



UBA
UNIVERSIDAD DE
BUENOS AIRES

Seminario de Histología

1UA de Histología, Embriología, Biología Celular y Genética

Aparato Respiratorio

Objetivos



- Conocer las porciones del aparato respiratorio y su composición
- Conocer los diferentes tipos de epitelio y las células que los conforman
- Describir las funciones del aparato respiratorio
- Describir la histología de la traquea y del pulmón
- Describir la barrera hemato-alveolar

QUE PREDOMINA??? CELULA O MEC??-> ¡CLASIFICACION!

4 TEJIDOS
BÁSICOS

EPITELIAL

CONECTIVO

MUSCULAR

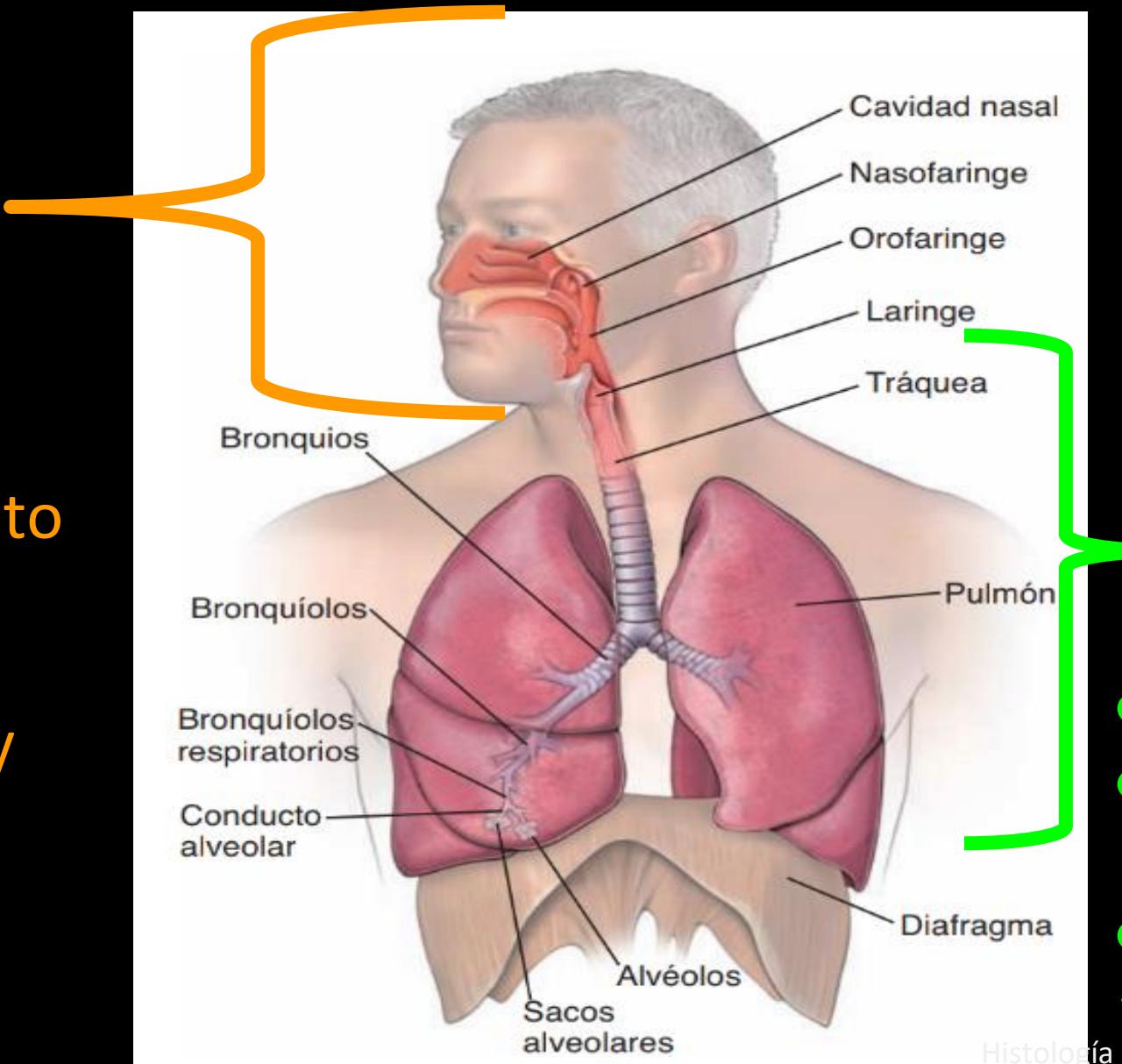
NERVIOS
O

APARATOS Y SISTEMAS

CLASIFICACIÓN GENERAL Y FUNCIONES

VIA AEREA SUPERIOR

- Conducción
- Acondicionamiento
- Olfacción
- Fonación
- Función inmune y neuroendócrina

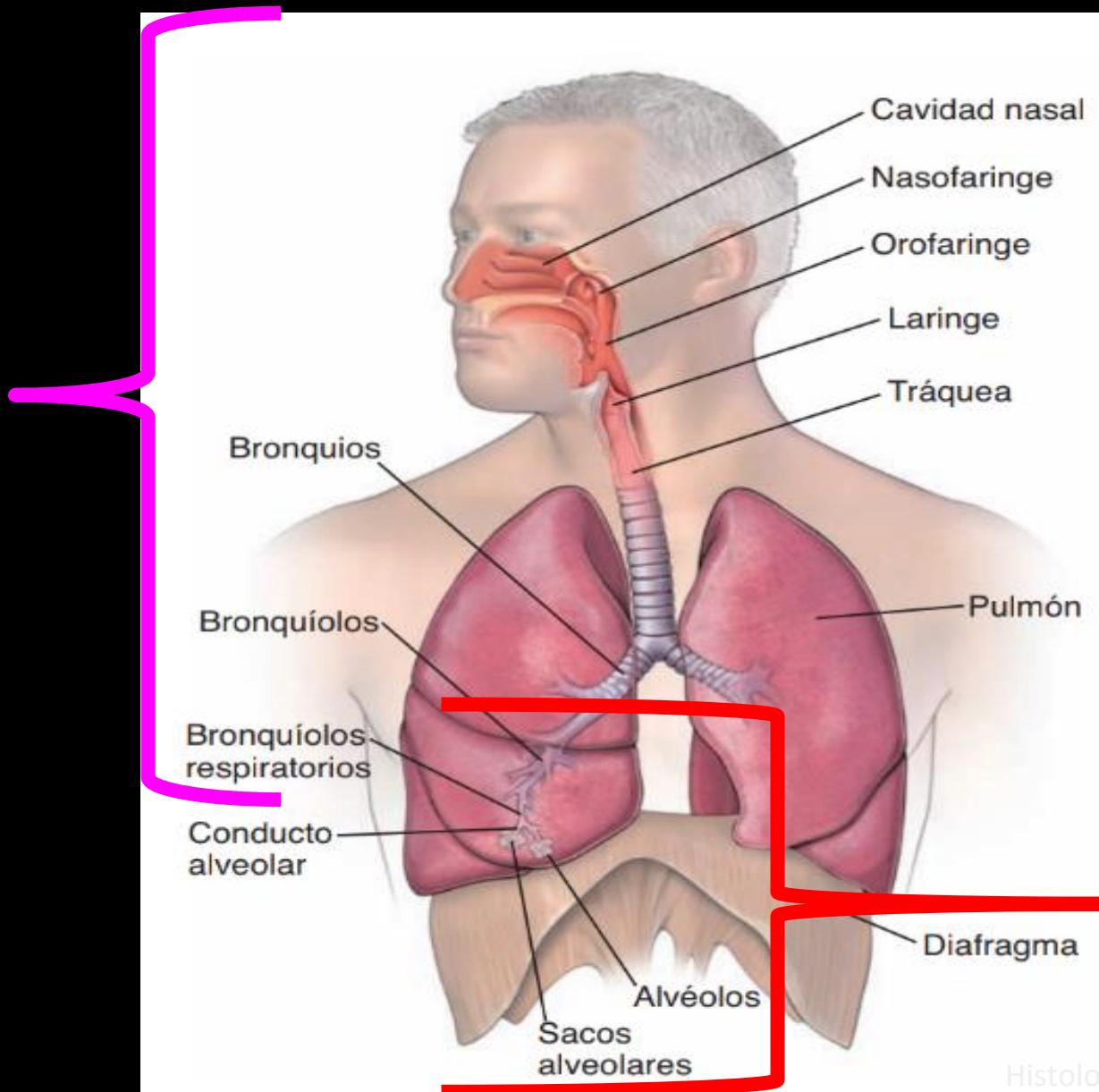


VIA AEREA INFERIOR

- Conducción
- ¡Hematosis! (Respiración)
- Función inmune y neuroendócrina

CLASIFICACIÓN GENERAL Y FUNCIONES

PORCIÓN
CONDUCTORA

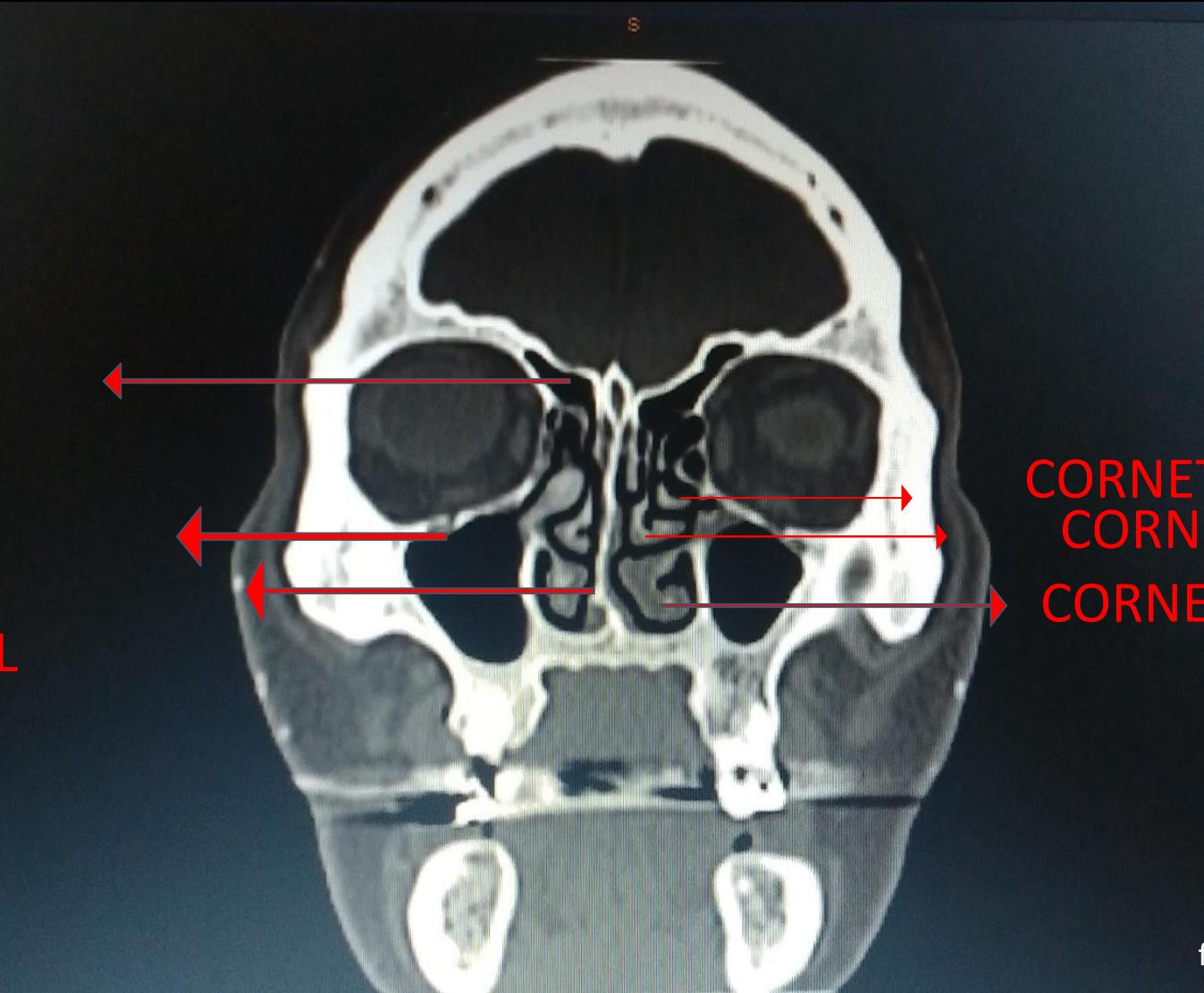


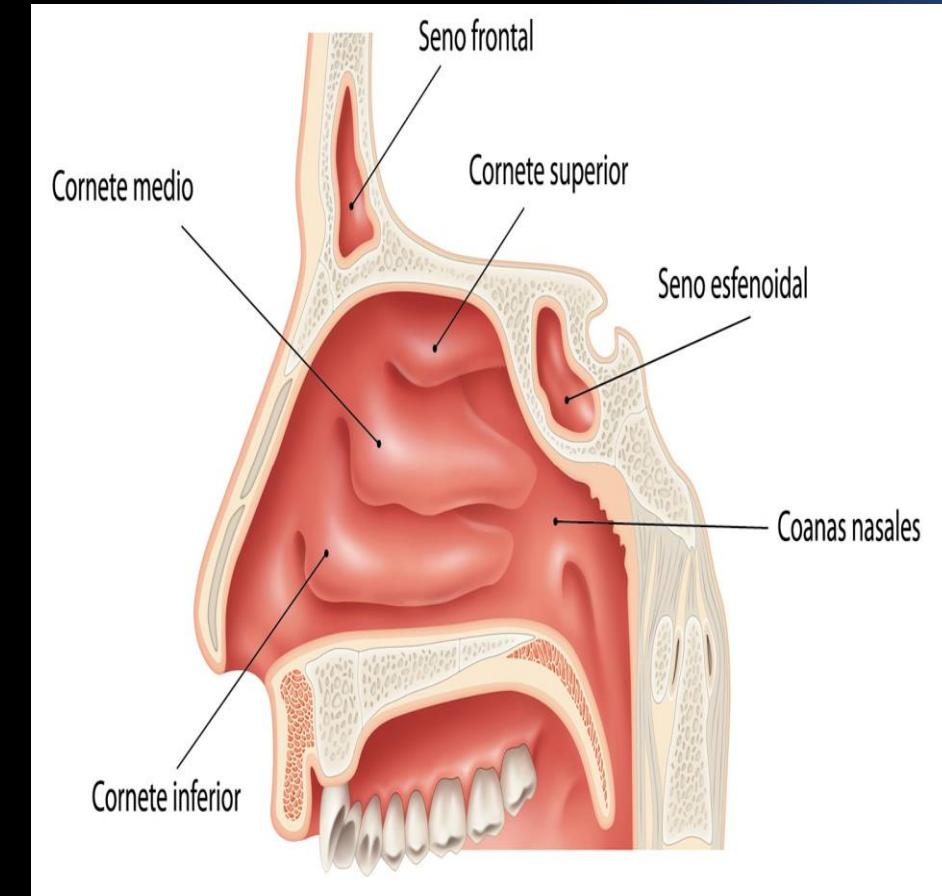
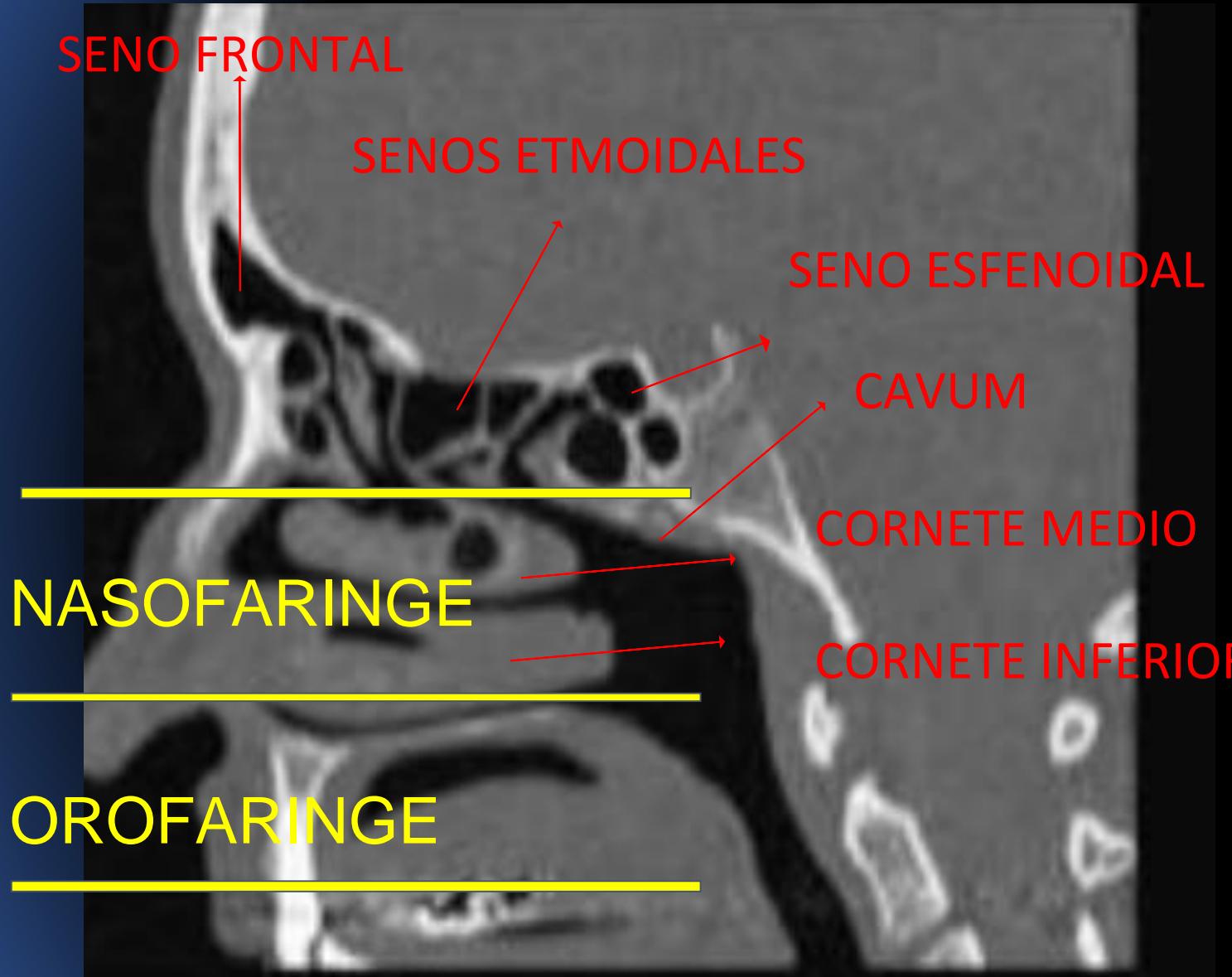
PORCIÓN
RESPIRATORIA

PORCIÓN CONDUCTORA

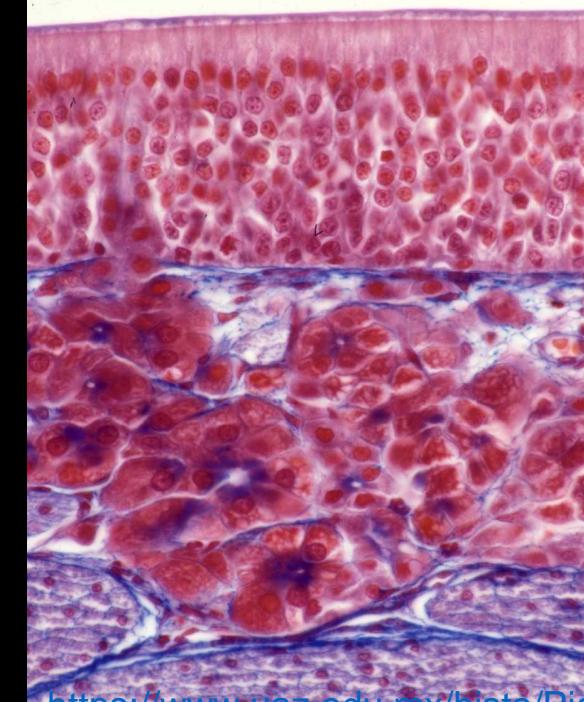
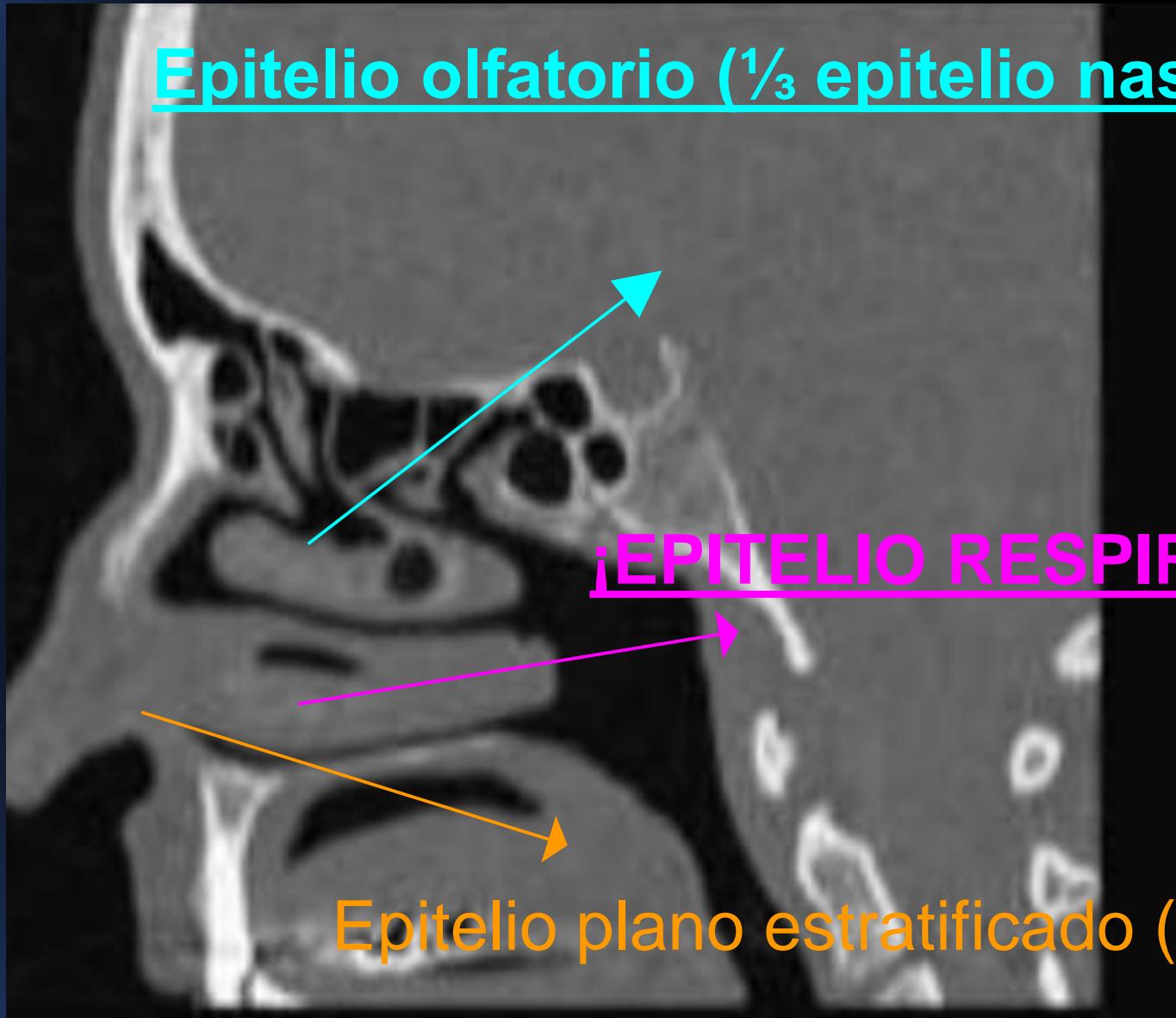
CAVIDAD NASAL Y NASO-OROFARINGE

SENO ETMOIDAL
SENO MAXILAR
SEPTUM NASAL

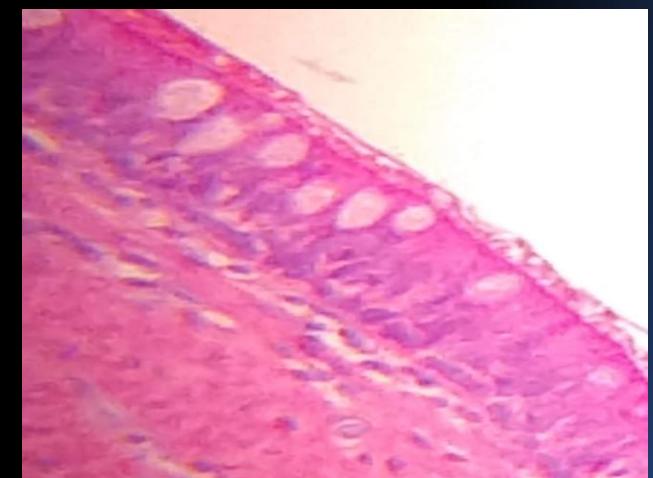




Epitelio olfatorio ($\frac{1}{3}$ epitelio nasal)

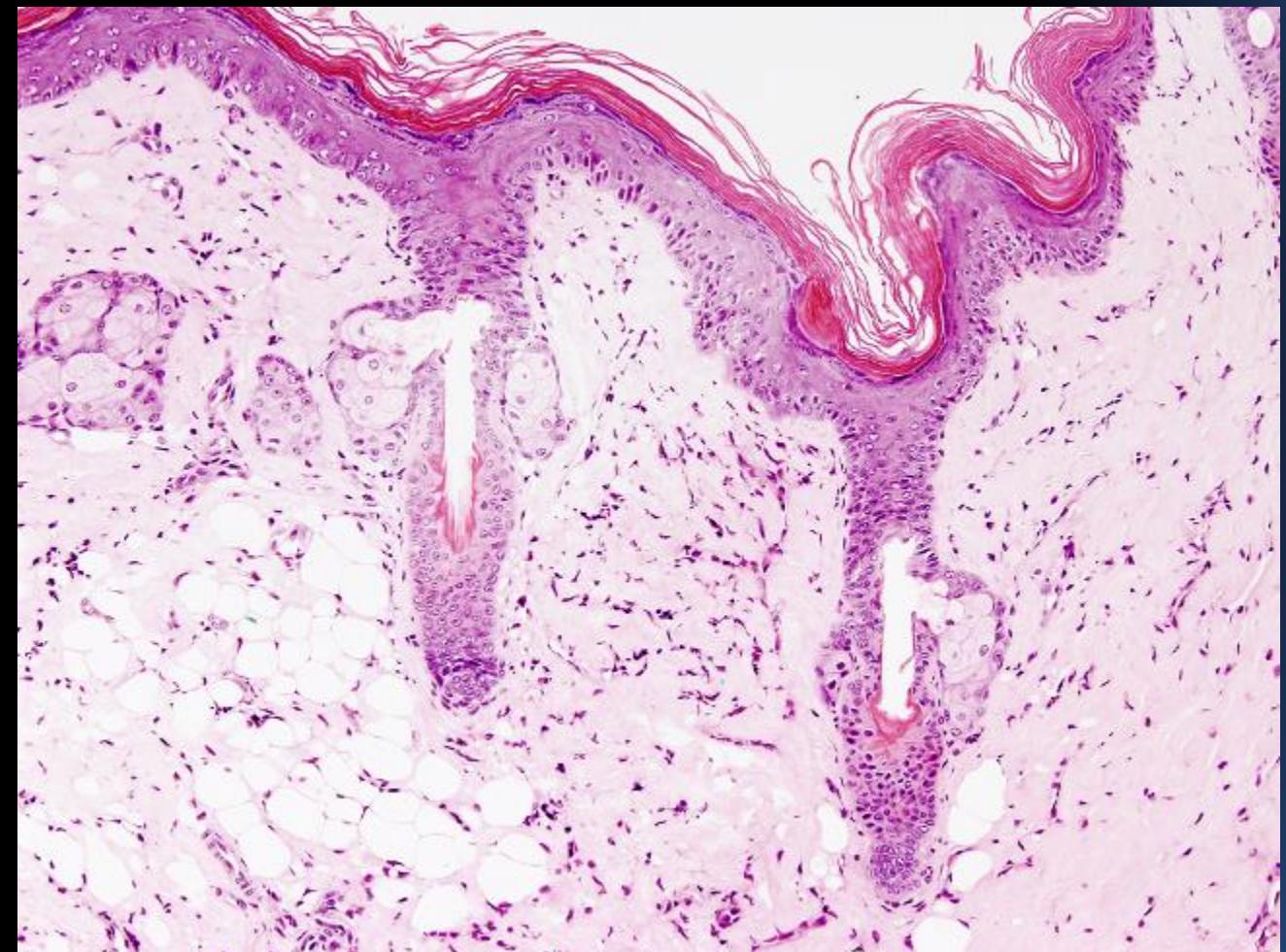


EPITELIO RESPIRATORIO! ($\frac{2}{3}$ epitelio nasal)

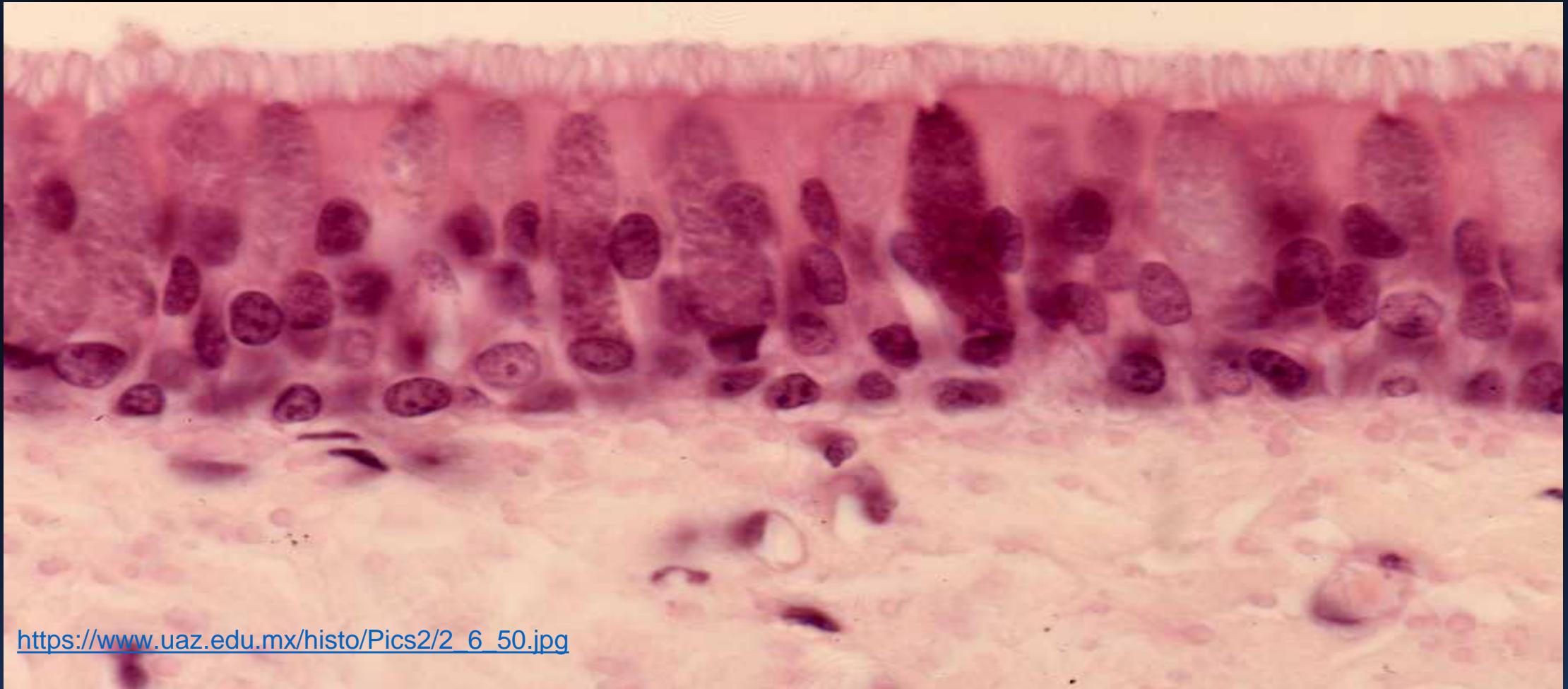


Epitelio plano estratificado (piel fina)

Epitelio plano estratificado: vestíbulo nasal



¡EPITELIO RESPIRATORIO!



https://www.uaz.edu.mx/histo/Pics2/2_6_50.jpg

EPITELIO RESPIRATORIO

EPITELIO CILINDRICO
PSEUDOESTRATIFICADO CILIADO CON
CELULAS CALICIFORMES

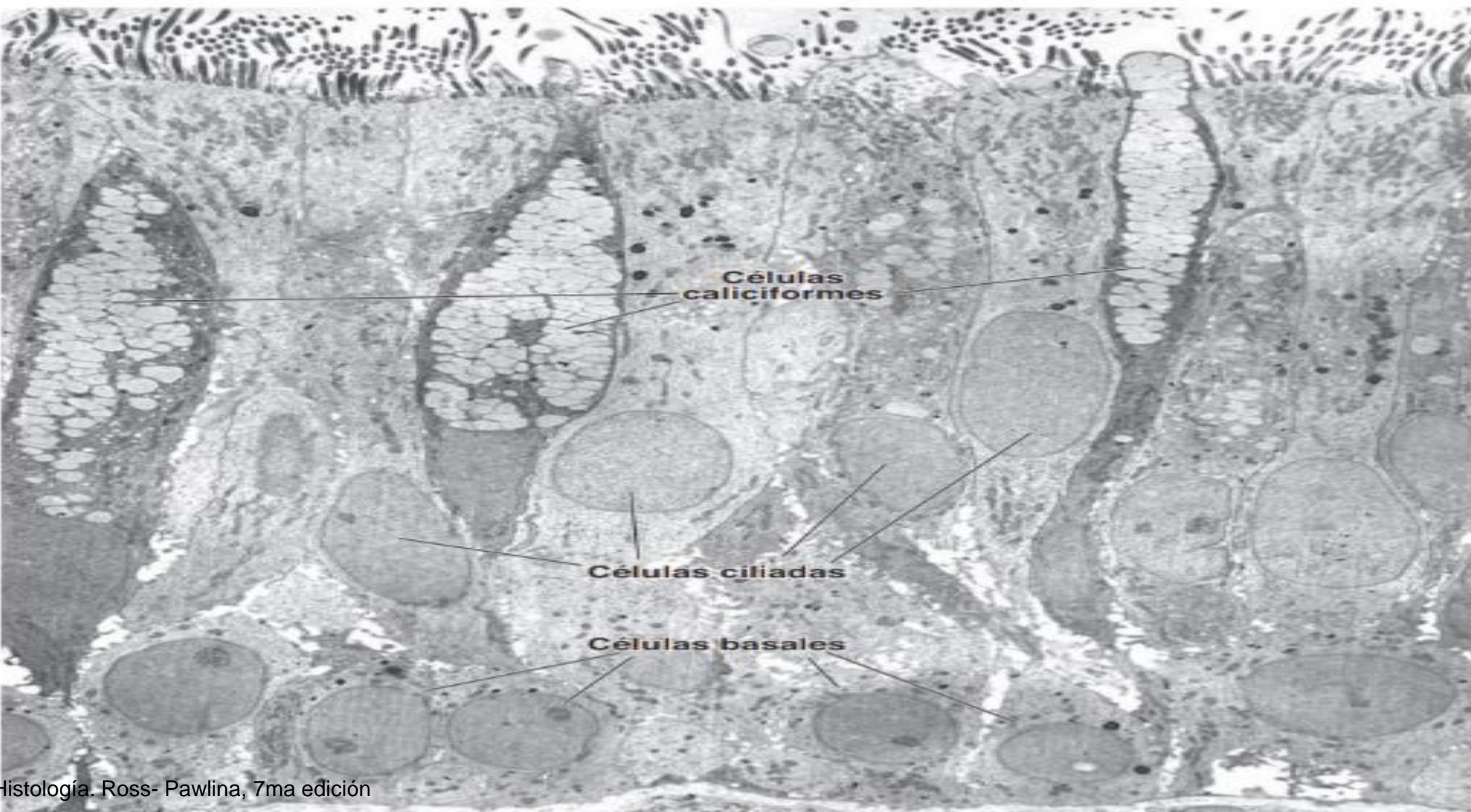
CELULAS
CILIADAS

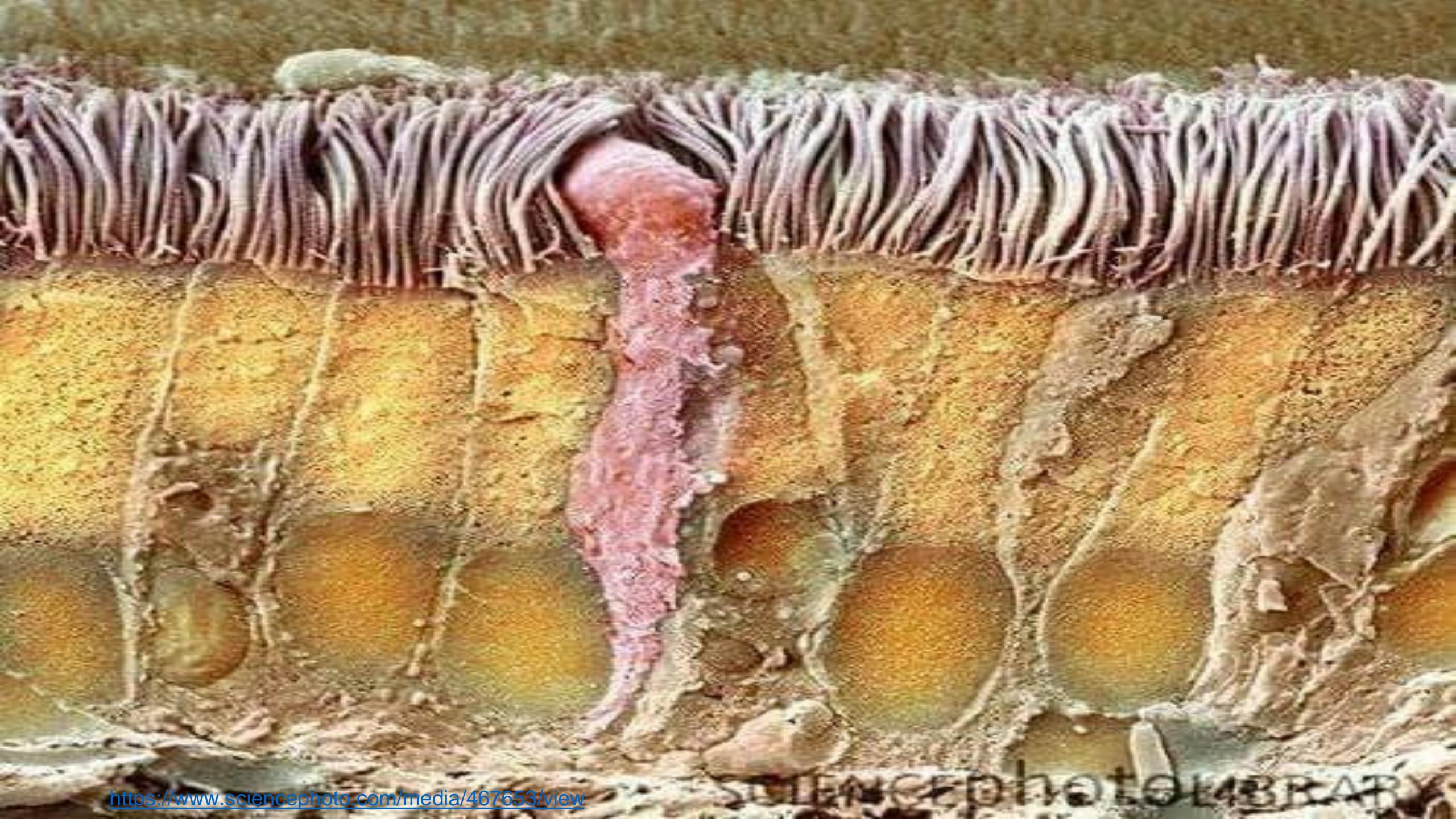
CELULAS
EN CEPILLO

CELULAS
GRANÚLOS
PEQUEÑO

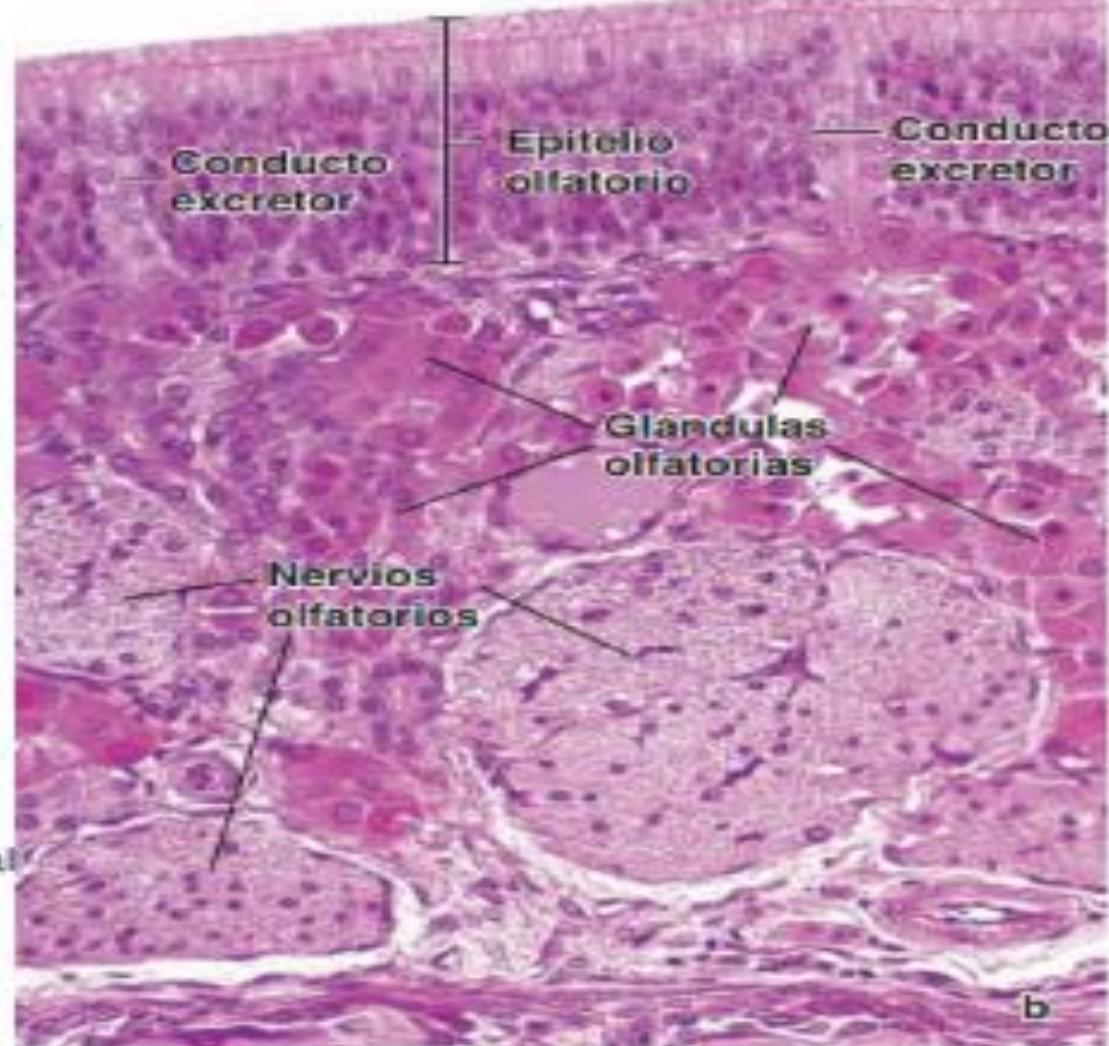
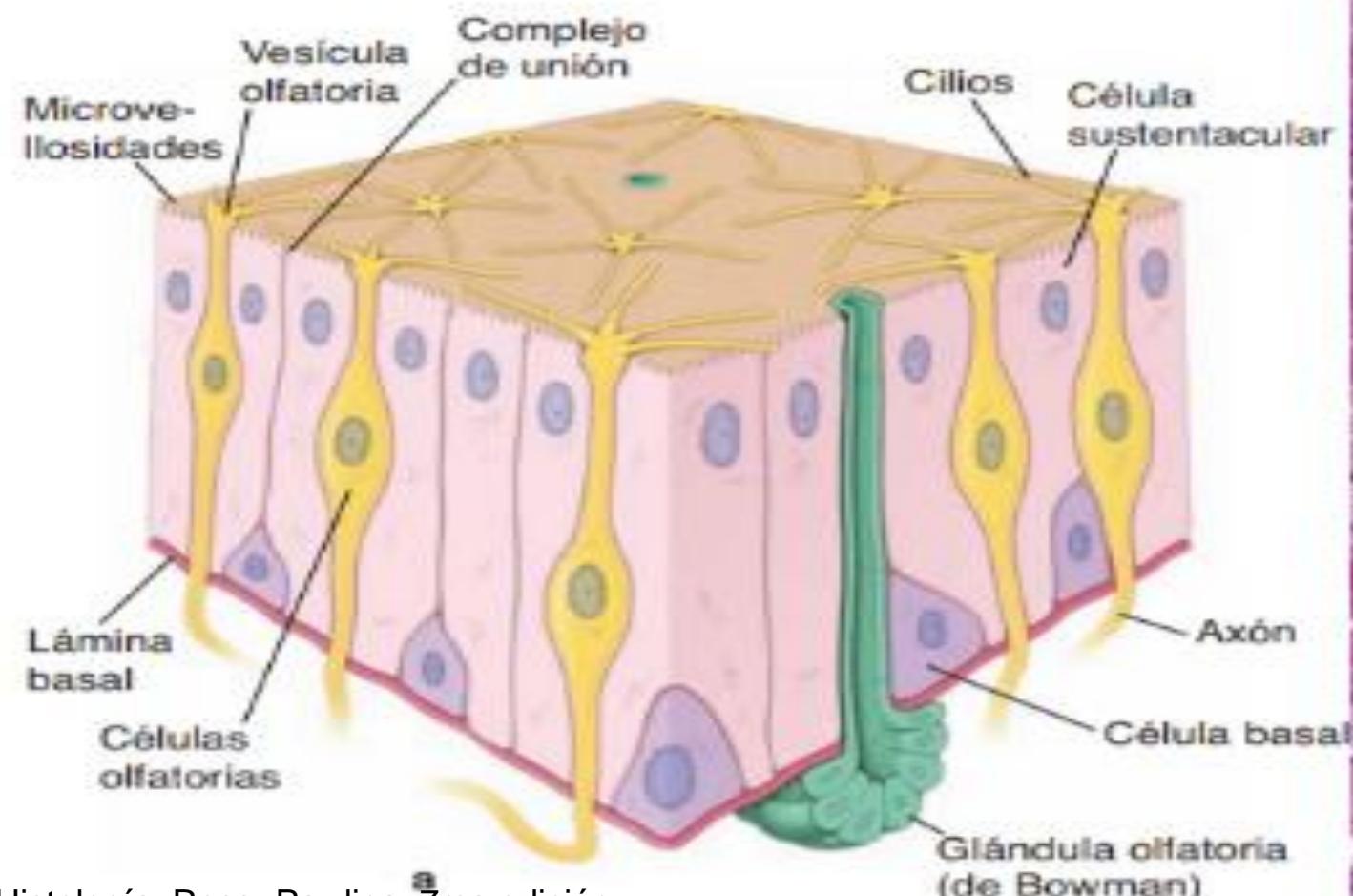
CELULAS
CALICIFORMES

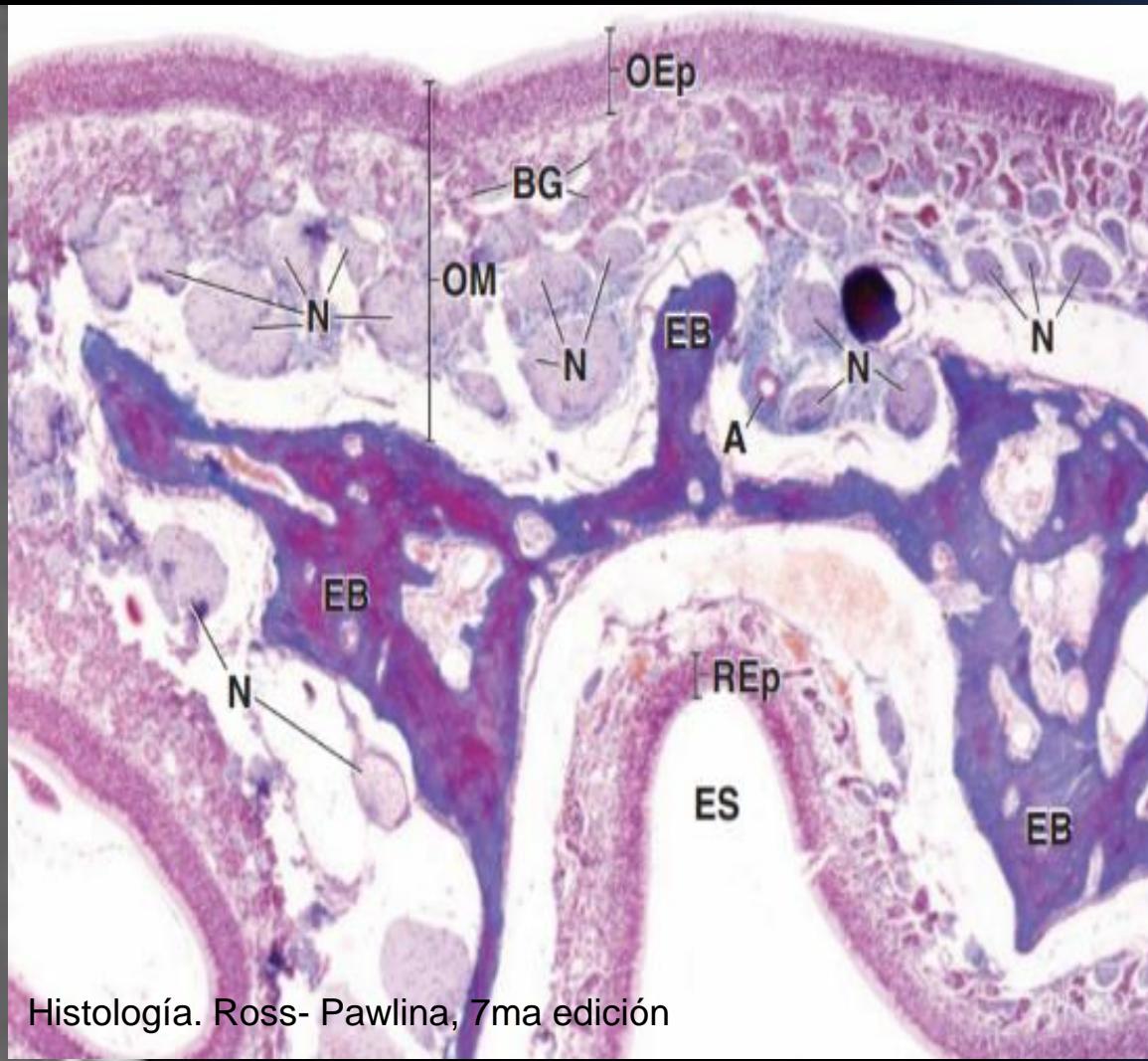
CELULAS
BASALES



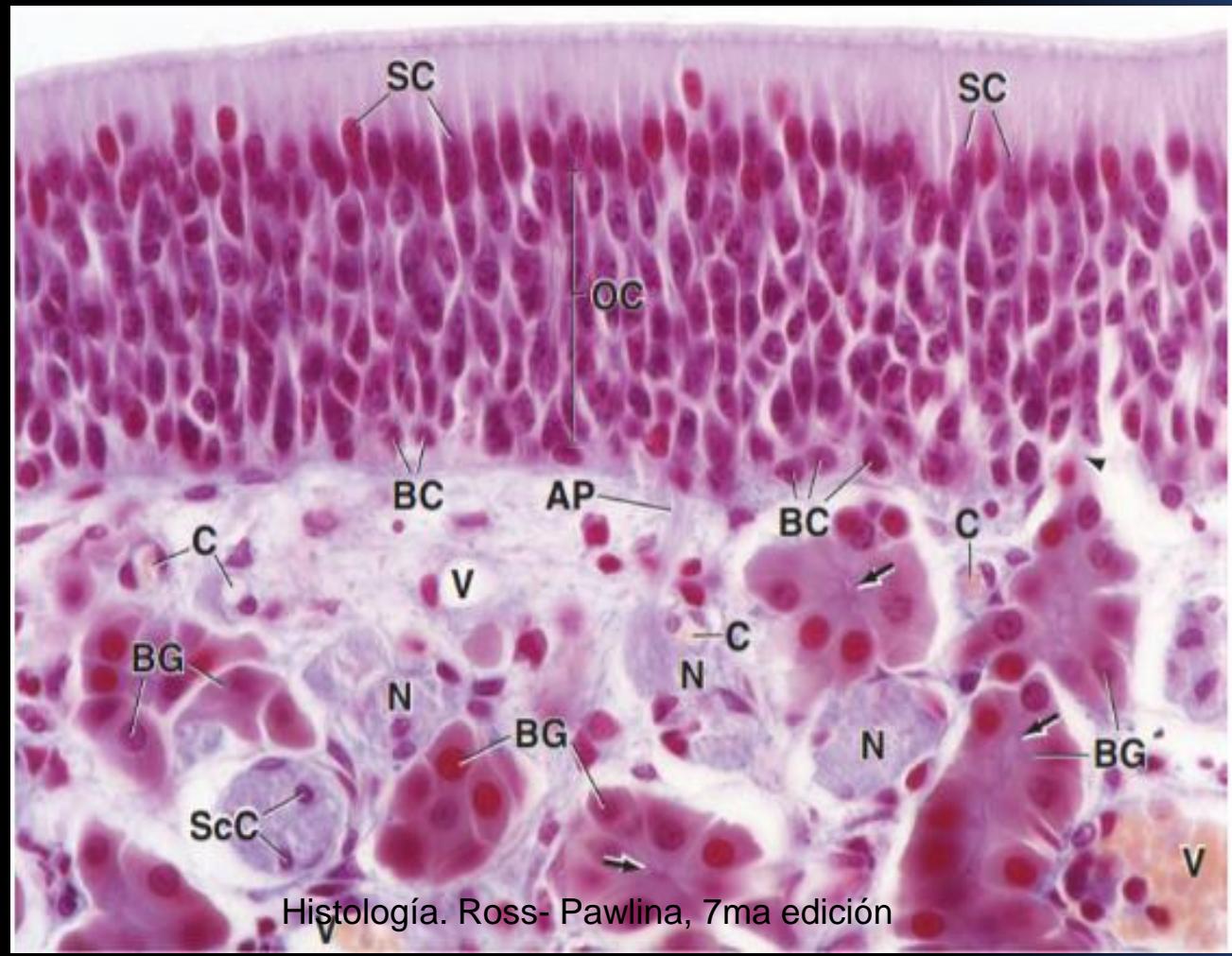
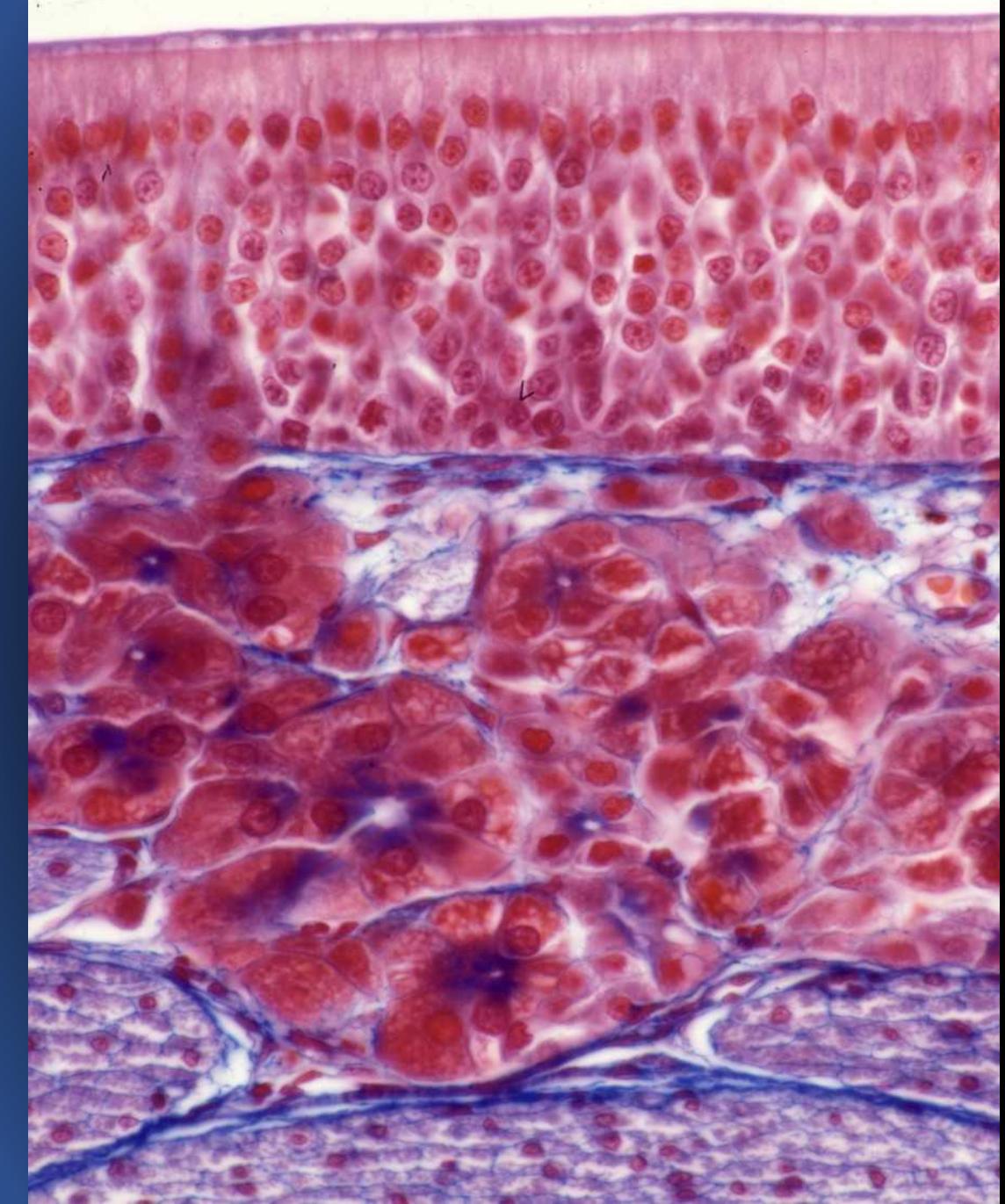


Epitelio Olfatorio

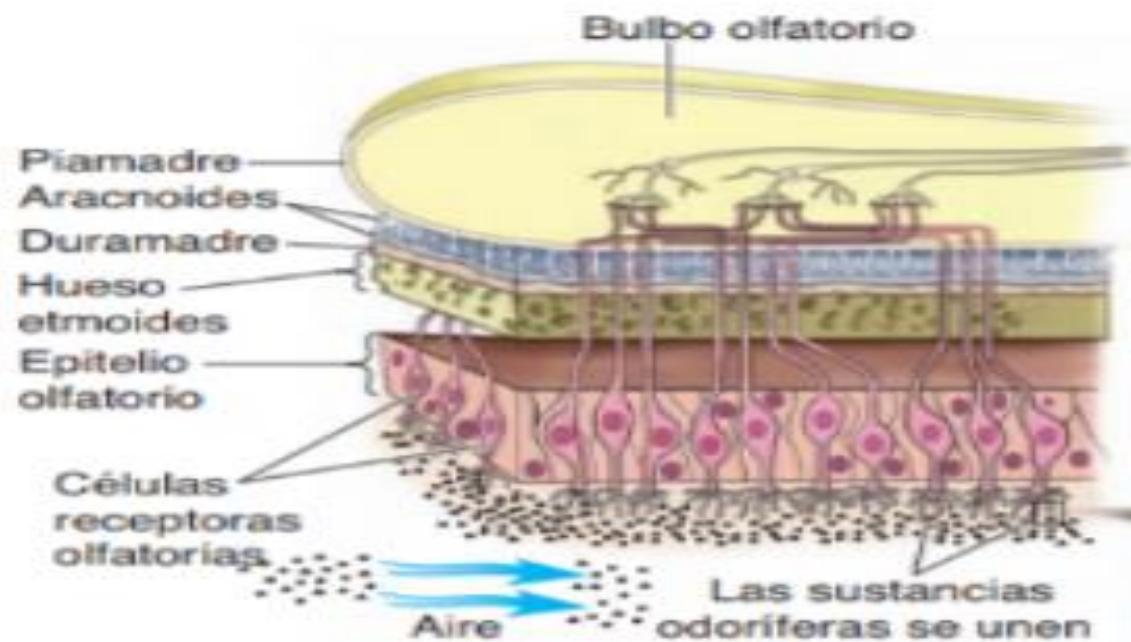




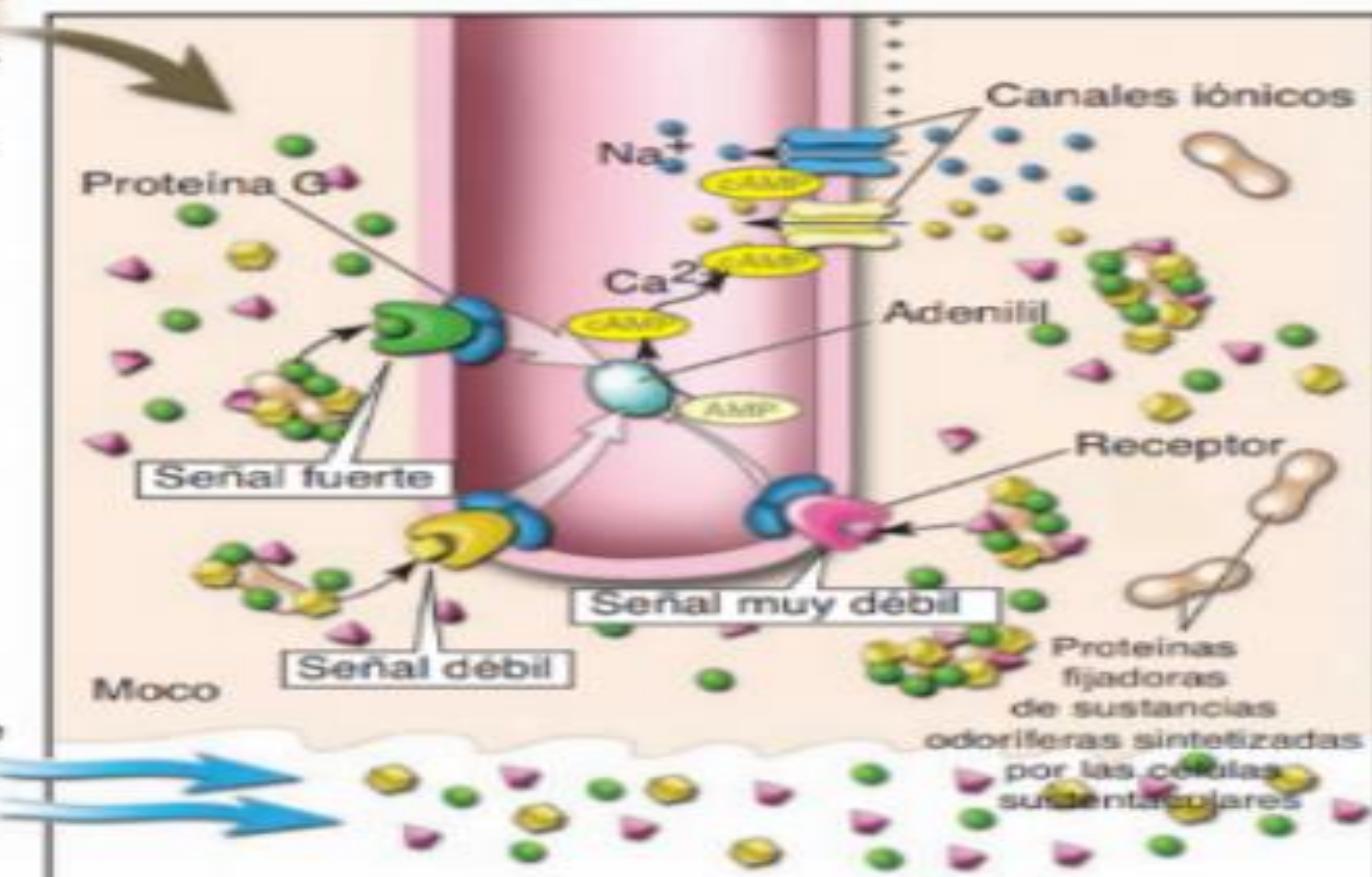
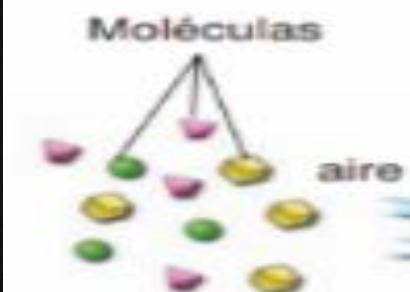
Histología. Ross- Pawlina, 7ma edición



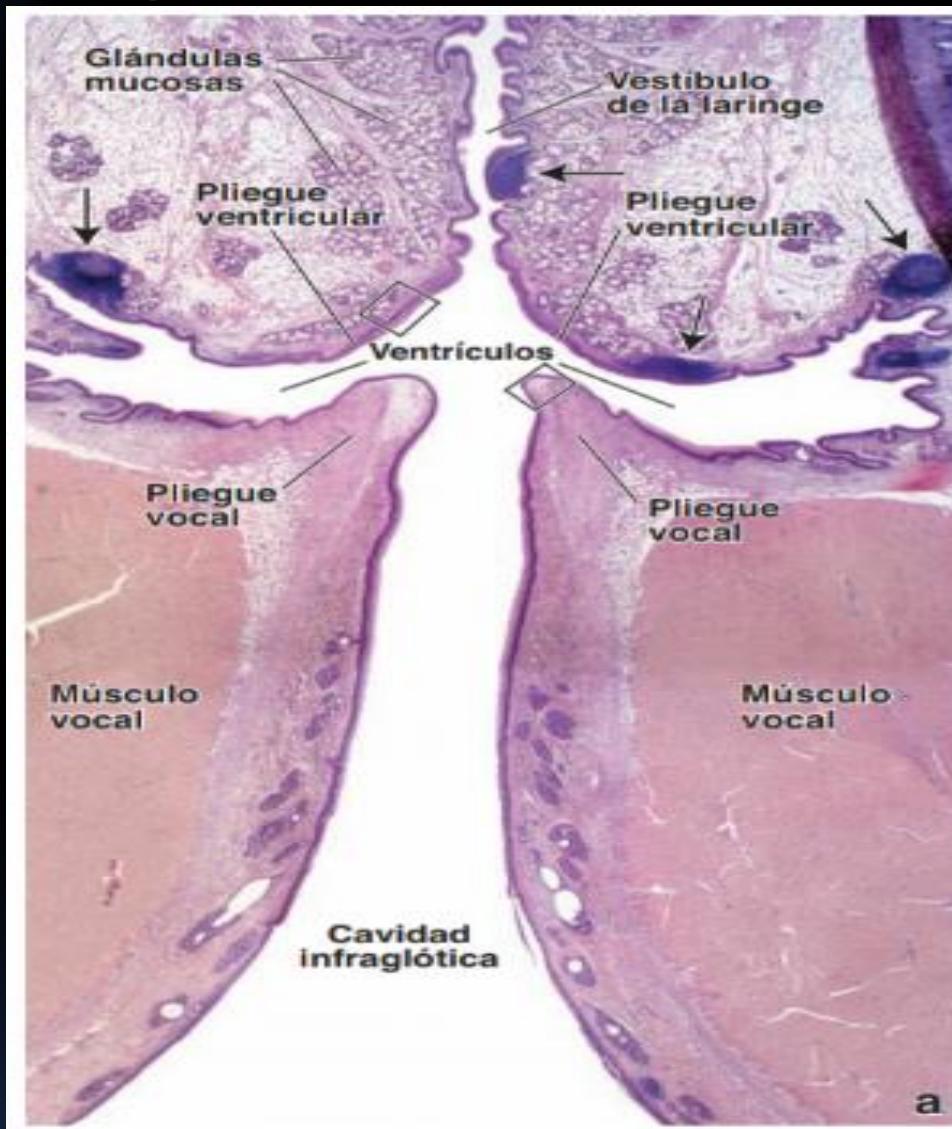
Histología. Ross- Pawlina, 7ma edición



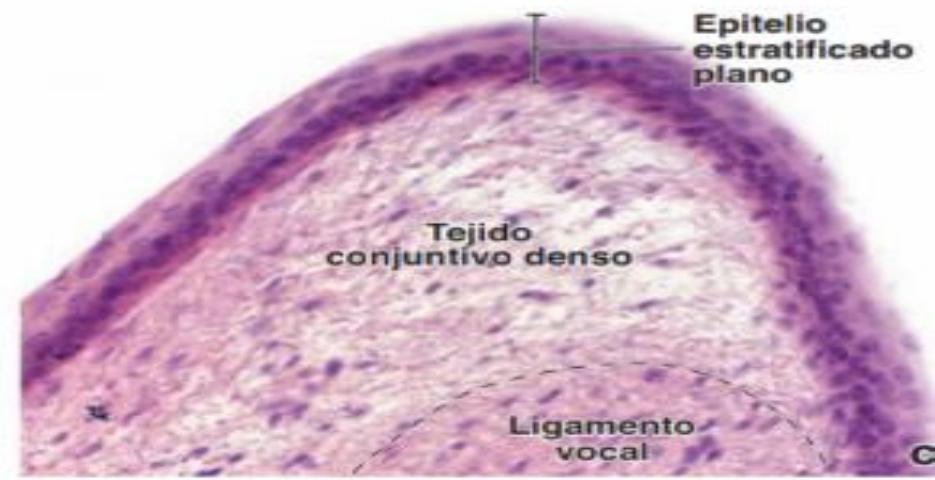
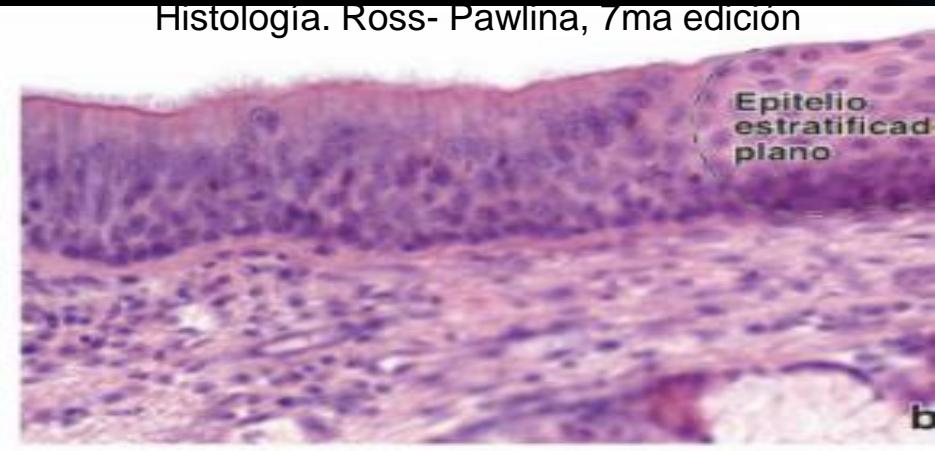
Las sustancias odoríferas se unen a las proteínas fijadoras de sustancias odoríferas



Laringe

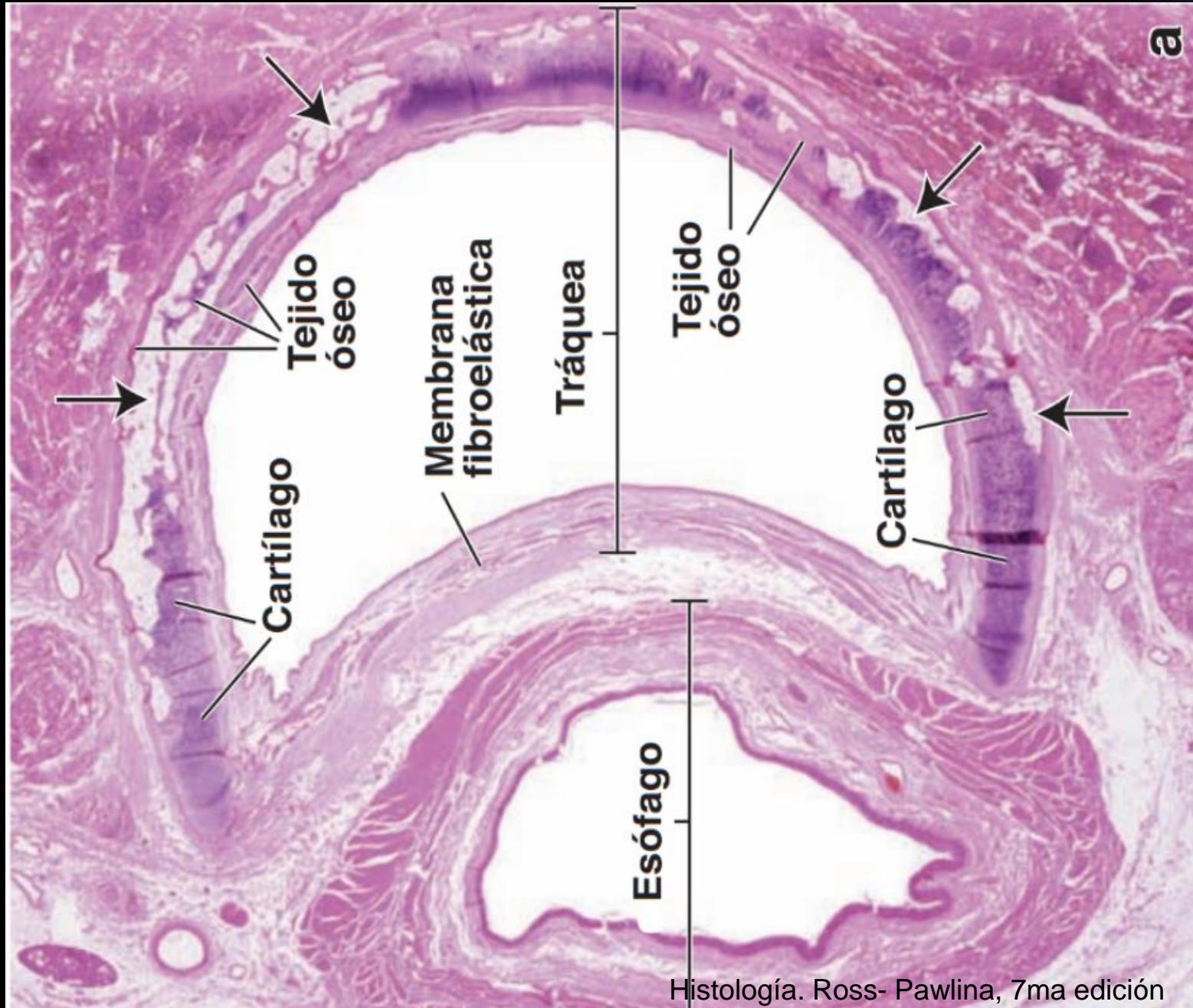


Histología. Ross- Pawlina, 7ma edición



Video

Tráquea



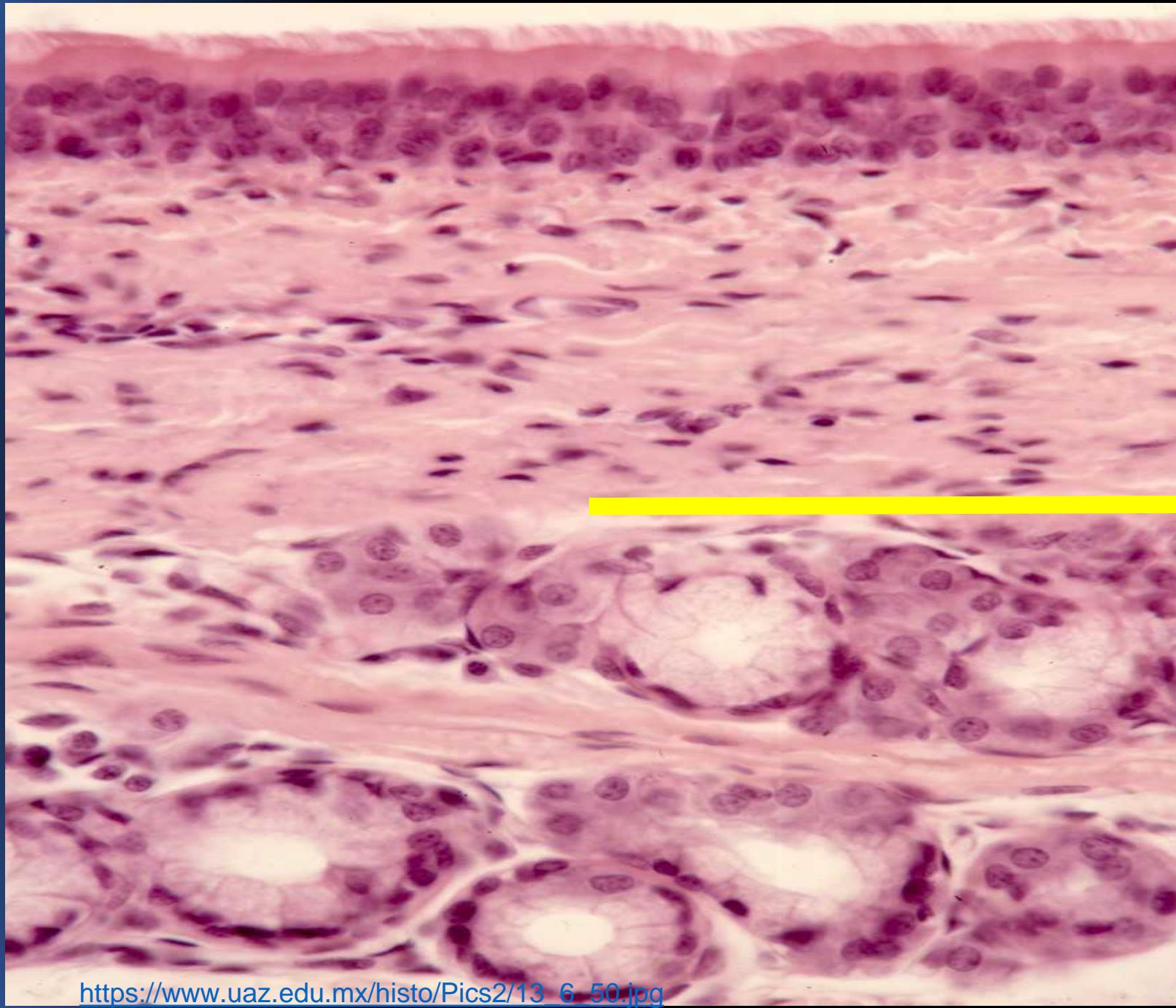


Mucosa

Submucosa

**Capa cartilaginosa +
Fibroelastica/
músculocartilaginosa**

Adventicia



**Mucosa
Ep. Respiratorio**

**Lámina propia TCCL
(Puede contener malt)**

**Submucosa
TCCL + acinos
Mucosos y mixtos**

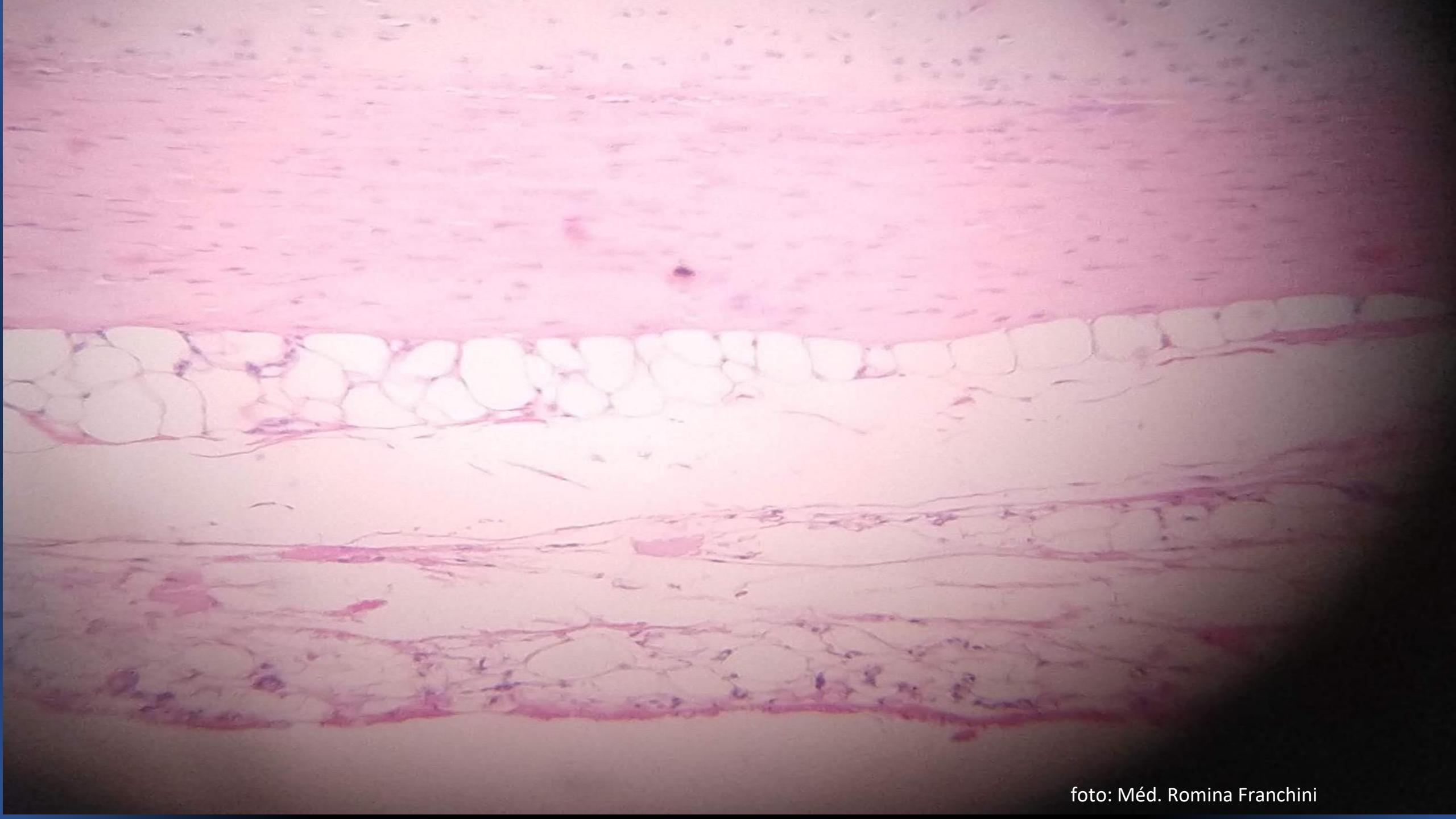
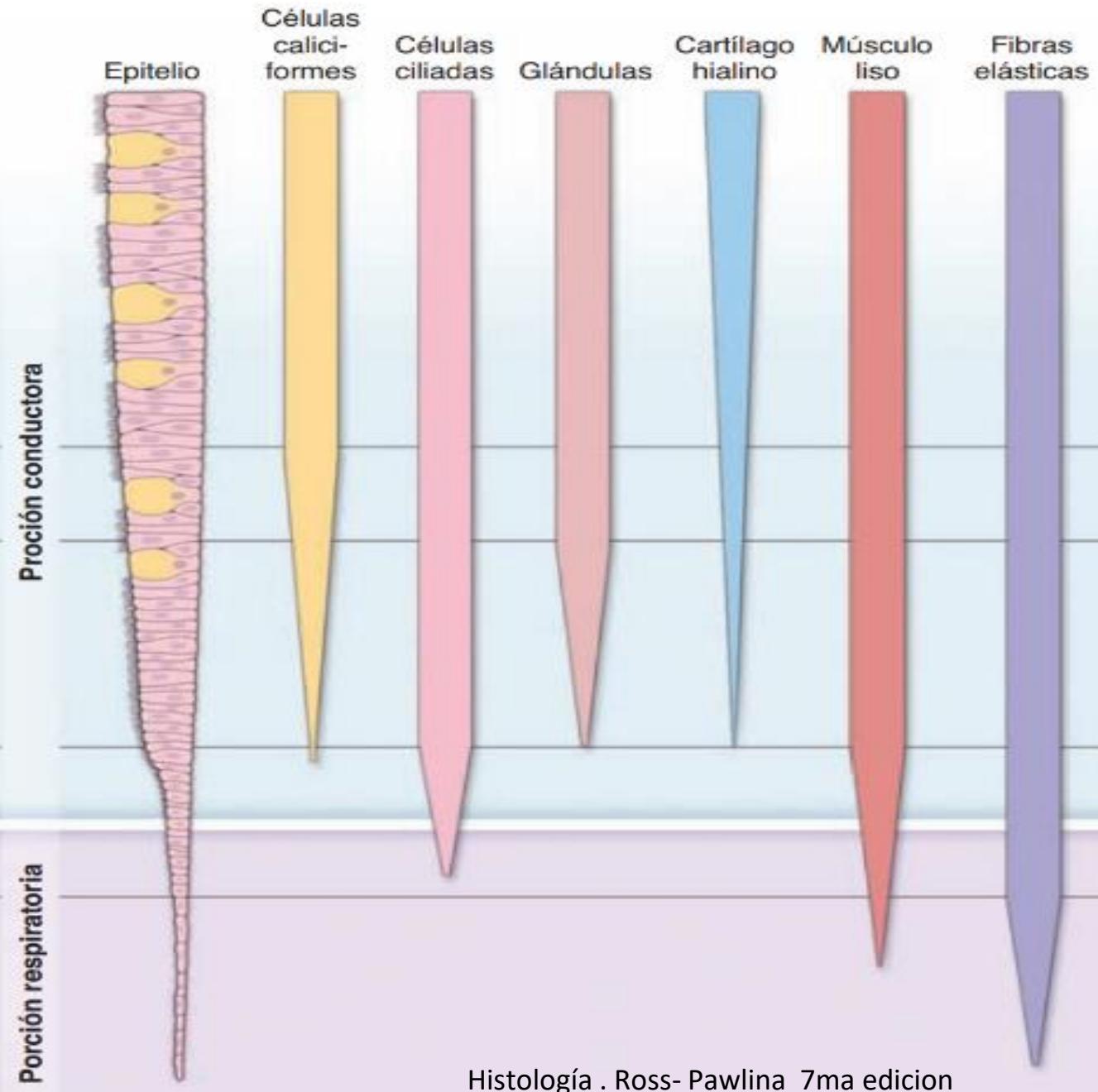
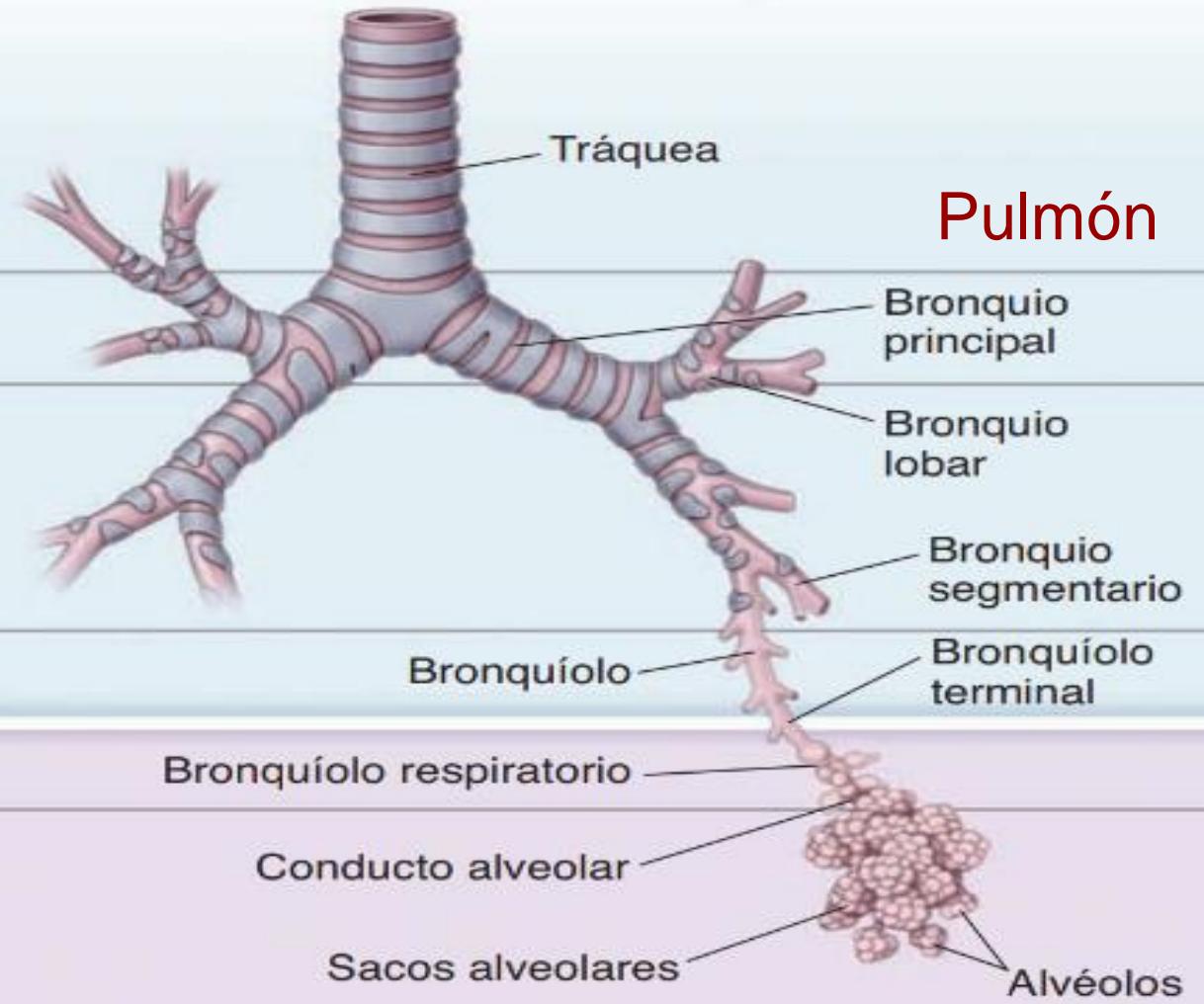


foto: Méd. Romina Franchini



Pulmón

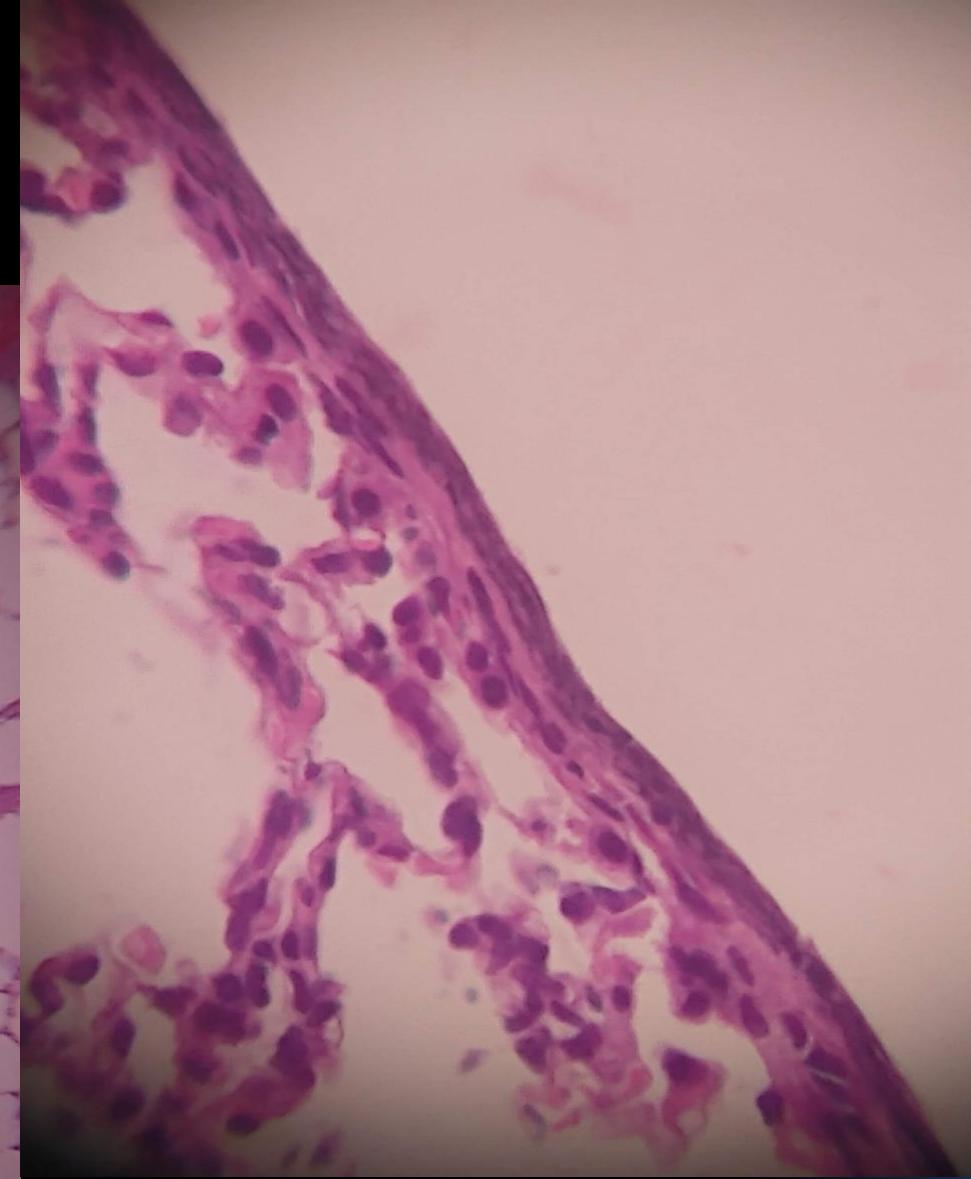
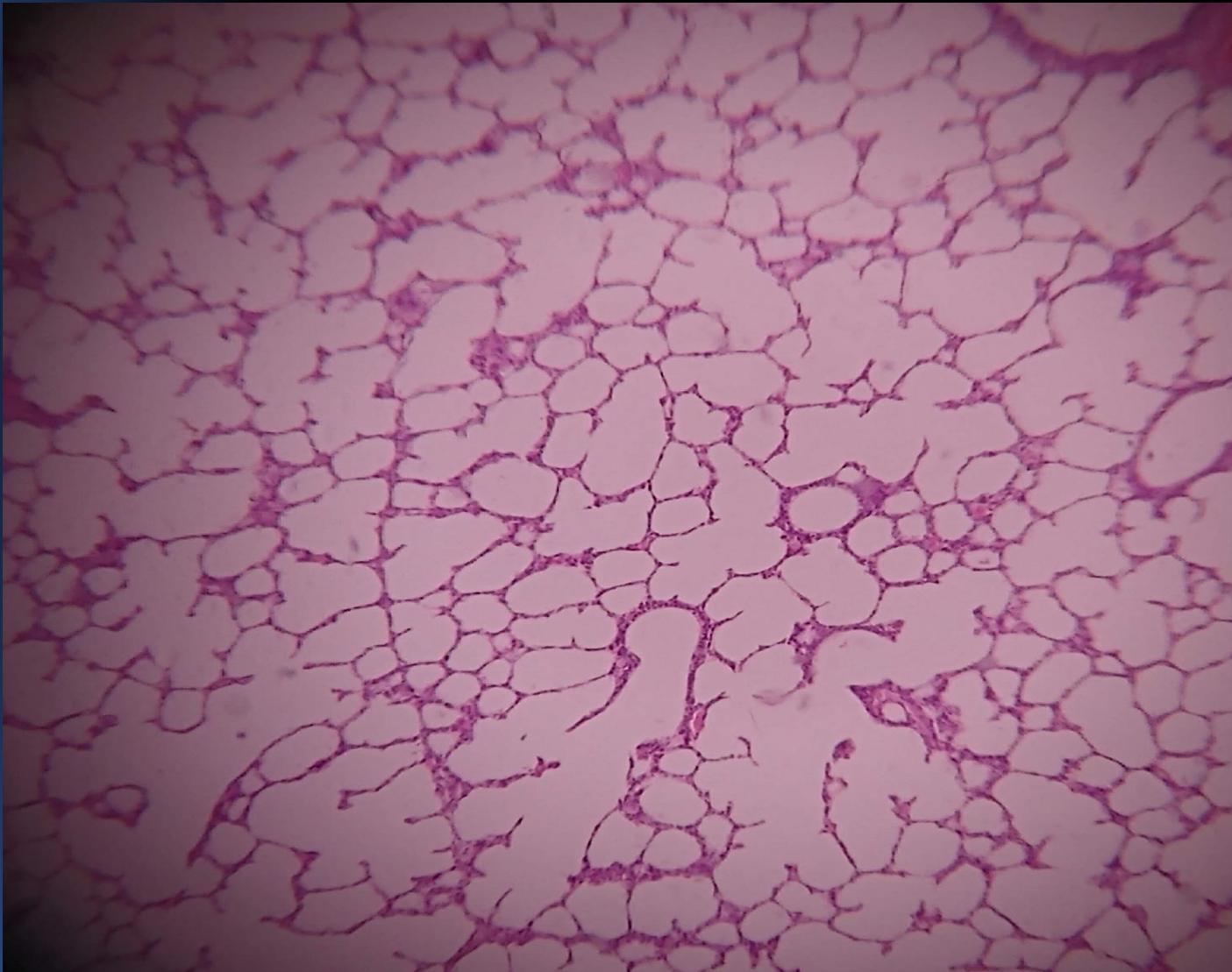
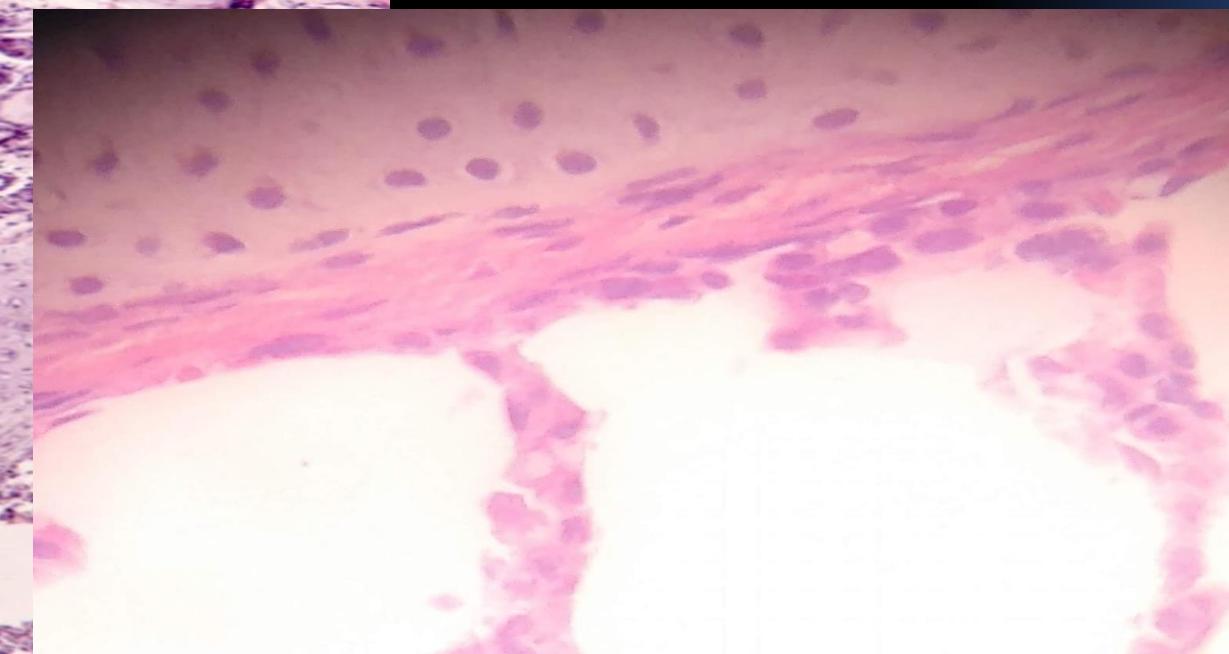
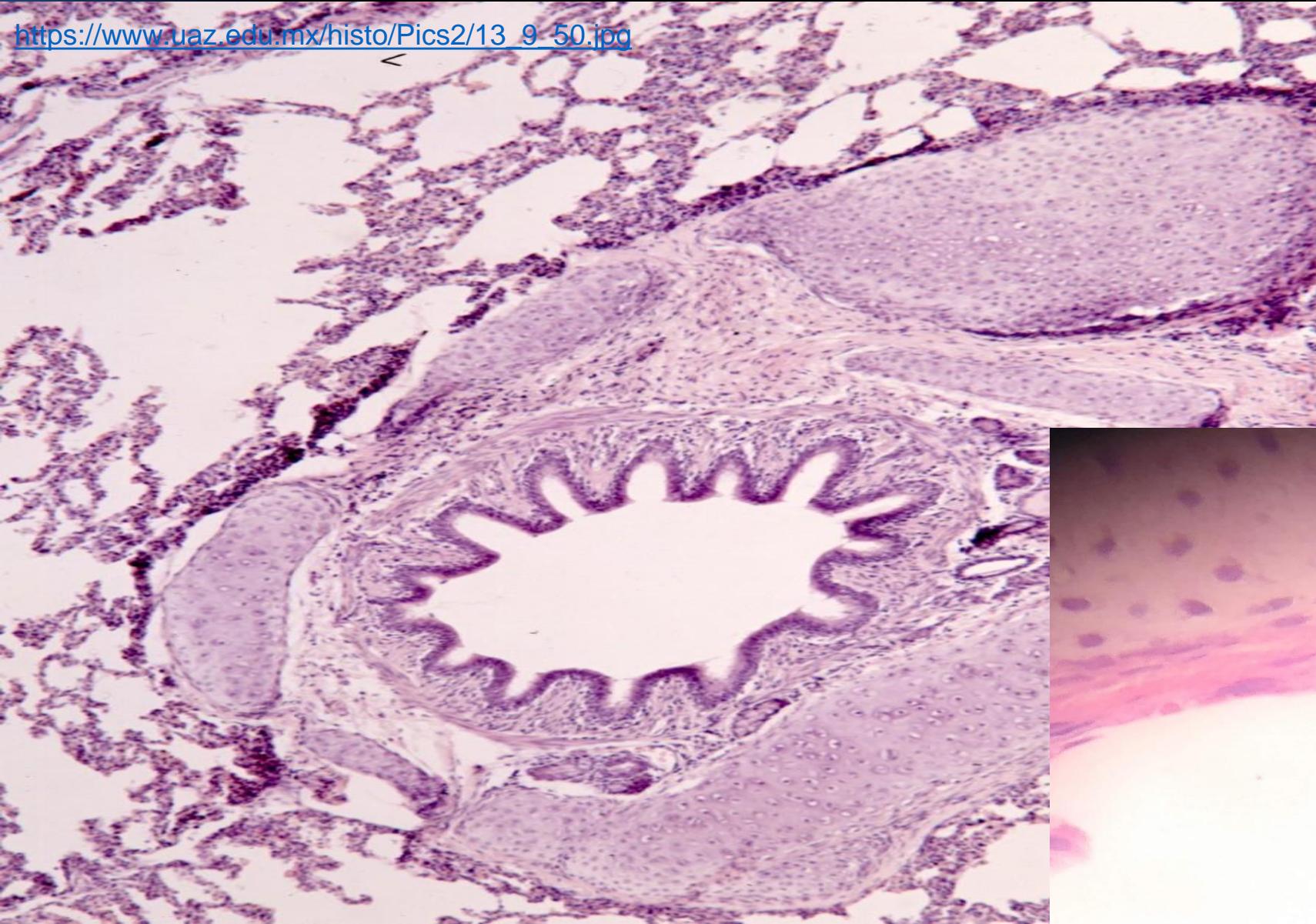


foto: Méd. Romina Franchini

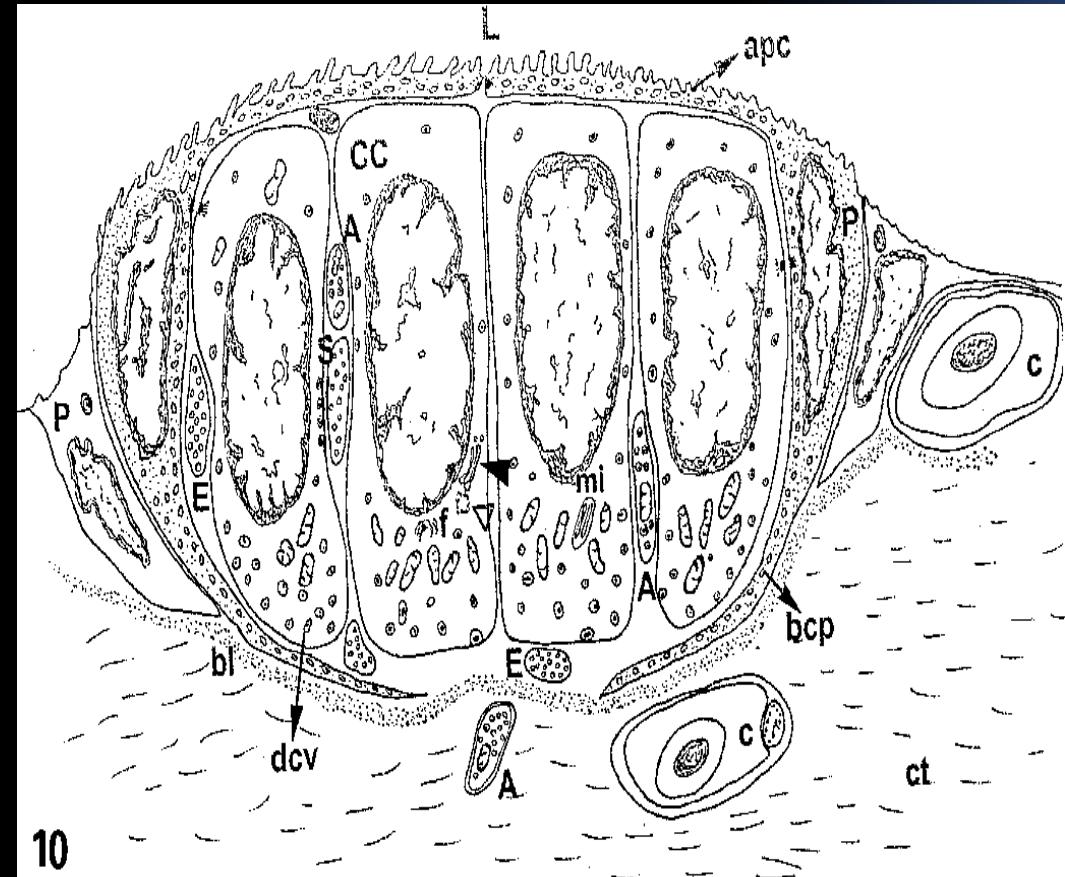
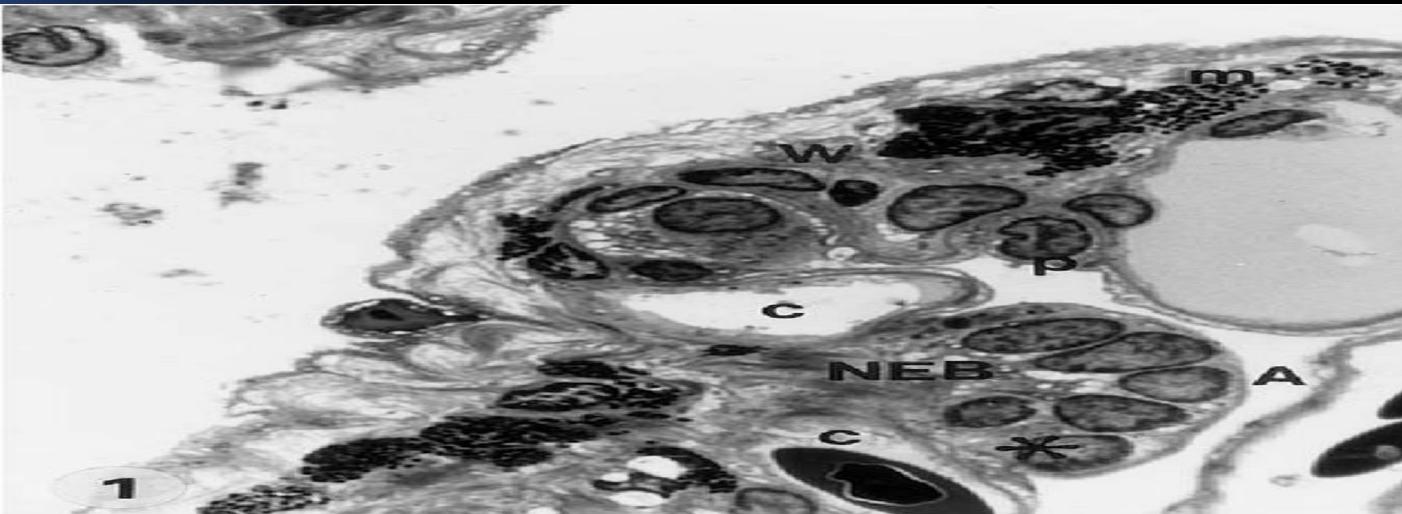
Bronquios intrapulmonares

foto: Méd. Romina Franchini

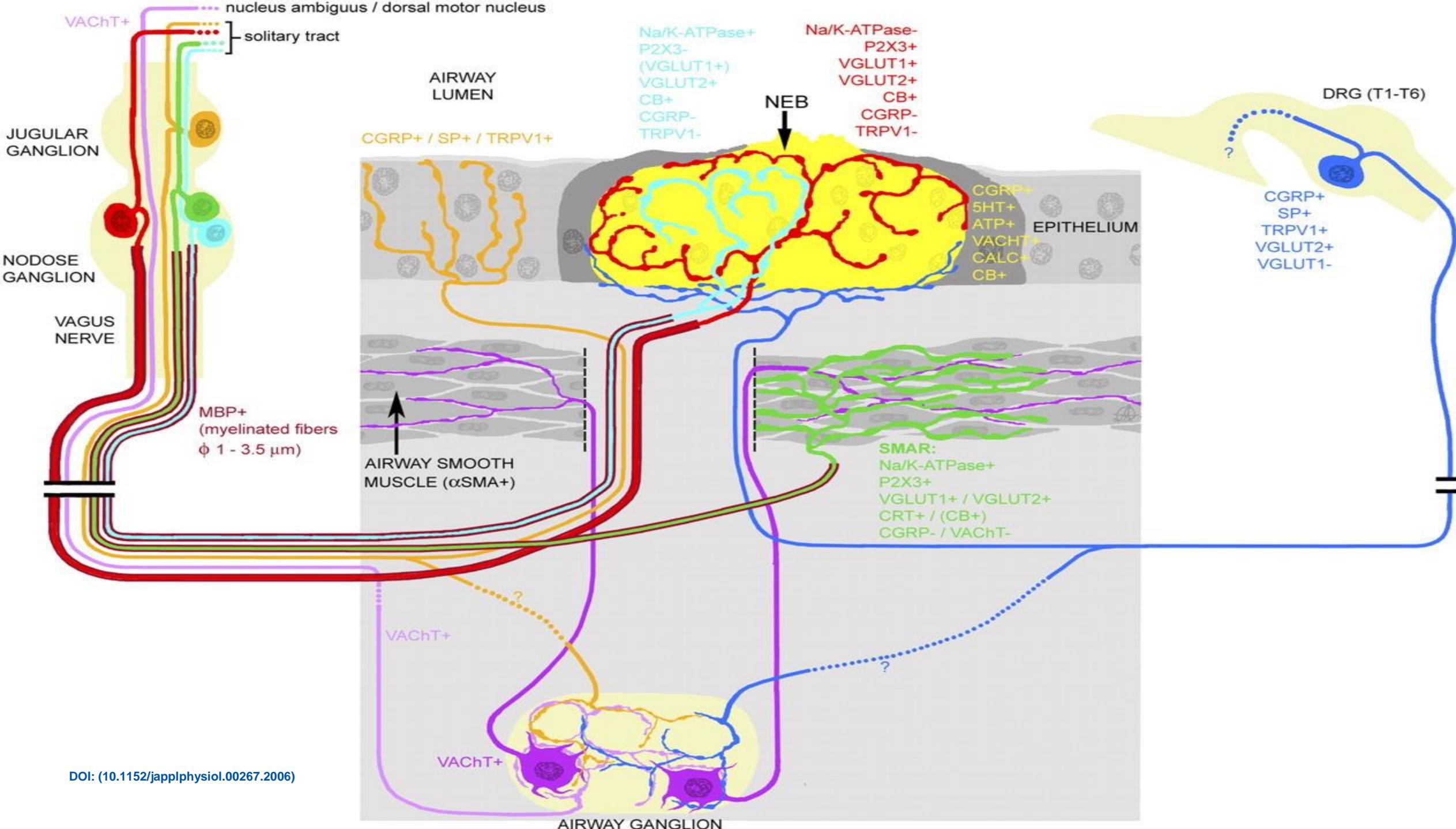
https://www.uaz.edu.mx/histo/Pics2/13_9_50.jpg



Cuerpos neuroepiteliales: sistema neuroendócrino difuso pulmonar



Neuroepithelial bodies in the lung of *Melanophrynniscus stelzneri*
Stelzneri (Anura, Bufonidae) Hermida, Cotera Fariás, FioritoBiology,
MedicineAnatomy and Embryology2003



Bronquíolos propiamente dichos: Ep. bronquiolar

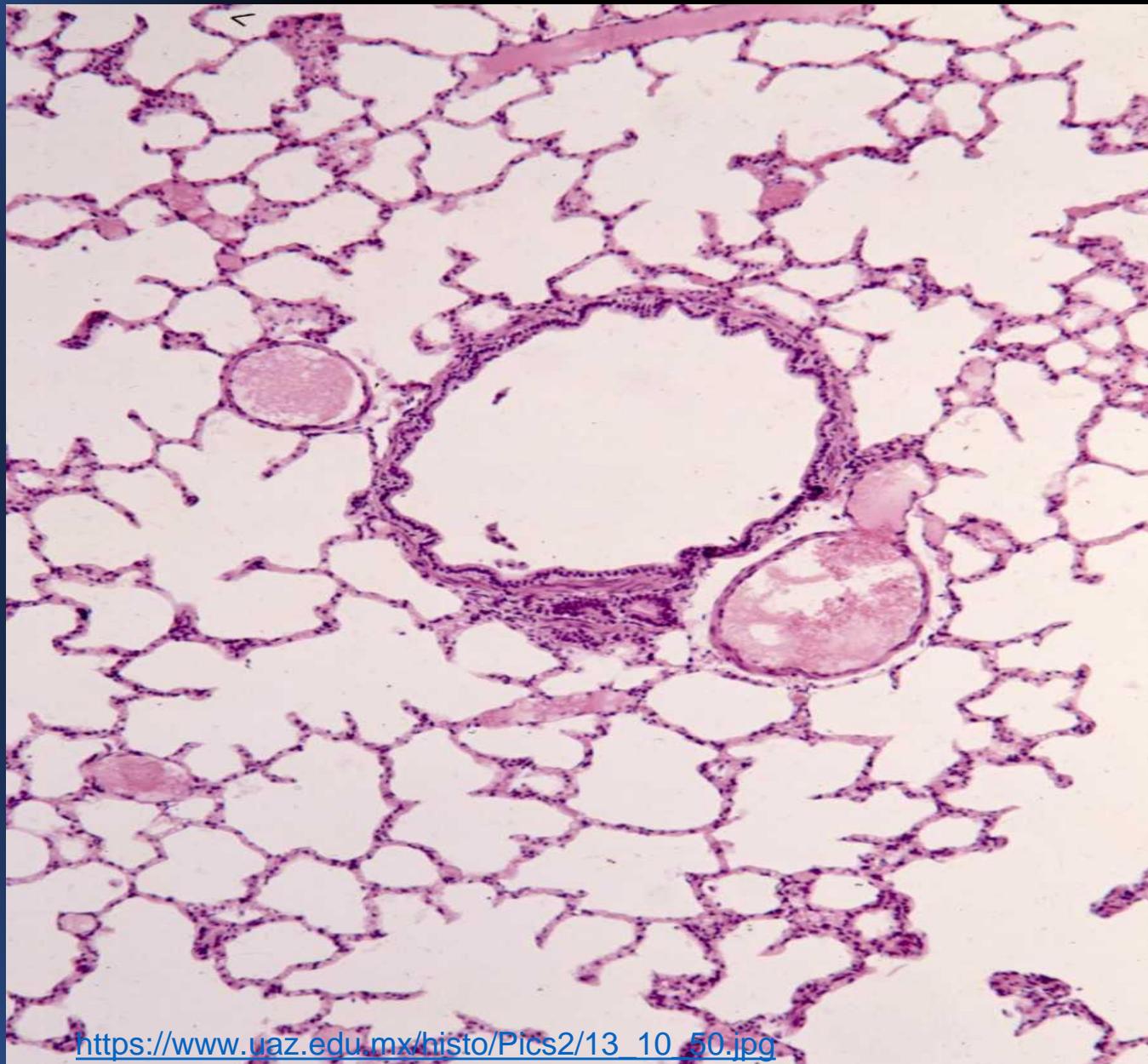


foto: Méd. Romina Franchini

EPITELIO BRONQUIOLAR

EPITELIO CILINDRICO SIMPLE CILIADO CON
CELULAS CALICIFORMES/
EPITELIO CUBICO SIMPLE CILIADO

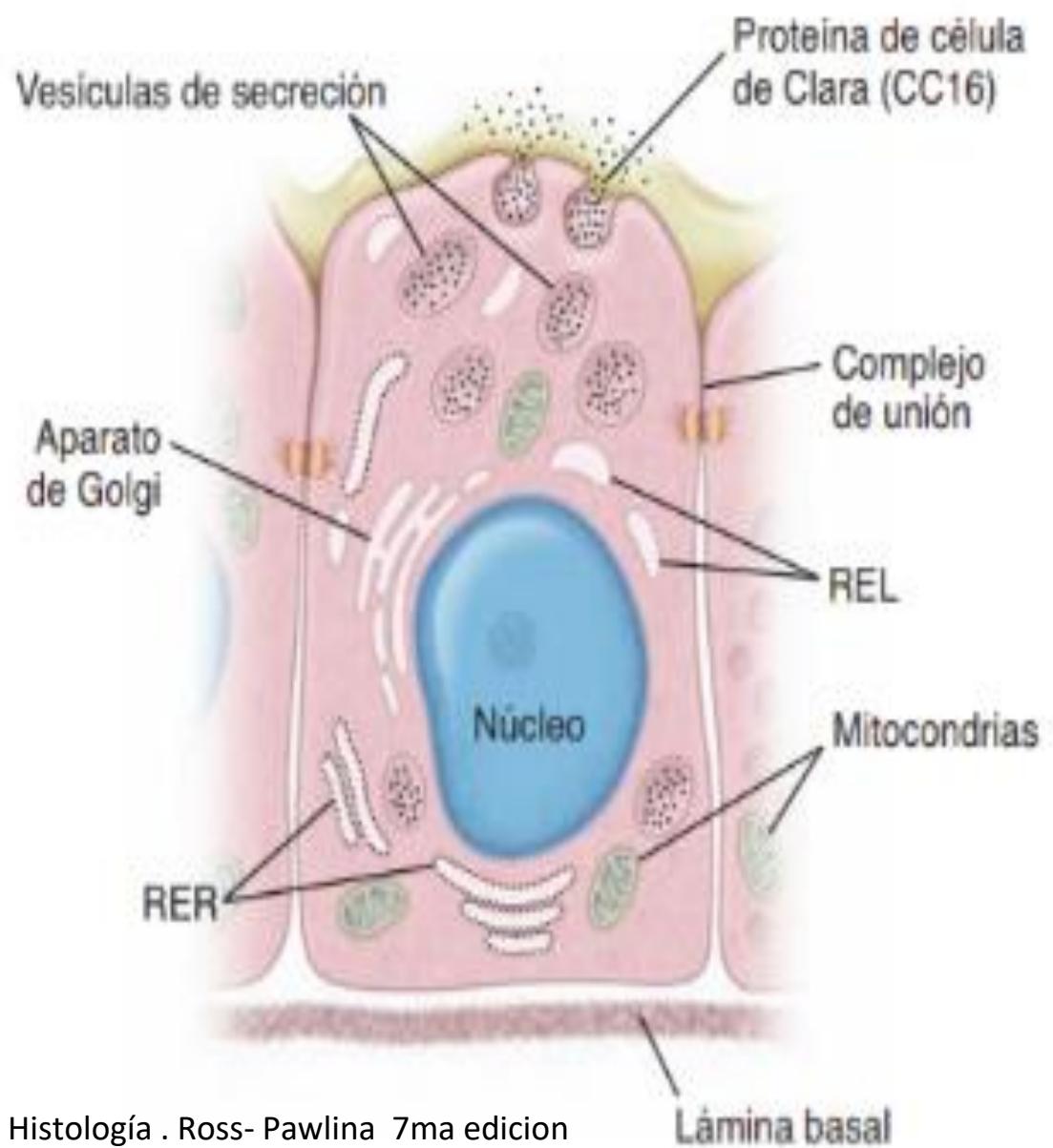
CELULAS
CILIADAS


CELULAS
EN CEPILLO

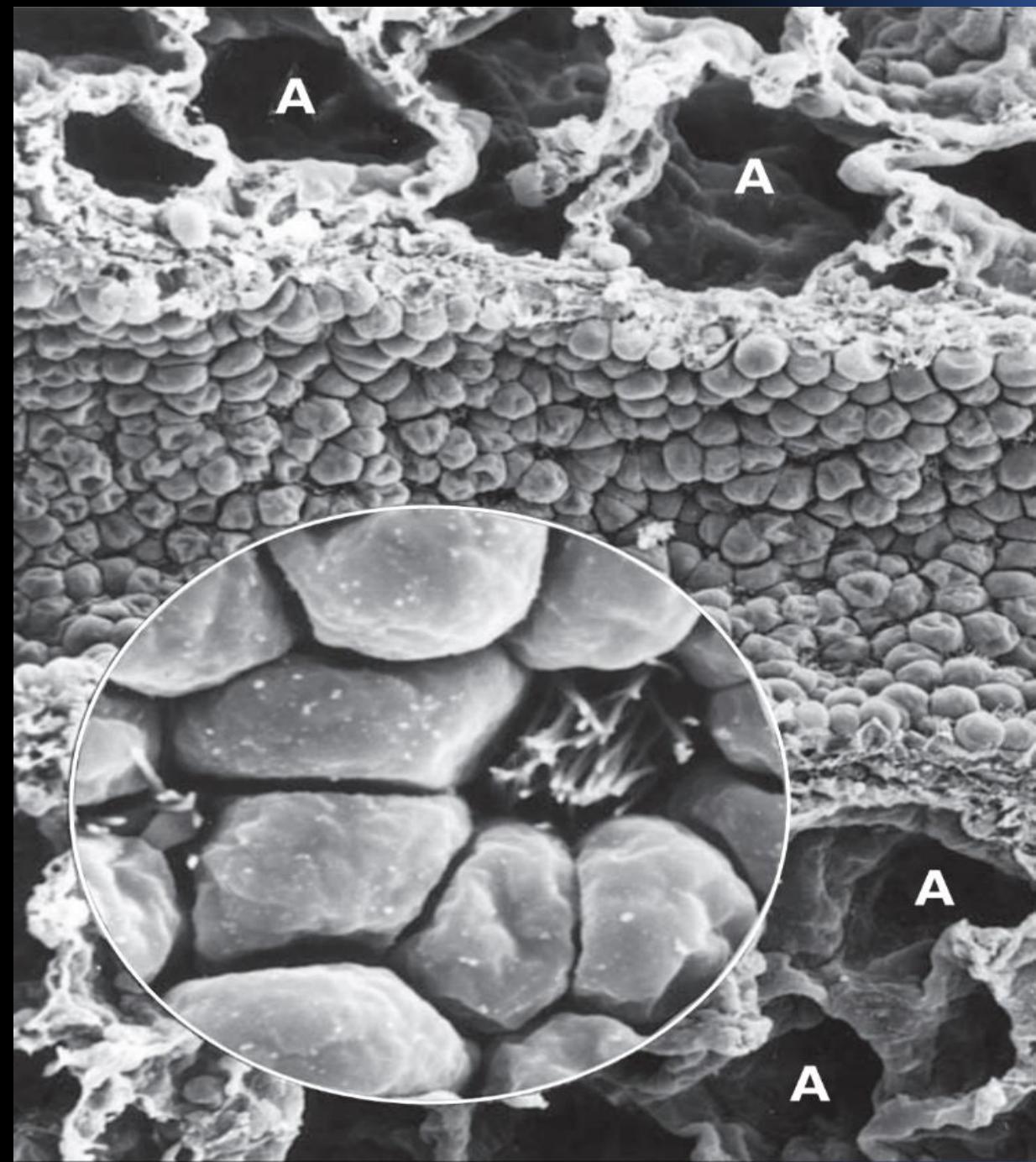
CELULAS GRANÚLOS
PEQUEÑO

CELULAS
CALICIFORMES


CELULAS DE
CLARA



Histología . Ross- Pawlina 7ma edición



Bronquiolo terminal

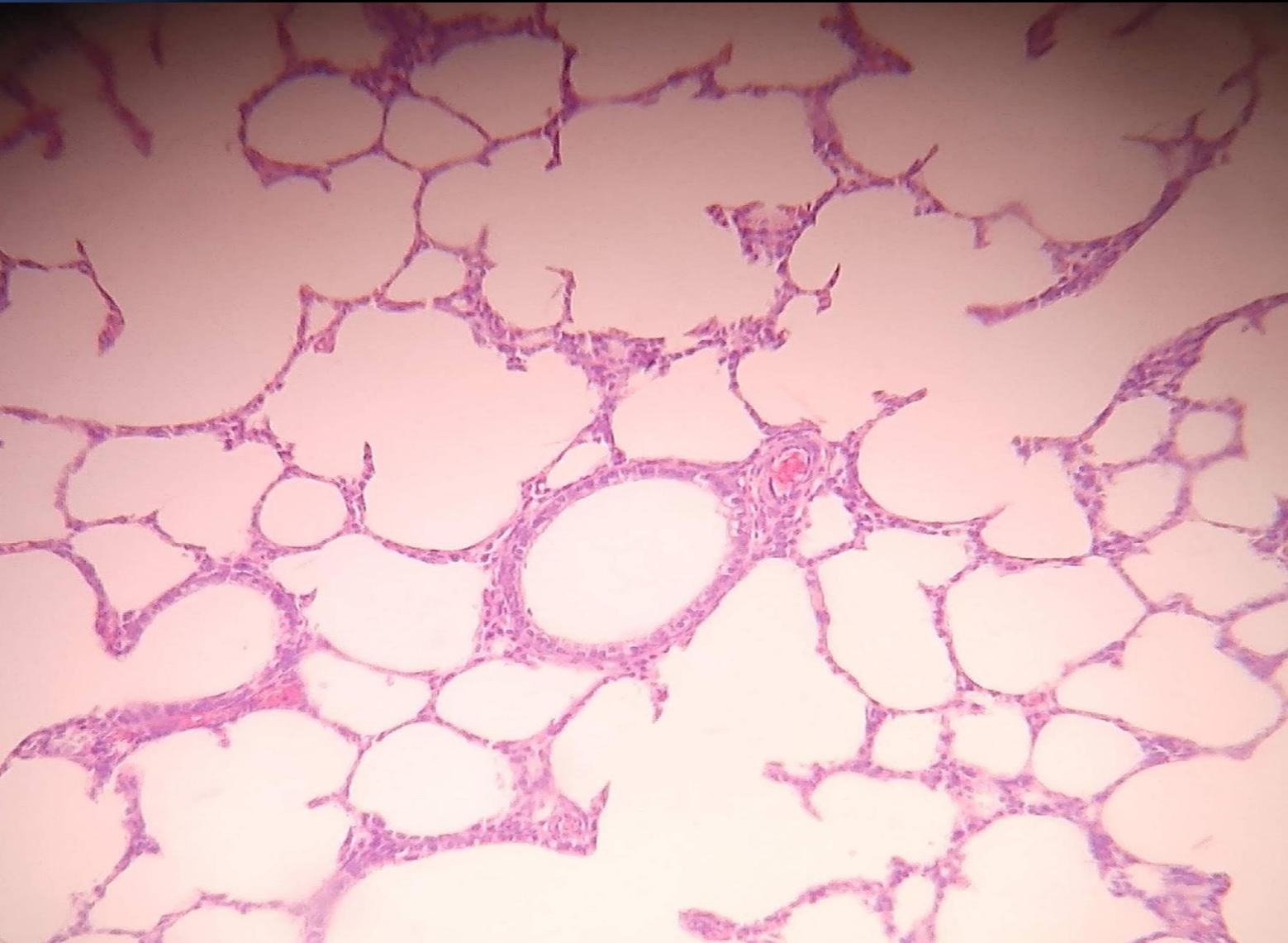
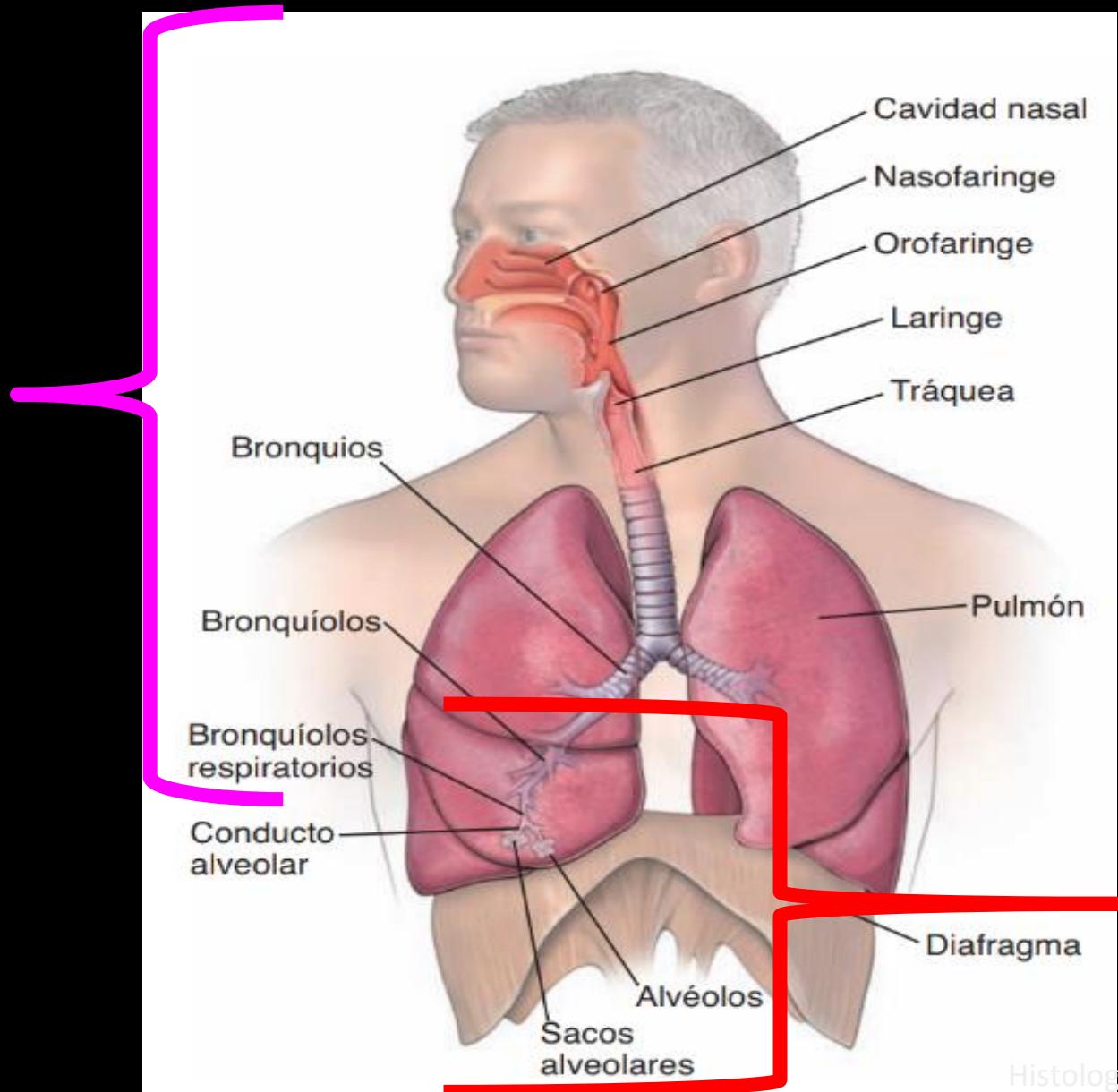


foto: Méd. Romina Franchini

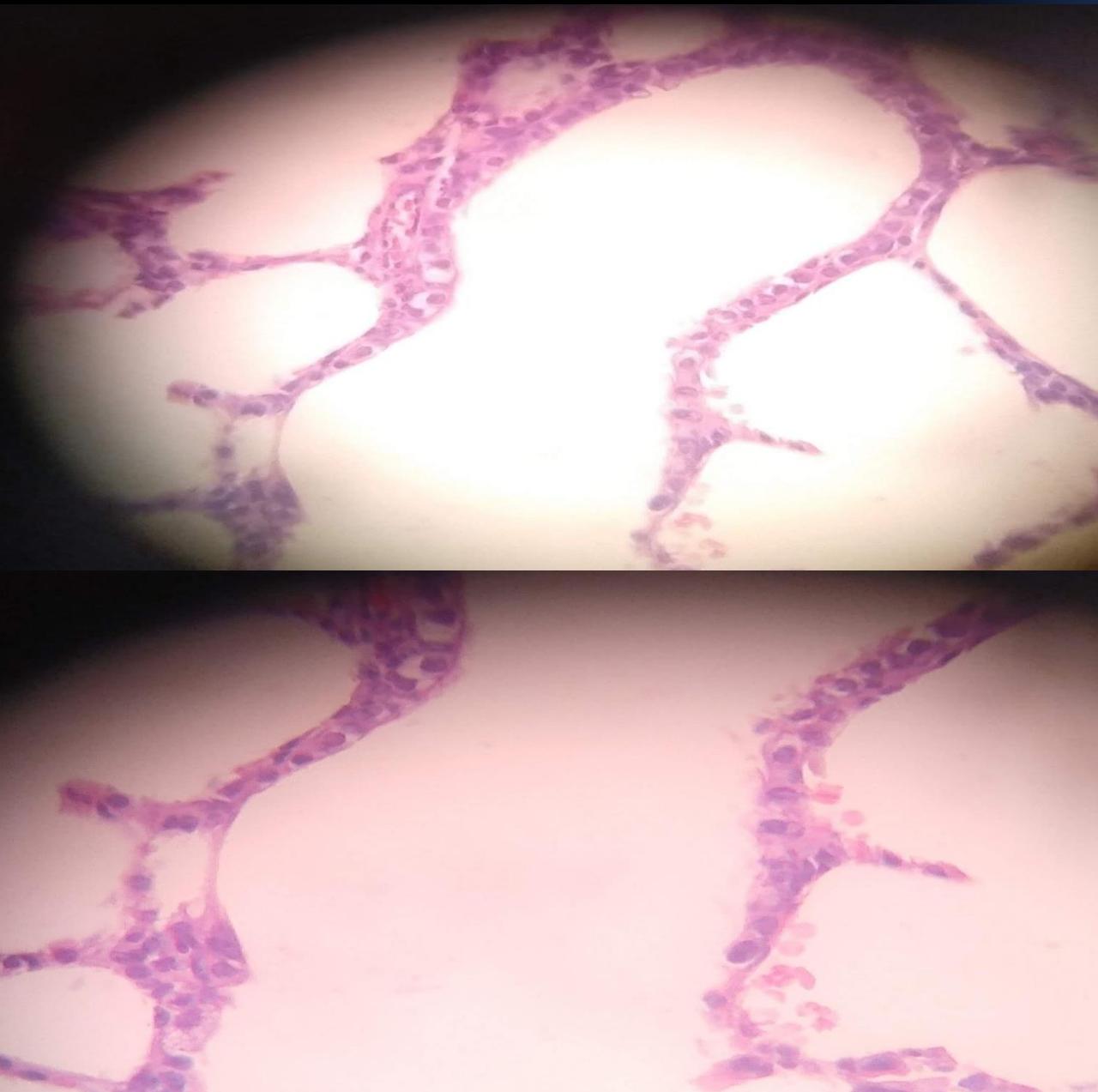
PORCIÓN CONDUCTORA



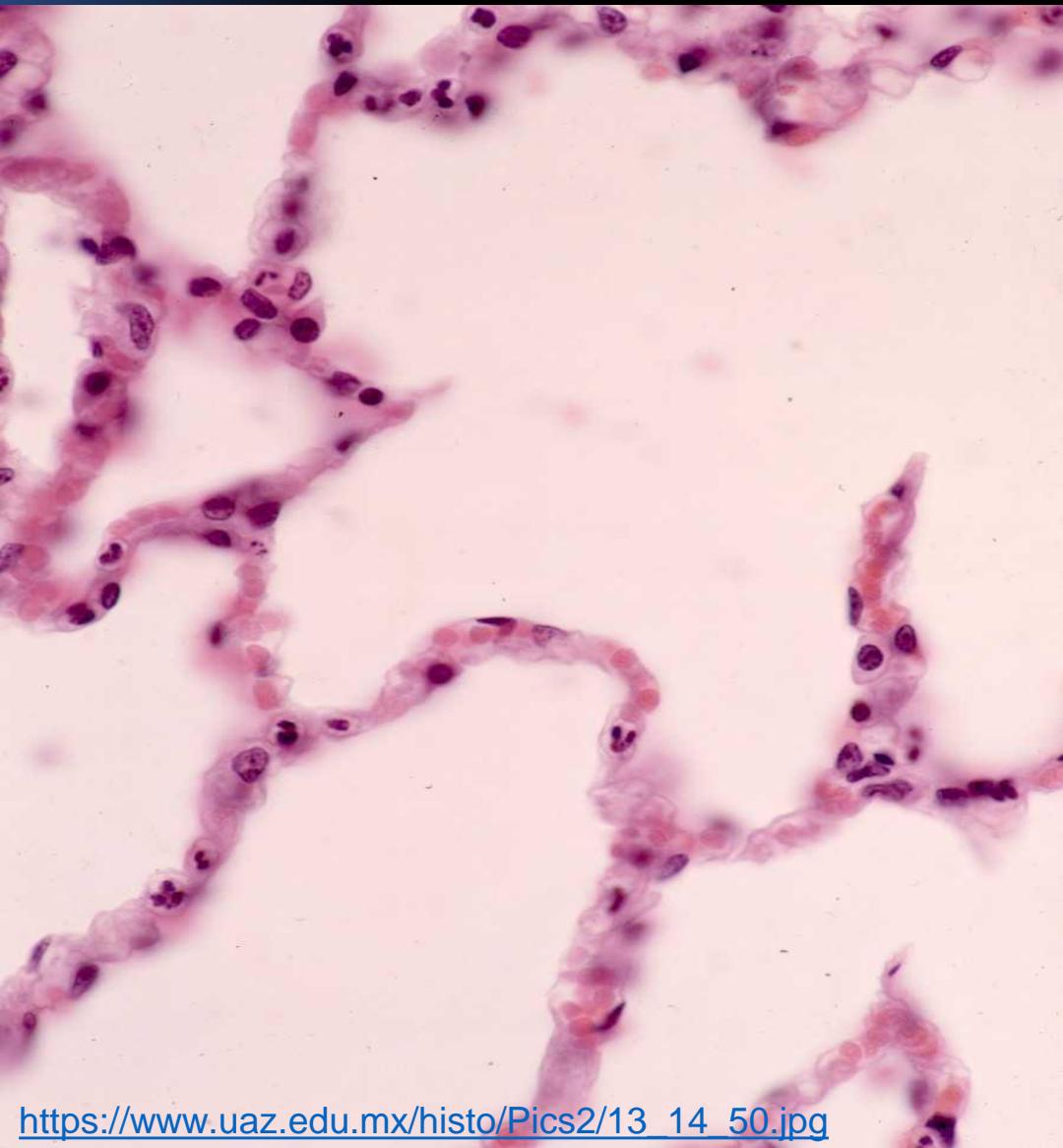
PORCIÓN RESPIRATORIA

PORCIÓN RESPIRATORIA

Bronquiolo respiratorio: función conductiva y respiratoria



Alvéolos



https://www.uaz.edu.mx/histo/Pics2/13_14_50.jpg

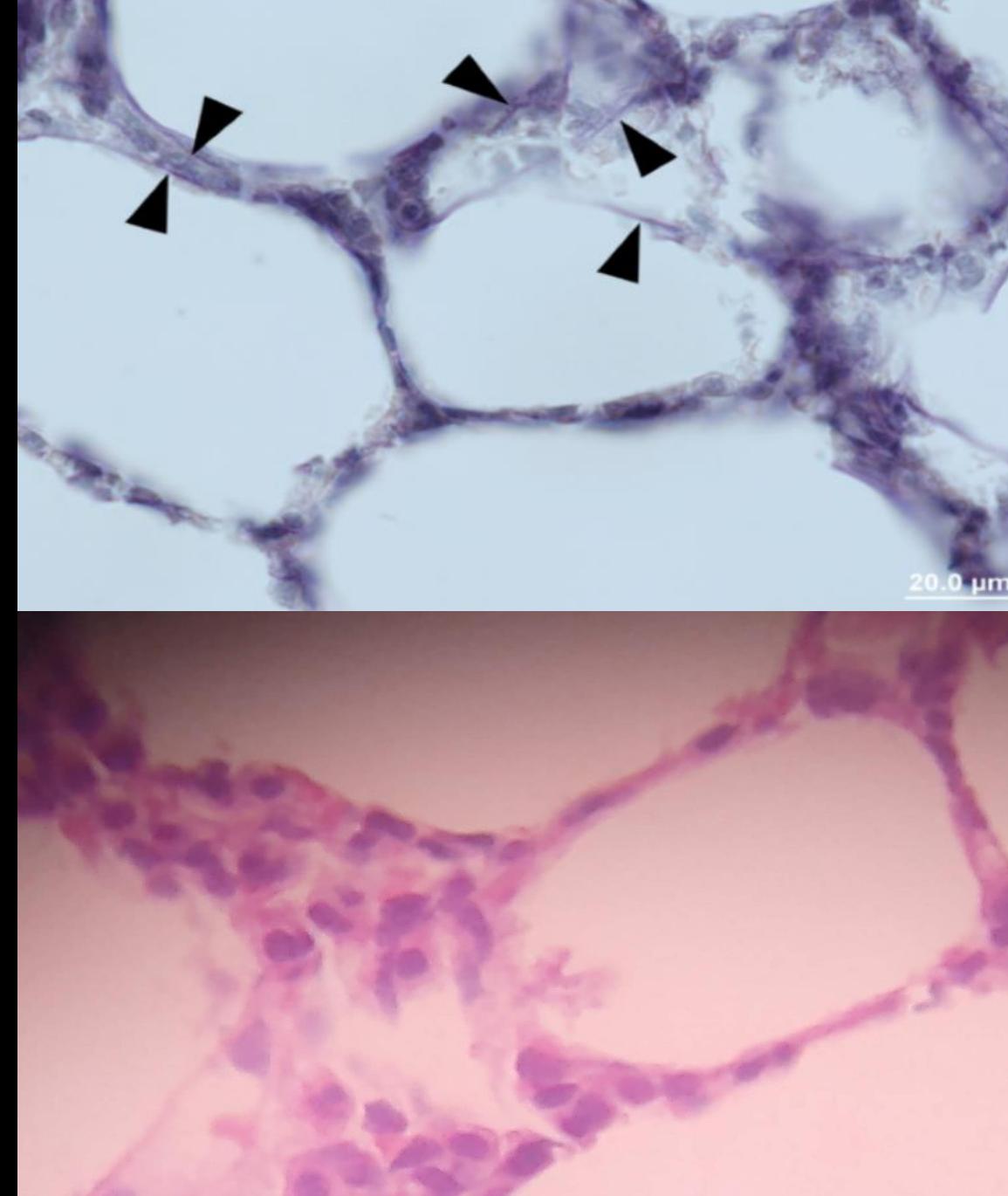


foto: Méd. Romina Franchini

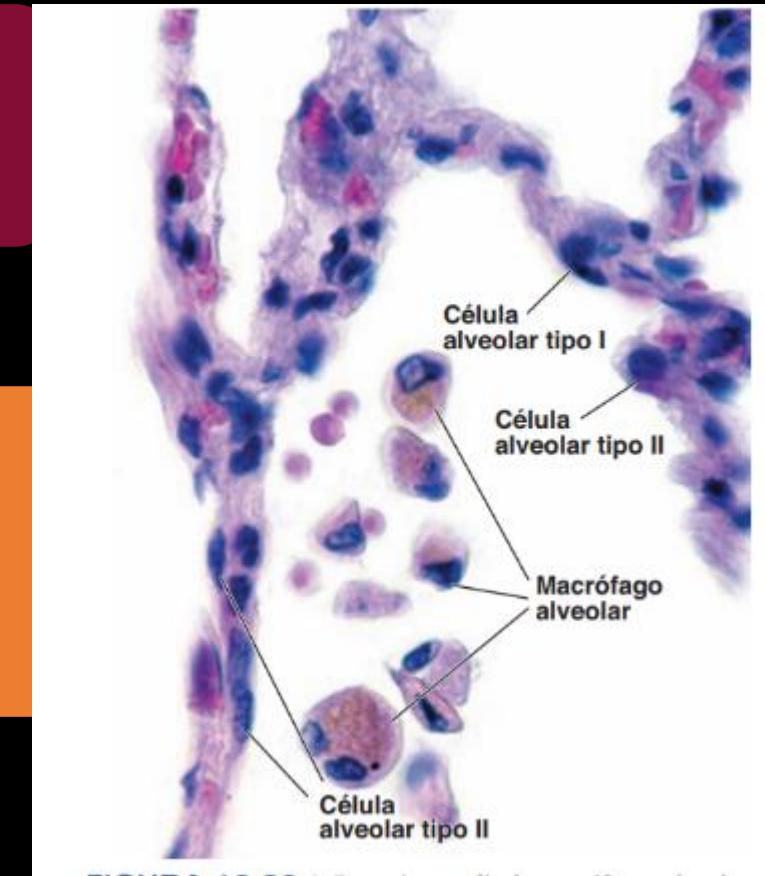
EPITELIO ALVEOLAR

EPITELIO PLANO SIMPLE

NEUMONOCITOS
TIPO I

NEUMONOCITOS
TIPO II

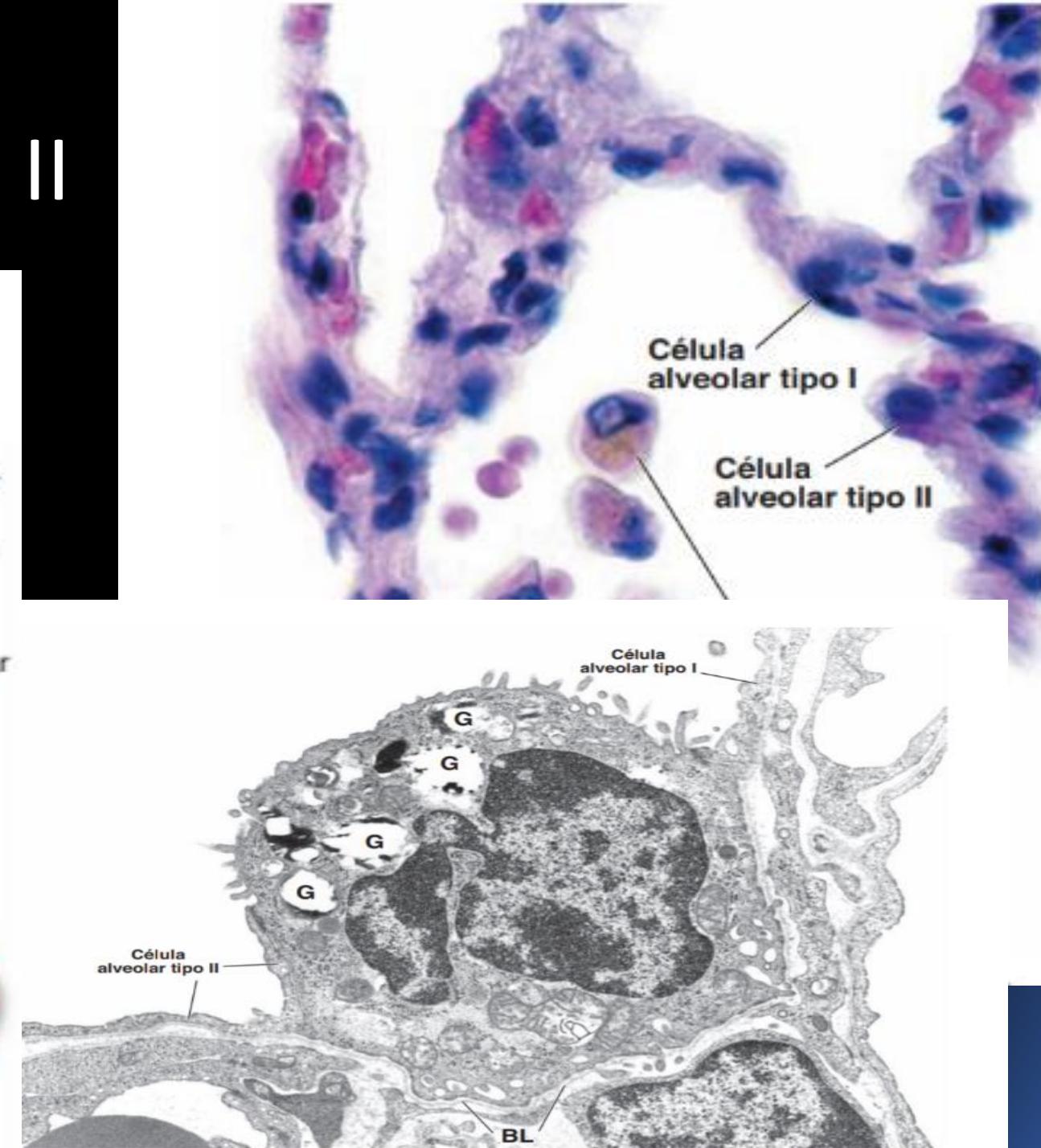
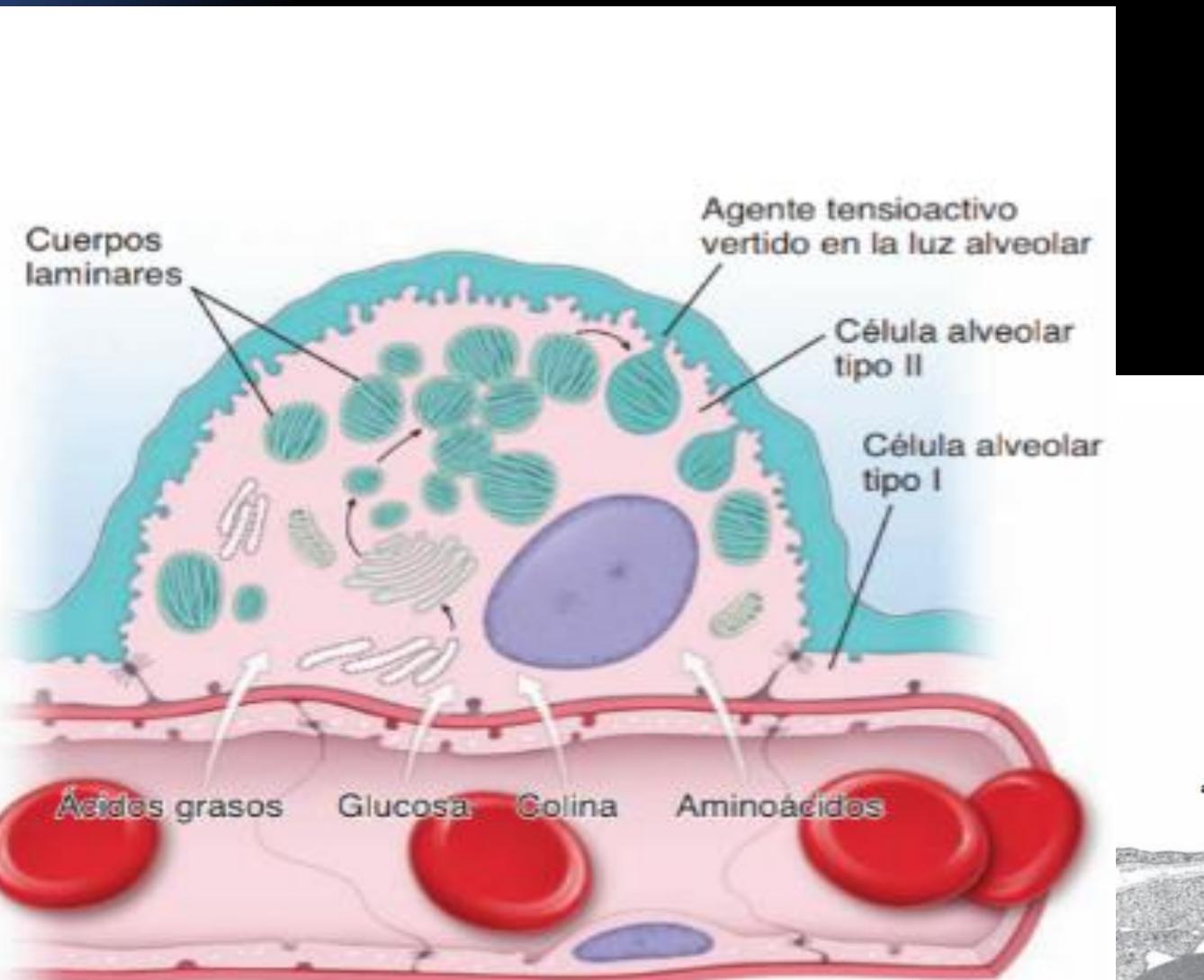
CELULAS
EN CEPILLO
(Pocas)



Histología . Ross- Pawlina 7ma edición

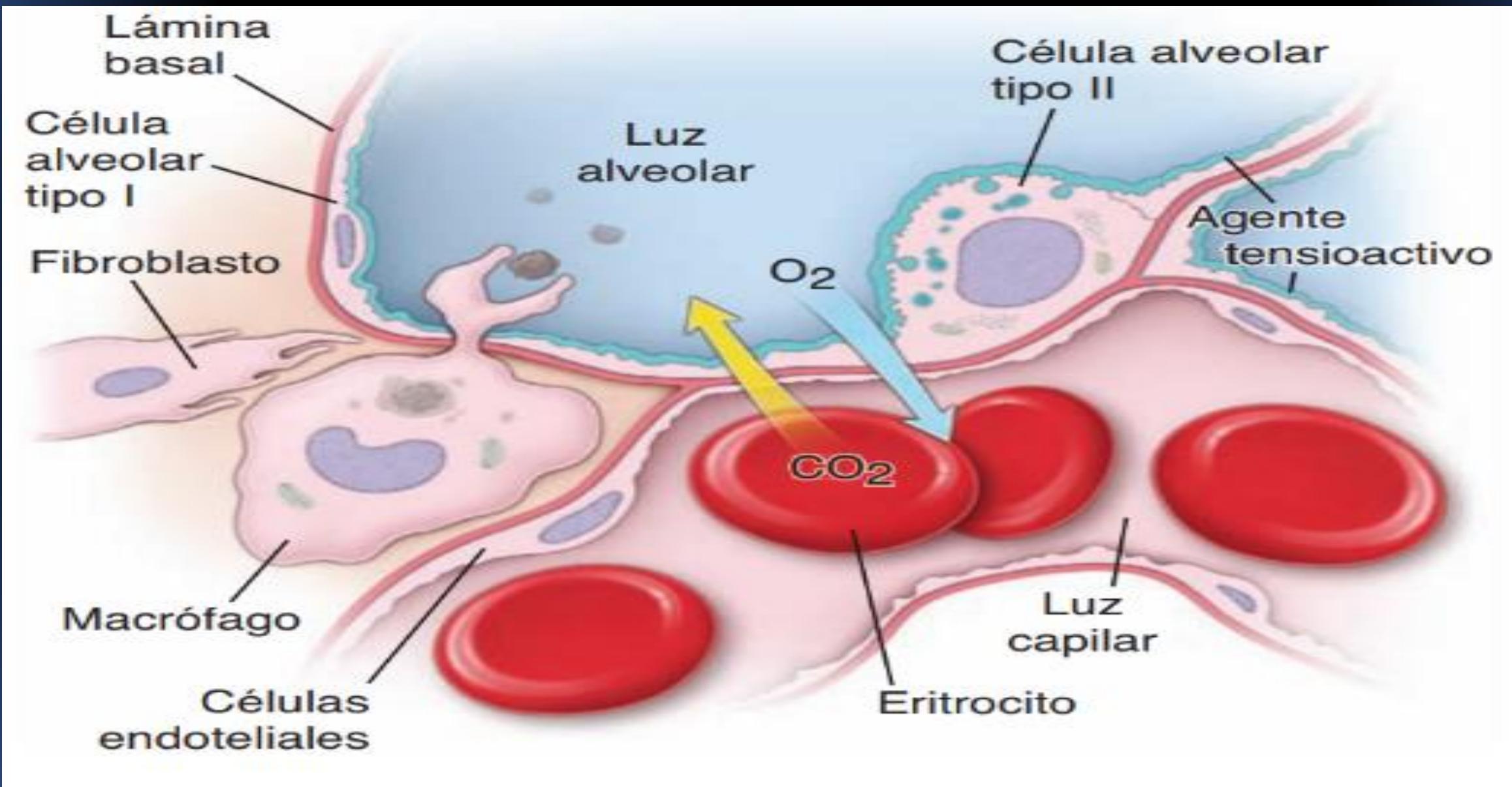
NEUMONOCITO TIPO II

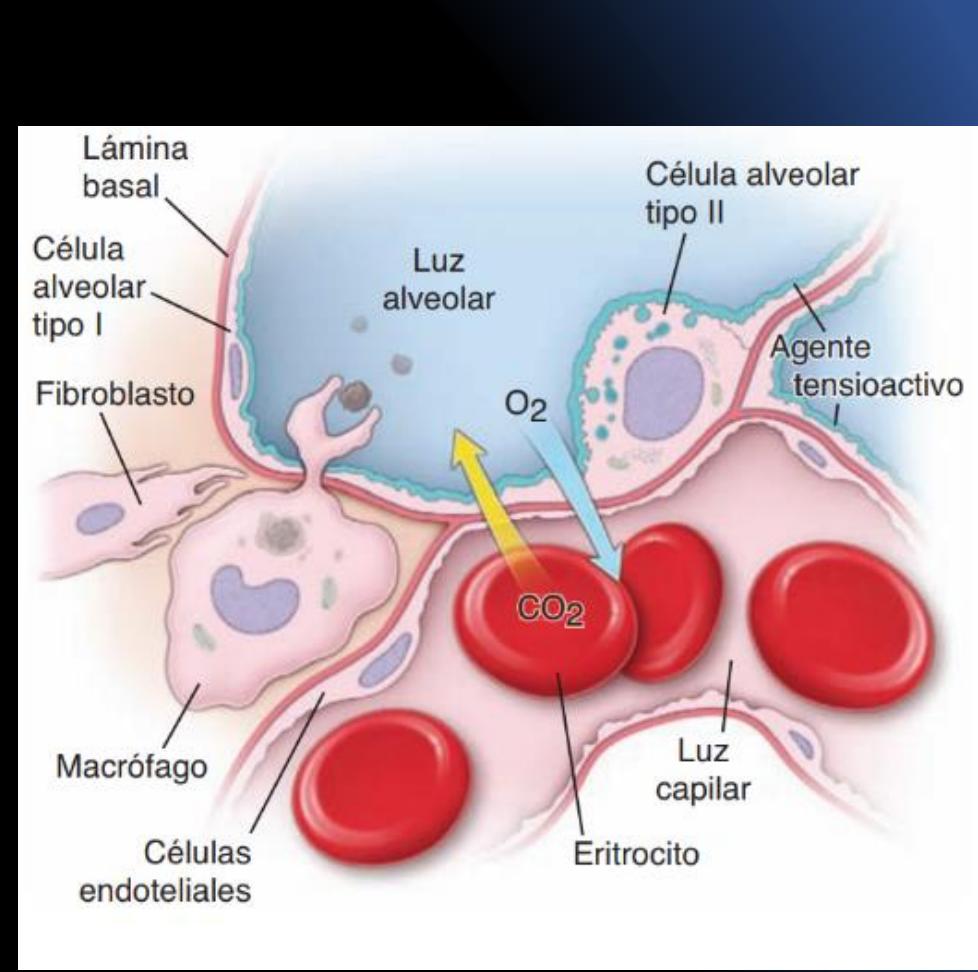
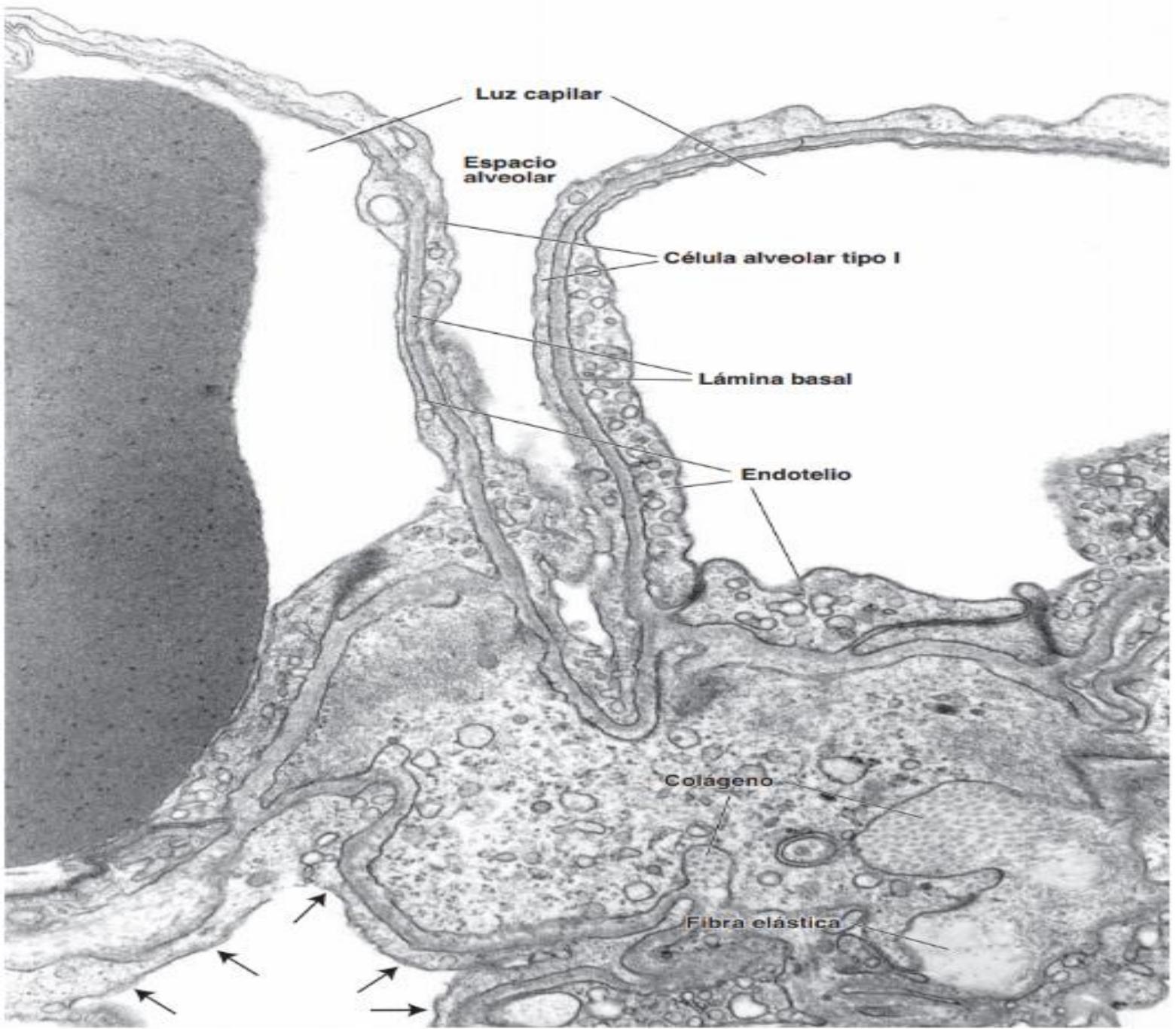
atología . Ross- Pawlina 7ma edición



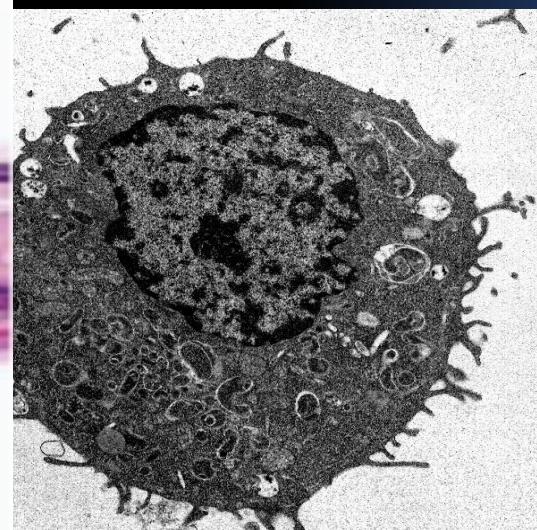
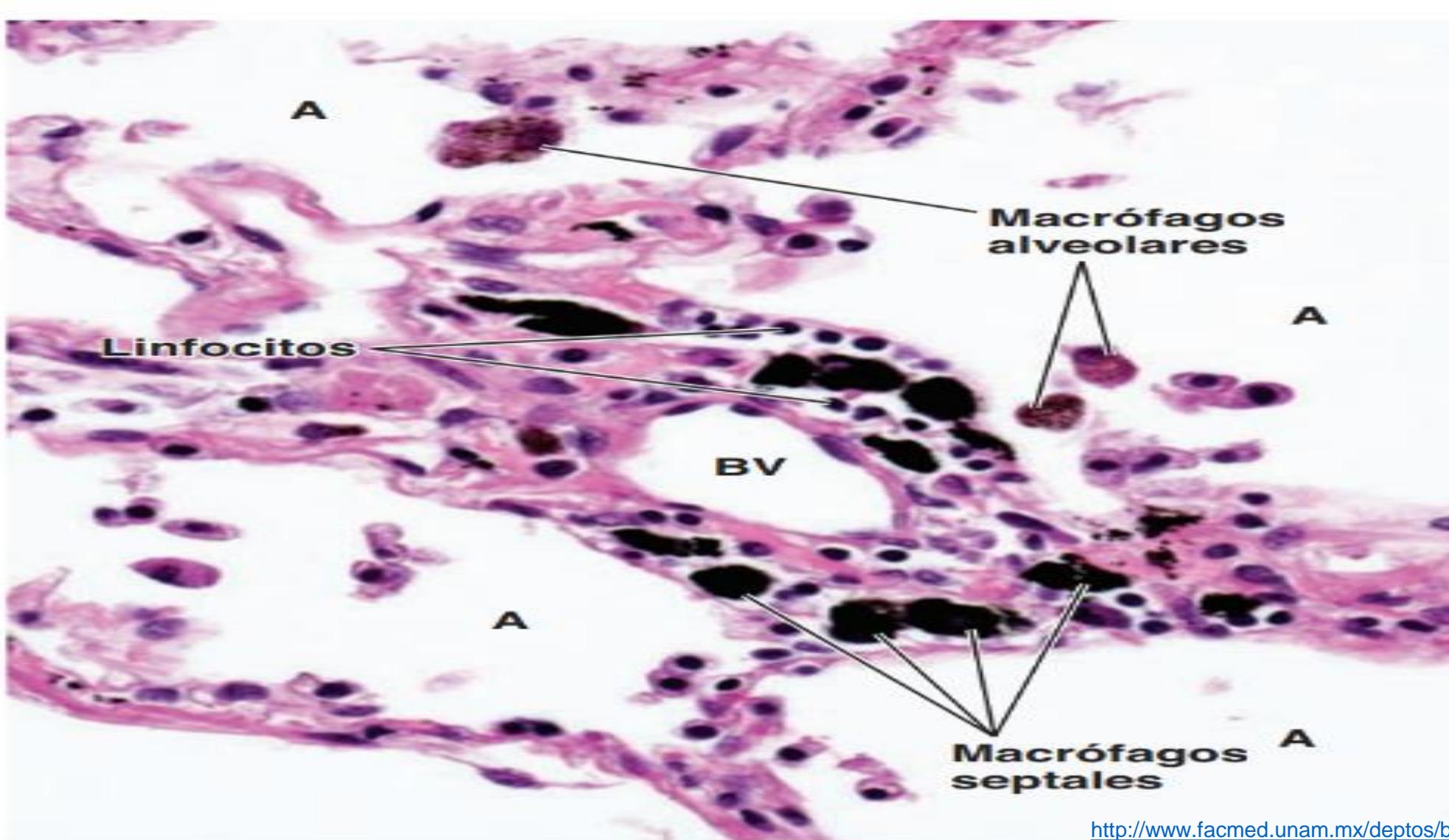
BARRERA HEMATO-ALVEOLAR

Histología . Ross- Pawlina 7ma edición

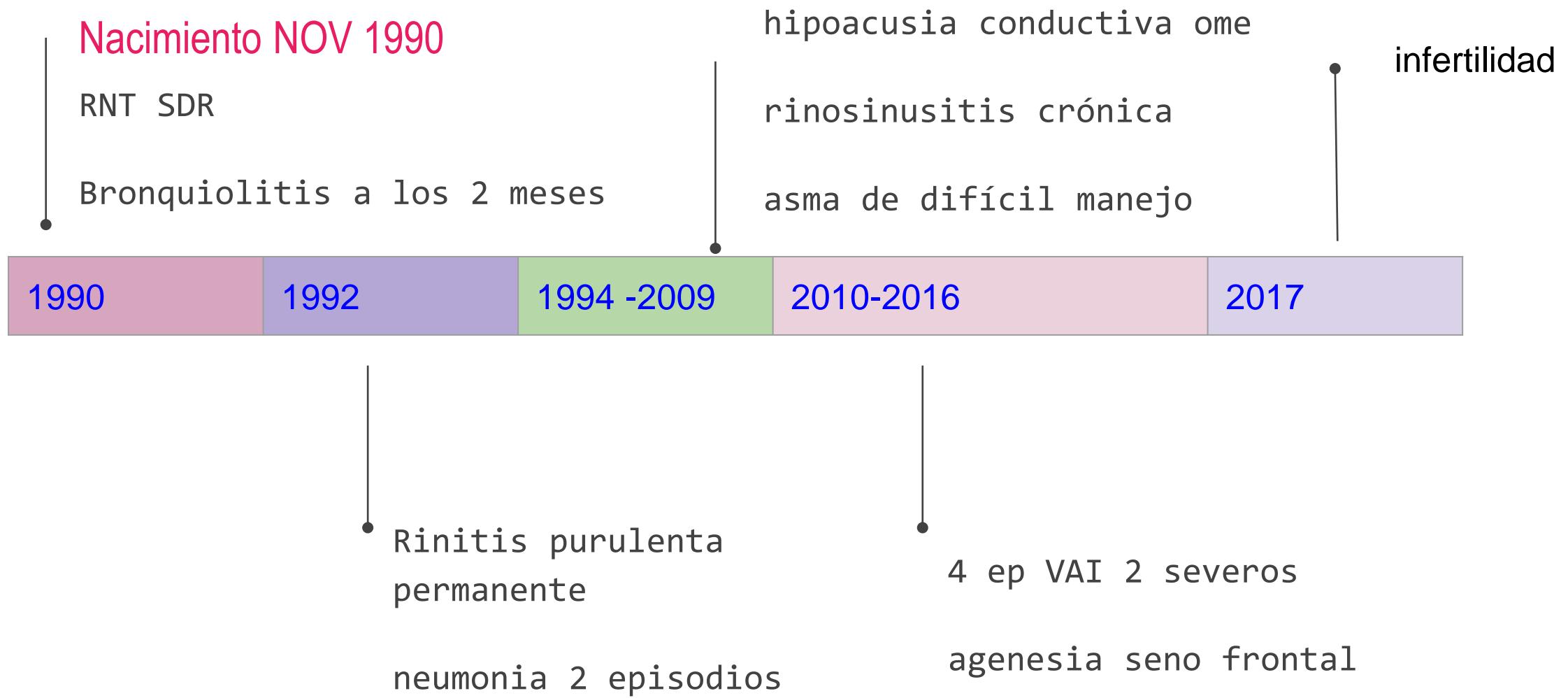


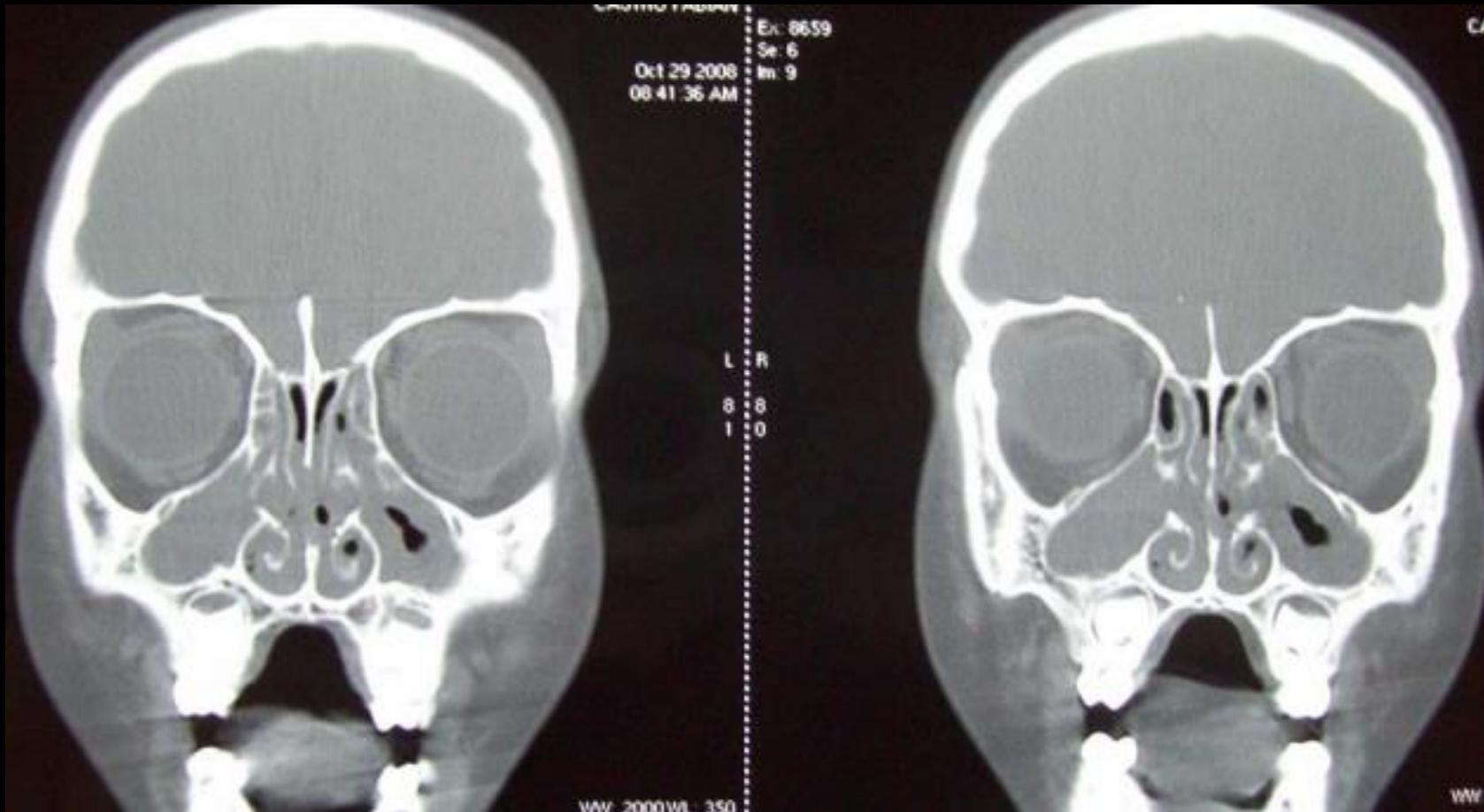


MACRÓFAGOS ALVEOLARES Y SEPTALES



Correlación Clínica:





Disquinesia ciliar primaria

enfermedad autosómica
recesiva. crom 9/5

1/12000-3000 en arg

alt estructura y/o movilidad
ciliar

-Enfermedad respiratoria,
rinosinusal y ótica crónica -
Infertilidad masculina -Situs
inversus en el 50 % de los
casos (Síndrome de
Kartagener)

75% inicia desde
nacimiento

87% 1 a 6 meses

100% entre 7 y 18 meses



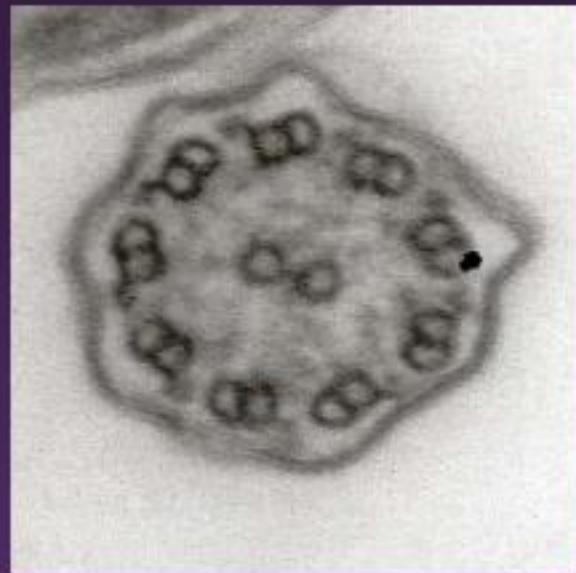
Normal



DABD



DPABD



DBID

En resumen....

