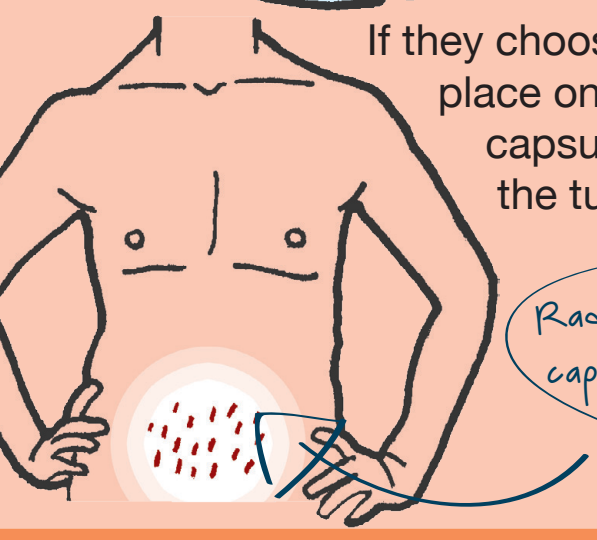
The Science & The Scientists

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 must decide on the best treatment method, and the distribution and dose of radiation needed.





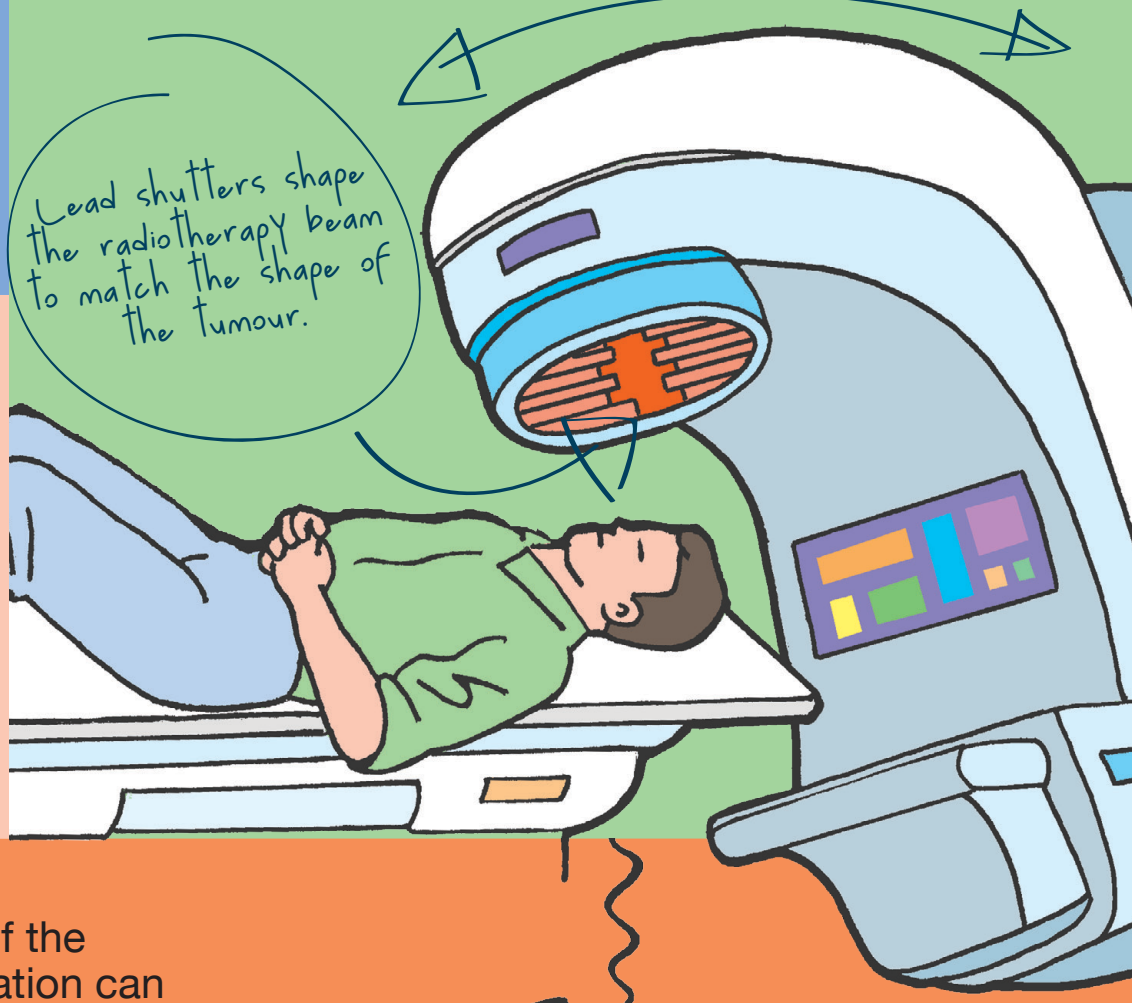
If they choose brachytherapy, they will place one or more radioactive capsule on or in the body, near the tumour or inside it.

Radiation emitted from the capsule treats the cancer.

If they choose to use external beam radiotherapy, they will apply beams of high-energy radiation to the patient, usually in the form of X-rays. A linear accelerator (linac) makes the X-rays.

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

Lead 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 tissues around the tumour.



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The techniques described in this leaflet are only suitable in certain cases and some are not yet widely available. If you need radiotherapy, your doctor will advise on the best