

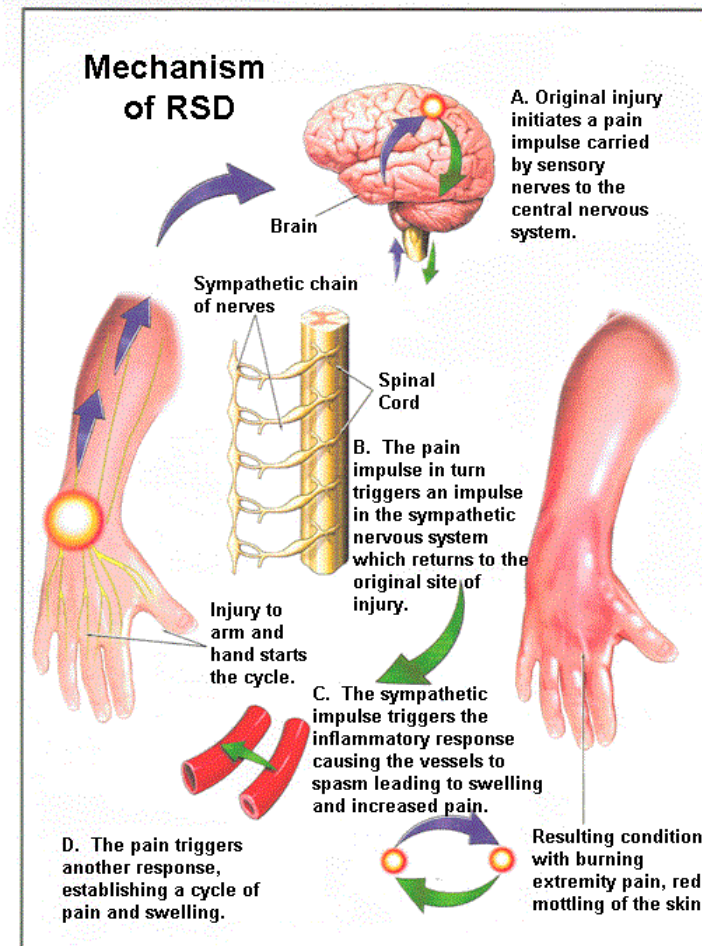
Vitamin C in the prevention of CRPS in distal radius fractures

QI project 2016-2017 - Aouod Agenor, Jonathan Doyon, Matthew Florczinski, Jhase Sniderman, James Wu

Aim Statement

- ▶ To implement an initiative for prescribing vitamin C (500 mg/d for 6 weeks) to patients presenting with a distal radius fracture at the Fracture Clinic at Sunnybrook Health Sciences Center, with a target uptake of 60% over the first 6 months of the initiative.
- ▶ Change idea: Utilizing non-invasive, cost-effective and safe alternatives to improve patient outcomes.
- ▶ Outcome measured: Percent uptake of vitamin C prescriptions for distal radius fractures

Evidence of vitamin C reducing CRPS in distal radiuses



Pre-intervention

- ▶ 10 distal radius charts reviewed in fracture clinic
 - ▶ 0% prescription of Vit C on initial fracture clinic visit

Measures taken

- ▶ Printed and numbered 100 prescriptions for:
Vitamin C 500 mg PO daily x 6 weeks
- ▶ Installed posters in SHSC fracture clinic to
promote awareness

ARE YOU SEEING A SURGEON FOR A WRIST FRACTURE?



Ask them about a prescription for Vitamin C.

Vitamin for wrist fractures



Studies have shown^{1,2} that patients with *distal radius fractures* who take a daily dose of 500 mg of Vitamin C may be less likely to develop complex regional pain syndrome (CRPS).

- CRPS occurs in as many as 10% of patients with distal radius fractures³.
- It is characterized by severe pain, changes in sensation, and changes in the physical appearance of the affected limb⁴.
- The condition can be persistent and debilitating, resulting in time spent off work and loss of quality of life.

Vitamin C is also an important anti-oxidant in the diet and beneficial to overall health.

As part of a quality improvement project at Sunnybrook Health Sciences Center, patients with distal radius fractures will be offered a 6-week prescription for Vitamin C.

If you are recovering from a wrist fracture, ask your surgeon if you could benefit from taking Vitamin C.

¹Zollinger, P. E., Tuinebreijer, W. E., Breederveld, R. S., & Kreis, R. W. (2007). Can vitamin C prevent complex regional pain syndrome in patients with wrist fractures? A randomized, controlled, multicenter dose-response study. *J Bone Joint Surg*, 89(7), 1424-1431.
²Zollinger, P. E., Tuinebreijer, W. E., Kreis, R. W., & Breederveld, R. S. (1999). Effect of vitamin C on frequency of reflex sympathetic dystrophy in wrist fractures: A randomised trial. *Lancet*, 354(9195), 2025-2028.
³Koval, K., Haidukewych, G. J., Service, B., & Zirgibel, B. J. (2014). Controversies in the management of distal radius fractures. *J Am Acad Orth Surg*, 22(9), 566-575.
⁴Harden, R. N., Oaklander, A. L., Burton, A. W., Perez, R. S., Richardson, K., Swan, M., . . . Reflex Sympathetic Dystrophy Syndrome Association. (2013). Complex regional pain syndrome: Practical diagnostic and treatment guidelines, 4th edition. *Pain Medicine*, 14(2), 180-229.

Current Status

- ▶ Approved as quality improvement project at Sunnybrook Health Science Center
- ▶ Staff and residents aware of initiative
- ▶ Vitamin C prescriptions present in fracture clinic and being distributed
- ▶ Difficulty tracking amount of prescriptions given out

Challenges

- ▶ Flagging all distal radius fractures that come through the fracture clinic
- ▶ Fracture clinic busy +++
- ▶ Making other residents/staff aware of this QI project and agree on the usefulness of the intervention
- ▶ Busy resident schedule

Future

- ▶ Include a short survey (3 questions) to screen for distal radius fractures
 - ▶ Do you have a wrist fracture?
 - ▶ Is this your first visit at the fracture clinic for this injury?
 - ▶ Has one of the doctors offered you a vitamin C prescription?
- ▶ Extend this measure to other sites
 - ▶ SMH, TWH, MGH, MSH
- ▶ Follow up to see if patients are filling prescriptions

Learning points

- ▶ Implementing new ideas takes time
 - ▶ Set objectives and due dates
- ▶ Keeping track of data is both challenging and crucial
- ▶ Enthusiasm level to adopt new measures will vary greatly

Acknowledgements

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