

[UNH](#)
[Department](#)
[of Animal](#)
[and](#)
[Nutritional](#)
[Sciences](#)

[Pediatrics](#)

New Study Shows Exercise Fine for Breastfeeding Moms

By [Sharon Keeler](#)
UNH News Bureau

April 1, 2002

Editors/News Directors:

Gale Carey, UNH associate professor of animal and nutritional sciences, can be reached at 603-862-4628 or by email at gale.carey@unh.edu.

DURHAM, N.H. -- University of New Hampshire scientists have good news for new moms. Exercising while breastfeeding is good for both mother and child.

UNH researchers Gale Carey, Timothy Quinn, and graduate student K.S. Wright report in the April issue of *Pediatrics* that babies like the milk of their mothers who exercise just as much as they like the milk of moms who don't. Their findings refute a highly publicized 1992 study by J.P. Wallace et al that reported that breast milk lactic acid levels increase after women exercise, resulting in poor infant acceptance of the milk.

"Professor Quinn and I felt there were some shortcomings with the study, and that the methods could be approved upon," says Carey, an associate professor of animal and nutritional sciences.

For example, she states that in the Wallace study, women were exercised to the point of exhaustion, and babies were fed with eyedroppers. The pH of the milk was not tested for a drop in pH, which would indicate increased acidity and could influence taste.

Carey says the purpose of their research was to re-examine the composition and infant acceptance of post-exercise breast milk while building in controls for maternal diet, exercise intensity, and the method, timing, and assessment of infant feeding.

For their study, 24 women, two to four months postpartum, completed three test sessions: a maximal

oxygen uptake test, a 30-minute bout of moderate exercise, and a resting control session. Quinn, associate professor of kinesiology, coordinated the testing at UNH's exercise physiology laboratory.

The maximal oxygen uptake test exercised the women to exhaustion, while the moderate exercise was 20 percent below lactic acid threshold -- a level comparable to that recommended in most fitness programs. One hour before and one hour after each session, subjects fully expressed their milk, placed it in a bottle familiar to the infant, fed their infant, and rated their acceptance of the milk.

Each feed was videotaped and viewed individually by three lactation consultants who rated infant acceptance; consultations were blinded to the test sessions. Milk was analyzed for lactic acid, pH and infant milk consumption.

Results showed there were no differences in pre- vs. post-session infant milk acceptance as judged by either the mothers or lactation consultants. These results prevailed despite a small but significant increase in breast milk lactic acid pre- vs. post-maximal exercise; there was no difference in the milk of mothers who moderately exercised.

"These data support the hypothesis that moderate or even high-intensity exercise during lactation does not impede infant acceptance of breast milk," says Carey. "Physical activity is an important factor in women's health, helping new mothers lose weight, increase energy, and maintain psychological well-being. Health providers should encourage lactating women to exercise comfortably when they feel ready."

Carey and Quinn will next conduct clinical research to assess infant acceptance of post-exercise milk fed directly from the breast. They want to determine if there are other unidentified factors associated with exercise, such as body sweat or pheromone secretion, that could influence infant acceptance of the milk.

[Back to UNH News Bureau](#)