

Strength training for perimenopause

Menopause is formally defined as the point at which a woman has not had a period for 12 months. The age of onset is typically between 45-55 years, with the age of onset being influenced by both innate (heritable) biological traits and environmental factors, such as smoking and stress.

The period leading up to menopause – called perimenopause – typically lasts for two to eight years (average of seven years) prior to the official onset of menopause. This is the time where the menstrual cycle essentially starts to 'wind down', with ovulation becoming less frequent. The vast majority of women will experience at least some of these common symptoms:

- ✓ Irregular and/or erratic menstrual cycles, increased PMS symptoms
- ✓ Hot flashes (technically called vasomotor symptoms)
- ✓ Mood disturbances, typically an increase in irritability, depression and anxiety
- ✓ Cognitive symptoms, including difficulty with memory and 'brain fog'
- ✓ Insomnia
- ✓ Weight gain, particularly around the abdomen
- ✓ Joint aches

These changes are driven primarily through declining levels of the hormones produced by the ovaries, the two most well-known of which are oestrogen and progesterone. Apart from being the primary female sex hormones, oestrogen and progesterone also have a hand in just about every system of the body. As hormone levels begin to shift, women will typically start to notice some physical changes.

What does this have to do with exercise?

Perimenopause heralds a number of physical changes, which have significant implications for a woman's health and functional fitness. The good news is that most of these changes are positively influenced through exercise. In this article, I want to focus particularly on the role of strength training for older women. Heavy strength training is very counter-cultural for this population, the very one that arguably needs it the most. Strength training should be at the top of the hierarchy of exercise for women heading into middle age and above for managing weight, maintaining muscle mass, building bone and keeping the nervous system happy.

Sun's out, guns out

Muscle tissue is about functional strength, yes, but it isn't just about strength. Muscle tissue has a profound influence on metabolism and, therefore, on weight maintenance.¹ Women tend to go into perimenopause with a lower overall muscle mass than age-matched males. There are definitely biological drivers for this; however, much of the decline in strength and muscle tissue that typically occurs as women go through perimenopause probably has as much to do with lack of appropriate exercise stimulus as it does with biology alone. Up to very recently, women



as a whole have not engaged in strength training and are still not accessing strength exercise nearly as much as men.

All living tissue is metabolically active, but muscle tissue is particularly so. Generally, if you have relatively more muscle mass, your basal – or resting – metabolic rate (how much energy you burn just to stay alive) is likely to be higher (it's more complex than that but the correlation between lean tissue mass and resting metabolic rate is significant).^{1,2} So, simply speaking, the best way to boost your metabolism is to maintain or build your muscle mass. This means that strength training should be a key component of any functional capacity and weight-management programme.

There are two common misconceptions about women and muscle mass, each of which roundly contradicts the other. The first misconception is that strength training will make women bulky. Let me start by saying, categorically, that there is nothing wrong with being bulky. However, while it is possible for some biologically gifted women to put on significant muscle mass, it takes hard, hard work and it is very unlikely that a woman who is middle aged or above and on a moderate calorie diet will significantly bulk up.

Furthermore, the kind of weight training you do for strength is not the same as you would do for body building.

The second misconception is that older people, and older women in particular, can't add muscle mass. That a steady decline in strength and function is just inevitable. This is similar to the fallacy that older women cannot add bone mineral density. Both are demonstrably incorrect.^{3,4,5} Even where it is

very difficult to put on extra muscle, it is possible to retain muscle or, at the very least, slow the decline of muscle loss into old age. Additionally, much of a person's strength has to do with training the nervous system. With an appropriately structured strength programme, you can get significantly stronger without adding much or any muscle mass.

For both muscle and bone, it becomes much harder to add extra once you are post-menopausal, compared to pre-menopausal.⁴ Starting before the onset of menopause gives women the best chance at building the strength they will need for a resilient older age. That being said, it's never too late to start.

Now where did I put my waistline?

One of the most common issues women notice with perimenopause is the addition of some extra centimetres around the waist. It can be very frustrating to gain weight despite eating and exercising in much the same way as you had before. The typical response is to significantly cut calorie intake and increase aerobic (cardio) exercise. Unfortunately, this strategy is often not as successful as it may have been in the past because it does not adequately address the underlying metabolic changes driving the weight gain.

In short, your metabolism is changing in some significant ways and understanding this process is key to managing it. You do not need to be super lean to be healthy and most women will gain a bit of weight overall, but excessive weight gain during this time is linked to poorer health, as well as to worse menopausal symptoms.⁶

Women looking to lose some weight generally gravitate to long, slow, steady-state cardio because they believe this is the best way to burn fat. Technically, it is true that cardio does burn fat but there are a number of issues with this way of thinking – chief amongst which is failing to take into consideration how different types of exercise influence hormones and the nervous system. Why people gain weight can be complex but, in general, most women will experience an overall decrease in the number of calories required (a 'slowing down' of the metabolism associated with age and with the loss of muscle mass²). There is also a decrease in sensitivity to the hormone insulin.^{7,8} Practically, this means that blood glucose levels become less well controlled, particularly in response to consuming foods that tend to cause a spike in blood glucose, such as refined carbohydrates.

Dietary changes to address these two things can be hugely helpful – in particular, a moderate decrease in overall calorie intake, specifically lowering the relative number of calories coming from refined carbohydrates. However, it is important not to restrict either carbohydrate or overall calorie intake too much.

Very rapid weight loss should not be your goal unless it is a medical necessity. You will lose fat but you will also lose a significant amount of muscle and bone mass.⁹ As previously stated, muscle tissue is very metabolically active and losing muscle will both decrease your functional strength and slow your metabolism, making it harder to manage your weight in the longer term. Losing bone mass is definitely something older women want to avoid. Slow and steady wins the race every time.

With the above in mind, we want to place our focus on exercise that preserves and stimulates muscle mass while burning calories, thereby

maintaining a good metabolism. A good-quality strength training programme, along with higher-intensity interval training, should be your go-to, with the caveat that programming should be designed to suit the person's current level of fitness and health status.

Dem bones

Older women are generally at higher risk of developing low bone mineral density (BMD) than other sections of the population. For a start, women will generally go into perimenopause with lower BMD than their age-matched male counterparts. Women have smaller bones than men on average but women are also far less likely to participate in bone-building exercise/activities throughout their lifespan than men are. Osteopenia (clinically low BMD) and osteoporosis are far more common in women than in men and the majority of older adults who present with a hip fracture are female. Once hormone levels begin to decline, it becomes more difficult to both build new bone and to hold on to your existing bone. There is a common misconception that it is not possible to add extra bone at this time in your life: this is not true. A high-quality strength training programme is absolutely essential for women of all ages but particularly for older women. Strength training and weight-bearing exercise should be at the top of the hierarchy of exercise for building bone.²

Getting on your nerves

Finally, there is the nervous system. Given the profound impact the nervous system has on just about every aspect of health, it receives a criminally low level of attention when people are thinking about exercise. In the context of perimenopause, the nervous system is of interest in some key areas, including strength and functional fitness, cognition and mood.

Functional strength, balance, co-ordination and all that good stuff has as much to do with the nervous system as it does with muscle. In addition, exercise is absolutely essential for good mental health and cognitive functioning into old age. This isn't just about 'feel good' hormones; it is also about the health of the nervous system itself.

Strength training has a profoundly positive effect on the nervous system and its effect on mood¹⁰ and cognition¹¹ is often under-appreciated. All exercise will have a positive effect on mood; however, weight training is effective not only in the management of depression and anxiety but also in the maintenance of cognitive functioning. In addition to basic strength work, consider adding these other elements: complex three-dimensional movement, particularly exercises that require movement across the mid-line of the body; novel movement and physical challenges that are unfamiliar to the body. This can be as simple as learning a new exercise or doing something in a different way.

Raising the bar

If there is a single take-away from this article, it is that women, and older women in particular, need to be doing heavy weight training. This is so important and yet there are still significant cultural barriers that stand in the way of women accessing strength training. I would like to invite those working in the fitness industry – those who are best placed to lead a cultural change – to really consider where and how we can work together to raise the bar (see what I did there!) for ourselves and our clients. **fp**



MARCELLE MALAN is an accredited exercise physiologist, working in private practice in Melbourne, Australia. Her interest is in the application of exercise physiology research to the development of physical and mental resilience for everyday life, particularly into midlife and beyond. Her key areas of practice are: functional ageing, mental health and cognition, stress physiology, rehabilitation, and pain management. She also has a special interest in female physiology and menopause, and promoting a better understanding of the female body in and through exercise science and medicine.