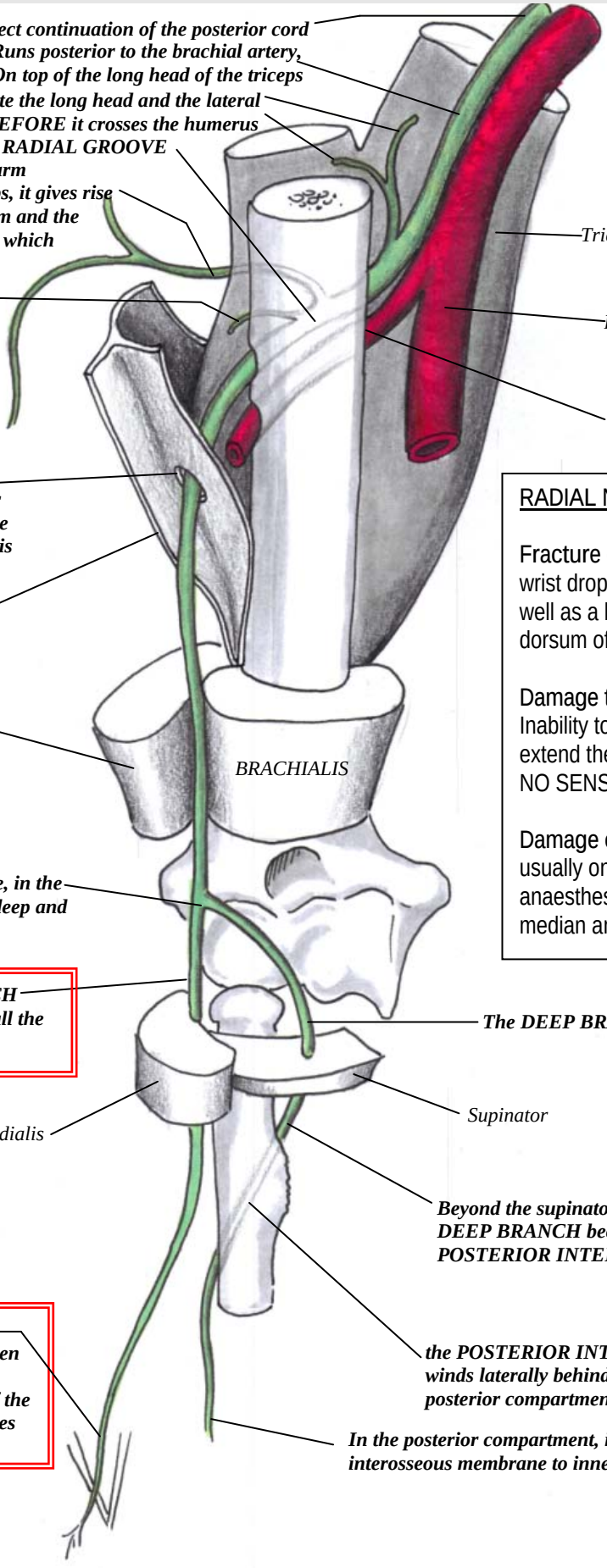
Course of the Radial Nerve



Starts as the direct continuation of the posterior cord

Runs posterior to the brachial artery, On top of the long head of the triceps

Gives branches to innervate the long head and the lateral head of triceps brachii BEFORE it crosses the humerus

Crosses the humerus in the RADIAL GROOVE with the deep artery of the arm

Inside the radial groove, behind the triceps, it gives rise to the posterior cutaneous nerve of the arm and the posterior cutaneous nerve of the forearm, which pierce the lateral head of the triceps

The branch to the medial head of the triceps also branches off behind the humerus

Triceps Brachii, long head

Brachial artery

Deep artery of the arm

After crossing the humerus, it pierces the lateral intermuscular septum and descends between the brachialis and the brachioradialis

Lateral intermuscular septum

Brachioradialis

BRACHIALIS

At the level of the lateral condyle, in the cubital fossa, it divides into the deep and the superficial branches

The SUPERFICIAL BRANCH runs under brachioradialis all the way down the arm

The DEEP BRANCH pierces the supinator

Supinator

Still Brachioradialis

Beyond the supinator, the DEEP BRANCH becomes the POSTERIOR INTEROSSEOUS NERVE

the POSTERIOR INTEROSSEOUS NERVE winds laterally behind the radius and enters the posterior compartment of the forearm

In the posterior compartment, it runs along the interosseous membrane to innervate the extensor muscles

The SUPERFICIAL BRANCH Eventually becomes superficial when it emerges from beneath brachioradialis, crosses the roof of the anatomical snuffbox, and innervates the dorsal skin of the hand

RADIAL NERVE LESIONS

Fracture of the HUMERUS:
wrist drop due to extensor paralysis, as well as a loss of sensation on the dorsum of the hand

Damage to the DEEP BRANCH:
Inability to extend the thumb and to extend the MCP joints of the digits- but NO SENSORY LOSS

Damage o the superficial branch
usually only results in a tiny area of anaesthesia because of the overlap in median and ulnar nerve territories