

# Seniors: The loss of muscle tissue and fat gain

## Resistance Training as a solution

As we join the senior's ranks there is a slow and continuous loss of muscle mass. Research conducted at Tufts University in Boston, Massachusetts, U.S.A. by Dr. Gilbert Forbes approximated that men and women aged between 20 and 50 years old lost an average of a pound of muscle tissue per year. This naturally occurred at a faster rate as the person aged. Simultaneously, for most people, during this period there is at least a slow accumulation of body fat. While not entirely causal, it is closely related, the question necessarily arises how to combat the negative compositional change in order to maintain functionality and health as the individual continues to age.

There should be no surprises in lieu of that comment really (with a few rare exceptions) as each person can make his or her own observation by simply looking in the mirror.

*The issue is how to address it in a safe, time efficient and effective way, to ensure the second half of a person's life can be at least as active and outgoing as the first half was. (Furthermore, given the expectation that people are likely to work longer, it is a sound investment to ensure they are physically able to do so.)*

### **Diet and Exercise are the two words, which come to mind.**

*(In order to slow and initially reverse the aging process!)*

Diet must be discussed as the priority; calorie intake minus calorie expenditure is the one and only serious consideration in relation to fat gain. If your calorie intake exceeds your calorie expenditure, your body is unfortunately storing the excess as fat. Losing muscle tissue as you age further slows our metabolic rate and unfortunately further enhances the body's ability to gain fat.

Thus you have a serious problem! Furthermore, the longer the imbalance lasts the greater the problem (obesity being the likely outcome.)

So it would appear at this point either, eat less or accept the fact that fat gain will result!

Question: How can the imbalance be addressed?

There are 2 simple and obvious methods, 1. Reduce the calorie intake or 2. Increase the calorie expenditure.

1. This simply relates to decreasing either the portion sizes of the meals consumed, the regularity of the meals, the caloric density of the meals (e.g. light Yoghurt/milk rather than the full fat alternative) or perhaps a combination of all 3.
2. Increasing the calorie expenditure is often the one variable that is often misunderstood and possibly holds greater potential. Yes, it can mean more physical activity, both in terms of regularity and duration. No doubt that will assist however many of the traditional methods are inefficient and time consuming.

For example, walking is an excellent recreational activity. (There are plenty of reasons to go for a walk, fresh air, relaxation, enjoyment, to walk the dog etc. take your pick, any reason really.)

However getting fit, or to lose body fat, will actually rank very low on the “virtues of walking” scale.

In fact, the training effect beyond the first few walks is almost non-existent (as your body adjusts to the limited training potential of the activity) and without sufficient overload (e.g. to walk faster, or further, or both!) the training effect will quickly be reduced to almost zero. Similarly, it is an inefficient method of burning body fat and a simple explanation will explain why.

The calorie burn is minimal simply because the intensity is low. For example, Allan Borushek’s “Fat and Calorie Counter” (available at most supermarkets) shows that an 80kg person will burn approximately 4 calories per minute walking. So if that person walks for 1 hour, 60 minutes x 4 calories per minute = 240 calories. That is undoubtedly positive! However sitting on the couch that person would *still* have burned approximately 2 calories (even at rest) so the net burn is really only the difference i.e. 60 x 2 = 120 calories.

Consider:	1 glass of Pura Milk, 3.4% fat (250ml)	160 calories
	1 can of Coca Cola 375ml can	160 calories
	1 Glass of Golden Circle 100% juice	130 calories

*(No added sugar!)*

The point being is that the person who stayed home on the couch, watched TV, or read and had a glass of water would have made better usage of their time in a net-calorie sense, than the person who walked for an hour and had a refreshing beverage afterwards! (i.e. the person on the couch burned 120, BMR, Basic Metabolic Rate and just a glass of water, thus saved say 160 calories not “working up a thirst.”)

Conclusion:

The person who walked for an hour and had a “refreshing drink” had a net-calorie burn of 240 – 160 = 80 for their effort. The person on the couch still burned 120 BMR and never worked up a thirst.

Now there are other benefits of walking as noted, but the point being made here should now be obvious. Walking is an inefficient method of burning fat and often a poor method of increasing a person’s calorie expenditure.

*(It should be noted it clearly does virtually nothing in so far as building muscle is concerned.)*

*(Over my 27 years in the fitness industry I would be almost frightened to recall how many times I have heard people say “I walk every day but I can’t seem to lose weight” and when I tell them the likely reasons why, they quite often still refuse to, or seem utterly unable to for some unknown reason, understand. Its like a form of brainwashing for some people!)*

## RESISTANCE TRAINING as a means of increasing calorie expenditure

Resistance training is the best way to promote a positive compositional change to a person's body by simultaneously increasing lean muscle mass and reducing a person's body fat level. Furthermore it can be done in a *time efficient* manner.

Lets understand why?

Resistance training, when completed in a progressive manner, is designed to increase strength and muscle tissue. (Progressive in the sense that a person incrementally increases the resistance, in order to progress and create the potential for the muscle to become stronger.)

*(You simply cannot gain strength unless you gradually increase the resistance in spite of what is often claimed!)*

To be safe and effective Resistance training should be conducted in the following manner:

- Move the weight in a slow and controlled manner, no bouncing or rapid movements  
*(Force = Mass x acceleration, greater speed = greater force, resulting in a higher chance of causing an injury.)*
- Breathe naturally and normally during the lift, do not hold your breath.
- Ensure good form when lifting, proper technique assists with safety and effectiveness.
- Aim to perform approx. 12 repetitions; increase the weight if that can be done in good form.
- Concentrate on the target musculature; when training avoid distractions like watching TV and chatting to others or being involved in conversations with other people.

*What happens next is the body's composition begins to change!*

Having completed a Resistance training session, your body is stimulated to get stronger, but that happens over the next 24-48 hours or so, as muscle growth occurs and fat loss also likely results. There are 3 methods by which a positive compositional change to the body will happen.

The 3 methods are:

1. To grow new muscle requires energy! Approx. 600 calories are required to build 1 pound of muscle. Therefore as the body embarks upon the process of change, as it grows stronger, it utilizes calories to complete the *construction* process.
2. Then to maintain and service that muscle each and every minute of the day, an energy demand exists, or calorie expenditure is increased. Getting stronger is a genuine method of improving a person's metabolic rate! (Which otherwise decreases naturally with age.)
3. Whenever that new muscle is used, walking, digging or whatever, more energy is used. Your body effectively has a more powerful/bigger engine! As such it needs more energy to do even simple things and therefore burns more calorie, even at REST! (When sleeping for example. Consider that with more muscle tissue, your BMR is higher, 24 x 7 days per week bonus calorie burn!)

The point being the building of muscle tissue, then simply maintaining it and ultimately utilizing the new muscle tissue in any manner you choose, in your daily activities, will burn more calories. Hence, not only do you have a better looking body, more shapely and defined, you effectively have an "engine" that consumes more calories, like it once did when you were younger (and then stronger.)

## Resistance Training requirements.

It makes logical sense that in order to lose body fat and build muscle; Resistance Training is a proven vehicle. The final point to cover is to discuss how it can be such a *time efficient* activity!

Just how time efficient is it?

Well ideally all that is required is 2 weekly sessions of approximately 25-35 minutes duration. That should include a full body workout. All of the major muscle groups need to be included and it is likely to include a total of around 12-14 exercises. In each exercise a person should aim to complete approximately 12 repetitions in good form. (The actual number of exercises may vary according to an individual's capacity, needs and ability.)

Remember, proper Resistance Training needs to be challenging. The last few repetitions of a given set must be demanding in order to create the level of stimulus necessary to derive a maximal benefit from the specific exercise. The ultimate goal being to train until *Momentary Muscular Failure (MMF)* where additional repetitions are no longer possible in good form.

Herein lies one very significant point of difference.

For most people it is not particularly enjoyable! Nor should it be as there is nothing particularly enjoyable about lifting a challenging weight! However, with good technique, good equipment and a solid understanding of what is to be achieved, it can be done quite safely.

Safety is far and away the most important consideration!

*(Personally the best advice I could give to somebody who is interested is commencing a Resistance Training program is to expect that they won't enjoy it! They might, but don't expect to! Its actually not about having fun, in fact, usually having fun is often inversely related to getting results as it serves as a distraction! Resistance training is almost "medicinal" in what it can achieve for people. It should be taken seriously, performed properly and embraced for what it actually is. A relatively small time investment, which returns a massive benefit in terms of overall health, well beyond muscle gain and fat loss!)*

*Including but not limited to the following:*

- *Diabetes management: by increasing the muscles sensitivity to insulin*
- *Cardio-vascular benefits; by creating a stronger body, a more efficient cardio-vascular system is developed*
- *Increased resistance to injury: having a stronger body makes it far more resilient to, for example, falls or accidents*
- *Increased bone density: It is possibly the best method of managing, and reversing Osteoporosis*
- *Endorphin release; thereby assisting with depression symptoms and improved self-esteem/self worth*

## Final Comments on losing Fat and building muscle.

Resistance training is not the Holy Grail. It is however, a time efficient and valuable method of increasing strength, while creating a wonderful opportunity to decrease body fat levels. It is at its safest and most productive when it is properly monitored; generally sessions that are supervised elicit the best results given technique, intensity and results can be carefully fine tuned and resultantly adjusted.

It is not as simple as just throwing a few weights around; it requires a high level of concentration and focus to help ensure its safety and its effectiveness.

Resistance training has the potential to make people look and feel better, without an excessive time commitment!

*If you have never tried it before, you should! I would suggest health-wise it would potentially be the best thing you ever do for yourself and the beauty of that statement is the individual is the judge! One of the absolute pleasures of being involved with Resistance training, for me personally, is I can make a claim like that and its not my decision whether or not I am right. The decision ultimately lies with the individual who comes back, for example, 6 weeks later and says, "Wow it has made a significant difference."*

*I have observed the biggest changes in people who have never done Resistance Training before, as they are generally coming off a lower strength base and therefore have far more to gain. My clients have commented many times after on a few sessions, how they have already noticed the difference.....and that's a wonderful comment to hear.*

*Kind regards,*

*John S. McConachy*

*Managing Director*

*Nautilus Fitness*