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High doses of vitamin C are given via an intravenous (IV) drip. The IV route allows much higher levels of vitamin C to circulate in the blood than is possible to achieve by only taking oral vitamin C supplements, as the body cannot absorb very much vitamin C when it is taken by mouth.

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IVC is most commonly used in cancer care as it may:

- Support quality of life
- Reduce cancer-treatment related side effects including fatigue, nausea, and lack of appetite
- Improve treatment outcomes or slow cancer progression

IVC is not to be used as a cure for cancer. IVC should not be considered an alternative for chemotherapy or any other cancer treatments.

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Several small clinical trials of IVC have been performed in people with cancer, and several other studies known as observational studies and case reports have been published. The research is still considered preliminary as most studies have been small and didn't include a "placebo" group. Most studies have used IVC for people receiving chemotherapy, and a few have studied it with radiation therapy, other cancer treatments like androgen deprivation therapy, or on its own.

Results from these studies show that IVC is generally safe and well tolerated, with minimal and mild side effects. Many but not all studies have found benefit for quality of life or symptom management alongside cancer treatments such as chemotherapy. Symptoms that have been improved with IVC include fatigue, pain, nausea, and appetite loss. There is promising early research for IVC used along with standard treatments on cancer outcomes including tumor response and survival in some types of cancer. In particular there may be benefit for cancer outcomes in patients with advanced pancreatic and ovarian cancers based on a few small studies. More research is needed.

IVC is still considered an experimental treatment and we are not yet certain if it will help people live longer or live



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enzymes to break down the H<sub>2</sub>O<sub>2</sub>, and also tend to have less H<sub>2</sub>O<sub>2</sub> around them due to differences in the environment around cancer cells compared to healthy cells. This H<sub>2</sub>O<sub>2</sub> generation is often referred to as the “pro-oxidant” effect of high dose IVC.

Other ways vitamin C works is by its involvement in many reactions and structures in the body including collagen formation and enzyme reactions that may affect how cancer grows and spreads. Lastly, vitamin C may lower inflammation and oxidative stress in the body which can favourably impact cancer development and progression. There is also