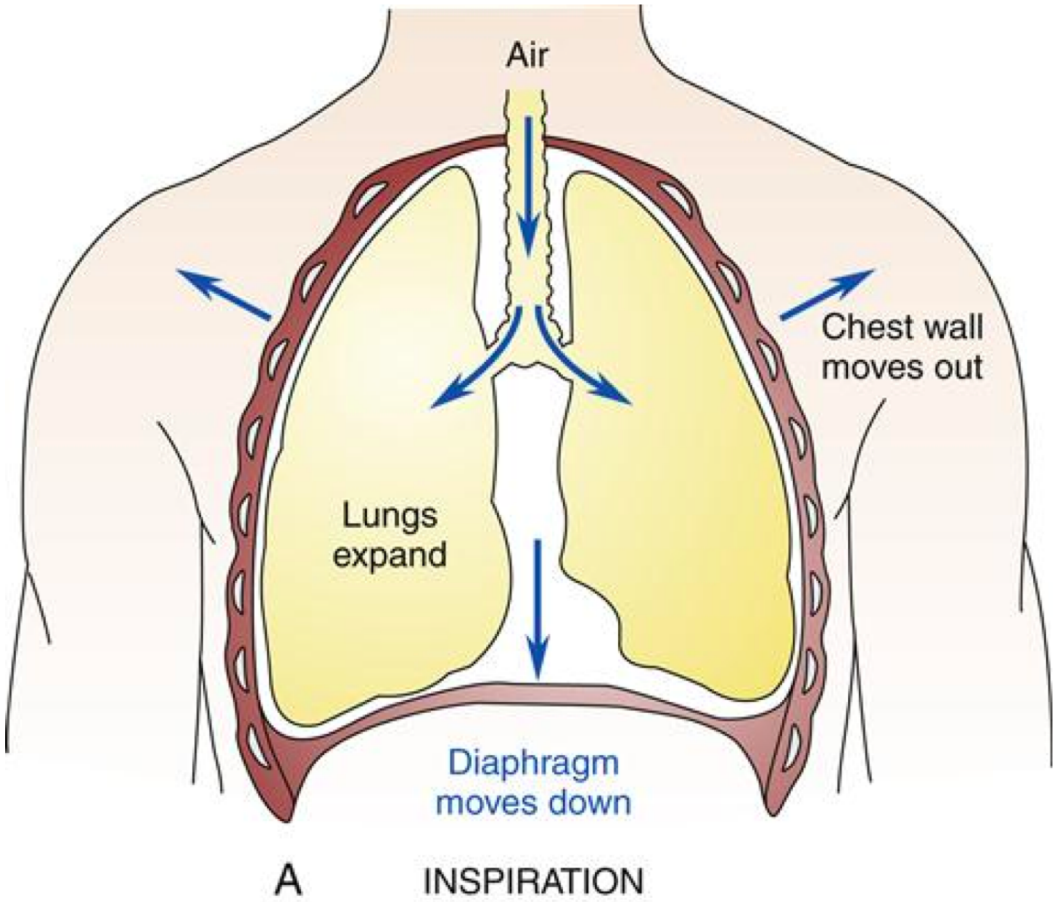
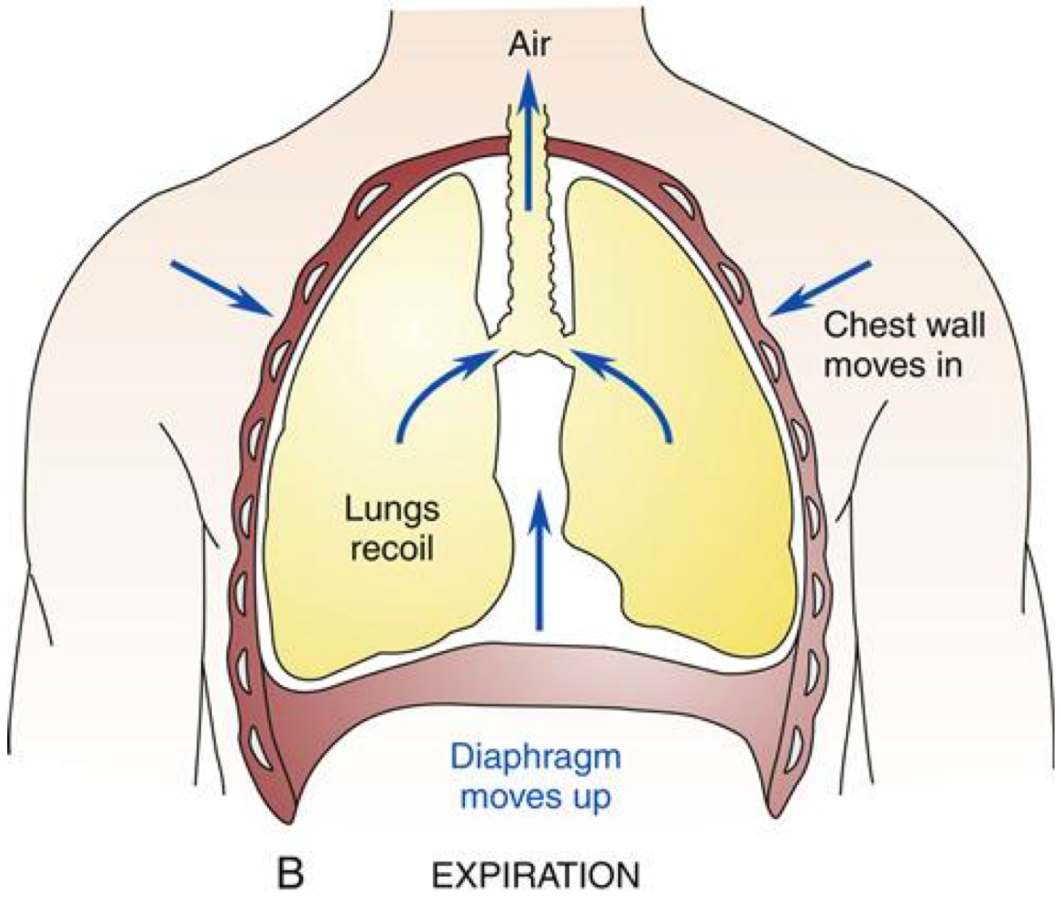
Mécanique ventilatoire



A INSPIRATION

active



B EXPIRATION

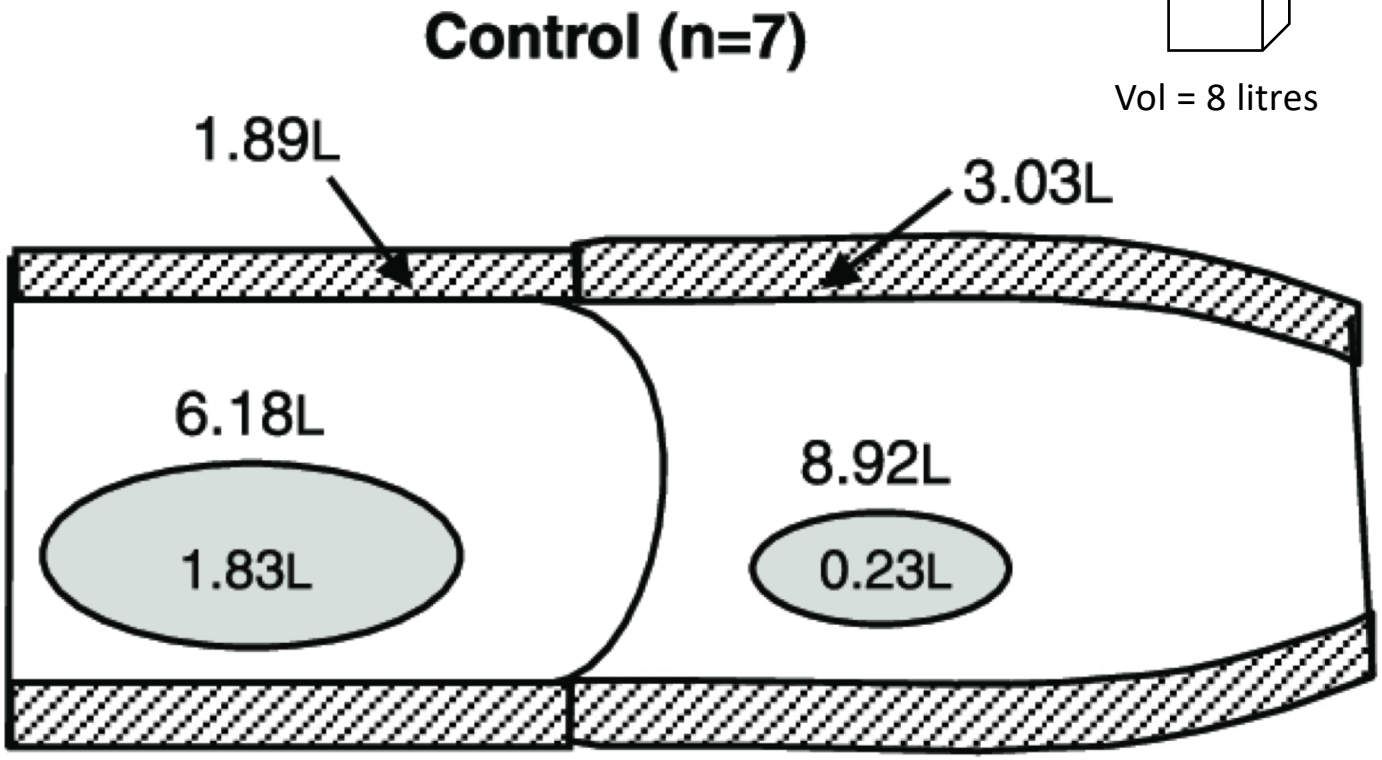
passive

Cube
20 x 20 x 20

Vol = 8 litres

Cube
21 x 21 x 21

Vol = 9.261 litres

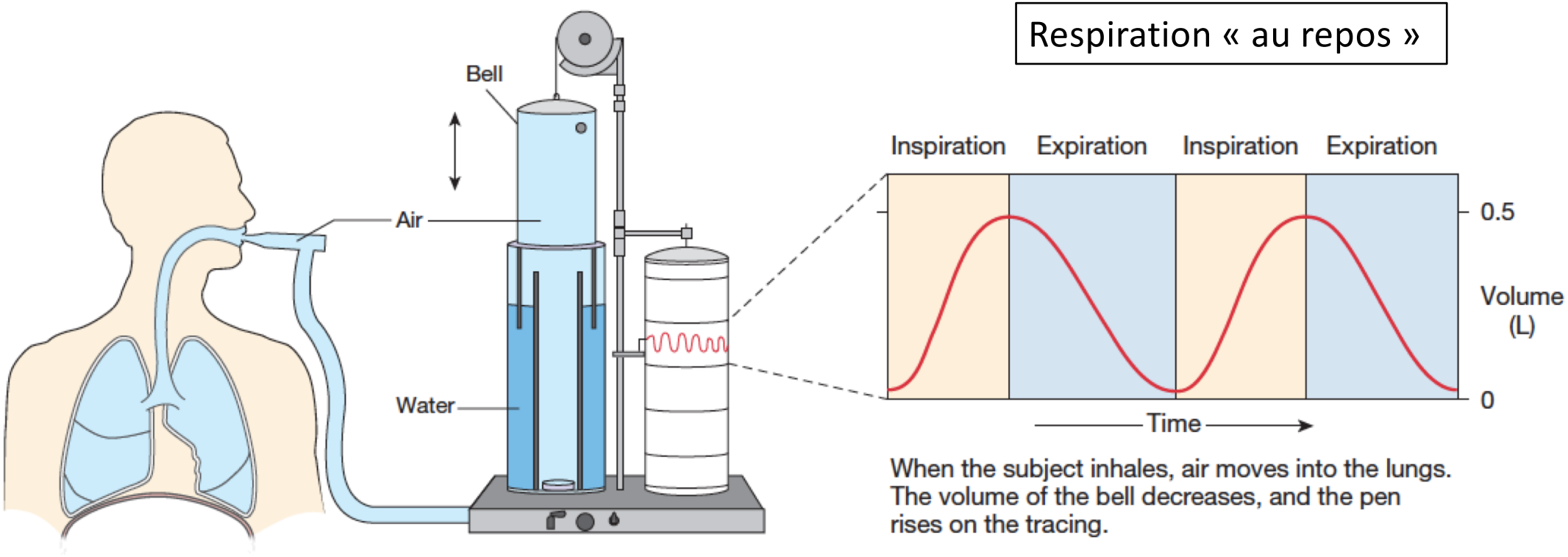


Volume de la cavité thoracique : 8 – 9 litres

J Appl Physiol 112: 118–126, 2012.

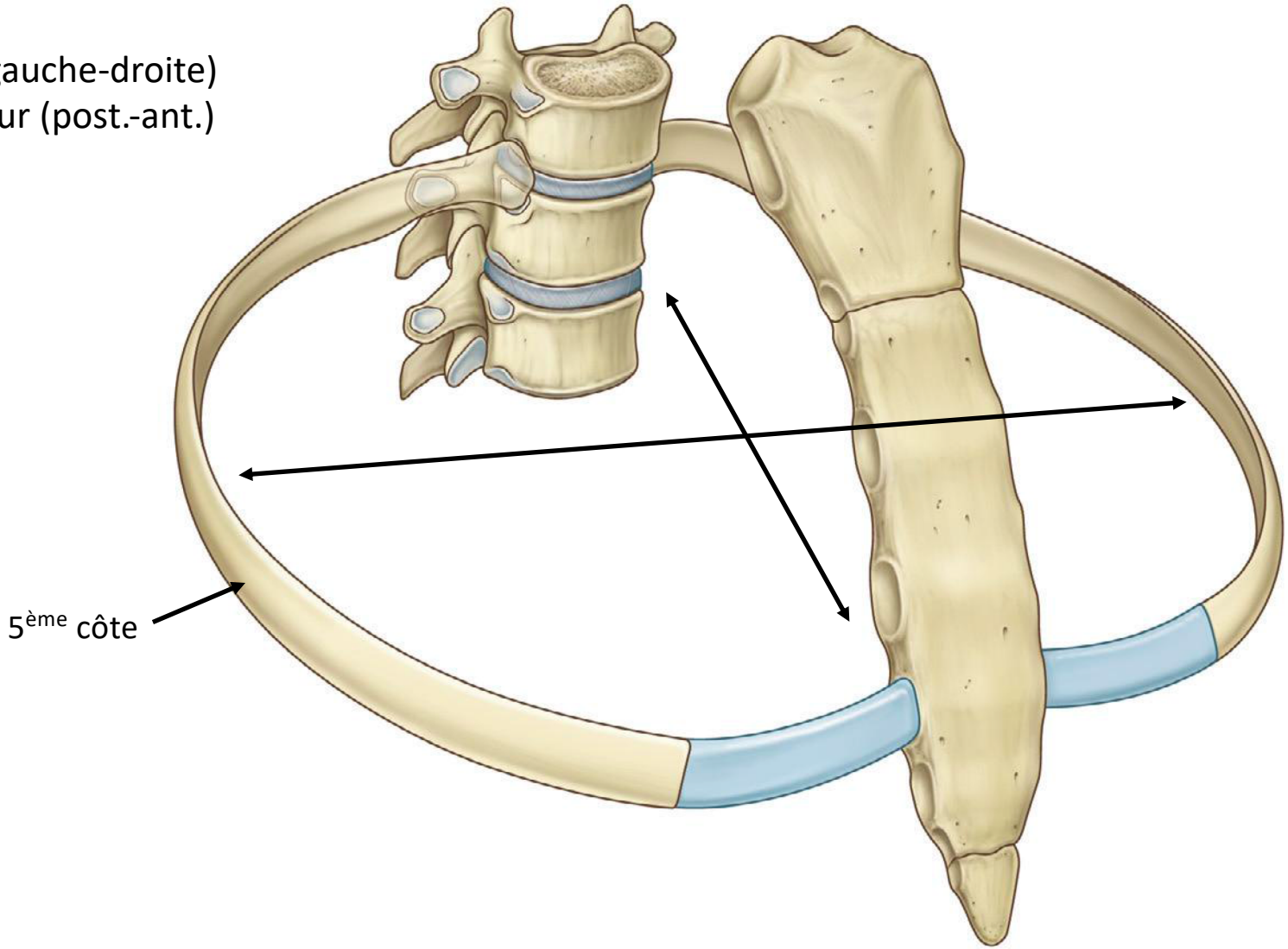
This figure shows a traditional wet spirometer. The subject inserts a mouthpiece that is attached to an inverted bell filled with air or oxygen. The volume of the bell and the volume of the subject's respiratory tract create a closed system because the bell is suspended in water.

Respiration « au repos »



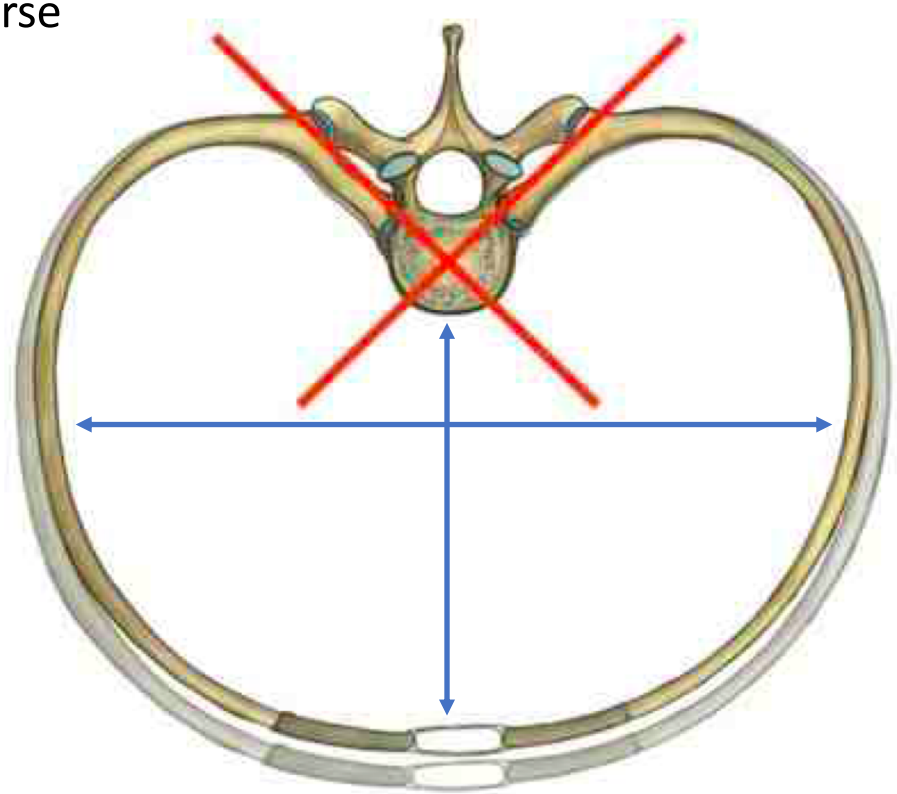
Les 3 dimensions de la cavité thoracique:

- largeur (gauche-droite)
- profondeur (post.-ant.)
- hauteur



Une côte participe à 2 articulations :

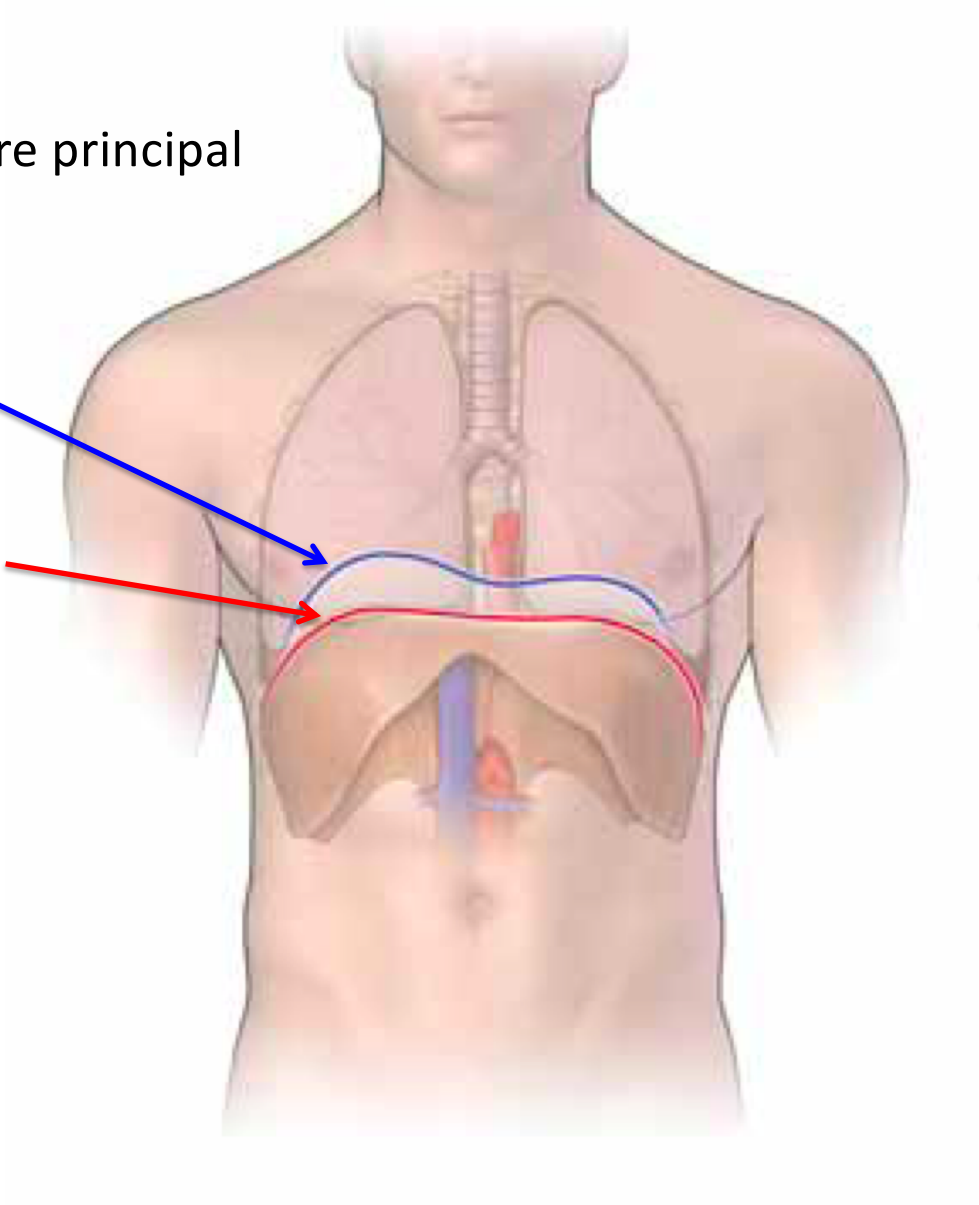
- articulation costo-corporéale
- articulation costo-transverse



Diaphragme :
muscle respiratoire principal

relâché
expiration

contracté
inspiration

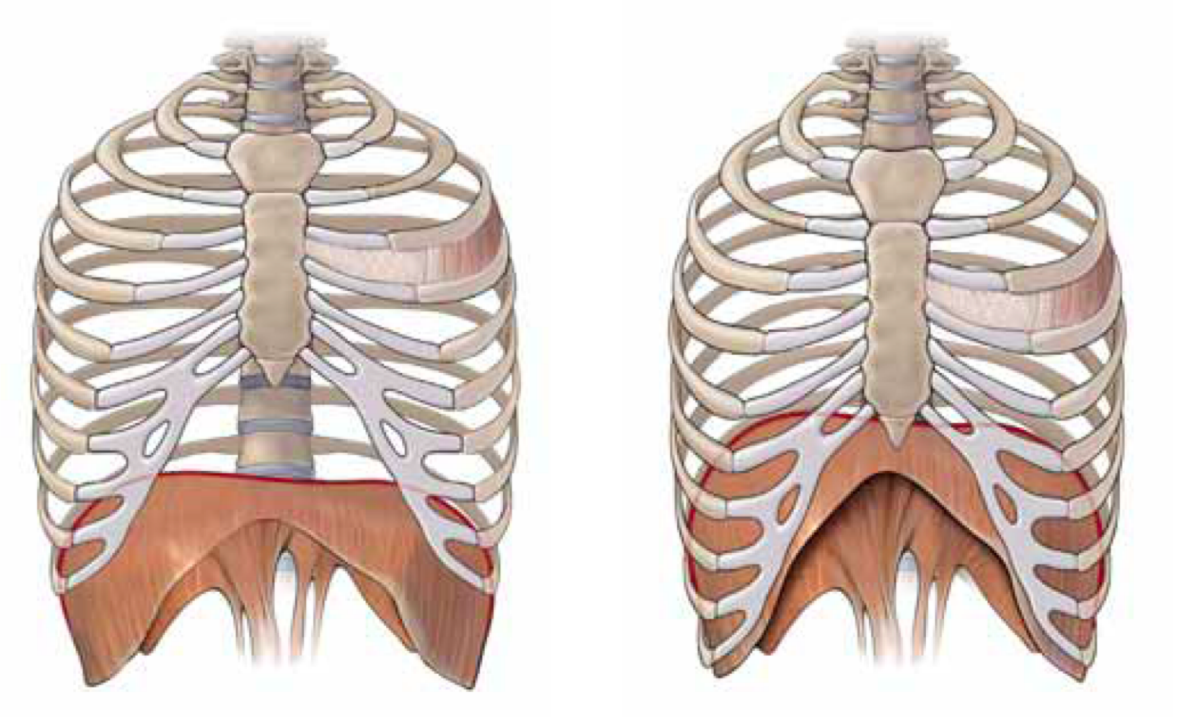


Amplitude :

au repos	à l'effort
2 cm	10 cm

Inspiration

Expiration



intercostaux externes

Diaphragme : contracté

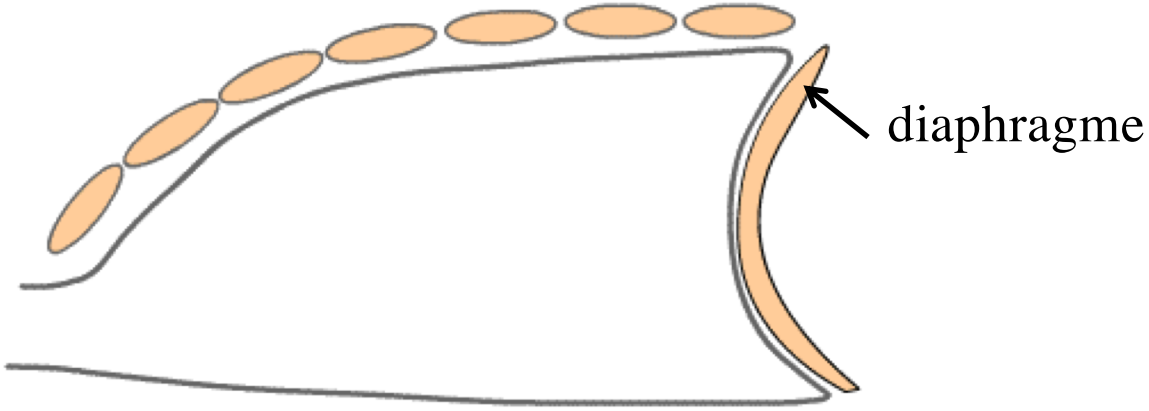
relâché

Full expiration

Full inspiration

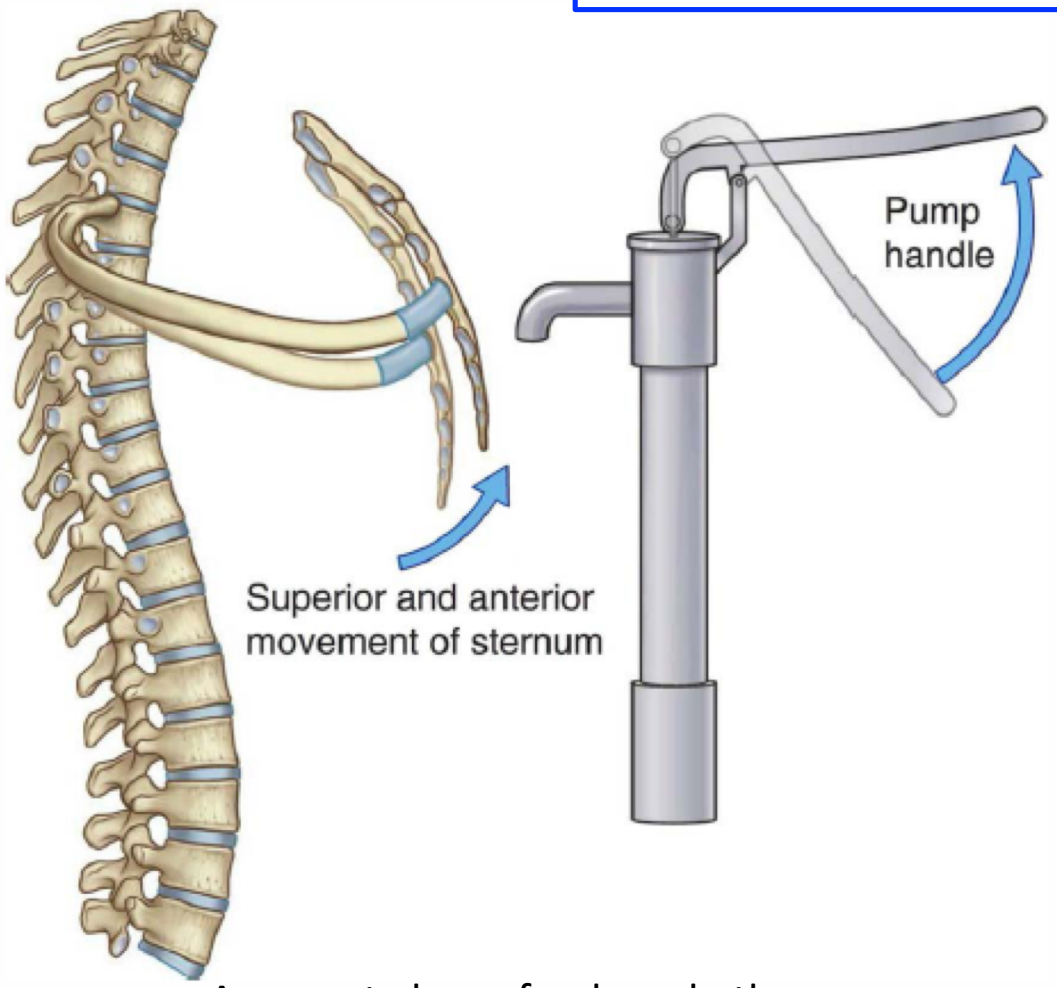
Mécanique respiratoire

(animation)

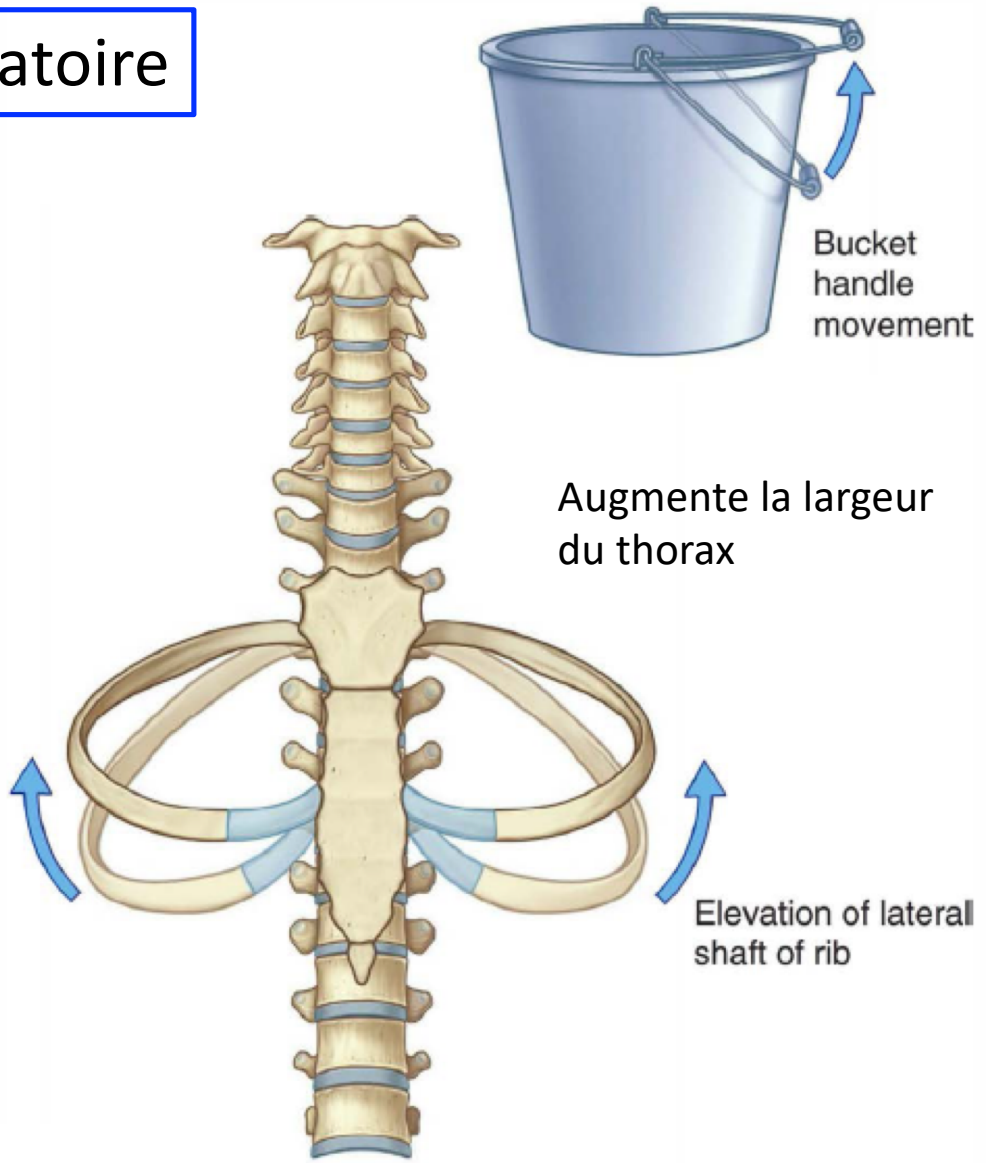


Respiration au repos : 0.5 L
Respiration à l'effort : >> 0.5 L

Mécanique respiratoire



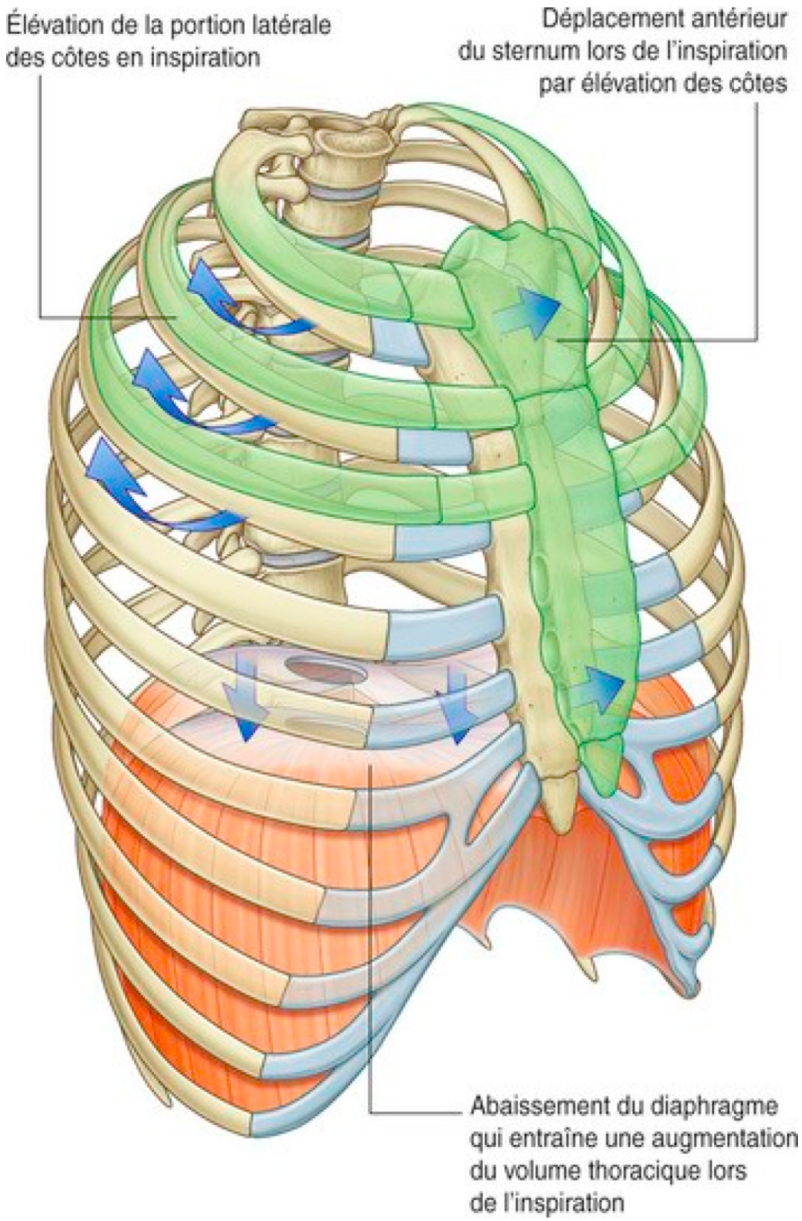
Augmente la profondeur du thorax



Augmente la largeur du thorax

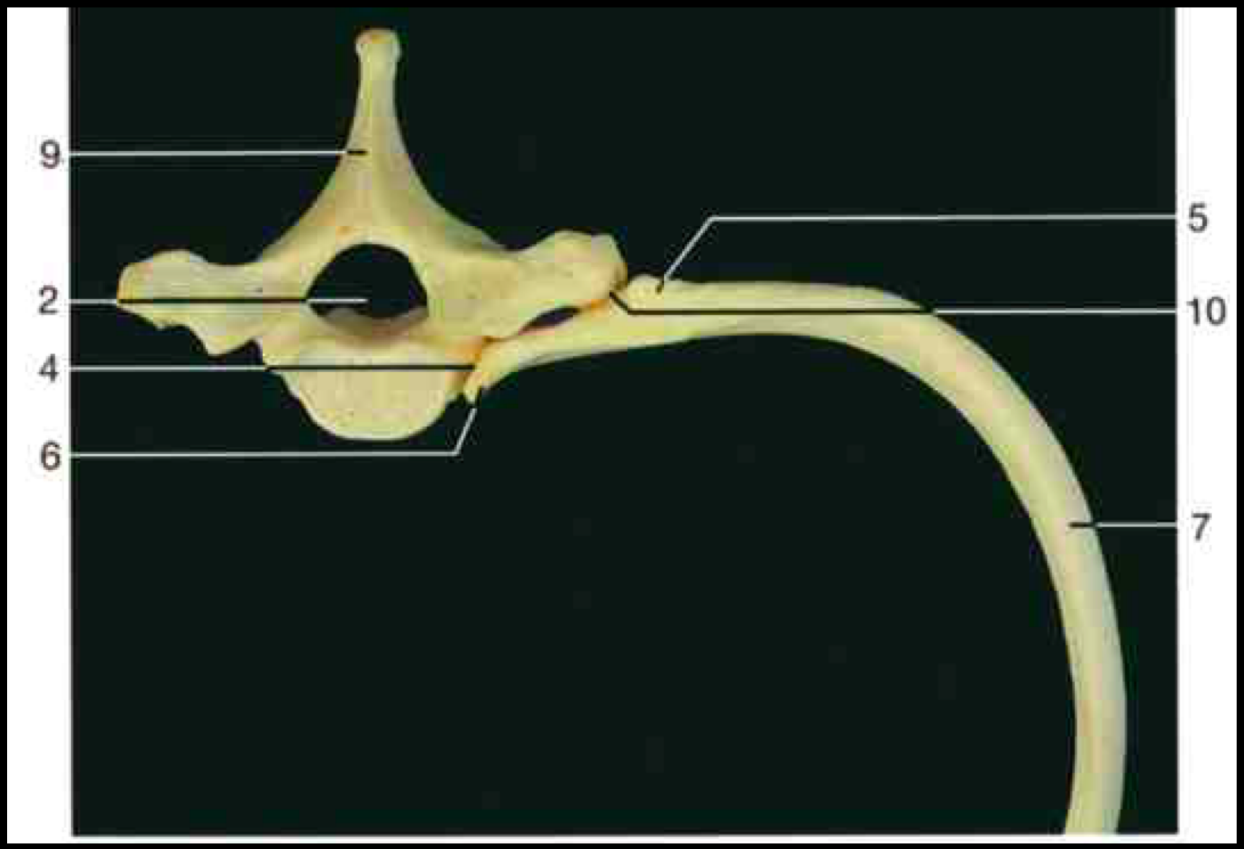
Mécanique ventilatoire

Variation du volume thoracique



Articulations costo-vertébrales

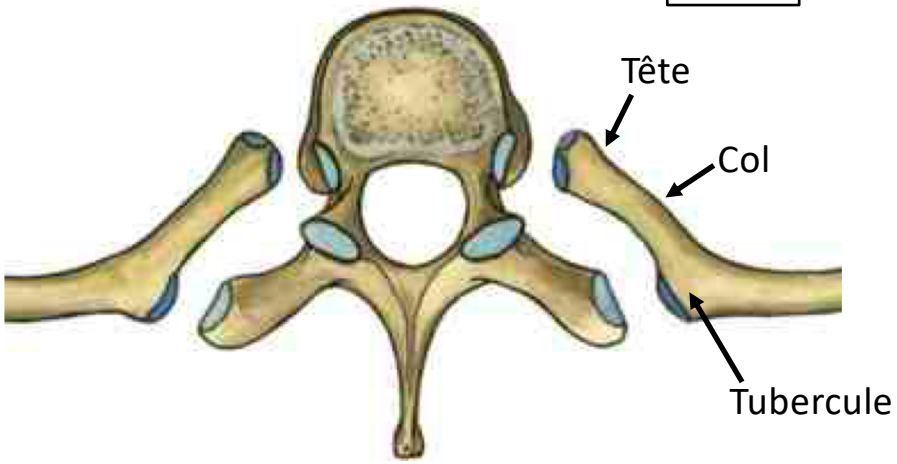
Articulation costo-vertébrale

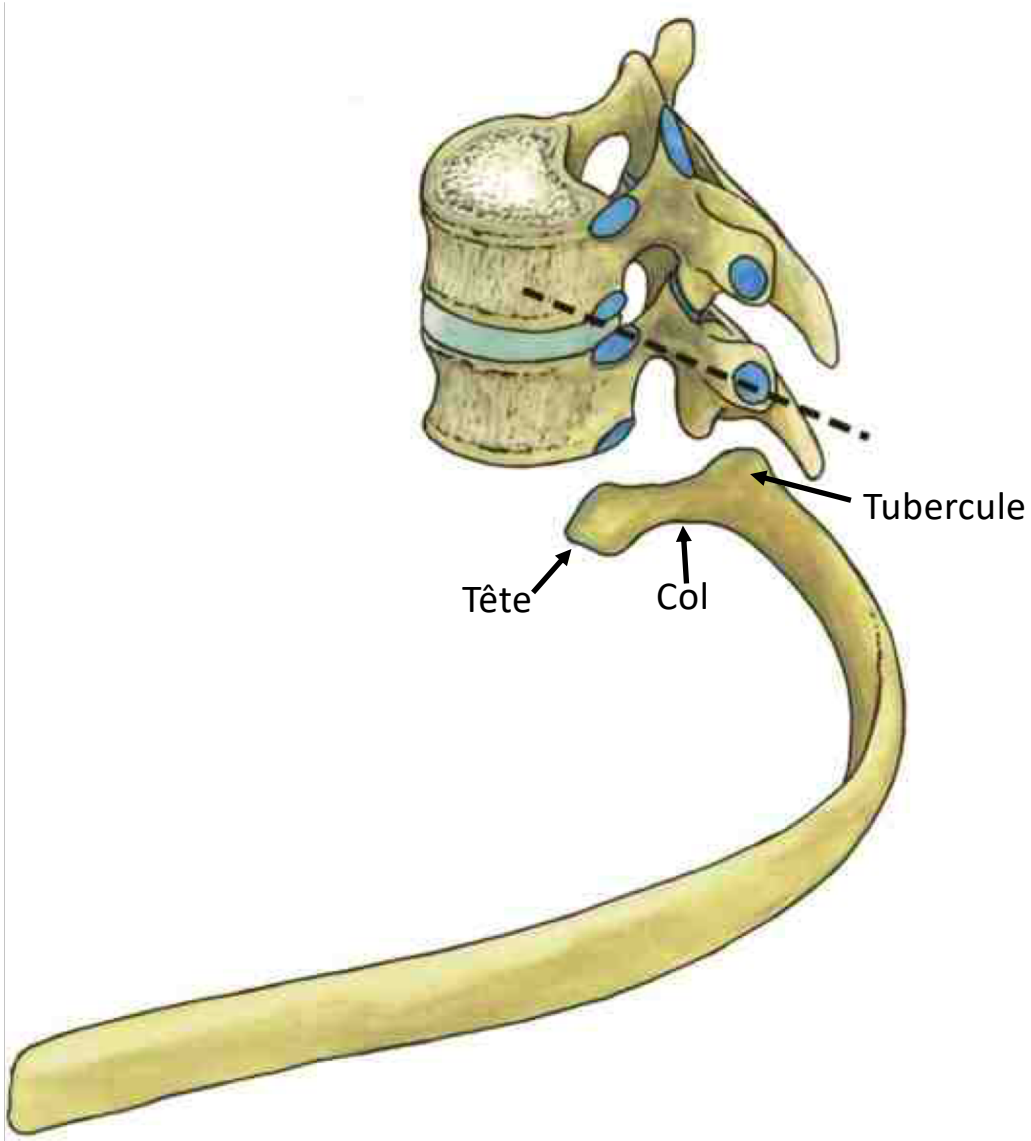


Articulation costo-transversaire

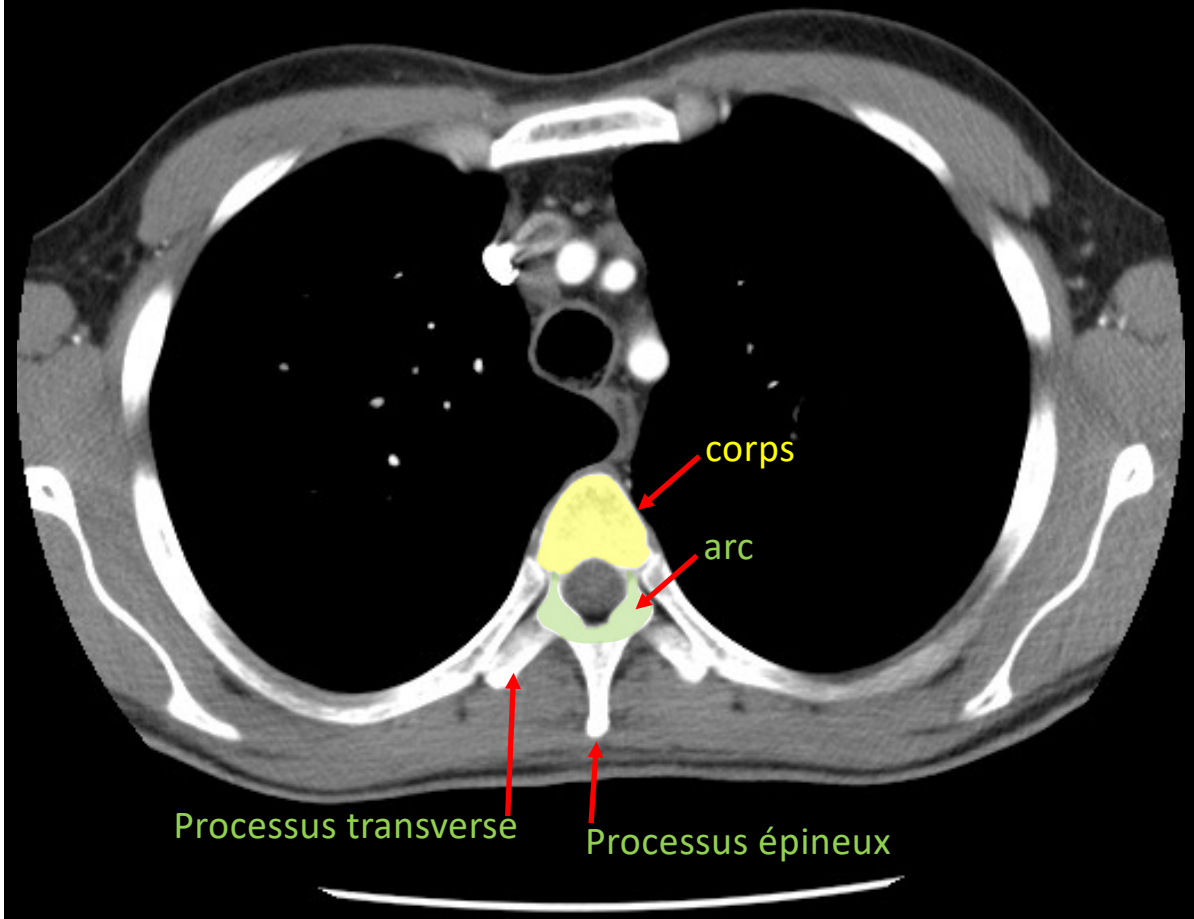
Articulations costo-vertébrales

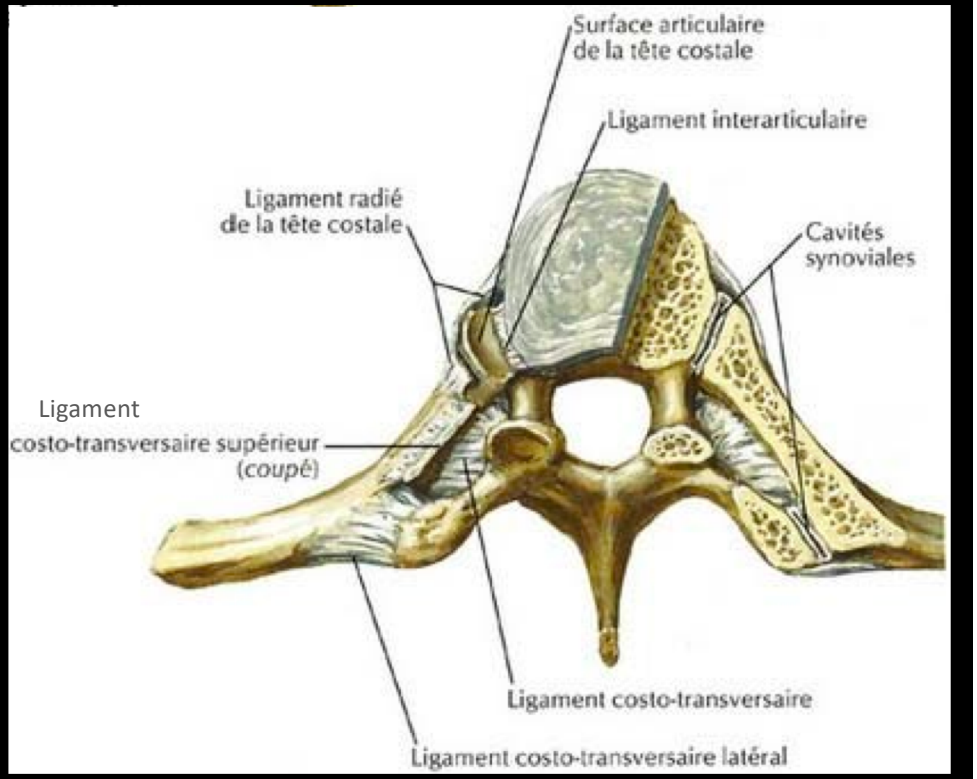
Côte :



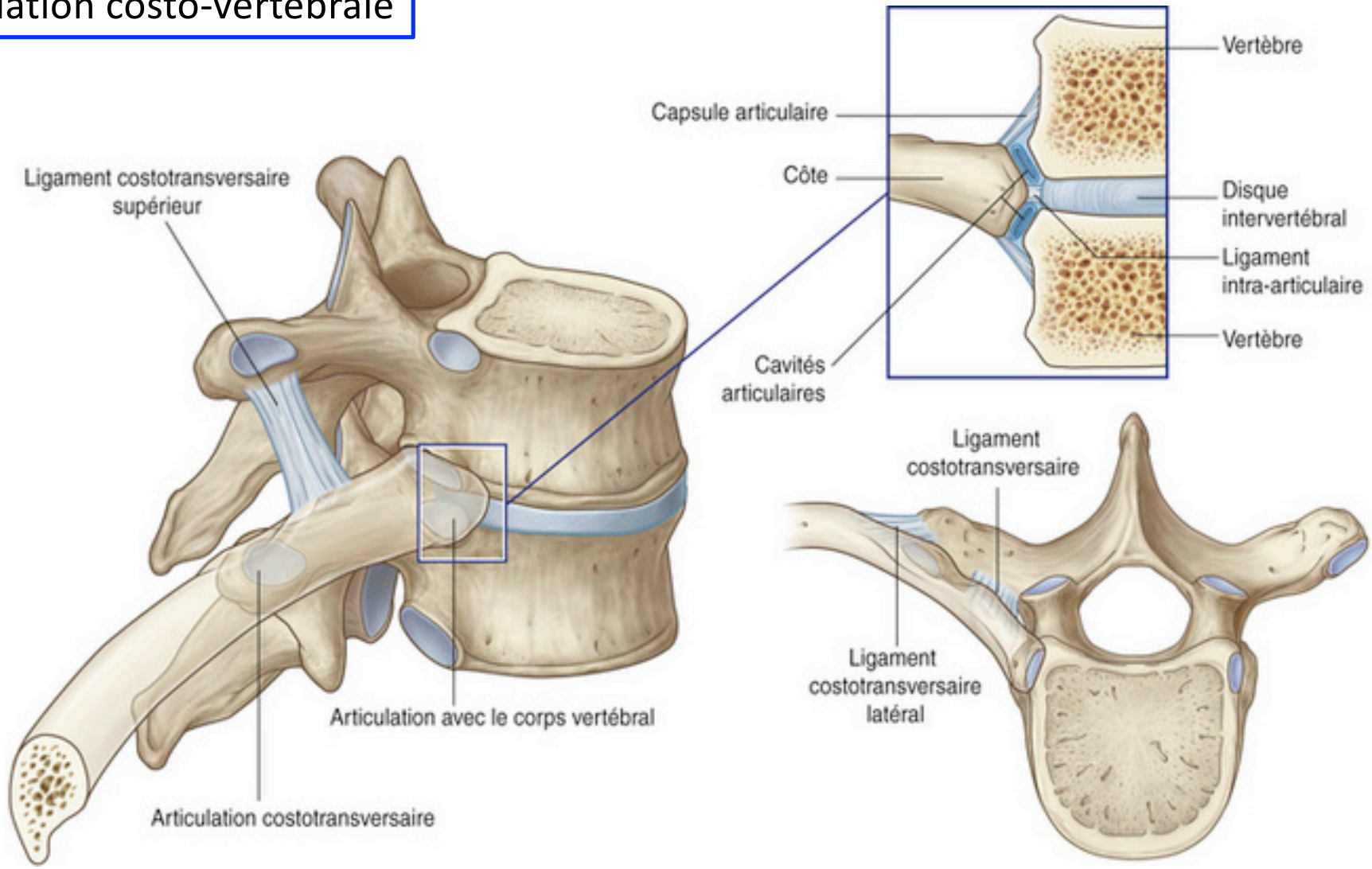


CT scan


corps
arc
Processus transverse
Processus épineux

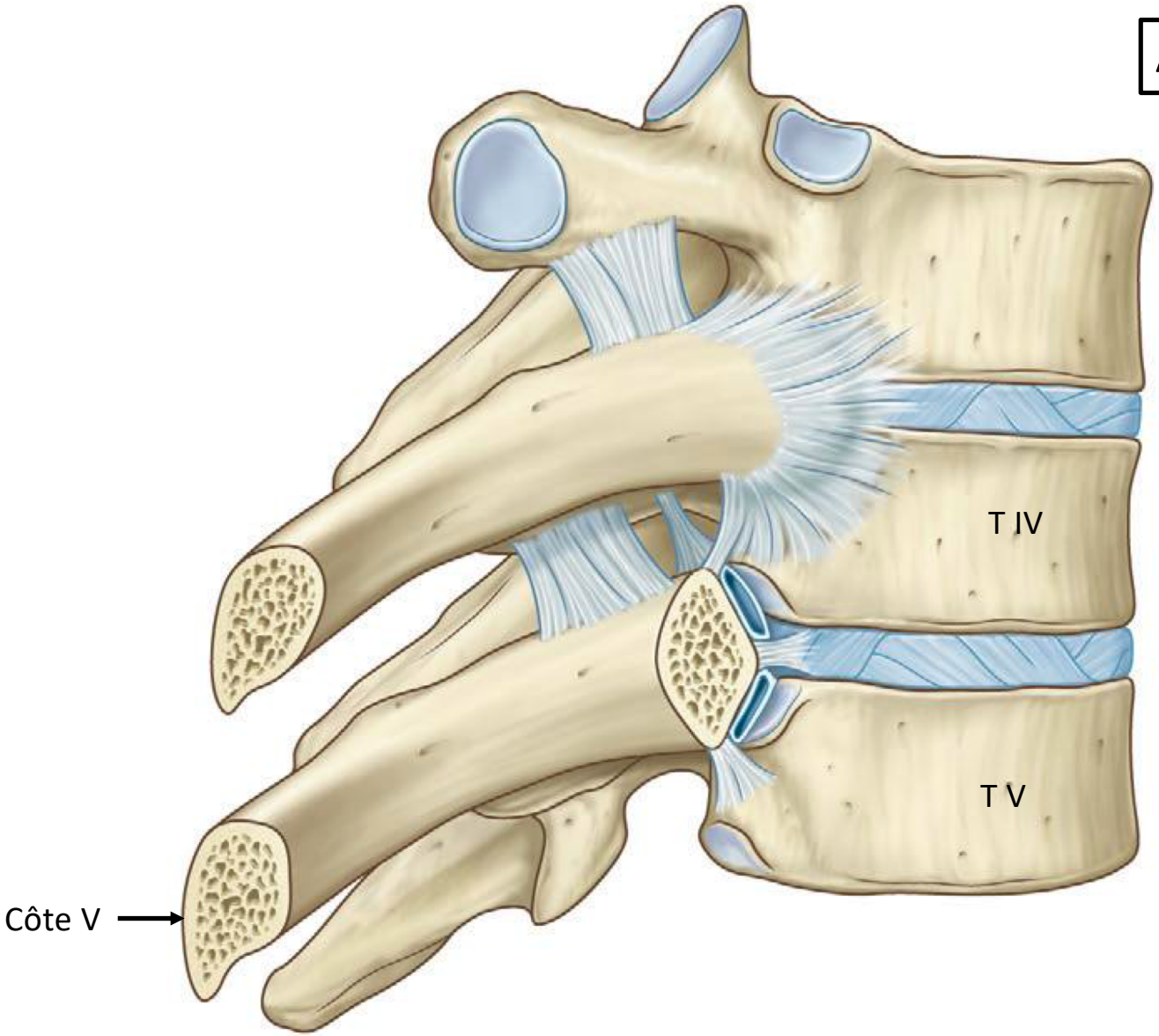

Surface articulaire de la tête costale
Ligament interarticulaire
Ligament radié de la tête costale
Cavités synoviales
Ligament costo-transversaire supérieur (coupé)
Ligament costo-transversaire
Ligament costo-transversaire latéral

Articulation costo-vertébrale

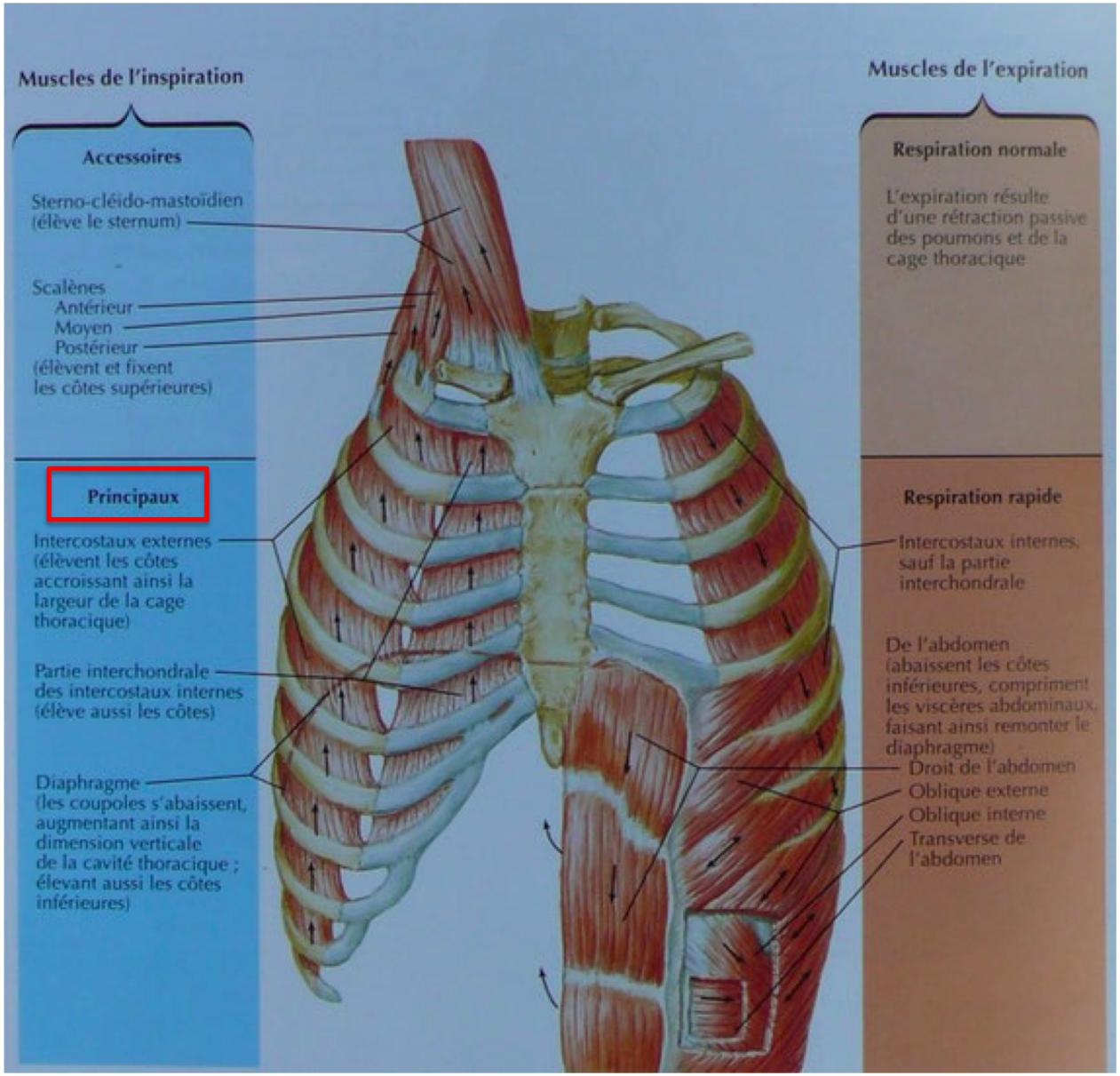


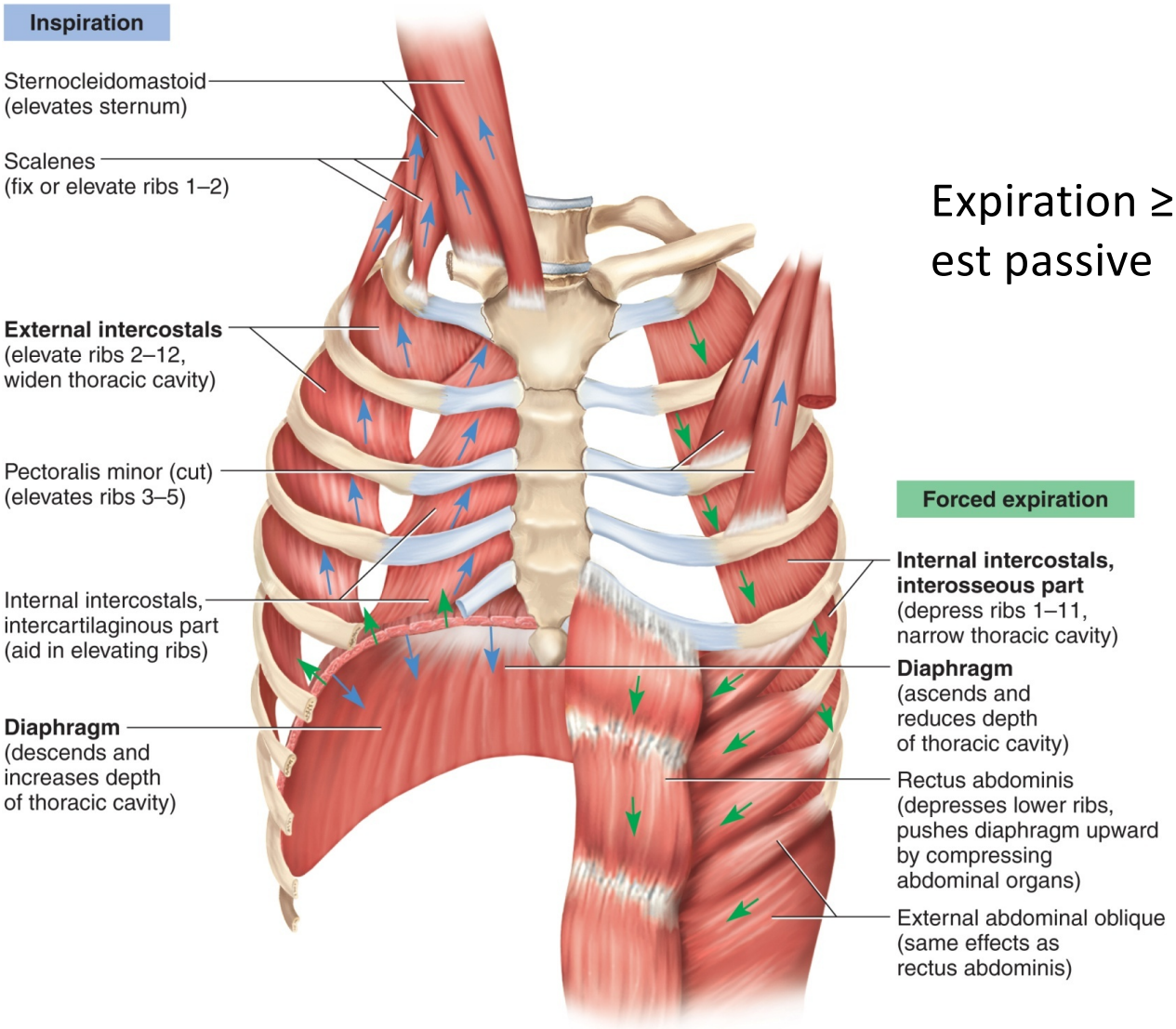
Articulation costo-vertébrale

articulation synoviale
diarthrose



La **tête** montre 2 facettes articulaires séparées par une crête.

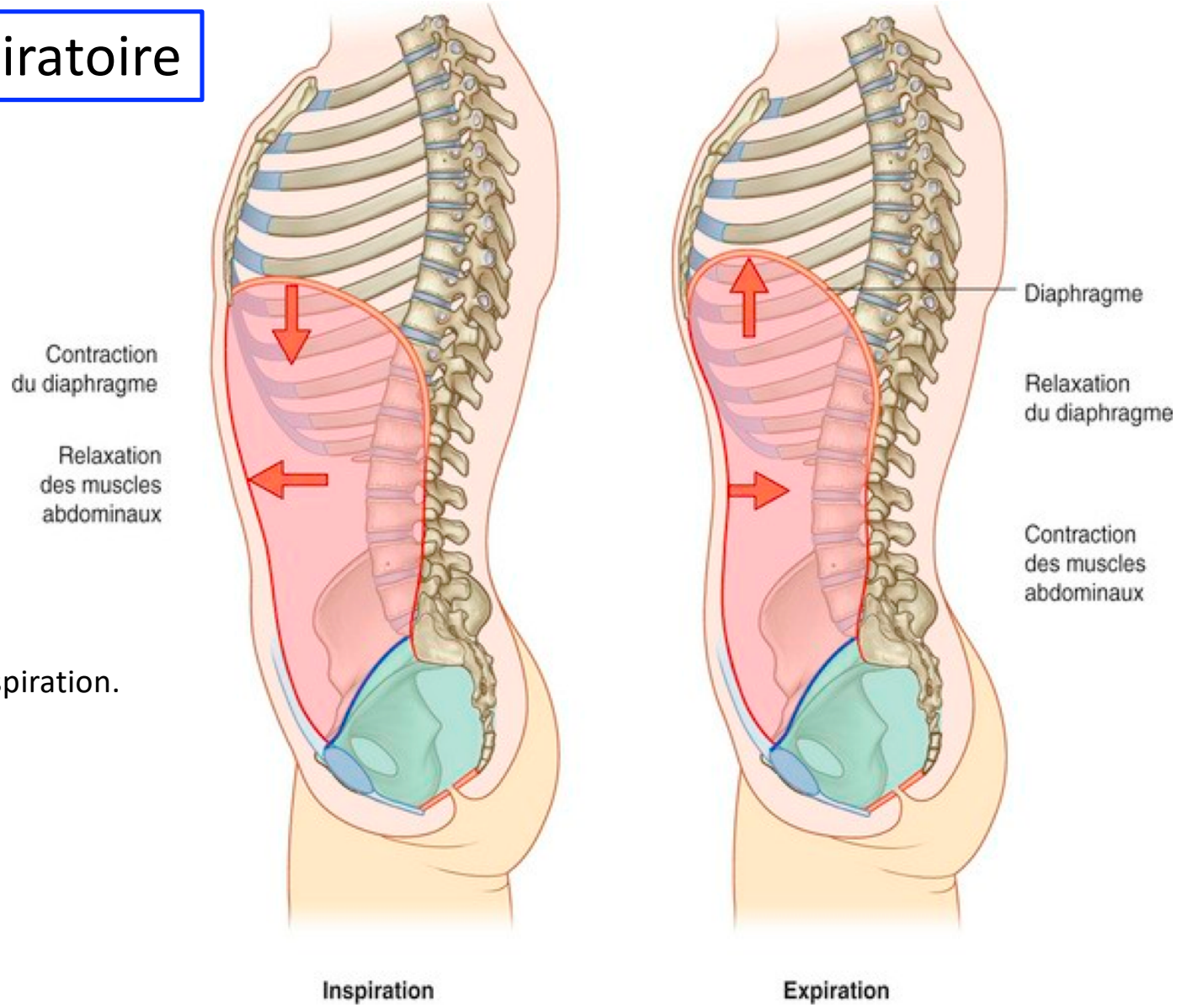

Muscles de l'inspiration
Accessoires
Sterno-cléido-mastoïdien (élève le sternum)
Scalènes
Antérieur
Moyen
Postérieur
(élèvent et fixent les côtes supérieures)
Principaux
Intercostaux externes (élèvent les côtes accroissant ainsi la largeur de la cage thoracique)
Partie interchondrale des intercostaux internes (élève aussi les côtes)
Diaphragme (les coupoles s'abaissent, augmentant ainsi la dimension verticale de la cavité thoracique ; élevant aussi les côtes inférieures)
Muscles de l'expiration
Respiration normale
L'expiration résulte d'une rétraction passive des poumons et de la cage thoracique
Respiration rapide
Intercostaux internes, sauf la partie interchondrale
De l'abdomen (abaissent les côtes inférieures, compriment les viscères abdominaux, faisant ainsi remonter le diaphragme)
Droit de l'abdomen
Oblique externe
Oblique interne
Transverse de l'abdomen



Expiration ≥ 500 mL
est passive

> 500 mL

Mécanique respiratoire



L’abdomen participe à la respiration.