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DEPARTMENT: NURSING

1) **DESCRIBE THE IMPORTANCE OF VASCULATURE IN RELATION TO IMMUNE SYSTEM AND OUTBREAK OF PANDEMIC COVID-19 ON THE HUMAN BODY.**

   Vasculature refers to the blood vessels which are the arteries and veins responsible for the circulation of blood in the body. In the body, we have both the red blood cells and white blood cells. In relation to immunity, the white blood cells are responsible for immunity and are produced by the stem cells. The white blood cells would fight the virus (covid-19) once it gets in contact with the blood vessels. The specific white blood cell responsible for this action is the b-cells(b-lymphocytes) as they produce antibodies to help the immune system mount a response to infection or any factor that may be detrimental to health and affect the normal activities carried out by the organs of the body.

2) **Subsartorial canal is an important area in the lower limb, discuss.**

   The adductor canal (Hunter's canal, subsartorial canal) is a narrow conical tunnel located in the thigh.It is approximately 15cm long, extending from the apex of the femoral triangle to the adductor hiatus of the adductor magnus. The canal serves as a passageway from structures moving between the anterior thigh and posterior leg .In this article, we shall look at the anatomy of the adductor canal – its borders, contents and clinical relevance.

   Borders

   The adductor canal is bordered by muscular structures:

   Anteromedial: Sartorius.

   Lateral: Vastus medialis.

   Posterior: Adductor longus and adductor magnus.

   The adductor canal runs from the apex of the femoral triangle to the adductor hiatus – a gap between the adductor and hamstrung attachments

of the adductor Cross-section of the thigh, showing the borders of the adductor canal. Note: the adductor magnus is not visible in this illustration.

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The adductor canal serves as a passageway for structures moving between the anterior thigh and posterior leg.

It transmits the femoral artery, femoral vein (posterior to the artery), nerve to the vastus medialis and the saphenous nerve – the largest cutaneous branch of the femoral nerve.

As the femoral artery and vein exit the canal, they are called the popliteal artery and vein respectively.

3) Describe the extraocular and intraocular muscles and their nerve supply.

The extraocular muscles are located within the orbit**,** but are extrinsic and separate from the eyeball itself. They act to control the movements of the eyeball and the superior eyelid.There are seven extraocular muscles – the levator palpebrae superioris, superior rectus, inferior rectus, medial rectus, lateral rectus, inferior oblique and superior oblique. The levator palpebrae superioris is innervated by the oculomotor nerve (CN III) The levator palebrae superioris receives motor supply from the superior division of the oculomotor nerve. Its smooth muscle component, the superior tarsal muscle, is supplied by sympathetic fibers that originate in the cervical spinal cord and travel along the carotid artery. The superior rectus is innervated by the Oculomotor nerve (CN III).The inferior rectus is innervated by Oculomotor nerve (CN III) The blood supply to the inferior rectus is provided by the ophthalmic artery and the infraorbital branch of the maxillary artery. The medial rectus is innervated by the Oculomotor nerve (CN III). The lateral rectus is innervated by the Abducens nerve (CN VI) .It is the only muscle supplied by the abducens nerve, cranial nerve VI. The abducens nerve exits the brainstem from the pons-medullary junction, and travels through the superior orbital fissure to innervate the lateral rectus muscle.The Superior Oblique is innervated by the Trochlear nerve (CN IV). The Inferior Oblique is innervated by the Oculomotor nerve (CN III).*The intraocular muscles include the ciliary muscle, the sphincter pupillae, and the dilator pupillae. The ciliary muscle is a smooth muscle ring that controls accommodation by altering the shape of the lens, as well as controlling the flow of aqueous humor into Schlemm's canal.

The ciliary muscle are supplied by parasympathetic postganglionic myelinated nerve fibers from the ciliary ganglion.The iris sphincter muscle receives its parasympathetic innervation via the short ciliary nerves which lead to pupillary constriction (miosis) and accommodation. The parasympathetic fibers that serve the sphincter muscle.

The dilator muscle is innervated more specifically by postganglionic sympathetic nerves arising from the superior cervical ganglion as the sympathetic root of ciliary ganglion. From there, they travel via the internal carotid artery through the carotid canal to foramen lacerum.