

PLEURAL EFFUSION

รศ.พ.อ.หญิง พญ.ชลิดา เลאהพันธ์
พ.ท.หญิง พญ.สุนิตรา ศิริธ่างกุล

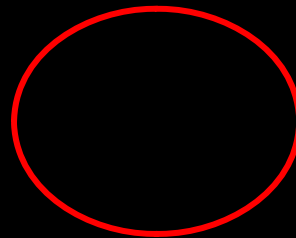
Anatomy of the pleura

**Surrounding lungs is a
very thin space called**

pleural space

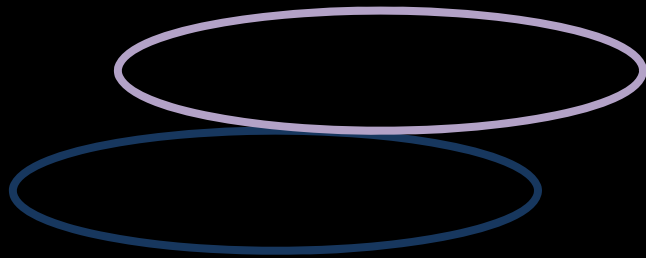


**Thin semi-permeable mb,
filled with a small
amount of fluid**



ANATOMY OF THE PLEURA

Bronchial a.
Vagus & sympathetic trunk
Mediastinal node
No sensory innervation



Intercostal & internal mammary a.
Intercostal & phrenic n.
Lymph connection

***tiny amount of fluid between 2 layers of pleura**
-lubricating oil between lungs & chest wall

Starling's equation

$$Q_v = K_f (P_c - P_{is}) - (\pi_{pl} - \pi_{is})$$

Q_v = rate of fluid movement/unit surface area of a capillary

K_f = capillary filtration coefficient

P_c = capillary hydrostatic pressure

P_{is} = hydrostatic pressure in the interstitial space
(\sim intrapleural pressure)

π_{pl} = plasma oncotic pressure

π_{is} = oncotic pressure in the interstitial space
(\sim oncotic pressure of the pleural liquid)