

Bodies in Motion

TOTAL HEALTH CENTER NEWS LETTER

“Expert Care with Caring Hands”

Volume 3



Call us at (269) 968-0888
Mon to Thurs 7am-7pm
Fridays 7am-4pm

Total Health Center is a full service physical/occupational therapy clinic where expert patient care is our first priority. We treat a full range of orthopedic and neurologic conditions. Our clinic has therapists with advanced training and specialist certifications. Our goal is to help you, the patient, reach your full potential.

Physical Therapy Management of Osteoporosis

Osteoporosis is a major health problem, especially for older women. It is estimated that 7-8 million people have osteoporosis in the United States and 17 million more have low bone density. An estimated 1.5 million osteoporosis related fractures occur each year and approximately 70% of fractures in people over 45 are types that are related to osteoporosis. Over half of all postmenopausal women will develop a spontaneous fracture as a result of osteoporosis. Fracture sites commonly involved include the hip, vertebral bodies, and distal forearm. By age 80, 40% of all women will have at least one spinal fracture. By age 75, one-third of all men will be affected by osteoporosis. With the aging of our population, the problem is likely to increase and the prevalence will require health care practitioners to focus more intensively on prevention, promoting wellness, avoiding disability and reducing suffering to the greatest extent possible. There is no cure for osteoporosis and no way to fully correct or compensate for the physical changes it causes. Prevention of the disease through awareness, diet and exercise is of critical importance.

The risk of osteoporosis is greatest in white and Asian women largely due to differences in bone mass, bone density and dietary differences. Risk also increases for those with corticosteroid use, low body weight, early menopause, delayed puberty, anticonvulsant medication, GI disease, alcohol abuse, anorexia, amenorrhea, low calcium intake, lack of weight bearing exercise, or other secondary medical conditions such as diabetes.

Three areas are key in the treatment and prevention of osteoporosis and these include, exercise, nutrition and pharmaceutical therapies. Physical therapists can play a key role in educating patients on proper/safe exercise programs for dealing with osteoporosis and help with pain management. Exercise throughout the life span is important. Bone growth is rapid as children mature and peak mass is achieved in most parts of the skeleton by the late teens. Gradual loss of bone mass occurs as we age. Unfortunately, for the patient population that is treated for osteoporosis, past exercise patterns can not be changed but starting weight bearing exercise can help reverse bone loss. Exercise can also help decrease the risk of falls and minimize kyphotic deformities. Physical therapists can also help to educate patients on proper body mechanics and avoiding dangerous or excessive loading on the skeleton.

Weight bearing and resistance exercises have been shown to be of the greatest benefit for improving bone density. Examples of weight bearing exercise include walking, jogging, basketball, soccer, hiking, dancing, skiing, aerobic dancing, or stair climbing. Resistance exercises include weight training and vigorous water exercises. The following are considerations for a successful exercise program to maintain or increase bone mass:

1. Exercise is site specific: for example, if the wrist is exercised, the bones of the wrist will increase density, but bones in other parts of the body will not change.
2. If exercises stops, bone mass will be lost. In as little as 1 month of stopping exercise, there is a measurable decrease in bone density.
3. Bones must be overloaded for exercise to be effective. This means exercise must



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Healthy Recipe of the Month

Chicken Stir-Fry with Mushrooms and Bok Choy

3/4 cup low-sodium fat free chicken broth
3 Tbsp teriyaki sauce
3 Tbsp rice vinegar
2 Tbsp corn starch
1 1/2 tsp sugar
1/8 tbsp red pepper flakes
2 tsp canola oil
2 tsp sesame oil
1 lb. boneless, skinless chicken breast for stir fry
1 package (3.5 oz) shiitake mushroom caps, cleaned and sliced
1 package (9.5 oz) soba noodles
1 lb. bok Choy, trimmed and sliced into bite size pieces
1 sweet red pepper, seeded and cut into thin strips

1. In a measuring cup, whisk broth, teriyaki, vinegar, cornstarch, sugar and red pepper flakes. Set aside
2. Bring a large pot of water to boiling. Heat the canola and the sesame oils in a large nonstick skillet over medium-high heat. Add chicken and cook 4 minutes, stirring occasionally. Remove to a plate. Add mushrooms and cook 2 minutes.

provide loads which are greater than the loads to which they are accustomed. For continued improvement, progressively greater loads must be used.

4. In patients whose activity level is greatly reduced, non-weight bearing exercise may be sufficient to improve bone density. i.e. chair exercises or a stationary bike.

5. Low-load, high repetition exercise (i.e. swimming) performed more than 5 hours/week may be related to lower bone mass. Excessive exercise which leads to amenorrhea also should be avoided.

6. The most effective resistance training utilizes high loads and low repetitions.

7. Adequate calcium is necessary for optimal effects from exercise, but extra calcium does not have an effect. Bone density gains from exercise are greatest in the presence of natural or replaced hormones.

In the presence of osteoporosis, exercises which promote excessive flexion or rotation should be discouraged. Flexion, especially with a load in the arms, can generate extremely large forces on the anterior vertebral body leading to a wedge or compression fracture. Patients should be encouraged to perform spinal extension exercises. One study showed that when women with established osteoporosis performed different exercise programs for between 1 and 6 years that women who performed flexion exercises had an 89% occurrence of new vertebral fractures and women who did extension exercises only had 16% occurrence. Examples of exercise equipment that applies flexion or rotational forces include rowing machines, cross country ski machines, bicycles with reciprocal arm movement, and upper body ergometers. Exercise should also be done to prevent or minimize kyphotic deformity. Exercises that stretch the anterior structure of the body; regain trunk extension flexibility; and strengthen the abdominal, erector spinae and scapular mm will help the patient minimize kyphotic deformity and maintain an upright posture. Patients should be taught to avoid lifting excessive loads and when lifting any load to keep the spine erect and knees bent so the large lower extremity muscles perform the lift. Patients should be assessed for positioning during housework, home maintenance, and recreational activities as well.

With proper intervention, the effects of osteoporosis can be decreased. Although this article focuses in exercise aspects of treatment, dietary changes and proper medical intervention are important as well. As always, the most effective medicine is prevention. Starting young with proper exercise and calcium/ vitamin D intake is beneficial.

Exercise of the Month

Angels in the Snow

Lay on your back with your palms facing upward. Keep your arm on the floor and move the right arm out to the side. Bring it as far out the the side as you can. "lengthen" your arm, hold momentarily and then return it to your side. Complete the movement with your opposite arm.

3. Meanwhile, add soba noodles to boiling water and cook, 3-4 min., drain

4. Add bok choy and red pepper strips to the skillet. Cook 2 minutes return chicken to pan along with broth mixture. Cook 2-3 minutes, until thickened. Gently stir in soba noodles and serve.

Per serving 325 calories, 5 g fat (1g sat.) 26 g protein, 45 g carbohydrate, 2g fiber, 805 mg sodium, 44 mg cholesterol

Patient Testimonials

The assistance given by the therapists is excellent and added to by personal touches to make a patient at ease. Betty

Thanks for getting me back to running! Julie

My therapist was a great help and I will miss her. Christie