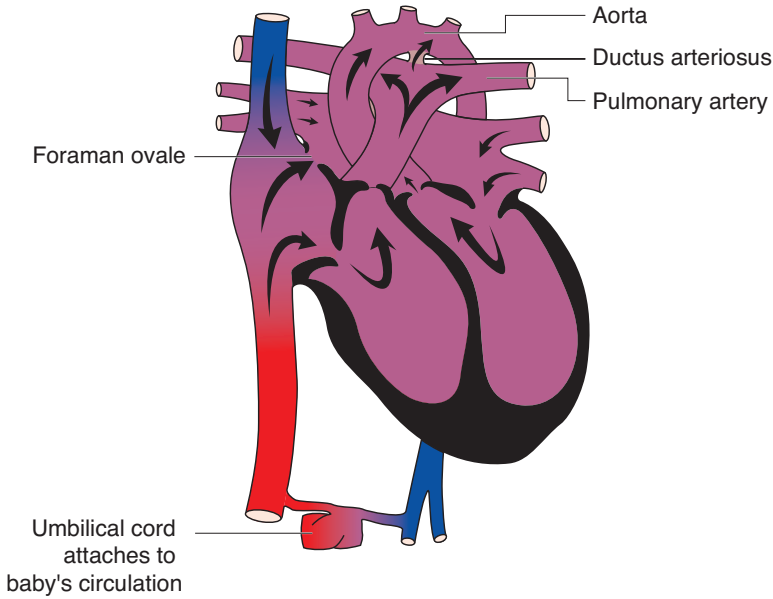

THE CIRCULATION BEFORE BIRTH
(FETAL CIRCULATION)

When the baby is still in the mother's womb it does not need to breathe for itself as the mother, via the umbilical cord, is supplying all the oxygen that the baby needs. The circulation before birth is different from that after birth. It is designed so that the oxygen-filled blood from the umbilical cord goes to the most important part of the body, for example the brain. Very little blood needs to go to the lungs.

There is a hole between the top collecting chambers called the Foramen Ovale: oxygen-filled blood passes from the right collecting chamber to the left chamber through the hole and then on into the left pumping chamber from where it is then pumped around the body.

There is also a connection called the Ductus Arteriosus which joins the lung artery (Pulmonary Artery) and the body artery (Aorta). Blood passes from the right pumping chamber up the lung artery, some blood then passes to the lungs but most flows through the duct to the body artery and then around the body, again avoiding the lungs. When the baby is born and starts to breathe for itself, the bypass systems are no longer needed. Gradually over the first few days or weeks after birth, the duct and the hole will close off and the baby's circulation will be as described on the previous page. See *the Normal Heart*.