GUIDELINE FOR PROVIDING CARE TO WOMEN WITH A HIGH BODY MASS INDEX

This document is a guide for practising midwives who provide care to women with a Body Mass Index (BMI) of greater than or equal to 30.

Definition

Body Mass Index (BMI) is a measure of body weight in relation to height (weight in kilograms divided by height in meters^2). Individuals with a BMI of ≥ 30 are classified as obese.

Category	BMI Range	Lifetime risk of developing health problems
Normal weight	18.5-24.9	Least
Overweight	25.0 to 29.9	Increased
Obese Class I	30.0 to 34.9	High
Obese Class II	35.0 to 39.9	Very High
Obese Class III	> 40	Extremely High

Special Considerations

"Obese women share the same hopes, dreams, and fears of all pregnant women. Additional concerns are raised due to their weight; however, abnormalcy of their pregnancy is not absolute. Midwives should not assume that complications will arise but instead utilize selective, increased surveillance and patient teaching regarding normal pregnancy, labor, and birth. They should also provide kind, integrative care to promote wellness and patient satisfaction." (Caton 2000)

The topic of weight and obesity is a sensitive one. Many women with a high BMI have had previous negative experiences with the health care system. Therefore, while providing care to women with a high BMI it is important for midwives to be mindful of the fact that these women may experience emotional or psychological responses that may be related in part to previous experiences with the health care system.

Midwives should address these issues in terms of improving the client's health and pregnancy. The approach must be timely, individualized, and non-judgmental, using impartial, open-ended questions. Weight and obesity can have a wide variety of meanings within different cultural and economic contexts.

Risks of Obesity in Pregnancy

Individuals with a BMI of ≥ 30 carry an increased risk of heart disease, type 2 diabetes, hypertensive disorders, respiratory problems and thromboembolism. In pregnancy, a pre-pregnancy BMI of ≥ 30 is also associated with an increased risk of developing complications/adverse outcomes in the prenatal, intrapartum and postpartum period, as well as complications for newborns.

Associated Risks

The BMI classification is an estimate of adiposity and may misclassify individuals with a lean or muscular build or those of certain ethnic groups. The distribution of body fat also impacts the degree of association with increased health risks, and this is not accounted for in BMI classification. Therefore not all women with a high BMI carry the same risk for developing complications.

Prenatal period	Labour and birth	Postpartum	Newborn
• gestational diabetes • hypertensive disorders • varicose veins • deep vein thrombosis • preterm birth	• longer labour • induction of labour • caesarean section • anesthetic complications • postpartum hemorrhage	• infection • reduced breastfeeding	• neural tube defects • fetal macrosomia which is associated with an increased risk of shoulder dystocia, birth injury and perinatal death • stillbirth • anomalies may be missed on ultrasound due to poor resolution

Recommendations

Prenatal care

1. Calculate BMI based on pre-pregnant weight and height. If this is unavailable then calculation should be based on the first available weight measurement.
2. Share and explore information regarding associated health risks, complications and adverse outcomes for both the woman and her fetus/newborn, in pregnancy, intrapartum and postpartum period.
3. Be aware of possible emotional and psychological response when discussing risks, complications and recommendations with a client and incorporate strategies for appropriate solutions.
4. For women with a BMI of greater than 35 review recommendations to take 5 mg of folic acid daily continuing 10 to 12 weeks post-conception. The standard dose (0.4 to 1.0 mg) is recommended for the remainder of the pregnancy.
5. Offer information regarding optimal nutrition and exercise.
6. Discuss appropriate gestational weight gain. Good outcomes are achieved within a range of weight gains, and additional factors may need to be considered for the individual woman. However current evidence suggests that appropriate gestational weight gain for BMI ≥ 30 is 7 kg.
7. If client chooses not to measure or track weight gain, then document informed choice discussion re: risks and benefits of not tracking pregnancy weight gain.
8. Use appropriate sized cuff when monitoring blood pressure and document cuff size in the woman’s health record.
9. Discuss increased risk of gestational diabetes mellitus (GDM) and offer screening in each trimester.
10. Discuss risk of poor visualization on ultrasound and possible impact on care plan or place of birth.
11. Discuss risks and benefits of third trimester ultrasound for women in whom position or growth of the fetus is difficult to determine via abdominal palpation.
12. Discuss importance of fetal movement awareness.
13. Consult with physician for women with BMI ≥ 40 as per CMM Standard for Discussion, Consultation and Transfer of Care.
14. Consider offering a prenatal consultation with an anaesthetist to discuss venous access, regional or general anaesthesia options in the case of pain management or caesarean section.

Intrapartum Care

1. Discuss possible need for internal fetal heart rate monitoring due to potential difficulty in auscultating fetal heart rate via external fetal monitoring.
2. Discuss means of dealing with shoulder dystocia to prevent birth injury.
3. Discuss possible need for ultrasound to confirm fetal position.
4. Discuss complications associated with induction of labour and caesarean section.
5. Consider establishing IV access in early labour.

Out-of-Hospital Birth Considerations

Discuss and document the following additional risks and considerations that may exist in an Out of Hospital (OOH) setting.

1. Risks associated with managing shoulder dystocia
2. Potential consequences of postpartum hemorrhage
3. Risks associated with management of a neonate with an undiagnosed congenital abnormality
4. The potential difficulty to physically move the mother if she is unconscious and/or in the event of an emergency.
5. EMS access to physical location of birth (i.e. consider stairs, small rooms, stretcher accessibility).
6. The potential need for transport in situations where fetal position is not palpable or inability to appropriately monitor fetal heart rate.

Postpartum Care and Follow-up

1. Provide appropriate breastfeeding support– prenatally and post-partum – to establish good positioning, latch and milk supply since obesity is associated with low breastfeeding initiation and continuation rates.
2. Discuss active management of third stage to prevent postpartum hemorrhage.
3. Discuss means of decreasing risk of wound infection (including perineal and caesarean).
4. Encourage early ambulation to reduce risk of thromboembolism.
5. Recommend appropriate diabetes-specific follow-up beyond 6 weeks post-partum for women with GDM.
6. Share recommendations for women with a BMI of greater than 35 to take 5 mg of folic acid daily three months prior to conceiving.
7. Provide information and resources for healthy nutrition and lifestyle support.

References

1. ACOG Practice Bulletin. (2009). Clinical Management Guidelines for Obstetrician–Gynecologists: Bariatric Surgery and Pregnancy. *J Ob Gyn*. 6:113, 1405-1413.

2. Aleksandra, J., Frood, J. & Kira Leeb. Bariatric Surgery in Canada. Ottawa: Canadian Institute for Health Information.

3. Allison, Kelly C., David B. Sarwer and Emmannuelle Pare (2007): Issues related to weight management during pregnancy among overweight and obese women. Expert Rev. Obstet. Gynecol, 2(3), 249-254.

4. Arendas, K., Qiu,Q., Gruslin,A. (June 2008). Obesity in Pregnancy: Pre-conceptional to postpartum consequences. *J Ob Gyn Canada.* 30:6,477-488.

5. Balen, A.H. & Anderson, R.A. (for the Policy and Practice Committee of the british fertility Society). (2007). Impact of obesity on female reproductive health: British Fertility Society policy & practice guidelines. *J Hum Fertil*. 10(4):195-206.

6. Bhogul, K. & Jayawardane, I.A. (Dec 2008-Jan 2009). Obesity on obstetrics: new challenges and solutions using abdominal fetal ECG. *J Midwives online*.

7. Catalano, P. M. and Ehrenberg, HM. (2006). The short- and long-term implications of maternal obesity on the mother and her offspring. *BJOG*.

8. Caton, T (Dec 2000) Evidence Based Clinical Practice Guidelines for Managing Obesity in Pregnancy. Philadelphia University. *instituteofmidwifery.org*

9. Darling, L. (Mar 2006). Clinical Practice Guideline Review: Screening for Gestational Diabetes. Toronto: Association of Ontario Midwives. 7.

10. Dartford and Gravesham. (Feb 2009). *Obesity in Pregnancy Guidelines*. NHS Trust. WAC023.

11. Dresner, M., Brocklesby,J. & Bamber, J. (2006) Audit of the influence of body mass index on the performance of epidural analgesia in labour and the subsequent mode of delivery. *BJOG*.

12. Fitzsimons, KJ & Modder,J. (2009) Setting maternity care standards for women with obesity in pregnancy. *Seminars in Fetal & Neonatal Medicine*. 9:4. In press.

13. Geissbuehler, V., Stein, S. & Eberhard, J. (2004). Waterbirths compared with landbirths: an observational study of nine years. *J Perinat. Med.*, 32, 308-314.

14. Gillman MW, Rifas-Shiman S, Berkey CS, et al. Maternal gestational diabetes, birth weight, and adolescent obesity. *J Pediatrics* 2003:111, e221-6.

15. Hampton, Tracy: Maternal Diabetes and Obesity May Have Lifelong Impact on Health of Offspring. JAMA, August 18, 2004—Vol 292, No. 7.

16. Harper, B. *The well-rounded mama: Size acceptance warrior, birth activist, and one fierce mama.* Retrieved Feb. 26, 2010 from: http://wellroundedmama.blogspot.com/search/label/waterbirth

17. Health Canada, (2003). *Canadian Guidelines for Body Weight Classification in Adults*, Ottawa: Health Canada and Kim D. Raine, (2004). *Overweight and Obesity in Canada: A Population Health Perspective*, Ottawa: Health Canada.

18. Health Canada. (2010). Canadian CommunityHealth Survey. *Self-reported health data.* Retrieved March 3, 2010 from: http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=10

19. Health Canada. (Nov 2009) *Consultation Report: Prenatal Nutrition Guidelines for Health Professionals,* accessed March 3, 2010.

20. Irwin, J. Obesity, risk and the challenges ahead for midwives. (Jan 2010). *Brit J of Midwifery*. 18(1).

21. Jevitt, C. (2009). Pregnancy Complicated by Obesity: Midwifery Management. *J Midw & W's Health*. 2:2.

22. Kerrigan, A M. & Kingdon, C. (2006): Maternal obesity and pregnancy: a retrospective study. *Midwifery*. 26, 138–146.

23. Kerrigan, A.M. & Kingdon, C. (2008). Maternal obesity and pregnancy: a retrospective study. *Midwifery.* 26, 138-146.

24. Kirk, S.F.L., et al. (Feb 2009). The state of obesity management for women giving birth in Atlantic Canada. *J Matern Child Health.*

25. Lee, B. (Aug/Sept 2008). Weight matters – addressing obesity in pregnancy and beyond. *J Midwives.*

26. Massiah, N & Kumar,G (2008). Obesity and pregnancy: A care plan for management. *Internet J Gyn Ob*, 9: 2.

27. Modder, J & Fitzsimons, KJ. (Mch 19, 2010). *CMACE/RCOG Joint Guideline: Management of Women with Obesity in Pregnancy.* London, UK: Centre for Maternal and Child Enquiries & Royal College of Obstetricians and Gynecologists.

28. National Institutes of Health Consensus Development Conference Statement. (1992). Gastrointestinal surgery for severe obesity. *Am J Clin Nutr.* 1992;55(Suppl 2):615S-9S.

29. Nyman, VMK, Prebensen, AK, Gullvi, EM. (2008). Obese women's experience of encounters with midwives and physicians during pregnancy and childbirth. *J Midwifery*. 10:008.

30. Perreira, L. (2009). Surgery in the Obese Pregnant Patient. *J Clinic. Ob Gyn.* 52:4, 546-556.

31. Ramachenderan, Jonathan, Jennifer Bradford and Mark Mclean :Maternal obesity and pregnancy complications: A review. *Austr & NZ J Ob Gyn.* 2008; 48: 228–235.

32. Rasmussen SA, Chu SY, Kim SY, et al. (2006). The prevalence and impact of overweight and obesity in an Autralian obstetric population. *Med J Aust* . 184:56-9.

33. Rasmussen, KM & Yaktine, AL,(Eds). (2009). *Weight gain during Pregnancy: reexamining the guidelines*. Washington, DC: National Academies Press.

34. Reece, Albert E.: Obesity, diabetes, and links to congenital defects: A review of the evidence and recommendations for intervention. The Journal of Maternal-Fetal and Neonatal Medicine, March 2008; 21(3): 173–180.

35. Richens, Y and Fiennes. (June 2009). Pregnancy following bariatric surgery. *Br J Midwifery.* 17: 6.

36. Schrauwers, C & Dekker, G. (Mch 2009) Maternal and perinatal outcome in obese pregnant patients. *J Maternal-Fetal and Neonat Med.* 22(3): 218–226.

37. Smith, S. A., Hulsey, T. & Goodnight, W. (2008). Effects of Obesity on Pregnancy. *JOGNN,* 37, 176-184.

38. Society of Obstetricians and Gynecologists of Canada. (Nov 2008). *Discussion Paper on the Fundamental ties of Maternal Health on Children's Health Outcomes*. Ottawa: SOGC.

39. SOGC. (Feb 2010). *SOGC Clinical Practice Guidelines*. JOGC, No. 239.

40. Soltani, H. (2009)*:* Obesity in pregnancy: an evidence-based commentary. *Evidence Based Midwifery* 7(4): 140-142.

41. Vogel, N., Burnand, B., Vial, Y., et al. (2000). Screening for gestational diabetes: variation in guidelines. *Europ. J Ob Gyn & Reprod Biol*. 91:29-36.

42. Wax, JR (2009) Risks and management of obesity in pregnancy: current controversies. *Curr Opin Obstet Gynecol*. 21:117–123.

43. Yogev, Y & Catalano. PM. (2009). Pregnancy and Obesity. Obstet Gynecol Clin N Am 36 (2009) 285–300. doi:10.1016/j.ogc.2009.03.003.