

## **Moms Who Exercise Give Birth to Lighter Babies**

By *ALICE PARK Alice Park* – Wed Apr 7, 2:30 am ET

For most pregnant women, exercise is the last thing on their minds. After all, keeping slim while you're expecting isn't exactly the top priority - rather, it's making sure your baby gets enough nutrients to grow. But in a small new study, researchers at the University of Auckland in New Zealand report that a mother's regular aerobic exercise may be good for a growing fetus' health - and may even help a baby get a healthier start in life.

The finding is a bit surprising, because exercise is known to lower the risk of insulin resistance - the precursor condition to diabetes. Although insulin resistance is a detriment in healthy adults, it turns out to be helpful for proper fetal development. Insulin-resistant individuals gradually lose their ability to respond to changing glucose levels in the blood; in pregnant women, the condition, which occurs when hormones produced by the placenta interfere with the proper function of insulin in the body, means nutrients get shunted to the growing baby. (If the condition gets severe, however, it can result in a temporary condition called gestational diabetes in the mother, which is associated with heavier babies and a higher risk of obesity in childhood.)

The question is, Could a mother's exercise put her developing baby's food supply at risk? Past studies looking at the effect of exercise on birth weight have been inconclusive, and none have really investigated the influence of exercise on the mother's sensitivity to insulin. So the University of Auckland's Dr. Paul Hofman and his team decided to study 84 first-time mothers, who were of normal weight on average, and track any effects aerobic exercise might have on their insulin sensitivity and, ultimately, on their babies' birth weight.

Researchers asked some women to exercise on a stationary bicycle for at least 40 minutes per session, up to five times each week, starting in the 20th week of pregnancy; the other women were not specifically asked to exercise. When the two groups and their babies were compared, the team found that women who bicycled regularly gave birth to babies who were on average 150 g (about 5 oz.) lighter than those born to the nonexercising mothers. In both groups, however, the babies were of healthy weight, and there was no difference in the mothers' weights.

Generally speaking, babies on the lower end of the normal weight range are considered healthier and less prone to developing diabetes and obesity than heavier ones, so this was an encouraging result.

Even more reassuring was that regular exercise did not seem to affect the flow of nutrients to the growing babies in the womb. Over the course of the 15-week regimen, there was no additional exercise-related impact on mothers' insulin-sensitivity measures. Both exercising and nonexercising moms showed the same, expected increase in insulin resistance that accompanies pregnancy. "This suggests that the hormonal regulation of

insulin resistance is incredibly strong and occurs irrespective of other environmental factors such as exercise," says Hofman. "I speculate that it's an important survival mechanism to make sure that moms maintain insulin resistance so the baby receives enough food."

Hofman's theory is supported by previous studies that have documented normal-weight babies born to mothers experiencing famine, says Dr. Raul Artal, chairman of obstetrics and gynecology at St. Louis University. "The fetus is actually quite protected, and there may be a preferential diversion of nutrients to the fetus regardless of how much the mother gains during pregnancy," he says.

He was encouraged by the new study's findings, which support the importance of exercise for expectant moms, in particular those who are overweight or obese. Indeed, pregnant women should not be afraid of exercising and should be careful not to gain too much weight, especially if they are already overweight or obese, says Artal. "We've published a study on the benefits of lifestyle interventions such as exercise for obese women and found that they deliver normal-size babies, with fewer complications, and often don't require a C-section," he says.

Artal and several of his colleagues are concerned about current guidelines that they believe allow too much weight gain during pregnancy. The latest recommendations from the Institute of Medicine (IOM), released last September, allow normal-weight women to gain up to 25 lb. (7.3 kg) while they are expecting, which Artal feels is too much. The women in the New Zealand study gained an average of 16 lb. and gave birth to babies within a healthy weight range. "I am excited by these findings, because here you have normal-size women who engaged in daily exercise and did not gain weight as per the IOM recommendations, and their babies were of normal weight," he says. "That strengthens the argument that the current recommendations for weight gain during pregnancy are too lax."

It's an even more important message for overweight and obese mothers-to-be, who tend to deliver heavier babies (anything over about 8 lb. 12 oz., or 4 kg, is considered a high birth weight), who are then at higher risk of diabetes and obesity later in life. Those heavier children are then more likely to become overweight adults and in turn give birth to bigger babies. The goal, says Hofman, is to break the cycle of ever bigger generations of babies. According to his latest findings, exercise during pregnancy may be a safe and reliable first step; the American Congress of Obstetricians and Gynecologists recommends 30 minutes a day for pregnant women, for as long as they are physically able.