health newsletter A&G
Associates in Obstetrics and Gynecology
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Our physicians and staff are devoted to providing the best medical care available. Our physicians are very experienced in caring for High Risk Pregnancy, Infertility and minimally invasive (laparoscopic) surgical techniques. We are looking forward to getting to know and caring for you. If you have any questions or comments about our services, please let us know.

feature of the month

Exercise and Reproductive Function

There are a number of abnormalities of female reproductive function that can be primarily treated with careful diet and exercise. One of the most common of these is polycystic ovary syndrome, or chronic anovulation, which will be covered in a future newsletter.

Exercise can be beneficial in several other gynecologic problems. Many women who complain of premenstrual irritability or severe menstrual cramps will find that regular exercise (3 to 5 days a week) will ease their symptoms. This may be due to endorphin release in the brain, or perhaps a modification of ovarian hormone production. While lighter or even absent menses might be seen as a blessing by women suffering from painful cramps, this same phenomenon when taken to an extreme can cause difficulties when conception is the goal.

Elite women athletes will sometimes experience less frequent, lighter, or completely absent menses, which indicates abnormal or absent ovarian functioning. As many as 60% of runners who are having periods may still have short luteal phases or be anovulatory. The precise mechanism behind this is not entirely understood, but there seem to be differences in the production of endorphins, melatonin, and stress hormones in the brains of athletes, causing a change in functioning of the hypothalamus, which controls the pituitary and ovaries. This phenomenon has been correlated to stress levels, exercise levels, body weight and percent body fat. These measures don't precisely predict ovarian functioning in individuals, but can be used as guidelines for counseling.

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our doctors

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While it is recognized that the stress of an exercise regimen can lead to amenorrhea (no period) even without weight loss, this is a difficult variable to measure, and so less useful in practice. Brief bursts of intense exercise seem less likely than chronic endurance training to be associated with lack of menses. Weight (adjusted for height) can be a useful measurement to focus on when trying to adjust physical activity to allow for normal ovarian functioning. However, when fat is replaced by muscle, the percent body fat may decrease while overall weight does not, and ovulation may cease without any loss of weight. As a rough guide, 17% body fat is needed for onset of menses as an adolescent, and 22% is needed for maintenance of menses (see table). Competitive female athletes will often have about 50% less body fat than the average woman, leaving them well below the 22% guideline (the 10th percentile for body fat). Seasonal variations in light levels may also have some influence, with the best times for normal menses occurring in late spring and summer.

Ht. (in)	60	62	64	66	68	70	72
Wt. (lbs)	91.0	96.4	101.7	107.1	112.5	117.8	123.2

Tenth percentile body weights (corresponding to 22% body fat)

In situations where pregnancy is not a concern, but lack of menses (amenorrhea) has occurred, bone density is an important issue. Low levels of estrogen caused by decreased ovarian function can lead to loss of bone density, just as in menopausal women. Although exercise is important for building bone mass, it cannot overcome the effect of very low estrogen levels, leaving physically active amenorrheic athletes at risk for stress fractures. Unless desired, it is not necessary to decrease the level of training in this instance, but estrogen replacement is appropriate to combat bone loss. Oral contraceptives are often used in this circumstance. Menses need not be a necessary part of the estrogen replacement if taken in a continuous fashion (active hormone taken every day). Adequate calcium supplementation, usually 1000 mg daily, is also important.

If conception is desired a different approach is necessary. Other possible causes of amenorrhea must be ruled out by testing thyroid functioning, serum prolactin levels, and excluding premature menopause. When over training or low body fat percentage seems to be the problem, a decision must be made to decrease the training schedule and allow weight to increase toward a more average value. Resumption of menses may sometimes lag correction of weight by three to six months. It is reasonable and even desirable to maintain a moderate exercise pattern in order to transition into a healthy exercise routine in pregnancy. Exercise in pregnancy is an important issue that will be covered in future articles.

The benefits of exercise are usually much more important than the potential risk to reproduction in all but the most intense training programs. Body weight or percent body fat in a very low percentile range may suggest the potential for trouble. If you are having difficulty conceiving see your physician for a complete evaluation, and if other areas are normal, consider a three to six month slow down in your activities.

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