Brachiocephalic Muscles in Canines

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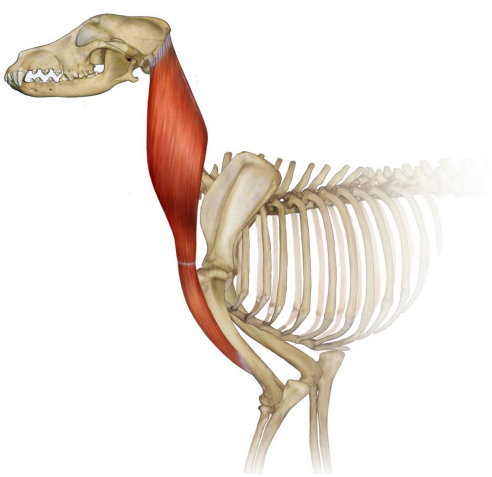
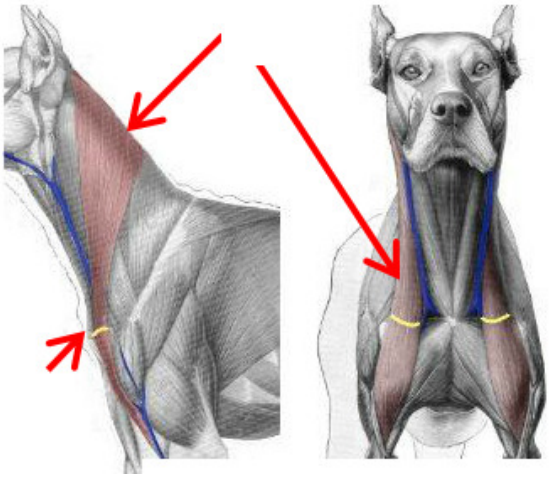
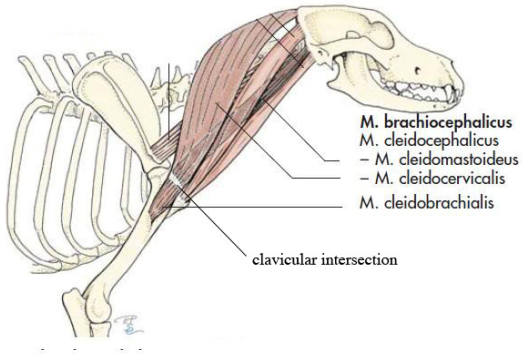
The brachiocephalic, also called brachiocephalicus, muscle is located from the mastoid process of the temporal bone, nuchal crest, wing of atlas and the transverse processes of the 2nd through 4th cervical vertebrae and runs down to the deltoid tuberosity and crest of the humerus (1). Brachiocephalic got its name from brachial, relating to the forelimb, and cephalic, relating to the head. It is supplied with blood by the brachiocephalic artery (2).





Its innervation is an accessory nerve; meaning it is a cranial nerve that controls the sternocleidomastoid and trapezius muscles (3). The primary function of the brachiocephalic muscle is to advance the foreleg and extend the shoulder joint when the foreleg is in motion (1). When contraction occurs only on one side, the head and neck are moved to that side (7).

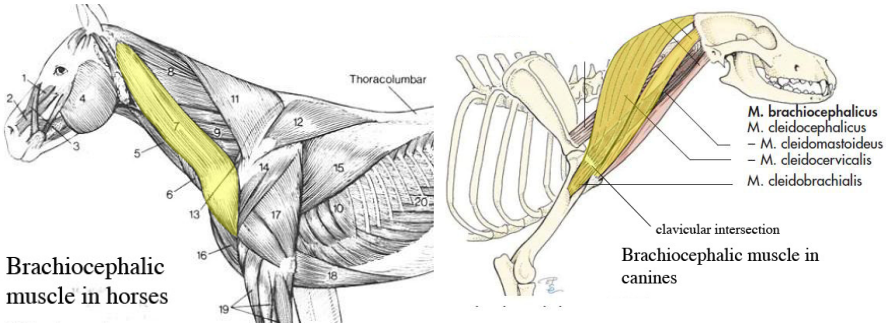
The brachiocephalic muscle is actually two muscles that are separated by a clavicular intersection. A clavicular intersection refers to the fibrous tissue such as fibrocartilage or a sliver of bone that takes the place of the clavicle. The first part of the muscle is the cleidobrachial, cleido referring to clavicle and brachial for the forelimb. The Cleidobrachial, also called cleidobrachialis, connects from the crest of the humerus to the clavicle (clavicular intersection). From there, the cleidocephalic muscle, also known as cleidocephalicus, connects up to the back of the head and first few cervical vertebrae. The cleidocephalic muscle breaks up into to cleidocervicalis (also referred to as cleidocervical) and cleidomastoideus making the brachiocephalic muscle more of a y-shape (4).



It is very difficult to palpate this entire muscle because part of it is under superficial muscles. You can feel the cleidobrachial muscle right below the clavicle and the cleidocervical because those parts are superficial themselves. The cleidocervical muscle is the large muscle that runs from the first four vertebrae, down and across the neck and to the clavicle. It does take up most of the back of the neck so it is easy to feel. However, it is difficult for me to discern the end of one muscle and the start of the next if the clavicle is not prominent.

When strained or tight, it does affect other muscle groups. In a case observed on a horse by a massage practitioner it was reported that the gluteal muscle of the opposite side was strained because the animal was over compensating. The tightness is caused by injury, over use and lack of oxygen. The treatment for this was using compression and friction along the brachiocephalic muscle. The pumping of blood into the muscle from doing compressions softens it. Once the muscle feels softer, move on to the other muscles that are compensating (5).

The location, function and design of the brachiocephalic muscle are similar in all animals that run on four legs except horses. Running animals have evolved to have a laterally flattened chest and moveable shoulders. This allows there to be an increased stride length therefore allowing the animal to run faster. These animals don't have a fixed clavicle like humans do (4). Animals that are carnivores, ruminants and pigs have brachiocephalic muscles that are y-shaped. Although horses run on four legs, their cleidocephalicus does not branch into two parts (6). Animals such as birds and primates do not have the same structure of this muscle (4). Humans do not have this muscle at all.



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7- Structure and Function of Domestic Animals by W. Bruce Currie