Circulation in the pelvis and lower limb Arterial supply Common iliac arteries. The right and left common iliac arteries are formed when the abdominal aorta divides at the level of the 4th lumbar vertebra (Fig. 5.26). In front of the sacroiliac joint each divides into the internal and the externat ac arteres. The internal iliac artery runs medially to supply the organs within the pelvic cavity. In the female, one of the largest branches is the uterine artery, which provides the main arterial blood supply to the reproductive organs. The external iliac artery runs obliquely downwards and passes behind the inguinal ligament into the thigh where it becomes the femoral artery. The femoral artery (Fig. 5.42) begins at the midpoint of the inguinal ligament and extends downwards in front of the thigh. The femoral pulse can be felt at the origin of the femoral artery. It then turns medially and eventually passes round the medial aspect of the femur to enter the popliteal space where it becomes the popliteal artery. It supplies blood to the structures of the thigh and some superficial pelvic and inguinal structures. The popliteal artery (Fig. 5.43) passes through the popliteal fossa behind the knee, where the popliteal pulse can be felt. It supplies the structures in this area, including the knee joint. At the lower border of the popliteal fossa it divides into the anterior and posterior tibial arteries. The anterior tibial artery (Fig. 5.43) passes forwards between the tibia and fibula and supplies the structures in the front of the leg. It lies on the tibia, runs in front of Figure 5.42 The femoral artery and its main branches. the ankle joint and continues over the dorsum (top) of the foot as the dorsalis pedis artery. The dorsalis pedis artery is a continuation of the anterior tibial artery and passes over the dorsum of the foot, where the pulse can be felt, supplying arterial blood to the structures in this area. It ends by passing between the first and second metatarsal bones into the sole of the foot where it contributes to the formation of the plantar arch. The posterior tibial artery (Fig. 5.43) runs downwards and medially on the back of the leg. Near its origin it gives off a large branch called the peroneal artery, which supplies the lateral aspect of the leg. In the lower part it becomes superficial and passes medial to the ankle joint to reach the sole of the foot, where it continues as the plantar artery. The plantar artery supplies the structures in the sole of the foot. This artery, its branches and the dorsalis pedis artery form the plantar arch from which the digital branches arise to supply the toes. Venous return There are both deep and superficial veins in the lower limb (Fig. 5.27). Blood entering the superficial veins passes to the deep veins through communicating veins. Movement of blood towards the heart is partly dependent on contraction of skeletal muscles. Backward flow is prevented by a large number of valves. Superficial veins receive less support from surrounding tissues than deep veins.