The human body grows from a single cell. At conception this cell is formed by the union of father’s sperm and mother’s egg. Within the cell lies the nucleus which governs all the functions of the cell. Packed within this first nucleus, a structure so small that it can only be seen through a microscope, is all the information needed for the control of the growth and development of the baby. The information has come from father and mother, and, through them, from previous generations of the family. A later chapter explains how some of this information can be faulty and result in a bleeding disorder.

Fertilization of ovum by sperm and early division of first cell

The first cell divides, and divides again and again. As cells divide they take on special shapes and functions. By the end of the fourth week from conception the heart is beating, the eyes and ears have started to form, and the legs and arms look like little buds. In the fifth week, at the time the mother may start to experience morning sickness, the face and brain are forming. By the twelfth week the baby’s sex is apparent, nails have grown and the kidneys have begun to function. At 16 weeks the baby, or fetus, is fully formed, hair has started to grow, and the muscles can contract; the mother feels the first fluttering movements of life within her.

The remainder of pregnancy is necessary for growth. At 16 weeks the baby is only about 15 centimetres (6 inches) long, as compared with the normal baby who at birth measures 50 centimetres (20 inches). In the first 16 weeks of pregnancy harmful substances can affect the development of the future child.
Change is so rapid that a single dose of a harmful drug may result in a devastating block in the development of a particular organ. This happened with thalidomide and can also follow certain of the infectious fevers. After 16 weeks, ingestion of harmful substances affect growth; the most obvious example of this is cigarette smoking. The babies of mothers who smoke are smaller than the babies of mothers who do not, and some doctors believe that their early progress is slower than normal as well.

There is so far no evidence that a drug, illness or smoking in pregnancy can result in a bleeding disorder in the child. However, it is sensible to avoid all drugs in early pregnancy, including those bought from the chemist without prescription, and to try to stop smoking and drinking alcohol. The child with a bleeding disorder can well do without an additional handicap.

THE BODY SYSTEMS

Medical students are taught to think of the body as a series of systems which must work together in harmony for health. Described here are the systems concerned with nerves, circulation of the blood, immunity, breathing, the kidneys, digestion, bones and muscles and hormones. The reproductive system is described in the chapter on sex and family planning.

The nervous system

The nervous system consists of the brain and a network of nerves which reaches every part of the body via the spinal cord.

The brain is protected from injury by the bony box of the skull, and the main cable of nerves, the spinal cord, is similarly protected by the spine. To allow for movement, the spine is made up of 33 separate bones, the vertebrae, which