

PRE AND POST OPERATIVE IV THERAPY

A MUST IF YOU ARE GOING TO HAVE SURGERY

TRACIE LEONHARDT, D.O. & LES COLE, M.D.

Why should you get IV therapy if you are having surgery? Lack of proper nutrition delays wound healing and leaves surgical patients more vulnerable to surgical complications. Studies show that most people have some level of nutrient depletion. For example, one in four Americans are at risk for poor absorption in the gut leading to nutrient deficiencies, meaning that the food you eat does not get digested and absorbed normally. Many more Americans are at risk for reduced nutrient levels because of food choices and the Standard American Diet. Both fast food and processed food (essentially any food that is packaged and has an ingredients list) contain "empty calories" which are nutrient-poor.

By providing optimal vitamin supplementation before and after surgery we can positively influence how well you heal. This is especially true in an obese or overweight patient. The risk of death from other medical conditions increases significantly as weight increases. Patients who are poorly nourished, obese, and diabetic are particularly prone to surgery-related complications, including wound infection and poor healing (bad scarring).

Most Americans consume diets too high in calories and low in essential nutrients. We are known as a malnourished and overfed population. More than 70 percent of American adults do not get even two thirds of the RDA for one or more nutrients—consumption of fruits and vegetables is very poor. American meals, loaded with packaged, processed, nutrient-poor foods, contribute to marginal deficiencies that result in a shortage of vitamins and antioxidants that are particularly important to surgery patients undergoing anesthesia, trauma, and wound healing.

Deficits in micronutrients (vitamins and minerals) such as zinc, selenium, and vitamin B6 have a negative influence on the immune response. Replacing these nutrients before surgery can have a significant and measurable effect on results by favorably reducing free radicals caused by surgery and anesthesia, increasing the immune system, reducing bruising and swelling, and promoting better wound healing. The importance of optimal nutrition is so that your systems work at their peak efficiency. If you are undergoing surgery, you want peak immune function to prevent infection, peak clotting function to reduce bleeding and bruising, peak protein synthesis for collagen formation and repair for better and minimal scarring.

Deficiencies of even a single nutrient result in altered immune responses even when the deficiency is mild. Obesity, diabetes and other chronic diseases of metabolic and nutrition imbalance can have a significant negative impact on surgical outcomes and complications. Vitamins and minerals, such as carotenoids (orange in carrots), vitamins A and C, and selenium act as antioxidants. This is important, as during surgery it has been documented that the blood and tissue levels of nutrients decrease while the body's requirement for them increases.

What do they tell us to do before surgery? First we are told to fast, so we are already depleted. Then they also have us stop all vitamins and supplements two weeks before surgery. We are severely depleted before we start. There are some nutrients you do not want to take since they can increase bleeding risks, but others are essential to healing. Undergoing surgery with reduced nutrition increases your risk. Surgical patients with malnutrition are two to three times more likely to have both minor and major surgical complications such as decreased wound strength (where the wound can open back up), increased rates of infection, delayed wound healing, increased inflammation, increased bruising, and increased risk of death. The length of hospitalization can be extended by 90 percent compared with the length of stay of well-nourished patients.

Major surgery itself increases the risk of malnutrition because of the stress and resulting increase in metabolism using up nutrients to rebuild. This is made much worse if the surgery is on your digestive tract because digestion and absorption are further reduced. This is especially true for obese and overweight patients who are having bariatric (stomach bypass) surgery, because studies show the presence of nutritional deficiency (due to unhealthy diet) before surgery, which is made worse by bypass surgery. Plastic surgery outcomes are also profoundly affected by pre and post operative nutritional status. The number of patients with pre-existing nutritional deficiencies and health problems who are seeking cosmetic surgical procedures is growing.

Pre and post operative IV nutrients supply your cells with the nutrients, co-factors, vitamins and minerals necessary for their peak functioning, so that your risk of complications is diminished and your healing is optimal. It generally consists of one nutritional IV before the surgery and one after, as well as supplementation by mouth. The specific components and possibly the number of nutritional IVs will vary depending on pre-operative health, nutritional status and other considerations.

Some nutrients required for proper healing include vitamin A, vitamin C, B vitamins, zinc, selenium, magnesium and copper. All but copper is included in fairly high doses in the IV so the body has all of these essential nutrients for repair. If a patient has an emergency surgery they can still benefit from IV therapy after surgery to improve the healing process.

There are numerous reports that show significant improvement in surgical outcome with pre and post operative nutritional IVs. In one study, 30 surgical patients who received nutritional support had an 85 percent reduction in infections compared to 30 surgical patients given placebo. Because these patients were randomized, there was no pre-operative distinction in their nutritional status. In another study, wound healing in nutritionally deficient patients given nutritional IVs was better than wound healing in healthy surgical patients that did not get IVs. These results alone have profound implications for all patients undergoing surgery.

IV pre and post operative nutrition can decrease bruising, swelling, inflammation, pain, scarring, and infection rates. It will also improve wound healing and recovery time, especially for that person choosing to have elective cosmetic surgery—you want the best outcome with the least scarring.