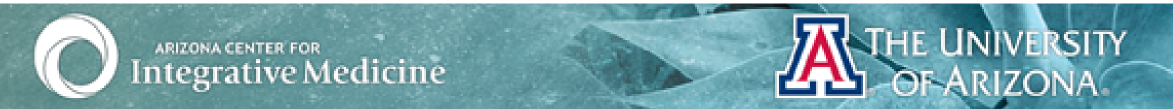

Treatment Chart: Women's Health - PMS PMDD

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Black cohosh	+	+			+

Black Cohosh:

Black cohosh (Actaea racemosa) is a North American herb used by indigenous peoples for the treatment of musculoskeletal pain, respiratory complaints and to aid childbirth. Early settlers of the United States quickly came to value this root for its sedative and muscle-relaxant properties. While most of the research has focused on black cohosh for relief of menopausal symptoms, the herb has considerable anti-inflammatory activity making it useful for dysmenorrhea. Newer research indicating it binds serotonin receptors indicates that it may also be useful for PMS. Given its mild SSRI properties, it may have its greatest efficacy as a treatment for negative mood or depression associated with PMS. A study of 135 women found black cohosh effective for reducing the symptoms of anxiety, tension, and depression associated with PMS (Dittmar, 1992).

The German health authorities have endorsed the use of black cohosh for premenstrual discomfort, dysmenorrhea and menopause. The dose is typically 40-160 mg/d of an extract made from the dried root and rhizome. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Calcium		+	+		+

Calcium:

Estrogen is involved in calcium metabolism, calcium absorption and parathyroid gene expression and secretion. Randomized, double blind, placebo controlled clinical trials in women with PMS have found that calcium supplementation improves a number of mood and somatic symptoms. A double blind, placebo controlled trial of 497 women with PMS randomized them to receive 1200 mg calcium carbonate per day or placebo for three menstrual cycles. During the luteal phase of the treatment cycle there was a 48% reduction of symptoms in the calcium-treated group by the third month ($P < 0.001$) (Thys-Jacobs 1998).

A systematic review concluded, "Calcium supplementation of 1200-1600 mg/d, unless contraindicated, should be considered a sound treatment option in women who experience premenstrual syndrome." Given that many women do not meet the adequate intake recommendations for dietary calcium, a trial of calcium seems reasonable. To optimize absorption, calcium carbonate should be taken with food at doses of 500-600 mg twice a day. Calcium citrate is a better choice for older women or those that have low stomach acid production (e.g., on proton pump inhibitors). "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Chastetree		+	+	+	

Chastetree:

Chastetree (Vitex agnus castus) has been used since ancient times as a spice, ceremonial herb and medicinal agent. Dioscorides, the Greek physician, described the dried ripe fruits of the chaste tree some 2000 years ago. The Latin name agnus castus means "chaste lamb," in reference to the belief that the fruit reduced sexual desire in men. Monk's pepper, a common name in Europe, referred to the spicy taste of the dried fruits that were crushed and used as seasoning in monasteries to help curb the libido of monks. Chastetree has long been used for a variety of menstrual disorders. There has been a growing body of research indicating that extracts of chastetree fruit are beneficial for relieving symptoms of PMS. Indeed, the German health authorities approve the use of chastetree preparations for premenstrual syndrome, mastodynia and irregular menstruation.

The dose is generally 500 mg/d of dried chastetree fruit. Extracts are often standardized to agnuside or casticin and come in 20-40 mg tablets. These extracts are generally 6-12:1 in strength, which

means a 20 mg tablet is equivalent to 120-240 mg of the crude fruit. These products are generally dosed at 40-60 mg taken each morning. Chasteberry might also have dopamine agonist activities and could theoretically increase the effects of other dopamine antagonists such as bromocriptine or metoclopramide. (Daniele, 2005) "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Dong quai					?

Dong Quai:

Dong quai (Angelica sinensis) is a fragrant perennial found throughout China, Japan and Korea. It has been used in Traditional Chinese Medicine for at least 20 centuries. Lei Gong's Treatise on Preparation of Materia Medica (588 AD) summarizes dong quai with the following, "The root is used medicinally as a strengthener of the heart, lung, and liver meridians; it is a tonic of the blood and promotes blood circulation; it regulates the menstrual cycle and stops menstrual pain; it lubricates the bowel." Merck introduced the herb to the Western world in 1899 under the trade name Eumenol, a product that was said to positively effect menstrual disorders. Dong quai is highly regarded as a tonic for women with fatigue and low vitality. While it is a popular ingredient in many PMS formulations there are no clinical trials evaluating its effectiveness for this condition.

The dose is generally 3-6 grams of root per day. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Eliminate Caffeine	+				

Caffeine:

Observational studies suggest consumption of caffeinated beverages in the luteal phase are positively correlated with premenstrual symptom severity (Cross, 2001). Consumption of caffeine-containing beverages was associated with increases in both the prevalence and severity of PMS in college students (Rossignol 1985), while increasing tea consumption was linked to an increasing prevalence of PMS in Chinese women (Rossignol 1989). Though the data are conflicting, many women report improvement in breast tenderness if they eliminate or reduce caffeine two weeks before menstruation. Women experiencing irritability and/or difficulty sleeping during the premenstrual period should be encouraged to reduce/limit their intake of caffeine. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Evening Primrose Oil				?	

Evening Primrose Oil:

Evening primrose oil (Oenothera biennis) is extracted from the seeds of the evening primrose plant, a wildflower native to North America and introduced to Europe in the early 1600s. The seed oil is a rich source of linoleic acid (LA) and gamma-linolenic acid (GLA). Evening primrose oil is highly recommended by many natural medicine practitioners for PMS and mastalgia. A systematic review evaluated seven placebo-controlled trials, all suffering from methodological flaws, with the two highest quality studies failing to show any beneficial effects for PMS (Budieri 1996).

The dose is 3 grams per day of GLA. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Exercise	+	+			

Exercise:

The few studies that have been conducted on exercise and PMS show that women who engage in regular physical exercise have fewer symptoms than women who do not exercise (Aganoff 1994) Thirty minutes/day of moderate intensity exercise improved mood and overall sense of wellbeing in women with PMS (Stoddard, 2007). Exercise may improve symptoms by decreasing estrogen levels, decreasing circulating catecholamines, improving glucose tolerance, and elevating endorphin levels (Gannon 1988). Given the many health benefits, clinicians should certainly consider regular exercise as part of the therapeutic approach for PMS. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Ginkgo				?	

Ginkgo:

While primarily associated with treatment of mild dementia, cerebrovascular insufficiency and intermittent claudication, preliminary data suggests that ginkgo (Ginkgo biloba) may have some value for women experiencing congestive symptoms during the premenstrual period.

A double blind, placebo-controlled trial randomized 165 women (ages 18-45 years) with PMS to receive 80 mg BID standardized extract of ginkgo (24% ginkgoflavones and 6% terpenes) or placebo from days 16 of the menstrual cycle through day 5 of the next cycle for two months. Evaluation of 143 patients at the end of the trial found a statistically significant difference in favor of ginkgo for alleviation of breast pain and tenderness, and fluid retention (Tamborini, 1993). There are no other trials on ginkgo and PMS available for review. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Magnesium		+	+	+	+

Magnesium:

Magnesium deficiency can produce symptoms such as fatigue, irritability, mental confusion, menstrual cramps, insomnia, muscle cramps, and heart disturbances. Some research suggests that women with PMS have low red blood cell levels of magnesium compared to controls (Rosenstein 1994). A double blind, placebo controlled, crossover study found that 200 mg/d magnesium oxide was superior to placebo for reducing swelling of extremities, breast tenderness and abdominal bloating during the second month of treatment (P=0.009) (Rosenstein 1994). Another small, short term RCT found 200mg/d magnesium superior to placebo for alleviating abdominal bloating (Walker, 1998), while 200mg/d magnesium plus vitamin B6 50mg/d was beneficial for treating the anxiety symptoms associated with PMS (De Souza, 2000). A recent Cochrane review found that magnesium was superior to placebo for relieving dysmenorrhea, likely due to inhibition of prostagladin F2alpha (Proctor 2002).

Magnesium citrate or magnesium bisglycinate at doses of 300-400 mg/d may be beneficial for women with significant bloating and cramping associated with their menstrual cycles. It may also be preferred for women with menstrual migraines. Dietary sources of magnesium include green leafy vegetables, tofu, legumes, nuts, seeds, and whole grains. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
NSAID*					+

Pharmaceuticals*:

There is a vast array of pharmaceutical medications that are used to alleviate PMS symptoms. These include SSRIs, SSNRIs, non-steroidal anti-inflammatories (NSAIDS), anxiolytics, spironalactone and birth control pills. Despite the popularity of other pharmaceuticals, SSRIs are the only conventional treatment whose efficacy for PMS has been well supported by clinical trials. And while SSRIs are helpful, their side effects can be significant, resulting in a high rate of discontinuation (Rapkin, 2005). The evidence for oral contraceptives is not compelling and may exacerbate PMS symptoms in some women. While the intermittent use of NSAIDS is generally safe, they can lead to gastric ulceration and renal dysfunction. Given the paucity of data as to the benefits of conventional treatments for PMS coupled with a high discontinuation rate due to side effects, first-line treatment with drugs should be reserved for women with more severe symptoms (Jarvis, 2008).

*SSRI & SNRI: For Moderate to Severe Depression. NSAID: judicious PRN use; risk of gastric ulcer.

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	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Progesterone	✗	✗			

Progesterone:

Natural progesterone has been studied since the 1950s as a treatment for PMS. Most studies have unfortunately suffered from significant methodological flaws. A meta-analysis by the Cochrane collaboration identified 2 of 17 studies that merited inclusion in their review (Ford 2006). Both studies administered progesterone or placebo from day 14 of the menstrual cycle until the onset of menstruation. One study using 300mg oral and 200mg suppository concluded that progesterone worked no better than placebo while the other using 400mg BID of progesterone suppositories suggested that it may be beneficial for a small subgroup of PMS sufferers (not further identified). The longest duration of the two studies was only four cycles and both suffered from high attrition rates, as these doses of progesterone are not without their own side effects including headache, irregular menses, mood changes and hypersomnia. At this time, there is insufficient evidence for the recommendation of progesterone for the relief of PMS. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
St. John’s wort*	+				

St. John's Wort:

St. John's wort (Hypericum perforatum) has been extensively studied as a possible treatment for depression with the majority of studies showing that extracts used in clinical trials are superior to placebo and equivalent to pharmaceutical anti-depressants for the treatment of depression (Linde 2008). St John's wort also has some promising pilot data to support its use in treating PMS (Stevinson, 2000).

The dose is 900-1500 mg per day in 2-3 divided doses of an extract standardized to 0.3% hypericin and/or 3-5% hyperforin.

*NOTE: Potential Herb-drug interactions. "

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
SNRI*	+				

Pharmaceuticals*:

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"

	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
SSRI*	+				

Pharmaceuticals*:

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	Depression	Anxiety/Irritability	Bloating	Mastalgia	Cramping
Vitamin B6	+			+	

Vitamin B6:

Vitamin B6, pyridoxine, is a co-factor in more than 100 enzyme reactions--many related to the metabolism of amino acids and proteins. Pyridoxine may ease the symptoms of PMS via its ability to increase the synthesis of serotonin, dopamine and norepinephrine (Ebadi 1980). Serotonin is important for the regulation of sleep and appetite, while low levels of serotonin are associated with depressed mood. Clinical trials demonstrate that pyridoxine helps improve the negative mood symptoms associated with PMS (Kashanian, 2007).

A systematic review concluded that 50-100 mg/d pyridoxine is likely to benefit women both in terms of breast pain and depressive symptoms. (Wyatt, 1999) Because vitamin B6 in excessive doses can cause nerve toxicity resulting in ataxia or neuropathy, the daily dose should not exceed 100 mg per day. "