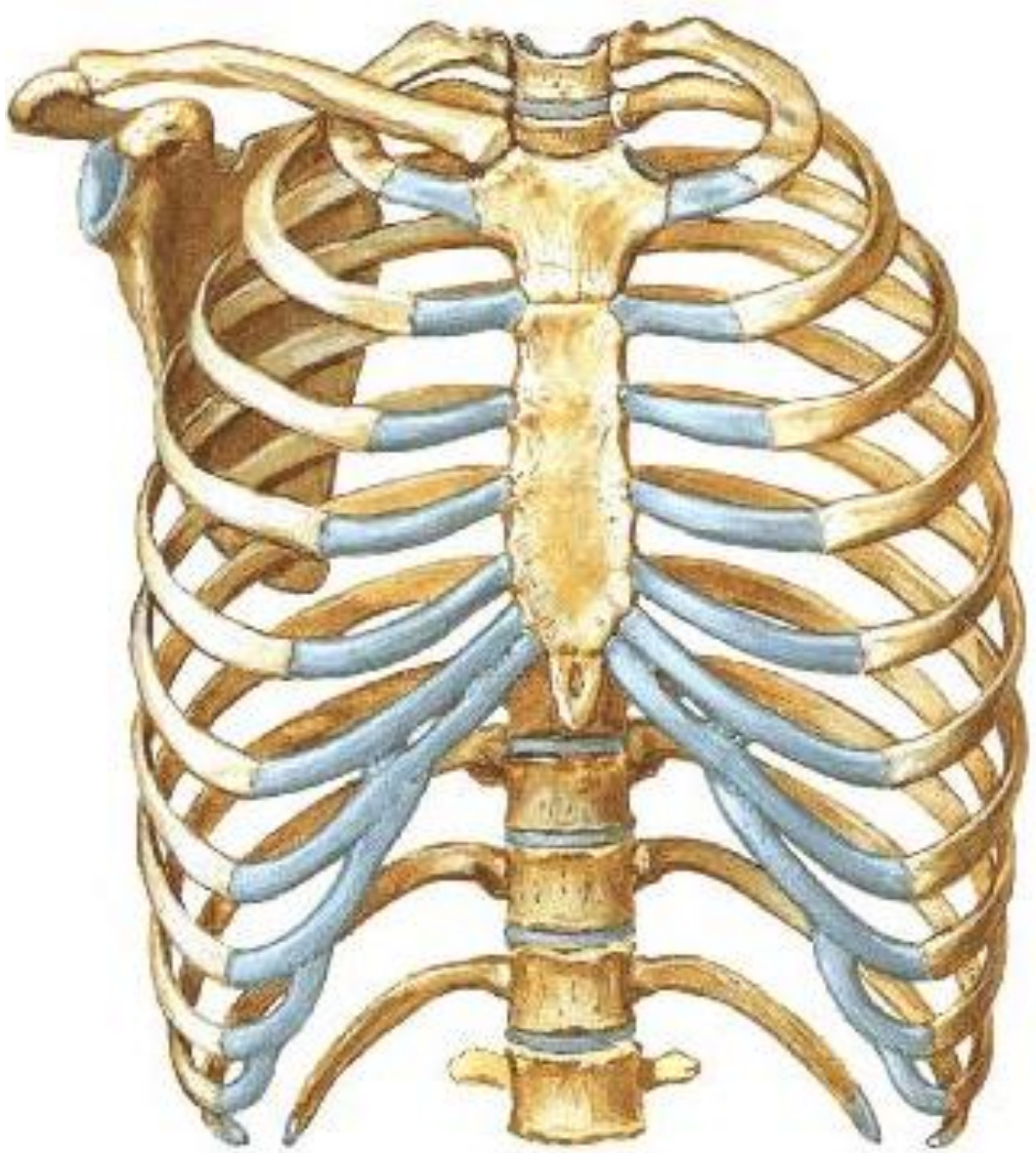
Intercostal Spaces

Intercostal Space



An intercostal space lies between two adjacent ribs.

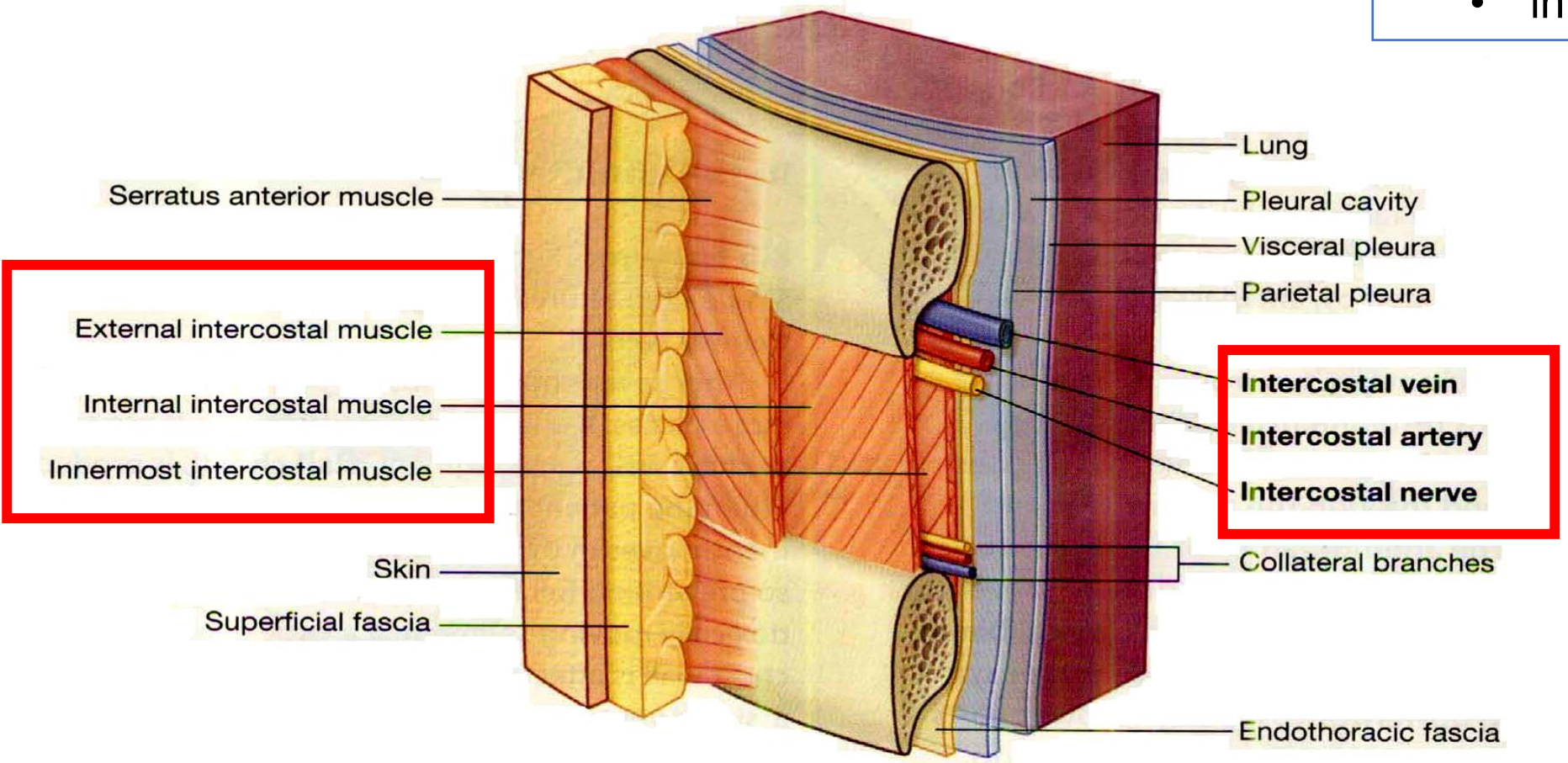
Extent :

From the margin of the sternum
to side of the thoracic vertebra.

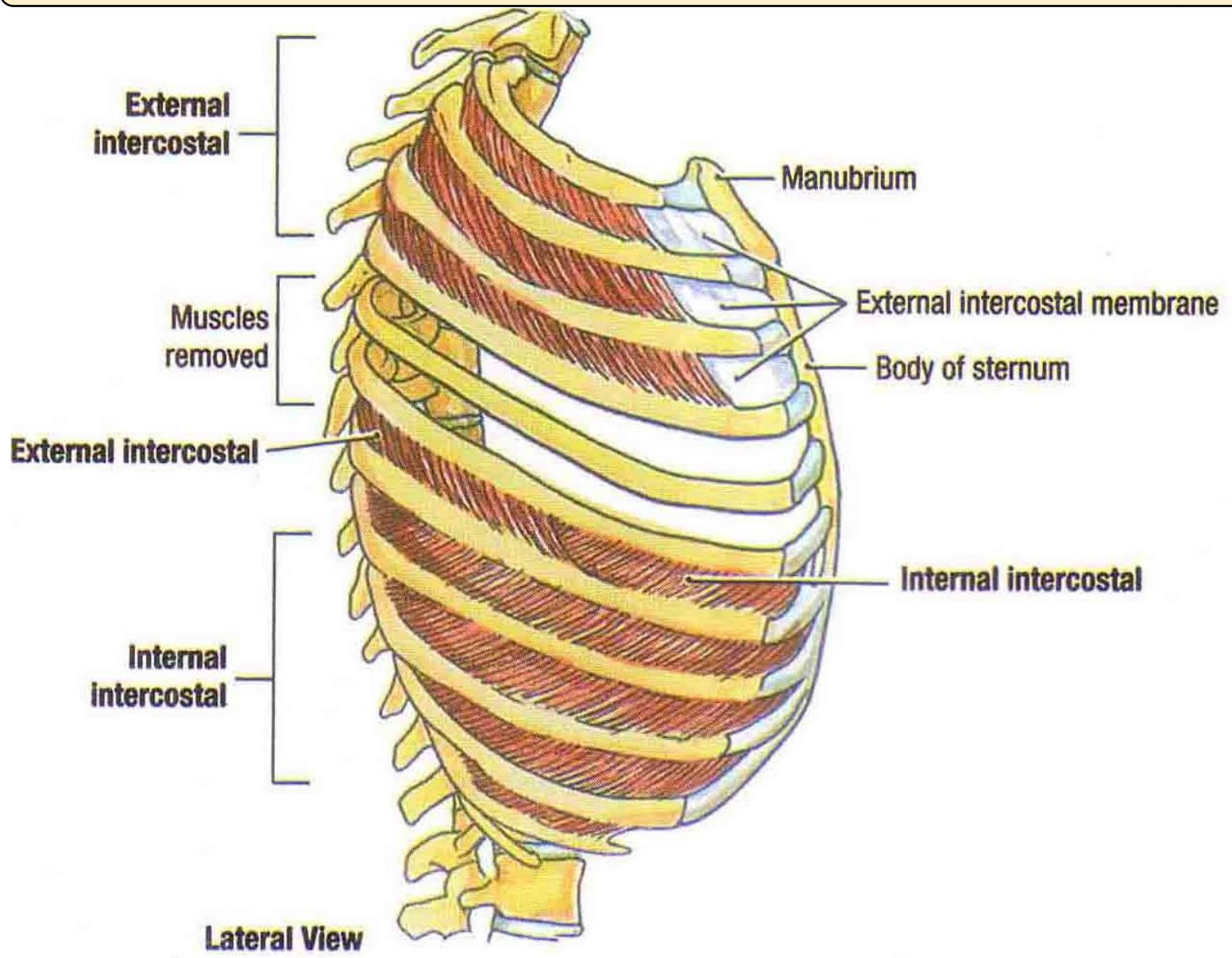
Intercostal Space

Contents of intercostal space

- 3 intercostal muscles
- intercostal vessels and
- intercostal nerve



Intercostal Muscles



External intercostal muscle

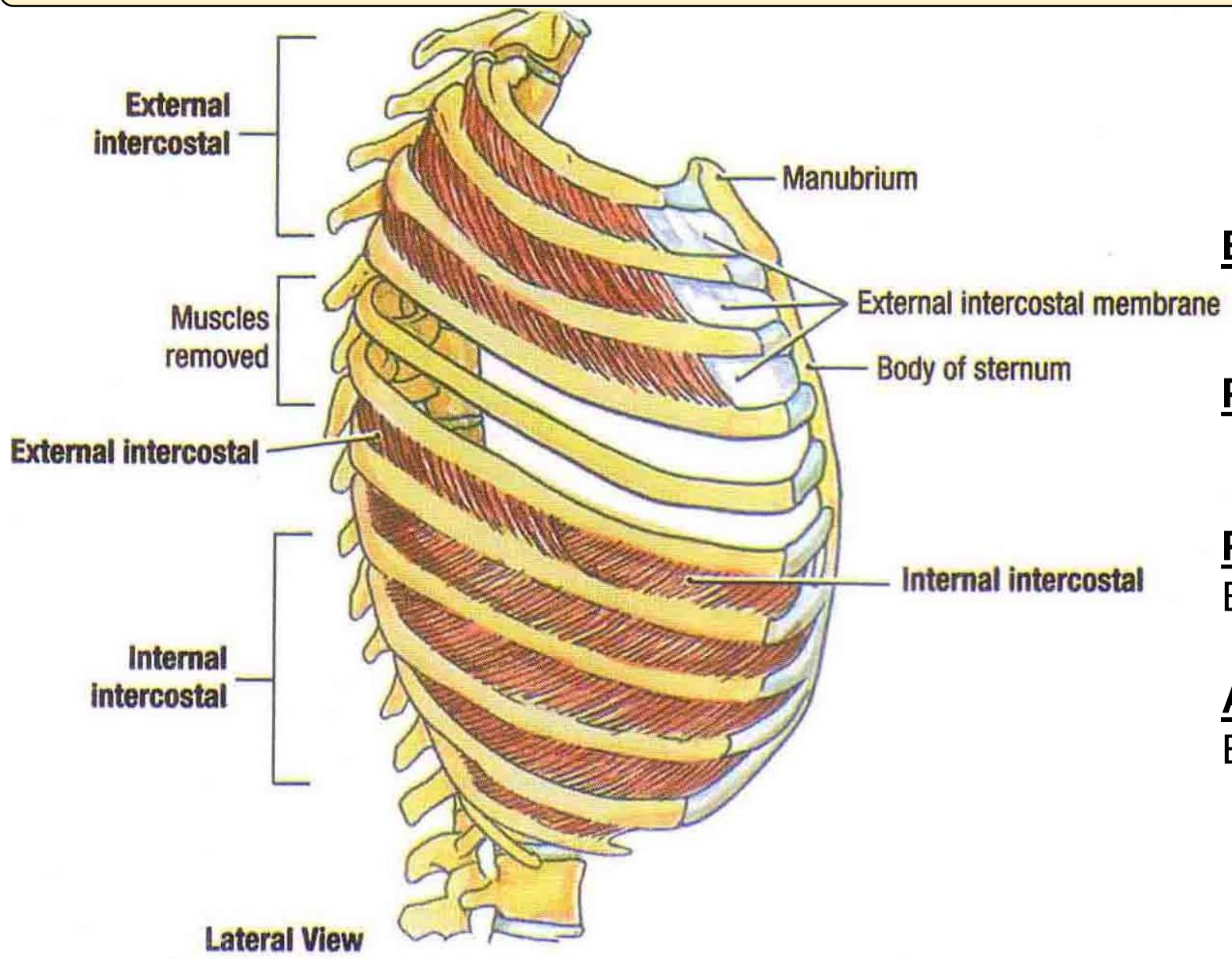
Extends from the tubercle of the rib to the costo-chondral junction

Anteriorly, the muscle is replaced by anterior intercostal membrane

Fiber direction:
forwards and downwards

Action:
Inspiratory muscle

Intercostal Muscles



Internal intercostal muscle

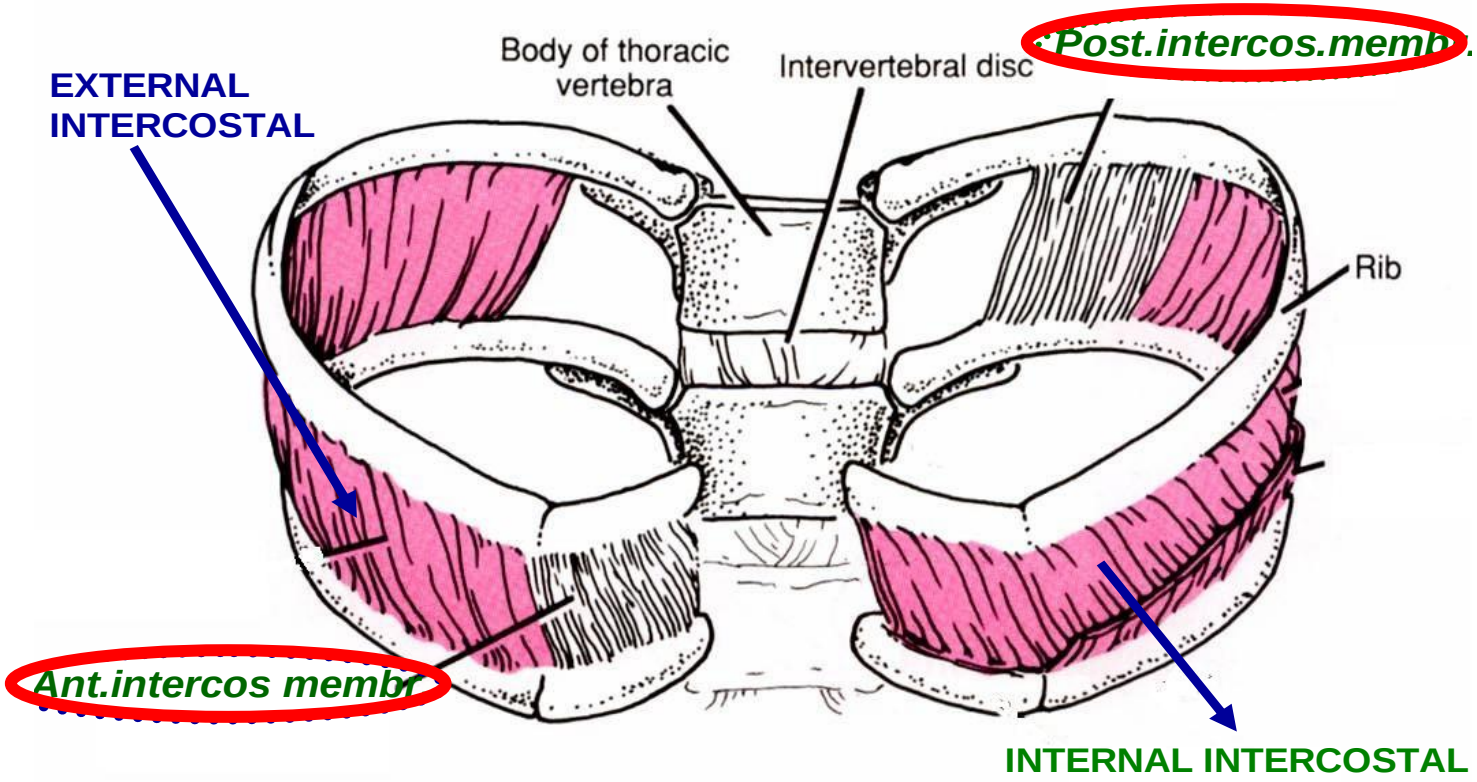
Extends from the sternal margin to the angle of the rib

Posteriorly, the muscle is replaced by posterior intercostal membrane

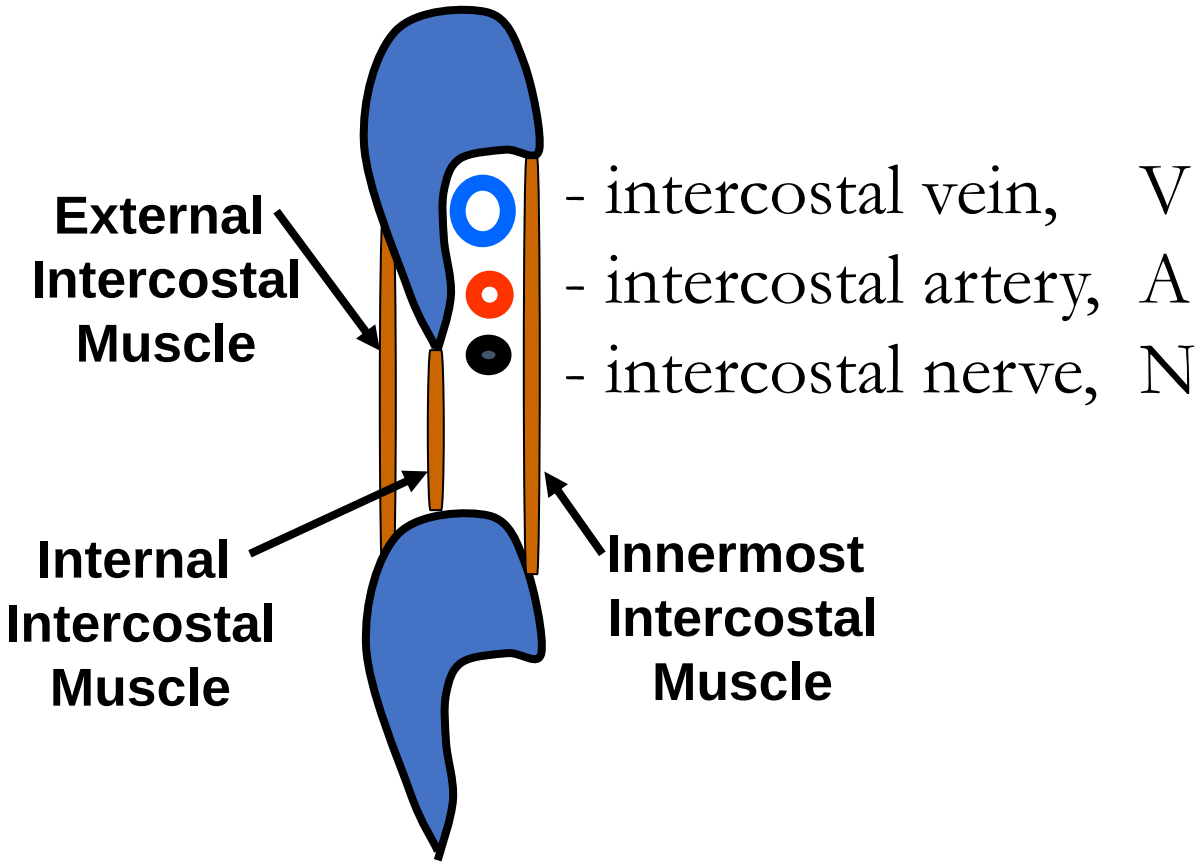
Fiber direction:
Backwards and downwards

Action:
Expiratory muscle

Intercostal Muscles



Intercostal Muscles



Innermost intercostal muscle

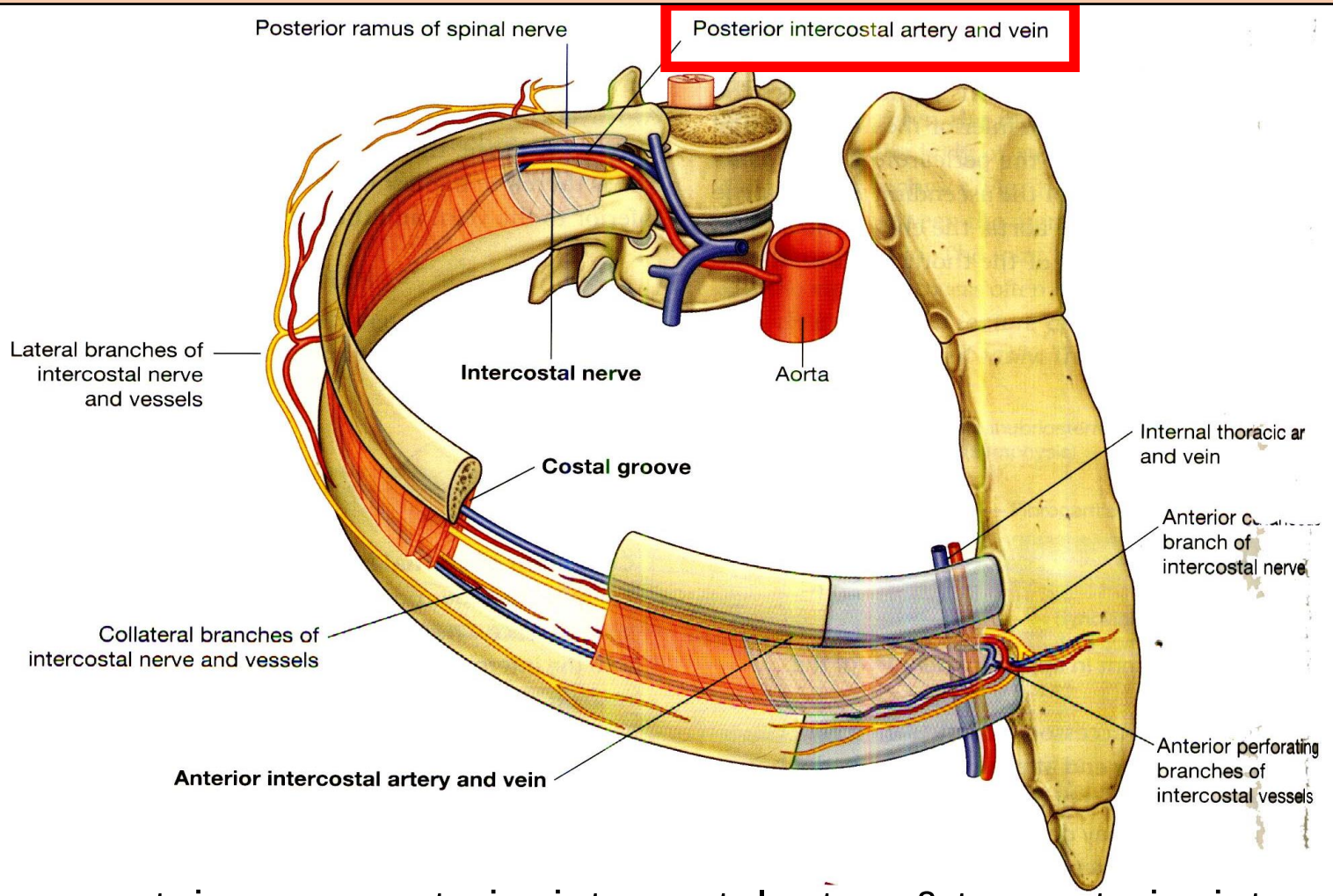
Extends from the inner lip of the costal groove to the upper margin of the rib

Fiber direction:
Backwards and downwards

Action:
Expiratory muscle

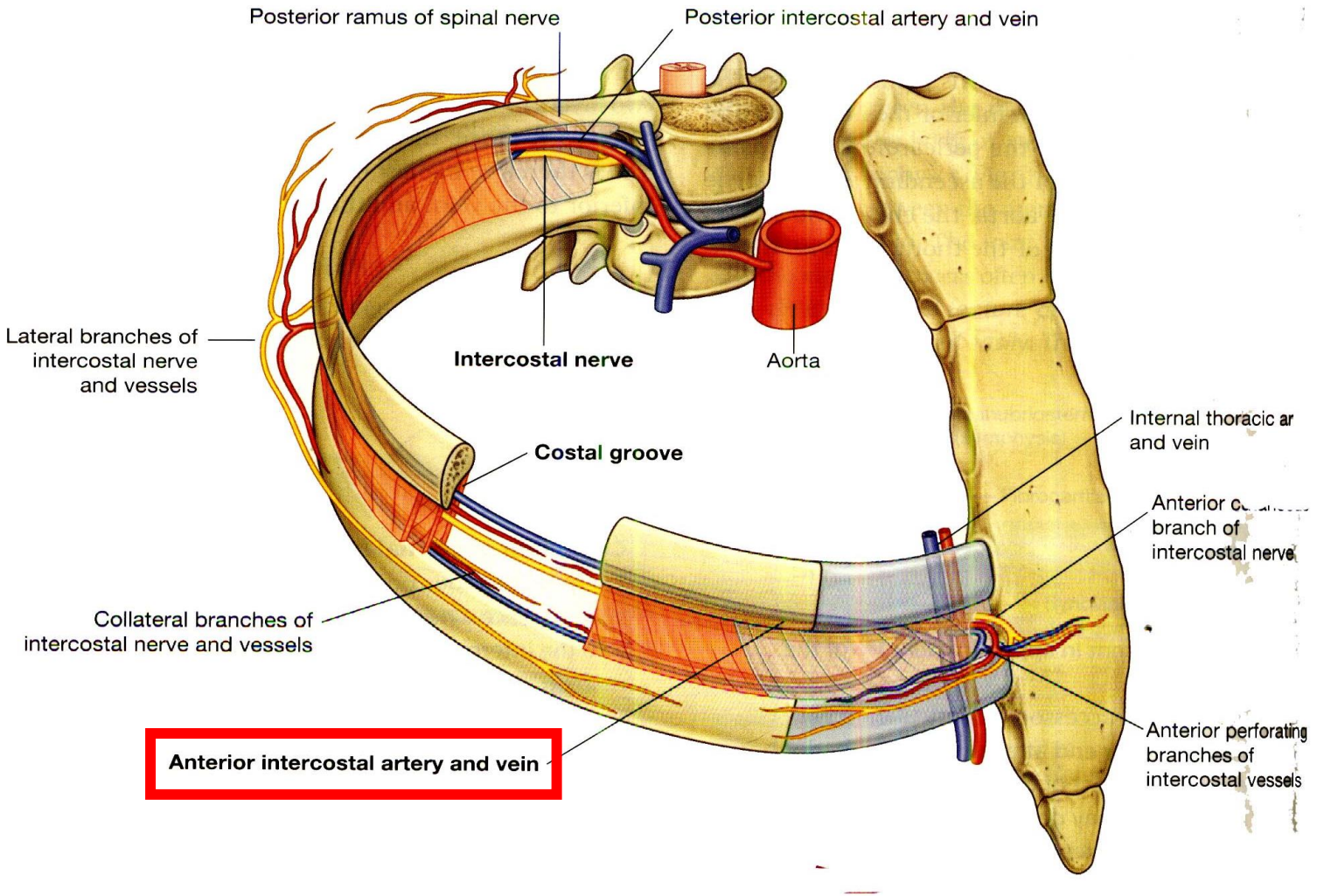
Intercostal vessel and nerve lie in the costal groove, between the internal and innermost intercostal muscle.

Intercostal Artery



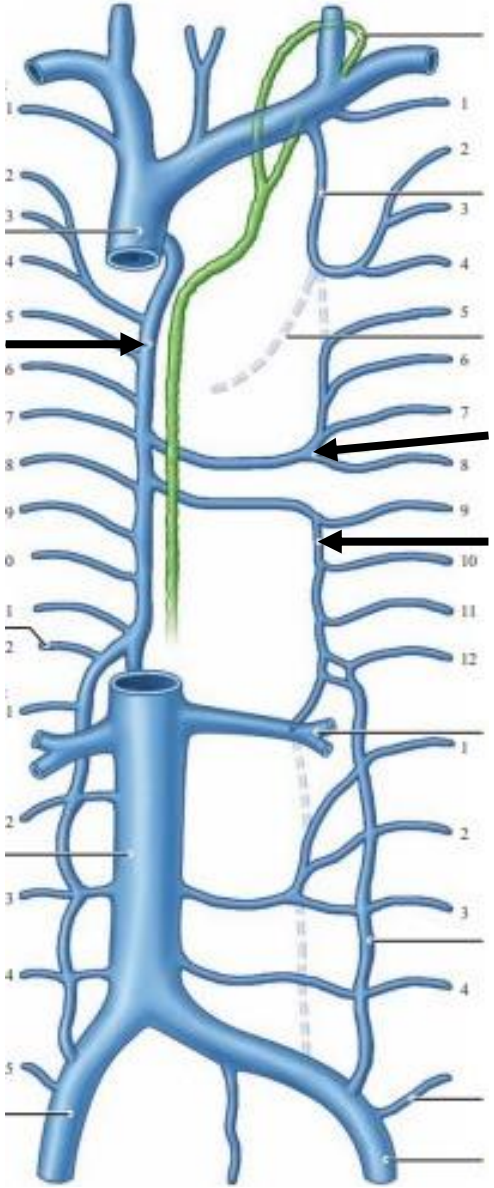
Each intercostal space contains one posterior intercostal artery & two anterior intercostal arteries. The **posterior intercostal artery** of first two spaces arise from superior intercostal artery, lower nine spaces are branches of the descending thoracic aorta.

Intercostal Artery



The **anterior intercostal artery** of upper six spaces are branches of internal thoracic artery, while lower three spaces are branches of musculo-phrenic artery.

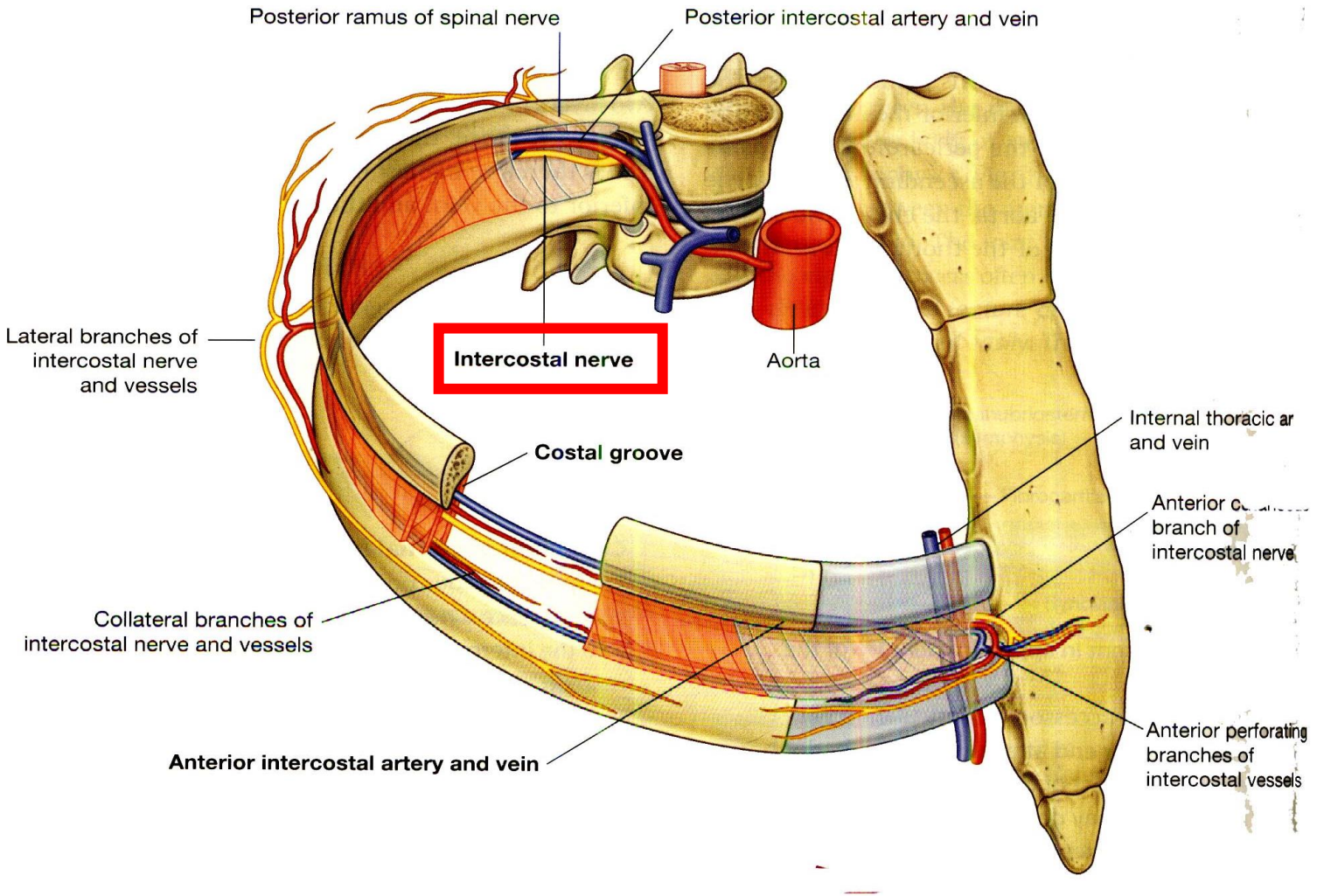
Intercostal Vein



Intercostal vein

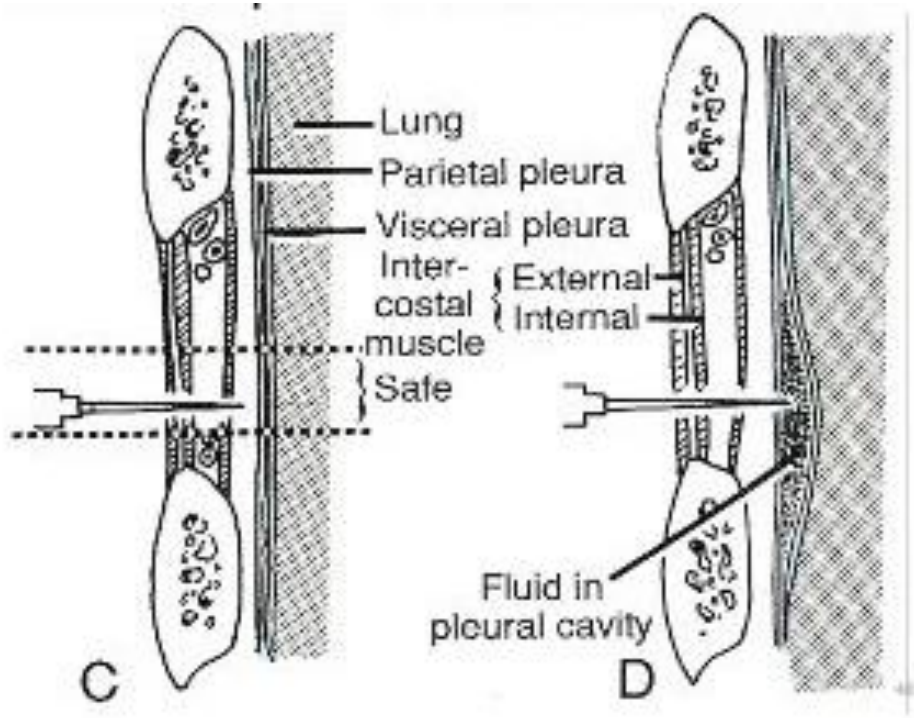
Drain into the azygos on the right side and
into the hemiazygos (or accessory hemiazygos) on the left side.

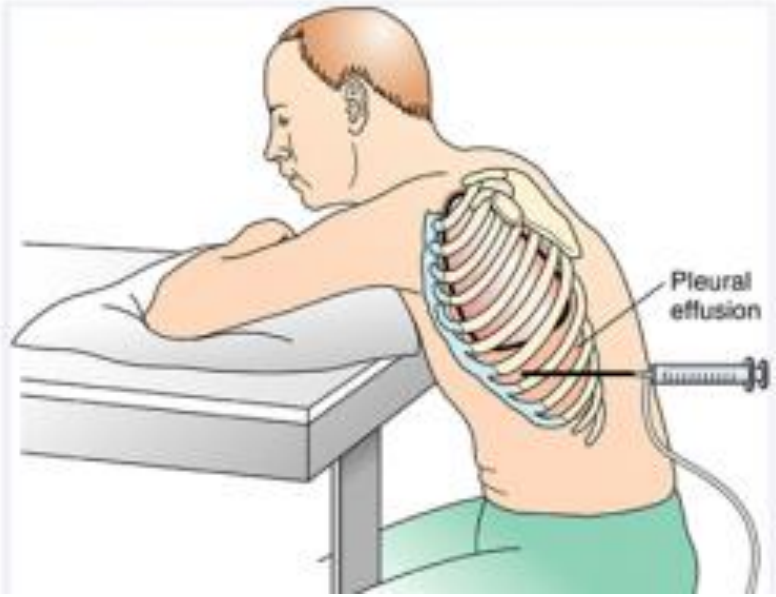
Intercostal Nerve



It is the ventral rami of a thoracic spinal nerve.
It supplies the intercostal muscles and skin overlying the typical intercostal space.

1. In aspiration, the needle is inserted close to the upper border of rib in order to avoid damage to the intercostal vessels.





2. Intercostal nerve block is given close to the angle of the rib where the nerve is superficial.

Figure-references

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Thank you