

# bioteen™

Teen Health



## PMS SUPPORT

PRODUCT OVERVIEW

**PMS SUPPORT**

PMS or premenstrual syndrome is a group of symptoms that affects up to 75% of girls and women who have regular menstrual cycles. The tell tale symptoms are both physical including bloating, weight gain, breast pain, joint or muscle pain, sleep disturbances and changes in appetite as well as some psychological side effects like anger, irritability, confusion, loss of control, and difficulty in concentrating (1,2). In short, a lot of unpleasant symptoms for a teen who already has so much to deal with physically and emotionally.

The reason why some women get PMS symptoms, while others don't isn't currently known and although there are so many women who struggle with these symptoms every month, the research behind trying to figure out how to solve these problems is lacking (1).

At Bioteen, we decided to dig into the research that is available to create a supplement that can support your teen during this time and provide some much needed relief and this is how we created Bioteen's PMS Support.

Let's have a look at how PMS Support works:

### **Hormonal regulation**

As the menstrual cycle is governed by hormones and an exaggerated hormonal response may be implicated in more severe PMS symptoms, it makes sense to do our best to regulate them. One of the most profound effects that hormones can have is on your teen's emotions. Luckily there are a few nutrients that have been shown to have a calming and uplifting effect, including magnesium, calcium and Chasteberry.

Starting with magnesium, while we know that it is an essential cofactor for more than 300 biological processes, it has also been found to normalise the action that certain hormones, like progesterone, have on the central nervous system and in doing this helps to calm it down (3).

Calcium on the other hand, is involved in the production of the neurotransmitters serotonin (your feel good neurotransmitter) and dopamine (your reward seeking neurotransmitter) both of which are needed for mood regulation. Some research suggests that magnesium and calcium levels are often lower in women who suffer from PMS and hypothesise that correcting these deficiencies will have a knock on effect on mood (4). In fact, other research shows that calcium supplementation is associated with up to almost a 50% reduction in PMS symptom score, especially related to mood swings, depression, tension, anxiety, anger and crying spells (5). So it seems like calcium isn't just needed for strong bones!

**PMS SUPPORT**

Besides mood regulation, hormonal fluctuations can also cause another pesky side effect, sore boobs, which is thought to be caused by an increase in the hormone prolactin. To help teen's deal with this, we've included a herb called Chasteberry, which has been used to treat PMS symptoms for more than 2500 years. Although its exact mechanism of action is unknown, it is thought to decrease prolactin secretion by stimulating the dopamine receptors which then leads to a reduction in pain with some research showing that these symptoms can be reduced by as much as 2,5 times (when using Chasteberry versus using a placebo) (1).

### **Muscle relaxation**

Painful cramping is next up on the list of horrible symptoms, with some women experiencing such extreme pain that they find it difficult to continue with daily tasks. These painful cramps may happen because when the muscular outer layer of the uterus experiences hyper contractility and because of the constriction of certain blood vessels. Calcium supplementation has been shown to help with this and may reduce neuromuscular irritability and vascular reactivity (4). In addition to this, magnesium also helps to relax the smooth muscles of the uterus meaning that there is potentially less cramping and pain (3).

### **Anti-inflammatory**

After ovulation there is a buildup of omega-6 fatty acids in the cell membranes. Before the period begins, progesterone levels drop and the omega 6 fatty acids are released. This release triggers a cascade of inflammatory molecules in the uterus which triggers an inflammatory response which leads to cramping as well as other systemic symptoms like period related bloating, headaches, depressed mood, irritability and reduced levels of alertness (3, 6, 7).

To help combat this inflammation we have included magnesium and vitamin B6. Magnesium helps to reduce the amount of these inflammatory molecules released (specifically one called prostaglandins) and in doing this it helps to manage cramps and pain (3) and vitamin B6 acts as an antioxidant, neutralising the inflammatory molecules that are released. Interestingly, vitamin B6 has been shown to specifically target psychological symptoms caused by inflammation (alone and as part of a multivitamin complex) (6, 7). In addition to all this, vitamin B6 has also been shown to enhance the efficacy of both magnesium (8) and calcium (4), making it an incredibly versatile and helpful vitamin.

## The bottom line

All in all, if your teen suffers from PMS symptoms there are ways that you can help. By providing sufficient doses of these effective nutrients Bioteen's PMS Support helps to naturally target more than one pathway that results in PMS symptoms. When PMS symptoms are under control, your teen will feel better and potentially have a more positive outlook on life. This may lead to a knock on effect on their relationships, school work and even sports performance.

## References

1. Csupor D, Lantos T, Hegyi P, Benkő R, Viola R, Gyöngyi Z et al. Vitex agnus-castus in premenstrual syndrome: A meta-analysis of double-blind randomised controlled trials. Complementary Therapies in Medicine. 2019;47:102190.
2. Shaw S, Wyatt K, Campbell J, Ernst E, Thompson-Coon J. Vitex agnus castus for premenstrual syndrome. Cochrane Database of Systematic Reviews. 2018;.
3. Parazzini F, Di Martino M, Pellegrino P. Magnesium in the gynecological practice: a literature review. Magnesium Research. 2017;30(1):1-7.
4. Taghiabadi M, Arab A, Rafie N, Askari G. Beneficial role of calcium in premenstrual syndrome: A systematic review of current literature. International Journal of Preventive Medicine. 2020;11(1):156.
5. Thys-Jacobs S, Ceccarelli S, Bierman A, Cohen MA, Alvir J. Calcium supplementation in premenstrual syndrome: a randomized crossover trial. J Gen InternMed 1989;4(3):183-9.
6. Retallick-Brown H, Blampied N, Rucklidge J. A Pilot Randomized Treatment-Controlled Trial Comparing Vitamin B6 with Broad-Spectrum Micronutrients for Premenstrual Syndrome. The Journal of Alternative and Complementary Medicine. 2020;26(2):88-97.
7. Bird R. The Emerging Role of Vitamin B6 in Inflammation and Carcinogenesis. Advances in Food and Nutrition Research. 2018:151-194.
8. Fathizadeh N, Ebrahimi E, Valiani M, Tavakoli N, Yar MH. Evaluating the effect of magnesium and magnesium plus vitamin B6 supplement on the severity of premenstrual syndrome. Iran J Nurs Midwifery Res. 2010 Dec;15(Suppl 1):401-5.



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