

SCW
MANIA[®]
Fitness Pro Conventions



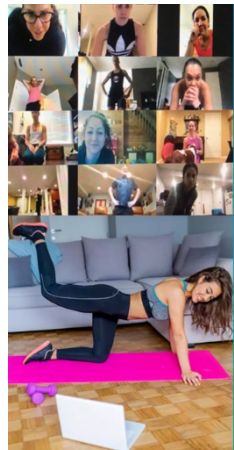
scwfit.com/MANIA

MANIA[®] Attendee
Exclusive Content



scwfit.com/attendee

#SCWMANIA
@SCWfitness



- facebook.com/scwfitness
- twitter.com/scwfitness
- instagram.com/scwmania

20% OFF!

\$6.58/Month or
\$79/year
(Norm. \$8.25 month or \$99/year)

USE CODE: MANIA20

500+
Educational Videos

70+
Leading Presenters

20+
Fitness & Health
Topics Available

SCW
On Demand



scwfit.com/OnDemand

SCW
CERTIFICATIONS
35+ NATIONALLY RECOGNIZED.
ONLINE + LIVE.

FREE LIVE COURSE included with
every Online Certification
within 1 year

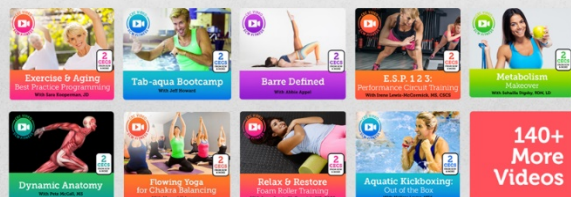
scwfit.com/certifications

- ACTIVE AGING
- ACTIVE AGING NUTRITION
- AQUA BARRE
- AQUATIC EXERCISE
- BARRE
- BOXING
- CORE TRAINING
- FLOWING YOGA
- FOAM ROLLING
- FUNCTIONAL FLEXIBILITY
- FUNCTIONAL PILATES
- GROUP EXERCISE
- GROUP FITNESS DIRECTOR/STUDIO OWNER
- GROUP STEP
- GROUP STRENGTH
- HIIT
- KETTLEBELL
- KIDS IN MOTION
- LIFESTYLE & BEHAVIORAL COACHING
- MEDITATION
- MIND BODY FUSION
- MOMS IN MOTION
- NUTRITION, HORMONES & METABOLISM
- PERFORMANCE STABILITY TRAINING
- PERSONAL TRAINING
- PILATES MATWORK
- PILATES SMALL APPARATUS
- SMALL GROUP TRAINING
- SOCIAL MEDIA
- SPORTS NUTRITION
- TAI CHI
- WATERMOTIONS
- WEIGHT MANAGEMENT
- YOGA I & II



ONLINE CEC VIDEOS

Earn CECs in the comfort and
convenience of your home!



140+
More
Videos

scwfit.com/CECS

Nutritional Needs During Menopause With Melissa Layne

Technically, menopause is only one day in your life. It is the one day that marks 12 months the female body has not had a period or bleeding. Menopause usually starts between 45-55 years of age in the United States with the average age being 51.4. A common misconception people have is that if a woman starts her period at an early age she will also go through menopause at an early age. The fact of the matter is that the timing of menopause mostly comes from genetics and has nothing to do with the amount of time a woman has been menstruating throughout her lifetime. Menopause begins when the ovaries start to fail and the ovaries have run out of eggs. Shortly before menopause starts the body starts to get thrown off in some small ways. This stage is known as perimenopause and occurs because there are still some eggs left in the ovaries. Menstrual cycles may be heavier than usual. This is because of the changing levels of hormones in the body.

The endocrine system is responsible for controlling hormones (more specifically the hypothalamus and the pituitary gland). A hormone is a substance created in the body that gets transferred into the bloodstream and then travels through the body looking for something to unlock. Think of the hormone as a key and a receptor as the lock. Once the receptor is unlocked by the hormone there will be changes in the body. The three steroid hormones in the brain that are associated with menopause are estrogen, progesterone, and testosterone. The small changes the body experiences during perimenopause are a result of the changing levels of estrogen and progesterone. Some other symptoms the body may experience as these hormone levels change are hot flashes, sweats, insomnia, and a loss of libido. Although these two hormone levels are dropping, only the level of progesterone will hit 0%. Even after menopause, the body will still have about 40% of the original estrogen level.

Estrogen is responsible for many other bodily functions besides the growth and development of feminine characteristics and increasing libido. Some of these functions include:

- **Laying down new bone cells:** Estrogen activates osteoblasts which are responsible for building up bone (as opposed to osteoclasts which break down bone). Once the bone cells are activated by estrogen, they can absorb and deposit calcium to produce bone.
- **Controlling melatonin:** Melatonin is the hormone that controls sleeping habits. A high level of melatonin leads to a greater release of growth hormones which grow more muscle tissue
- **Acting as a cholesterol safekeeper (as long as we are fertile):** Estrogen activates brain cells, neurotransmitters, and enzymes in the brain.

As we previously mentioned, levels of estrogen drop during menopause, but testosterone can be turned into estrogen through an enzyme in the liver- aromatase. Aromatase increases as the

amount of ethyl alcohol consumed increases. As the level of estrogen in the body drops, a protein called SHBG (sex hormone binding globulin) also drops. Before menopause begins, this protein would attach itself to estrogen and testosterone (turning it into estrogen) but does not during menopause because of the lack of both the protein and estrogen. Because it is not attaching and turning testosterone, the body contains more testosterone. This is not necessarily a bad thing.

The more estrogen a woman has been exposed to in her lifetime, the greater her risk for developing feminine cancers. This is due to environmental estrogen (drinking water from a bottle that was left in a hot car), drinking more alcohol, or because of adipose cells getting bigger and creating more fat cells which make more estrogen. In regards to body fat, women are typically placed into two fruit-shaped categories: apple and pear. When a woman is fertile she exhibits a pear shaped body because the level of estrogen increases and stores fat around the reproductive organs. When the estrogen level drops, the fat is redistributed and a woman exhibits a more apple-shaped body. With all of the changes in estrogen levels a woman experiences in her lifetime, the normal level is about 40-50 picograms per milliliter of blood.

So what can women do in regards to their diets to maintain healthy bodies during menopause? The three dietary components we will be focusing on are carbohydrates, fats, and protein.

Carbohydrates are split up into two categories: simple carbs and complex carbs. Simple carbs include anything that ends in -ose (i.e. lactose, fructose, sucrose, etc). Simple carbs break down quickly and spike the body's insulin level. They also pack into muscle cells quickly meaning that you will get hungrier faster and more often. Because of this, a good time to consume simple carbs would be after a workout in order to replace your glycogen levels. One of the best examples of a complex carb is fiber (either soluble or insoluble). Unlike simple carbs, complex carbs keep the body full for a longer period of time. They do not stimulate an increase of insulin from the pancreas. This causes complex carbs to remain in the bloodstream longer than simple carbs. This makes before a workout or before going to bed perfect times to consume complex carbs. When choosing your carbs, choose ones that are nutrient dense which means eating foods that contain more vitamins and minerals but fewer calories. 45-65% of your caloric intake should be from carbs during menopause.

Fat is not water soluble, meaning it cannot be transferred in the body without the assistance of bile. Bile is made in the liver and is stored in the gallbladder. When fat is consumed, the bile comes down to the stomach to break it down and escort it through the digestive tract. However, bile also cannot leave the body without an escort. This escort is soluble fiber. If your diet does not contain fiber, the bile returns to the liver and gallbladder and is reused over and over again until it can leave the body with fiber. This causes the bile to become thick and sludgy and increases the risk of gallstones.

95% of the fat in the body comes packaged as a triglyceride which consists of three fatty acids and a glycerol molecule. A triglyceride cannot be used as an energy source on its own, it first needs to have the glycerol molecule broken off. Once the glycerol molecule is broken up in the liver, it can undergo gluconeogenesis (turns into sugar) and the three fatty acids become free acids. They can be used as energy in the bloodstream or get stored in adipose tissue. This whole

process that starts with the glycerol molecule being broken off happens in the liver and takes up a lot of the liver's energy. When alcohol is consumed, the liver has to focus all of its attention on the alcohol and cannot break the triglyceride. Consequently, the triglyceride cannot be used as energy and instead becomes stored as fat. This plays into menopause due to the fact that estrogen makes breaking the glycerol molecule easier but since there is a decrease in estrogen there is a high probability for triglycerides to become fat. Your caloric intake from fats should be between 20-35% a day. During menopause, it is better to stay closer to 20%.

There are two kinds of natural fats: saturated fats and unsaturated fats. The three fatty acids in the triglyceride are a mixture of saturated fats (straight lines with single bonds) and unsaturated fats (curved shapes with both double and single bonds). Saturated fats are straight, sticky, and they easily stick together causing plaque to build up in the arteries. They are usually solid at room temperature and are usually found in animal products (an exception would be coconut oil because it is a liquid at room temperature and comes from a plant). Unsaturated fats are not very sticky due to their double bonds; this makes them healthier for the heart. They are usually liquid at room temperature (avocado is an exception) and they usually come from a plant. Some good choices for healthy fat would be nuts, avocados and fish oils.

Fat Soluble Vitamins

- **Vitamin D:** Vitamin D is a calcium bone builder and the only non-essential vitamin. It can be made in the liver (if not consuming alcohol). It is first obtained as a hormone from the sun and only becomes a vitamin when it enters the body. This change is done by cholesterol in the liver.
- **Vitamin A:** All about vision. It can be found in a lot of animal products in the form of retinol and is found in plant products in the form of beta carotene
- **Vitamin E:** This is the antioxidant in the fat soluble group. As an antioxidant, its job is to kill free radicals. A free radical is created when food is oxidized. On the outer shell of an atom are two electrons. Once the food is oxidized, one of the electrons breaks away and that becomes the free radical. It travels through the body looking for another atom it can steal an electron from causing a cascade of free radicals ultimately causing cell membrane damage. Vitamin E stops this and can be found in most oils.
- **Vitamin K:** This vitamin is simply responsible for blood clotting and can be found in leafy greens

Essential Fatty Acids: our body does not produce them naturally so they have to be consumed. This includes gamma linolenic acid (an Omega 6 found in veggie oils), EPA (an Omega 3 found in nut and fish oils)

Protein is divided into two categories: complete proteins (contain all essential amino acids) and incomplete proteins. Proteins are important because they contain amino acids. The body has a total of 20 amino acids (10 essential, 10 non-essential). An essential amino acid is one that the body cannot produce and so it must be consumed and a non-essential amino acid refers to one

that is produced by the body. The structure of an amino acid has two ends (acid end, amine end) and a side chain. The side chain is what sets different amino acids apart from each other. Before the body can break down an amino acid, the ends and the side chain must be broken apart. Whenever the deamination of an amino acid or protein occurs, the pH of the bloodstream decreases (becomes more acidic). A healthy pH level in the body is 7.35-7.45. If the acidity in the body is too great during menopause, calcium is taken from the bones and deposited into the bloodstream to decrease the acidity. This stops estrogen from laying down bone through osteoblasts. Osteoclasts continue to break bone down and the risk for osteoporosis increases. To avoid this, stay away from foods with high levels of acidity ESPECIALLY alcohol. 15-35% of your total caloric intake should be protein during menopause. However, the percent of protein, carbs, and fats that make up your daily caloric intake should change daily depending on what activity you are doing that day.

Vitamins and minerals are extremely important for menopausal women. We previously mentioned fat soluble vitamins but not the water soluble vitamins. These vitamins include:

- **Pantothenic Acid:** Responsible for adrenal functions. It pumps out testosterone and cortisol which gives you the fight or flight response when you cross the anaerobic threshold
- **Folate B9:** Important for a healthy heart and memory. It is found in greens because it comes from the Italian word “foliage”
- **B6 and B12:** Recycle homocysteine (protein by-product produced when amino acids are broken down). You want homocysteine to be recycled and not built up to keep the arteries clear.
- **Vitamin C:** This is the only water soluble vitamin that is not a B complex. It is an antioxidant (kills free radicals) and is used in the adrenal glands. Strawberries contain the most Vitamin C of any fruit.

The biggest difference between vitamins and minerals is that vitamins are organic and minerals are inorganic which means that minerals come from parts of the earth. Some important minerals for menopausal women are:

- **Selenium:** A mineral associated with metabolic reactions (anything that changes food into energy). It can be found in seafood.
- **Zinc:** Aids immune system
- **Magnesium:** Is easily consumed, found in most foods, used in metabolism

Going through menopause or not, the same thing holds truth for everyone. You are what you eat and knowing how your body works internally is just as important as seeing how it works externally.