

# Obesity + Diabetes + Weight Gain = LGA Infants

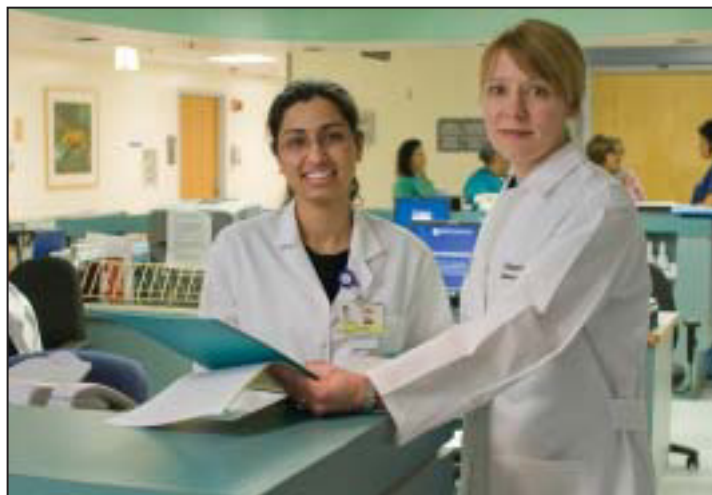
BY BETSY BATES

CHICAGO — Virtually any weight gain during pregnancy by obese women with gestational diabetes resulted in high rates of large-for-gestational-age infants, according to a study released at the annual meeting of the American College of Obstetricians and Gynecologists.

Obese women in the study who either lost weight or maintained their prepregnancy weight during pregnancy while on a medically supervised low-carbohydrate diet gave birth to babies with “close to normal” birth weights. They also had the lowest cesarean delivery rates (10.5%) in the study.

In contrast, more than one in five obese women who gained a modest amount of weight during pregnancy—1-14 pounds—had large-for-gestational-age (LGA) infants.

The LGA rate increased with more weight gain, accounting for 36% of infants born to women who gained 26-35



**Dr. Deborah L. Conway (right) and Dr. Poornima Kaul found that more than one in five obese women who gained a modest amount of weight during pregnancy—1-14 pounds—had LGA infants. The LGA rate increased with more weight gain.**

pounds, and nearly 40% of those born to women who gained more than 35 pounds, said Dr. Deborah L. Conway of the University of Texas Health Science Center at San Antonio.

Dr. Conway explained that her institution carefully monitors women with gestational diabetes and places them on a

calorie-controlled, low-carbohydrate diet that includes nutritional counseling. They also receive glyburide or insulin as necessary to achieve euglycemia.

“Although it wasn’t the intention, we noticed that some of these women didn’t gain weight as you might expect during pregnancy. We weren’t sure

that was such a bad thing,” said Dr. Conway during an interview at the meeting, where her study was presented in poster form.

The Institute of Medicine is still recommending an 11- to 20-lb weight gain for obese women during pregnancy in its recently released new guidelines. “What we saw in our study was that under nutritional supervision, it did not appear necessary for obese women with gestational diabetes to gain weight to have normal obstetrical rates of outcome and normal fetal size,” she said in a later interview.

To better understand gestational weight changes in this group, Dr. Poornima Kaul, a fourth-year resident, analyzed birth weights and pregnancy complications among 302 women with gestational diabetes who had a mean prepregnancy body mass index of 35.6 kg/m<sup>2</sup> and were eligible for vaginal delivery.

The LGA rate among those who lost weight or maintained

their prepregnancy weight was 11.8%.

The macrosomia rate (weight greater than 4,000 g) among their infants was 8.8%, and the rate of small-for-gestational-age infants was 8.8%.

These rates are “pretty close to normal,” Dr. Conway said.

Infants born to women who gained a small amount of weight (1-14 pounds) had a 27.3% LGA rate and a 13.6% rate of macrosomia. These women had a 15.1% cesarean delivery rate.

Women who gained 15-25 pounds had rates of LGA, macrosomia, and cesarean delivery of 27.6%, 13.2%, and 23.4%, respectively.

Those who gained 26-35 pounds had rates of LGA, macrosomia, and cesarean delivery of 36.4%, 21.8%, and 26.7%, while rates in women who gained more than 35 pounds were 39.6%, 25%, and 17.2%.

Dr. Kaul and Dr. Conway reported no disclosures. ■

## IOM Updates Guidelines for Weight Gain in Pregnancy

BY MARY ELLEN SCHNEIDER

Obese women should gain no more than 20 pounds during pregnancy, according to new guidelines released by the Institute of Medicine and the National Research Council.

The IOM hasn’t updated its guidelines on weight gain during pregnancy since 1990. The revised recommendations are designed to reflect the increasing number of overweight and obese Americans, women having children at an older age, and multiple births, and the increase in weight gain during pregnancy, as well as other changing demographic factors.

The new guidelines set an upper and lower threshold for weight gain among obese women, advising women with a body mass index of greater than 30 kg/m<sup>2</sup> to gain between 11 and 20 pounds during pregnancy. The recommendations for women in other weight categories match those issued in 1990. (See chart.)

The new guidelines also include charts on the recommended rate of weight gain at various stages throughout pregnancy.

For example, normal-weight women are advised to gain a mean of 1 pound per week during the second and third trimesters.

“The committee intends that the new guidelines will be used in concert with good clinical judgment and include a discussion between the woman and her health care provider about diet and exercise,” Kathleen M. Rasmussen, Sc.D., professor in the division of nutritional sciences at Cornell University, Ithaca, N.Y., and chair of the committee, said during a press briefing to release the report.

Currently, the average weight gain in pregnancy is about 30.5 pounds, but it varies considerably based on the woman’s prepregnancy BMI category, Dr. Rasmussen said. For underweight and normal-weight women, the average weight gain is about 32 pounds, compared with 30 pounds among overweight women and 25 pounds among obese women. Between 40% and 73% of women are outside of the new recommended ranges, with some gaining more and some less than recommended.

A woman’s weight at the time of conception, and weight gain that is outside the recommended ranges during pregnancy, can have health consequences, especially for obese and overweight women. If a woman is overweight or obese before she gets pregnant, she has a higher risk for complications such as preeclampsia and gestational diabetes. Add to that excessive weight gain during pregnancy and there is an increased risk of needing a cesarean delivery and an increased risk of retaining the weight in the postpartum period. Obese women also are at risk for having babies who are either small for gestational age or large for gestational age, committee members said.

Although the committee’s recommendations are not dramatically different from those issued in 1990, fully implementing them would represent a shift in prenatal care in the United States, Dr. Rasmussen said. This shift begins with ob.gyns. and other providers of prenatal care offering overweight and obese women counseling on diet and exercise before they conceive. And all pregnant women should be offered counseling on diet and physical activity to help them stay within the recommended weight limits during pregnancy, she said.

Counseling on diet and exercise should also continue into the postpartum period, the committee recommended, so that women can return to a healthy weight before a future pregnancy.

But not all of this counseling needs to be on the shoulders of the ob.gyn. community, said committee member David A. Savitz, Ph.D., professor of community and

preventive medicine at Mount Sinai School of Medicine in New York. “It’s clear that we don’t look at this issue as something that will be solely and fully managed within the confines of the obstetrician’s office. This is a community issue.”

Tailoring diet and exercise advice to the individual woman also is critical, said Anna Maria Siega-Riz, Ph.D., of the department of maternal and child health at the University of North Carolina at Chapel Hill and a member of the committee. Many women are simply handed the guidelines, but aren’t given a chance to talk through how the weight gain recommendations could fit into their individual lifestyles.

The report does offer “provisional” guidelines for women carrying twins to term. The committee advised that normal-weight women gain between 37 and 54 pounds; overweight women, between 31 and 50 pounds; and obese women, between 25 and 42 pounds. There was not enough information to develop recommendations on underweight women who are carrying twins.

This study was supported by funds from the Department of Health and Human Services Health Resources and Services Administration, the Centers for Disease Control and Prevention, the National Institutes of Health, the Office on Women’s Health, the Office of Disease Prevention and Health Promotion, the Office of Minority Health, and the March of Dimes. ■

### IOM Guidelines for Weight Gain in Pregnancy

Prepregnancy BMI (kg/m <sup>2</sup> )	Recommended Weight Gain (lbs)
Underweight (<18.5)	28-40
Normal weight (18.5-24.9)	25-35
Overweight (25-29.9)	15-25
Obese (>30)	11-20

Sources: Institute of Medicine and National Research Council

The full report is available online at [www.iom.edu/pregnancyweightgain](http://www.iom.edu/pregnancyweightgain).