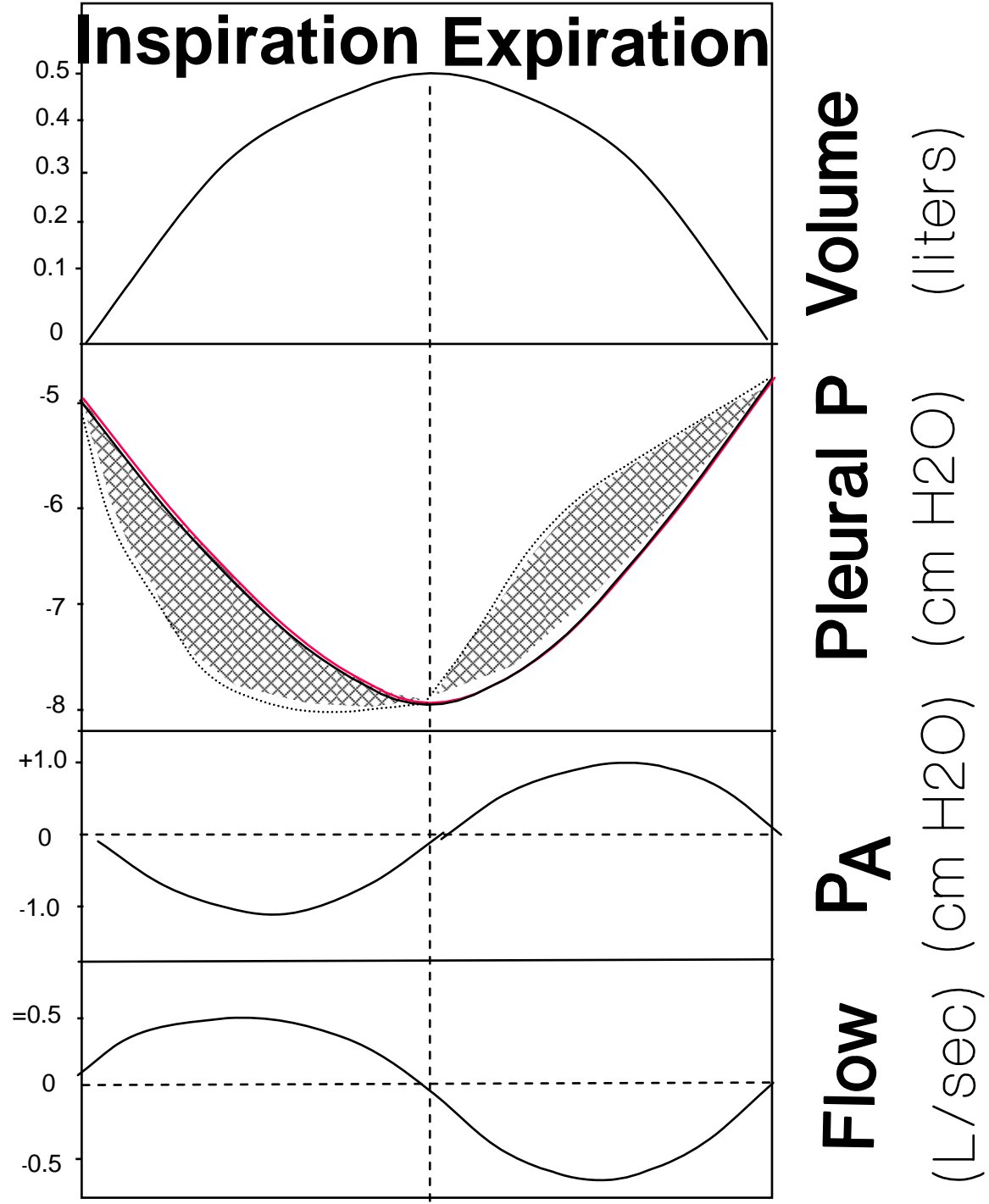
$$\dot{V} = \frac{\pi(P_1 - P_2) r^4}{8 \eta l}$$

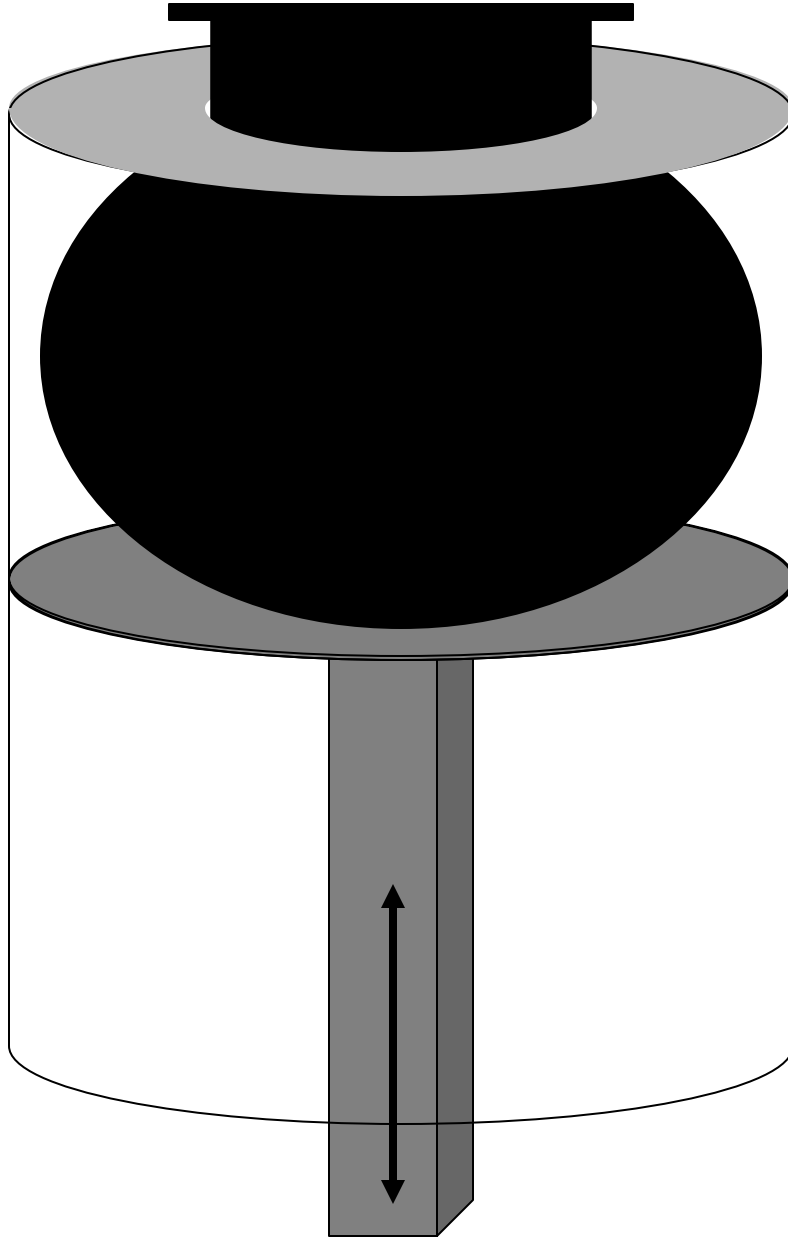
$$R = \frac{(P_1 - P_2)}{\dot{V}} = \frac{8 \eta l}{\pi r^4}$$





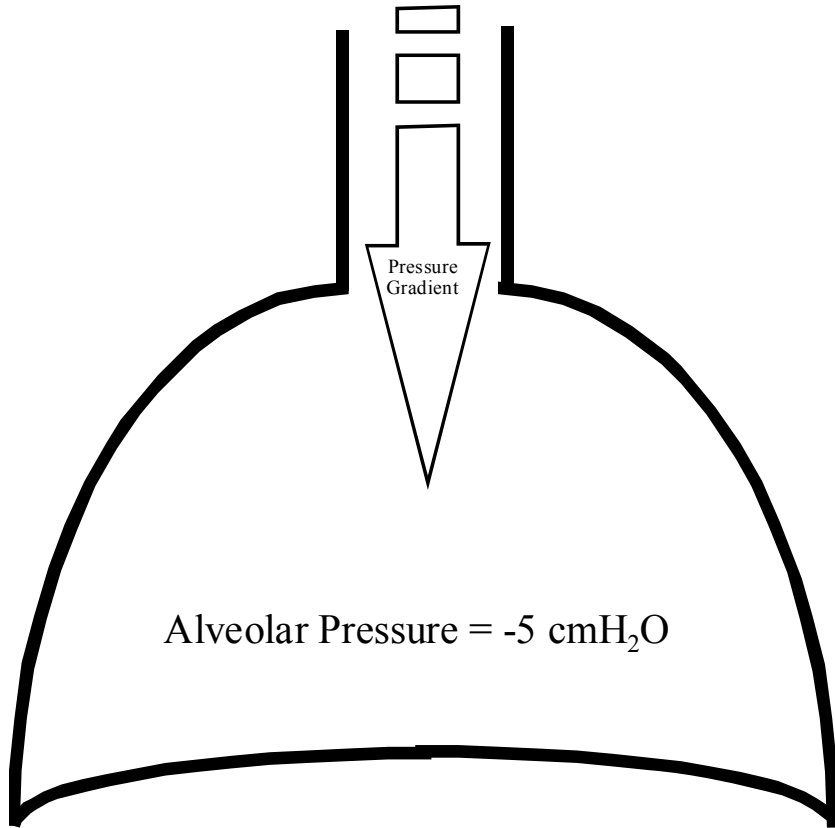






A

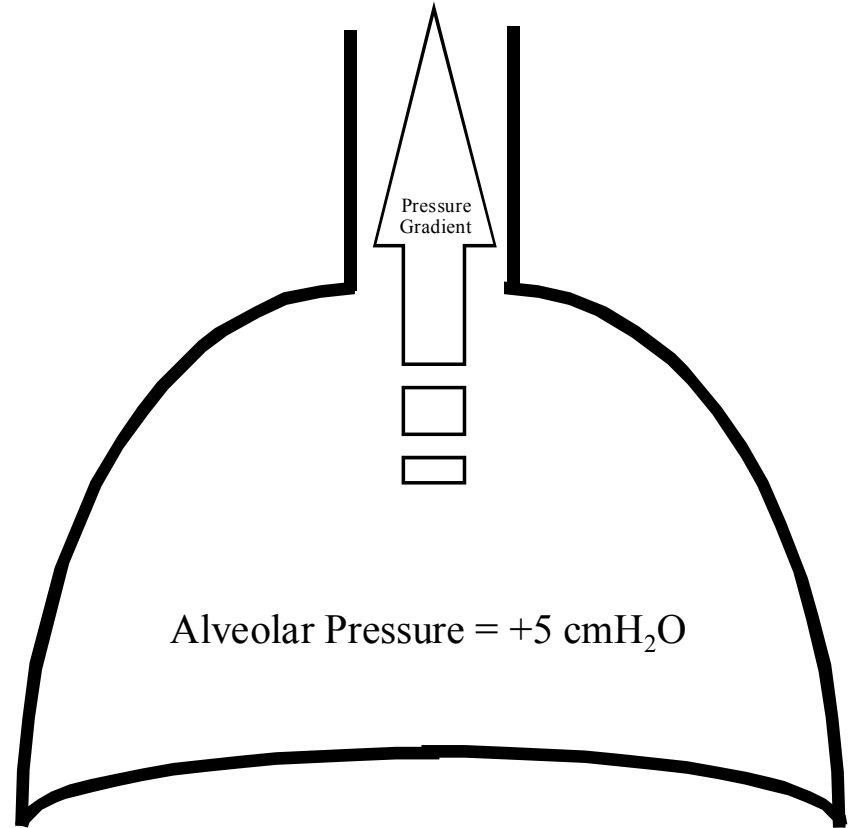
Atmospheric Pressure = 0



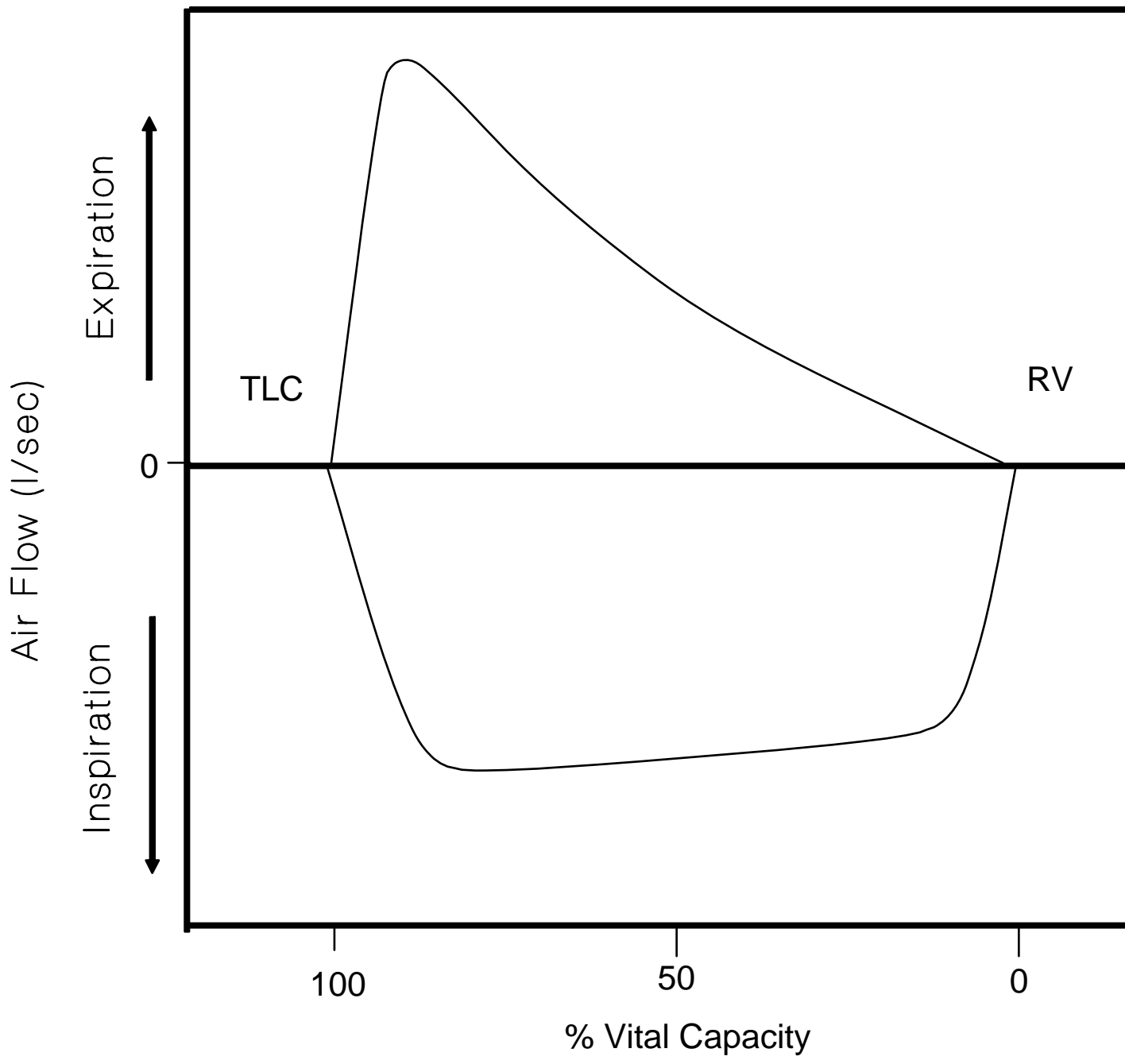
Inspiration

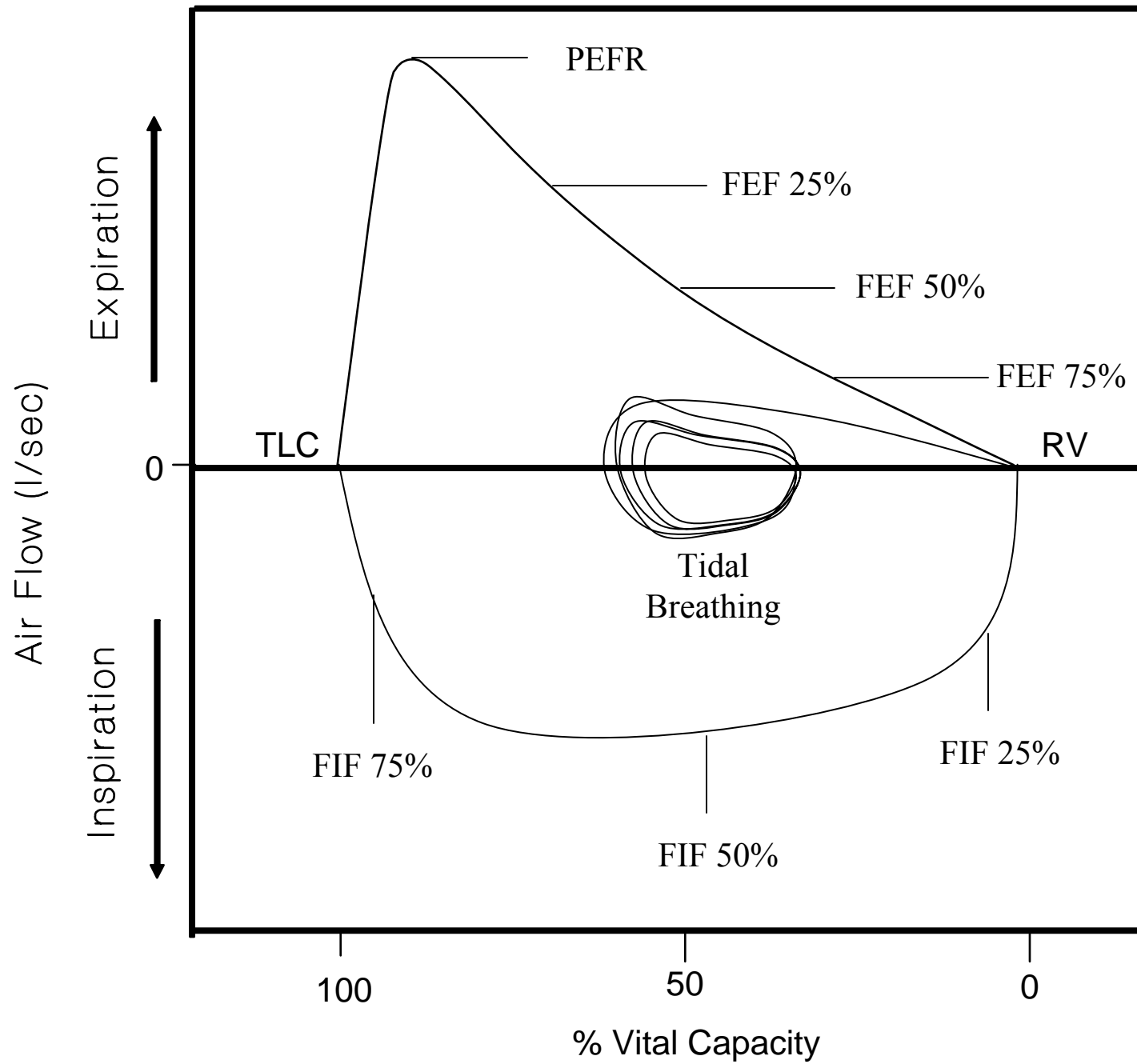
B

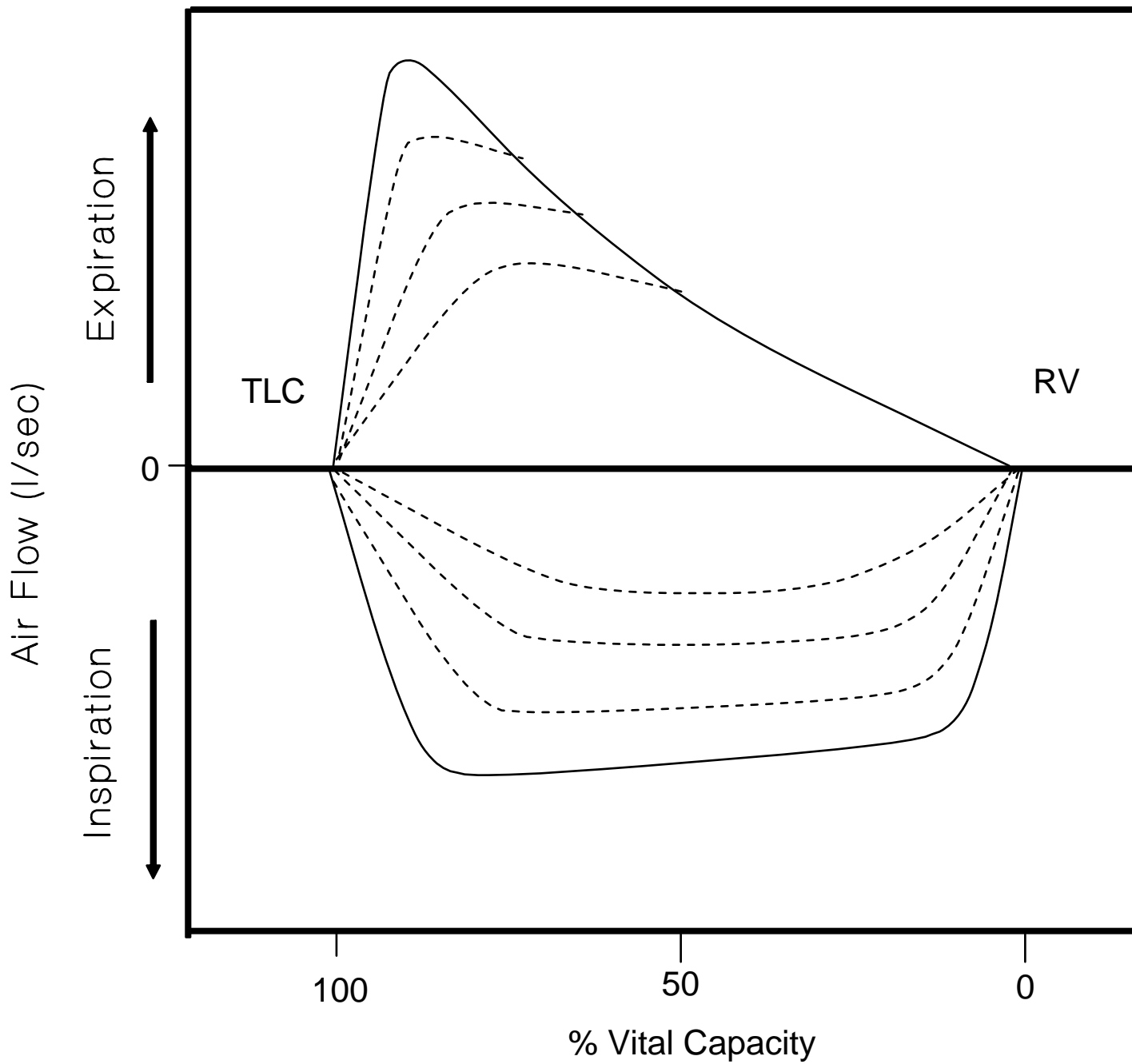
Atmospheric Pressure = 0

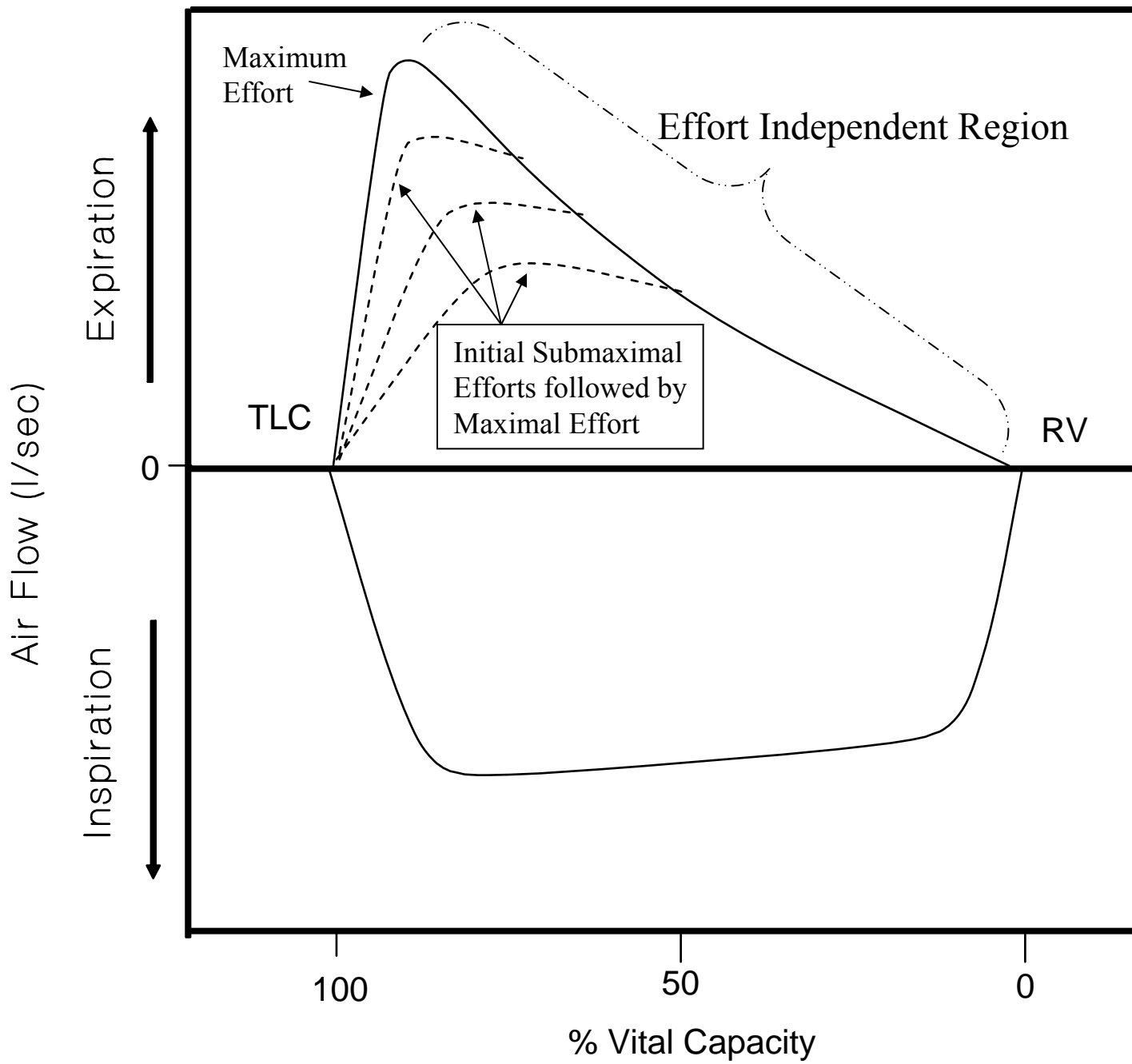


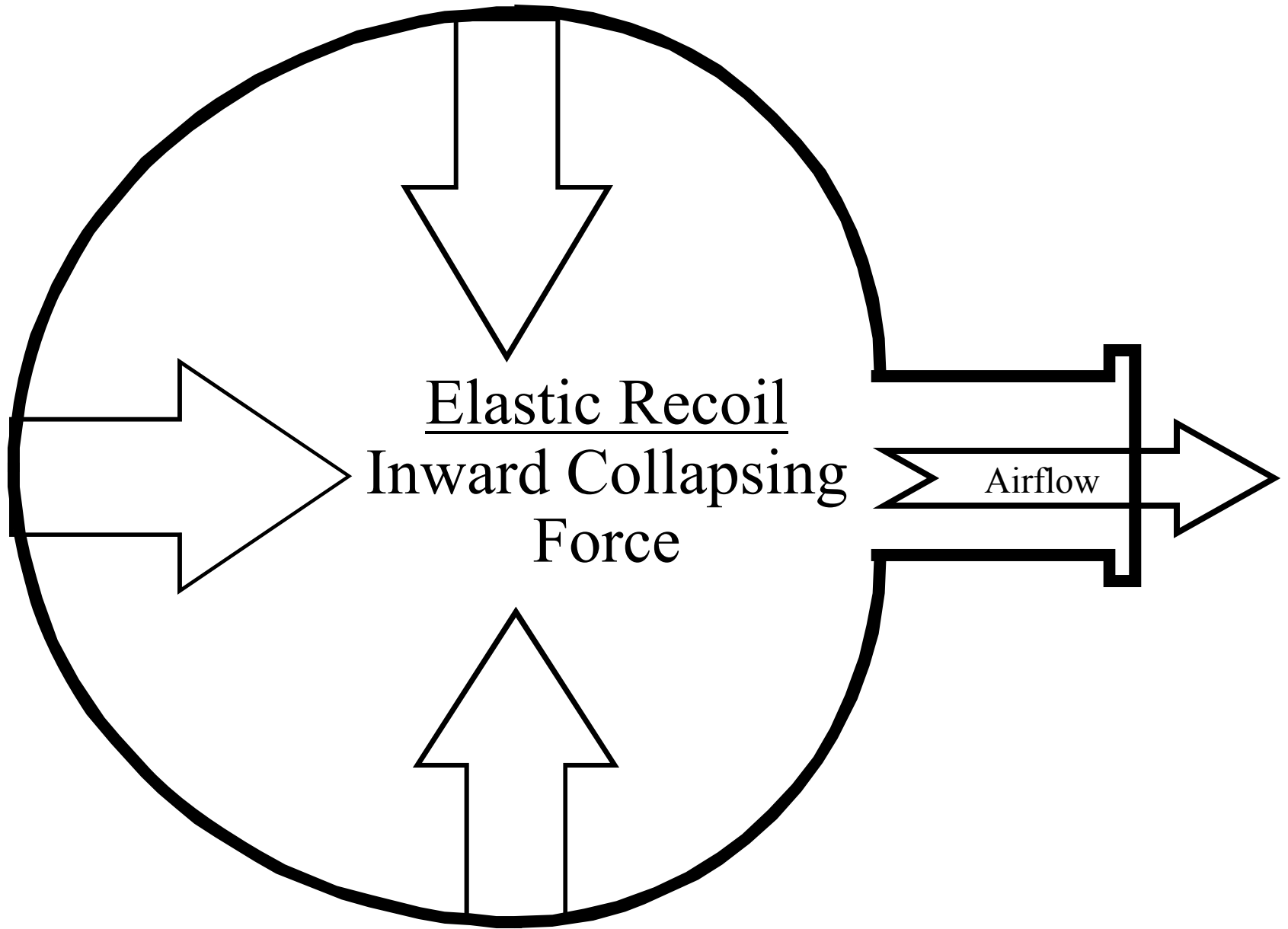
Expiration





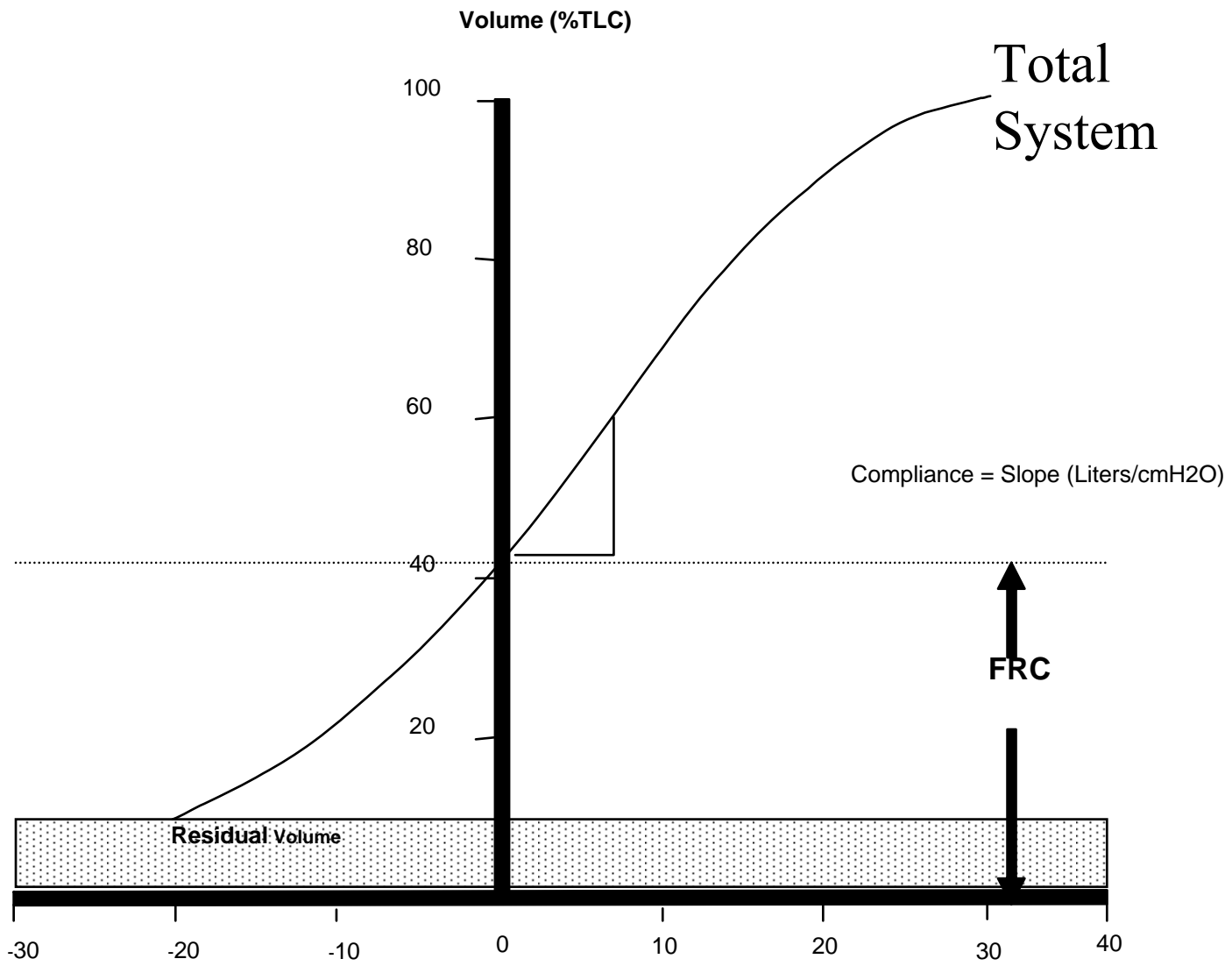


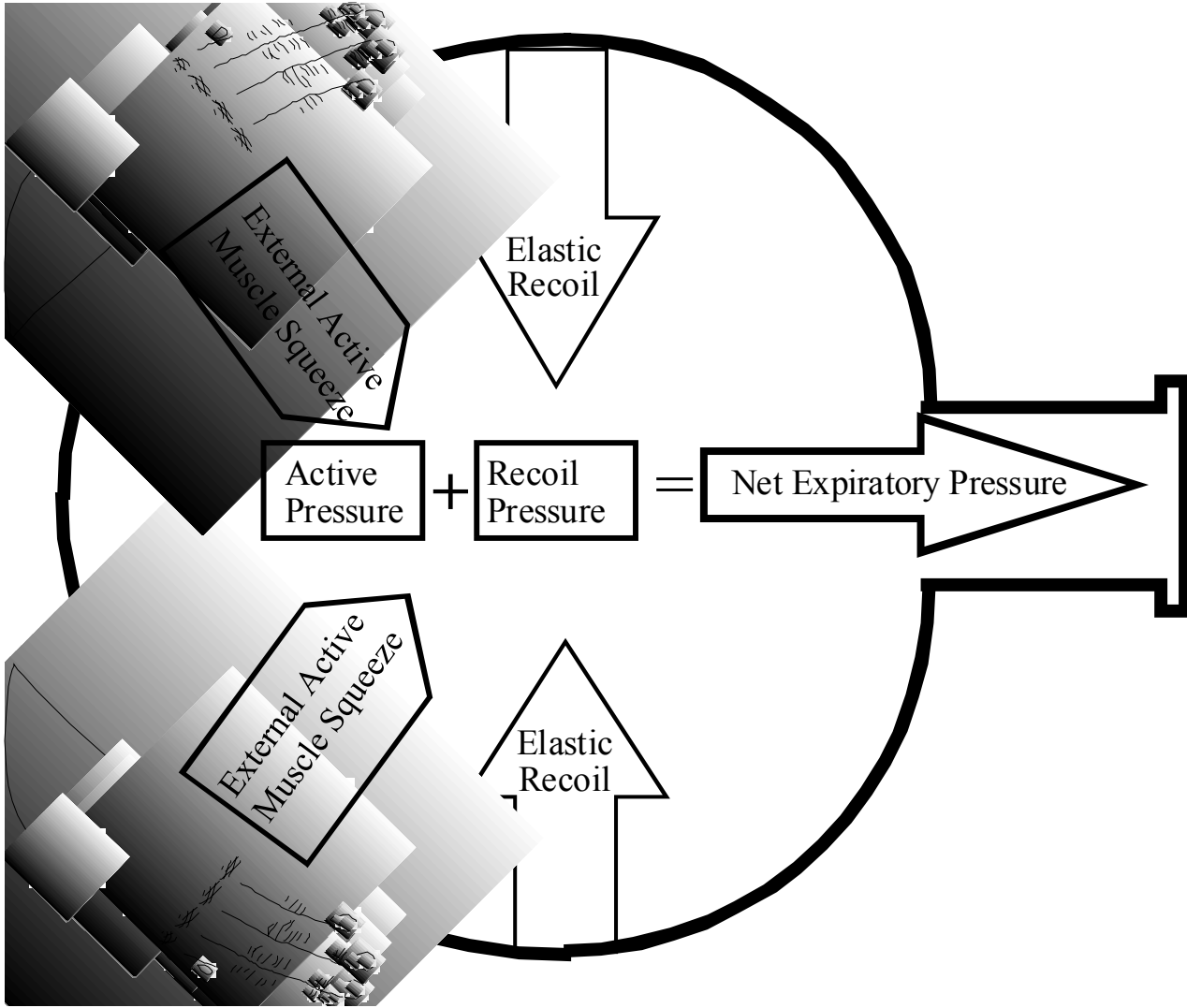




Elastic Recoil
Inward Collapsing
Force

Airflow





External Active Muscle Squeeze

Elastic Recoil

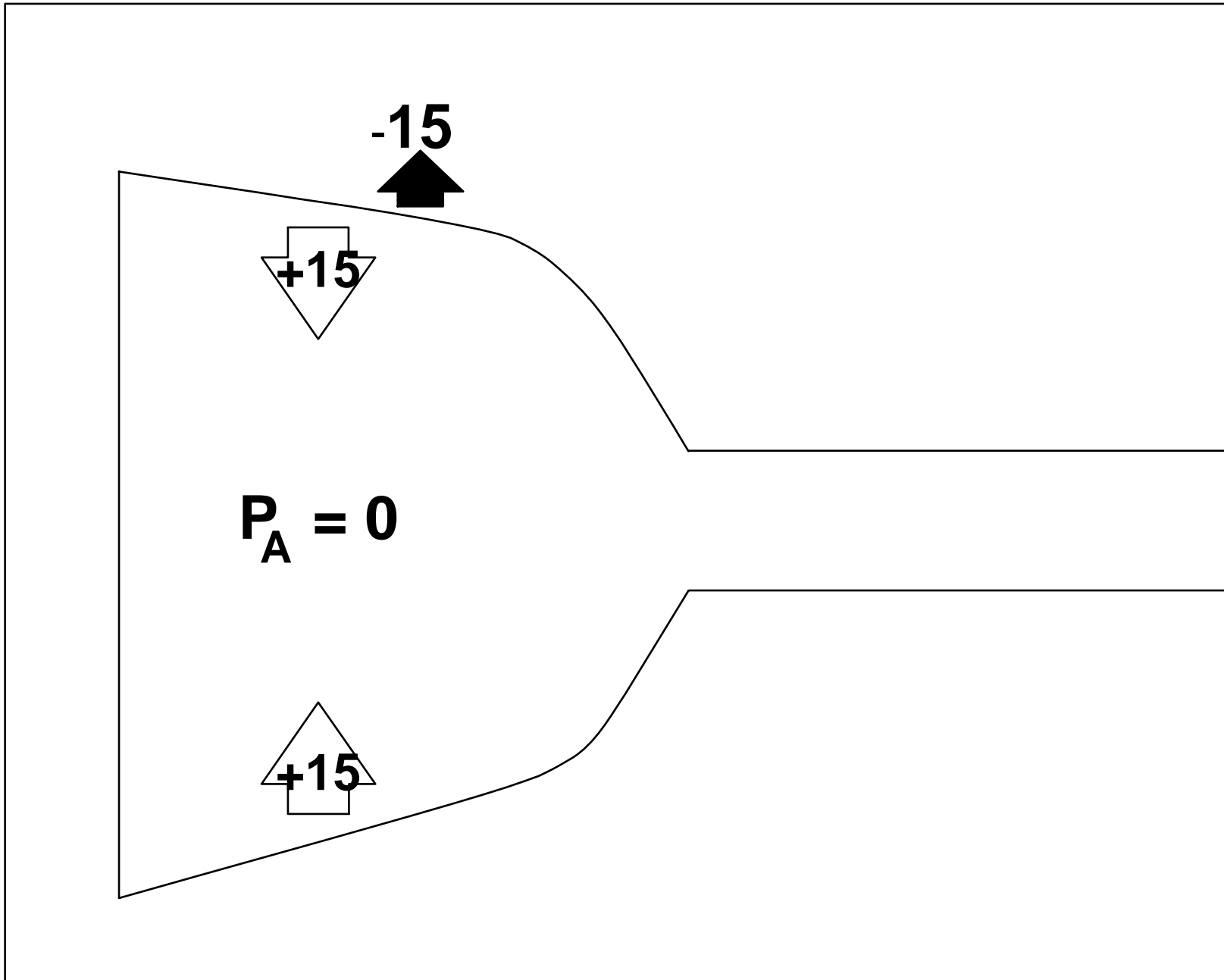
Active Pressure

Recoil Pressure

Net Expiratory Pressure

External Active Muscle Squeeze

Elastic Recoil



-15

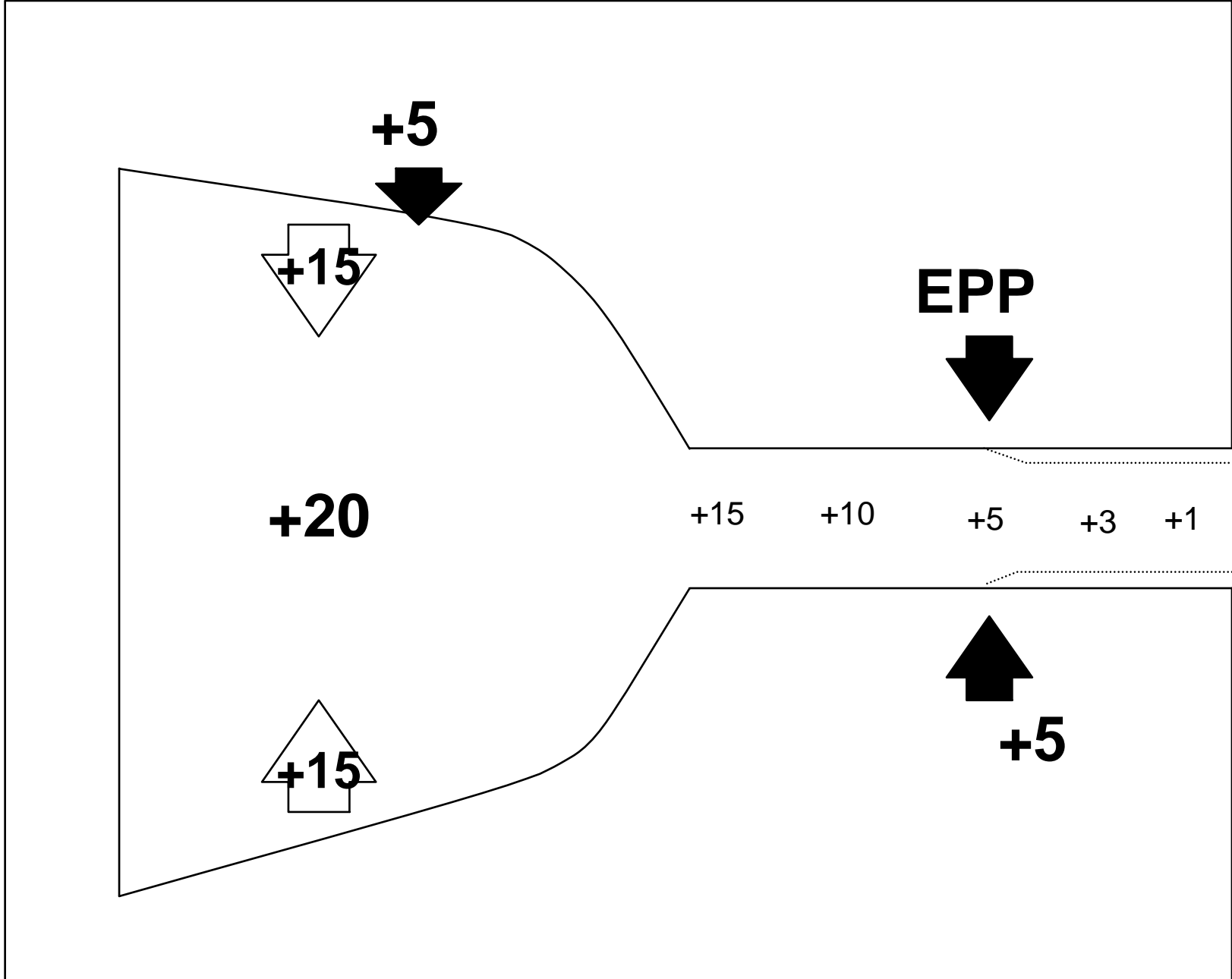
+15

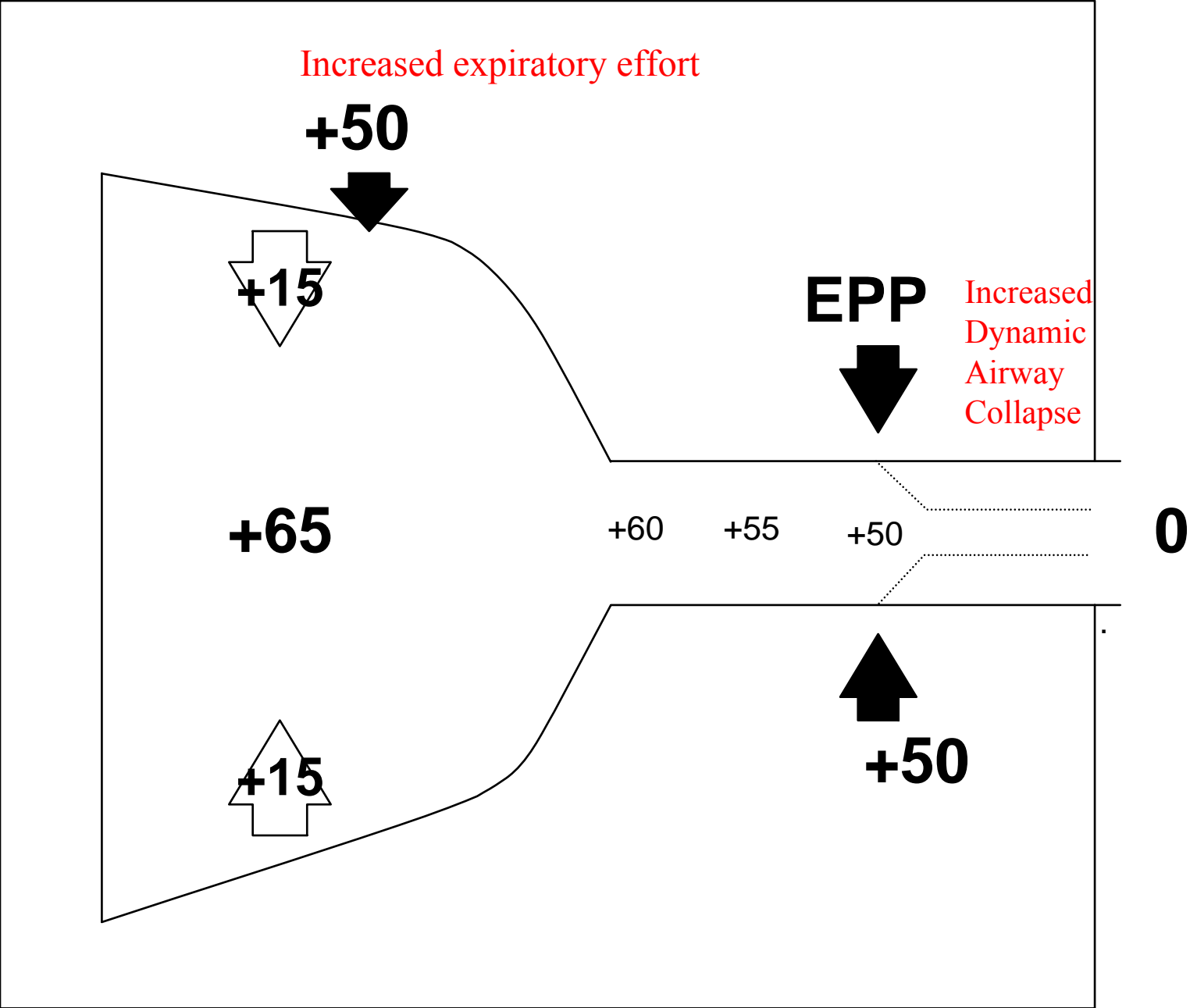
$P_A = 0$

+15

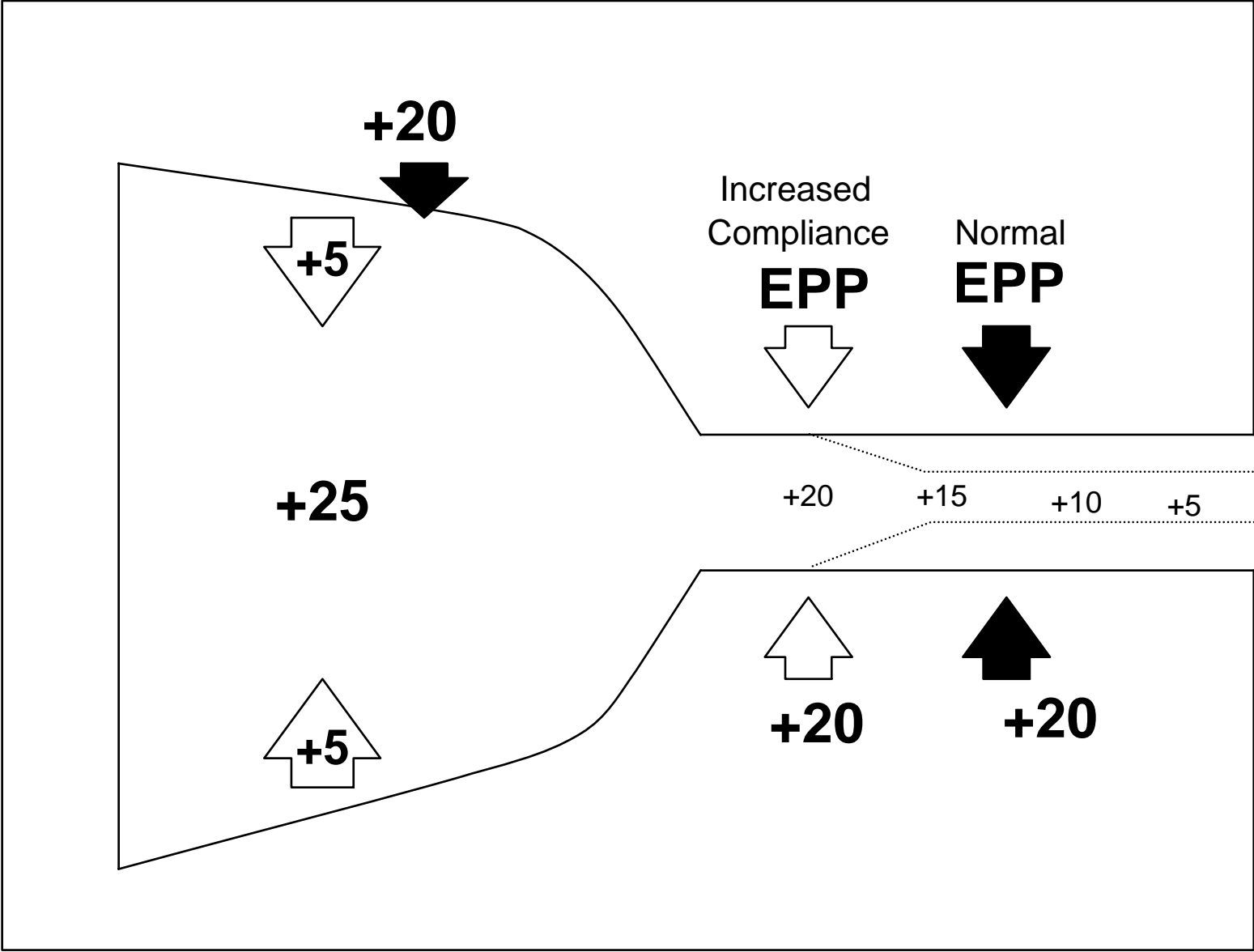
0

V=0 l/s





Dynamic Airway Compression with Increased Compliance



Dynamic Airway Compression: Increased Peripheral Resistance

