

The nine pairs of posterior intercostal arteries arise from the postero-lateral aspect of the descending thoracic aorta and are distributed to the lower nine intercostal spaces. As the position of the thoracic aorta is to the left, those on the right have to cross the vertebral bodies behind the esophagus, thoracic duct and azygos vein to reach the right intercostal spaces.

The posterior intercostal arteries pass anterior to the heads of the ribs, where the sympathetic trunk crosses them; the splanchnic nerves also cross the lower arteries. Each posterior intercostal artery enters its corresponding intercostal space by passing obliquely between the pleura and internal intercostal membrane to reach the costal angle. Here they continue to run in their costal groove, inferior to the intercostal nerve and superior to the intercostal vein, between the internal and innermost intercostal muscles.

The posterior intercostal arteries give rise to dorsal, collateral, muscular and cutaneous branches and anastomose with the anterior intercostal arteries. Further, the lower two arteries continue into the abdominal wall anastomosing with the subcostal, superior epigastric and lumbar arteries.