



## Patient Resource: Intravenous Vitamin C (IVC)



### What is intravenous vitamin C (IVC)?

High doses of vitamin C are administered via an intravenous (IV) drip. The IV route allows much larger concentrations of vitamin C to circulate in the blood than is possible by taking oral vitamin C supplements.

### What is IVC used for?

IVC is most commonly prescribed to:

- improve quality of life
- reduce cancer-treatment related symptoms including fatigue, nausea and lack of appetite
- slow cancer progression

### Does IVC work?

Most research has been conducted in the lab, using cells and animal models. Human studies are limited. Preliminary human studies, however, consistently show that IVC, alone or in combination with standard treatments, can reduce cancer symptoms, treatment side effects and improve quality of life. IVC should not be considered as a cure for cancer.

A few small studies have looked at IVC in combination with standard care. In line with results from lab studies, these human studies show that IVC plus chemotherapy can slow cancer progression by reducing tumour size and decreasing tumour growth rate, as compared to chemotherapy alone.

### How does IVC work?

Preliminary lab-based studies indicate IVC increases the production of hydrogen peroxide in the blood stream, which has been shown to cause cancer cell death while leaving normal cells unharmed. As opposed to vitamin C taken orally, vitamin C administered through an IV behaves as a pro-oxidant rather than an anti-oxidant and leads to the generation of free-radicals.

Cancer cell lines that have exhibited sensitivity to the high doses of vitamin C that are possible through IV delivery include lymphoma, glioblastoma, bladder, prostate, liver, breast, cervix, ovary, colon and pancreas.

### What are the side effects of IVC?

Side effects are mild and rare in most patients. Possible examples include diarrhea, loss of appetite, depression, abdominal cramps, nausea, vomiting, headache or dry skin or mouth.

### Is IVC safe?

IVC should not be administered to patients with renal failure, a history of kidney stone formation or those with a deficiency of the G6PD enzyme. Please contact your healthcare provider to discuss whether you are a good candidate for IVC therapy. IVC should not be considered a viable replacement for chemotherapy.

### What is the recommended dose of IVC?

The goal of IVC treatment is to achieve a level of vitamin C in the blood stream of approximately 22mM (400mg/dL). Patients at the OICC typically receive between 40g and 100g per infusion to achieve these levels. Extensive data show that doses up to 1.5g/kg of body weight are safe in a professionally monitored environment.

Treatments are generally administered 2-3 times per week during active treatment, and less often during a maintenance phase. Each treatment can last between 1 and 2 hours, depending on the dose.

#### Disclaimer

The OICC has prepared this monograph, as part of a series of monographs being developed to share results of a review of the research evidence related to common therapies and products used within cancer patient care. The monograph is designed to summarize evidence-based research and does not advocate for or against the use of a particular therapy. Every effort is made to ensure the information included in this monograph is accurate at the time it is published. Please note that this monograph does not include an exhaustive list of all potential adverse events; individuals may experience unique side effects. The information in this monograph should not be interpreted as medical advice nor should it replace the advice of a licensed health care provider.