Surgery for Cancer

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Surgery is frequently used to remove cancerous growths or obtain small samples of tissue for examination. For several types of cancer, surgical removal of a tumor may be sufficient to cure the patient. The likelihood of a surgical cure is dependent on the size, location, and stage of the disease. When removing a tumor the surgeon will try to remove as much of the tumor as possible. The animation below depicts a surgical tumor removal in which all cancerous cells are removed.

Your browser does not support HTML5 embedded video.

The tissue removed from the patient will often be examined by a pathologist for signs of tumor cells near the edge of the incision. This is to ensure that all detectable cancer cells have been removed. If no cancer cells are visible in the tissue surrounding the excised tissue, the specimen may be said to have 'clean margins'. This refers to the fact that all visible tumor cells have been removed.

Using microscopes, pathologists can look very closely at the removed tissue to see if any cancer cells may have been left behind. If there are areas around the perimeter of the excised tissue that do not have a margin of normal cells then some cancerous cells may have been left behind[1], as in the animation below. In this case the surgeon may go back to remove more tissue surrounding the tumor site.

Your browser does not support HTML5 embedded video.

Surgery is often used in combination with radiation and/or chemotherapy. The choice of treatments depends on the type, location and size of the tumor.[1]

Learn more about biopsies and watch a video.

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1 [ab] Abeloff, Martin D. Abeloff's Clinical Oncology.4th ed. Philadelphia: Churchill Livingstone, 2008.