What is the role of nutritional optimization in the treatment of nonunions?

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Outline

- Fracture nonunion poses a physical, emotional and financial burden to the patient highlighting the importance of a well-coordinated/effective post-traumatic reconstructive treatment plan for failure of bone healing.

- Nonunion reconstruction is a “pseudo-elective” procedure and host optimization is integral to promote success with regards to osseous union and avoidance of local and systemic complication.

- In addition to optimization of chronic medical and psychological conditions, avoidance of negative social behaviors (ie alcoholism, tobacco abuse), nutritional health should be accomplished prior to nonunion surgery.

- Malnutrition will compromise results after nonunion surgery predisposing the patient to wound healing complication/infection, continued nonunion as well as systemic complication.

- The pre-operative work-up for malnutrition includes both history and laboratories.

- There should be consideration towards usage of a pre-habilitation program for the “at-risk” patient with delayed or established nonunion prior to operative intervention which includes nutritional counseling/supplementation when deemed necessary.

- Clinical outcome data demonstrates that nutritional optimization during the peri-operative period leads to best outcomes.

- Immunonutrition (arginine +/- glutamine, nucleotides, and omega-3 fatty acids) is a specific nutritional program designed to promote best clinical outcomes for the surgical patient.

- The Pittsburgh experience with nutritional supplementation for both the geriatric and young (high energy) populations has proved beneficial for the fracture patient.

