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WOMEN'S HEALTH CARE PHYSICIANS

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Committee on Obstetric Practice

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Weight Gain During Pregnancy

ABSTRACT: The updated guidelines by the Institute of Medicine regarding gestational weight gain provide clinicians with a basis for practice. Health care providers who care for pregnant women should determine a woman's body mass index at the initial prenatal visit and counsel her regarding the benefits of appropriate weight gain, nutrition and exercise, and, especially, the need to limit excessive weight gain to achieve best pregnancy outcomes. Individualized care and clinical judgment are necessary in the management of the overweight or obese woman who is gaining (or wishes to gain) less weight than recommended but has an appropriately growing fetus.

The amount of weight gained during pregnancy can affect the immediate and future health of a woman and her infant. The population demographics of women who become pregnant have changed dramatically over the past decade; more women are overweight or obese at conception. Evidence supports associations between excessive gestational weight gain and increased birth weight and postpartum weight retention but also between inadequate weight gain and decreased birth weight (1). Gestational weight gain recommendations aim to optimize outcomes for the woman and the infant. In 2009, the Institute of Medicine (IOM) published revised gestational weight gain guidelines that are based on prepregnancy body mass index (BMI) ranges for underweight, normal weight, overweight, and obese women recommended by the World Health Organization and are independent of age, parity, smoking history, race, and ethnic background (Table 1) (2). Other changes include the removal of the previous recommendations for special populations and the addition of weight gain guidelines for women with twin gestations. For twin pregnancy, the IOM recommends a gestational weight gain of 16.8–24.5 kg (37–54 lb) for women of normal weight, 14.1–22.7 kg (31–50 lb) for overweight women, and 11.3–19.1 kg

Table 1. Institute of Medicine Weight Gain Recommendations for Pregnancy ⇦

Prepregnancy Weight Category	Body Mass Index*	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain† in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28–40	1 (1–1.3)
Normal Weight	18.5–24.9	25–35	1 (0.8–1)
Overweight	25–29.9	15–25	0.6 (0.5–0.7)
Obese (includes all classes)	30 and greater	11–20	0.5 (0.4–0.6)

*Body mass index is calculated as weight in kilograms divided by height in meters squared or as weight in pounds multiplied by 703 divided by height in inches.

†Calculations assume a 1.1–4.4 lb weight gain in the first trimester.

Modified from Institute of Medicine (US). Weight gain during pregnancy: reexamining the guidelines. Washington, DC. National Academies Press; 2009. ©2009 National Academy of Sciences.

(25–42 lb) for obese women. The IOM guidelines recognize that data are insufficient to determine the amount of weight women with multifetal (triplet and higher order) gestations should gain.

The updated IOM recommendations have met with controversial reactions from some physicians who believe that the weight gain targets are too high, especially for overweight and obese women. Also, these perceived high weight gain targets do not address concerns regarding postpartum weight retention. In addition, concerns have been raised that the guidelines do not differentiate degrees of obesity, especially for morbidly obese women.

Overweight Women

The IOM guidelines recommend a total weight gain of 6.8–11.3 kg (15–25 lb) for overweight women (BMI of 25–29.9; BMI is calculated as weight in kilograms divided by height in meters squared). Gestational weight gain below the IOM recommendations among overweight pregnant women does not appear to have a negative effect on fetal growth or neonatal outcomes. In several studies, overweight women who gained 2.7–6.4 kg (6–14 lb) had similar fetal growth, perinatal and neonatal outcomes, and less postpartum weight retention as overweight women who gained weight within the currently recommended IOM range (3–8). For the overweight pregnant woman who is gaining less than the recommended amount but has an appropriately growing fetus, no evidence exists that encouraging increased weight gain to conform with the current IOM guidelines will improve maternal or fetal outcomes.

Obese Women

The IOM recommendations define obesity as a BMI of 30 or greater and do not differentiate between Class I obesity (BMI of 30–34.9), Class II obesity (BMI of 35–39.9), and Class III obesity (BMI of 40 or greater) (2). Given the limited data by class, the IOM recommendation for weight gain is 5–9.1 kg (11–20 lb) for all obese women. The gestational weight gain guidelines attempt to balance the risks of having large-for-gestational-age infants, small-for-gestational-age infants, and preterm births and postpartum weight retention. Citing a lack of sufficient data regarding short-term and long-term maternal and newborn outcomes, authors of the IOM report did not recommend lower targets for women with more severe degrees of obesity (9). The results of observational studies continue to provide mixed results.

The results of several large population-based cohort studies published after the release of the IOM guidelines suggested no harm in setting more restrictive weight gain limitations (8, 10). One systematic review found that overweight and obese women who gain less weight than the ranges recommended by the IOM do not have an increased risk of having a low birth weight infant (1). Conversely, other researchers have reported that even the IOM guidelines may be too restrictive for severely obese women and may be associated with increased rates of preterm births, small-for-gestational-age infants, and perinatal mortality when compared with women with a similar BMI who gain an average amount of weight during pregnancy (11). From the results of these and more recent studies, it appears that the relationships between maternal obesity class, gestational weight gain, and maternal and newborn outcomes are complex.

Among severely obese women with weight loss or restricted weight gain during pregnancy, the possible risk of having small-for-gestational-age infants contrasts with possible benefits, such as a decrease in rates of cesarean delivery, a risk of having large-for-gestational-age infants, and postpartum weight retention (10, 12, 13). For an obese pregnant woman who is gaining less weight than recommended but has an appropriately growing fetus, no evidence exists that encouraging increased weight gain to conform with the updated IOM guidelines will improve maternal or fetal outcomes. For more information, see the American College of Obstetricians and Gynecologists' Committee Opinion No. 549, "Obesity in Pregnancy" (14).

Conclusions and Recommendations

The IOM gestational weight gain guidelines provide clinicians with a basis for practice. Health care providers who care for pregnant women should determine a woman's BMI at the initial prenatal visit (an online BMI calculator is available at http://www.nhlbisupport.com/bmi). It is important to discuss appropriate weight gain, diet, and exercise at the initial visit and periodically throughout the pregnancy. Individualized care and clinical judgment are necessary in the management of the overweight or obese woman who is gaining (or wishes to gain) less weight than recommended but has an appropriately growing fetus. Balancing the risks of fetal growth (in the large-for-gestational-age fetus and the small-for-gestational-age fetus), obstetric complications, and maternal weight retention is essential but will remain challenging until research provides evidence to further refine the recommendations for gestational weight gain, especially among women with high degrees of obesity.

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