

Recommended Practices and Policies for Clinicians

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Obesity in Pregnancy

ABSTRACT: Obstetricians should provide preconception counseling and education about the possible complications and should encourage obese patients to undertake a weight reduction program before attempting pregnancy. Obstetricians also should address prenatal and peripartum care considerations that may be especially relevant for obese patients, including those who have undergone bariatric surgery.

Specific Recommendations

- Preconception counseling
- Record height and weight to calculate BMI
- Offer nutrition counseling to all obese women and continue postpartum education
- Screen for GDM in 1st trimester

Specific Surgery-related Recommendations

- Anesthesia consultation
- Antibiotic prophylaxis for all c/s (even elective)
- Consider drains, closure of subcutaneous layer, etc.
- Postoperative issues: compression stockings, heparin, ...
- Fetal monitoring challenges, special equipment

Post-bariatric Surgery Recommendations

- Patients with adjustable gastric binding should be advised that they are at risk of becoming pregnant unexpectedly after weight loss following surgery
- All patients are advised to delay pregnancy 12-18 months after surgery to avoid pregnancy during the rapid weight loss phase
- Women with a gastric band should be monitored by their general surgeons during pregnancy because adjustment of the band may be necessary
- Patients should be evaluated for nutritional deficiencies and vitamin supplementation where indicated

The Role of the Obstetrician-Gynecologist in the Assessment and Management of Obesity

ABSTRACT: Approximately one third of all women in the United States are obese. Obstetrician-gynecologists should evaluate all women for obesity by calculating a body mass index (BMI) measurement and should offer appropriate interventions or referrals to promote a healthy weight and lifestyle.

Outline of Gyn Committee Opinion

I. Epidemiology

II. Assessment

III. Treatment

Table 1. Body Mass Index Calculation, Chart, and Categories

The Body Mass Index (BMI) is an indirect measure of body fat and is used to determine obesity. The BMI is calculated as weight in kilograms (kg) divided by the square of height in meters (m²).

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height squared (m}^2\text{)}}$$

Using a BMI chart is an easy and rapid way of identifying the BMI for all adult patients.

		Body Mass Index Table																																			
		Normal						Overweight					Obese								Extreme Obesity																
BMI		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Height (inches)		Body Weight (pounds)																																			
58		91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258
59		94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267
60		97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276
61		100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285
62		104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289	295
63		107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304
64		110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314
65		114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324
66		118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334
67		121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338	344
68		125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354
69		128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365
70		132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376
71		136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386
72		140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397
73		144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401	408
74		148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420
75		152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431
76		156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443

Weight category	BMI
Underweight	<18.5
Normal weight	18.5–24.9
Overweight	25–29.9
Obesity (Class I)	30–34.9
Obesity (Class II)	35–39.9
Extreme Obesity (Class III)	≥40

The practical guide: identification, evaluation, and treatment of overweight and obesity in adults. National Heart, Lung, and Blood Institute and North American Association for the Study of Obesity. Bethesda (MD): National Institutes of Health; 2000.

Guide to Selecting Treatment

Table 2. Guide to Selecting Treatment

Treatment	Body Mass Index Category				
	25–26.9	27–29.9	30–34.9	35–39.9	≥ 40
Diet, physical activity, and behavior therapy	With comorbidities	With comorbidities	+	+	+
Pharmacotherapy		With comorbidities	+	+	+
Surgery			With comorbidities	With comorbidities	With comorbidities

The + represents the use of indicated treatment regardless of comorbidities.

The practical guide: identification, evaluation, and treatment of overweight and obesity in adults. National Heart, Lung, and Blood Institute and North American Association for the Study of Obesity. Bethesda (MD): National Institutes of Health; 2000.

Other Components of Gyn Committee Opinion

- Stages of change model to assess readiness for weight loss
- List of physician resources
- List of patient resources

ACOG Committee on Adolescent Health Care

Reviewing issues of overweight
adolescent: Prevention, treatment,
and obstetric-gynecologic
implications”

Obesity is also mentioned in both:

- **Guidelines for Perinatal Care 5th edition**
 - expanded discussion in 6th edition
- **Guidelines for Women's Health Care 2nd edition**

American Academy for Family Physicians

- The AAFP *recommends* that family physicians screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for obese adults.
- Intensive counseling involves more than one session per month for at least 3 months.
- No identifiable specific document

American College of Midwives

- Has expressed interest
- No funding currently
- Has included obesity in at least 2 educational series as lectures

Evaluation

ACOG administered a survey to a random sample of OB/GYN practitioners 1 year prior to the OB & GYN committee opinions:

- to test knowledge about obesity
- to determine practice patterns

A second 1 year post committee opinions survey has been sent out.

Winter/Spring 2006

A Call to Action: Obesity and Pregnancy

WOMEN'S HEALTH POLICY BRIEF

"Obesity has a major impact on pregnancy outcomes. It is an important medical problem that has long-lasting consequences for women and their children."

Laura Riley, MD
Director of Labor and Delivery
Vincent Obstetrics and Gynecology

LIVING WELL
STAYING WELL
Women's Health at Mass General



MASSACHUSETTS
GENERAL HOSPITAL



MASSACHUSETTS GENERAL
PHYSICIANS ORGANIZATION

"In Massachusetts, 43% of the women in the WIC program are either overweight or obese prior to their pregnancy and 51% of the WIC participants gain too much weight during their pregnancy."

Bureau of Family and Community Health,
Massachusetts Department
of Public Health

The problem:

More than half of all women of childbearing age are overweight or have obesity, making this one of the most common health problems for pregnant women. And it is getting worse. Obesity in pregnancy includes women who have obesity before they become pregnant and women who become obese from excess weight gain during pregnancy.

Obesity in pregnancy disproportionately affects women in low-income households. Nationwide, 43% of women in the Women, Infants and Children (WIC) program are overweight or have obesity; an increase of 19% in 20 years. Nearly 45% of women in WIC gain an excessive amount of weight during pregnancy — an increase of 11% since 1988. Although non-Hispanic Black women have the highest rate of obesity and the highest rate of weight gain, these increases fall across all racial and ethnic groups.¹

In Massachusetts, 43% of the women in the WIC program are either overweight or obese prior to their pregnancy and 51% of the WIC participants gain too much weight during their pregnancy.²

Impact on health:

Obesity causes more complications in pregnancy and childbirth. Pregnant women who are obese are at greater risk for:

- High blood pressure, which increases the risk for pre-eclampsia and eclampsia;
- Diabetes during pregnancy;
- Miscarriage;
- More cesarean deliveries with higher rates of anesthesia complications and infections;
- Longer stays in the hospital;
- Premature delivery in women with

severe cases of obesity;

- More urinary tract infections and long-term incontinence problems; and
- Failure to start or continue breastfeeding.^{3,4}

Babies born to mothers who have obesity are more likely to have health problems including:

- Increased risk of neural tube defects, such as spina bifida;
- Higher rates of birth injuries;
- Low APGAR scores;
- More admissions to neonatal intensive care units; and
- Higher rates of prenatal death.⁵

Children of mothers who have obesity are more likely to develop obesity as adults.

Research shows a strong genetic relationship to obesity and fetal development during pregnancy.⁶ Solving the problem of obesity may begin before birth. It is as important to understand the role of genetics, as it is to understand the impact of the environment, culture and economics on weight gain in women and children.

Reducing obesity before and during pregnancy will improve the health of mothers and their children.

Obesity is not just a pregnancy issue; it is a health issue. Obesity contributes to problems such as high blood pressure, diabetes, heart disease, and colon and breast cancer.

Obesity costs too much.

According to the Centers for Disease Control, obesity causes 112,000 deaths a year — nearly three times more than the toll from drugs and alcohol. The direct healthcare costs of obesity have increased from \$82 billion in 1995 to \$75 billion in 2003.⁷ In pregnancy, the cost of prenatal care is 5 times higher for overweight women.

“Awareness and education are the first steps in solving the problem of obesity in women of childbearing age. Our job as clinicians is to work with community leaders to find ways to address obesity before women become pregnant.”

Fredric Frigoletto, MD
Associate Chief, Vincent
Obstetrics and Gynecology
Massachusetts General Hospital

Call to action:

Increase public awareness.

Women of childbearing age need to know the effects that obesity has on their health and the health of their baby. The problem of obesity during pregnancy is not going away. Like smoking and alcohol use, the harmful effects of obesity during pregnancy are well documented, but not as well known. In the last 10 years with an increase in public awareness programs, smoking rates in pregnant women have decreased by 7% and alcohol use has decreased by 10%.^{1,2} At the same time, the percent of obesity in women of childbearing age has almost doubled.^{3,4}

Advocate for programs to address obesity and pregnancy.

Current strategies to address obesity in our nation are not working. It is too late

to wait until a child becomes obese. Scientists are beginning to understand how a mother may pass on weight problems to their children. It is time to refocus efforts to address obesity before birth. Promoting healthy weight for women starts with developing partnerships with community, prenatal and wellness programs. Enlisting the support of primary care clinicians is key to the success of this effort.

Increase access to healthy foods, especially in underserved populations.

Once pregnant, prenatal care and programs are available to women — yet more than half of pregnancies are not planned. Income, lack of education, ethnic traditions and fewer healthy food options make it harder to eat well. The challenge is to make it easier for all women of childbearing age to make healthy food choices.

¹ The Pediatric Nutrition Surveillance System (PedNSS) and the Pregnancy Surveillance System (PNSS), Centers for Disease Control and Prevention, 2009 www.cdc.gov/pednss

² Growing concerns about obesity in Massachusetts during pregnancy and early childhood: A statistical analysis of WIC PNSS and PedNSS Data, Bureau of Family and Community Health, Massachusetts Department of Public Health, July 23, 2002

³ Sobito, NJ, Jolly, M, et al. Maternal obesity and pregnancy outcome: a study of 287,213 pregnancies in London, *International Journal of Obesity* (2001) 25, 1175 – 1182.

⁴ Walker, Joshua L, Malvaso, Fergal D, et al. Obesity, Obstetric complications and cesarean delivery rate – a population-based study, *American Journal of Obstetrics and Gynecology*, (2004) 190, 1001 – 7.

⁵ Galkier-Dorrons, Renée, Boegner, Catherine and Bringer, Jacques. Obesity and pregnancy: complications and cost, *Am J Clin Nutr* 2006; 71 (suppl) 1242s – 4s.

⁶ Wolfink, Margaret L, Ramussen, Sonja A, et al. Maternal Obesity and Risk for Birth Defects, *Pediatrics* Vol 111, No. 5, May 2003 1152-1158.

⁷ Breal, Marie H, El Haddad, Hestiba et al. Adult Obesity as a Consequence In Utero. *Preventing Clinical Obstetrics and Gynecology*, Volume 47, No. 4, December 2004, pp 057 – 065

⁸ Jackson, Derrick, *Why Obesity Is Winning*. Boston Globe, August 10 2005.

⁹ Center for Disease Control Morbidity and Mortality Weekly Report, *Smoking During Pregnancy— United States 1998—2002*, Oct. 8 2004;53(30): 911 – 915.

¹⁰ Parry, G., Zytawski, C., Clark, L, Yu, S. *Pregnancy-Related Nutrition*, Center of Disease Control — Reproductive Health of Women. <http://www.cdc.gov/reproductivehealth/PregnancyPublicData/index.pdf?show=pdf>

¹¹ Moore, Thomas R. *Adolescent and Adult Obesity in Women: A Tidal Wave Just Beginning*. *Clinical Obstetrics and Gynecology*, Vol 46, No. 4, December 2004, pp 885 – 890.

The Problem at MGH

A preliminary view of our OB patients

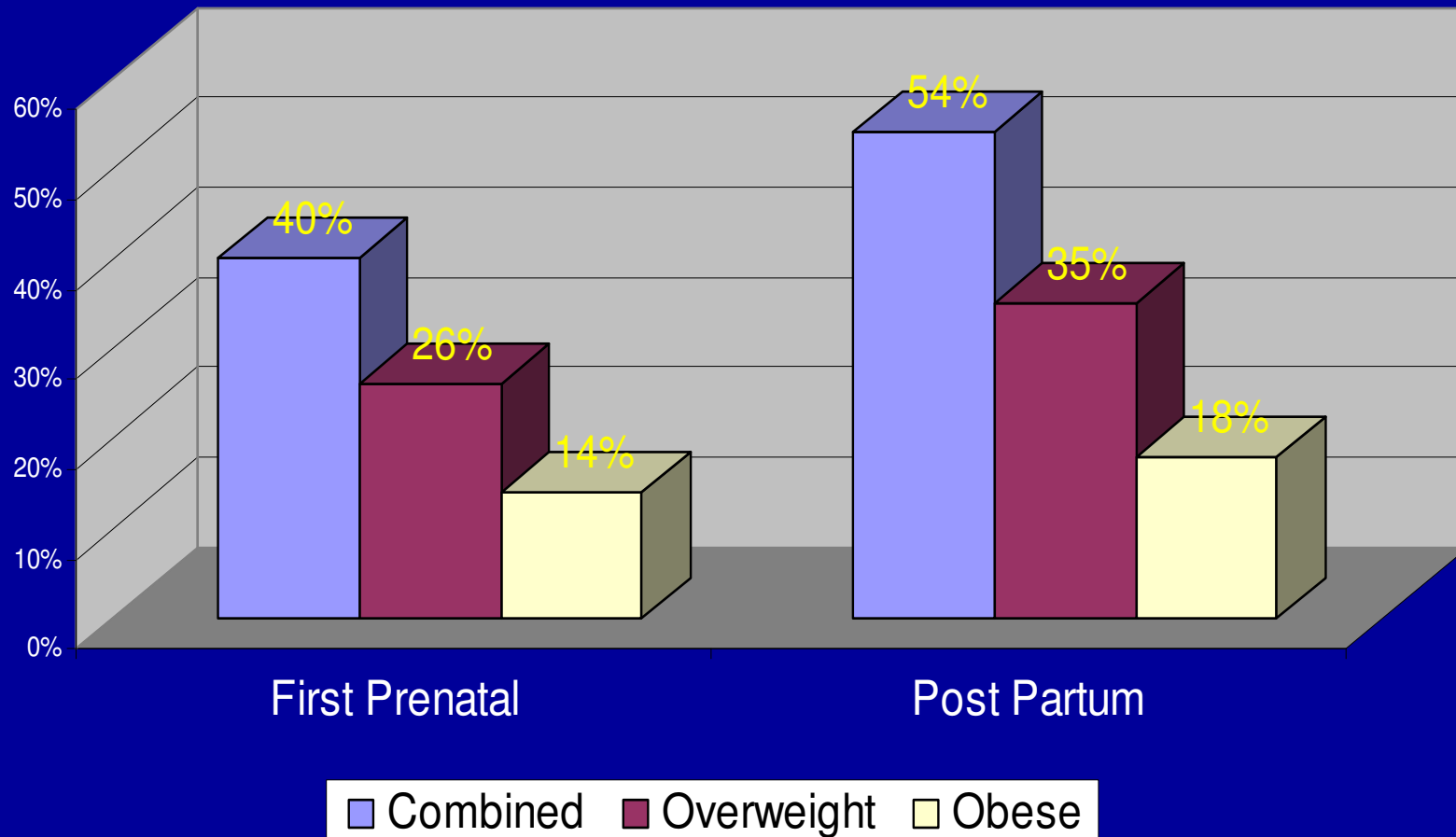
- 40% are overweight or have obesity at their first prenatal visit
- Rates of overweight/obesity are highest in our health centers
- Hispanic and Black women have the highest rates of overweight or obesity
- 54% are overweight or have obesity at their postpartum visit
- ~ 25% gain more than 35 lbs. during pregnancy

Based on FY'05 OB LMR data

MGH OB Patients

Obesity Rates for MGH OB Patients

Excludes: Prenatal Visits < 8 wks & >15 weeks, Postpartum <20 or > 70 days



BMI: Overweight = 25 to 29.9 Obesity =30+

Overweight and Obesity by Practice

First Prenatal Visit by Site
Excludes: Prenatal Vists < 8 wks and > 15weeks



BMI: Overweight = 25 to 29.9 Obesity = 30+

Proposed Next Step

- Conduct focus groups to learn more about the problem
 - What is the relevance for our clinicians' practice?
 - How do our patients view the problem?
 - What interventions would provide the best outcomes?
 - How can we support our patients and clinicians?
- Use data to identify the appropriate strategies to form a Phase II implementation plan.

Gaps in Knowledge

- What is the availability of nutrition counseling?
- What percentage of obese women seek preconception counseling? Who pays for that visit?
- What is the practice pattern of internal medicine physicians concerning preconception counseling for obese women?
- What is the practice pattern of internal medicine physicians concerning early pregnancy weight recommendation?
- What interventions are most efficacious for these populations? A call for more research!