

SURGICAL NUTRITIONAL OPTIMIZATION

Eating to Heal · A Patient Guide

YOUR NUTRITION PLAN AT A GLANCE

WHEN	Start 2–4 weeks before surgery and continue at least 4–6 weeks after
PROTEIN	1.6–2.0 g per kg of ideal body weight a day , about 30–40 g at each meal or snack. Whey is my first choice for shakes
DAILY SUPPLEMENTS	Creatine 10 g · vitamin D 2,000–5,000 IU · vitamin C 500 mg twice a day · collagen 10–20 g with vitamin C · fish oil
NIGHT BEFORE	A carbohydrate-rich dinner. On the day of surgery, follow the fasting instructions the pre-op nurse gives you
STOP 5 DAYS BEFORE	Fish oil, vitamin E, and herbal supplements. Tell us about blood thinners and weekly diabetes or weight-loss injections
OPTIONAL	The XR Surgical Recovery Program : a 3-week amino acid program that takes the guesswork out (not covered by insurance)

Why Nutrition Matters for Surgery

Surgery is a controlled injury, and your body answers it by going into **breakdown mode (catabolism)**: it takes apart muscle and other tissue to supply the energy and building blocks it needs to heal. Anesthesia, the incision, inflammation, pain, and the inactivity that follows all add to it. Without enough fuel, **you will lose muscle**. After knee and hip replacement, studies show real losses of thigh strength and muscle in the first weeks, and many patients, especially older adults, never fully get it back.

Good nutrition blunts that response. When I ask patients about their diet before surgery, the answer is almost always the same: **they are not eating nearly enough protein**. Most people heading into joint surgery eat less than a third of what their body needs to heal. Patients spend months preparing for surgery and many hours in physical therapy afterward. What you eat is the piece that is easiest to overlook, and one of the easiest to fix.

Better nutrition, fewer problems

Well-nourished patients have **fewer wound problems and infections**, shorter recoveries, and better results. Protein, vitamin C, and zinc are all directly involved in wound healing and immune defense.

Protein: The Most Important Step

Your target	1.6–2.0 g per kg of ideal body weight a day. Use your ideal weight (when you were fit and healthy). Example: 180 lb ideal weight = 82 kg, so about 130–165 g a day
Spread it out	30–40 g at each meal or snack , 4–5 times a day, works better than 2 or 3 big meals. About 3 g of leucine at a sitting switches on muscle building

Food first	Chicken, fish, eggs, Greek yogurt, cottage cheese, lean meat, beans and lentils
Shakes help	Most people can't reach the target with food alone, especially when appetite is low after surgery. A shake adds 25–40 g. Whey protein is my first choice
Plant-based?	Plant proteins (pea, rice, soy) build muscle less efficiently. Use about 50% more per serving and mix sources, such as pea plus rice
Older adults	After about 60, the body responds less to protein (anabolic resistance), so hitting the target matters even more

Watch: protein and nutrition for surgery

My video on protein, muscle building, and ligament healing. Please watch if you are planning surgery.



Scan to watch the video

Your Supplement Plan

Start before surgery and continue through recovery unless noted. Food first; these fill the gaps.

Supplement	Why it helps	How to take it
Creatine monohydrate	Helps muscles make energy and hold on to strength during recovery. One of the most studied and safest supplements; not a steroid or stimulant	10 g a day , before and after surgery. It raises creatinine on blood tests, so tell your doctors you take it
Vitamin D	Bone healing, calcium absorption, and immune function. Low levels are very common in the Pacific Northwest and linked to worse outcomes	2,000–5,000 IU a day . Check your level if possible; a low level (below 30) is best corrected 4–8 weeks before surgery
Vitamin C	Needed to make collagen, the main protein in tendons, ligaments, skin, and your repair	500 mg twice a day , starting 1–2 weeks before surgery
Collagen peptides	Building blocks (glycine and proline) for tendon, ligament, and cartilage repair	10–20 g a day, with vitamin C . Most useful in the first 8–12 weeks
Fish oil (omega-3)	Lowers inflammation and supports immune function and wound healing	2–4 g EPA and DHA a day. Stop 5 days before surgery ; restart after
Zinc	Wound healing and immune defense	From meat, shellfish, beans, and nuts, or a multivitamin (8–11 mg a day). Not more than 40 mg a day unless told

Stop 5 days before surgery

Fish oil, vitamin E, and herbal supplements (such as turmeric, garlic, ginkgo, ginseng, and St. John's Wort), because they can affect bleeding or anesthesia. **Tell us** if you take a blood thinner (such as Eliquis, Xarelto, warfarin, or Plavix) or a weekly diabetes or weight-loss injection (such as Ozempic, Wegovy, or Mounjaro): these may need to stop earlier. Vitamin D, vitamin C, zinc, creatine, and a regular multivitamin are fine to continue.

Carbohydrates and Fluids

Days before	Plenty of complex carbohydrates (whole grains, fruit, vegetables) so your energy stores are full
Night before	A carbohydrate-rich dinner or drink. Going in fueled lowers the stress response and the insulin resistance that surgery causes
Day of surgery	Follow the fasting instructions the pre-op nurse gives you. A clear carbohydrate drink (such as Gatorade) is fine only up to the time the nurse gives you
Fluids	8–10 glasses of water a day in the weeks before and after surgery. Good hydration means less pain, nausea, and fatigue. Don't cut back on fluids beyond what you are told

Timeline

When	What to expect
2–4 weeks before	Raise protein to your target. Start creatine, vitamin D, and fish oil. Check your vitamin D level if possible. Stock up on easy high-protein foods
1–2 weeks before	Add vitamin C and collagen. Optional: start the XR program (1 week before)
5 days before	Stop fish oil, vitamin E, and herbal supplements
Night before	Carbohydrate-rich dinner
Day of surgery	Fasting instructions from the pre-op nurse
After surgery	Protein at every meal, small and often. Restart fish oil. Continue everything for at least 4–6 weeks , collagen and vitamin C for 8–12 weeks

The XR Surgical Recovery Program (Optional)

For patients who want a simple, structured plan, I recommend the **XR Surgical Recovery Program**, a 3-week nutrition system designed by orthopedic surgeons and scientists for orthopedic surgery patients. It is **not a protein powder**. It is built around precisely dosed **free-form amino acids**, the building blocks your body uses to rebuild muscle and tissue. They are absorbed quickly and are easy on the stomach when your appetite is low.

What it includes	Free-form amino acids, targeted vitamins and cofactors for healing, and an optional carbohydrate-loading drink for before surgery
1 week before	Start the program to load your reserves before surgery
Night before	Carbohydrate-load. On the day of surgery, take the clear carbohydrate drink only up to the time the pre-op nurse gives you
2 weeks after	Continue to support muscle and tissue repair through the most important stretch of early recovery
Longer programs	Three weeks is the minimum. Many patients extend to 4, 5, or 6 weeks total (additional cost)
Cost	From \$399.99 for 3 weeks. Not covered by insurance

Why I recommend it: most patients don't eat enough protein, and XR is the simplest way I have found to close that gap. Research on amino acid supplementation around joint surgery shows less muscle loss and a faster return of function. XR covers the amino acid and carbohydrate-loading parts of this guide; keep eating protein at every meal.

Learn more and order XR

Details, the science, and ordering: merrittsurgery.com/xrnutrition



Scan for the XR program

XR is a product of XR Science. It is optional and not covered by insurance. Always follow the specific instructions from Dr. Merritt and your care team.

Common Questions

Small surgery too?	Yes. Even arthroscopy and ligament surgery shut down the thigh muscles for weeks. The bigger the surgery, the bigger the benefit
Kidney disease?	Don't raise protein or start creatine on your own. Follow your primary care doctor's or kidney doctor's guidance. With normal kidneys, protein up to 3 g per kg a day has been shown to be safe
Diabetes?	Ask your primary care doctor before carbohydrate loading, and check your blood sugar more often around surgery
No appetite?	Small, frequent high-protein snacks: Greek yogurt, eggs, cottage cheese, shakes. Starting good habits before surgery makes this much easier

Nutrition

What you eat has a direct effect on how well you heal. Start good nutrition before surgery and continue through your recovery. Our nutrition guide explains what to take and how much: merrittsurgery.com/surgeries/nutritional-optimization



Scan for the nutrition guide

My anti-inflammatory diet guide is also on the nutrition page. This guide is general education; your care team's specific instructions come first.