

# Bodies in Motion

TOTAL HEALTH CENTER NEWS LETTER

“Expert Care with Caring Hands”

Volume 12

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.

## Exercise and aging

The process of aging is associated with significant functional declines, physical disability, dependence, and greater utilization of health care services. The elderly are the fastest growing segment of the population, in part because people are living longer and in part because the “baby boom” generation reaches retirement age this year.

Older persons have at least 1 chronic condition; the number and incidence of chronic conditions and the severity of disability increase with age. The most common cause of death in the elderly is cardiovascular disease, followed by cancer. The most frequently reported health problem is arthritis, followed by high blood pressure, hearing impairment, and orthopedic impairment. Musculoskeletal problems in aging athletes include decrease in flexibility, arthritic changes in weight bearing joints, and reduced muscle mass. These conditions may predispose older athletes to overuse injuries and make them vulnerable to acute trauma, such as ligamentous sprains and muscle tears.

Decline in muscle mass begins during the third decade of life and accelerates after the age of 50. Total loss of muscle mass ranges from a 10-40% decrease in cross-sectional area with selective atrophy of fast twitch fibers but both slow and fast twitch fibers are reduced in number. Muscle strength decreases on the average by 8% per decade beginning in the thirties with a total loss of 40-50% by the age of 80. At the age of 70, joint range of motion is decreased by an average of 20-30%. These adverse musculoskeletal effects of aging can greatly affect mobility and may lead to functional declines, frailty, and ultimately, loss of independent living.

In general, the trunk and lower extremity muscles are affected to a greater extent than the upper extremity muscles. With inactivity, the postural, antigravity muscles such as the quadriceps, gluteal muscles, back extensors and calf muscles are most affected. These groups are important for upright posture, locomotion, and functional independence. It is important to know however, that some of these changes can be reversed with exercise. Exercise has a positive effect on muscle mass, muscle strength, range of motion /flexibility, and bone mass in the elderly population. Bone mass may improve by 5-10% with appropriate exercise, calcium, and estrogen. Exercise does not increase the **number** of muscle fibers but if the stimulus is sufficient older adults can increase **muscle mass**.

The American College of Sports Medicine recommends that healthy adults perform muscle **strengthening** exercises 2-3x/week at an intensity level that fatigues the muscle within 8-12 repetitions. The higher the intensity and volume of training, the greater the increase in strength. Exercises should begin at a lower intensity and progress gradually to a higher intensity over several weeks. Older adults may take longer to show significant strength gains (12 weeks) than younger adults (6-8 weeks). Elderly people can also improve **aerobic** capacity by an average of 10-30% with endurance training, as in younger adults. Aerobic training is recommended 3-5x/week for a minimum of 20-30 minutes at a target range of 55-70% of the age-predicted maximal heart rate (which is 220-age). Exercise should include warm-up and cool-down periods. People who are severely deconditioned

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



THC Physical Therapy

[thcincbc@sbcglobal.net](mailto:thcincbc@sbcglobal.net)

[www.thcinc.biz](http://www.thcinc.biz)

## Healthy Recipe of the Month

### Slow Cooker Indian Chicken Stew

2lb skinless, boneless chicken thighs, cut into 1 inch pieces  
1 medium onion, chopped  
3 cloves garlic, minced  
5 tsp. curry powder  
2 tsp ground ginger  
½ tsp. salt  
¼ tsp. ground black pepper and/or cayenne pepper  
2 15 oz cans garbanzo beans, rinsed and drained  
2 14.5 oz cans diced tomatoes, undrained  
1 cup chicken broth  
1 bay leaf  
2 Tbsp. lime juice  
1 9 oz pkg. fresh spinach  
Hot cooked rice (optional)

Lightly coat a 6 quart slow cooker with nonstick cooking spray or oil. Add chicken, onion, garlic, curry powder, ginger, salt and pepper to slow cooker. Toss to coat. Stir in drained beans,



should start at a lower intensity and may need to exercise several times/day to reach a total of 20 minutes. Walking is one of the best modes of aerobic exercise in older adults because it is functional, provides weight bearing stimulus and requires no equipment.

**Heavy** resistance exercises should be limited in older adults with a history of hypertension, acute or unstable cardiovascular disease, unstable chronic conditions (i.e. uncontrolled diabetes), recent bone or joint injury, recent surgery, or any condition that prevents strong muscular contractions. Blood pressure and heart rate should be monitored with exercise. Elderly people should avoid breath holding during exercise.

For elderly with hypertension, there are recommendations for strength training.

1. Blood pressure over 160/100 is a relative contraindication.
2. Aerobic exercise should precede resistance training
3. Use resistance of 30-60% of 1 repetition max (RM) or low to moderate weight loads
4. Avoid static hand-gripping and breath holding
5. Take rest intervals of at least 30 seconds between exercises
6. Increase resistance only after 10-15 repetitions can be performed comfortably
7. Discontinue exercise with onset of abnormal signs or symptoms such as dizziness, unusual shortness of breath, angina-type pain, abnormal heart rhythm, cold sweat, confusion, excessive fatigue or incoordination.

Exercise should not be performed by older adults in cases of:

1. Severe coronary artery disease with unstable angina
2. Acute myocardial infarction (<2 days after infarction)
3. Severe valvular heart disease
4. Rapid or prolonged arrhythmias/tachycardias
5. Third-degree heart block
6. New electrocardiographic signs of myocardial ischemia
7. Uncontrolled hypertension
8. Resting systolic blood pressure of > 200/105
9. Profound orthostatic hypotension
10. Decreased systolic blood pressure response to exercise
11. Acute myocarditis
12. Acute thrombophlebitis
13. Acute pulmonary embolism
14. Oxygen saturation of less than 86%
15. Acute hypoglycemia or uncontrolled diabetes
16. Known or suspected dissecting aneurysm
17. Any profound symptom (nausea, shortness of breath, lightheadedness)
18. Significant emotional distress

When performed and monitored correctly, both aerobic and strengthening exercise can be a very positive activity for older adults. It can help reduce the risk of falls, reverse the changes associated with immobility, improve daily function, improve muscle mass, and decrease functional decline associated with chronic disease (heart conditions, rheumatoid arthritis, osteoporosis, pulmonary conditions and cancer). Remember, it is important to first be cleared by your doctor before initiating a regular exercise routine.

## Exercise of the Month

### Wall Slides

Stand with your back flat against the wall and feet out about 12 inches. Slide down the wall until strain is felt in the thighs. Hold for 10 seconds. Repeat 5-10 times. (you can adjust the hold time depending on your fitness level and strength).



undrained tomatoes, broth and bay leaf. Cover and cook on high heat setting for 4-5 hours or low heat setting for 8-10 hours. Stir lime juice into cooked stew. Stir spinach leaves into stew and let stand for 2-3 minutes to wilt. Serve with rice.

## Patient Testimonials

The staff was fantastic! I had to change a few appointments and with no problem. My therapist did a wonderful job with my shoulder! This was a good find, not knowing where I was going. Thank you!

Thank you. I never knew how much therapy could help. - Carol

I always felt that the staff had my best interests at heart and were truly concerned with my recovery. - Evalyn