

# Menopause and Cardiovascular Health



Perimenopause and menopause are intricately linked with a number of significant hormonal changes, most notably a decline in oestrogen. Oestrogen 'drops' are in turn associated with an array of perimenopausal and menopausal symptoms, from hot flashes and menstrual irregularity to brain fog and mood swings.<sup>1</sup>

But underneath the surface of these commonly experienced and talked-about symptoms, lowered oestrogen also has serious implications in the body that reach further than hormonal and reproductive health. In particular, the cardiovascular system is significantly protected by oestrogen, and its decline is associated with an increased risk of cardiovascular disease (CVD).

Due to the heart-protective benefits of oestrogen, women develop cardiovascular problems later in life than men. Before menopause, ample oestrogen protects women in several key ways; maintaining a healthy cholesterol profile, reducing inflammation in the body and relaxing and dilating blood vessels.<sup>2</sup> However, CVD becomes a leading cause of mortality for post-menopausal women, particularly those who have opted not to take hormone replacement therapy (HRT), which is shown to have cardioprotective benefits.<sup>2</sup>

When oestrogen declines, there are three key biological factors that shift and, in turn, increase the risk of developing CVD. These are:

- 1. Increased blood pressure:** Menopause is associated with a statistically dramatic increase in hypertension in women. This is because oestrogen has several vasodilatory mechanisms, in addition to important mediating effects on the nervous and hormonal system.<sup>3</sup>
- 2. Lipid profile changes:** Large-scale studies have found that lowered oestrogen levels in menopause are associated with elevations in total cholesterol, low-density lipoprotein (LDL) cholesterol and triglycerides and decreased high-density lipoprotein (HDL) cholesterol. Women with increased LDL and decreased HDL cholesterol have a higher incidence of atherosclerosis.<sup>4</sup>

- 3. Insulin resistance:** Oestrogen has an important role to play in regulating glucose metabolism in the body, and its decline is associated with the development of insulin resistance, type 2 diabetes and, therefore, CVD.<sup>5</sup>

In addition to exploring hormonal replacement therapy options with their doctor, many women are curious about whether nutritional supplementation may provide them with cardiovascular protection. That's where magnesium may offer significant benefits.

We most commonly think of magnesium as a mineral for energy, relaxation and the nervous system, but magnesium also helps to support vascular health by regulating blood pressure and maintaining a steady, healthy heart rhythm.<sup>6</sup> It also helps to reduce systemic inflammation,<sup>7</sup> optimise lipid metabolism<sup>8</sup> and maintain mitochondrial health.<sup>9</sup> Given that magnesium levels naturally decline with age,<sup>10</sup> it's a vital mineral for menopausal women to think about.

A diet rich in nuts, seeds, wholegrains and leafy green vegetables will go far to ensure ample (and delicious) daily magnesium<sup>11</sup> and supplementation is an extra step that can be particularly important for menopausal women.

Available in several forms, magnesium is perhaps best supplemented compounded with orotic acid, otherwise known as magnesium orotate, for cardiovascular health. While other forms of magnesium are beneficial for the nervous system and musculature, it's magnesium orotate that appears to particularly benefit the cardiovascular system. This is because orotic acid appears to enhance the absorption and bioavailability of magnesium<sup>12</sup> while also offering its own benefits to the cardiovascular system, helping to improve energy production within the heart muscle and promote regeneration of the cells.<sup>13</sup>

The transition of menopause causes many biological changes throughout the body, and looking after the vascular system is just as important as attending to reproductive and mood changes. Magnesium orotate offers a number of protective benefits that make supplementation a viable option for many women.

*\*References available on request.*