

DOWNLOAD PDF MUSCLE LOSS: A PRACTICAL APPROACH TO MAINTAINING STRENGTH

Chapter 1 : Strength Training for Fat Loss – K8Ireland Active

When muscle atrophy occurs, do we lose just muscle size or do we lose strength as well? To answer this we need to know what occurs in the body when size and strength are gained. Hypertrophy is the growth of skeletal muscle fibers in response to overcoming force from high volumes of tension.

Muscles are the motors which move the skeleton – the system of levers we use to interact with our environment – and are therefore responsible for our physical relationship with our surroundings. Fat, on the other hand, is where calories are stored, not used. In great quantities, the hormones produced in adipose tissue – yep, that happens – may become metabolically significant, and in great quantities adipose tissue can become the site of significant amounts of inflammation. But bodyfat itself is not the problem. The processes that allow for the accumulation of bodyfat are the problem. Accumulating bodyfat means that there is an imbalance which must be addressed, usually by correcting the quality and quantity of both the diet and the physical activity schedule. On very rare occasions, there is a profound hormonal imbalance too. However, morbidly obese people will almost always show you how they got that way if you accompany them to the grocery store. No matter what they tell you, these people eat lots and lots of very shitty food – lots of fat, sugar, and cheap alcohol. They are a separate situation, and not the topic of this discussion. And for you, gaining muscle is more important than losing fat. Muscle is important metabolically, in a much more significant way. Muscle tissue does much more than just move you around – it keeps you alive, and the more you have, the more alive you get to stay. Muscle burns most of the calories you use during the day, and both the release and subsequent fate of the insulin secreted by your pancreas is affected by your muscle mass. Type II diabetes is very strongly negatively associated with the health and size – of your muscles, because the activity that makes muscles big and healthy is also the activity that uses and regulates blood sugar and insulin. It is not an overstatement to say that the activity that keeps muscles big is also the activity that prevents type II diabetes. Diabetes is a very bad deal, because it shortens life expectancy by an average of 10 years, and makes your shorter life more expensive and less fun. Muscle tissue also performs several other important jobs besides moving you around. It modulates immune function by providing an active repository for immune system cell component proteins – very important for a long illness, and it serves as a receptor site for sex hormones, thereby regulating some of their functions as well. But mainly, muscle tissue burns calories, by using energy when it generates the force of contraction, and the processes by which energy is used are processes the human body is designed to perform. When your muscles fail to perform these processes – in other words, when you sit squarely on your ass, failing to use your muscles – the machinery gets disassembled because there is no market for it, and maintenance is expensive. And the less muscle mass you have, the harder it becomes to keep fat from being deposited. Muscles burn both fat and carbohydrate for fuel, and the bigger the fireplace, the more fuel the house can burn. So the presence of this machinery is very important, but its loss is a normal part of aging, for several reasons. In his most excellent and very widely-read article for our website, Barbell Training is Big Medicine , Dr. Jonathon Sullivan explains the process in detail. He also makes the point that the only practical way to slow or reverse these processes is to subject the body to the type of stress that makes muscles need to be bigger, and the thing that most people become less likely to do as they get older. If loss of muscle mass is a function of aging, maintaining that muscle mass requires that you do the things that would actually make it grow in a younger person – strength training and eating enough quality protein and calories to enable its growth. So the question we started with – Which is more important, the loss of body fat or the increase in muscle mass? Not only is it factually incorrect, it can get you prematurely dead, depending on your age. Loren Wilshusen squats lbs for three sets of five as he continues his linear progression. Clinical Illness Myopathy is an acute sarcopenia – the short-term loss of muscle mass experienced by very sick or injured people who cannot preserve muscle mass, due to the illness or injury itself and the inability to eat or move enough to preserve muscle function. This cannot be overemphasized: If you

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get sick or hurt, your muscle mass is your bank account for healing up and getting better – the more you have in the bank, the longer you can hold out when things get weird. This means that being old and skinny is not a useful thing if you want to enjoy your last decades. Such aesthetic carryovers from your misspent youth are best abandoned, because skinny and muscular are incompatible concepts. In fact, the healthiest older people are a little overweight. This seems a little broad to me, since it fails to take muscle mass into account. But since most people are not muscular freaks, the BMI works – in a broad sense. With a BMI calculated at I am not worried about my Body Mass Index. BMI offers some useful predictive capacity for health problems in younger sedentary populations, but its usefulness for older people is very limited. Always remember this often-unappreciated fact: Obese people carry more muscle mass than underweight people, because the process of getting fat is a growth process, and the body grows fat and muscle at the same time. In other words, when you lose bodyfat, you lose some muscle mass too. A bodybuilder in the final stages of contest preparation loses some muscle mass as she drops bodyfat. And when you gain bodyfat, you gain some muscle mass too. A man sitting on his couch who gains pounds eating chips and queso gains some muscle mass. More importantly, when you gain muscle mass, you will also gain a little bodyfat at the same time. You can skew the percentages in the direction you want with training, careful control of your diet, and anabolic steroids, but you cannot violate the Laws of Physiology. Not hog-fat, but carrying enough bodyweight that you look muscular instead of skinny.

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Chapter 2 : Preserve your muscle mass - Harvard Health

Most fat loss programs emphasize how much weight you will lose and a few emphasize maintaining your muscle but almost none talk about your strength! Our program is designed to maximize fat loss, preserve your muscle mass AND maintain or even increase your strength.

Share on Facebook Every move you make requires muscle strength. In technical terms, muscle strength describes the force generated when a muscle or group of muscles contracts. In practical terms, muscle strength refers to the capacity to lift, push or pull against weight. Maintaining muscle strength over the long term is an essential component of your good health. Daily Living All of the many physical activities of your daily life require muscular strength. Getting out of bed, walking to the car, picking up a child, climbing the stairs, opening a jar and carrying a bag of groceries are accomplished only if you can generate the muscular force necessary to complete the task. Poor muscle strength caused by a sedentary lifestyle or medical condition increases your risk of developing limitations in your daily activities or a disability, especially as you age. Department of Health and Human Services recommends that adults participate in muscle-strengthening exercise involving all major muscles at least twice weekly. Injury Prevention Muscle weakness makes you more prone to injuries. Weak abdominal and back muscles increase your risk for low back injuries, potentially leading to chronic pain. Weak thigh muscles make your knees less stable and more susceptible to injuries. Shoulder injuries may occur with weakness of the rotator cuff muscles. Muscle weakness also increases the risk for injuries caused by falls, especially among older adults. Anti-Aging Beginning about age 40, you gradually lose muscle mass and strength. Although lost muscle mass accounts for some age-related loss of strength, there is more to the story. Muscle function becomes less efficient as you age, which means older muscles generate less force than younger muscles. Muscle-strengthening exercise, however, can reverse some of the age-related changes that contribute to muscle weakness. In other words, strength training causes the muscles of older adults to function more like those of younger adults. Health Benefits Maintaining your muscle strength with regular weight or resistance training can reduce the likelihood of some diseases and abate the signs and symptoms of others. People with diabetes, for example, experience improved blood glucose control with regular resistance training. The pull of strong muscle contractions on your bones helps prevent bone loss, which may progress to osteoporosis. For people with rheumatoid arthritis or fibromyalgia, resistance training may reduce pain, fatigue and muscle weakness. Other potential benefits of maintaining muscle strength through regular exercise include better sleep, improved mood and self-confidence, and an increased metabolic rate, which aids in weight management.

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Chapter 3 : Carb Cycling That Actually Works | T Nation

Body recomposition is an approach to weight loss that emphasizes the importance of not only losing fat but gaining muscle at the same time. for weight loss and overall health, strength.

Bottom Line Most people trying to lose weight want a trim yet toned body. Oftentimes, traditional weight loss programs focus on cutting body fat and hitting lower numbers on the scale rather than gaining muscle. Body recomposition is an approach to weight loss that emphasizes the importance of not only losing fat but gaining muscle at the same time. Aside from trimming fat, using body recomposition techniques may help you increase strength and boost the number of calories you burn throughout the day. This article defines body recomposition and discusses its health benefits and how to start a body recomposition regimen. Share on Pinterest

Body composition refers to the amount of fat and fat-free mass muscle, bone and water your body contains. Analyzing body composition gives a better understanding of health than other screening methods that only factor in weight and height, such as body mass index BMI. Therefore, body recomposition focuses on body composition rather than weight. If the number on the scale goes down, most dieters infer success. Having too much body fat has been linked to a slew of health issues and may increase your risk of chronic conditions, such as diabetes, cancer and heart disease ¹. In contrast, having a healthy ratio of muscle mass to body fat can improve your health while decreasing your risk of the above diseases ^{2, 3, 4}. If done correctly, body recomposition changes the makeup of your body so that you have less fat and more muscle. Interestingly, favoring body recomposition techniques over other methods of weight loss may result in much slower weight loss, or no weight loss at all, due to the simultaneous gain in muscle. However, contrary to popular belief, your ratio of muscle to fat is the best indicator of overall health and fitness, not body weight. Plus, increasing muscle mass boosts your resting metabolic rate RMR, meaning that you will burn more calories while at rest ^{5, 6}.

Summary Rather than simply aiming for weight loss, body recomposition focuses on decreasing body fat while simultaneously increasing muscle mass. **How Does Body Recomposition Work?** Since body recomposition is more a lifestyle than a diet, there is no set protocol. Instead, those wanting to gain muscle while burning fat must commit to changing their diet and exercise regimens in ways that facilitate body recomposition. Rather than tracking weight on a scale, you should evaluate results by taking body circumference measurements and measuring body fat through methods such as skinfold calipers.

Body Recomposition Basics With traditional weight loss methods, people may drastically cut calories and increase cardiovascular exercise in order to expend more energy. Though this may result in weight loss, it will most likely trim both fat and muscle mass. Modifications in exercise and diet must be made in order to reach this goal. While cardiovascular exercise is important for weight loss and overall health, strength training is necessary to alter body composition. In addition, a diet high in protein facilitates fat loss while supporting muscle growth ⁷. Body recomposition methods can vary depending on your ultimate goal. For example, a lean bodybuilder who wants to put on more muscle and cut fat will have different dietary and exercise needs than an overweight person who wants to lose fat while toning up. The good news is that body recomposition benefits everyone regardless of the amount of fat you want to drop or muscle you want to gain. The key to effective body recompositioning is finding the right balance between diet and exercise.

Summary Those wanting to alter their body composition should use methods to increase muscle mass and cut fat. Though body recomposition principles can be used by anyone, methods vary depending on your body composition goal.

How to Lose Fat From increasing your risk of many chronic diseases to damaging your emotional wellbeing and body image, excess body fat can negatively impact health in many ways ^{8, 9}. To lose body fat, a calorie deficit must be created, which can be achieved either by consuming fewer calories or expending more energy.

Nutrition and Fat Loss Diet quality also matters when it comes to losing fat. Consuming a diet rich in protein has been shown to reduce fat while preserving lean body mass. A study in 88 overweight adults found that a hypocaloric diet that contained 0. Studies have shown that higher protein intake is necessary for athletes

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attempting to lose fat while maintaining muscle. A review of six studies showed that athletes who lost the least amount of muscle mass while cutting calories consumed the most protein [1]. For this reason, upping your protein intake to at least 0. Other Ways to Reduce Fat Stores Aside from hiking protein intake and increasing calorie expenditure, here are other tried-and-true methods for losing body fat: Cut out processed foods: High intake of processed foods, such as fast food, candy, packaged baked goods and chips, has been associated with excess body fat. Replacing carbohydrates especially sugary carbs with foods higher in protein, healthy fats and fiber can increase fullness and lower levels of insulin, a hormone that promotes fat storage. Eating more fiber-rich foods, such as vegetables and beans, can help decrease body fat, especially in the belly area. Try out interval training: Interval workouts that combine intense, short bursts of energy followed by brief periods of recovery are more effective in decreasing body fat than continuous, moderate-intensity workouts. Summary Moderately decreasing your calorie intake, cutting out processed foods and increasing protein and fiber intake are the best ways to lose fat while preserving muscle mass. While losing fat is important, maintaining or gaining muscle is key to changing your body composition. Focusing only on diet and neglecting exercise habits may result in a loss of muscle mass. A healthy diet rich in whole foods, such as fresh produce, healthy fats, complex carbohydrates and protein, is best for everyone, regardless of fitness goals. Individuals trying to reform their body composition may need to focus on bumping up their protein intake, as studies have shown that a high-protein diet is necessary for promoting muscle growth. For example, a recent review concluded that 0. Another review of 49 studies found that even though participants consumed an average 0. This review included people in resistance training programs. The researchers concluded that consuming the recommended daily allowance RDA of 0. Best Exercises for Gaining Muscle Along with a high-protein, whole-foods diet, incorporating strength training exercise into your routine is crucial. Strength training involves using resistance exercises to build strength and muscle mass. An example of strength training is lifting weights. If building muscle and reducing fat is your goal, experts recommend a training protocol of at least two days of resistance training per week. A review of 10 studies demonstrated that resistance training twice per week was more effective at maximizing muscle growth than training just once per week. Combining strength training exercises like squats, bench presses, pushups and other muscle-building exercises for two to three days per week alongside one to two days per week of interval training may be the perfect combination. Studies show that combining high-intensity interval training with resistance training leads to fat loss, as well as increased muscle mass and strength [21]. Summary To build muscle, increase your protein intake to at least 0. Supplements to Promote Body Recomposition Research demonstrates that consuming whole, complete protein sources throughout the day is the best way to gain muscle mass. For example, consuming high-quality protein sources [including protein supplements] up to two hours after working out stimulates muscle protein synthesis. Protein sources that contain high amounts of essential amino acids (EAAs), especially the branched chain amino acid leucine, are most effective at promoting muscle growth. Whey protein is a type of protein powder that is rich in EAAs and makes a convenient post-workout protein source. Plus, supplementing with whey protein has been shown to boost muscle growth when combined with resistance training programs. Supplements including whey, pea protein, casein and hemp powders are a practical way to increase your protein intake and can be especially helpful for those engaged in rigorous resistance training. Adding protein sources, such as eggs, chicken, fish, nuts, nut butters, beans and yogurt, to every meal and snack is the best way to meet your needs. Summary Protein supplements such as whey protein powder can boost your protein intake and stimulate muscle growth. However, research shows that the most effective way to meet protein needs is through consuming whole food sources throughout the day. The Bottom Line Body recomposition stresses the importance of gaining muscle while losing fat, which may decrease your risk of chronic disease and boost metabolism. Try increasing your protein intake to at least 0. Body recomposition methods can be used by everyone from elite athletes to those simply looking for a healthy way to get in shape.

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Chapter 4 : Weight training: Improve your muscular fitness - Mayo Clinic

Every move you make requires muscle strength. In technical terms, muscle strength describes the force generated when a muscle or group of muscles contracts. In practical terms, muscle strength refers to the capacity to lift, push or pull against weight. Maintaining muscle strength over the long term.

By the year , the number of men and women over age 65 in the U. The old-old population, those over the age of 75, is actually increasing the fastest. The one intervention proposed to have the most eminent preventative and therapeutic impact on these age-related changes is physical activity. The relationship of these variables is very complex and variable to a number of factors. Therefore, the health fitness specialist should not view the elderly as being one homogeneous group. Although different terms are used in the literature, gerontologists have identified three broad categories of seniors: This article will examine the relationship of exercise as it relates to changes with aging and provide guidelines for the health fitness professional in working with this spirited population. A Brief Review Many of the physiological changes with ages may more appropriately be associated with sedentary lifestyles. There is a loss in elasticity of the major blood vessels which contributes to a 10 to 40 mm Hg elevation in systolic and diastolic blood pressure. Maximum heart rate decreases approximately 10 beats per minute per decade, although resting heart rate shows little alteration with age. There is also a decrease in chest wall compliance, maximum ventilation and alveolar size. The big question facing researchers is to what degree strength loss is a function of disuse versus aging. Degeneration of the joints, specifically the spine is common. Connective tissues gradually lose their elasticity, muscle fibers shorten, and joints show decreases in the production of joint lubricating synovial fluid. The blood undergoes a loss of hemoglobin oxygen carrying protein , hematocrit proportion of red blood cells to plasma , as well as red cell mass. There is an increase in the total cholesterol with a decrease in HDL the good type cholesterol. Finally, there is a loss of certain sensory sensations, such as thirst, eyesight, taste, balance, and hearing that occur gradually with aging. Benefits of Exercise for the Aged There are clearly many benefits that can be derived from participation in an exercise program for the mature exerciser. A summary of the benefits for the aged is presented in Table 1. Mature adults who maintain high levels of cardiovascular endurance, strength, and flexibility are also less likely to be dependent for long-term care. Strength and flexibility exercises may prevent falls and injuries by improving balance and mobility. Improved strength also helps individuals function independently, with improved gait and bodily control. Additionally, exercise is associated with effective stress management, fewer sleep disorders, enlightened mental outlook, reduced loneliness, and lowered depression and anxiety. Early comparisons of university athletes with their sedentary peers failed to demonstrate any difference in longevity between the two groups. In fact, some evidence shows that many former athletes become overweight, inactive, smoke and drink more than their sedentary counterparts Shepard, Sheppard also described a Finnish study which documented that non-smoking cross-country ski champions lived an average of 3 to 4 years longer than their sedentary contemporaries. Data indicated that the optimal caloric expenditure per week spent in physical activity to achieve these results was approximately 1, calories. Thus, life expectancy the average number of years of life for an age group at a given chronological age may be moderately increased with regular physical activity. Yet there is no evidence that life span, the theoretical number of years a person may live which is currently yr , has been extended with an active lifestyle McPherson, The Exercise Prescription Although the benefits of exercise are unmistakable, how much and what types of exercise need to maintain and improve fitness is still somewhat uncertain. Several studies and reviews suggest that older individuals have a higher physical potential than what has generally been believed McPherson, Prior to exercise the use of the Physical Activity Readiness Questionnaire PAR-Q or a similar questionnaire as a simple screening tool see Table 2 , in conjunction with medical forms for physician evaluation, is recommended. A review of medications the individual is taking is recommended in order to assure there are no complications from the drug during exercise. Kligman and Pepin also suggest that for the

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most part, an exercise prescription is appropriate for apparently healthy seniors, even if there is diminished flexibility and functional capacity due to a sedentary lifestyle. Safety is always a paramount concern with elder exercise programs. There are some unique challenges for the elderly with exercise prescription. This population is less adaptable to temperature changes. Since elderly individuals have a lower proportion of total body water, they are more susceptible to dehydration. Water intake needs to be regularly encouraged before, during and after exercise. The elderly are more susceptible to cold injuries because of their decreased ability to perceive ambient air temperatures adequately and respond appropriately. This may be due to decreased muscle mass, loss of subcutaneous fat, inadequate vasoconstriction, or the affects of medications. Therefore, clothing needs to be layered to adjust to varying temperatures. When outside, near any transportation roadways, reflective attire is recommended. Poor air quality from pollution or traffic may be contraindicated for individuals with chronic obstructive pulmonary disease. Also, due to impaired foot sensation, many elderly have a lessened ability to detect blisters and other friction injuries. Because of decreased sensory abilities, such as eyesight and balance, it is best to perform exercise in well-lighted areas with user friendly equipment. Elders need to be educated to slow down and stop if they experience any health warning signs during exercise. Before embarking on an exercise program, individualized, realistic, and attainable goals for the elder should be identified. For elders over 75, increased mobility and life skills function may be more applicable. Generally, mobility is impaired with this group, so, for the most part, they are unlikely to engage in vigorous activity. The American College of Sports Medicine recommends exercise tolerance testing before elders begin a vigorous training program. However, with many elders, there may be too many limitations to complete such a test adequately, which suggests that the appropriate activity may be low to moderate level activity. The overall goals of the exercise prescription should be to improve cardiovascular endurance, strength, body composition and flexibility. Warm-up and Flexibility Exercises Generally, with ambulatory seniors, a warm-up lasting 10 to 15 minutes is recommended for most physical activities. The first phase should include a low-level moving activity with the major muscle groups, such as walking. Next transition into some functional range of motion calisthenic-type movements incorporating the major muscles groups. In addition, specific exercises should be included to help meet the needs of the clients with limited movement capabilities due to arthritis and osteoporosis. All programs need an adequate cool-down period which includes stretching exercises and a relaxation. Exercise programs for elders should initially attempt to improve flexibility Barry et al. Stretching exercises need to be performed in a slow, gradual and sustained manner. Hold stretches for 20 to 30 seconds. Make sure the students feel the stretch in the muscle, and not in the joint. Stretches should be taken to the point of limitation, not the point of discomfort. Due to the limitations associated with inactivity, stretching exercises may be recommended daily to help some elders regain functional range of motion in certain joints. Stress proper body position and technique when doing stretches. Aerobic Exercise for All-Around Health For overall health benefits, and reduction of numerous health risks, some form of aerobic activity is recommended. The use of the large muscles in the body in activities such as walking, swimming, aqua exercise and cycling are examples of the many to choose from. Swimming and aqua exercise are excellent modalities due to the lessened stress on the joints. Similarly, stationary cycling recommended due to thoroughfare hazards and risk of falling in road cycling places less stress on the joints, while recumbent cycling puts less stress on the back. Walking, at a higher pace than normal walking, is one of the most viable options for ambulatory elders. It can be done easily in most environments and requires no additional equipment. With elderly who have been sedentary, a progressive low-intensity aerobic exercise program is recommended. Gradual increases in duration and intensity are encouraged. In movement activities such as group-led aerobics, concern should be on sudden movement changes and elaborate choreography that may lead to falls. Some activities such as running or jogging may stress the knees and hips unnecessarily, and are thus not universally recommended for elders. The Unsung Fitness Modality Hero The participation in resistance training programs has demonstrated some clear and consistent results showing that elders 67 to 91 years of age can significantly improve muscular strength, functional mobility and balance Munnings, Also,

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with elders showing stable cardiovascular and musculoskeletal systems, there appears to be relatively few contraindications to strength training. Resistance training may not be encouraged with some hypertensive individuals due to elevated blood pressure. Arthritis sufferers may also experience some flare ups. However, it appears that researchers dramatically vary in their resistance intensity prescription. For instance, Fiatarone et al. From the results of the research cited above, a resistance exercise program 3 days per week, progressing up to 3 sets of 8 to 10 repetitions for each exercise may be recommended. Some experts prefer free weights to exercise machines because it develops posture and balance, while others prefer the extra support offered with exercise machines. Accessibility may be the deciding criteria for equipment choice. To avoid excessively elevated blood pressures, elders doing resistance exercises need to be educated how to breathe regularly as they exercise, and keep from holding their breaths. Motivating Elders to Exercise Society has imposed many limitations on the elderly to be sedentary. Education to the pitfalls of inactivity and benefits of exercise need to be addressed. It is essential to realize that many seniors are anxious, tense, and nervous in an exercise setting, which may make them reluctant to try something new or different. Enjoyment and variety in program structure is highly advised. With careful attention to the program design, help the elderly learn to feel more comfortable with the inevitable changes that are occurring in their bodies. Meaningful conversation and discussion is encouraged. Allowing students the opportunity to express themselves lets them know they are being heard and understood. Demonstrating your interest in them will enhance their own self-esteem. Encourage all aspects of socialization with program activities. Offer attainable incentives and recognize those who achieve these targets. Be flexible with your program design, adapting appropriately to the welfare of the students. Most importantly, be supportive. As elders see themselves aging they often feel self-doubt and experience depression. Empower them to feel a sense of self-control with the success they enjoy through physical activity.

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Chapter 5 : Strength and Fatloss Program - 12 Week | Kizen Training

This is your chance to attend this exclusive strength training for fat loss and conditioning: practical program design course on Thursday, Oct 4th (from 10am - 3pm) and fully immerse yourself in the programming methods and training systems that Nick has developed and utilized during his 20+ year career.

There are a number of scientifically proven ways you can keep the weight off, ranging from exercising to controlling stress 1. These 17 strategies might be just what you need to tip the statistics in your favor and maintain your hard-won weight loss. Why People Regain Weight There are a few common reasons why people gain back the weight they lose. They are mostly related to unrealistic expectations and feelings of deprivation. Extreme calorie restriction may slow your metabolism and shift your appetite-regulating hormones, which are both factors that contribute to weight regain 2. When you think of a diet as a quick fix, rather than a long-term solution to better your health, you will be more likely to give up and gain back the weight you lost. Lack of sustainable habits: Many diets are based on willpower rather than habits you can incorporate into your daily life. They focus on rules rather than lifestyle changes, which may discourage you and prevent weight maintenance. Many diets are too restrictive with requirements that are difficult to keep up with. Exercise Often Regular exercise plays an important role in weight maintenance. It may help you burn off some extra calories and increase your metabolism, which are two factors needed to achieve energy balance 3, 4. When you are in energy balance, it means you burn the same number of calories that you consume. As a result, your weight is more likely to stay the same. Several studies have found that people who do at least minutes of moderate physical activity a week 30 minutes a day after losing weight are more likely to maintain their weight 5, 6, 7. In some instances, even higher levels of physical activity may be necessary for successful weight maintenance. One review concluded that one hour of exercise a day is optimal for those attempting to maintain weight loss 1. Exercising for at least 30 minutes per day may promote weight maintenance by helping balance your calories in and calories burned. Breakfast eaters tend to have healthier habits overall, such as exercising more and consuming more fiber and micronutrients 9, 10, Furthermore, eating breakfast is one of the most common behaviors reported by individuals who are successful at maintaining weight loss 1. However, while people who eat breakfast seem to be very successful at maintaining weight loss, the evidence is mixed. Studies do not show that skipping breakfast automatically leads to weight gain or worse eating habits 13, 14, In fact, skipping breakfast may even help some people achieve their weight loss and weight maintenance goals This may be one of the things that come down to the individual. If you feel that eating breakfast helps you stick to your goals, then you definitely should eat it. Those who eat breakfast tend to have healthier habits overall, which may help them maintain their weight. However, skipping breakfast does not automatically lead to weight gain. Eat Lots of Protein Eating a lot of protein may help you maintain your weight, since protein can help reduce appetite and promote fullness 16, 17, Protein increases levels of certain hormones in the body that induce satiety and are important for weight regulation. Protein has also been shown to reduce levels of hormones that increase hunger 19, Furthermore, protein requires a significant amount of energy for your body to break down. Therefore, eating it regularly may increase the number of calories you burn during the day 18, This is grams of protein on a 2, calorie diet 21, 22, 23, Protein may benefit weight maintenance by promoting fullness, increasing metabolism and reducing your total calorie intake. Weigh Yourself Regularly Monitoring your weight by stepping on the scale on a regular basis may be a helpful tool for weight maintenance. This is because it can make you aware of your progress and encourage weight control behaviors Those who weigh themselves may also eat fewer calories throughout the day, which is helpful for maintaining weight loss 26, In one study, people who weighed themselves six days a week, on average, consumed fewer calories per day than those who monitored their weight less frequently How often you weigh yourself is a personal choice. Some find it helpful to weigh in daily, while others are more successful checking their weight once or twice a week. Self-weighing may aid weight maintenance by

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keeping you aware of your progress and behaviors. Be Mindful of Your Carb Intake Weight maintenance may be easier to accomplish if you pay attention to the types and amounts of carbs that you eat. Eating too many refined carbs, such as white bread, white pasta and fruit juices, can be detrimental to your weight maintenance goals. These foods have been stripped of their natural fiber, which is necessary to promote fullness. Diets that are low in fiber are associated with weight gain and obesity 27 , 28 , Limiting your carb intake overall may also help you maintain your weight loss. Several studies have found that, in some cases, those who follow low-carb diets after weight loss are more likely to keep the weight off in the long term 30 , Additionally, people following low-carb diets are less likely to eat more calories than they burn, which is necessary for weight maintenance Limiting your intake of carbs, especially those that are refined, may help prevent weight regain. Lift Weights Reduced muscle mass is a common side effect of weight loss It can limit your ability to keep weight off, as losing muscle reduces your metabolism, meaning you burn fewer calories throughout the day Doing some type of resistance training, such as lifting weights, may help prevent this loss of muscle and, in turn, preserve or even improve your metabolic rate. Studies show that those who lift weights after weight loss are more likely to keep weight off by maintaining muscle mass 6 , 35 , 36 , To receive these benefits, it is recommended to engage in strength training at least twice a week. Your training regimen should work all muscle groups for optimal results Lifting weights at least twice a week may help with weight maintenance by preserving your muscle mass, which is important to sustain a healthy metabolism. Be Prepared for Setbacks Setbacks are inevitable on your weight maintenance journey. There may be times when you give in to an unhealthy craving or skip a workout. Simply move on and follow through with better choices. It can also help to plan ahead for situations that you know will make healthy eating challenging, such as an upcoming vacation or holiday. It is likely that you will encounter a setback or two after losing weight. You can overcome setbacks by planning ahead and getting back on track right away. One habit that often leads to weight regain is eating healthy on weekdays and "cheating" on weekends. This mentality often leads people to binge on junk food, which can offset weight maintenance efforts. If it becomes a regular habit, you could gain back more weight than you lost in the first place Alternatively, research shows that those who follow a consistent eating pattern all throughout the week are more likely to sustain weight loss in the long term One study found that weekly consistency made individuals almost twice as likely to maintain their weight within five pounds 2. Successful weight maintenance is easier to accomplish when you stick to your healthy eating habits all week long, including on weekends. Stay Hydrated Drinking water is helpful for weight maintenance for a few reasons. For starters, it promotes fullness and may help you keep your calorie intake in check if you drink a glass or two before meals 41 , 42 , Additionally, drinking water has been shown to slightly increase the number of calories you burn throughout the day 44 , Drinking water regularly may promote fullness and increase your metabolism, both important factors in weight maintenance. Get Enough Sleep Getting enough sleep significantly affects weight control. In fact, sleep deprivation appears to be a major risk factor for weight gain in adults and may interfere with weight maintenance 46 , 47 , This is partly due to the fact that inadequate sleep leads to higher levels of ghrelin, which is known as the "hunger hormone" because it increases appetite Moreover, poor sleepers tend to have lower levels of leptin , which is a hormone necessary for appetite control Furthermore, those who sleep for short periods of time are simply tired and therefore less motivated to exercise and make healthy food choices. Sleeping for at least seven hours a night is optimal for weight control and overall health Sleeping for healthy lengths of time may help with weight maintenance by keeping your energy levels up and hormones under control. Control Stress Levels Managing stress is an important part of controlling your weight. In fact, high stress levels can contribute to weight regain by increasing levels of cortisol, which is a hormone released in response to stress Consistently elevated cortisol is linked to higher amounts of belly fat , as well as increased appetite and food intake Fortunately, there are many things you can do to combat stress , including exercise, yoga and meditation. It is important to keep stress levels under control to maintain your weight, as excess stress may increase the risk of weight gain by stimulating your appetite. Find a Support System It can be difficult to maintain your weight goals alone. One strategy to

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overcome this is to find a support system that will hold you accountable and possibly partner up with you in your healthy lifestyle. A few studies have shown that having a buddy to pursue your goals with may be helpful for weight control, especially if that person is a partner or spouse with similar healthy habits 52 , One of these studies examined the health behaviors of over 3, couples and found that when one person engaged in a healthy habit, such as exercise, the other was more likely to follow their example Involving a partner or spouse in your healthy lifestyle may boost the likelihood that you will maintain your weight loss. Track Your Food Intake Those who log their food intake in a journal, online food tracker or app may be more likely to maintain their weight loss 35 , 54 , 55 , Food trackers are helpful because they enhance your awareness of how much you are really eating, since they often provide specific information about how many calories and nutrients you consume. Here are some examples of calorie counting websites and apps. Eat Plenty of Vegetables Several studies link high vegetable intake to better weight control 57 , 58 , For starters, vegetables are low in calories. You can eat large portions without putting on weight, while still consuming an impressive amount of nutrients 40 , 59 , Also, vegetables are high in fiber , which increases feelings of fullness and may automatically reduce the number of calories that you eat during the day 61 , 62 , For these weight control benefits, aim to consume a serving or two of vegetables at every meal. Vegetables are high in fiber and low in calories. Both of these properties may be helpful for weight maintenance.

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Chapter 6 : Losing Bodyfat or Gaining Muscle Mass | Mark Rippetoe

Purpose of review. To highlight the losses in muscle mass, strength, power and functional capacity incurred in older adults during bed rest-mediated inactivity and to provide practical recommendations for both the prevention and rehabilitation of these losses.

Onset age neonatal, childhood, teen, adult [20–60 years], or geriatric Identify factors which worsen or help primary symptoms History of recent illnesses e. Adults often present with chief complaints of strength loss, fatigue or decreasing endurance, falls, difficulty ascending stairs, exercise intolerance, episodic weakness, muscle cramps, focal wasting of muscle groups, breathing difficulties, or bulbar symptoms relating to speech and swallowing. Information should be obtained regarding the recent course of the chief complaint, specifically whether the process is getting worse, staying the same or getting better. If strength is deteriorating, it is important to ascertain the rate of progression i. It is critical to determine whether the distribution of weakness is predominantly proximal, distal or generalized. It is also useful to identify factors which worsen or help the primary symptoms. A history of twitching of muscles may reflect fasciculations. Tremor or balance problems may be due to distal weakness or superimposed cerebellar involvement. Bulbar involvement may be identified if the individual has difficulty chewing, swallowing, or with speech articulation. Visual complaints blurriness or diplopia may indicate presence of cataracts or possibly involvement of extraocular musculature. Distal stocking glove or focal sensory complaints may be consistent with a peripheral neuropathy or focal nerve entrapment. A comprehensive past medical history and surgical history should be obtained. A history of recent illnesses should be carefully elucidated, including respiratory difficulties, aspiration pneumonias or recurrent pulmonary infections. In addition, cardiac symptoms, such as dizziness, syncope, chest pain, orthopnea or exertional cardiac complaints may indicate superimposed involvement of the myocardium. A pulmonary review of symptoms should be obtained. A history of weight loss may be due to recurrent illnesses, nutritional compromise, swallowing difficulty or progressive lean tissue atrophy. For the pediatric patient, a detailed history regarding pregnancy e. Perinatal respiratory distress in the delivery room may be seen in acute infantile type I SMA, myotubular myopathy, congenital hypomyelinating neuropathy, congenital infantile myasthenia, transitory neonatal myasthenia, and severe neurogenic arthrogryposis. In children, history regarding the acquisition of developmental milestones should be ascertained relating to head control, independent sitting, crawling, standing with and without support, walking with and without support, fine prehension, bimanual skill acquisition bringing objects to midline, transfer of objects , and language acquisition. Information regarding gait characteristics toe walking, excessive lordosis, etc. History regarding mental development, type of school, and school performance may be important indicators of superimposed CNS involvement. For the adult, detailed history regarding the age of onset of symptoms, age bracing was provided to maintain ambulation, age to wheelchair if applicable , pattern of progression, distribution of weakness, presence of muscle cramps, fatigue, episodic weakness, presence of atrophy or fasciculations, performance in physical education, military or vocational performance and pursuits, current and past ambulatory distances, ability to transition from floor to standing, problems climbing stairs, and problems reaching overhead or dressing may all be important functional information. Potential causes of muscle cramps are shown in Box 2. Muscle cramps in the setting of an elevated creatine kinase value and no skeletal muscle weakness has been reported and a pedigree with mild Becker muscular dystrophy. Box 2 Cramps at rest usually not a neuromuscular disorder Benign nocturnal leg cramps. Diurnal cramps related to exercise. Cramps occurring with exertion, relieved by rest may be associated with myoglobinuria Muscular dystrophy, Duchenne, Becker, limb girdle muscular dystrophy.

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Chapter 7 : Fat Farm for Adults and Seniors: Losing Weight from 18 to 92 | Weight Crafters Fitness Camp

Age-related muscle loss, called sarcopenia, is a natural part of aging. After age 30, you begin to lose as much as 3% to 5% per decade. Most men will lose about 30% of their muscle mass during their lifetimes.

The idea that alternating between high and low-carb days will accelerate fat loss is, well, hogwash. That said, there are some practical ways of using this method for burning fat while preserving muscle and strength. The traditional approach has you rotate through high-carb, moderate-carb, and low-carb days while protein intake remains unchanged. Fat intake becomes low when carbs are high, and high when carbs are low. The idea is simple: High-carb days restore glycogen levels and spike insulin, which inhibits muscle breakdown. Moderate-carb days allow you to maintain full glycogen stores and thus allow you to maintain performance while being in a slight deficit. Low-carb days — typically rest days — are when you supposedly "trick" your body into burning fat at an accelerated rate. But a study conducted by Harvard University compared a low-fat, low-protein, high-carb diet; a high-fat, low-protein, moderate-carb diet; and a high-fat, moderate-protein, low-carb diet, and found no significant differences in weight loss regardless of macronutrient breakdown. Another study found that after 8 weeks, a high-carb, low-fat, low-protein diet was just as effective as a low-carb, low-fat, high protein approach. The evidence is pretty clear that cycling your carbs has no added benefit to weight loss itself. Despite the studies, there are a couple of strategic ways to implement carb cycling that allow you to retain more of your strength, preserve muscle mass, and keep your energy up during a fat loss phase. Pretty valuable benefits, right? Find Your Macronutrient Breakdown Protein: Maintaining muscle mass while restricting calories requires an adequate protein intake. Their conclusion was that you need about 1 to 1. The opposite is also true — someone with more body fat who has been dieting for a shorter period of time can get away with a lower protein intake. Now, most guys who simply use "bodyweight x 1" will land in an acceptable range. But if you want to get more detailed, see the example below. This equates to about 0. A physically active person should never avoid carbs. You should consume as many carbs as your calorie intake will allow while remaining in a deficit. A good starting point is about 1 to 1. Break Carbs and Fats Down into Weekly Intake Using these examples, a pound man would start off at g of protein, 72g of dietary fat, and about g of carbs per day. This equates to a little under kcal per day and about 16, kcal per week. The idea is to manipulate intake while staying within these numbers to maximize performance in the gym. The better we perform in the gym, the less likely we are to sacrifice muscle tissue. And we know from research that the best way to maximize physical performance is to consume an adequate amount of carbs. Determine High, Moderate, and Low Carb Days The next step is to figure out how many high-intensity sessions, how many medium-intensity sessions, and how many rest days your program prescribes. But what if you rested the day before and went low carb? This is why if you train in the morning, you should go high-carb the day prior to your most intensive session s.

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Chapter 8 : Age and Exercise

Studies show that those who lift weights after weight loss are more likely to keep weight off by maintaining muscle mass (6, 35, 36, 37). To receive these benefits, it is recommended to engage in.

So, you want to lose weight? Specifically, losing body fat, preferably while maintaining muscle mass and all limbs. You want to lose fat, but how? If your goal is to lose 8 pounds about 3. Embark on a strength training program. This is my choice. The more muscle one has, the higher his or her lean body mass, the higher his or her BMR. Research estimates that each pound of muscle burns an extra daily Calories. Oxygen is the currency of the body during exercise. The more oxygen debt, the longer the body takes to repay it. Lifting weight can have a much greater effect on EPOC than other types of exercise. With enough intensity, this EPOC can last more than 38 hours after a workout. For those of you who doubt the intensity of weight lifting, I suggest wearing a heart rate monitor during your heavy deadlift or squat sets. A recent study found ghrelin levels fell 13 to 21 percent after an intense strength training workout. Many fat loss strategies cardio, eating less, exercising more put the body into a catabolic state where it is breaking down tissue for energy. Strength training promotes anabolic processes in the body where muscle is built or repaired, which helps in maintaining the muscle one already has. The result is a skinny-fat appearance and lowered resting metabolism remember Reason 1? How to lift weights to lose weight: Prioritize exercises that use many muscle groups or large muscle groups For example: For example, if you are performing 3 sets of 10 reps of an exercise, your last 1 or 2 reps of sets 2 and 3 should be challenging. If you get to rep 10 and feel like you could have done 5 more reps, increase the weight on the next set. Vary your repetition ranges If you are new to weight lifting, stay in the rep range to learn proper form. More experienced lifters can play with other rep ranges.

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Chapter 9 : Importance of Muscular Strength | Healthy Living

Approaches to Carb Cycling for Maintaining Muscle & Strength If You Train in the Morning. The whole premise behind carb cycling to maintain or improve strength is to have full glycogen stores when you need them, which is during your most intense training bouts.

They are not meant to be done tomorrow as some might take years to accomplish. But using these as long-term goals can be great for training motivation. Not a Natural Athlete I was not born a natural athlete. I am Clark Kent without superpowers. But I do have persistence and a passion for doing things I am not expected to do. That is why I like finding physical challenges. I imagine many of you have that same opposition. Below are some challenges that are difficult but achievable. He discussed the importance of pull ups in the military PT tests. The top score of 25 pull ups became my goal. Even for the non-military, pull ups are also a great way to measure your body composition. If you gain muscle and lose fat but maintain weight , you should be able to do more pull ups. To accomplish this goal, I followed a program that Pavel did with his schoolmates. It consists of ladders of pull ups up to five reps with a partner. The partner goes and then you go partner does one, you do one, partner does two, you do two. Once you finish the ladder up to five, you start over. This approach provides a built-in period of rest and allows you to get in a lot of reps rather quickly. I would suggest doing it every other day. The key with both of these programs is to never go to failure, but stay one rep shy of it. If you fail, you are teaching your body to fail. To maintain the ability to do 25 repetitions, weighted pull ups are great. Dunk a Basketball This is a goal that is tough to generalize. Height definitely makes a difference. Vertical leap is easy to measure and a great way to see your training progress. See where you are and pick a number of where you want to be. When I was pursuing this goal, I focused on a lot of weighted step ups. This movement was recommended by a NBA strength and conditioning coach. The key is to keep the chest up as if you are being pulled upward by a string. As you get to the top, you will want to squeeze the glutes as if you are making an explosive jump. Although it was not part of my original program, I would now also add overspeed eccentric kettlebell swings. They have a powerful effect on vertical leap. One-Arm, One-Leg Push Up This movement is one of the tests you must pass to earn the StrongFirst Bodyweight Certification for ladies it is a one-arm pushup with both legs on the ground. Surprisingly, this movement has much less to do with upper body strength and more to do with core strength. If your body flops around like a fish out of water, then it will be difficult for your shoulder to push up. If your body is like a steel girder, it will be much easier to control. I found practicing tension in my core to be most helpful. I would recommend isometric L-sit or tuck holds working up to thirty seconds. Kettlebell Instructor Aleks Salkin performing a one-arm, one-leg push up with excellent form. As you build core strength and shoulder stability, it becomes easier to add more weight. It also feels good to use heavy weight in this movement. Some people have even used humans as weight, similar to old-time strongmen. In the below video, you can see Fabio Zonin complete a human Turkish get up. Do not attempt this movement unless you already own it with heavier weight than the human in question. Fabio Zonin completing a human Turkish get up. The L-sit to the handstand was interesting as it shows a graceful movement that takes both strength and coordination. I put it here as a challenge, but it might just be a great practical movement to build strength for everything else. For men, a 48kg lb kettlebell is used, and for women, a 24kg 54lb kettlebell is used. The L-sits to handstands help teach the tension needed for the strict press and for the pistol. The pistol at least for me is very much about keeping the body tight so that force can be applied. The kettlebell press is helped by heavy Turkish get ups, as well as bent presses. When it comes to the actual challenge, though, the best way to train these movements is by doing them. I would choose a movement each day and do a greasing the groove style of program. Artemis Scantalides and Andrew Read also have excellent programs for achieving this goal. Artemis Scantalides pressing a heavy kettlebell overhead. Summary Each of these challenges is meant to hit different domains of fitness. You must be strong, explosive, and have a high work capacity. Some of these challenges can take

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years to accomplish I have not yet accomplished the Beast Tamer; I hope to this year. You may have to raise or lower the bar depending where you are in your fitness journey. If you have not done a strict pull up, then make that your goal then five, ten, etc. Please comment and show videos of the challenges you have accomplished. If you have other challenges, let us know.