

# MENOPAUSE AND INSULIN RESISTANCE

## A STORY OF TWO HORMONES

Menopause is associated with several changes we might be familiar with - loss of fertility and hot flashes come to mind - but there are other side effects that can emerge following the reduction of oestrogen that comes with menopause: weight gain and insulin resistance.

This is such a big subject to explain but below is a brief overview of the role our hormones play in menopause symptoms plus dietary and exercise advice.

### **What is the role of oestrogen (or lack of) in menopause?**

The major change associated with menopause is a decrease in the levels of oestrogen, the female sex hormone produced by the ovaries. Over time, the ovaries begin to produce less oestrogen which can lead to irregular or no periods, plus other symptoms including weight gain. In fact, the reduction of oestrogen that occurs with menopause can impact body composition and may lead to a redistribution of body fat, including an increase in the amount of abdominal fat. The latter might be due to insulin resistance.

### **What is the connection between menopause and increased risk of insulin resistance?**

It all comes back to oestrogen. But first, let's review insulin resistance and what it is.

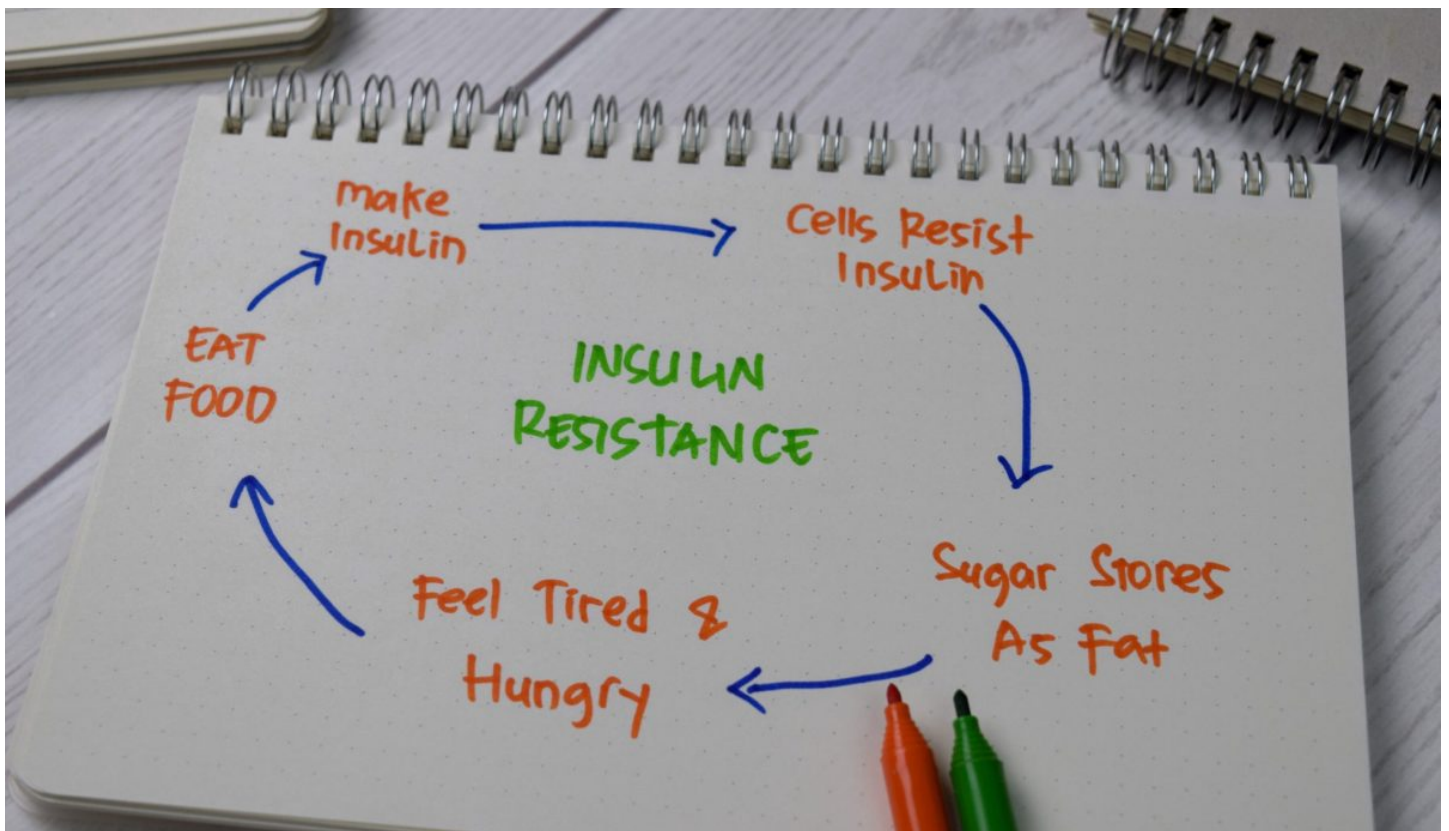
- The reduction of oestrogen in postmenopausal women increases the chances of developing insulin resistance and type 2 diabetes.
- When we eat a meal, the food we ingest is broken down into its molecular components. In particular, glucose is a sugar molecule that is released upon the breakdown of carbohydrates and acts as a fuel source for the body's tissues.
- The hormone Insulin can be thought of as pushing glucose out of the blood stream and into cells to reduce blood sugar. In some cells it becomes fat. Almost all the body's cells have insulin receptors. Insulin is the key that opens the cell glucose channel, thus allowing glucose to enter the cells.
- Insulin resistance occurs when insulin is trying to unlock the cells to let the glucose in, but the cells aren't opening up resulting in high blood glucose levels. High blood glucose (called hyperglycemia) can have damaging effects on the body, including to the eyes, kidneys, heart, and other organs. Over time, insulin resistance may lead to type 2 diabetes.
- So in a nutshell, insulin resistance is what happens when the cells stop responding to insulin, and the pancreas has to work harder and harder to make more insulin.

When blood sugar is consistently raised, it can lead to many chronic health conditions, including Cardiovascular Disease, Stroke, Type 2 Diabetes, Renal failure, Blindness, and Neuropathy.

When insulin levels rise, it puts the brakes on burning fat for fuel, and it encourages the storage of incoming food, mostly as fat. If your diet is high in carbohydrates and sugars, the body never has a chance to burn its own fat, making weight loss difficult.

Stress, which is common in menopause can increase insulin resistance and acute sleep deprivation, certainly common in menopause, has been reported to raise blood sugar.

Signs that may be found if you are insulin resistant could be generalised tiredness, this is common, central weight gain, carbohydrate or sweet cravings. You may feel that you need to eat something, or you will pass out. Mid-morning or mid-afternoon hypoglycaemic symptoms, sudden fatigue, light headedness, shakiness or tremor are possible due to eating, then a sudden release of insulin.



## Exercise recommendations

Exercise reduces insulin resistance. The benefits of regular exercise seem endless, yet so many women struggle to fit it into our sedentary lifestyles. Time in the car, time at sitting work, time on our mobile phones, time watching television.

Exercise shouldn't wait till menopause, it should be a daily habit for us all, from childhood onwards. Life has become so busy, but we must make healthy choices to control our weight and reduce our risk of insulin resistance and subsequently developing Type 2 Diabetes.

I'm a strong believer in you doing the exercise that makes you happy. We're not all born athletes so don't force yourself to do it if it's not your thing. You need to think about the types of exercise you need, then find the classes or methods that suit you and that you will enjoy. Firstly you need impact, this makes your leg bones stronger and weights for your arms. You need cardio, which means you've got to get your heart rate up and beating fast a few times a week, a good walk everyday will increase heart rate.

Flexibility and balance is really important for joint and muscle health, you could try Shiatsu, Pilates, Yoga, Tai Chi, [Qigong](#). These are good for reducing stress and promoting relaxation.

## Dietary recommendations

Dietary recommendations for reducing insulin resistance can be achieved by following low-carbohydrate and ketogenic diets. Examples of some foods that can help you manage insulin resistance and avoid blood sugar spikes such as:-

- non-starchy vegetables (potatoes, parsnips)
- fruits
- lean protein
- whole grains
- low-fat dairy
- beans and legumes
- nuts and seeds
- fatty coldwater fish

**More information from specialist Doctors in this field about Low Carb and Keto diets are found at the end of this guide.**

## A low GI index diet explained and what is the glycaemic index?

After a meal or snack, carbohydrates are broken down in the digestive tract and changed into glucose. Glucose is then absorbed into the bloodstream through the lining of the small intestine. Glucose is our fuel, cells use it to make energy.

**The glycemic index (GI)** rates carbohydrates from 0-100 based on how quickly they release glucose into our bodies. Do we want a fast rise or a low rise in blood sugar? A slow steady rise is safer, it keeps our blood sugar stable. Does it matter if our blood sugar is high? Yes, it increases the risk of developing Type 2 Diabetes.

**High GI carbohydrates**, such as pasta, bread, rice, processed foods, sugary drinks, fast food, sweets, and cakes, have a GI number over 70, these are high glycemic index foods. The consequence of eating these foods is a rapid release of glucose into the bloodstream, a surge in blood glucose, followed by a rapid fall in blood glucose, leaving you tired and hungry quickly.

**Low GI carbohydrates**, such as whole grain rice, vegetables, fruits, legumes, dairy products, and nuts give a lower and slower rise in blood sugar and have a GI number below 70.

Replacing your high GI carbohydrates with low glycemic index ones will keep your blood sugars more stable and avoid high sugar spikes which lead to a surge in required insulin levels.

Studies show that eating foods with fat and fibre produce a more gradual rise in blood sugar.

Choose foods that support a good gut microbiome, this is shown to be important. The most dense microbiome population in the body is in the gut, these trillions of bacteria play a critical role in digestion, immune function and **weight regulation**. So what we eat isn't just food for us, it's food for them.

- Drink plenty of water. often the body send signals that we are hungry, when we are actually thirsty.
- Eat a low GI index diet, and a diet in rich protein (eggs, meat, dairy). Limit intake of high sugar foods, juices, smoothies is best if you want to avoid high blood glucose peaks.
- Eat a wide range range of colourful, plant based foods, this will help to feed the good bacteria in the gut.
- Eat enough fibre. This can be found in fruit, vegetables, pulses, nuts and whole grains feed healthy bacteria. **Be aware that fruit is a natural sugar, and if consumed in excess can cause high blood sugar peaks.**
- Eating fermented foods like natural live yogurt, might encourage more microbes to grow in the gut.
- Alcohol is rich in sugar and can have an affect on the gut microbiome, it can be less well tolerated by many women as they go through the time of menopause.
- Vitamin D supplements and omega 3 supplements can help, if you eat a diet above then it is likely that you will gain enough Vitamins and minerals from that, itself. We are so individual that each person's needs must be addressed separately when giving advice on this, a good nutritionist will be able to help advise if you feel you need other supplements.

In summary, our food choices, our exercise schedule, our weight and HRT will have a role to reduce our risk of weight accumulation, of insulin resistance, of metabolic syndrome and of some common chronic health conditions.

## Where can I find more about Low Carb and Keto diets?

Dr. Jen Unwin - Fork in the Road - website: <https://forkintheroad.co.uk/resources/>

Dr. David Unwin, MD, is an award-winning general practitioner known for pioneering the low-carb approach in the UK. Check out his [Low Carb Diet Sheet](https://www.lowcarbprogram.com/articles/dr-david-unwin-low-carb-diet-sheet) for an introduction to low carb and diabetes taken from the website:- <https://www.lowcarbprogram.com/articles/dr-david-unwin-low-carb-diet-sheet>

Watch the video below by Dr. Dan Maggs talking about the differences between a Low Carb and Keto diet [Which Is Right For You?]



*Disclaimer:- I am not a medical doctor or nutritionist and am aware there is a great deal of information about what to eat and what not to eat, please do your own research. I also feel that giving advice on supplements and extra vitamins should be done by a nutritionist.*