

## 3 Yes, you have to exercise! Now, get off the couch!

**DGF:** Exercising consistently builds muscles as well as bones. What types of exercise are best for maintaining bone and muscle health? How long and how often do you recommend working out?

**MR:** The data on the positive benefits of exercise with respect to bone and muscle health is now overwhelming and unequivocal. Daily conditioning of the musculoskeletal system, in weight bearing postures such as standing, sitting or walking, will enhance bone deposition and improve muscle profiles on various levels if performed with sufficient intensity, duration and regularity. In fact, for a patient with celiac disease and associated bone/muscle loss, exercise is medicine!

Establishing the correct dosage and ensuring compliance are the biggest challenges. Some people just don't like to take their medication and many just don't like to exercise. So, I am very careful not to prescribe more than my patient is willing to do; but, I try to give them enough to make a difference. The only way to know we are making a difference is to measure progress with serial bone density exams or muscle performance testing.

Weight bearing activities must be utilized as the exercise medium of choice. I do not prescribe swimming for this group of patients; rather, I insist that they exercise under the influence of gravity, such as in a standing or sitting position.

The "king of the hill" with respect to exercise type for this patient population is resistance training. It provides the greatest bone and muscular response. However, this type of exercise is the most difficult to teach for independent use. In addition, patients can just get bored lifting weights. For that reason, I sit with my patients, individually, to establish a realistic set of goals and exercises to ensure the greatest compliance.

Age-related exercise and dosage are important considerations. In my younger patients, I will sit with them and identify attainable goals, like running in a 5K, as a means of inspiring them to participate in an active weight bearing training program. My elderly patients will be encouraged to purchase a pedometer so they can get feedback on their performance. Getting that pull through is critical. Without the carrot, many patients just fall out of compliance.



In reality, increasing physical activities in weight bearing postures over baseline will be a benefit. Even just a little exercise is better than nothing. So, to answer your question in a more practical way, I don't set expectations that my patients can't meet. For some patients, the exercise program consists only of daily walking. For others, I might include three or four resistance training exercises in addition to walking.

Everything is customized to the individual patient and their unique capabilities. The key is to get them doing more than they are now, in weight bearing positions, and to make it appealing enough to become a regular part of their lives. Every effort will bring some level of benefit.



## 4 Red flags for bone loss?

**DGF:** It's crucial that we stay aware of what our bodies are telling us. Are there any "red flags" we can keep on the lookout for in relation to our bones and muscles?

**MR:** The most important recommendation I can make with respect to bone density and muscle health is, if a problem is detected; proactively and tenaciously pursue a diagnosis. Patients must recognize that osteoporosis and muscle loss are symptoms of a disease process. A big red flag for me, in examining a patient who has been referred because of bone density loss or muscle deficiency, is the lack of a clear diagnosis. Without an understanding of the root cause, our treatment efforts may be wasted.

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