

Rationale For Menstruphen™

Problems related to the reproductive cycle and associated organs are epidemic in modern women. From the onset of menses through menopause the majority of all women are victimized in one way or another by the broad biological and psychological impact of reproductive hormones.

At least 80-90% of all women experience moderate to severe cramping with menstruation. In adolescent girls, 1 in 5 experiences cramping so severe that they require bed rest. It is estimated that over 140 million work hours are lost each year from menstrual cycle disorders.

MENSTRUPHEN™

Nutrient Support Formula

W Y S O N G

PURPOSE:

A nutritional supplement designed to promote healthy female reproductive cycles and hormonal balance.

INGREDIENTS:

Natural Phytonutrient Extracts and Concentrates of Dong Quai Root, Licorice Root, and Chaste Tree Berry; Calcium Carbonate, Magnesium Oxide, Zinc Gluconate, Vitamin B₁ (Thiamin), Vitamin B₃ (Inositol Hexaniacinate), Vitamin B₆ (Pyridoxine).

– Contains no additives –

Caution: Menstruphen is not recommended for use by pregnant or lactating women.

DIRECTIONS:

Suggested Dosage: Two capsules three times daily starting on day fourteen of the menstrual cycle (2 weeks before menstruation) and continuing until menstruation begins. If symptoms persist, continue dosage throughout cycle. Menstruphen™ is best assimilated if swallowed with meals. For best results, Menstruphen should be used as part of the Wysong Optimal Health Program™.

For long-term usage discontinue two days out of every week and five successive days every month to decrease the potential for intolerance developing.



Women's reproductive disorders are so encompassing, affecting every physiological/biological system and profoundly affecting psychology, that the phenomenon has had innumerable names attached to it including premenstrual syndrome, dysmenorrhea, premenstrual dysphoric disorder, spasmodic and congestive cramps, painful menses, mastalgia, etc.

Premenstrual syndrome (PMS), for example, results in symptoms ranging from nervous tension, mood swings, irritability and anxiety, to weight gain, swelling of extremities, breast tenderness, abdominal bloating, headache, craving for sweets, increased appetite, heart pounding, fatigue, dizziness, fainting, depression, forgetfulness, crying, confusion and insomnia, to oily skin and acne, nausea, vomiting, loss of appetite, diarrhea, constipation, edema of the fingers and ankles, mild to severe personality change, altered libido and backaches.

Also related to cycling hormones are uterine fibroids, endometriosis, pelvic inflammatory disease, painful or lumpy breasts, fertility problems, miscarriage, dry vaginal tissues, osteoporosis, and uterine, ovarian and breast cancer.

The medical resources consumed to deal with these problems are enormous. Pharmaceutical companies have grown rich developing drugs such as Valium and Prozac just to treat the psychological disorders related to the menstrual cycle. More than 12 million of those who consume mood-altering drugs are women between the ages of 20 and 50, those in the hey-day of female hormone cycling. The most common reasons for women visiting their physician are painful and/or lumpy breasts, and routine cancer checks marketed heavily by the medical community as a solution. Virtually all women live in fear of the dire consequences and potential disfigurement about which their cycling bodies continue to give them cause for concern.

Although we would like to think we rise above base instincts and biological urges, we are essentially reproductive creatures. We are disposable packages for the immortal genes we have received from our ancestors and will pass on to our progeny. If reproduction is such a prime imperative, it is little wonder that disorders in this machinery could create such widespread problems.

Although men do not normally experience the profound effects women experience from the flow and ebb of reproductive hormones, they too are captive to the biological imperative. The aggressive, competitive male hormones are responsible for creativity, but also for so much of the crime and violence in our world. Our prisons are overflowing with men primarily in their peak hormone stage. Hormone-related testicular and prostate cancer are dramatically increasing in incidence in men, as is sexual dysfunction, including impotence, low libido, and infertility. A healthy male with healthy testosterone levels can be preoccupied with the sexual urge. A feeling of "heaviness" in the pelvis and preoccupation with sex can build until it is released by ejaculation, only to build again and repeat the cycle. Somewhat analogously, women can feel heightened sexual desire at ovulation, and a building of pelvic "heaviness" and pressure until menses begins.

The degree to which these cycles in both men and women affect the course of one's life, happiness, mood, interrelationships, sense of self-worth, future, success, or failure is far more significant than most would choose to admit. The treatments of normal biological rhythms, which also create changes in personality, consume huge medical resources. Unfortunately with few exceptions, the billions spent on reproductive system-related disorders are merely stop-

gap symptom-based measures, that leave people dependent on a life of medicated or psychoanalyzed survival. The true cause is not only not addressed, but also by and large unrecognized.

If something as fundamental to life as the reproductive system is malfunctioning, then the cause must likewise be something very fundamental. Humans have extracted themselves from their genetic heritage and created an environmental context that is not in keeping with their genetic expectation. The result is discordance between modern living and the artificial environment we have created, and our biological system. This imbalance creates a chronic stress manifested in a variety of ways and results in loss of health and disease much the same as a fish, if removed from

water, will experience loss of health and 'dis-ease.'

Specific to female problems is an imbalance in hormones. This hormone imbalance is now fairly well understood and directly linked to essentially every malfunction in the female reproductive system. But this imbalance is not just "one of those things" that creates victims, any more than other modern chronic degenerative diseases such as cancer are "just one of those things." The cause is the improper fit between our genetics and our modern life and that is not "just one of those things," but rather something we can do something about without having to run to a doctor.

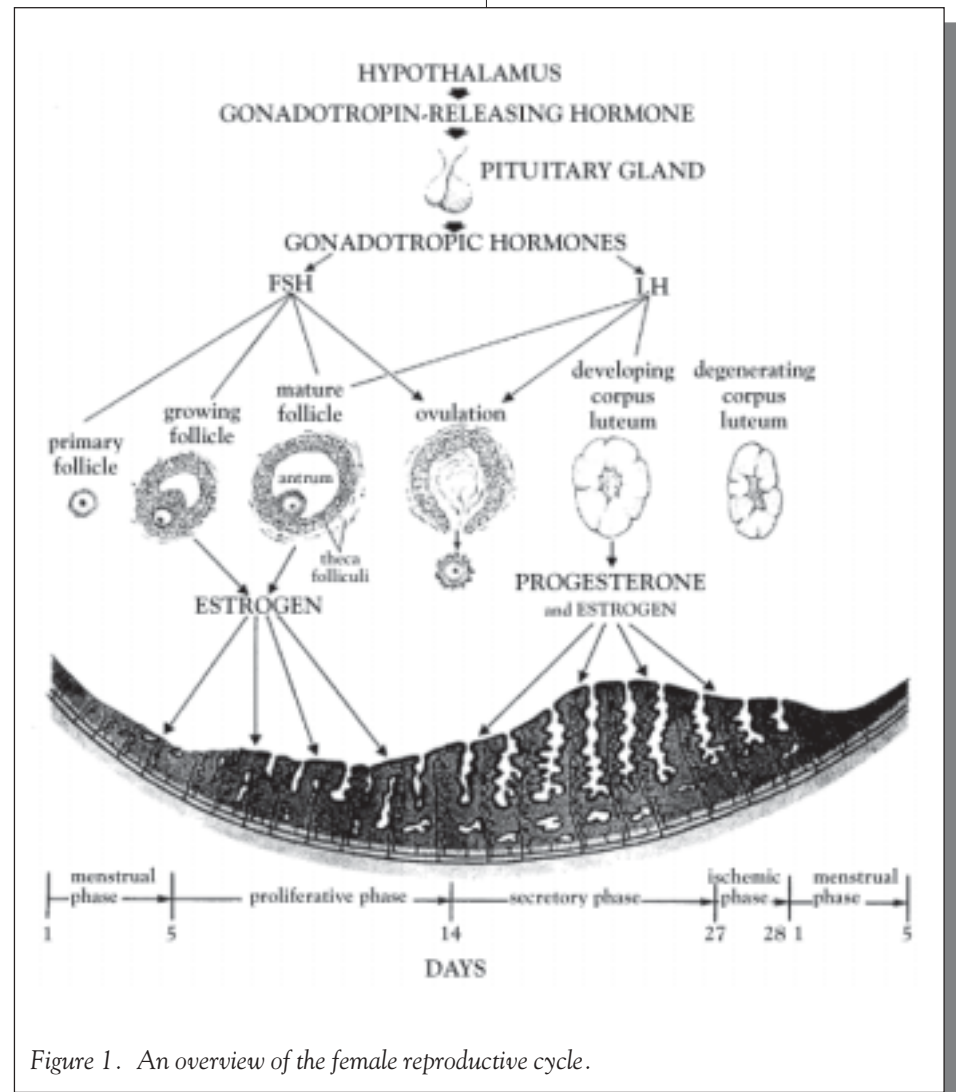


Figure 1. An overview of the female reproductive cycle.

The Female Reproductive Cycle

Once a young lady reaches puberty, the following cycle will be a relentless part of her life until the pause of the menses (menopause) at about age 50. By some yet unknown inherent timing mechanism or cycle within our environment, the hypothalamus, a small section at the base of the brain, releases chemicals such as gonadotropic releasing hormone and follicle stimulating hormone, which in turn stimulate the pituitary gland, which lies adjacent to the hypothalamus at the base of the brain, to release hormones that target the ovary. Follicle stimulating hormone (FSH) signals the ovary to begin maturation of an egg follicle on the surface of the ovary. As this follicle matures, like a small expanding fluid-filled bubble, it in turn produces estrogen to be released into the body. As estrogen levels rise, they stimulate the pituitary to release luteinizing hormone (LH), which causes the egg-containing follicle to burst, releasing the egg so that it may travel down the fallopian tube to the uterus, and hopefully be fertilized by a lucky and happy sperm. After the follicle bursts, luteinizing hormone causes the remnants of the follicle to develop

into a glandular-like nodule called the corpus luteum, which in turn releases estrogen and progesterone, which help prepare the uterine lining for implantation of the fertilized egg. If that does not occur, these hormones stimulate the uterine lining to be shed and expelled, creating menstruation. The cycle consists of three somewhat distinct phases. The first is the follicular stage which lasts 10-14 days, then the ovulatory which lasts about 36 hours, and then the luteal which lasts 14 days (refer to Figures 1, 2, and 3).

This is a simplified version of what happens. It is what we know so far. What we don't know (and guess at) is certainly a far greater body of knowledge yet to be discovered.

The reproductive system does not act in isolation. The hormones that are released by the reproductive system interact with other endocrine glands such as the thyroid, the adrenal, and pancreas in ways vaguely understood.

The pituitary also releases prolactin, which helps develop breasts for feeding the infant. If this occurs, prolactin is responsible for inhibiting further follicle and egg development on the ovaries. It is the reason lactating women do not normally become pregnant.

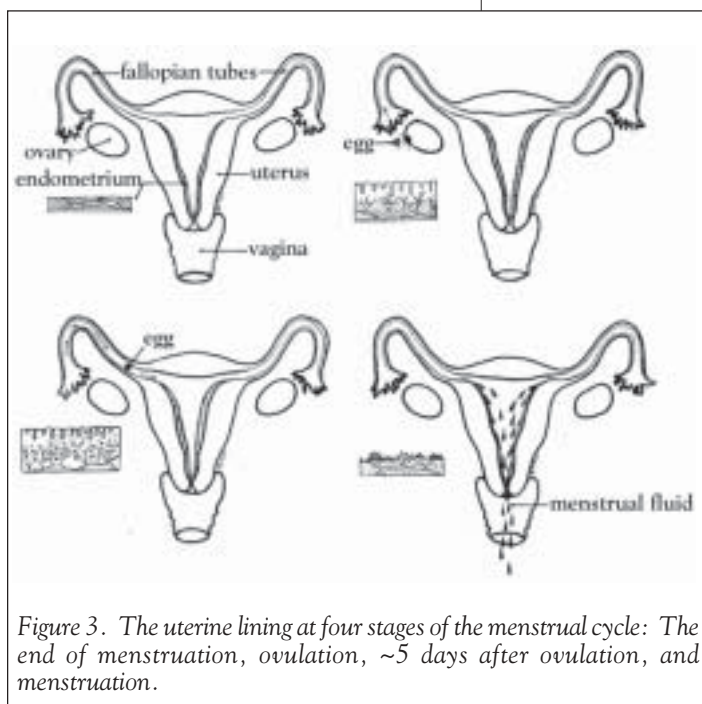


Figure 3. The uterine lining at four stages of the menstrual cycle: The end of menstruation, ovulation, ~5 days after ovulation, and menstruation.

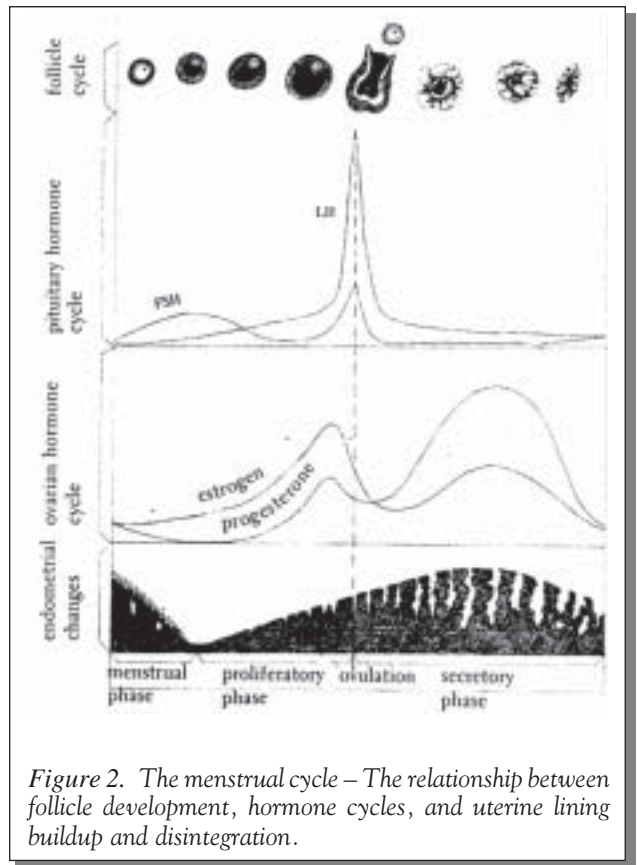


Figure 2. The menstrual cycle – The relationship between follicle development, hormone cycles, and uterine lining buildup and disintegration.

Genetic Context

Modern living has thrown everything out of kilter. First, today's woman is ovulating too much. Here is the way we are designed and built and the way it should be from a biological standpoint: Once a girl reaches sexual maturity in her mid-teens, she would become pregnant. Considering the copious availability of willing male fertilizers, there is a good chance that uninhibited by modern societal taboos, the first egg she released would be fertilized. That's one ovulation. She would become pregnant for nine months, which would stop further ovulations, then nurse the young child for 4 to 5 years, which would also stop ovulations. After she stopped nursing she would ovulate again and become pregnant by one of the ever-present males in rut. The cycle would be repeated with a 9-month pregnancy and a 4 or 5 year nursing period with no ovulations taking place during that time. That would mean about one ovulation approximately every five years from age 12 to 50.

Now if you compare this scenario with that of the modern woman, you can see that modern women are virtual egg hatcheries compared to our ancestral prototype. Every 30 days for years young women will be ovulating and causing surges of cycling hormones such as estrogen, until they discontinue birth control pills and decide it is the appropriate time to have the correct 2.2 children for modern society. During the nine-month pregnancy no ovulations will take place, but since for many women it is inconvenient or not tasteful to nurse, they will begin ovulating shortly after. (As can be seen by Figure 1 on Estrolog page 2, there is a dramatic difference between the artificially manipulated hormonal cycle of modern women and that of our natural ancestral prototype.)

Our modern synthetic environment could also be expected to disrupt hormone balances. We live inside homes breathing conditioned air and are shielded from natural light. Convenience of modern society creates a sedentary lifestyle with little exercise. We eat processed, fabricated, food fraction-based products and drink chemicalized water. This dislocation from our natural roots in the wild – out of doors, breathing fresh air, drinking natural water, eating foods exactly as they are found in nature and being exposed to sunshine every day – does not go unnoticed by our biology. The hypothalamus and pituitary gland, for example, are intimately linked to natural light cycles. To shield ourselves from this natural cycle and create artificial cycles within buildings surely could be expected to disrupt hormone balances. The broad range of symptoms associated with female problems is a sure indication that something very fundamental has gone wrong with intricate hormonal balances.

Additionally, many synthetic chemicals released into the environment for

decades have now been proven to have an effect on sexual hormones. Particularly the halogenated hydrocarbons such as DDT, chlordane, dieldrin, DDE and others are known to have estrogenic effects. These chemicals are sprayed on produce, and other drugs, hormones and chemicals are introduced into food animal diets to concentrate in their tissues, which are then consumed by humans. The estrogen-mimicking substances in the environment are believed to adversely affect not only female, but also male reproduction and sexual function. If there is any doubt about the power of these chemicals, even at the minuscule amounts released into the environment, consider the extinction and near extinction of various birds that have been directly linked to such chemical pollutants.

The modern diet lies as a root cause of so many modern chronic ailments. It is little wonder it can be linked directly to female problems. We are designed to eat foods exactly as they can be found in nature, raw and whole. If you contrast this perfect model with what is consumed today, the disparity becomes easily apparent and it is not surprising that problems should result. Today's diet is primarily based upon processed carbohydrates, including starches and refined sugars. Additionally, almost all foods are cooked, destroying much of their vitamin content, all of their enzyme content, and creating a variety of heat-generated compounds that are toxic and carcinogenic. Farm-based foods are increasingly diminished in trace minerals as crops are hybridized, force fed fertilizers, and mined from the same plot of ground year after year. Dozens of studies demonstrate that the average American diet is deficient or imbalanced in almost everything.

One of the most important departures from healthy food is the manipulation of fats in the diet. Fats,

oils and sterols found within natural, raw foods in nature are not only healthful, they are essential. In contrast, the modern diet is replete with processed oils that may be oxidized or hydrogenated, creating a variety of toxic compounds. The modern rise of obesity has created a fat and cholesterol phobia that further threatens healthful lipid nutrition. Women shun natural cholesterol-containing foods and with that eliminate an important precursor to reproductive hormones (refer to Figure 4). In place, they substitute more and more carbohydrates, which are the ultimate culprits in obesity. Most of these carbohydrates are laced with fatty acids that shift the balance of fats in the body. Reproductive hormones cannot be properly manufactured and those that are manufactured cause abnormal reactions within tissues.

For example, the modern dietary ratio of omega-6 fatty acids to omega-3 fatty acids is 30:1 compared to the ratio in a healthful natural diet, which is 5:1. The high omega-6 oils in processed foods such as confections, breads, rolls, cereals, snacks, pastas, etc., cause excess production of the eicosanoid hormones that promote inflammation. It is also believed that the high intake of sugar (it has been demonstrated, for example, that patients who experience PMS consume over 60% more carbohydrate and 275% more refined sugar than those who do not have the problem), alcohol and trans-fats found in hydrogenated or partially-hydrogenated oils, and even caffeine can adversely affect eicosanoid production resulting in many of the symptoms seen in female syndromes.

The powerful effect of these eicosanoids is demonstrated by the fact that if the omega-6 type eicosanoids such as PGF_2 and PGE_2 are given to women, they can induce labor and stimulate essentially all the symptoms of

dysmenorrhea. Women who experience dysmenorrhea have been tested and found to have more than 500% higher levels of omega-6 derived eicosanoids than women who are not experiencing these problems.

Omega-6 fatty acids, particularly arachidonic, can be changed as a result of oxidative free-radicals into isoprostanes which exert greatly exaggerated inflammatory-type effects. We live in a pro-oxidant environment and eat oxidized foods, which can stimulate this synthesis of exaggerated inflammatory chemicals that exaggerate many of the menstrual symptoms.

The omega-6 fatty acid eicosanoids have the ability to contract smooth muscle, increase inflammation and pain, increase salt and fluid retention, cause vasoconstriction, clot formation and platelet aggregation. Eicosanoids also act within the reproductive cycle to stimulate luteolysis, the shedding of the uterine endometrium and healing of the uterine lining.

The effect of these eicosanoids is linked to vasoconstriction within the brain, causing headaches, exaggerated

cramping of uterine muscle, and fluid and salt retention.

The most dramatic hormonal shift seen in women with female problems is an increase in estrogens and a decrease in progesterone. Since modern “egg hatchery” women receive monthly estrogen surges from their follicles, and are consuming foods contaminated with a variety of estrogenic compounds, it is little wonder that estrogen balance is disrupted. High levels of estrogen can impair liver function and result in cholestasis (depressed bile flow), decreased brain chemicals such as serotonin and gamma amino butyric acid (GABA), decreased endorphins, decreased thyroid hormone, increased insulin levels, increased prolactin hormone and impaired function of vitamin B₆. Depression of the “feel good” neurochemicals such as serotonin, GABA and endorphins directly affects mood and personality. Increased estrogen levels also increase the secretion of the hormone aldosterone from the adrenal glands, which increases sodium and water retention. High estrogen also stimulates the formation and growth of uterine fibroids and is linked to uterine and breast cancer.

Many menstrual symptoms are treated with nonsteroidal anti-inflammatory drugs (NSAIDs). It is interesting to note that these exert their effect by blocking enzymes in the omega-6 pathway leading to the inflammatory eicosanoids. This is certainly a symptom-based approach, however, and is not without serious side effects such as liver damage, leaky gut syndrome, nausea, digestive irritation and the aggravation of various symptoms of dysmenorrhea. It would be so much wiser and more effective to treat the ultimate causes.

That completes the story of what is wrong and why it is wrong. But what can be done? There is much hope and the key lies in understanding the thesis outlined in the beginning of this paper: We have extracted ourselves from our proper environmental and genetic roots. The solution is, therefore, to return to those roots.

Menstruphen™ is the result of several years of research seeking non-toxic, natural nutritional supplements. Ingredients have been selected based upon the weight of scientific evidence and traditional experience with their use. Supplementation with natural nutrients and “nutraceuticals” is an emerging science and precise mechanisms of action have not been determined in many cases.

Biochemistry

Menstruphen phytonutrients, vitamins, and minerals exert their effects by promoting proper physiological balance in terms of both micronutrients and hormones. An elevated estrogen-to-progesterone ratio, as is almost always found in those who suffer from “female problems,” contributes to these conditions by adversely affecting the secretion of other hormones such as serotonin, aldosterone and prolactin, and at the same time increasing nutritional needs for numerous vitamins and minerals. These

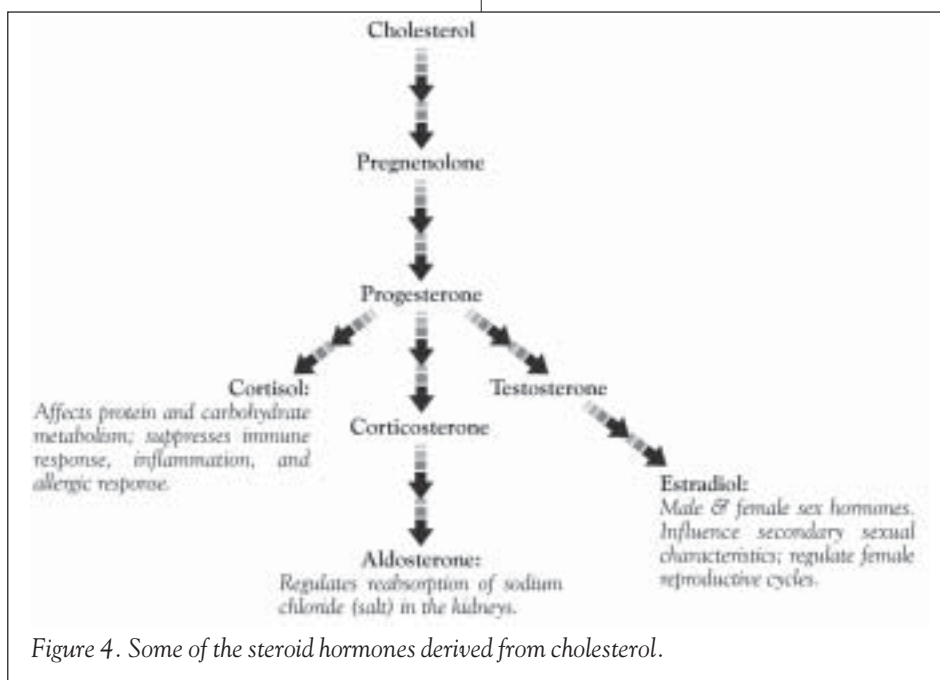


Figure 4. Some of the steroid hormones derived from cholesterol.

deficiencies affect the body's various systems in innumerable ways.

Mineral deficiencies, for example, are strongly indicated as a causative factor in premenstrual syndrome (PMS). Women of reproductive age exhibit cycling magnesium and calcium levels, in sync with their cycling hormone levels. This delicately balanced succession is often disrupted in women who experience menstrual difficulties. The effect of an elevated serum calcium-to-magnesium ratio, even slightly, is multifactorial due to the many magnesium- and/or calcium-dependent reactions of cellular metabolism. Wysong Menstruphen provides these minerals in the levels and ratio optimal for the promotion of healthy menstrual cycles.

Although countless mechanisms are likely responsible for this phenomenon, it has been confirmed that PMS patients consistently have lower red and mononuclear blood cell magnesium concentrations, which is a major predisposing factor toward luteal-phase mood state destabilization. (The importance of this Menstruphen ingredient, magnesium to mental health is demonstrated by its proven effectiveness in the treatment of depression, schizophrenia, sleep disorders, autism, confusion, delirium and behavioral disturbances.) Additionally, because magnesium is required in the relaxation of muscle, supplementation with this Menstruphen mineral can help prevent the "cramps" associated with dysmenorrhea (painful menstruation).

Menstruphen calcium, in proper balance with magnesium, has been shown to reduce overall luteal phase symptoms including negative affect, water retention, food cravings, migraines, and abdominal cramping. Menstruphen achieves these broad-range effects by improving altered hormonal patterns, regulating neurotransmitter levels, and promoting

proper smooth muscle responsiveness (muscles that are calcium-deficient are more likely to cramp).

The mineral zinc, which is required for proper secretion and action of the sex hormones, has been found to be deficient in women who suffer from menstrual difficulties. Specifically, Menstruphen zinc inhibits the excess release of the hormone prolactin that is correlated with PMS and amenorrhea (absence of menstruation).

Menstruphen Chaste Tree Berry (*Vitex agnus-castus*) promotes healthy menstrual cycles via its profound effect on the hypothalamus and pituitary gland. Menstruphen therefore helps to reduce the secretion of prolactin, as well as to lower the estrogen-to-progesterone ratio by stimulating the pituitary gland to produce more luteinizing hormone, leading to greater production of progesterone. Symptoms alleviated include breast tenderness, irritability, depression, bloating, weight gain, constipation, and amenorrhea.

Dong quai (*Angelica sinensis*), as found in Menstruphen, exerts its beneficial effects on the female reproductive system through phytoestrogenic means. Phytoestrogens are plant compounds that bind to estrogen receptors in the body, thus blocking the powerful action of estrogen and exerting estrogenic effects that are 40 times weaker (see Estrolog monograph and Figure 2). Menstruphen, consequently, promotes normal hormone balance, increases glucose utilization by the uterus and liver, and demonstrates good uterine tonic activity, resulting in uterine relaxation.

The licorice root (*Glycyrrhiza glabra L.*) in Wysong Menstruphen lowers the estrogen-to-progesterone ratio not by stimulating production of progesterone, but by inhibiting the enzyme that breaks it down. Further, this

Menstruphen ingredient blocks and lowers the effect of the hormone aldosterone, the adrenal hormone responsible for reducing sodium and water excretion, in much the same way Dong quai blocks the action of estrogen.

The Menstruphen B-vitamins thiamin (B₁), niacin (B₃), and pyridoxine (B₆) are important for healthy, regular and comfortable menstrual cycles, striking both the physical and emotional symptoms of menstrual cycle disturbances:

Thiamin (B₁), as found in Menstruphen, prevents dysmenorrhea because it plays an essential role in the metabolism of carbohydrates, the excessive consumption of which is correlated with increased incidence of menstrual problems. Menstruphen thiamin is also crucial in the conversion of fatty acids into the hormone progesterone, thus promoting the proper hormonal ratio.

Menstruphen niacin (B₃) is effective in the treatment of PMS and other reproductive cycle disorders as a result of its vasodilating properties. In particular, niacin is necessary for the conversion of omega 6 fatty acids into the anti-inflammatory eicosanoid PGE₁.

Pyridoxine (B₆), which is known to reduce the effects of estrogen, is almost always low in women with reproductive cycle difficulties. Supplementation with this Menstruphen ingredient relieves myriad symptoms including depression, irritability, breast tenderness, water retention, and headaches. It appears that high levels of estrogen after ovulation interfere with the vitamin B₆-dependent enzymes of amino acid metabolism, resulting in an increased need for this Menstruphen vitamin (as well as adequate dietary protein intake). Menstruphen B₆ is also important in the

prevention of anemia, as it is required by the body to utilize iron and to produce red blood cells. Further, it is crucial that vitamin B₆ and magnesium be used in conjunction, as in Menstruphen, because they work together in many enzyme systems and because without vitamin B₆, magnesium cannot get into the body's cells.

Clinical Evidence

Numerous clinical studies have proven the importance of Menstruphen magnesium in the prevention of premenstrual and menstrual problems. One trial showed a reduction of nervousness by 89%, decreased breast tenderness by 96%, and less weight gain in 95% of participants. In another double-blind experiment, Menstruphen supplementation resulted in a dramatic reduction in PMS-related mood changes associated with depleted magnesium levels. Other clinical studies have demonstrated the therapeutic effects of magnesium, as found in Menstruphen, in the prevention of abdominal cramps and back pain.

Recently, nearly 500 women participated in a double-blind trial of Menstruphen calcium versus a placebo. This breakthrough study demonstrated that supplementation with this Menstruphen ingredient can result in a 54% reduction in PMS symptoms, including depression, irritability, food cravings, mood swings, and migraine headaches. In another such study, Menstruphen lowered water retention, and improved mood and concentration.

Menstruphen zinc is successfully used in the clinical setting as a therapy for those with abnormally high prolactin levels. Additional studies have shown that emotional disturbances such as lethargy and depression are improved with zinc supplementation.

Good clinical evidence bears out the strong traditional reputation of Menstruphen Chaste Tree Berry (*Vitex agnus-castus*) in the treatment of menstrual irregularities and



PMS. A recent randomized, placebo-controlled clinical trial resulted in 77.1% of participants reporting improvement in symptoms such as breast tenderness (mastodynia), edema, headache, and depression. Ninety-two percent of physicians rated treatment with chaste tree berry as 'very good' or 'good' in another study involving 1500 female participants. In a separate double-blind study, this Menstruphen ingredient demonstrated impressive therapeutic effects in cases of cyclical breast tenderness associated with premenstrual syndrome.

In clinical trials, Menstruphen Dong quai has demonstrated good uterine tonic activity, causing this organ to relax, thus preventing cramping. Further studies have shown that Dong quai promotes an increase in uterine weight, enhances glucose utilization by the liver and uterus, and normalizes irregular menstrual cycles in women with luteal-function insufficiency.

In a recent clinical trial, Menstruphen Licorice Root successfully induced normal ovulation and menstruation in women experiencing irregular, infrequent or lack of menstruation. Additionally, researchers have found that supplementation with this Menstruphen ingredient in females with abnormal hormone levels promotes the overall health of the uterus.

There is overwhelming clinical evidence supporting the use of Menstruphen B-vitamins in the treatment of reproductive cycle disorders.

In a randomized, double-blind study including 556 young women, 87% were completely cured of dysmenorrhea symptoms after supplementation with Menstruphen thiamine (B₁).

Niacin (B₃), as found in Menstruphen, was effective in relieving menstrual cramps in 90% of participants with severe dysmenorrhea.

More than a dozen double-blind trials have demonstrated the efficacy of Menstruphen vitamin B₆ (pyridoxine) in the treatment of PMS and menstrual abnormalities. For instance, in a recent study, an 84% success rate in the treatment of PMS was achieved with vitamin B₆ supplementation alone. Further trials have shown this Menstruphen vitamin to be effective in cases in which even progesterone therapy has failed.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

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