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## Exercise in the Postpartum Period

A century ago, physicians thought that pregnancy was too delicate and precarious for women to exert themselves. Current studies not only support the safety of exercise during pregnancy, but they also demonstrate that exercise is beneficial to pregnancy (1). Women who exercise while pregnant have fewer complaints during pregnancy, improved cardiovascular fitness, and improved sense of self. Important, too, is the finding that more than 90% of women who exercise during pregnancy continue to exercise after delivery.

Whether a woman began exercise while pregnant or is interested in beginning a regular program after birth, there are very clear benefits to physical activity in the postpartum period. A new baby is a very positive life change, but parenting a newborn is still a stressor. In addition to the physical strain of delivering a baby and recovery, most new mothers suffer from sleep deprivation in the first few months. Stress and sleep deprivation can lead to a depressed mood and can negatively impact the bonding

**Table 1. Prevalence of Diastasis Recti Abdomini in Pregnancy and the Postpartum Period**

|                                                        |              |
|--------------------------------------------------------|--------------|
| Third trimester of pregnancy (weeks 27 until delivery) | 66% of women |
| Immediate postpartum period                            | 53% of women |
| Two months postpartum                                  | 36% of women |
| Women who exercise before pregnancy                    | Absent       |

process. Exercise in the postpartum period is shown to produce a more relaxed mother-child relationship, combat depression, and improve perception of the new relationship (2).

Exercise after pregnancy provides other gains as well. Women who exercise have better bladder control and less urinary incontinence. They are less likely to retain weight gained during pregnancy. Exercise also prevents diastasis recti abdominis (Table 1) or the separation and weakness of abdominal muscles. Exercise before or during pregnancy may completely prevent this problem. No specific type of activity is more effective than another; any form of physical activity can prevent the abdominal muscle separation. Exercise also helps new mothers sleep better and have less anxiety.

The best time to begin an exercise regimen after delivery depends on the type of delivery. Most physicians recommend waiting six weeks or until the postpartum examination to begin a regular exercise program after a surgical delivery or a complicated vaginal delivery. This allows time for the surgical repair to heal, the pelvic floor muscles

to strengthen, and blood indices to return to normal. Women with no complications during pregnancy or delivery can resume exercise immediately. Potteiger et al. (3) reported an elite runner who resumed training for an Olympic Marathon trial four weeks postpartum. She resumed running within a few days of delivery and was running 90 km/wk (~56 miles/wk) by 18 weeks. Her case demonstrates that women can resume a high level of competition soon after pregnancy. With a few exceptions, women can restart exercise immediately after delivery at any level of intensity. Women who should seek medical consultation before beginning a postpartum exercise regimen are listed in Table 2. Most diabetic women can and should increase their physical activity level as soon as possible. A recent study demonstrated only 34% of women who had gestational diabetes participated in adequate physical activity postpartum (4), and another 27% classified themselves as sedentary.

Women with newborn babies list many barriers to physical activity. The

**Table 2. Indications for Medical Clearance for Exercise After Delivery**

|                                                                           |
|---------------------------------------------------------------------------|
| Preeclampsia or toxemia of pregnancy                                      |
| Extensive vaginal and/or rectal repair after delivery                     |
| Severe pregnancy induced or essential hypertension                        |
| Pregnancy related liver disease                                           |
| Pregnancy induced renal failure                                           |
| Uncontrolled seizure disorder                                             |
| Hemodynamically significant heart disease                                 |
| Preexisting medical conditions that restrict exercise capacity or ability |



most common and most likely to impair ability to participate in a regular exercise program are lack of assistance with childcare and insufficient time (4, 5). Women who are most successful at incorporating a regular routine of physical activity into their life after delivery relay greater satisfaction with their partners, with their role as a new mother, and with themselves. Women who regularly partake in vigorous exercise after delivery also partake in more leisure activities for fun. They have higher self-esteem and feel more supported by family and friends. If women have support for exercise from family and friends, both in the form of verbal encouragement and companionship during exercise, they will more likely initiate and maintain a regular exercise program. Women who recognize obstacles and plan accordingly will have the most success. As health professionals, it is important to design programs for new mothers that will help them succeed.

Keys to success in exercise after delivery are verbal spousal and family support and assistance with childcare and other household activities. By helping the newborn mother with household chores, the family also is providing the much necessary emotional support and encouragement that mothers need. One way gyms and community groups can facilitate physical activity for mothers of newborns is to schedule classes or group activities for the women together. If childcare is not an option at the health facility, the women participating in the classes can share in the responsibility and organization of childcare. Another option is to organize group activities that incorporate the newborns, such as walking or stretching/yoga classes. Community organization of a safe easy activity where the women can bring their newborns is feasible and attainable.

Some women are afraid to participate in physical activity, especially vigorous exercise, thinking it will negatively

impact breast milk production and breast-feeding. Although there is little literature documenting the benefits of exercise in the postpartum period, there is clear evidence that exercise does not adversely affect an infant's acceptance of breast milk or the new mother's milk production (6). Exercise does not reduce the nutritional quality of breast milk (5, 6). Earlier research indicated that the elevated lactic acid level in breast milk after vigorous exercise caused poor infant feeding, but a recent article refutes that finding (7). Wright et al. showed that there was no difference in skin surface or milk temperature after vigorous exercise. The mothers involved in the study and lactation consultants agreed that infants accepted preexercise and postexercise milk equally. The study did find a small but insignificant increase in lactic acid after maximal exercise, but it did not impact the babies' acceptance of the milk.

Most women want to exercise after childbirth to lose the weight they gained during pregnancy. Exercise along with calorie restriction is the most efficient way to return to prepregnancy weight (8). The negative energy balance of breast-feeding plus increased physical activity will lead to a slow weight loss, but the women who want to resume their nonpregnant shape usually want faster results. So, restricted caloric intake, exercise, and breast-feeding can accomplish this feat sooner than exercise alone (9). Exercise combined with calorie restriction does not adversely affect breast milk as long as the weight loss is around 1 kg/wk. If a woman has adequate energy reserves, the nutritional balance and quantity of breast milk are unchanged by exercise. Women who are thin after delivery can exercise if they maintain a positive energy balance. If their energy intake equals their output plus 500 Kcal, they will produce the needed volume and quality of breast milk. Thin women who want to exercise, especially vigorous exercise, should

consider stopping breast-feeding if they are not willing to take in adequate extra calories. For competitive athletes, this may be a difficult decision.



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