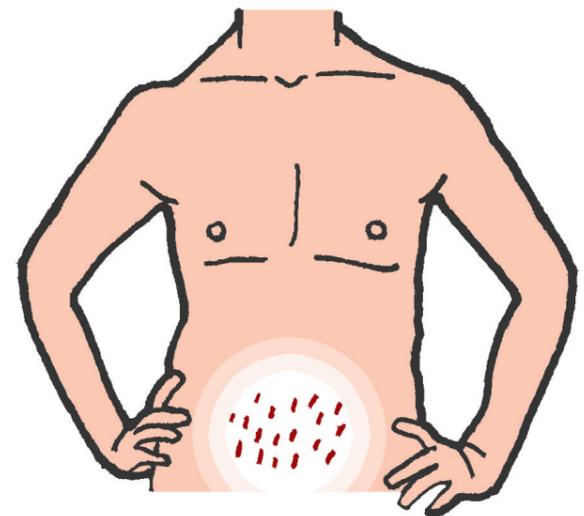


Treating cancer with radiation

One of the best ways to treat cancer is to expose it to high-energy radiation (radiotherapy). This damages the cancer cells and stops the cancer growing. Radiotherapy can cure cancer or reduce the patient's symptoms.

Medical physicists, doctors, radiographers and technologists work on the radiotherapy treatment together. They use medical scans to look inside the body and accurately locate the tumour. They must then decide on the best treatment method and the distribution and dose of radiation needed.



They use medical scans to look inside the body and locate the tumour

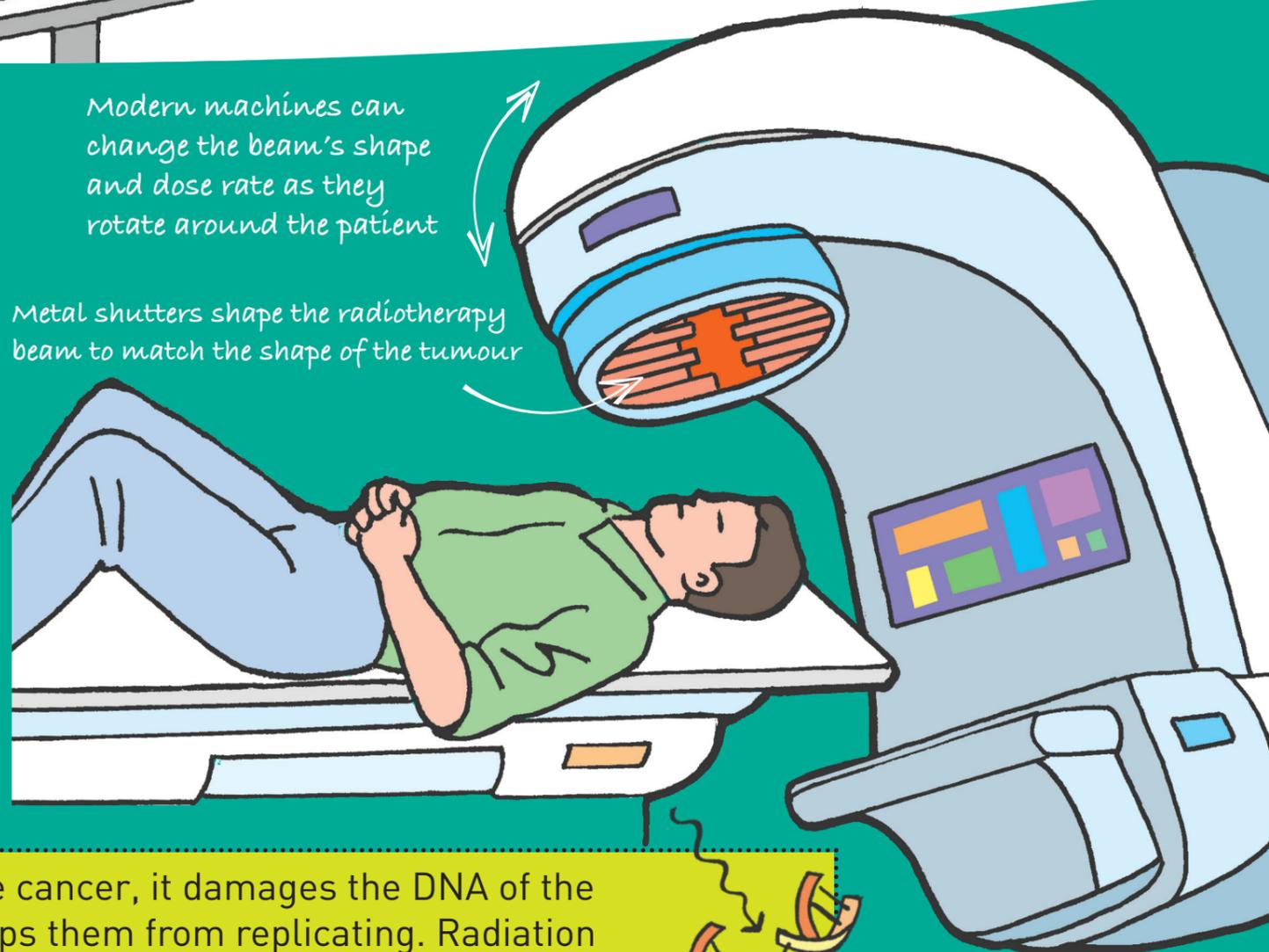


If they choose **brachytherapy**, they will place one or more radioactive capsules on or in the body, near the tumour or inside it.

If they choose to use external beam radiotherapy, they will apply beams of high-energy radiation to the patient. These are usually x-rays generated by a **linear accelerator** (linac) but sometimes particle beams are used, such as protons or electrons.

Modern machines can change the beam's shape and dose rate as they rotate around the patient

Metal shutters shape the radiotherapy beam to match the shape of the tumour



When radiation hits the cancer, it damages the DNA of the cancer cells, which stops them from replicating. Radiation can damage healthy cells too. Radiotherapy treatments are carefully planned to minimise damage to healthy tissues around the tumour.

