



Bone Up on Osteoporosis

You can manage some of the risk of developing this degenerative bone disease

By Amie King

People who have complex regional pain syndrome/reflex sympathetic dystrophy (CRPS/RSD) should know about their increased risk for osteoporosis, a condition characterized by decreased bone mass and deterioration of bone tissue. Osteoporosis, which causes bones to become fragile and creates an increased risk for fracture, can be a concern in the dystrophic, ischemic, and atrophic stages of CRPS/RSD (see sidebar). Though you cannot consciously control the CRPS/RSD disease process, you can influence many of the following factors that increase the risk of developing osteoporosis.

Learned disuse

Many people with CRPS/RSD naturally, though mistakenly, avoid movements that hurt. This can lead to a “learned disuse” pattern, which can result in bone loss and decreased tissue strength. A bone needs consistent stress placed upon it to be strong, and that stress occurs with weight bearing or when muscles pull on the bone to create movement. Because these

two activities often hurt people with CRPS/RSD, many avoid putting weight through their affected extremity, and/or using it in a normal way. For example, you might hold your hand in a guarded fashion, or use an assistive device, such as a cane or crutches. These activities decrease pain at the time, or protect the area; however, if this becomes habitual, the bone will not get the stress it needs to maintain its bone mineral density. As the bone itself weakens, the extremity’s tolerance to the very activities it needs to perform to gain density weakens as well.

The importance of aerobic, weight bearing, and resistance exercises can not be overstated. A therapist will be able to guide you through exercises and activities designed specifically to maintain functional use of your extremity as well as a healthy bone density. The goal is to create an exercise plan that achieves the right amount of stress to the bones and soft tissues of the extremity without overdoing it. A trained therapist will know what activities to

The Stages of CRPS/RSD

CRPS/RSD can progress through several stages. Some physicians classify them by stage numbers (ie, first, second, and third stage) and others by the changes in the extremity, or both.

The first (“**hyperemic**”) stage after injury is marked by increased blood flow and swelling to the area of injury, which may cause the extremity to feel warm and swollen.

The second (“**dystrophic**” or “**ischemic**”) stage is characterized by neurovascular changes that affect the blood flow into the extremity, causing it to feel cool.

The third (“**atrophic**”) stage generally happens around 6 months after the injury and the neurovascular changes have become even more pronounced. A decrease of blood flow into the affected area occurs in addition to other sympathetically-mediated changes. The change in blood flow, along with other nervous system changes, can cause increased risk for developing osteoporosis in an extremity with CRPS/RSD.

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initiate. Sometimes just simple active movement is all that is tolerated. This can be beneficial by providing muscular pull against the bone, which causes it to rebuild and become denser. In other circumstances, active range of motion may be contraindicated for a period of time. In these instances, a protocol involving scrubbing and carrying to stress the bone tissue without any joint motion would be better advised. Open communication with the therapists is crucial in determining the right treatment plan. Once an appropriate exercise program is designed, regular, independent completion of that program is vital. Increased activity initially may be uncomfortable, or even “flare up” pain, but consistent diligence with the program

will prove valuable over time in function, health, and pain levels.

Nutrition and Lifestyle

Everyone knows “milk does a body good”, and calcium certainly is important in bone health, though there are many other factors at play. A diet rich in calcium, magnesium, vitamin D, zinc, copper, and manganese has been associated with greater bone density. Additionally, diets too high in sodium or protein can have adverse effects on bone health. It is important to be aware that what you eat can make a substantial difference in many aspects of your health. For more specific information on the role of nutrition, speak to your doctor or a registered dietician.

Finally, cigarette smoking, excessive alcohol, and excessive caffeine have been well documented in their detrimental effects on bone density and bone health. Making changes in these areas will have positive effects on your overall health, as well as the disease process of CRPS/RSD.

In conclusion, participating in the right amount of activity and exercise is the most helpful and specific intervention to reduce your risk of developing osteoporosis. Additionally, making smart choices about nutrition and lifestyle will allow for living a full, productive, and healthy life while you face the challenges of CRPS/RSD. ■

RSDSA Review Q&A

Treatments for Opioid-induced Bowel Dysfunction (OBD)

By Joseph Pergolizzi, MD

Q: Are there any effective strategies for managing opioid-induced bowel dysfunction (OBD)?

A: Opioid-induced bowel dysfunction (OBD), usually associated with severe, persistent constipation, is one of the most common and debilitating side-effects of opioid therapy for chronic pain. While it is understood that the primary cause of OBD is the activation of mu-opioid receptors in the intestine by opioid pain medications,

there are currently no approved treatments that specifically address this mechanism. Therefore, therapy for OBD is dependent on opioid-sparing strategies, which may compromise adequate pain control, and the use of a variety of over-the-counter or prescription laxative agents.

Several types of laxatives are available, including bulk-forming agents (and increased fiber intake), osmotic agents (that draw more fluid into the gut to liquefy the stool), and non-specific stimulants. Physicians often recommend one of these agents with new prescriptions for an opioid pain reliever. However, in order to get adequate efficacy, experimenting with dosing or additional laxatives is often necessary. One study suggested that only about half the people taking opioids got the same relief from laxatives as people who were not taking opioids. And while laxatives may provide limited relief from OBD, their effects are often unpredictable and they can be associated with side effects,

such as abdominal cramping, bloating, and diarrhea. As a result, they are not recommended for long-term use. Fortunately, a new class of agents called peripherally acting mu-opioid receptor (PAM-OR) antagonists are under development. As their name suggests, these agents specifically block the “peripheral” action of opioids on the gut without interfering with pain relief mediated in the central nervous system. In several large clinical trials, one such agent, alvimopan, has already been shown to increase bowel movement frequency. When they become available, PAM-OR antagonists, such as alvimopan, may provide an effective and well-tolerated tool for managing OBD. ■

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Pappagallo M. Incidence, prevalence and management of opioid bowel dysfunction. *Am J Surg.* 2001 Nov;182(5A Suppl):11S-18S.