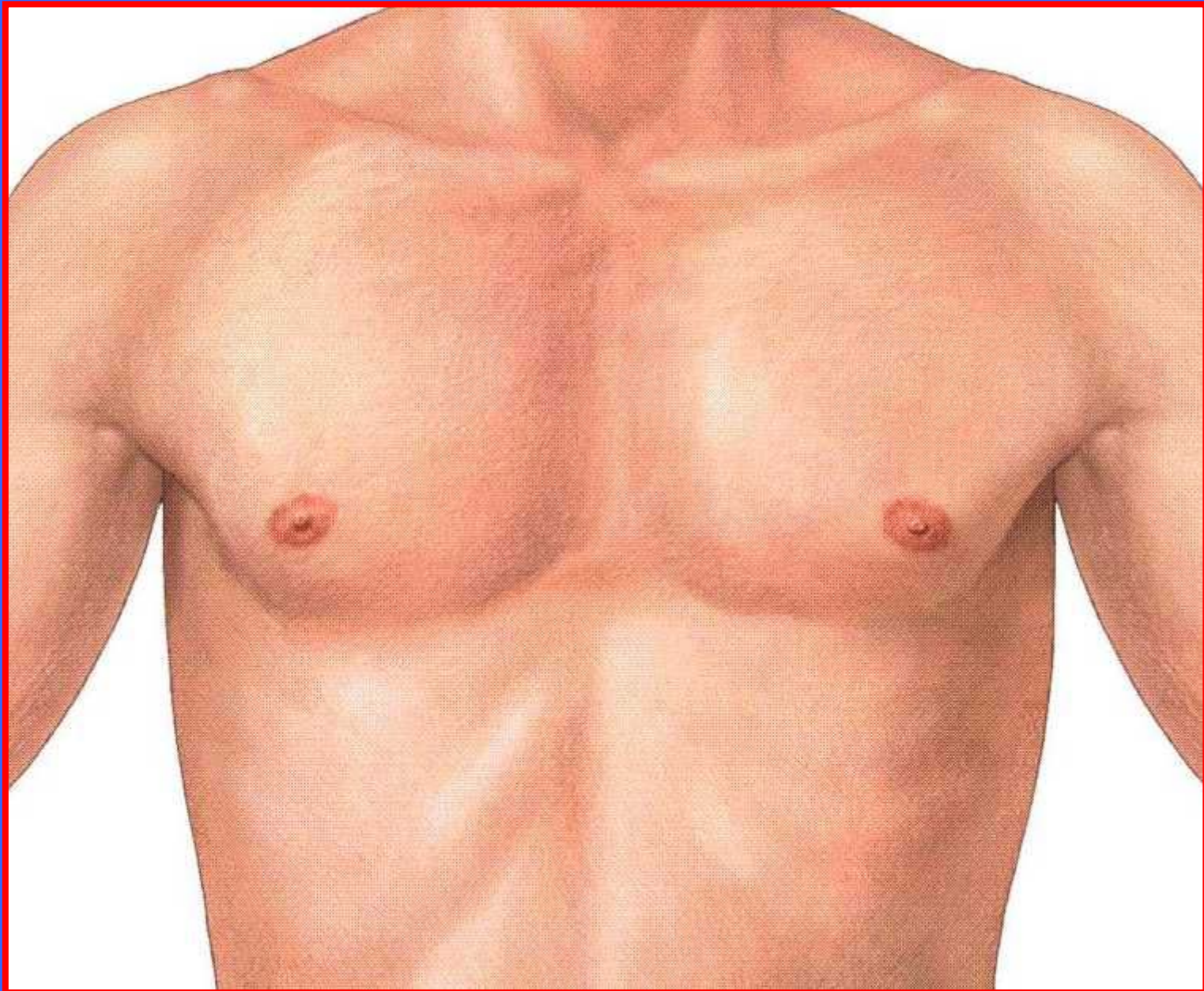
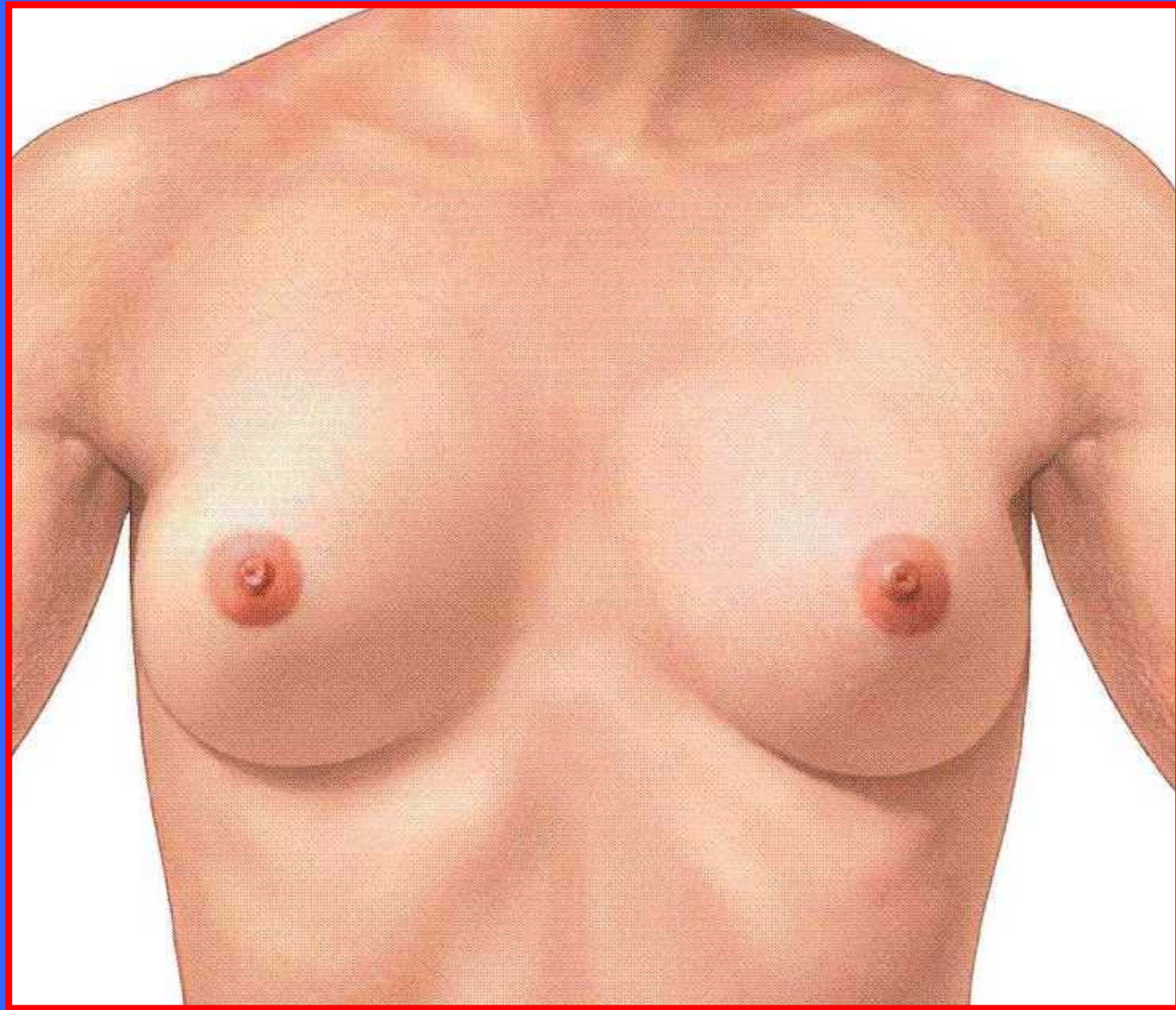
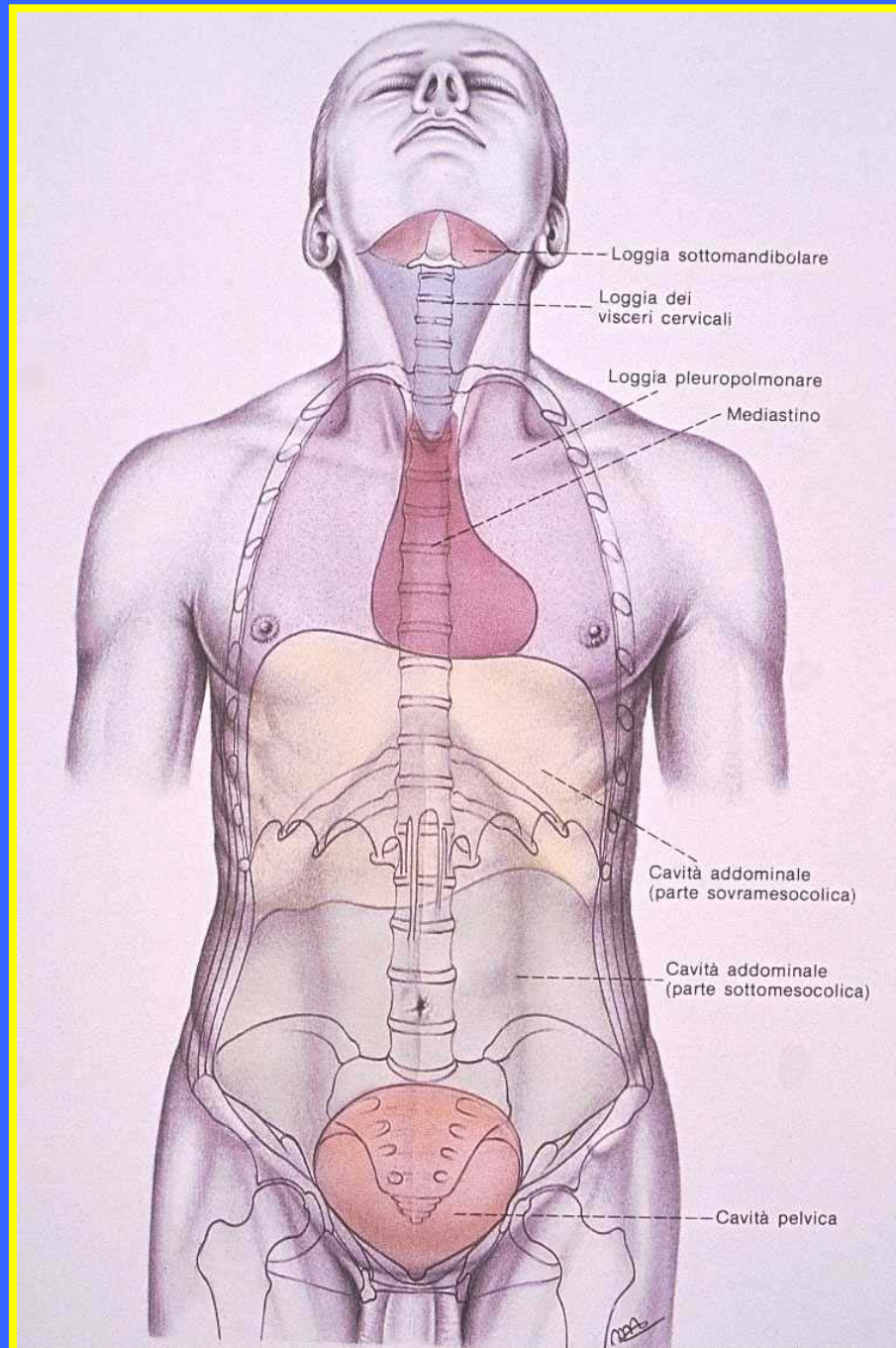
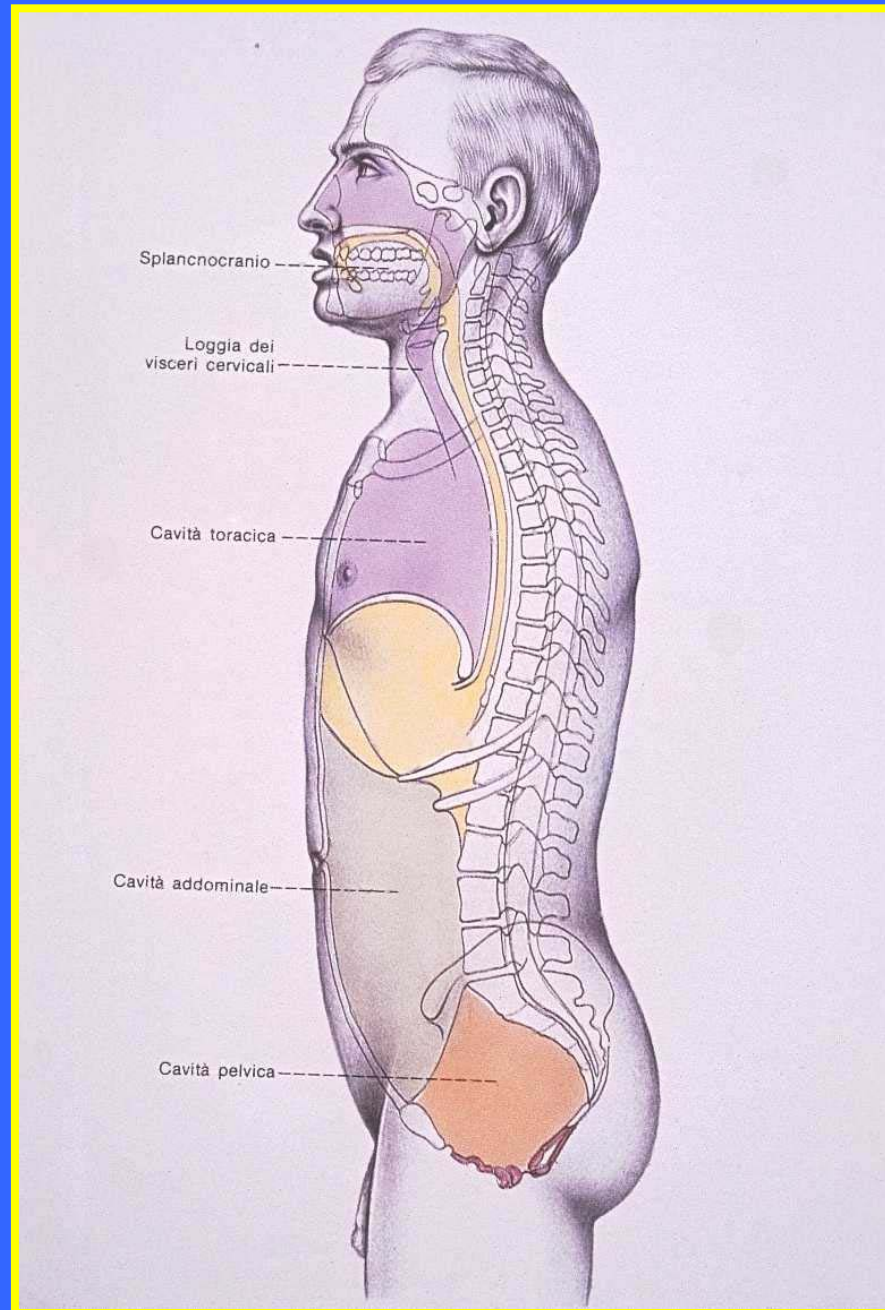
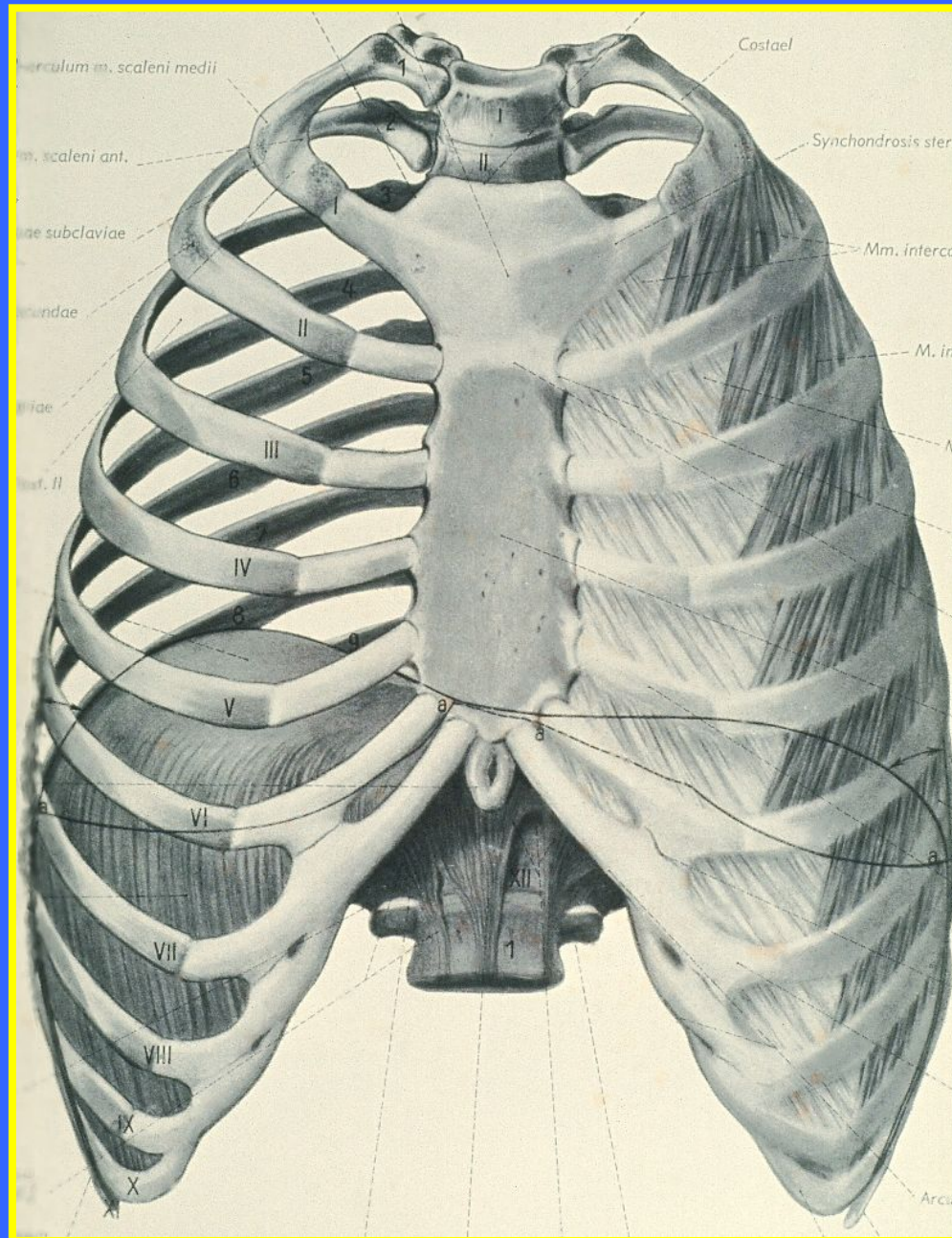


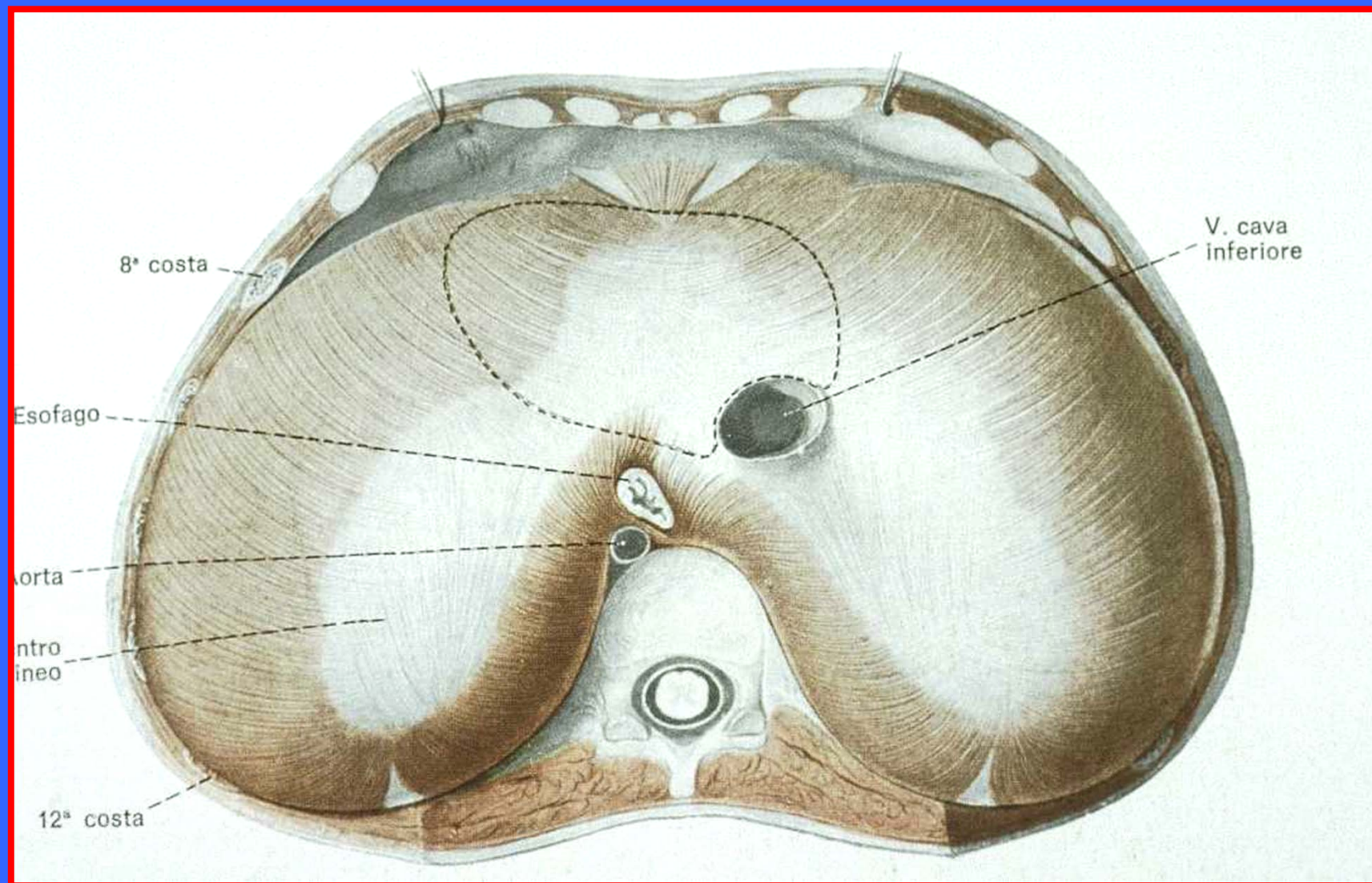


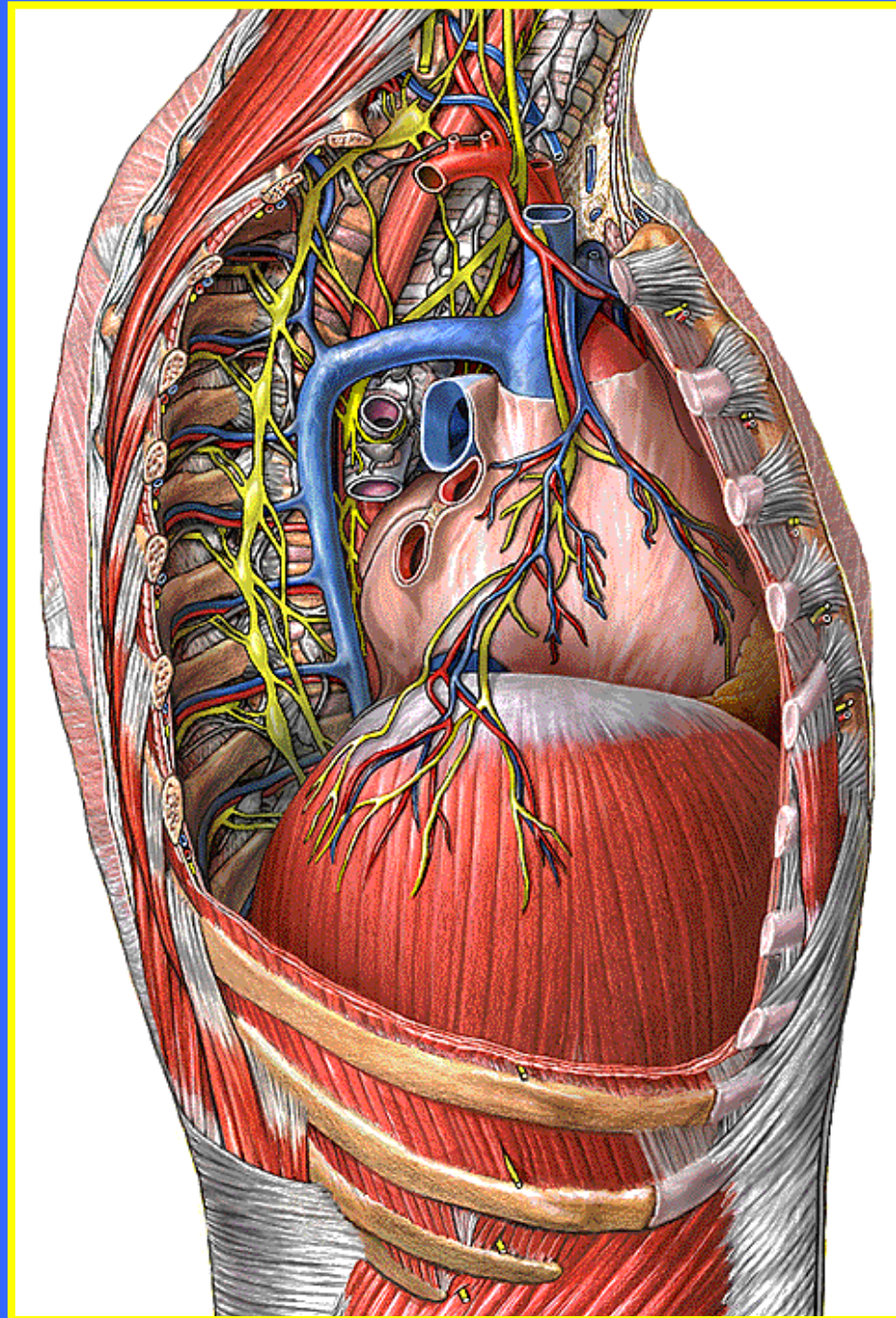


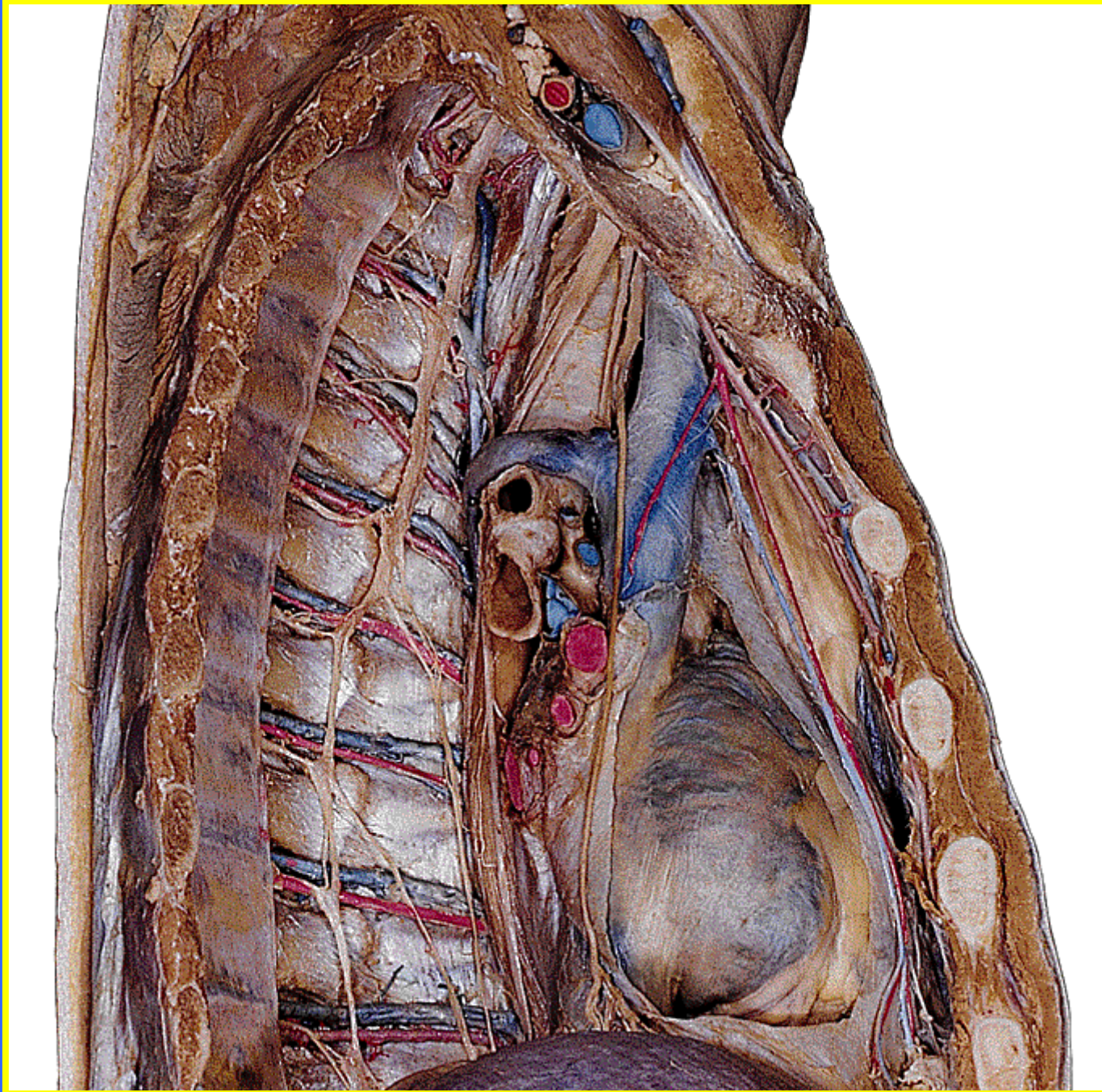


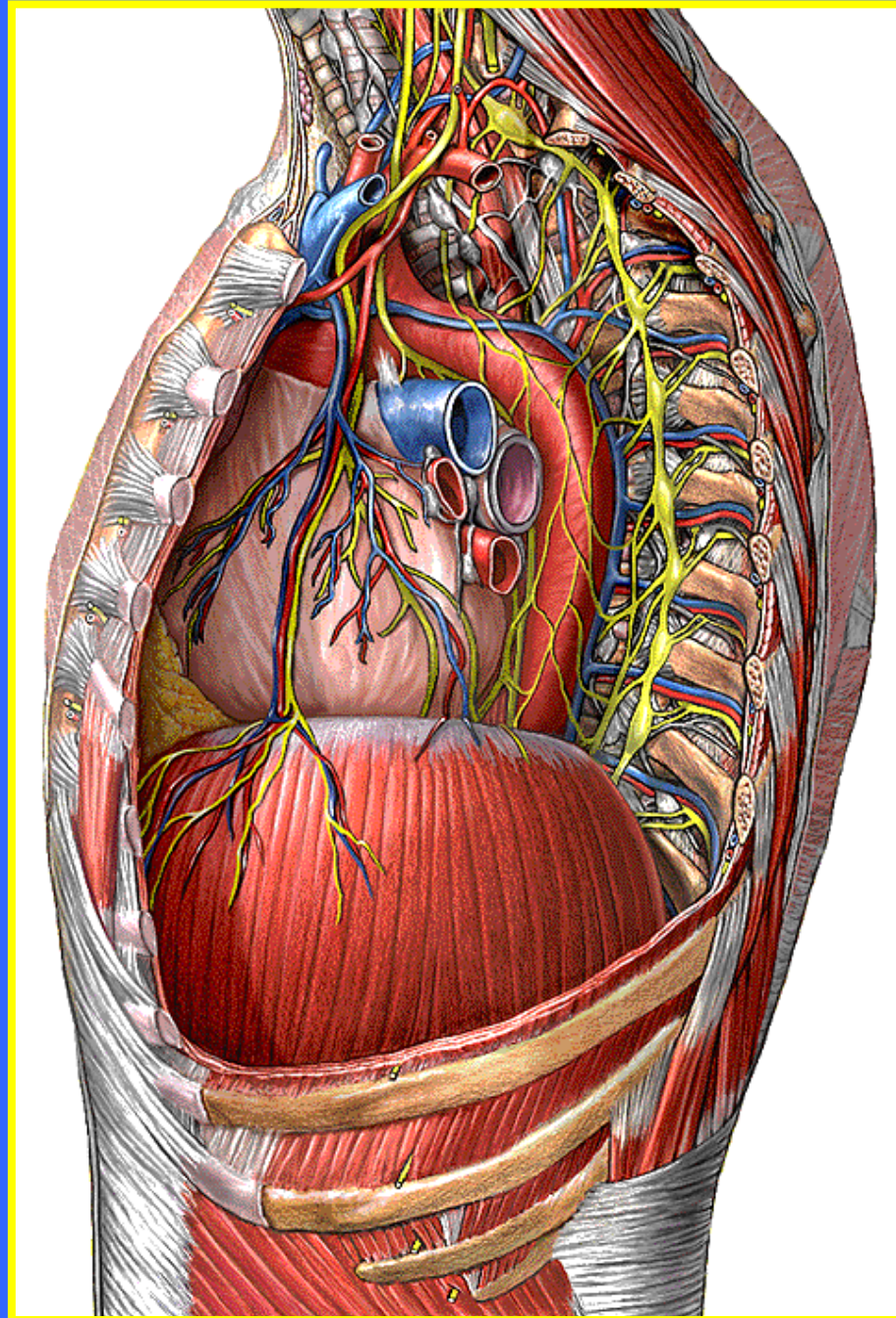


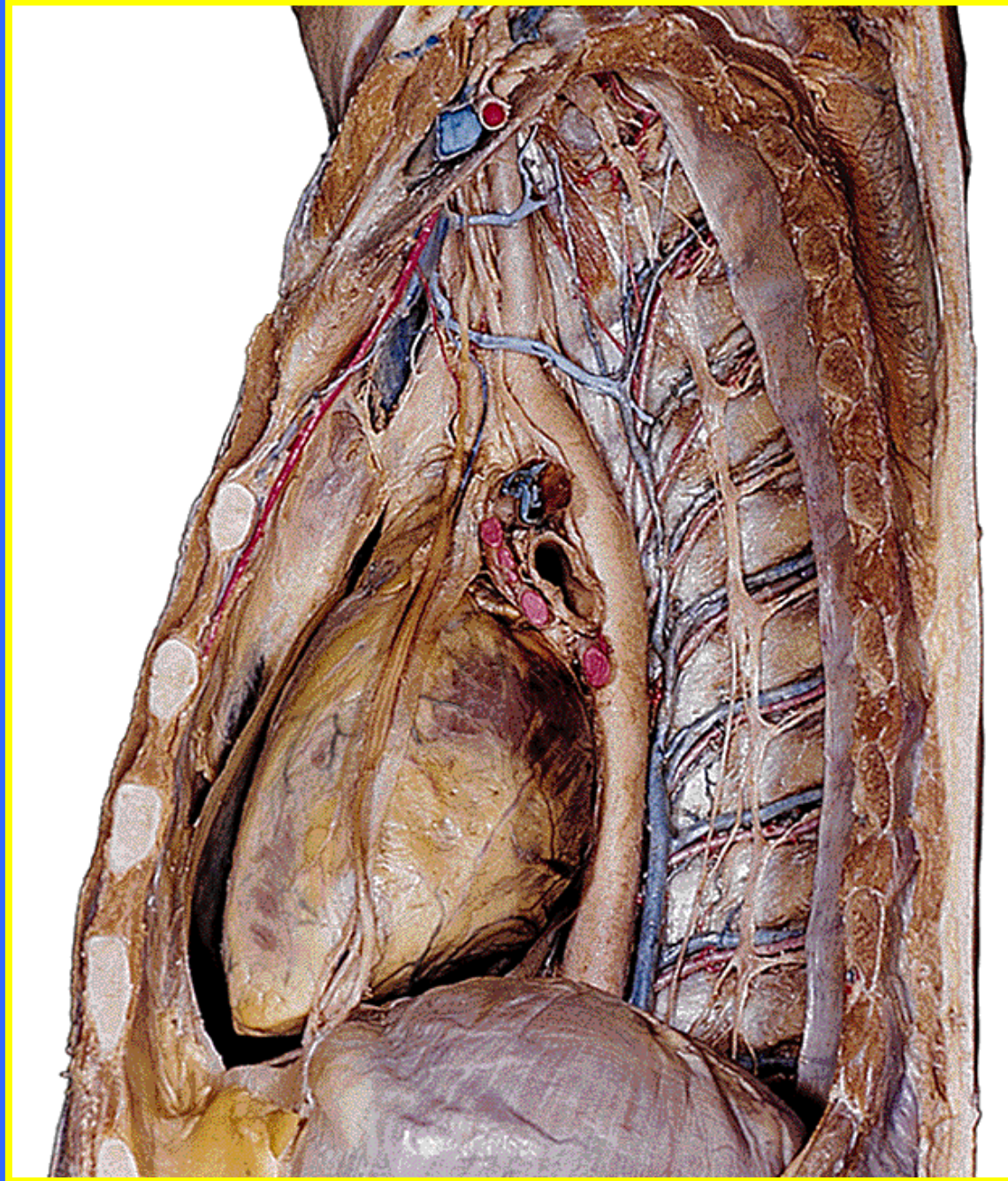


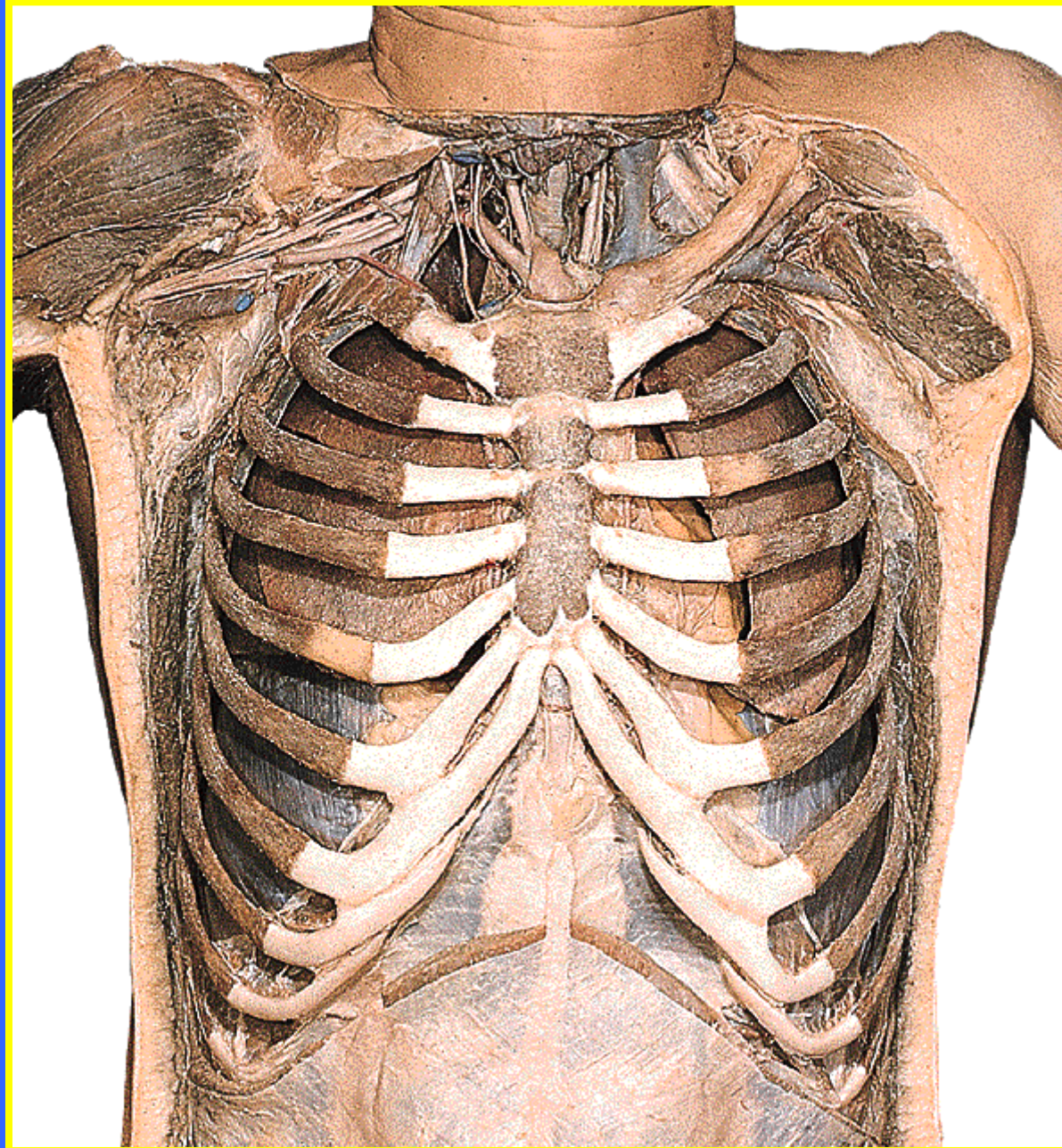


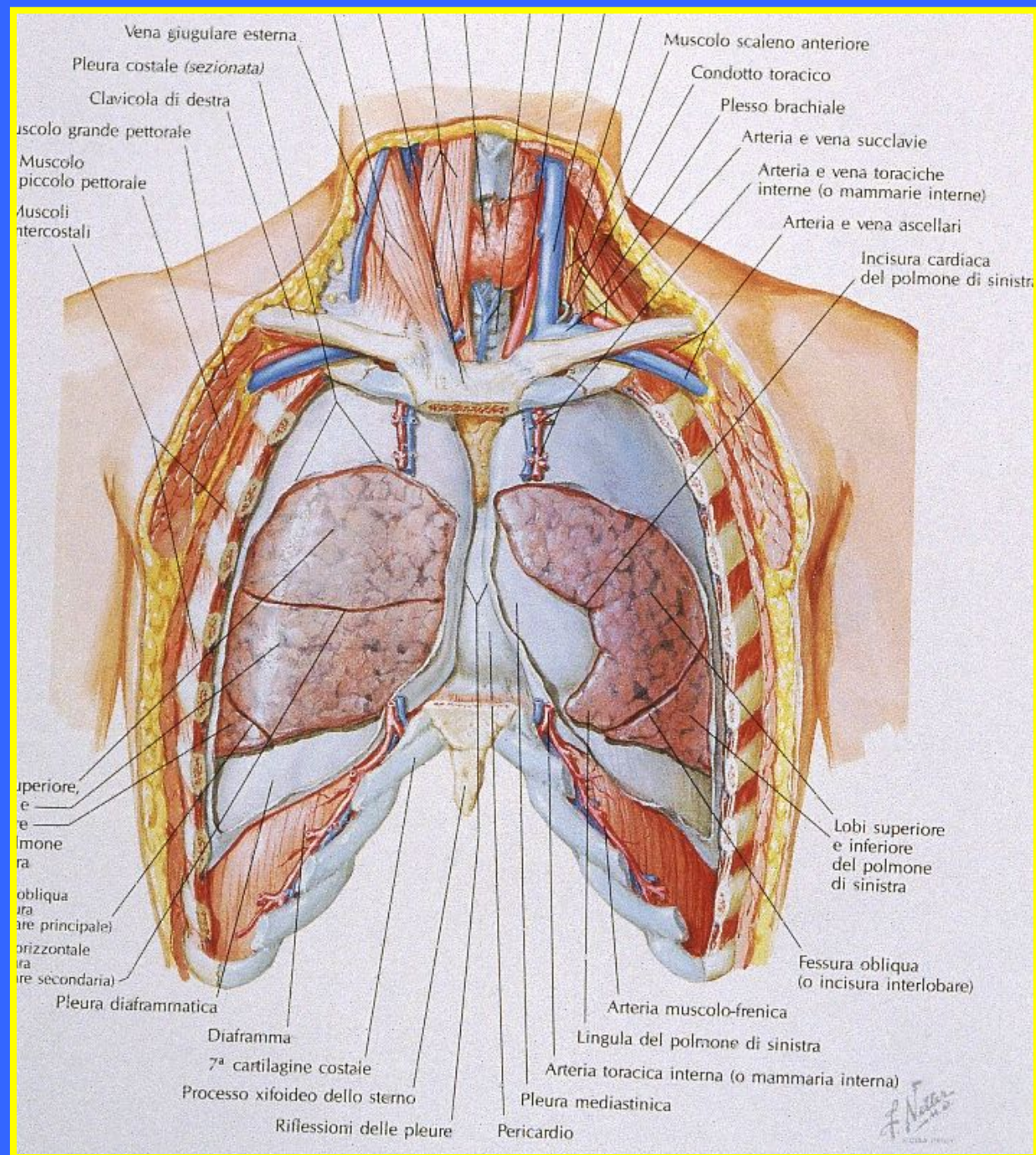


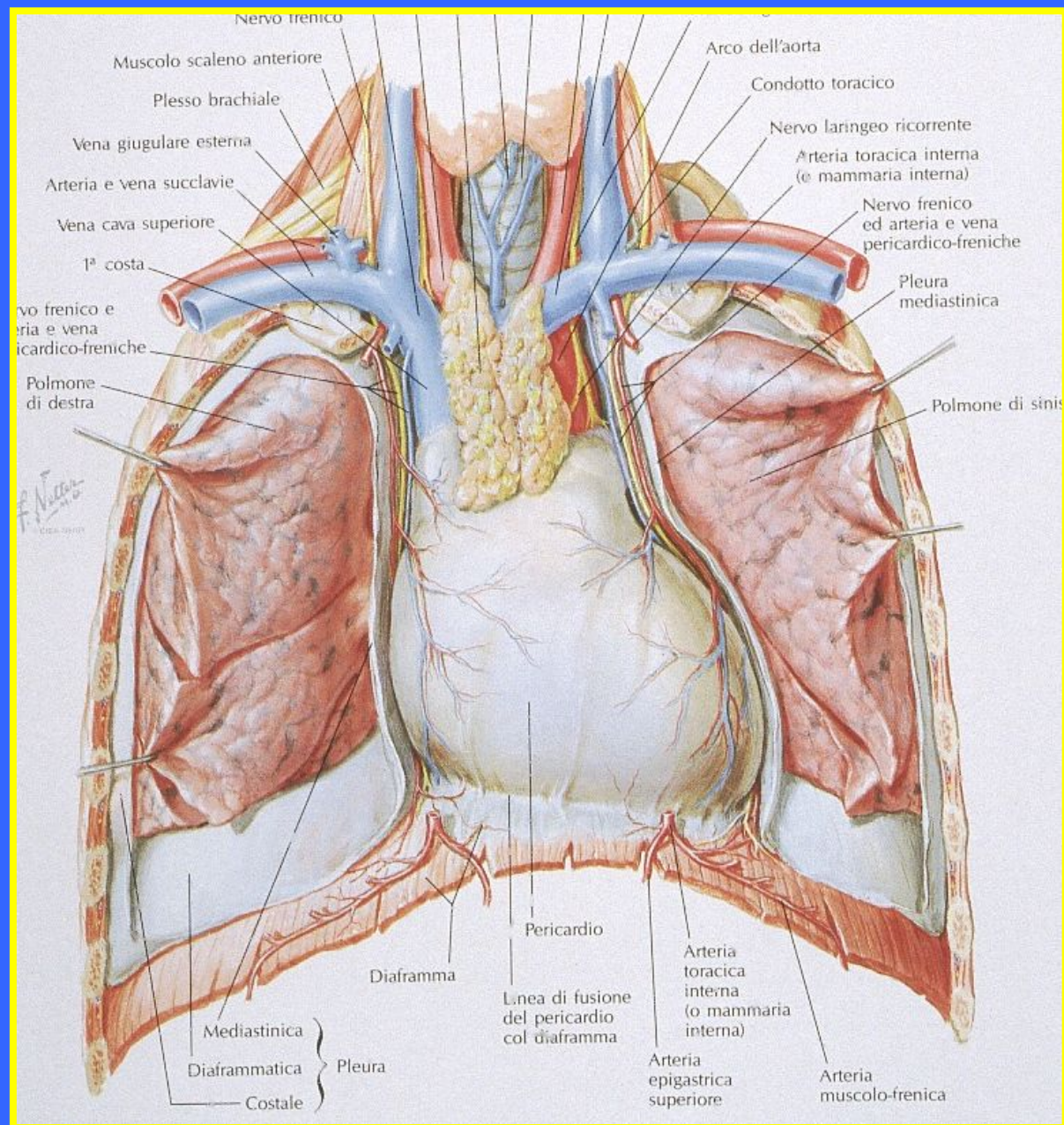


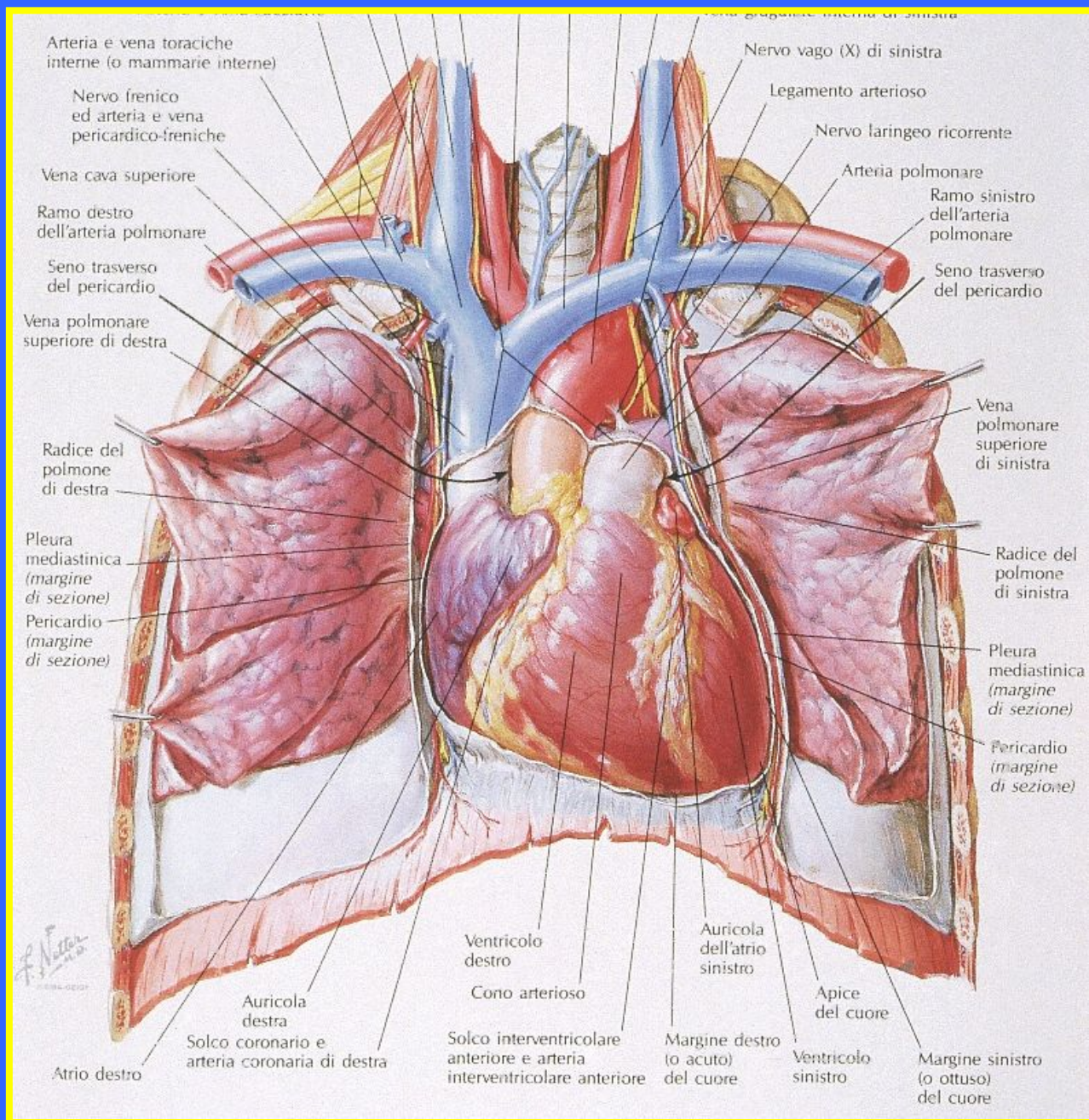






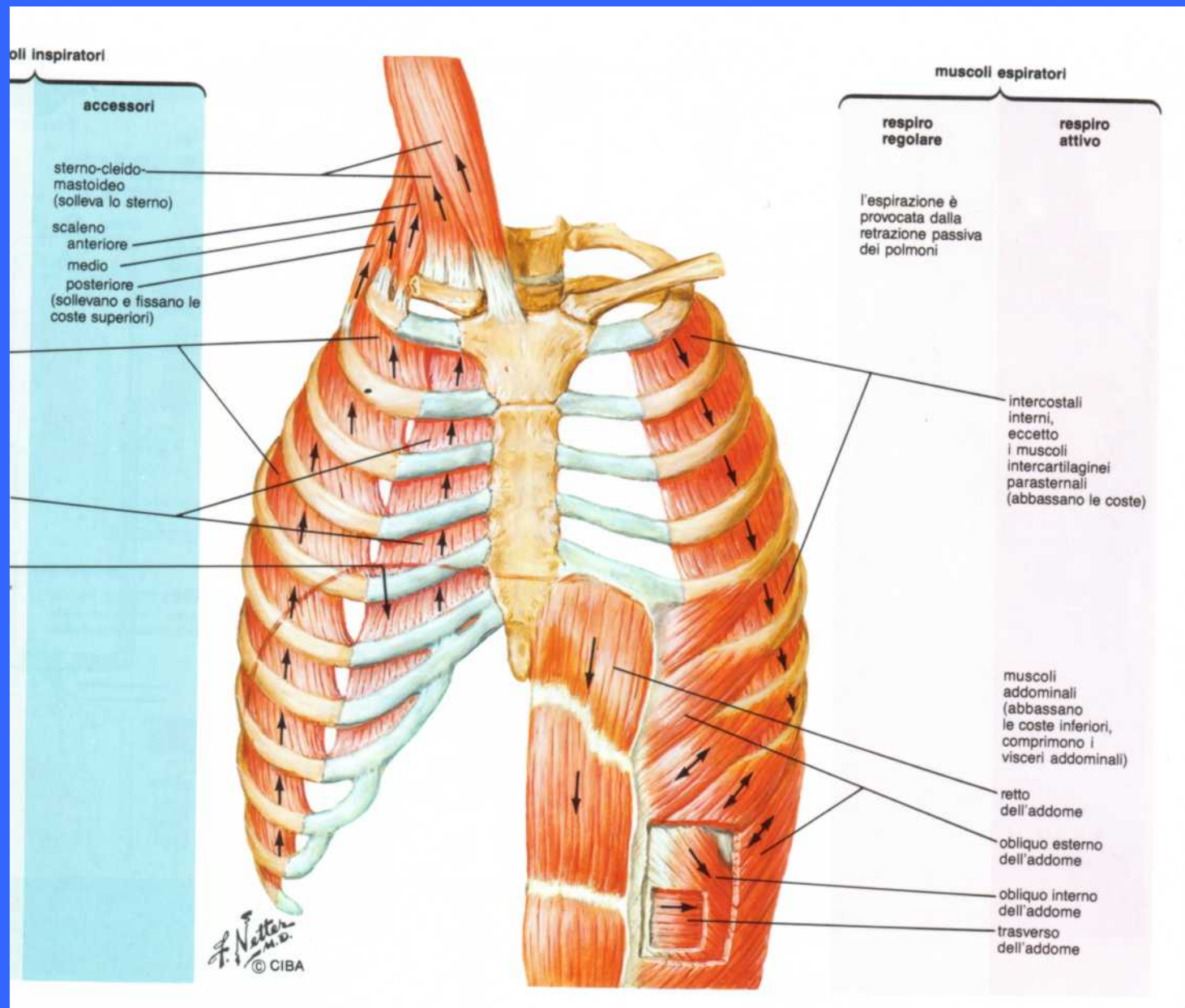


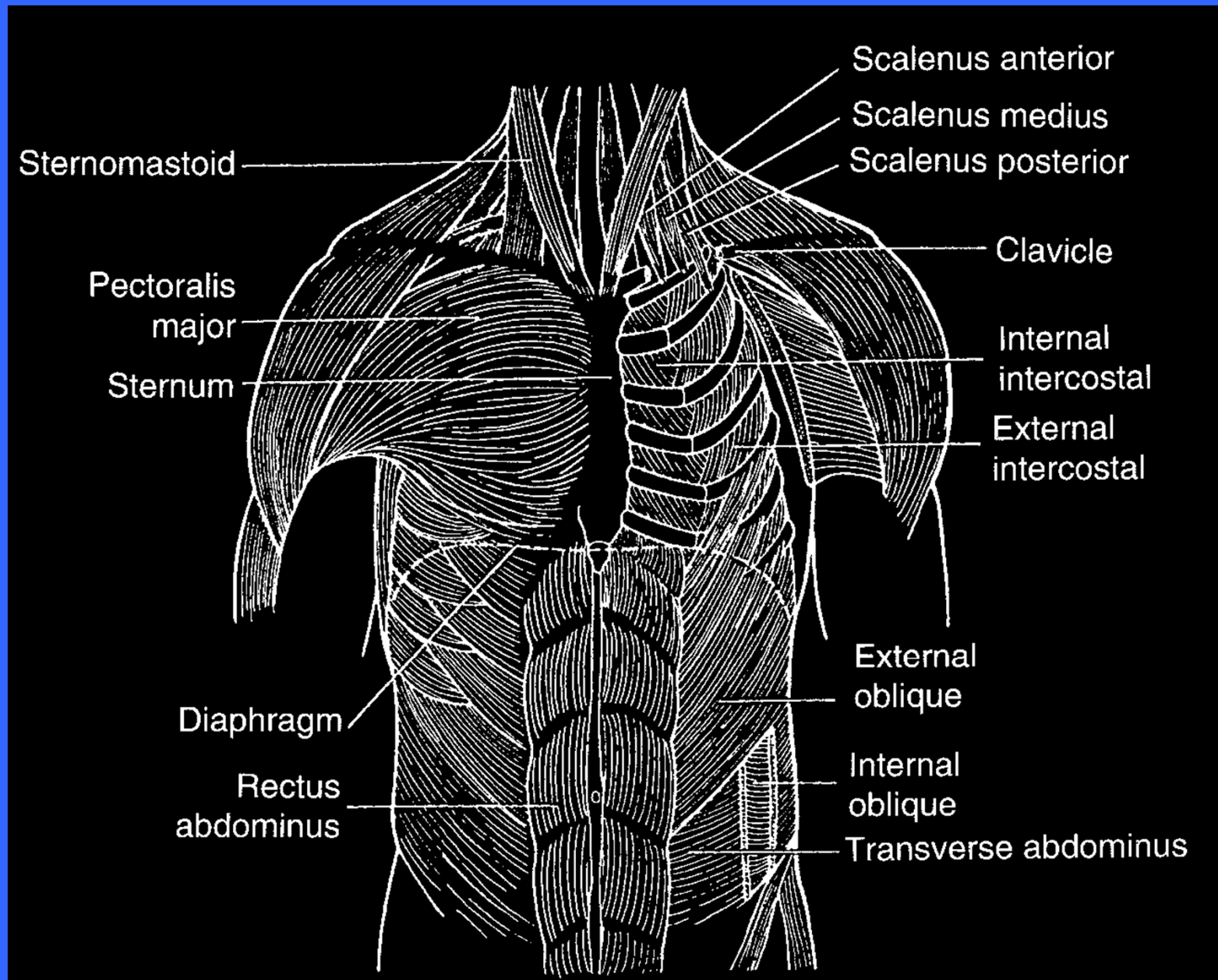


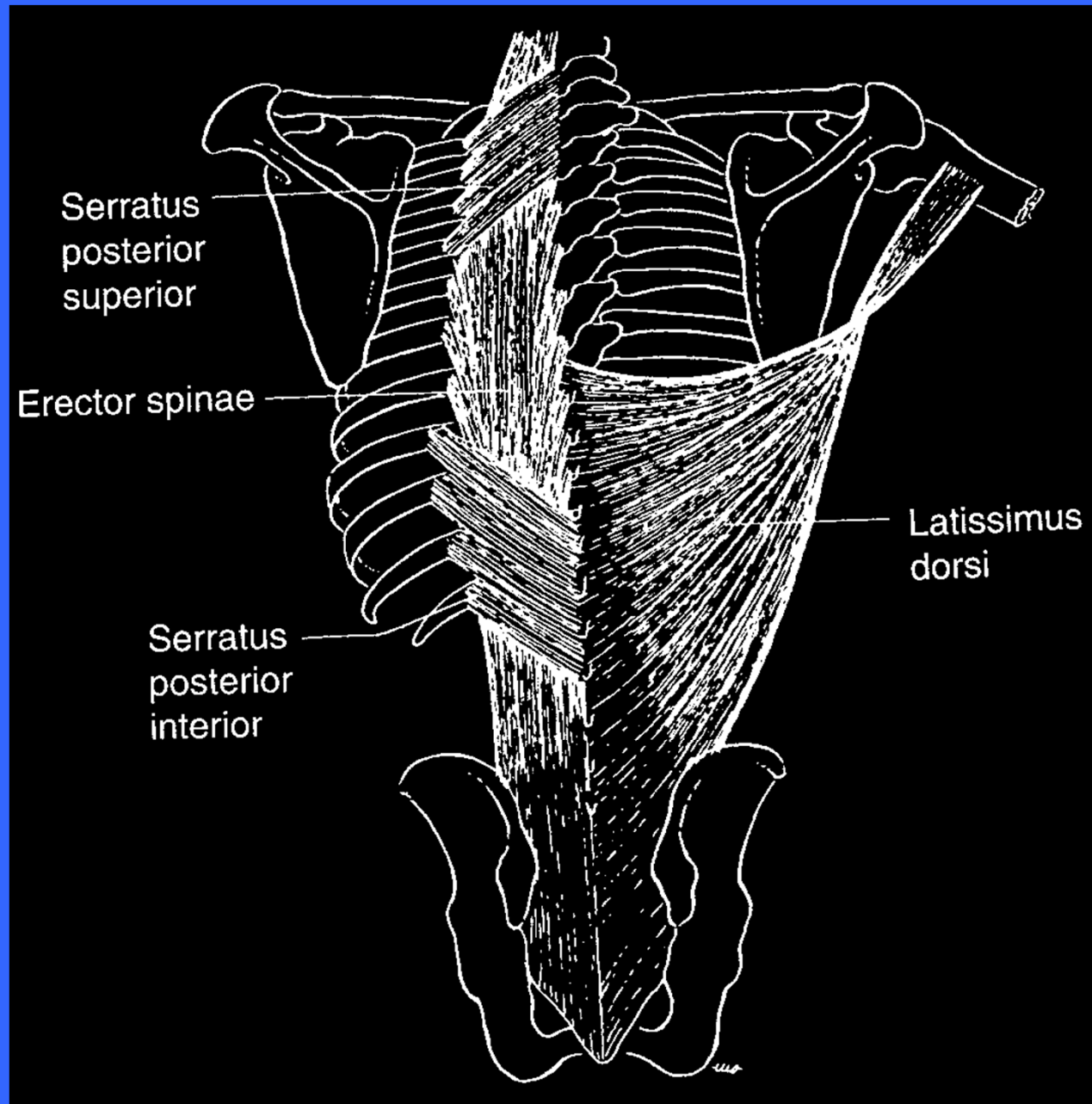


Muscoli Respiratori

- Inspiratori
- Principali
 - Diaframma
 - Intercostale parasternale
 - Scalene
- Accessori
 - Intercostali esterni
 - Pettorali
 - Sternocleidomastoideo
- Espiratori
- Principale
 - Triangularis sterni
- Accessori
 - Intercostali interni
 - Obliquo esterno
 - Obliquo interno
 - Retto dell'addome
 - Serratus
 - Latissimus dorsi

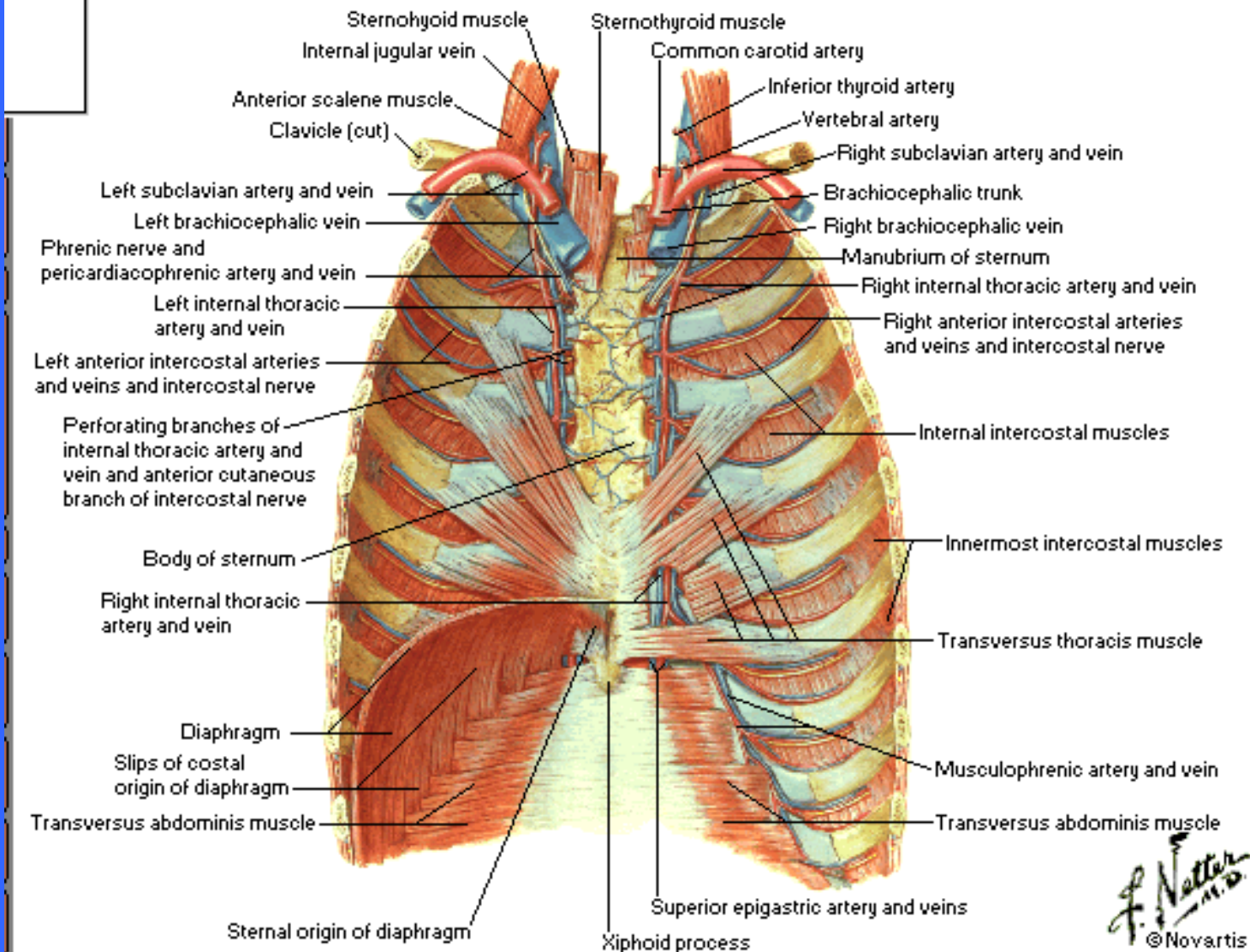






Anterior Thoracic Wall

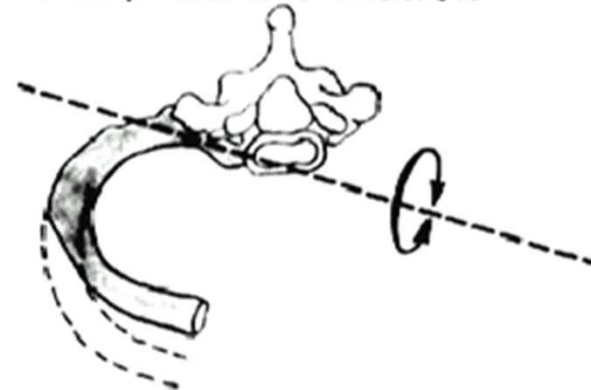
Internal View



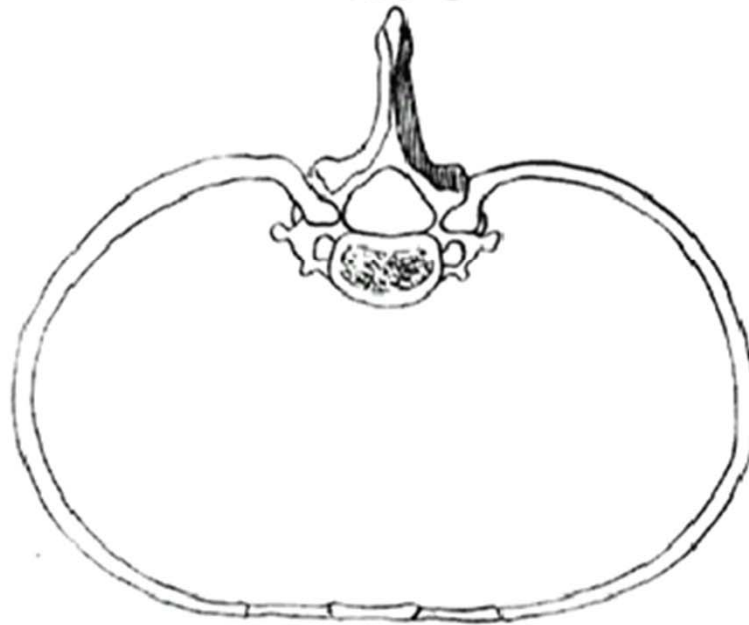
Rib 1



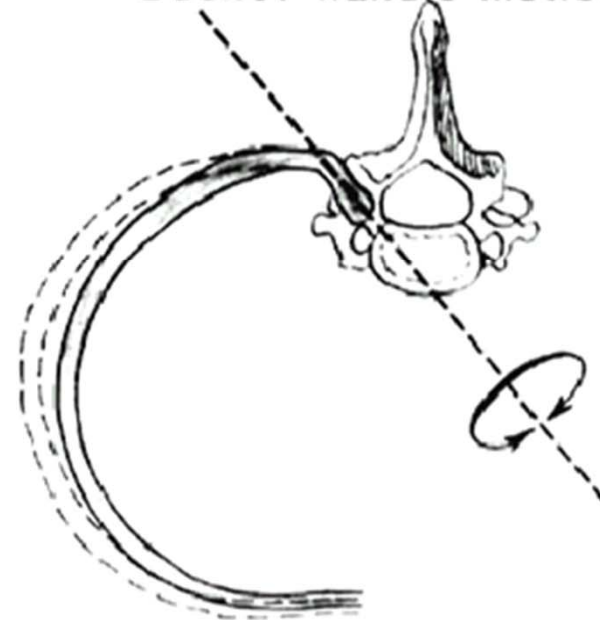
Pump-handle motion



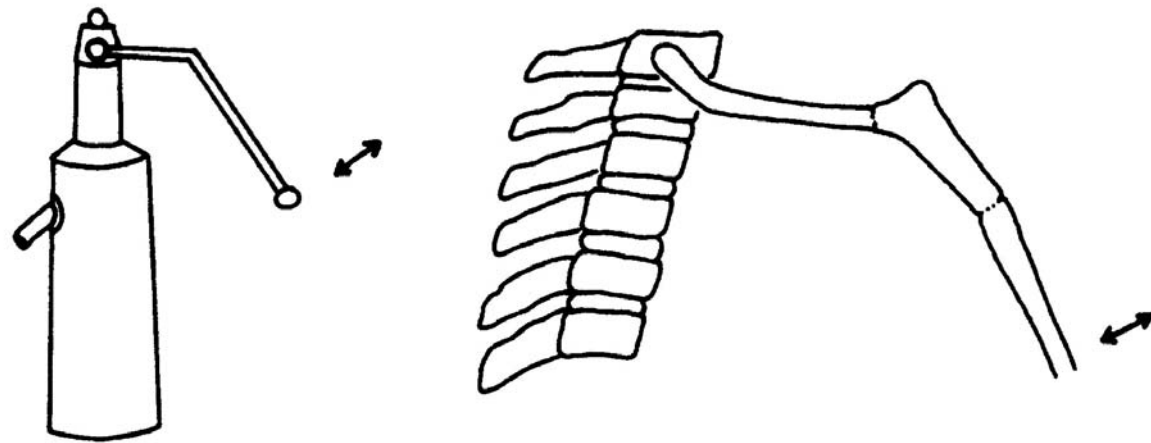
Rib 6



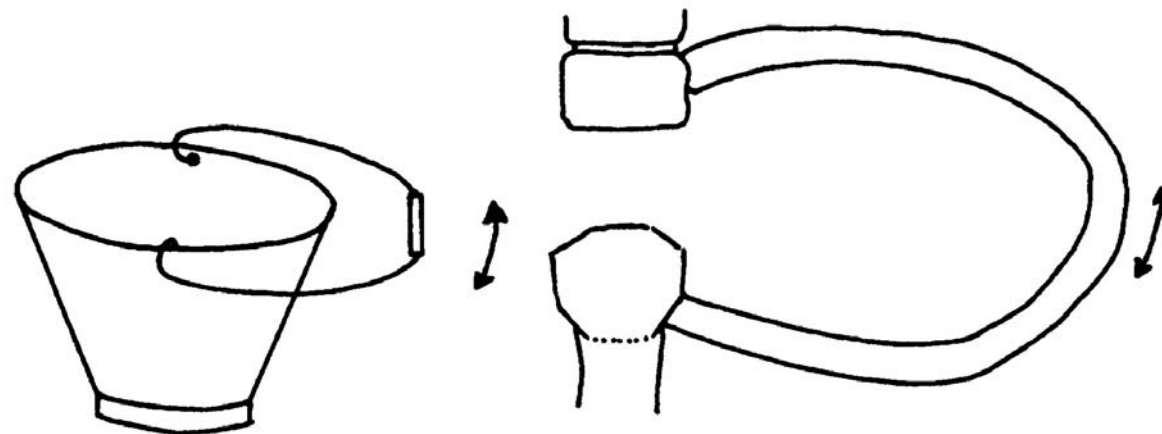
Bucket-handle motion

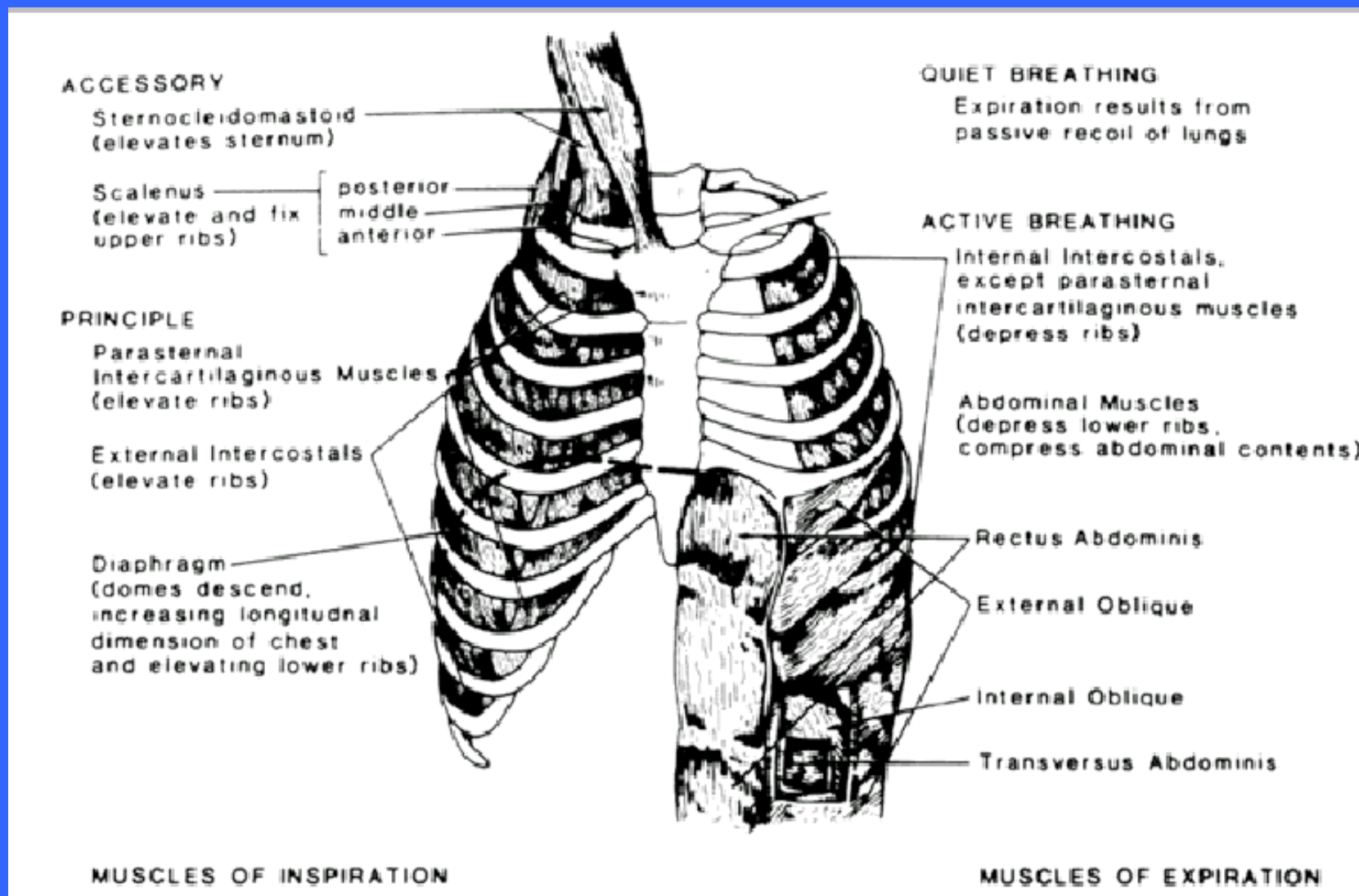


Pump handle



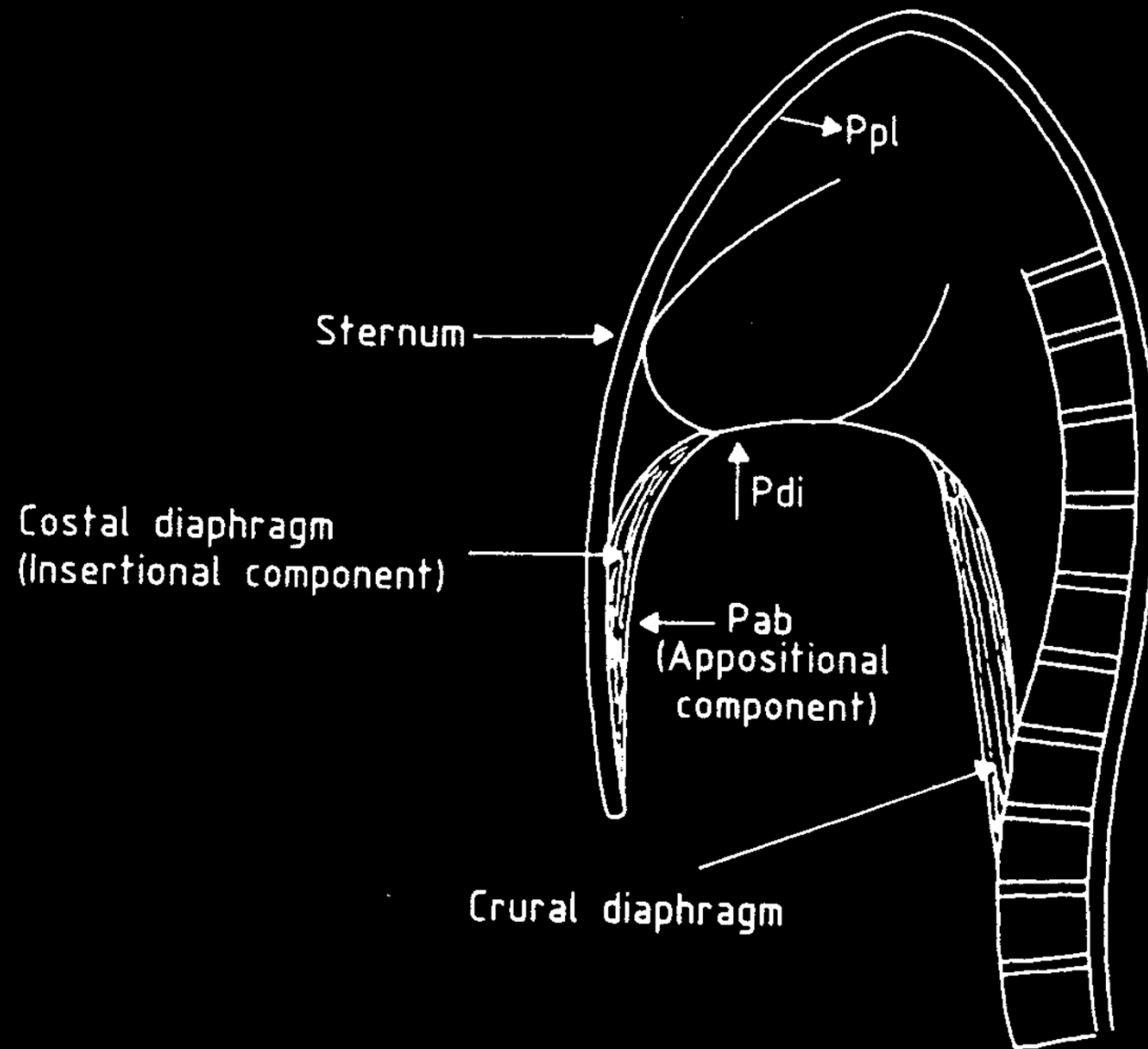
Bucket handle

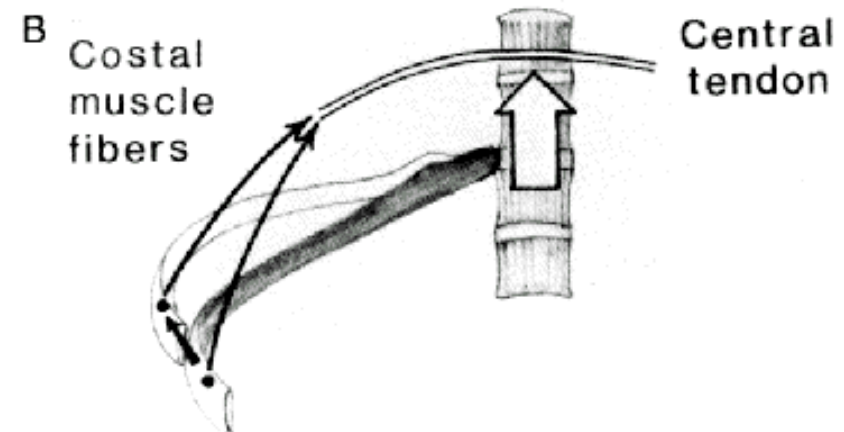
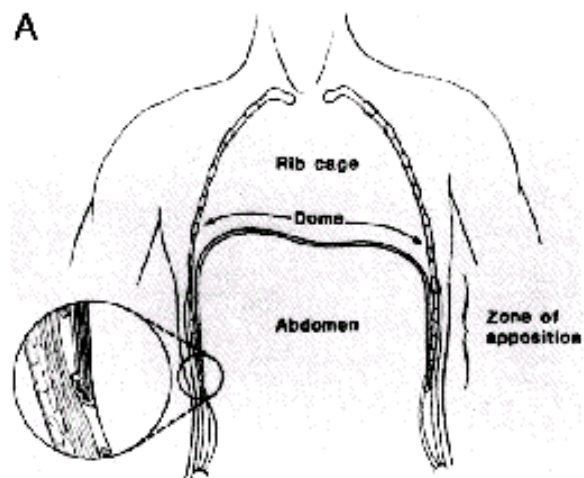


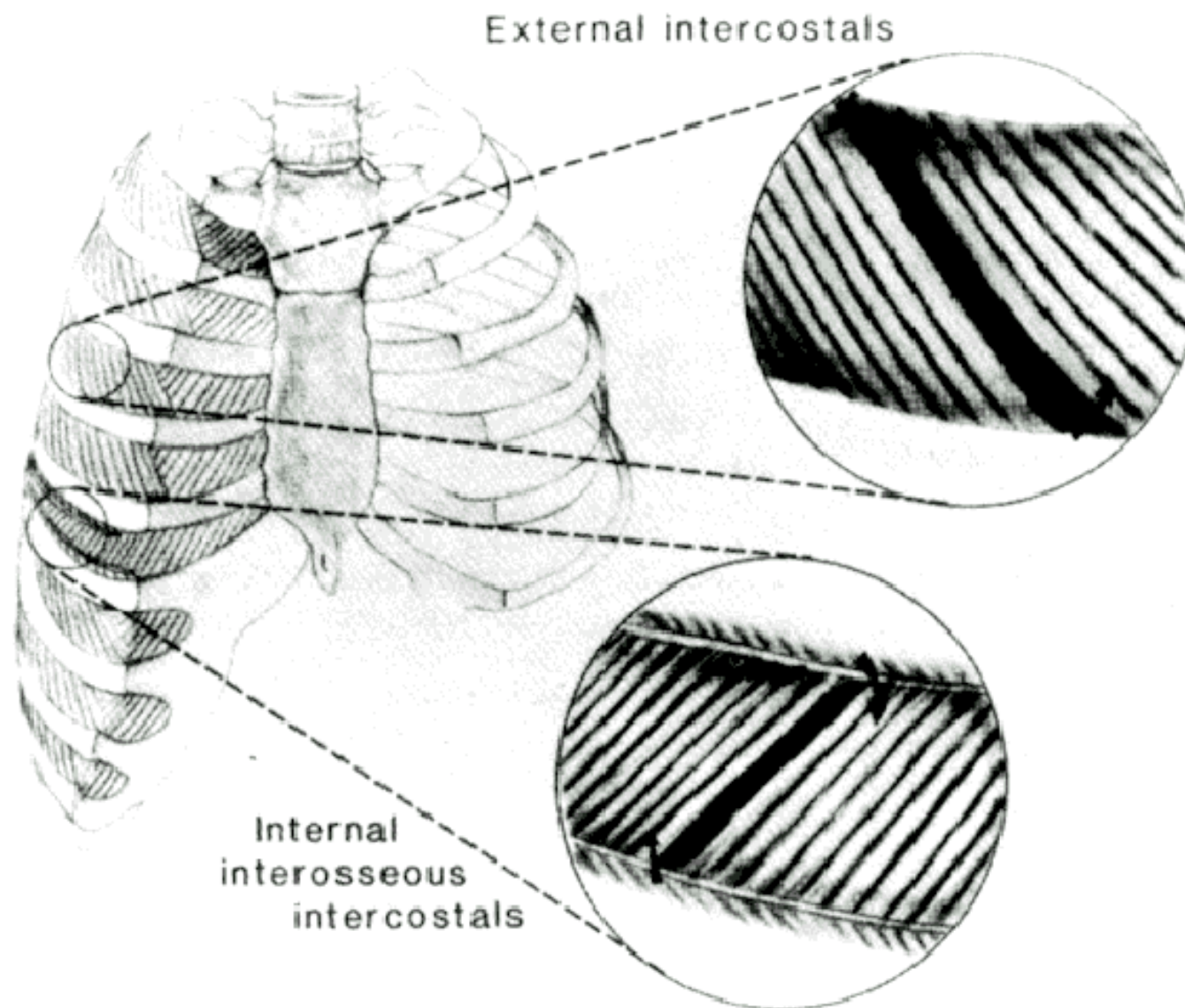


Diaframma

- Muscolo inspiratorio principale
 - Costale
 - Crurale







Tipi di fibre muscolari scheletriche

- Tipo II (Veloce, bianca)
- Fibre grosse
- Reticolo sarcoplasmatico ben sviluppato
- Molti enzimi glicolitici
- Pochi capillari
- Tipo I (lente, rosse)
- Fibre più piccole
- Più capillari
- Contengono mioglobina
- Più mitocondri

Proprietà strutturali e funzionali

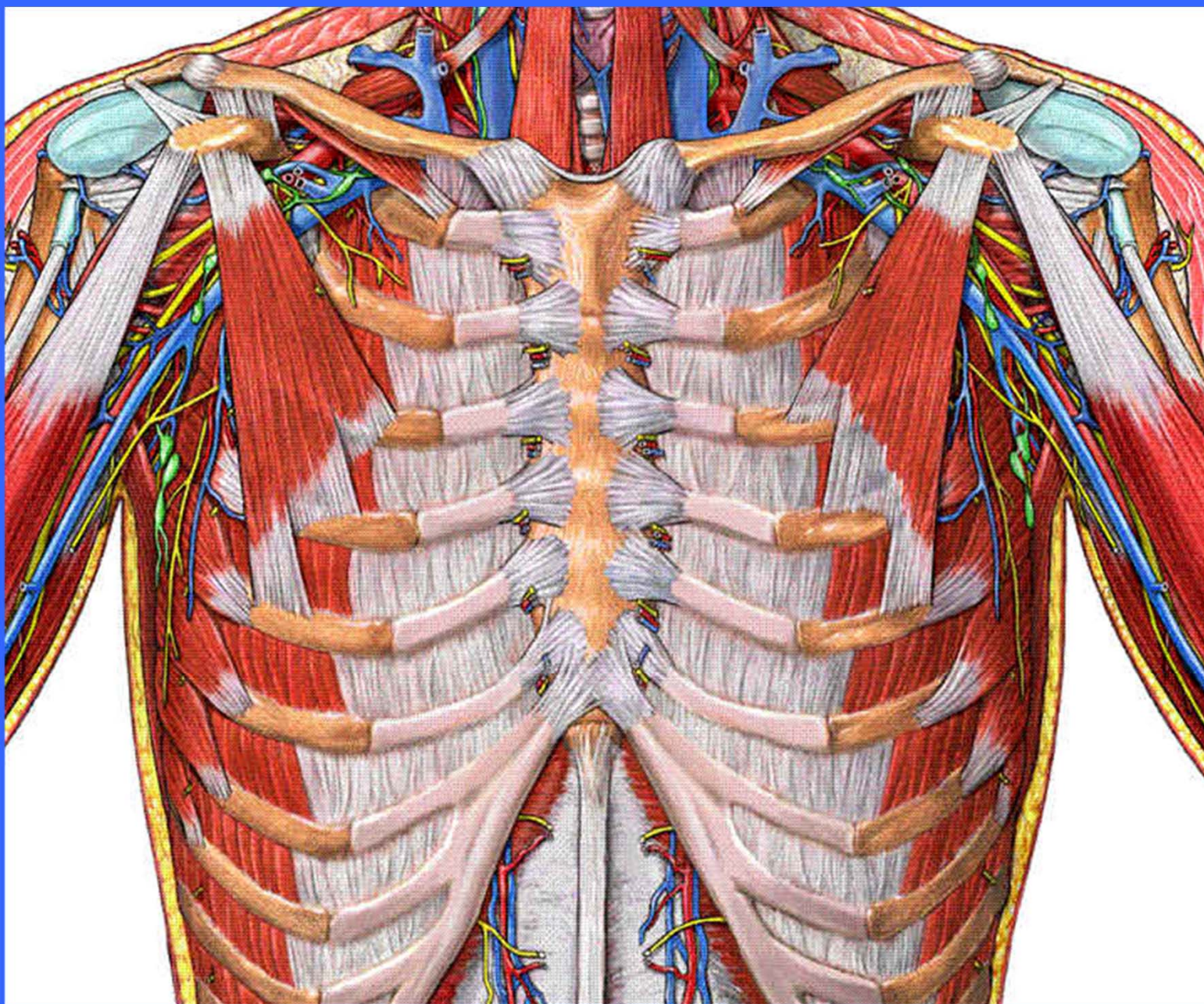
- Muscoli scheletrici
- Lavorano contro un carico resistivo ed elastico
- Si contraggono ritmicamente e continuamente
 - Elevata soglia di fatica
 - Elevata capacità di metabolismo ossidativo
 - Elevata densità capillare
 - Elevato flusso del sangue

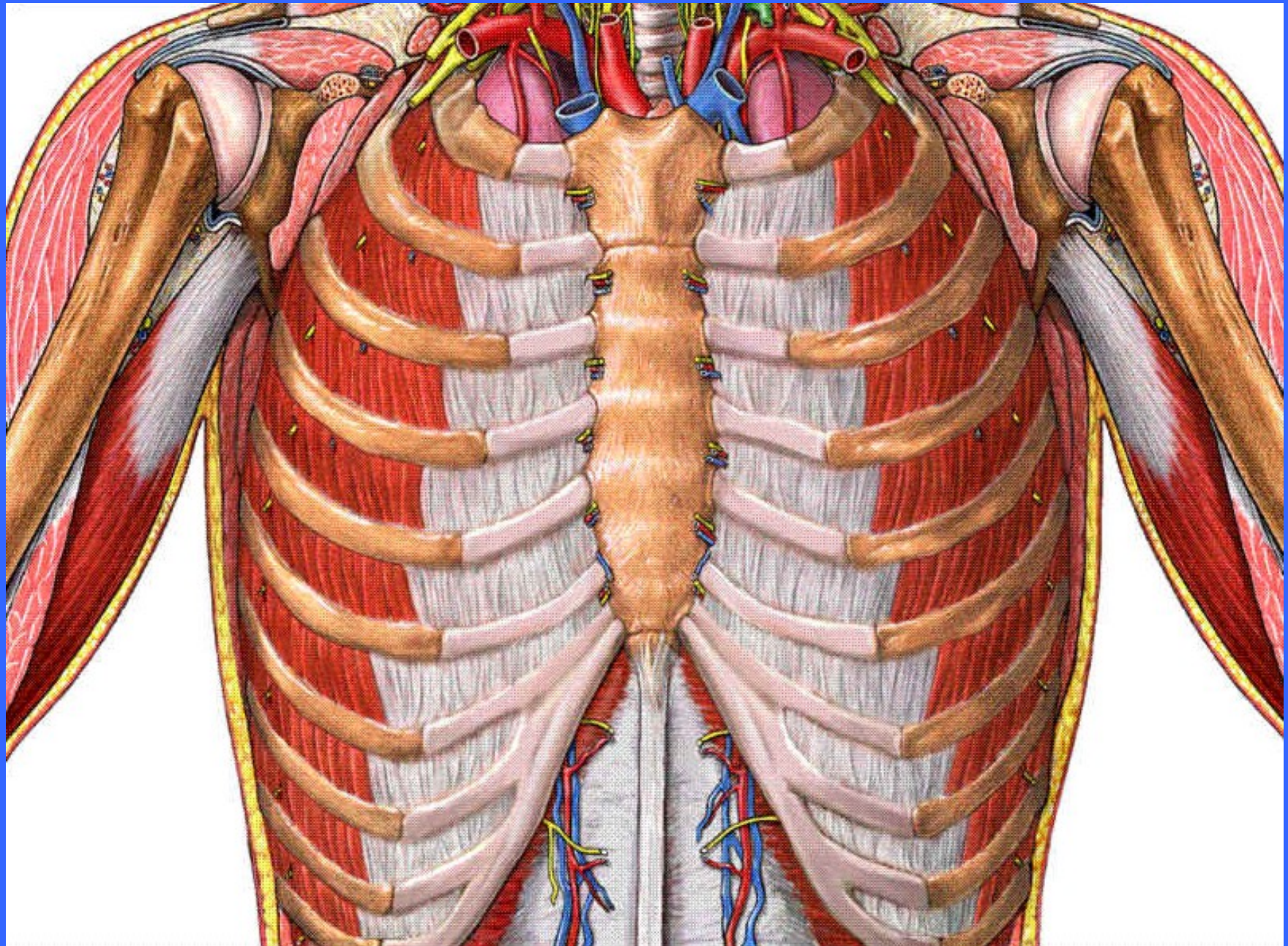
Proprietà strutturali

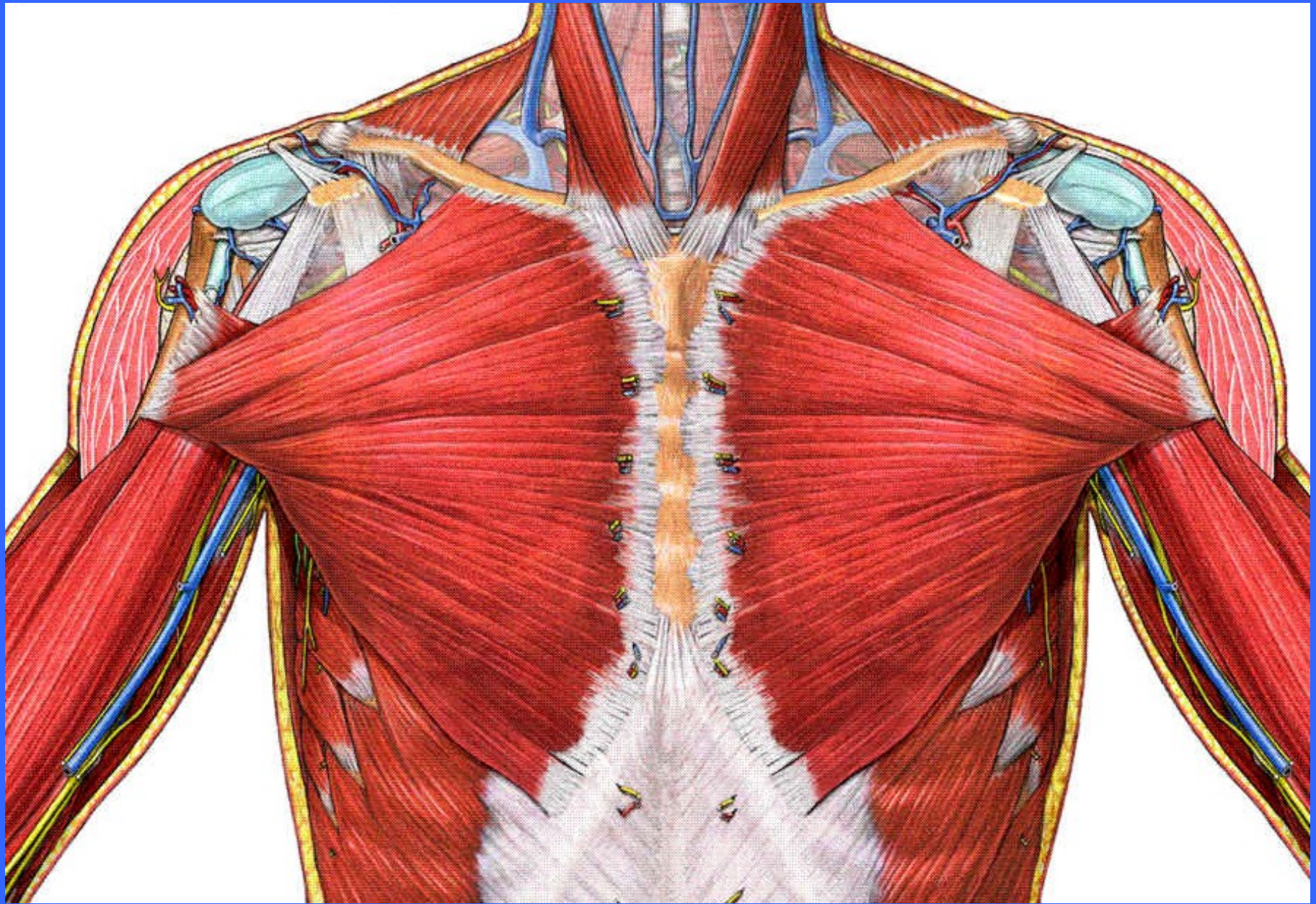
- Contengono fibre muscolari misti di tipo I e II
 - Diaframma: I:55%/IIa:22%/IIb:23%
- Orientati in fasci paralleli con altissima densità di mitocondri e con c 80% di fibre ossidative (pertanto VO₂ elevato)

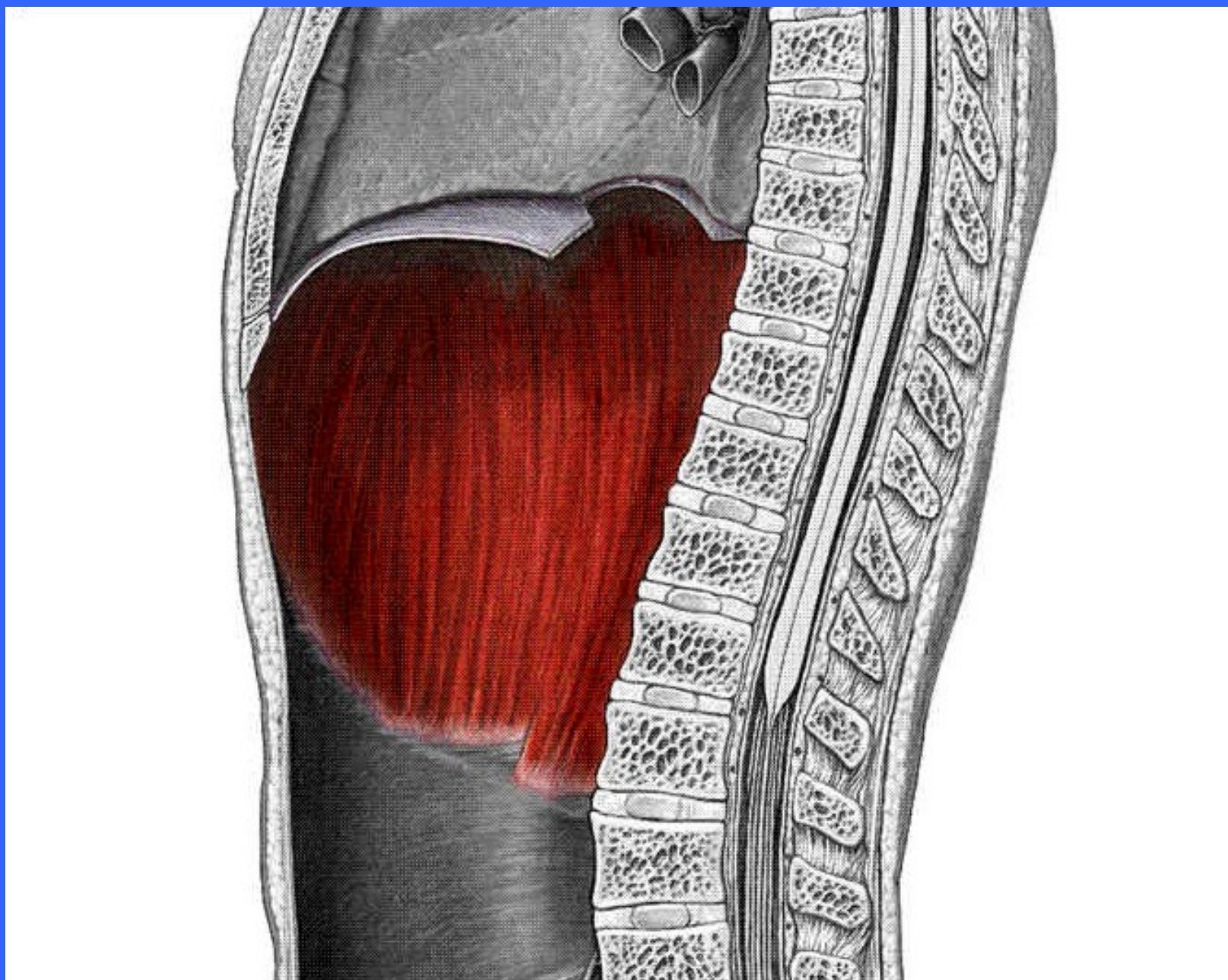
MUSCOLI INSPIRATORI

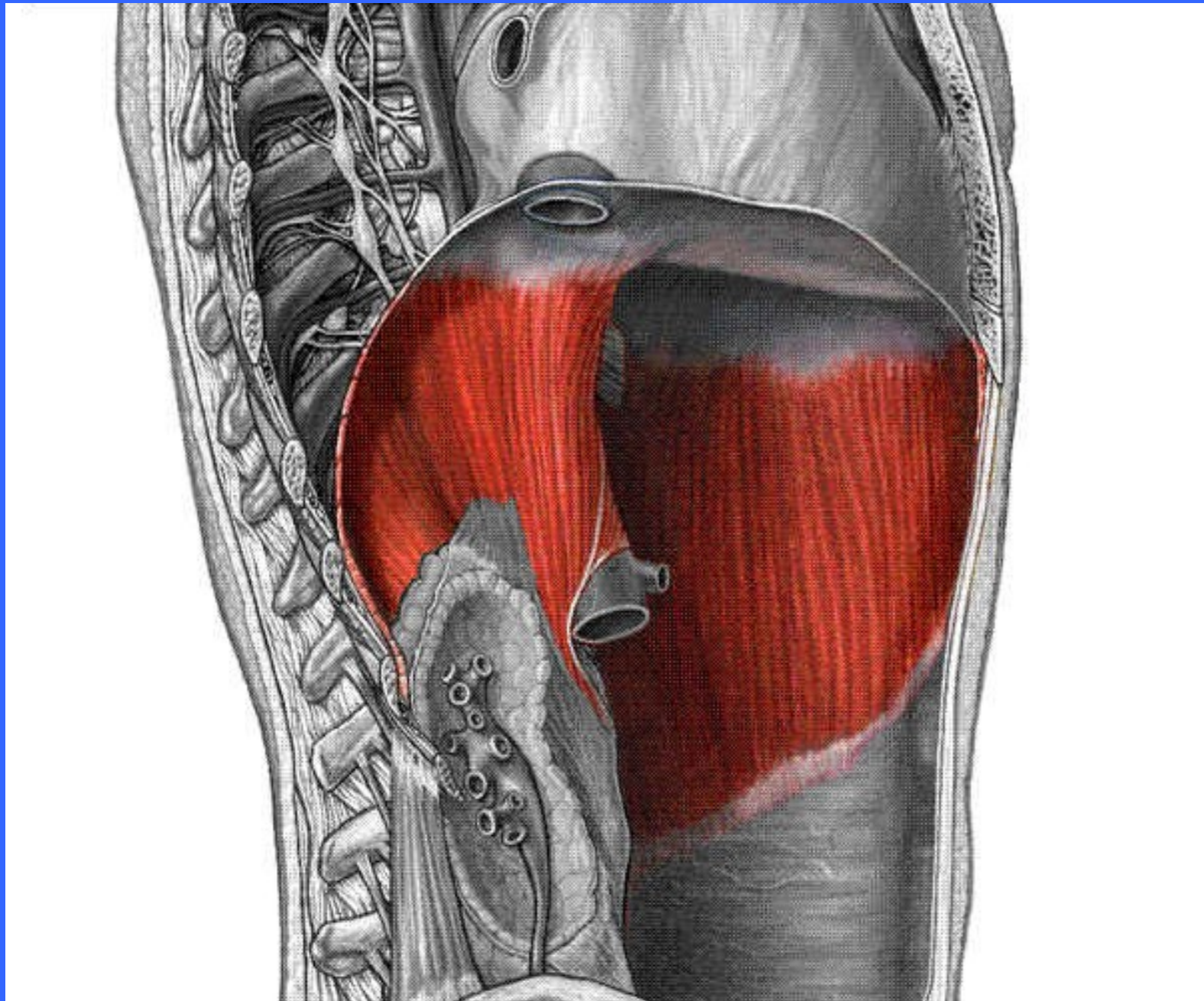
- **Principali :**
 - intercostali esterni : sollevano le coste
 - diaframma : abbassa la cupola e solleva le coste inferiori
- **Accessori :**
 - sternocleidomastoideo : solleva lo sterno
 - scaleni (anteriore, medio, posteriore) : sollevano e fissano le coste superiori





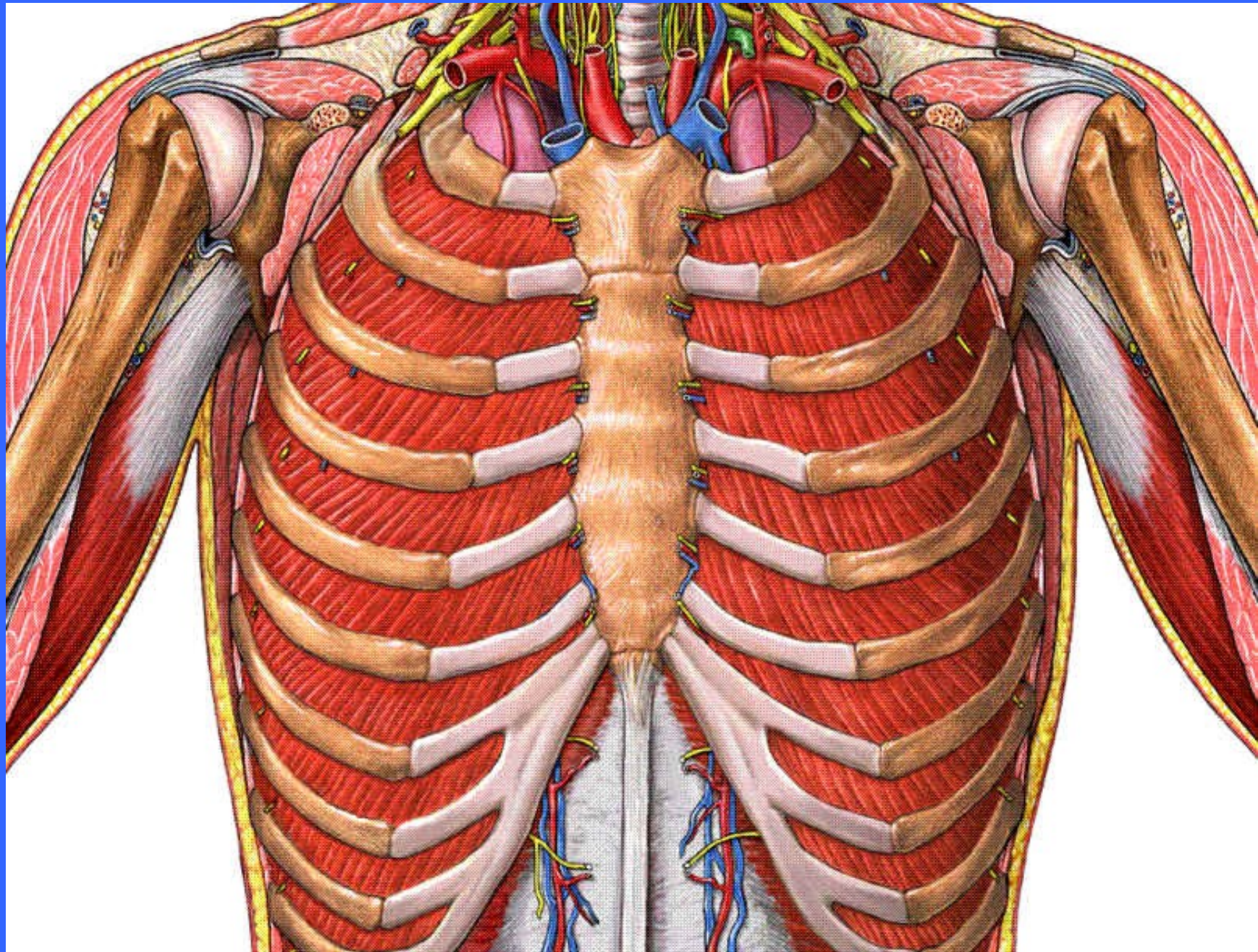


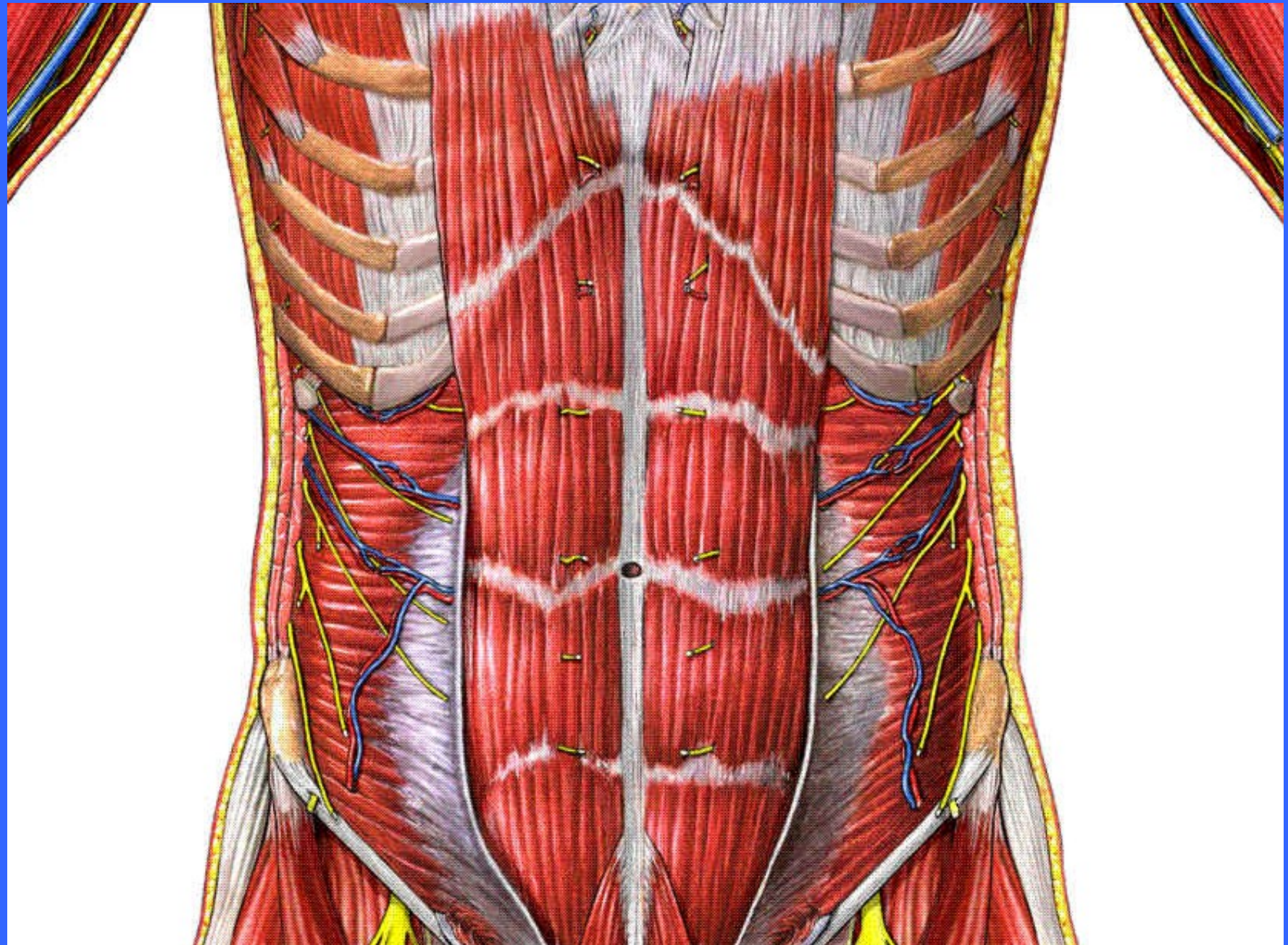


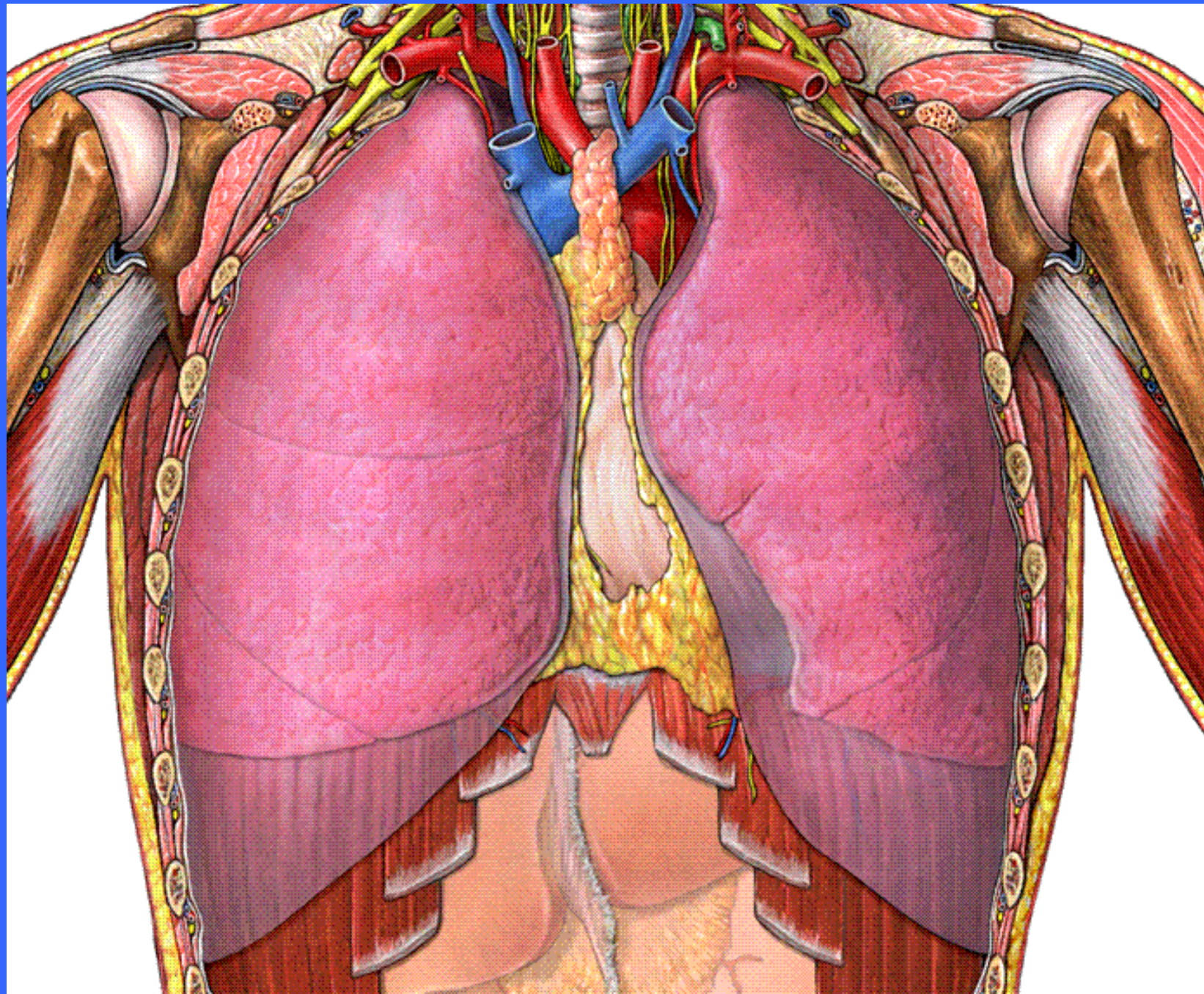


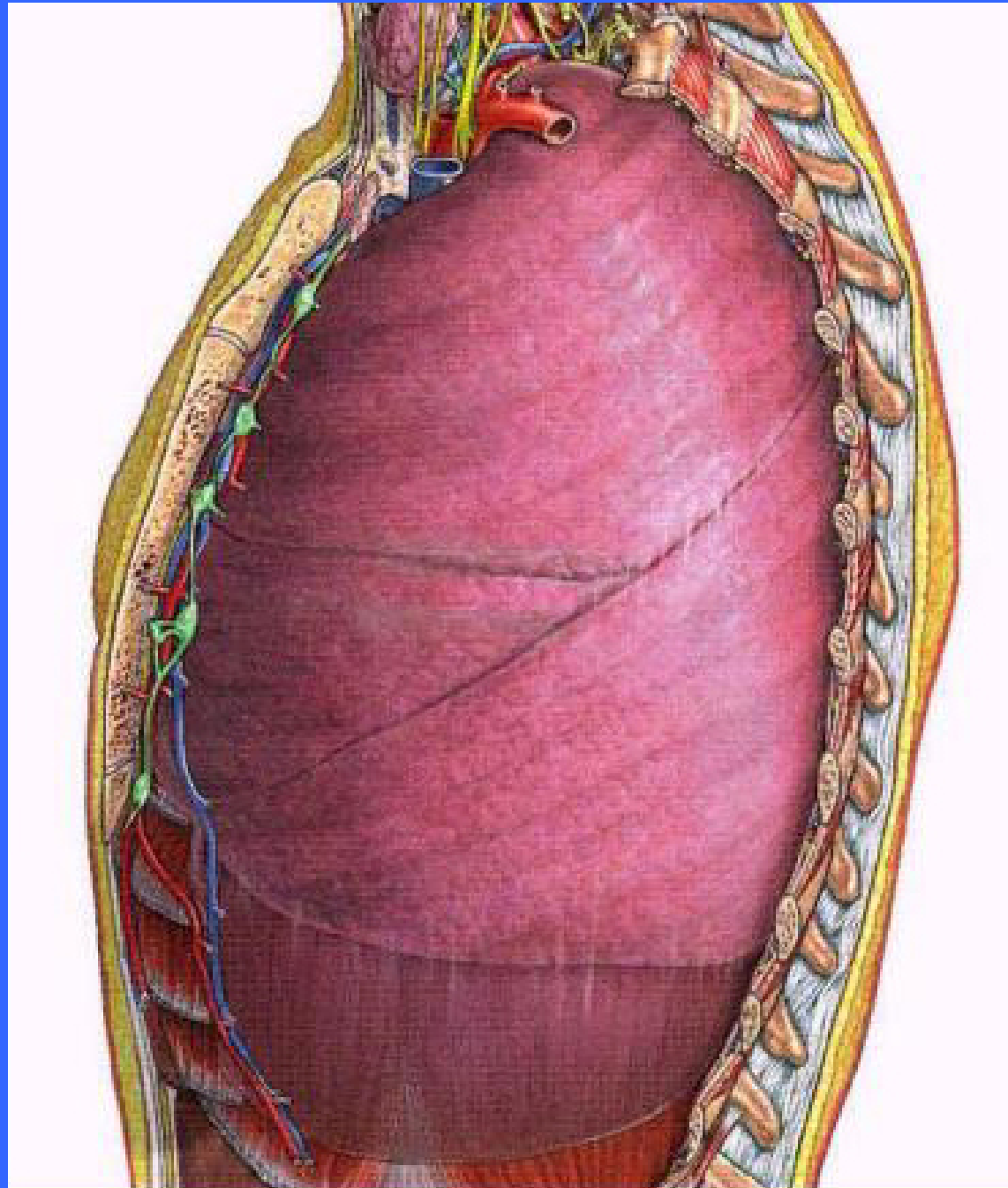
MUSCOLI ESPIRATORI

- Respiro regolare : l'espirazione é provocata dalla retrazione passiva dei polmoni
- Respiro attivo :
 - intercostali interni : abbassano le coste
 - muscoli addominali : abbassano le coste inferiori
 - retto
 - obliquo interno
 - obliquo esterno
 - trasverso

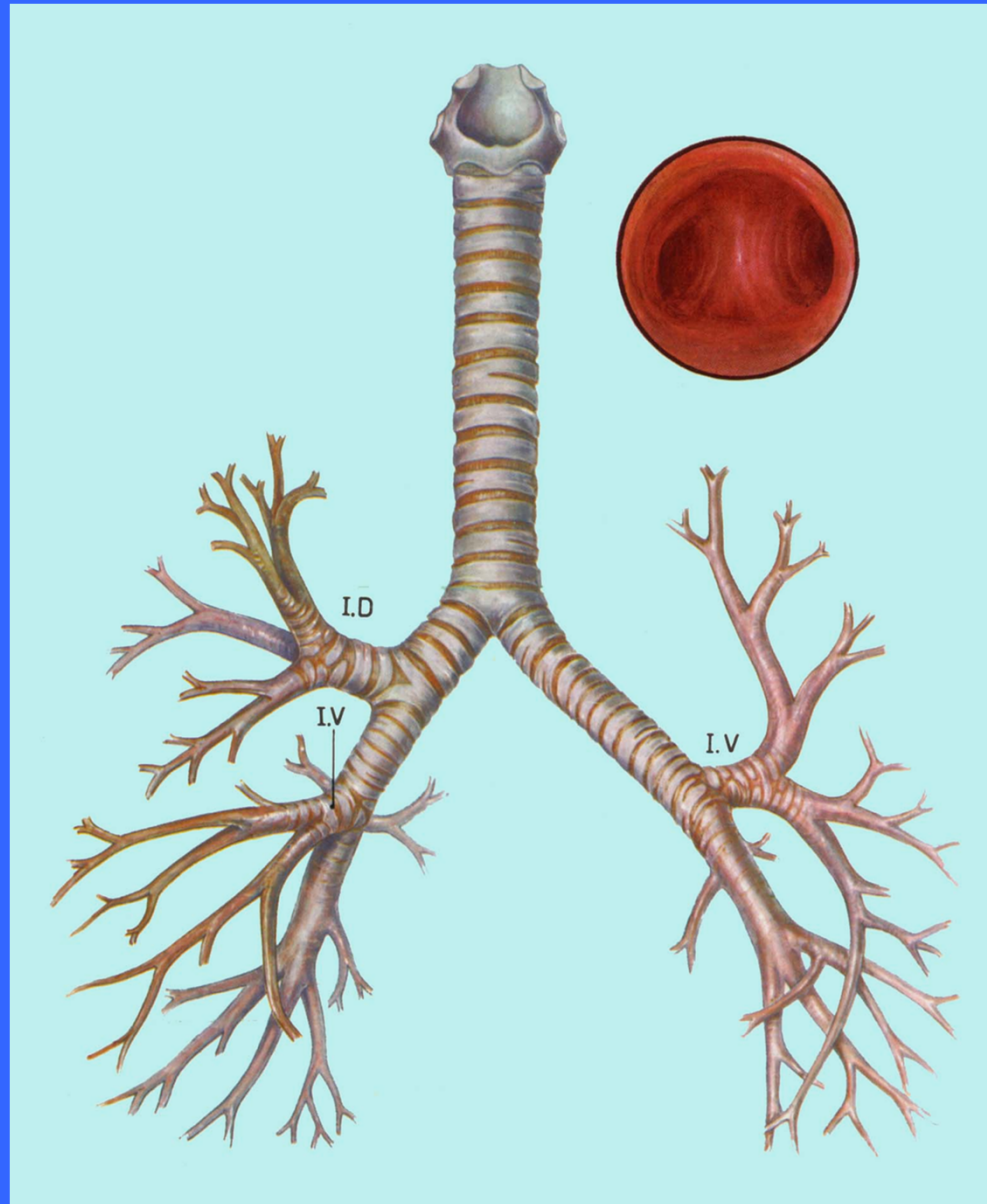








ALBERO TRACHEO-BRONCHIALE

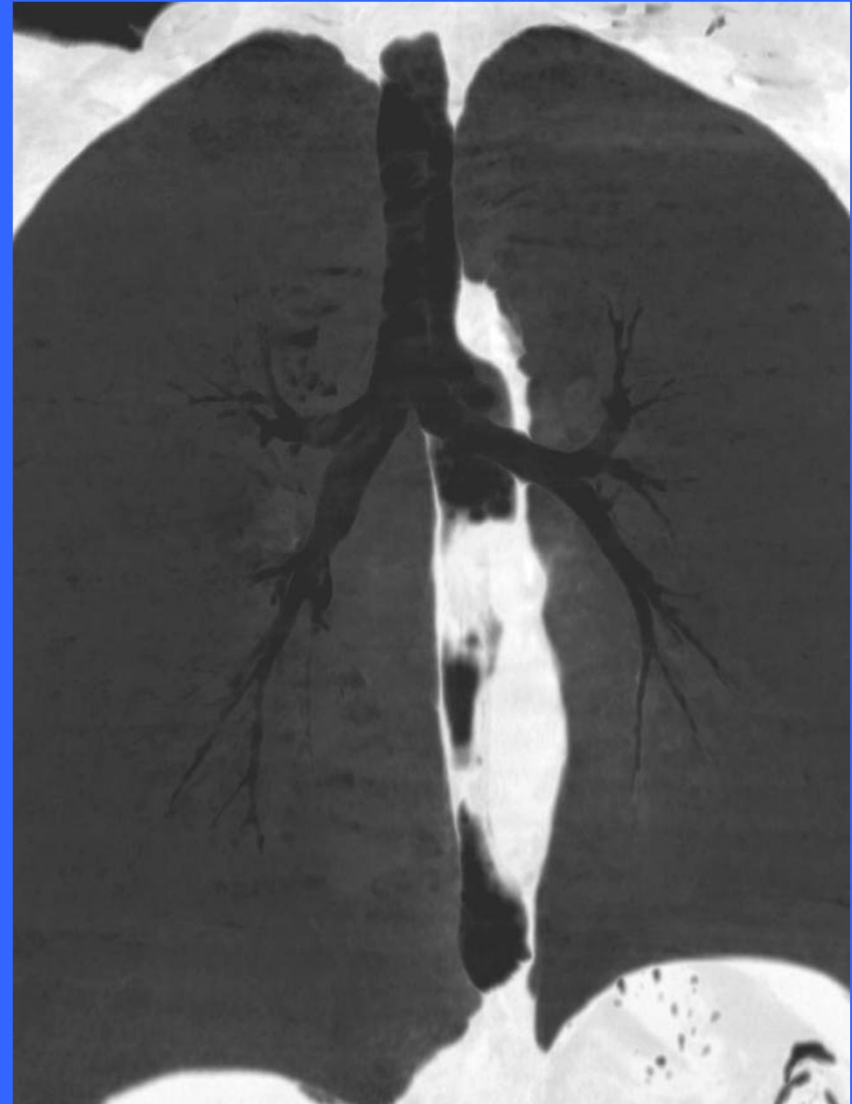
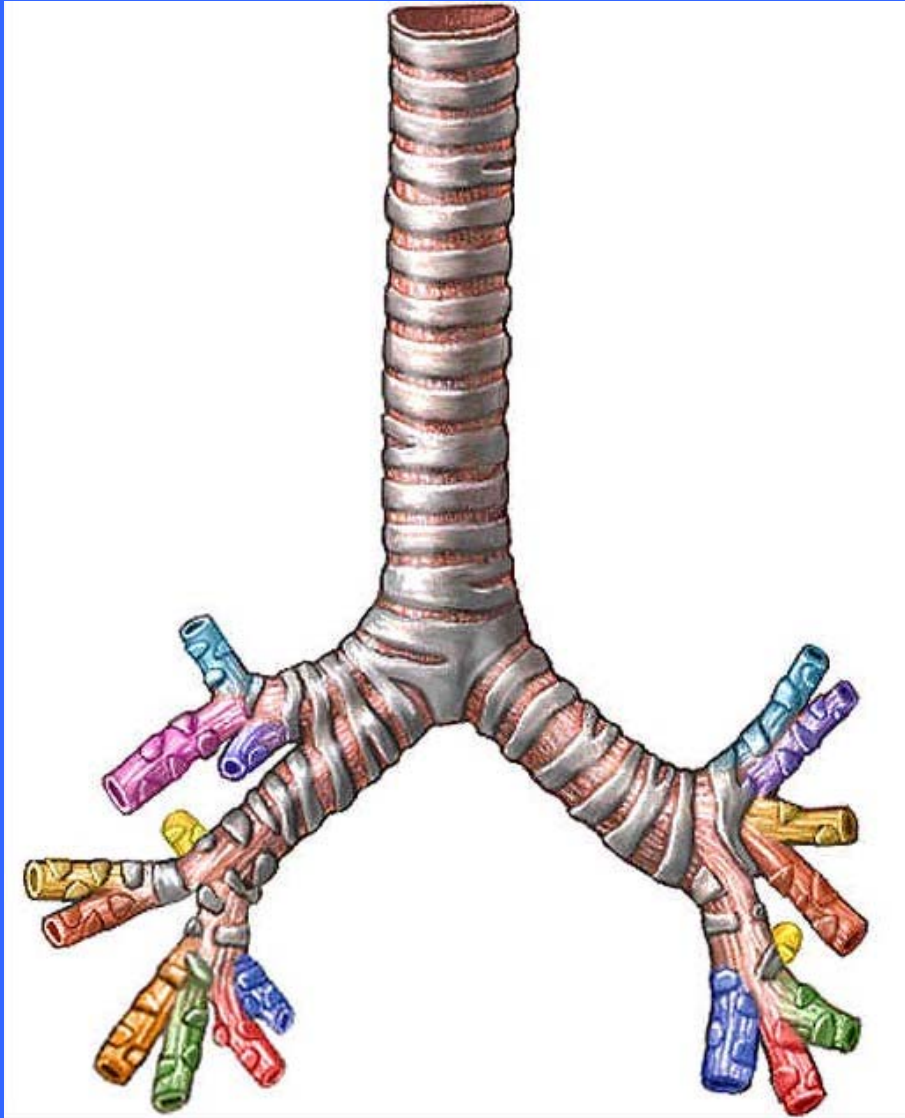


BRONCHI

- Bronchi principali
- Bronchi lobar
- Bronchi segmentari
- Bronchioli
- Bronchioli intralobulari (0,7 mm)

Circa 23 divisioni

SISTEMA BRONCHIALE



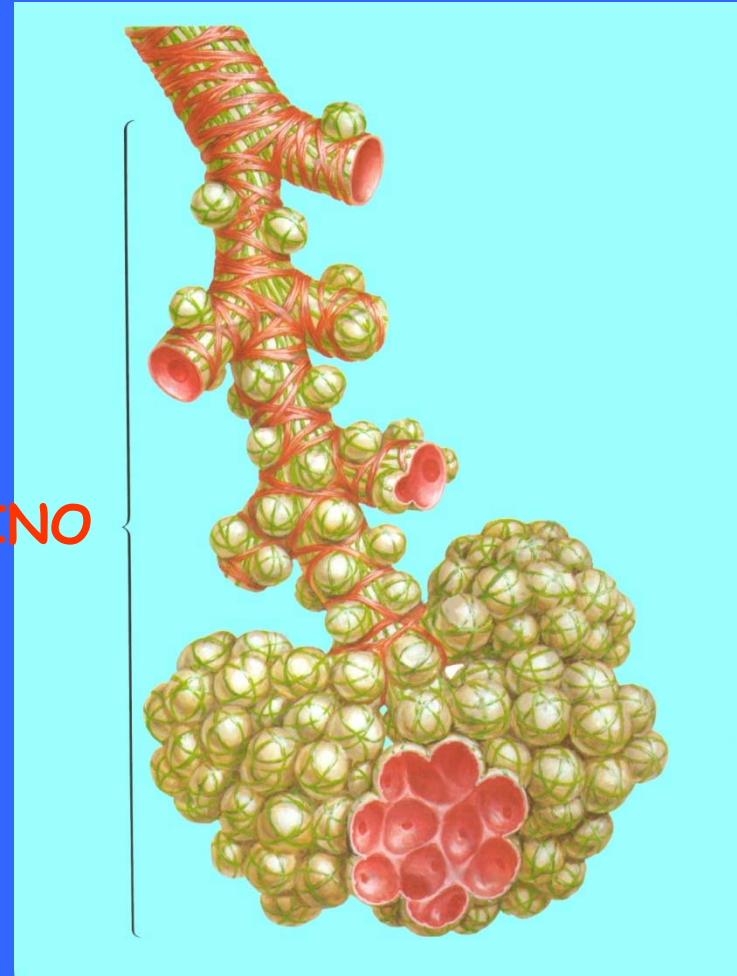
BRONCHI

BRONCHIOLI

LOBULO

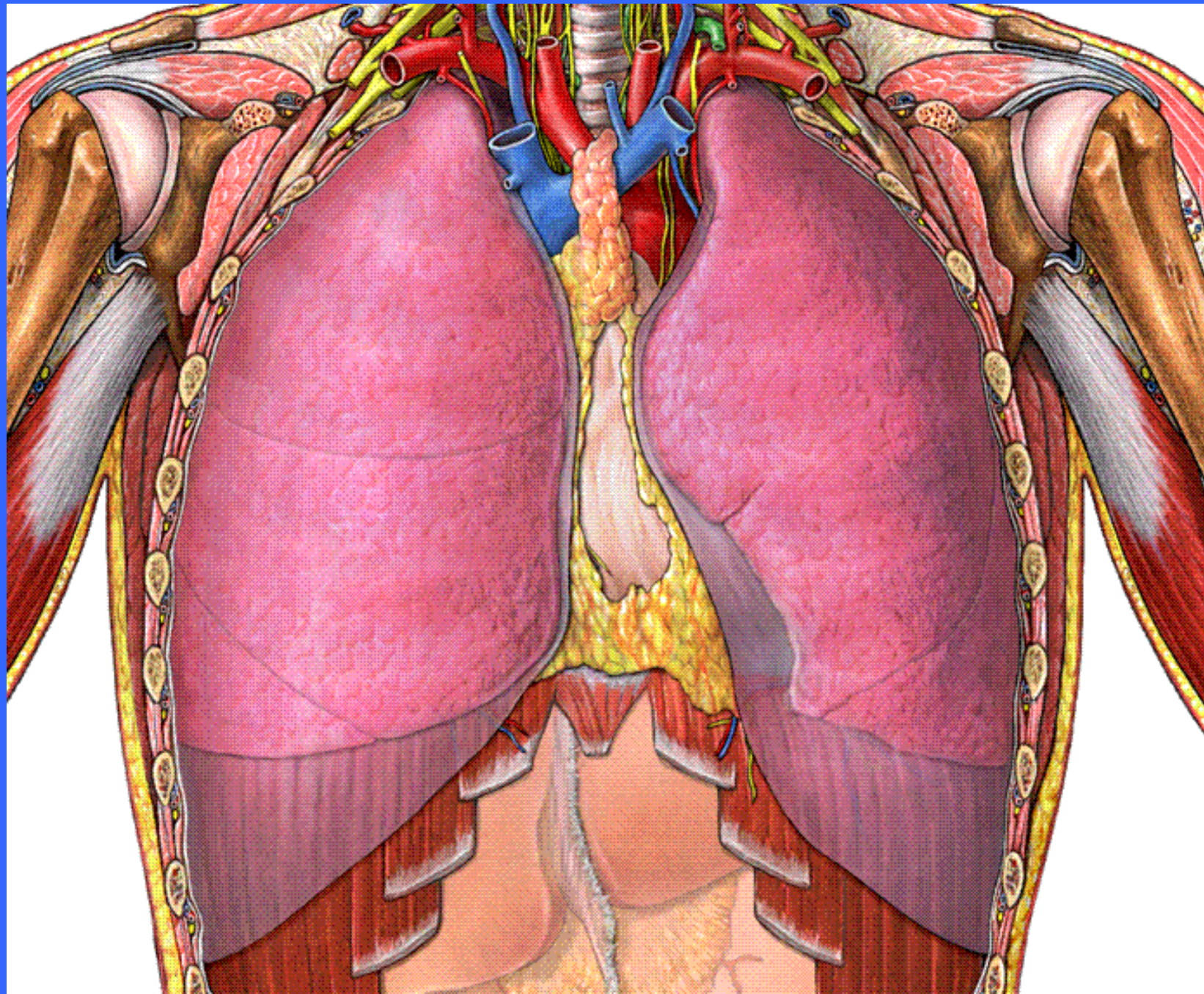
ACINO

ACINO



POLMONI

- Organi parenchimatosi rivestiti da sierosa, contenuti nelle cavità pleuriche dei due emitoraci
- Diametro cranio-caudale circa 25-30 cm
- Diametro trasverso max circa 15-20 cm
- Forma conoide con base concava



STRUTTURA POLMONARE

- **LOBI**: delimitati dalle scissure
- **SEGMENTI**: non precisamente delimitabili radiologicamente. Aerati da un bronco segmentario
- **LOBULI**: le più piccole aree di parenchima polmonare delimitate da tessuto connettivo. Dimensione : 10-20 mm.
- **ACINI** : radiologicamente non identificabili. Un lobulo ne contiene circa 12

