



## Lung Cancer Treatment Options

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Did you know that 1 in 5 of all cancer deaths in the United States are caused by lung cancer? There are a variety of risk factors of lung cancer, some that you can or cannot control such as air pollution, smoking and exposure to asbestos. While lung cancer is the leading type of cancer death in the US there are a number of treatments used from immunotherapy to Radiation therapy. While there are a multitude of ways to treat lung cancer, it is hard to see which option is right for you. Which type of cancer treatment is the most effective for each stage of lung cancer?

Chemotherapy treatment is primarily used in small cell lung cancer but may not work if the tumor is resistant to chemotherapy. Chemotherapy uses powerful chemicals to kill off a tumor, "small cell lung cancer is likely to be disseminated or at least locally advanced at diagnosis, making the possibility of resection immediately unlikely. This shows how chemotherapy is primarily used to eradicate small tumors or at least shrink it down in size. Chemotherapy uses drugs to kill cancer cells but also may kill healthy cells which can cause a patient to have a weakened immune system. Chemo is not recommended for anyone who has a fragile immune system or people who may want to have children in the future as chemotherapy may make patients infertile. Chemotherapy is an effective treatment for small cell lung cancer but it has a few drawbacks that patients may want to consider.

Radiation therapy is a treatment that can be used in conjunction with chemotherapy or by itself. It uses precise beams to kill cancer cells mostly from x-rays. While radiation therapy can be used on almost all types of cancer by itself there is a "4% survival advantage in 2 years" after using radiotherapy with chemotherapy. Both these treatments work well together because their main purpose is to eradicate all cancer cells and by having different treatments targeting these mutated cells, there is a higher chance of the cancer cells dying out. However the timing of radiation therapy is tricky with "trials failed to show an advantage for early radio therapy." This is because radiotherapy is used to target specific parts of the body while chemotherapy targets the entire body. While using radiotherapy is not useful before surgery, one treatment is almost always used after becoming diagnosed with lung cancer.

Surgery may be used in all stages of lung cancer as its primary use is to take out tumors from the lungs. Surgery is always used to take out a cancerous tumor that has not spread around the body so other treatments such as chemotherapy or radiation therapy do need a large dose. A unique part of surgery is that it could prevent possible cancerous tumors by taking out tumors that may begin just in case before they show up on cancer screenings. Additionally, surgery can get rid of pain that a tumor might be causing as a tumor can press on bones or nerves causing pain. This treatment is almost always used with other treatments such as radiotherapy and chemotherapy to and a great starting point with any stage of lung cancer.

All treatments of cancer focus specifically on different stages of development in lung cancer to make sure all patients are able to receive treatment with each stage of lung cancer that they are in. While many treatments such as chemotherapy and radiation therapy focus specifically on the early stages such as small cell lung cancer, surgery is used during all stages of lung cancer. More work is being done on different types of treatment for lung cancer which can improve treatment options for people in the III or IV stage of lung cancer treatment. Lung cancer treatments are significant as the more treatment options available for patients allows for a greater likelihood of survival from lung cancer, especially since it causes the most cancer related deaths in the United states. The future is bright with AI models testing possible drugs to



curb lung cancer faster than ever. Learning about lung cancer treatment is the first step to understanding how to cure cancer as a whole.

Works Cited

- "Cancer Facts & Figures." *Cancer.org*, 2024,  
[www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2024/2024-cancer-facts-and-figures-acf.pdf](http://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2024/2024-cancer-facts-and-figures-acf.pdf). Accessed 17 Nov. 2024.
- Cooper, Samantha, and Stephen G. Spiro. "Small Cell Lung Cancer: Treatment Review." *Respirology*, vol. 11, no. 3, 19 Apr. 2006, pp. 241-48,  
<https://doi.org/10.1111/j.1440-1843.2006.00850.x>.
- CRI Staff. "Exploring the Different Types of Cancer and Treatment Options." *Cancer Research Institute*, 12 Dec. 2023,  
[www.cancerresearch.org/blog/december-2023/exploring-the-different-types-of-cancer-and-treatment-options](http://www.cancerresearch.org/blog/december-2023/exploring-the-different-types-of-cancer-and-treatment-options). Accessed 17 Nov. 2024.