



## Inervation:

- C1 – m. rectus capitis lateralis
- C1, C2 – m. rectus capitis anterior
- C2, C3 – m. longus capitis
- C2–C4 – m. longus colli

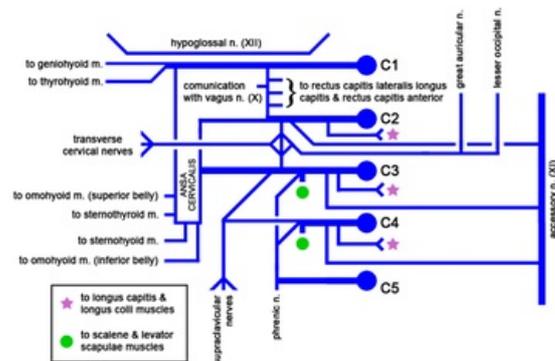
## N. phrenicus (C4, secondary fibers from C3 and from C5)

N. phrenicus is a relatively strong, mixed nerve with a predominance of motor fibers.

**Course:** it emerges from the cervical plexus at the lateral edge of the scalenus anterior muscle, converges on its front surface through the apertura thoracis superior (placed in front of the vagus nerve) caudally into the mediastinum.

- *N. phrenicus dexter:* it descends further between a. et v. subclavia, along the right border of v. brachiocephalica dextra and v. cava superior.
- *N. phrenicus sinister:* descends between a. et v. subclavia, attaches to the left side of the arcus aortae (in front of n. vagus sinister)

Both nerves then run caudally along the sides of the pericardium between the pericardium and the mediastinal pleura ventral to the pulmonary hilae. Part of the fibers pass to the right through the foramen venae cavae and part to the left through the hiatus oesophageus to the abdominal surface of the diaphragm.



Cervical plexus

## Inervation:

### Motor fibers:

- rr. phrenici – they innervate the diaphragm

### Sensitive fibers:

- rr. pericardiaci – fibers for the pericardium, mediastinal and diaphragmatic pleura
- rr. phrenicoabdominales – they innervate the peritoneum below the diaphragm up to the level of the gallbladder and pancreas

**N. phrenicus accessorius** – accessory fibers usually from C5 conducted as a separate branch from the brachial plexus

Clinical Notes: Damage to phrenic nerve dx. or sin. causes paralysis of the corresponding part of the diaphragm. Irritation of the nerve causes twitching of the diaphragm, which may be a sign of inflammation of the peritoneum or brain damage. In the common case, it is a hiccup (singultus).

## Links

## Sources

- DYLEVSKÝ, Ivan, Rastislav DRUGA a Olga MRÁZKOVÁ. *Funkční anatomie člověka*. 1. vydání. Praha : Grada Publishing, 2000. 664 s. ISBN 80-7169-681-1.
- ČIHÁK, Radomír. *Anatomie III*. 2., uprav. a dopl. vydání. Praha : Grada, 2004. 673 s. ISBN 80-247-1132-X.