The external iliac vein is the superior continuation of the femoral vein as it passes deep to the inguinal ligament to enter the pelvis. It ascends along the pelvic brim to end in front of the sacro-iliac joint, where it joins the internal iliac vein to form the common iliac vein. The right external iliac artery is initially medial then posterior to the external iliac artery, while the left remains medial throughout its course.

The right and left veins lie anterior to the obturator nerve; the ureters and the internal iliac arteries cross over the medial aspects. In the male it is crossed by the ductus deferens, in the female by the round ligament of the uterus and the ovarian vessels. It may have a single valve but is commonly valve-less.

The deep circumflex iliac and inferior epigastric veins drain into the external iliac vein close to its origins.