

# THE SCIENCE OF WOMEN'S HEALTH

Written by Women for Women

Almost 50% of the world's population of 7.53 billion is female. In addition to the crucial role that women play as nurturers, we are also succeeding in a wider variety of roles in both business and politics - in the United States, for example, women make up almost a quarter of the 116th U.S. Congress, a record!<sup>1</sup>

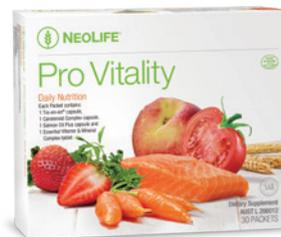
Women play so many important roles, often juggling two full-time jobs from baby to boardroom and beyond. Put simply, women are superheroes! And it is essential to ensure that we are getting great nutrition to supercharge our success! Women go through many physiological changes in life and **the latest science is proving that optimal nutrition and a healthy lifestyle can make an incredible difference in helping reduce Premenstrual Syndrome (PMS), preparing the body for pregnancy, supporting a healthy pregnancy and maternity, easing symptoms of menopause and keeping bones strong through life.**

## Your Vital Daily Nutrition Foundation

Women certainly need to ensure that they take good care of themselves and an adequate supply of high-quality nutrients and phytonutrients can go a long way to helping power through the demanding day. Getting these nutrients from eating plentiful amounts of fruits and vegetables, whole grain foods, omega-3 rich fish as well as lean protein sources is recommended, but often very difficult to achieve.

NeoLife Pro Vitality is a superior quality nutritional pack designed to tackle the typical nutrient and phytonutrient gaps in our daily diet. This convenient, 4-in-1 pack is ideal for life on-the-go. Pro Vitality delivers 21 essential vitamins and minerals, lipids and sterols from whole grains, carotenoids from fruits and vegetables and omega-3 fatty acids from fish. These nutrients and phytonutrients provide the vital foundation nutrition for all women to sustain optimal health and vitality through life.

And while it is important to have a great foundation for women's health, women DO in fact have some very specific nutrients needs because of all the stages we go through. In this article, we will help guide you to what these are!



#665 - 30 packets

## PRO VITALITY

Each Box Contains the Nutrient Equivalent of Over:

- › 5 kgs of Whole Grain Lipids & Sterols
- › 37 kgs of Fruit & Vegetable Carotenoids
- › 10 servings of Omega-3 Rich Fish

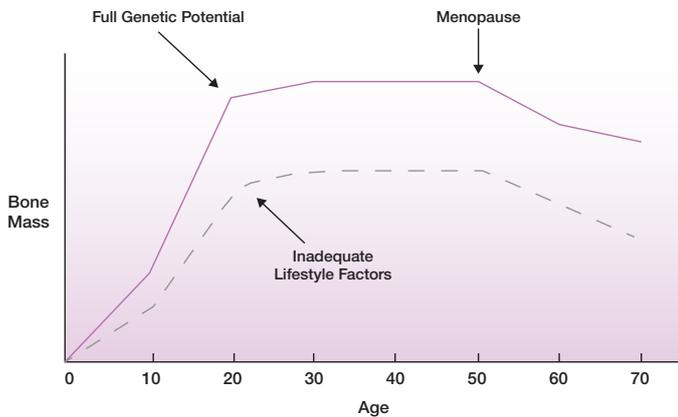
## Compelling Evidence on Calcium

Calcium is a powerful mineral that plays an essential role in bone health. In fact, without adequate calcium, our bones would be frail and would suffer the consequences. Healthy bones are built early on in life, up to about age 25, when peak bone mass is achieved. Additionally, calcium is essential in many signalling pathways in the body for nerve and muscle function, for example.

## Calcium and Premenstrual Syndrome (PMS)

PMS clinically affects 15% to 20% of all premenopausal women, causing them to

## BONE MASS VERSUS AGE WITH OPTIMAL AND SUBOPTIMAL BONE ACQUISITION



experience symptoms such as irritability, bloating, food cravings, breast tenderness, depression and mood swings.<sup>2</sup> PMS may be more common in women who have high levels of stress, have a family history of depression, or have a personal history of either postpartum depression or depression.<sup>3</sup>

Alongside calcium's powerful role in bone health, calcium has also been researched for its potential role in PMS symptom alleviation. An early investigation of calcium supplementation in women with PMS was done to determine if a daily calcium carbonate supplementation dose of 1,000 mg for three months would impact initial symptom scores among these women.<sup>4</sup> Of the 33 women in this study who completed the trial, **73% of the women reported fewer PMS symptoms when they were taking the calcium supplementation**, with symptoms such as water retention and pain being significantly alleviated.<sup>4</sup> Furthermore, a clinical trial evaluating calcium supplement therapy also found that calcium supplementation was helpful in measures such as reduced early fatigability, changes in appetite and depression among women experiencing PMS.<sup>5</sup> Calcium is found in milk and some foods, but the best way to guarantee adequate intake is through a high quality calcium supplement.

### Calcium and Menopause

Menopause occurs in women when their hormone production (estrogen and progesterone) has almost ceased and during this time, menstrual periods stop.<sup>6</sup> Because hormones are changing and levels

may drop quickly and suddenly, women undergo a variety of symptoms - hot flashes or trouble sleeping and irregular periods.<sup>6</sup> It's important to know that menopause can begin for women at different times in their lives, for some women it may be even before age 40, but usually it begins at around age 50. Menopause affects women differently and some do not experience symptoms at all. The transition through menopause lasts on average about four years, but it may be as short as two years or as long as eight.<sup>6</sup>

Ensuring good bone health among women is very important, especially as menopausal women may be particularly at risk - menopause tends to lead to bone loss due to the loss of estrogen. A large review analysis showed that a combination of vitamin D supplementation and calcium helps in the prevention of osteoporosis.<sup>7</sup> Calcium is important for functions related to muscle function, nerve transmission and hormonal secretion - and you will find that 99% of calcium is found in bones and teeth and the rest is found in the serum of the body.<sup>8</sup> In this aspect, it is imperative to maintain adequate levels of calcium and vitamin D to ensure healthy bone mass.<sup>8</sup>

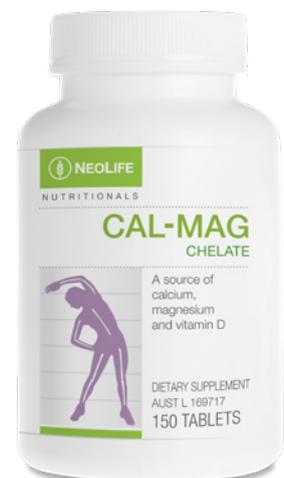
### Mighty Magnesium

Magnesium plays an important role in so many of our body functions as it is involved in over 700 reactions in the body, including important roles in energy production and producing proteins.<sup>9</sup> It is also a really vital mineral for our cognitive well-being and overall mood.



### CAL-MAG CHELATE (WITH VITAMIN D)

- Pharmaceutically pure, seashell-derived calcium
- Exclusive double amino acid chelation to promote higher calcium and magnesium absorption



333 IU of Vitamin D<sub>3</sub>  
#634 - 150 tablets

## Magnesium and PMS

Earlier trials have indicated that magnesium **combined with vitamin B<sub>6</sub>** hold a potential beneficial relationship for alleviating symptoms of PMS and one study suggested that **magnesium supplementation was beneficial in balancing mood changes that can often occur from PMS.**<sup>10,11</sup>

Many women may find benefit of additional magnesium in their diet as this vital mineral is often in short supply in our daily food.

## OMG, it Gets Even Better with Omega-3!

Omega-3 fatty acids, such as eicosapentanoic acid (EPA) and docosahexanoic acid (DHA) as well as other members of the omega-3 family such as the omega-3 “parent” alpha-linolenic acid are incredibly important to our health. A tremendous amount of research demonstrates the benefits to virtually all the systems and organs in our body. Our immune system balance, heart, brain and visual function depend on an optimal daily supply of omega-3, particularly the long chain omega-3s, DHA and EPA. Recent science has also demonstrated just how important an adequate intake of omega-3 is to muscle and bone health.<sup>12,13</sup>

## Omega-3s During Pregnancy and Lactation

For women, positive relationships between omega-3 intakes during pregnancy and infant birth weight as well as subsequent visual and cognitive development of the infant have been reported.<sup>13</sup> Post-natal benefits of omega-3 fatty acids can be seen during breastfeeding, when mums transfer DHA through their breast milk to their developing infant. Due to these vitally important benefits the American Academy of Pediatrics encourages intakes of 200 to 300 mg DHA per day through the consumption of one to two servings of fish per week.<sup>13</sup>



### OMEGA-III SALMON OIL PLUS

Total omega-3s per serving	1070mg
EPA	460mg
DHA	480mg
DPA	50mg
With 5 other healthful omega-3s	80mg

#641 – 90 caps

## Omega-3s and Menstruation

In addition to the tremendous benefits during pregnancy and lactation it appears that omega-3 can even help in relieving symptoms of primary dysmenorrhea (a condition where women may experience severe, painful menstruation symptoms). In a study, women were assigned to take one omega-3 capsule (containing 180 mg EPA and 120 mg DHA) a day for 3 months and **there were marked differences in the women who took omega-3 for pain intensity, along with fewer pain killer tablets used as a ‘rescue dose.’**<sup>14</sup>

To ensure a regular supply of all nutritionally important omega-3’s, it is recommended to choose a superior quality, contaminant-free, clinically proven supplement such as NeoLife’s Omega-III Salmon Oil Plus.

## The Brilliance of B Vitamins

The recommended daily dose of vitamin B<sub>6</sub> is around 2 mg per day depending on sex and age.<sup>15</sup> Typically this vitamin is found in foods such as beans, vegetables, fruit, liver, meat and eggs. It is important for treating anaemia that often times results from low pyridoxine levels. In addition, it’s a vitamin that is used to treat heart and blood vessel disease, homocysteine control and high cholesterol and other fats in blood.<sup>15</sup>



### B-COMPLEX THRESHOLD CONTROLLED

Perfect balance of all eight B vitamins

- › High potency for optimum metabolic support
- › Threshold controlled for sustained release of nutrients

#612 – 180 tablets



## Vitamin B and PMS

More pertinent to PMS symptoms, it has been suggested that vitamin B<sub>6</sub> may be helpful with symptoms related to moodiness, irritability, bloating and anxiety and potential benefits of having a combined supplement with magnesium and vitamin B<sub>6</sub>.<sup>3,11</sup> A review indicated that a dose of 50 mg/day may provide benefit for relief of menstruation symptoms.<sup>16</sup> Promising research has been found for vitamin B<sub>6</sub> treatment on a continuous basis,<sup>17</sup> meaning that consistency is key!



## Vitamin B and Pregnancy

Another B vitamin of importance is folic acid. Folic acid/folate, or vitamin B<sub>9</sub>, is important for many functions - it is involved in the production of blood cells and DNA for new cells, **helps in the prevention of premature births and low birth weight babies and for the prevention of neural tube defects that can most commonly occur during the first three months of pregnancy.**<sup>18</sup> Recommendations during this time include 400 to 800 mcg of folic acid per day from dietary supplements or fortified foods.<sup>18</sup>

With the increase of folic acid in the body, there is another vitamin that plays a large role with folic acid in the production of red blood cells and that's **vitamin B<sub>12</sub>**. **This vitamin is essential for many groups of women - pregnant women because of its involvement in a baby's development,** vegetarians because vitamin B<sub>12</sub> is obtained from animal products and adults older than 50 because of the reduced ability to absorb vitamin B<sub>12</sub>.<sup>18</sup>

## 'Her'bals

For centuries, master herbalists have known that women have unique cyclical needs and that certain herbs work to balance the feminine cycle. Alternative therapies have often been sought by people that want symptom-relief during menstruation and include the use of herbal strategies or increasing different types of exercise to alleviate symptoms. Herbal strategies are used in many cultures as a form of traditional medicine to alleviate ailments. If adopting this approach for symptom relief, it is important to select

products that have high standards of purity, potency, consistency and go through rigorous quality control. Some botanicals that can be used by premenopausal women include *Vitex agnus-castus* (chasteberry), *Zingiber officinale* (ginger), lavender, chamomile and *Glycyrrhiza glabra* (licorice).<sup>19</sup> For example, *Vitex agnus-castus* has been investigated in *in vitro* models for its role in menopause/PMS and the reported action has been on the central nervous system and regulating estrogen levels.<sup>19</sup>

**NeoLife's Feminine Herbal Complex** was designed with a unique approach to provide broad, synergistic effects of the herbal constituents, which optimise their ability to support a woman's unique cyclical needs.



#681 – 60 tablets

## FEMININE HERBAL COMPLEX

Formulated with 10 different herbs to support balancing women's unique cyclical needs, restore physiological and emotional balance, relieve symptoms of PMS and restore feminine well-being. The different botanicals in the unique blend include ginger root to support relaxing muscles and reduce swelling, St. John's wort to elevate mood and support calmness, dandelion root to reduce bloating and fluid retention and Vitex fruit to help with regulating the menstrual cycle.

## Exercise is About More Than Just Size!

### Exercise and PMS

Another alternative strategy for maintaining balance and alleviating symptoms related to menstruation involves incorporating **regular physical activity**. In relation to PMS symptoms, some research has been conducted to evaluate the effects of exercise. As the effects of PMS can vary ranging from bloating, backaches, water retention, fatigue and mood swings - it is imperative to assess strategies that can provide relief for these types of symptoms. In an intervention study involving 30 young women aged 16 to 20, various positive outcomes of exercise in the alleviation of PMS symptoms were reported.<sup>20</sup> The group with the exercise intervention also took 50 mg a day of vitamin B<sub>6</sub> and 1,200 mg a day of calcium and were expected to participate in exercise for 3 months, whereas

the other group also received the same amount of supplements but were not to engage in any changes of activity.<sup>20</sup> Results from this study showed that the **exercise program along with supplementation improved scores related to anxiety, depression, menstrual cramps, backaches and total symptoms** as detailed from a questionnaire.<sup>20</sup>

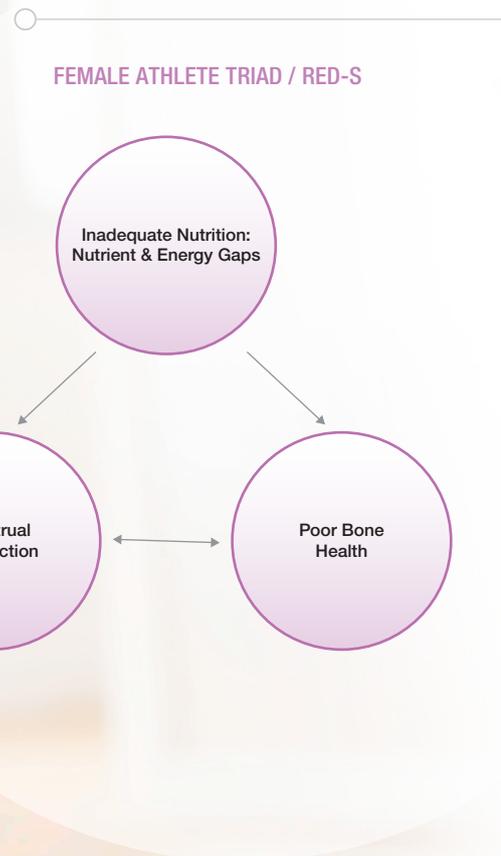
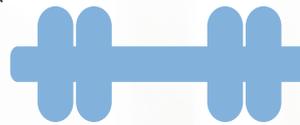
### Muscles and Menopause

Aside from the preoccupation of bone health during menopause, there seems to be concern about the characterised changes that occur to the muscle mass of women during this time frame. Typically, muscle mass starts to deplete around the 5<sup>th</sup> decade, where it has been reported that muscle mass can go as far as declining 0.6% per year after menopause.<sup>21</sup> This muscle mass loss due to aging is known as sarcopenia but it also includes the loss of muscle strength as well.<sup>21</sup> Other aspects can contribute to sarcopenia, such as physical inactivity, impaired diet, oxidative stress and inflammation, which can ultimately have consequences related to reduced muscle strength, functional impairments and physical disability.<sup>21</sup> Resistance exercise may be helpful in preventing or managing sarcopenia and some exercise examples include chest presses, resistance rowing machines, bicep curls, leg curls with machines and calf raises.<sup>22</sup> Many exercises can target different body parts and repetitions and intensity can be increased in a gradual process.<sup>22</sup>

### Needs of Female Athletes

Women athletes can undergo rigorous training to achieve their goals. This situation also applies to the newly motivated fitness fanatic. A couple of areas of concern for women who maintain a high level of physical activity are the female athlete triad and adopting a vegetarian/vegan lifestyle.

For female athletes, there are three different conditions that have been referred to as the **female athlete triad**, now more commonly known as relative energy deficiency in sport (**RED-S**).<sup>23</sup> RED-S includes three conditions: decreased bone mineral density (BMD), amenorrhea or dysfunctional menstruation and low energy status.<sup>24</sup> Female athletes that participate in sports requiring lower weight or a specific physical profile may often be concerned by RED-S.<sup>24</sup> Females may experience all or just one of these interrelated conditions. Low BMD can affect female athletes with a prevalence of bone softening, or osteopenia, ranging from 22% to 50% in female athletes and a lesser prevalence of 0 to 13% of female athletes with osteoporosis.<sup>24</sup> Another condition is low energy status resulting from disordered eating. Disordered eating is a set of irregular eating behaviours that do not meet the precise criteria to be labelled as an actual



“eating disorder” - but these eating patterns tend to be common among female athletes.<sup>24</sup> Particularly before competition times, these patterns may be more problematic. When food intake is inadequate for energy needs, the intake of many required nutrients may also fall far short of what is required.



The third condition of RED-S is amenorrhea and this can be caused by genetic causes, stress, or inadequate food intake (highlighting the relationship between disordered eating and amenorrhea).<sup>24</sup> There are two

types of amenorrhea, the primary amenorrhea referring to a category where there is a delay in the age when a female gets her period and secondary amenorrhea is the loss of a period up to 90 days (loss of menses for more than 90 days after menarche).<sup>24</sup>

Many athletes may also be vegetarian or vegans and this type of diet, particularly in the athletic world, may require extra attention to nutrient intakes. Heavy training for certain athletes may require increased energy intake and sometimes plant-based diets may not provide sufficient amounts of energy because of the excessive fibre in the food contents.<sup>23</sup> Recommendations for female athletes during their training would be to ensure that they consume adequate carbohydrate sources such as grain products, fruits, vegetables and added vegetarian sources of protein such as soy products, beans, lentils, tofu, nuts, seeds and some grains (like quinoa).<sup>23</sup>

**Increased attention to the intakes of iron, zinc, calcium, vitamin B<sub>12</sub> and riboflavin is strongly recommended!**<sup>23</sup> As previously described, with low food intake there is a risk of low energy availability for athletes and this risk seems to be higher in vegetarian athletes.<sup>23</sup> Low energy availability can affect all types of athletes and this can be problematic and can compromise normal body function during training.<sup>25</sup> Additional tips for vegetarian athletes would be to ensure adequate carbohydrate (3 to 10 g carbohydrate/kg body mass/day) for training and repeated training methods, adequate protein requirements depending on the exercise type and intensity and dietary fat which also help with the absorption of fat-soluble vitamins and essential fatty acids, like vitamin D and vitamin A.<sup>23</sup>

## Conclusion

We women certainly need a healthy lifestyle to be able face all the challenges that life throws at us! That’s why it’s so important that we take in the nutrients our body craves and needs - a whole-food based diet that includes nutrients and phytonutrients from fruits and vegetables, whole grains, omega-3’s and lean proteins. That’s why supplements like Pro Vitality can be an important part of the foundation that women need through life, helping to fill the nutrient gaps women often have. A plentiful supply of these vital nutrients can make sure that we can exhibit strength and diligence - girl power! ■

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