

## New study shows pregnant women need to move more

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Christina Campbell, who leads the Blossom Project at Iowa State, studies how exercise impacts the health of the mother and baby during and after pregnancy. Credit: Bob Elbert

(Medical Xpress)—It may not be enough for women to spend just 30 minutes a day on a treadmill or elliptical if they want to manage their weight during pregnancy. Regular exercise can help lessen back pain, increase energy levels and reduce insomnia for pregnant women. But a new study conducted through the Blossom Project at Iowa State

University found staying active throughout the day is more beneficial to limit excess weight gain. However, that goal may be difficult for many pregnant women to achieve.

"We were able to show that pregnant women spend 75 percent of the time they are awake in sedentary behaviors," said Christina Campbell, an associate professor of food science and [human nutrition](#) at Iowa State.

"Many of these women met physical activity guidelines. But just because you meet the guidelines, doesn't necessarily mean you're a non-sedentary person."

Getting women to be more active during pregnancy is not only important for limiting weight gain, but it also impacts the [future health](#) of the baby. If a woman gains too much, Campbell said it predisposes the baby to [childhood obesity](#). It also increases the risk for [maternal complications](#) such as hypertension, pre-eclampsia and postpartum obesity. That is why it is important to help women manage their weight through diet and exercise.

The problem is most intervention programs are centered on [physical activity guidelines](#) of 30 minutes of exercise a day, Campbell said. But after reviewing previous studies, she discovered less than half were successful in preventing [excessive weight gain](#) during pregnancy. Campbell doesn't suggest skipping the gym, but if women can't make it out to exercise, she wants them to increase their overall daily activity.

"Maybe it means that you make a conscious effort, if you have a desk job, to get up every hour and make a loop around your building for five minutes. Or maybe you walk to work or make an effort to park farther away or take the stairs. Really just those simple little things that we've been saying all along, but instead we find so many ways to cut corners on being active," Campbell said.

## Taking time for mom

Andrea Bitterman was a full-time student at Iowa State and working part-time as a massage therapist while pregnant with her second child. Bitterman's husband was attending military training during much of her second pregnancy, so trying to balance her daily routine kept the 28-year-old on her feet.



This monitor allowed researchers to track how many calories participants in the study burned during the day.

"I stayed active running after my 3-year old and walking to and from class," Bitterman said. "But I feel like I was more attentive to what I was

eating and my [physical activity](#) during my first pregnancy."

Bitterman gained around 30 pounds during both her pregnancies, which is within the range of normal weight gain. She understood that her health would impact the health of her baby, but found it difficult to make time for exercise and make her own well-being a priority. A lesson she learned by participating in the Blossom Project.

"I think moms in general forget to take care of themselves, between taking care of their family and going to work or school. I'm learning now that you need to take care of yourself, especially as a mom, because you have little people relying on you," Bitterman said.

## **Not all exercise is equal, but more matters**

By monitoring the activity levels of women, like Bitterman, researchers assessed the value of light, moderate and vigorous activity. To get a complete picture, Campbell collaborated with Greg Welk, a professor of kinesiology, to monitor activity levels for consecutive 24-hour periods. To do that, each participant wore two monitors – one on their arm and the other on their leg – for a week during their second and third trimesters.

The arm monitor measured the amount of calories the expectant mothers burned while the leg monitor gauged if they were sitting, standing or walking, Campbell explained. The measurements made it possible for Campbell, and graduate students Katie Smith and Diana Di Fabio, to calculate the metabolic equivalent of task, or MET minutes, and compare different types of activity patterns.

For example, if a woman went for a brisk, 30-minute walk – a 3 MET activity – she would burn approximately three times the energy as when she was at rest. Less strenuous activities may have a lower MET value,

but it is the accumulative value that matters.

"The woman who never went to the gym, but was active all day long – she may be a waitress or have young kids at home and is always on the go – has more total daily MET-minutes, regardless of how she got there," Campbell said.

## **Diet and sleep also a factor**

Getting [pregnant women](#) to increase their activity levels may start with making sure they get enough sleep at night. Researchers found less than 40 percent of women got the recommended 7-9 hours of sleep each night during their second and third trimesters. Campbell said this is one possible explanation for the increase in sedentary behavior during the day.

Physical activity is one of two strong predictive factors for weight gain in late pregnancy. Not surprisingly, the other is diet. In addition to monitoring activity, Campbell is analyzing the quality of diet to determine if all calories are equal or if some foods are more likely to contribute to [weight gain](#).

Provided by Iowa State University

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