The posterior atlanto-occipital membrane is a broad relatively thin membrane situated between the superior border of the posterior arch of C1 and the posterior margin of the foramen magnum; laterally it blends with the postero-medial capsule of the atlanto-occipital joints. Laterally it arches over the grooves for the vertebral artery and C1 nerve as they cross the posterior arch; this part of the membrane is thickened and may become ossified.