High-Risk Guidebook for Women

An Introduction to High-Risk Codes for Women

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Before you begin…

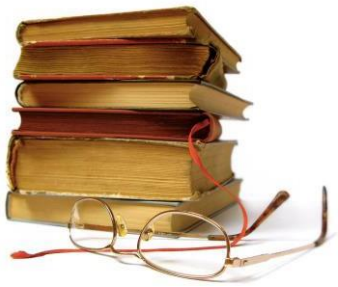
Using the High-Risk Guidebook for Women

Welcome to the High-Risk Guidebook for Women. Before you begin, we'd like to review a few important points.

1. This guidebook was created to help you learn more about each high-risk code for women and teach you some counseling techniques and tips to help with your high-risk assessment appointments. As with most medical recommendations, some views and thoughts may change over time so always check with your Local Agency to address any questions you may have.

2. To get the best learning experience from this guidebook, plan to read through the High-Risk Guidebook for Women on your own and then review with your trainer. Plan to take notes and answer questions within the training as you go through it. You can read through these risk codes at your own pace and skip around to best fit your learning needs. Talk with your trainer to see if your Local Agency has additional policies for WIC Registered Dietitian Nutritionist (RDN) and Nutritionist training that you need to follow.

3. Utilize resources provided by the Nevada State WIC Office as well as your Local Agency. A brief list of resources you have access to:



   - Nutrition Risk Manual (NRM)
   - Nutrition Services Standards (NSS)
   - Nutrition Care Guidelines (NCG)
   - Nevada WIC Policy and Procedure Manual
   - Baby Behaviors e-learning course
   - American Academy of Pediatrics (AAP)
   - March of Dimes website
   - American College of Obstetricians and Gynecologists (ACOG)

   As you go through the training, it's a good idea to identify what other resources your agency has available for you to learn more about these high-risk codes and what you can share with

your WIC families. Knowing about these resources in advance will set you up for successful nutrition assessment and counseling with our WIC families.

4. The accompanying Workbook has both Critical Thinking Questions and Case Studies for several of the high-risk codes for women. You will see a blue question mark icon when there is a Critical Thinking Question and a magnifying glass when there is a Case Study for the high-risk code in the Workbook. Practice your assessment and counseling skills by reading these Critical Thinking Questions and Case Studies, answering the questions and discussing your thoughts with your trainer. (Note: Discuss with your trainer whether you should read and think through Case Studies first before meeting with them, or whether your trainer prefers to go through Case Studies with you as you work through them.)

5. Remember that your Local Agency may have developed specific requirements that are best for your setting beyond what is described in this document. This guidebook offers information that applies to RDNs and Nutritionists' throughout Nevada. It is a good idea to write down questions you have about high-risk appointments in your agency and clinic to ask your trainer. CPA's have an important role in the initial assessment of nutritional risk(s), referring to RDN/Nutritionists when appropriate and/or required. It is a good idea to write down questions you have about high-risk appointments in your agency and clinic to ask your trainer.

Guidebook Icons

Throughout the High-Risk Guidebook for Women, we will use icons to help point out important information and resources.

H*	Soft High-Risk Codes	This icon denotes the high-risk codes that a CPA can assess and counsel before referring to RD/Nutritionist.
H	Hard High-Risk Codes	This icon denotes the high-risk codes that require a referral to RD/Nutritionist.
	Critical Thinking Question	Stop at these icons to test your knowledge and practice your counseling and assessment skills. Answers to these questions can be found in the Workbook.
	Case Study	This icon will let you know when there is a Case Study you can review in the Workbook for additional practice with your trainer.
	Resource	This icon means that there is additional information in a resource with which you are familiar. A list of these resources can be found above in #3 of the Before Your Begin section.
	Pregnancy	You will see this icon when there is content about high-risk nutrition assessment specifically for pregnant women.
	Breastfeeding	You will see this icon when there is content about high-risk nutrition assessment specifically for breastfeeding women.
	Postpartum	You will see this icon when there is content about high-risk nutrition assessment specifically for postpartum women.

What will the RDN/Nutritionist or CPA learn?

1. Identify high-risk codes for women.
2. Assign high-risk codes for women according to Nutrition Risk Manual definitions.
3. Assess the relationship of subjective and objective information in high-risk case studies to determine appropriate nutrition education options to offer WIC participants.
4. Explore ways to facilitate behavior change consistent with Nutrition Services Standards, the Nevada WIC Policy and Procedure and the Participant Centered Services approach.

Instruction Level

This guidebook is to be completed as part of new employee training for WIC RDN/Nutritionist/ CPAs. For this course, you will need to have completed all other LMS and guidebook training as defined by your Local Agency Training Plan.

Recommended Time

This training will take approximately three hours to complete. Additional time may be required to complete the accompanying Workbook.

Things to Remember

When you have questions about a specific code, talk with your trainer. Although there is a wealth of information provided in this training, you can learn a lot from your trainer and RDN/Nutritionist or CPA peers as well. Talk with your trainer about how they have handled situations or high-risk codes with which you are not comfortable or familiar.

High-Risk Guidebook for Women

Module 1: Introduction

In this guidebook, we will be looking at the WIC high-risk codes for women which include the categories of pregnancy (PG), breastfeeding (BF) and postpartum (P) women. Nutrition is very important to women in each of these categories for similar and sometimes very different reasons. As you go through this guidebook, there will be three different sections within each risk code that represent each of these categories (when necessary) with information about the different nutritional needs and concerns for each of these categories.

As with all of the High-Risk Guidebooks, we try to provide you with the most current research and information to help prepare you to be a competent and confident WIC RDN, Nutritionist and CPA. However, if you have concerns about a topic or need more information, talk with your trainer or review the resources in the Appendix.

Talking with Physicians

There may be some instances when you are talking with the participant and they tell you that their doctor has made a nutritional recommendation that you might not agree with. You can talk with the participant's doctor to better understand the recommendations or to suggest other nutrition interventions that might be beneficial to the participant. Permissions to speak to a health care provider is the part of the Nutrition Interview that is completed at time of certification, re-certification, and infant/child health assessment appointments. Participants are asked to declare their primary health care provider and if WIC may talk to their physician or health care provider, upon their consent, about their nutrition. By expressing your concern to the participant and their physician and recommending alternative options, you can help to provide the participant with the best care.

NOTE: If, after contacting the physician or other prescribing authority, you still have concerns about approving a prescription request or the specific treatment recommendations provided, consult your local agency team or the State Nutrition Coordinator for additional support and guidance.

Why is Nutrition Important During Pregnancy?

Women who are pregnant usually gain about two to four pounds during the first trimester and then about three to four pounds **per month** during the second and third trimesters. The way that they gain weight and the pregnancy discomforts they experience vary greatly from woman to woman; however, one thing that is the same is the need for good nutrition during pregnancy.

On average, a pregnant woman may need an extra 300 calories per day to help meet the nutritional needs of a growing fetus. Nutrient-dense foods are important to make sure that mom and baby are getting all the nutrients and energy that they need. Oftentimes a mom may worry that she is not eating healthy enough for her baby, especially if mom experiences nausea or vomiting; however, as long as mom was healthy before the pregnancy, her body has built up a store of many nutrients that she will share with the baby. It is also recommended that mom take a prenatal vitamin before conception, during the pregnancy, and after the baby is born. This will help meet the needs of some nutrients that mom might not be getting enough of in her diet such as folic acid, iron, and vitamins C and D, just to name a few. Making sure that mom's diet includes fruits and vegetables, whole grains, lean proteins, and healthy fats is an easy way to make sure mom is off to a great start with her pregnancy.

General Nutrition Counseling Tips for Pregnant Women:

What does 300 calories look like - Just mentioning this to a pregnant woman can be confusing to them, so instead of talking about calories, try to understand how the mom usually eats and then explain to her what extra snacks or foods she can include in her diet to help make sure she is getting enough nutrients and energy for her and the baby.

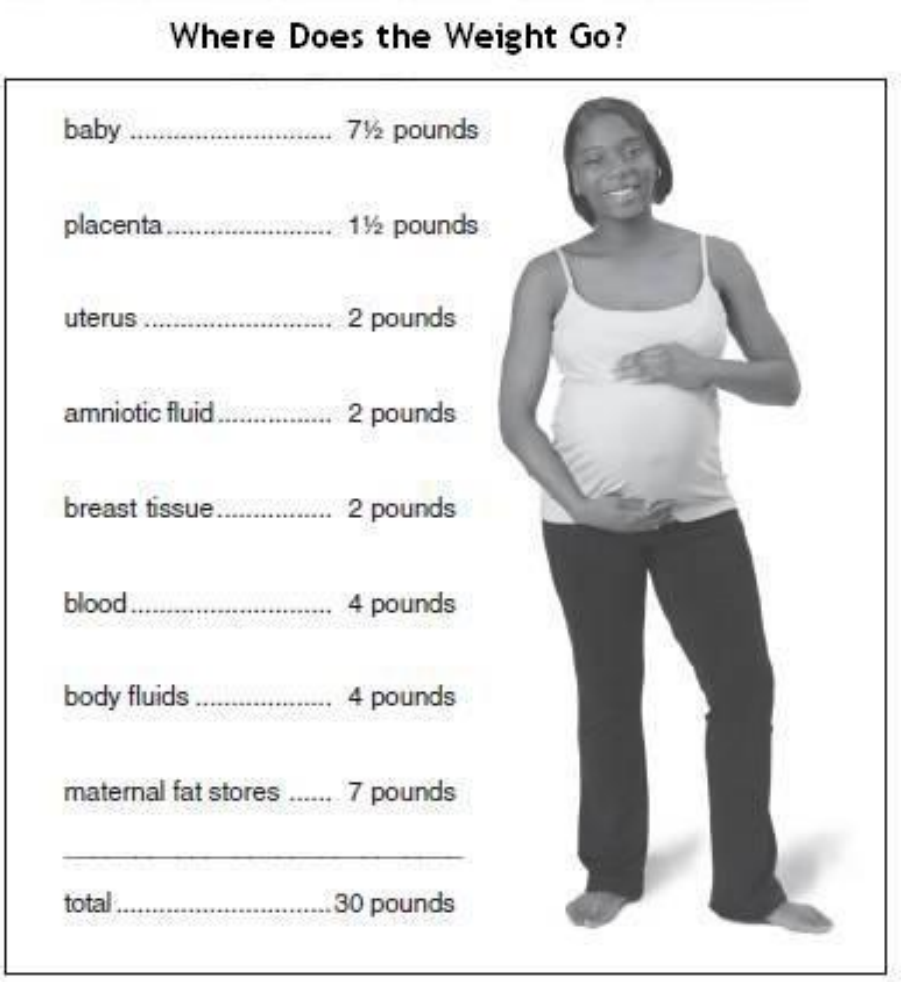
Talk about nutrient dense versus non-nutrient foods - The nutrition education we provide may help the participant understand the difference between nutrient-dense foods versus foods that are high in calories, yet low in nutrients.

Explain to mom where the weight gained is going - Many times, when a woman hears that she is about to gain about 25-35 pounds (this will vary based on mom's prepregnancy BMI, you must assess each mom individually), she may not understand why that weight is so

important to the baby's development. Providing the mother with a visual to show them how the weight they gain is distributed throughout their body can be a powerful tool for them to see the value of their weight gain.

Average Pregnancy Weight Gain Distribution Chart:

Weight	Weight Distribution
7½ pounds (3.4 kilograms)	About how much the baby will weigh by the end of the pregnancy
1½ pounds (0.7 kilograms)	About how much the placenta weighs
4 pounds (1.8 kilograms)	Attributed to the increased fluid volume
2 pounds (0.9 kilograms)	The weight of the uterus
2 pounds (0.9 kilograms)	The weight of breast tissue
4 pounds (1.8 kilograms)	Increased blood volume
7 pounds (3.2 kilograms)	Attributed to maternal stores of fat, protein and other nutrients
2 pounds (0.9 kilograms)	Amniotic fluid
TOTAL: 30 pounds (13.6 kilograms)	



The importance of a prenatal vitamin during pregnancy - Encouraging mom to take a prenatal vitamin throughout her pregnancy and beyond can help set her up for a healthy pregnancy and future pregnancies. The Dietary Reference Intakes (DRI) established by the Food and Nutrition Board, Institute of Medicine, and National Academies illustrate the much higher needs pregnant women have for iron, folate, and iodine, with significantly increased needs for several B vitamins, vitamin C, chromium, zinc, and magnesium.

Drink plenty of water and stay hydrated - Dehydration can lead to contractions and preterm labor/delivery so drinking at least 80 ounces of water a day during pregnancy (per the Institute of Medicine) is very important.

Why is Nutrition Important for Breastfeeding Women?

Breastmilk is the perfect and complete nutrition source for an infant but that doesn't mean that mom's diet has to be perfect. WIC Staff can support mom's daily nutrition concerns by offering key messages such as eating a variety of nutrient dense foods and drinking to thirst. This recommendation is somewhat different that the recommendation for hydration during pregnancy in the previous section. The breasts are amazing organs able to synthesize a complete nutrient source that baby's body can efficiently utilize. While mom's body works to produce a healthy milk supply for baby, WIC can encourage mom to choose foods that build optimal nutrient stores for herself to support her recovery period after pregnancy. If mom's diet is lacking in vitamins and minerals for a prolonged period the breast will deplete her maternal stores to ensure the composition of her breastmilk is complete.

Supporting a successful breastfeeding experience helps mom to realize other benefits that aid in her recovery after pregnancy. Breastfeeding helps a mother return to her pre-pregnancy body by the release of oxytocin, a hormone released at each breastfeed. Oxytocin helps the uterus return to its pre-pregnancy size more quickly. Breastfeeding may also have a protective effect for postpartum maternal anxiety and depressive symptoms. Studies also report that moms who are breastfeeding on average burn 300-500 extra calories a day.

Why is Nutrition Important for Postpartum Women?

Although postpartum women are not breastfeeding and don't need the additional energy and nutrients for breastmilk production, nutrition is still a very important part of her recovery from childbirth and her health in general. Postpartum moms need to rebuild the nutrient stores they may have lost during pregnancy and they still need extra energy for the daily activities of taking care of a newborn baby.

Most postpartum moms are ready to get back to their postpartum weight right away, and some do. It is important for mom to understand that it took nine months to gain the baby weight and it can take just as long or even longer to lose it. The important part is that she loses it in a healthy way with a nutritious diet and exercise, which will help her to keep it off and live a healthy lifestyle.

Using Your Participant Centered Services (PCS) Skills

As a WIC RDN or Nutritionist, we sometimes think that we can't be helpful or that we aren't credible to the participant if we have never gone through pregnancy, childbirth, breastfeeding and/or feeding a picky toddler. This is not the case. After spending some time with participants, you may realize that there are common tips or tricks other moms use to help in their specific situation (i.e., eating small meals, drinking liquids after meals). It may be more beneficial, from a counseling standpoint, to frame our suggestions in a way that is more likely to influence the mother to become healthier.

This approach is supported by the Principle of Consensus. Consensus is when there is a general agreement among a group of people. In the WIC setting, this applies to caregivers and parents, usually moms. Instead of stating, "you should try xyz," start your suggestion with, "A lot of moms I talk to…" This will help the participant be more open to trying your suggestion than if you use a "should" statement.

For example, you are seeing an underweight mom that feels like she has no time to eat throughout the day. Try to avoid saying, "You should try to eat more. Bring snacks with you when you leave the house. That might help you eat more." Instead, you could say, "I know that being busy is a big hurdle a lot of other moms face as well. A mom I spoke with the other day mentioned that she tries to pack healthy food and snacks for herself to eat throughout the day. This way she has food prepared and it takes no time for her to eat when she needs to. Do you think doing something like that would work for your busy schedule?"

Module 2: Anthropometrics - The 100s Codes

The Anthropometrics section of the high-risk codes includes all codes that would occur from a weight or length measurement. Each anthropometric high-risk code is listed below with a definition and etiology, or cause, of the code and information related to completing a high-risk assessment with a woman that is pregnant, breastfeeding, or postpartum. Activities include various codes so you can stop and think about how you would talk to the client to keep the rapport that you are seeking to build and get closer to greater behavior change!

H* 101: Underweight

- Pre-pregnancy or Current BMI less than 18.5

Definition

Underweight women are defined as follows:

- Pregnant women: Pre-pregnancy BMI less than 18.5
- Non-breastfeeding women: Pre-pregnancy or current BMI less than 18.5
- Breastfeeding women less than six months postpartum: Pre-pregnancy or current BMI less than 18.5
- Breastfeeding women six months postpartum or more: Current BMI less than 18.5

Etiology

There are several reasons why a woman may be underweight, ranging from genetic factors to eating disorders to different medical conditions. When a woman is underweight, it puts her baby at higher risk for:

- preterm birth (born at or before 37 weeks gestation)
- underweight babies, also called small for gestational age (SGA)

- fetal growth problems
- perinatal mortality (death of a fetus or newborn)
- pregnancy complications.

For postpartum women, being underweight may affect the body's potential to recover from delivery/cesarean (c-section) and for the health of any future pregnancies that she may have.

For more information, *see Nutrition Risk Manual*. 

General Assessment

Seeing a woman for risk 101 means that they were underweight before they became pregnant or they are currently underweight. Like always, it is important to not use leading questions or assume that the client feels a certain way about being underweight. Some women may be concerned and actively seeking out ways to gain weight. Others may be really worried and feel overwhelmed with the thought of having their current or future baby at risk. Some women may not feel like their weight is an issue at all. Sifting through the concerns and feelings is an important skill to lead to the best health outcomes for the infant and mother.

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 101 question 1.

Another area to address with all women with this risk code is what their obstetrician/gynecologist (OBGYN), nurse practitioner (NP) or midwife discussed with them about their weight status. Their health care provider may or may not have given helpful tips for the mother to gain enough weight during her pregnancy. Sometimes the doctor has not expressed concern about the mom's weight so she may not see it as a concern either. It can be difficult to work with a participant that does not see the risk as we do. Turning the assessment into a conversation about healthy foods to include in her diet can be a great way to make sure mom is eating right while not making her feel upset about her risk code.

Assessment for Pregnant Women

Along with the information mentioned above, other medical conditions that could be going on with the pregnant woman need to be considered. Some women have a hard time gaining weight during their pregnancy due to hyperemesis gravidarum (excessive nausea and vomiting, see high-risk code 301 for more information), or just feeling tired, nauseous, pain after eating from heartburn, and various pains due to pregnancy. Be aware that the participant may be dealing with several of these issues while still trying to gain weight. Other women may just be thin naturally and there really isn't a need for concern, but this is your job to assess the situation to determine how much guidance the participant needs.

Some general healthy eating and preparation tips may help the participant feel like her high-risk appointment has equipped her with tools to help her gain weight. These include:

- Preparing all meals at the same time to eliminate too much work and preparation day-to-day.
- Providing ideas of foods that are easily tolerated when nausea, heartburn, and other concerns are present.
- Eating every few hours and having healthy snacks on hand.
- Teaching them about higher calorie and nutrient-dense foods.

Assessment for Breastfeeding Women

Women who are underweight while breastfeeding may put their own nutritional status at risk if they are malnourished, exhibit poor nutritional status or have inadequate food consumption. During periods without proper nutrition her breast will utilize her own body's nutritional stores while breastfeeding and the composition of the milk will remain unaffected. After maternal stores are depleted her breastmilk production may decrease or the composition may be lacking in key nutrients.

Assessment for Postpartum Women

Discussing the underweight status of a postpartum woman may be a little more challenging since she may be sensitive about the baby weight she still carries. The motivating factor of a baby inside of her is gone. So again, just find out how she feels about her weight status. Some of the topics you may want to address include:

- **Health for her recovering body -** While in utero, the baby has taken many nutrients from mom, depleting her nutrient stores even more. So, for the first few months after the baby has been born, mom's body will be working to replenish these stores so eating healthy, balanced meals are very important.

- **Physical activity -** Many new moms are not happy with their postpartum body and look forward to returning to their pre-pregnancy weight. They may want to get back to their active lifestyle or start a new fitness plan to lose weight and feel like they once did. Helping mom to appreciate all that her body has been through can help to alleviate stress if she feels like her body is not where she would like it to be. Encourage mom to focus first on self-care instead of weight loss by replenishing her nutrient stores and regaining her energy. She can best prepare her body for success by the same care and attention she gives baby. Her physician will allow for physical activity to start once she has healed from the delivery (usually around six to eight weeks postpartum). Encourage slowly starting physical activity to avoid injuring her healing body. Sometimes moms may feel good and overdo it and tear stitches or start bleeding again. In these cases, it is important for mom to contact her doctor immediately and possibly put activity on hold for a while.

- **Preparing for the next pregnancy -** Good health will help the mother have better health outcomes for any future children that she may (or may not) be planning. Encouraging mom to continue to eat healthy will rebuild her body's nutrient stores and help to increase her energy and strength.

Take a closer look!
This risk code has a case study in the *Workbook*.

H* 111: Overweight

- Pre-pregnancy BMI ≥25 or current BMI ≥25 after six months postpartum

Definition

Overweight women are given this high-risk code in the following situations:

- Pregnant women: pre-pregnancy BMI greater than or equal to 25
- Non-breastfeeding women: pre-pregnancy BMI greater than or equal to 25
- Breastfeeding women less than six months postpartum: pre-pregnancy BMI greater than or equal to 25
- Breastfeeding women six months postpartum or more: current BMI greater than or equal to 25

Etiology

Being overweight during pregnancy can increase complications to the mother and the baby. Risks for the mother include:

- High blood pressure
- Preeclampsia
- Blood clotting issues
- Gestational diabetes
- Plus, more if complications if a c-section is needed.

There can also be many risks for the infant as well. These include, but are not limited to:

- Birth defects
- Macrosomia (high birth weight)
- Premature birth (born at or before 37 weeks gestation)
- Diabetes later in life (1)

For more information, *see Nutrition Risk Manual*. 

General Assessment

Find out what challenges' mom faces to eat healthy. Is it eating lean meats? Enough vegetables? Eating a healthy breakfast? See where she needs ideas and then provide her with ways to improve her diet. A great way to help mom eat healthier is to encourage the healthy foods she needs rather than discourage the other not-so-healthy foods. Having her fill her plate with healthier foods will lead to less room for the unhealthier foods. Plus, let her know that there is room for most all foods she loves (including the not-so-healthy foods) in moderation. Help her learn what moderation and portion sizes are, in addition to filling her plate with the healthy foods.

Exercise is also a great topic to discuss. See specific categories below for more information about exercise and physical activity.

Assessment for Pregnant Women

Sensitivity in talking about weight - Some women aren't thrilled about gaining weight during pregnancy. They understand it is for the health of the baby and necessary to some extent, but they aren't jumping for joy about the extra 15-20 (or more!) pounds that they will gain over the course of pregnancy. Weight is a sensitive topic for most women. We have to understand as health care professionals that some women might be coming into pregnancy with their own weight and food issues. It is important to be aware of the way that you address your concern that the mother is overweight. Simply stating, "WIC considers you a high risk because you are overweight," will probably not make the pregnant woman too happy. Our main goal is to help the pregnant mom live a healthier lifestyle throughout her pregnancy and long after. The best way to approach a pregnant mother's overweight high risk would be to ask the woman how she feels about her weight, in regards to being pregnant, and go from there.

Weight gain recommendations - Although a woman may be overweight before she became pregnant, it is still advised for her to gain weight during the pregnancy. The recommended amount of weight gain for women who were overweight before being pregnant is 15-25 pounds. If the woman was obese before becoming pregnant then 11-20 pounds of weight gain is encouraged during pregnancy. Discussing the extra calories that could be eaten in nutrient-dense foods could help the mother make healthier choices.

Physical activity and exercise - NOTE: Pregnant women need to talk with their doctor before starting any new physical activity. In most cases, exercising during pregnancy should be recommended for better health outcomes. If the participant has no other health or pregnancy complications, it is safe for her to exercise while pregnant or even start something that she wasn't regularly doing before she got pregnant. Encourage her to find activities that she enjoys and won't increase her chances of falling, such as: walking, biking, swimming and aerobics. (2)

Assessment for Breastfeeding Women

When a mother delivers her baby there is a shift in hormones. Progesterone, the predominant hormone during pregnancy, decreases while the milk-making hormone called prolactin surges. If a mother is overweight she may find that there is a delay in prolactin release which may lead to her milk "coming in later", often four (4) or more days after birth. Discussing the importance of skin-to-skin contact immediately after birth can help to elevate her prolactin levels and "bring her milk in earlier"

Women who are overweight may also experience excess glandular tissue or adipose tissue in their breasts. This excess tissue makes it more challenging to learn to breastfeed during the early days after their breasts feel fuller. Messages you may offer along with the importance of skin-to-skin is to feed baby often at the breast to maximize her milk making potential and strategies to position herself and baby for effective latching. It is important to note the evidence that moms who are overweight are more likely to wean earlier than 6 months. Your breastfeeding support is an invaluable opportunity to help her achieve her breastfeeding goal.

Assessment for Postpartum Women

Healthy choices after baby is born - Many moms are exhausted for the first few months after delivering a baby and they may forget to eat often or may not eat healthy foods since they are so tired and are so focused on the baby. Remind mom that her little baby needs a healthy mom to take care of him, so she needs to make sure she is eating well and staying hydrated. Here are a few examples of topics you may want to cover:

- Snacks - Healthy and easy snacks that she can keep on hand or in her diaper bag (for example, putting a handful of almonds in an unused hard sunglass case and storing in

- her diaper bag).
- Recipes - Healthy recipes that are easy to make or include ingredients that mom likes are also a great way to help this mom eat healthier.
- Portion sizes - Many people are unaware of portion sizes or that packages can be misleading and seem to be one portion but often are two or more portions.
- Protein-rich foods - Including more protein-rich foods can help mom to feel full for longer between meals and prevent unhealthy snacking. Don't assume mom knows what a protein-rich food is; discuss it with her and ask how she can include more of these foods in her meals and snacks.

Physical activity and exercise - After a woman is cleared by her OB (usually at about six to eight weeks postpartum; may vary by type of delivery and mom's recovery), it is safe for her to start to exercise. Simple activities like taking the baby for a daily walk or doing a yoga video at home while the baby is napping is a great start to adding more physical activity. Here are a few ideas for free exercises:

- Walking around the park or free admission days at community event, or even the mall if it's too hot or cold outside - suggest that mom find some walking buddies to make it more fun!
- Borrowing workout or yoga videos from the local library.
- There are many workout videos on YouTube if mom has access to internet at home.

Take a closer look!
This risk code has a case study in the *Workbook*.

Help her figure out some ways that she can work physical activity into her days that best fit her needs and schedule. Other options include joining a gym or YMCA or a new mom's fitness group.

It is a great goal for the overweight/obese postpartum women to lose weight and reduce her BMI for her health and that of any future children.

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 111 question 1.

H 131: Low Maternal Weight Gain

This is one of the high risks that needs to be seen by a RD/Nutritionist.

- Weight gain in pregnancy that is below the recommendations of the National Academies of Sciences, Medicine, and Engineering (NASEM - formerly known as the Institute of Medicine) including weight loss during pregnancy.

Definition

Low weight gain during pregnancy is determined in one of two ways. First, by the rate of weight gain in the second and third trimesters for singleton pregnancies:

- Underweight: BMI < 18.5 and < 1 pound/week
- Normal Weight: BMI 18.5- 24.9 and < 0.8 pound/week
- Overweight: BMI 25- 29.9 and < 0.5 pound/week
- Obese: BMI > 30 and < 0.4 pound/week

And the other way to classify low maternal weight gain is if the woman is plotting below the IOM's weight gain chart at any point in her pregnancy, with gain ranges as follows:

- Underweight: BMI < 18.5 and 28- 40 pounds
- Normal Weight: BMI 18.5- 24.9 and 25-35 pounds
- Overweight: BMI 25- 29.9 and 15-25 pounds
- Obese: BMI > 30 and 11-20 pounds

For more information about multiple gestation pregnancies, *see Nutrition Risk Manual*.

Etiology

It is common for pregnant women to have a harder time gaining weight during the first trimester due to nausea, vomiting or other pregnancy discomforts. However, there is more concern for women that are not gaining weight appropriately during the 2nd and 3rd trimesters. Women that have low maternal weight gain (and/or weight loss) are at higher risk for small for gestational age (underweight) infants and intrauterine growth restriction.

Assessment for Pregnant Women

When meeting with a pregnant woman who has low maternal weight gain, remember that having a risk like this can be very scary. Talk with the mother to see why she might not be gaining enough weight, what her doctor has said, including any concerns expressed. Sometimes the reason for low weight gain is pregnancy discomforts that are keeping mom from eating healthy and frequent meals. Some pregnancy discomforts such as heartburn after eating, abdominal pain or discomfort and fatigue or lack of energy to prepare meals and snacks are examples of reasons why the mother might not be eating properly. Other times, low weight gain may be due to food insecurity which may be more difficult for her to talk about. For example, you may assume that the mother is using her WIC benefits and eating all of the healthy foods that WIC provides to her. However, after talking to her and letting her open up and share more about her personal life, you learn that she gives almost all of the foods she gets to her husband who is working three jobs right now and she feels needs the food more that she does.

Tips for helping mom gain more weight:

- Eat healthy meals and snacks often - Help mom understand that not only does she need more calories and nutrients while pregnant, but often times, eating more frequently (every two to three hours) can help with nausea and vomiting.
- Higher calorie foods - Teach mom about foods that she can add to her meals and snacks that will add healthy calories to her diet, such as avocado and peanut butter.
- Work with mom to figure out meals and snacks that will help her eat more but be easy for her to prepare, such as smoothies or hearty soups and stews.
- Discuss any pregnancy discomforts that have been preventing her from eating well and discuss possible solutions.

Many times, these women start to gain weight, so talk with her about what her specific weight gain recommendations are so she will know what is appropriate for her. You may choose to schedule a follow-up visit with her if you are concerned that she won't be able to follow the recommendations in reaching goals you are setting with her.

Take a closer look!
This risk code has a case study in the *Workbook*.

Module 3: Biochemical and Clinical - The 200s and 300s Codes

In this section we will cover the Biochemical and Clinical high-risk codes. These codes include blood issues and other medical conditions. Nutrition is either affected by the medical condition or lack of nutritional intake is causing the medical problem. Either way, WIC can help by providing the nutrition and support for whatever the woman may be going through.

Overview of the Anthropometric Codes: 200s

This Biochemical section of the High-Risk Guidebook for Women has the code relating to anemia for women. The WIC RDN and Nutritionist can add valuable information and resources for these women as they assess their nutrition status and choose the best options to reach better health outcomes based on their category.

H* 201: Low Hemoglobin

This needs to be referred to an RD/Nutritionist if >1% below standard

- Hemoglobin below the CDC cut-off level

See the Nutrition Risk Manual for cut-off values tables. 

Definition

Iron deficiency anemia is a condition in which the blood doesn't have enough healthy red blood cells. When there is not enough iron in the blood, the body cannot produce hemoglobin (Hg), which is an iron-rich protein found in red blood cells that carries oxygen throughout the body. Hemoglobin and hematocrit (Hct) are commonly used to screen for iron deficiency anemia. When red blood cells are low in hemoglobin, it usually means that there is also low iron in the blood. Hematocrit is the portion of red blood cells within the blood, so when there are low red blood cell levels within the blood, this is also a good indicator of low iron status. At WIC, we use the Centers for Disease Control (CDC) cut-off values to determine if a woman is at risk for iron deficiency anemia.

For more information, see Nutrition Risk Manual. 

Etiology

Some causes of iron deficiency anemia are:

- **Not enough iron in the diet** - This can be from simply not knowing what foods are rich in iron to eating a diet that is more restrictive such as a vegetarian and vegan diet.
- **Inability to absorb iron** - This may include celiac disease or other gastrointestinal diseases that impair absorption in the gut.
- **Pregnancy** - A women's blood volume doubles during pregnancy so there is an increased need for iron in mom's blood as well as for the growing fetus.
- **Blood loss**, from:
  - Heavy menstrual bleeding
  - Ulcers
  - Cancer in the esophagus, stomach, colon or small bowel
  - Polyp somewhere in the digestive system
  - Prolonged use of aspirin or drugs known as nonsteroidal anti-inflammatory drugs (NSAIDs) (1)

Some of the common symptoms of iron deficiency anemia that these women might mention include, but are not limited to:

- Brittle nails
- Fatigue
- Weakness
- Shortness of breath
- Headache
- Pale skin
- Cold hands and feet
- Dizziness or lightheadedness (1)

Mild iron deficiency anemia does not usually have complications; however, if left untreated or if the anemia is severe, the following may occur:

- Heart problems - Low iron can lead to a rapid or irregular heartbeat. It can also lead to enlarged heart or heart failure due to the heart having to pump more/harder to make up for having less oxygen due to the low iron in the blood.
- Problems in pregnancy - In severe cases, it may lead to preterm delivery and low birth weight babies. (2)

General Assessment

Unless there is an underlying medical condition or disease, iron deficiency anemia can be resolved with diet or supplementation. When working with these women, make sure to collect accurate information about the way they eat so you can help them find ways to include more iron-rich foods in their diet. Make sure they understand what foods contain iron and encourage them to include a vitamin C-containing food when eating iron-rich foods to help increase absorption.

WIC provides many iron-rich foods to our families and sometimes parents are not aware of all the healthy nutrients that are included in these foods, so explaining to these moms which WIC foods are iron-rich can be very helpful.

Assessment for Pregnant Women

It is common for women to become iron deficient during pregnancy for reasons mentioned above. There are some women that have an increased chance of becoming iron deficient and anemic:

- Closely spaced pregnancies
- Pregnant with multiples
- Vomiting and nausea causing the woman to not eat healthy iron-rich foods
- Teen pregnancies

This is usually easily solved with diet and supplements when there are no other medical conditions. Iron supplements are commonly prescribed and can cause constipation, so encouraging mom to include lots of fiber-containing foods can help to decrease this discomfort.

Assessment for Breastfeeding Women

One thing to also consider is if a mother is experiencing anemia during her postpartum period she may also be at risk for low milk production. The importance of iron-rich foods and healthy eating not only helps mom to recover but may also impact her milk production potential.

Assessment for Postpartum Women

After childbirth, women may become iron deficient due to blood loss during the birth and the healing process of the uterus. If they were anemic during pregnancy, chances are they will be in the postpartum stage as well. This is a great time to teach mom about the healthy iron-rich foods to include in her diet since she will soon be preparing foods for her baby who will also need to be eating iron-rich foods. Share easy recipes that mom can use to prepare family meals or snack ideas that include protein-rich foods to help mom add more iron to her diet.

Overview of the Clinical Codes: 300s

It is important to understand the clinical codes for women since their nutrition can be affected by these diseases. Since they are either pregnant, breastfeeding, or postpartum, this is a critical time to ensure that the woman is eating as well as she can and has a good understanding of her (and possibly the baby's) nutritional needs.

As with all clinical codes, some of these are very rare in women, so you may never see one come up for a high-risk appointment. However, they all can occur. This section is meant to give you a brief definition and explanation of the cause of each code with helpful information you may be able to use during your assessment with a woman that presents with one of these codes. Please see the Appendix for more resources you can use.

H 301: Hyperemesis Gravidarum

- Severe and persistent nausea and vomiting

Definition

Hyperemesis gravidarum (HG) is severe nausea and vomiting where the pregnant woman becomes dehydrated and acidotic. This can cause dehydration and poor weight gain during pregnancy. This nutrition risk is based on a chronic condition, not single episodes. HG is a clinical diagnosis, made after other causes of nausea and vomiting have been excluded.

Etiology

A true cause of HG is still unknown, but it is thought to be related to the increase of hormones that occur during pregnancy. Treating HG can be complicated due to its complexity. There is great risk of malnutrition and dehydration for the mother and infant with this condition, so intervention is crucial. For some, HG may resolve between 14-20 weeks, but others can experience nausea and vomiting until the baby is born. The doctor may prescribe an anti-nausea drug to help decrease the nausea and vomiting. (1)

For more information, *see Nutrition Risk Manual*. 

Assessment for Pregnant Women

It is important to find out what this woman's medical team has recommended and help mom to understand her nutrition care plan as created by the medical team. There are universal tips that can help with pregnancy discomforts as mentioned previously, which can also be helpful to women with HG. Since many of these women are prescribed an anti-nausea drug, they will hopefully begin to eat more foods and drink more fluids and be able to keep them down.

Tips on how to manage HG:

- Eat small frequent meals and stay hydrated
- Include protein source in snacks and meals
- Try to avoid fatty and spicy foods - this can worsen the nausea
- Avoid foods that may trigger nausea and vomiting
- Eating crackers before getting out of bed
- Drinking carbonated beverages like seltzer, ginger ale, sparkling water
- Ginger and peppermint are known to decrease nausea. For example, sipping on ginger ale or chewing peppermint gum may help. (2)

H 302: Gestational Diabetes

- Any degree of glucose intolerance (high blood sugar) with first onset during pregnancy

Definition

Gestational diabetes mellitus (GDM) is defined as any degree of glucose/carbohydrate intolerance with its onset or first recognition during pregnancy.

Etiology

Gestational diabetes occurs when the beta cells of the pancreas cannot make enough insulin to process the amount of carbohydrates or sugars that are consumed. This is not necessarily related to oral intake. Insulin resistance happens because of the increase in hormones due to the pregnancy. After delivery, high glucose resolves for most women. Women with GDM, however, are at an increased risk for developing type 2 diabetes later in life. GDM can also cause the newborn to be large (macrosomia), which can cause problems like shoulder dystocia (dislocation of the shoulder) during delivery. These babies are a higher risk for being hypoglycemic (low blood sugar) after birth, having breathing problems, and as children, they are at a greater risk for being obese and developing type 2 diabetes as an adult.

Take a closer look!
This risk code has a case study in the *Workbook*.

Testing for GDM is done with an oral glucose tolerance test (OGTT) and usually occurs between 24- and 28-weeks' gestation. This test is done by having the pregnant women drink a sweet drink (similar to Orange Crush soda or fruit punch) and testing her blood sugar after about an hour. If the woman's blood sugars are at or above 130 mg/dL, the doctor will likely have her return to do a fasting OGTT and blood sugar is monitored over a three-hour period. If her blood sugar is still at 130 mg/dL for two of the four measures, she will likely be diagnosed with GDM. (1, 2)

For more information, *see Nutrition Risk Manual*.

Assessment for Pregnant Women

You will usually be seeing these women in their third trimester. Discussing the nutrition care plan that is in place from their doctor and outpatient dietitian is essential. You will want to find out what the doctor and dietitian have told the participant about her GDM and ask if she still has questions. Here are some of the areas that you will want to know about to be able to answer potential questions:

- Measuring blood glucose and understanding what HbA1c is
- Use of insulin
- Spacing carbohydrates throughout meals and snacks
- Information on what a carbohydrate is and what foods contain them
- At least 30 minutes of physical activity per day should be encouraged unless there is another medical reason to avoid activity. NOTE: She must get approval from her doctor if she is not already physically active.

A pregnant woman may be emotional at getting this diagnosis. She may feel that it is her fault that her baby is at risk due to her poor dietary choices. Encouraging the mother in any small lifestyle changes that she has made, or will make, is important. Discussing barriers to making any of the lifestyle changes can be very helpful too, as you can have the mother verbalize how she plans to overcome

those barriers. Having her commit to making a change not only allows you to have something specific to follow-up with her on next time you see her but verbalizing an action plan has also been shown to make her more successful in following through. This is known as the Influence Principle of Commitment. (3)

H* 335: Multifetal Gestation

- Carrying more than one fetus in the current pregnancy

Definition

Multifetal gestation is defined as more than one fetus in a current pregnancy or most recent pregnancy.

Etiology

There is an increased risk for pregnancy complications for any woman carrying twins and continues to increase as the number of fetuses increases. Risks include complications like:

- Placental cord abnormalities
- Low birth weight
- Fetal growth restriction
- Preeclampsia
- Anemia
- Shorter gestation
- Infant mortality

For more information, *see Nutrition Risk Manual*. 

Assessment for Pregnant Women

One difference between singleton and multiple gestation pregnancies is the amount of weight gain that is recommended for women. For women with multiple gestations, the recommended weight gain is:

Weight Status Before Pregnancy	Amount of Weight Gain (pounds)
Normal Weight	37 - 54
Overweight	31 - 50
Obese	25 - 42

Educate the mom who is pregnant with more than one baby that a steady rate of weight gain (about 1.5 pounds per week in the 2nd and 3rd trimesters) is recommended to decrease risk of complications.

Heartburn and/or mild reflux are common occurrences among women with multiple gestations. It is recommended to eat small frequent meals and drink liquids in between meals. It is also recommended to sit upright for one to two hours after eating to try to reduce the symptoms.

Assessment for Breastfeeding Women

Most mothers of multiples can produce enough milk for their infants' needs right from the beginning. As with any assessment it is important to understand the dynamics of mom and newborns. In WIC you will encounter a variety of scenarios with multiples; an important aspect of these encounters is that mom feels confident in milk expression. Mom may employ a variety of methods to meet the needs of multiples. Nursing mothers of multiples may prefer pumping, self-expression, latching, or any combination of these methods. Some may also use formula in addition to nursing, so be aware that many feeding strategies exist for nursing mothers with multiples. Addressing her needs in breastfeeding support to meet her goal and help her babies thrive. Mothers that are exclusively pumping should aim to pump 800-950 mL or 27-32 oz of breastmilk by 14 days postpartum. Moms of multiples may need additional support and information with milk expression and latch positions. Time management, milk supply and strategies to reduce physical fatigue from the demands of nursing two or more infants will be common concerns among moms with multiples.

Assessment for Postpartum Women

These women will have an increased nutritional need for recovery from their pregnancy and delivery. Areas of concern for these women include:

Healthy eating - When you have a newborn, it is really easy to forget to eat or feel like you don't have the time to eat the way you used to. Encouraging healthy meals and snacks is vital for the mom in the newborn and infant stages. Also talk about healthy choices for nutrient-dense snacks.

Vitamin supplementation - Postpartum women should continue to take prenatal vitamins and iron supplements (if prescribed by their physician). Their body is recovering from a major trauma or surgery (in some instances), so giving their body the extra vitamins and minerals is essential to aid the healing process.

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 335 question 1.

Take a closer look!
This risk code has a case study in the *Workbook*.

H 341: Nutrient Deficiency or Disease

- Diseases caused by insufficient intake of nutrients

Definition

Nutrient deficiency diseases are caused by an insufficient intake of nutrients. Women with these diseases are at greater risk of malnutrition, and their babies may be as well.

Etiology

Some of the diseases seen in women include, but are not limited to:

Hypocalcemia - This is a low amount of calcium in the blood. Adequate calcium is required for normal cell function, neural transmissions, bone structure and more. Having low blood calcium is a life-threatening situation and would need immediate attention and evaluation. (1) Hypocalcemia usually happens from severe illness or other nutrient deficiency, like vitamin D.

Osteomalacia - While rare in younger people, it can occur due to vitamin D deficiency, celiac disease, or certain drugs that are taken. It is the result of a defect in the bone-building process which causes a softening of the bone. (2)

Most of the time, a nutrient deficiency can be caught before the disease state develops. Other common nutrients that women can become deficient in include, but are not limited to:

- Vitamins B12 and B6
- Folate
- Zinc
- Iron

For more information, *see Nutrition Risk Manual*.

Assessment for Pregnant Women

Nutrient deficiencies in pregnant women may also be due to malabsorption because of a disease or inadequate intake, lack of knowledge about prenatal nutrition, or dietary taboos associated with pregnancy. (3) Nutrient deficiency is also more common in developing countries and, therefore, may be more common in our WIC participants that have recently immigrated to the US. It is also more common among women with food insecurity and in women that are not eating nutritious foods. (4)

Over 40% of the weight loss surgeries performed in the U.S. are performed on women during their child-bearing years. Because the integrity of the GI system to absorb and metabolize nutrients normally is compromised, pregnant women who have undergone weight loss surgeries face an increased risk of nutrient deficiencies during pregnancy. Nutrition assessment is especially important for women with reduced GI function due to surgery. The WIC Counselor should reinforce the importance of dietary intake and compliance with health care provider recommendations to meet mom's needs during pregnancy.

If a woman is diagnosed with a nutrient deficiency, she is likely working closely with her OB or midwife to increase her mineral or vitamin intake. It is important to talk with this mom to ensure that she understands the deficiency and the nutrition care plan created by the medical provider.

Assessment for Breastfeeding Women

Women that have nutrient deficiencies may find a delay in their milk supply after delivery. Additionally, these women and their infants should be monitored closely for adequate production and composition of their breastmilk. If a significant degree of malabsorption is present mom may find that her milk production is inadequate or nonexistent.

Explore with mom how frequently she feeds baby and whether the breast is fully drained during feedings. Ask mom to describe what hunger and fullness cues look like for her infant so you can check her understanding for how infants may express those needs.

Moms with nutrient deficiencies experience increased challenges during breastfeeding since the body will protect the integrity of the breastmilk at her expense. It is important to emphasize the importance of a well-balanced diet to meet her body's needs while she nurses baby. A general recommendation for any woman experiencing a micro or macro deficiency is to ensure that they are taking vitamin and/or mineral supplements.

Assessment for Postpartum Women

Since these mothers are replacing depleted mineral and vitamin stores from pregnancy, it is important for them to continue with the nutrition care plan created by their medical provider. Talk with this mom to make sure she understands that her health is just as important as taking care of her new baby.

H 342: Gastrointestinal Disorders

- Gastroesophageal reflux disease (GERD), peptic ulcer, short bowel, inflammatory bowel disease (IBD), bariatric surgery patients or similar post-operative GI procedures

Definition

Gastrointestinal (GI) disorders are ones that inhibit the intestine's ability to absorb nutrients in some way. Disorders include, but are not limited to: gastroesophageal reflux disease (GERD), peptic ulcer, inflammatory bowel disease (IBD) including Crohn's and ulcerative colitis, and pancreatitis.

Etiology

GERD is defined as a "condition that develops when the reflux of stomach contents causes troublesome symptoms and/or complications." (1) GERD is typically due to the lower esophageal sphincter (LES) not functioning properly. An increase in hormones during pregnancy causes relaxation in the LES. The physical shifting of organs resulting from the growth of fetus and uterus causes stomach acid to get pushed up into the esophagus. This causes a burning sensation in the chest. It can be very painful and cause those affected to eat less, drink less and get less sleep than is recommended since lying down can make it worse. (2)

IBD is a broad term that describes a recurring disease of the intestines. Two of the most commonly diagnosed diseases are Crohn's disease and ulcerative colitis. Crohn's is a chronic inflammation of the GI tract and can affect any portion of the GI tract from the mouth to the anus, while ulcerative colitis is chronic inflammation limited to the colon. (3) Causes of both of these diseases are not definitively known, but it is thought that genetics and environmental factors both play a role. Symptoms of these diseases are very similar and include: diarrhea, rectal bleeding, abdominal cramps and pain, and more.

For more information, see Nutrition Risk Manual. 

Assessment for Pregnant Women

GERD - Medications may be prescribed by the doctor to manage GERD in pregnant women. They should be providing a medication that is safe for pregnancy. Ask what her physician has told her about the management of her GERD. There are also lifestyle changes that can ease some of the pain. These tips include:

- Eat small frequent meals
- Drink water in between meals
- Avoid trigger foods such as chocolate, spicy foods, and acidic foods
- Stay upright for at least three hours after eating
- Wear loose clothing

For more tips, see the March of Dimes link in the Appendix, code 342. (4)

IBD - In most cases, IBD has no effect on pregnancy and it may even lessen symptoms. However, an active flare-up increases risk for miscarriage, premature delivery and stillbirth. Talk to these moms to find out if they are having an active flare-up and about how they are managing their symptoms. Offering moral support and encouraging mom to stick with her recommended nutrition care plan can be very helpful.

For more information, see the Crohn's and Colitis Foundation of America fact sheet link in the Appendix, code 342 (5).

Assessment for Breastfeeding Women

GERD during breastfeeding occurs more often for women who have undergone bariatric surgery or similar post-operative GI procedures. As mentioned in code 341 Nutrient Deficiency Diseases, over 40% of the weight loss surgeries performed in the U.S. are performed on women during their child-bearing years. Because the integrity of the GI system to absorb and metabolize nutrients normally is compromised, breastfeeding women who have undergone weight loss surgeries face an increased risk of nutrient deficiencies due to increased nutrition needs while nursing. Nutrition assessment is especially important for women with reduced GI function due to surgery. The WIC Counselor should reinforce the importance of dietary intake and compliance with health care provider recommendations to meet mom's needs while breastfeeding baby.

Assessment for Postpartum Women

The postpartum stage for a woman with a GI disorder can vary greatly. Some women may have a flare-up sometime after the baby is born, after having no issues during the pregnancy. Others may not experience a flare-up at all.

If she is having a flare-up, her medical provider may have prescribed a medication that forced her to stop breastfeeding. She may be sensitive to talk about how the baby is feeding if breastfeeding had been a goal of hers. Try offering a lot support and encouragement to these moms. Providing alternate ways that a mom can bond with her child, for example, reading to them, rocking them, or singing to them, may help the mother feel connected if she feels she's lost some of that time because she had to stop breastfeeding.

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 342 question 1.

H 343: Diabetes Mellitus

- Type 1 or type 2 (diagnosed prior to pregnancy)

Definition

Diabetes mellitus (DM) consists of a group of metabolic diseases characterized by inappropriate hyperglycemia resulting from defects in insulin secretion, insulin action or both. (1)

Etiology

DM is a disease where there is too much glucose in the blood. The body is resistant to insulin, so the pancreas makes more, but eventually the pancreas is unable to keep up with the production of insulin. This causes the cells to not have adequate energy and causes complications with kidneys, eyes, and nerves over time.

When a woman has DM before she becomes pregnant, it is important for her to manage the disease during pregnancy. Risks for her include:

- Urinary tract infections
- Worsening eye and kidney complications (if present before pregnancy)
- Preeclampsia
- Difficult delivery

There are also risks to the baby, including but not limited to:

- Miscarriage
- Prematurity
- Birth defects

- Macrosomia (large baby)
- Hypoglycemia at birth

For more information, see Nutrition Risk Manual. 

Assessment for Pregnant Women

There are many changes that the woman's body goes through during pregnancy, and some of these changes can affect her DM as well. Talk to this mom about what her nutrition care plan includes and make sure she understands the recommendations and different blood glucose levels for pregnancy.

The following recommendations of levels of blood glucose have been made by the American Diabetes Association for women with DM who become pregnant:

Preprandial (before meals)	60 mg/dL
Postprandial (after meals, one to two hours after beginning the meal)	100-129 mg/dL
Bedtime/overnight	60 mg/dL
A1C	less than 6%

Women with type 1 DM will most likely need to increase their insulin, and even more so during the 3rd trimester. The reason for the increased insulin is due to the placenta making hormones that help the baby to grow that also block the action of the mother's insulin. (2)

For women with type 2 DM, her medications may need to be changed. For example, she may go from oral pills to insulin injections. Some pills are not safe for the growing baby, so her doctor may switch her to insulin during her pregnancy (insulin does not cross the placenta, whereas some medications will). In addition, the insulin resistance caused by pregnancy hormones can make the drugs taken for DM ineffective. (2)

Women with type 1 or 2 may need to adjust their meal plan when they become pregnant so talk with

them to make sure they understand the changes made and the importance of following their Nutrition Care Plan. Finding out where the participant is at in terms of readiness to change is important here. We can't force anyone to eat healthier food and exercise if they aren't motivated. Luckily, for many women, being pregnant provides plenty of motivation to change unhealthy behaviors.

You should also talk to this mom about how she is planning to feed the baby. Breastfeeding is a wonderful choice for these moms as breastfeeding can reduce the baby's risk for type 1 DM. Women with DM, and more specifically uncontrolled DM, may have a harder time making milk so letting her know that it may take an extra day or two for her milk to come in can help her with breastfeeding success. Also, letting mom know that when she is admitted to the hospital and has delivered her baby she can ask to talk with the lactation consultant (LC), and to make sure she tells the LC that she is diabetic. This way she is more likely to get the extra support she may need to get breastfeeding off to a great start.

Assessment for Breastfeeding Women

You should also talk to this mom about how she is planning to feed the baby. Breastfeeding is a wonderful choice for these moms as breastfeeding can reduce the baby's risk for type 1 DM. A topic to discuss with mom is the importance of skin-to–skin contact, and specifically that one hour of skin-to-skin postpartum will help to establish lactation. Some moms may find that with DM their mature milk will be established around days 7-10. If a mom is able to increase her time skin-to-skin, she can effectively shorten the length of time for her mature milk to appear. Mom can help alleviate the risk of hypoglycemia by breastfeeding within the first hour after birth as often as baby desires and by hand-expressing breastmilk. Women with DM, and especially uncontrolled DM, may have a harder time making milk.

By letting a mom with DM know that it may take an extra day or two for her milk to come in we can increase her opportunity for breastfeeding success. Also, let mom know that when she is admitted to the hospital and has delivered her baby she can ask to talk with the lactation consultant (LC). When she informs the LC that she is diabetic she is more likely to get the extra support she may need to get breastfeeding off to a great start.

Assessment for Postpartum Women

Almost immediately after the baby is born, these women's blood glucose levels usually return to pre-pregnancy levels. However, blood glucose levels after delivery are somewhat unpredictable compared to mom's pre-pregnancy state. She may experience drastic highs and lows. It will be important for this mom to continue closely monitoring glucose and manage it as needed.

Other tips to you may want to share with these moms:

Exercise - Talk to her about if and when she is planning to start exercising. This is an important part of DM management, so helping mom plan her return to or start of exercising can be very helpful to her. If she is new to exercise, recommend taking the baby on a daily walk to get fresh air. This can be a great start to adding more physical activity into her day while including her baby.

Taking care of herself - It is easy for new moms to forget to take care of themselves due to being tired or so focused on the responsibilities of having a new baby. Praise her amazing efforts at taking care of the baby but remind her that the baby needs a healthy mom too. She needs to continue eating healthy and balanced meals as well as taking medications or insulin as prescribed by her medical provider.

Asking for support - If mom is overwhelmed and seems to be having a hard time taking care of the baby and herself, talk to her about her support network. Reaching out to friends and family for help and support is a great way for mom to get back to her routine and take better care of herself and manage her DM.

Long-term goals for these moms should be to achieve a healthy weight, both for future pregnancies and DM management.

H 345: Hypertension and Prehypertension

- High blood pressure, pregnancy-induced high blood pressure, preeclampsia

Definition

Hypertension (HTN), also called high blood pressure (HBP), is when the force of the blood inside the arteries is too high. If this increased force or pressure continues without treatment, it will have damaging affects to the heart, kidneys, blood vessels and other areas of the body. Blood pressure is measured by systolic (the pressure of the blood as the heart beats) and diastolic (pressure of blood when heart is at rest) .(1) The table below shows the systolic and diastolic levels that are normal compared with prehypertension and hypertension.

Category	**Systolic (top number)**		**Diastolic (bottom number)**
Normal	Less than 120	And	Less than 80
Prehypertension (Elevated)	120 - 139	And	Less than 80
High blood pressure			
Stage 1	130-139	Or	80-89
Stage 2	140 or higher	Or	90 or higher

*Chart from: Mayo Clinic (2).

Etiology

Many factors may increase a woman's risk for developing HTN and HBP; these include but are not limited to:

- Smoking
- Being overweight or obese
- Stress
- Genetics and family history
- Some diseases such as chronic kidney disease and thyroid disorders

- Hormone therapy or birth control pills
- Pregnancy - this is known as pregnancy-induced hypertension (PIH) or preeclampsia (which also comes with other health conditions such as edema and proteinuria)

Blood pressure during pregnancy drops during the first and second trimester due to vasodilation (blood vessels relaxing) and then begins to increase again between 22-24 weeks gestation to prepregnancy levels. Right after birth it is common to see blood pressure drop again and then normalize to prepregnancy levels about three to five days after delivery. But in women with HTN, it can take even longer for their blood pressure to normalize, sometimes up to six months.

PIH is the most common complication diagnosed during pregnancy and may lead to several negative outcomes including:

- Low birth weight
- Fetal growth restriction
- Prematurity
- Maternal, fetal and neonatal morbidity (3)

When a woman has PIH, it may take up to five to six weeks for her blood pressure to normalize. For this reason, it is important for postpartum women to understand how to control their blood pressure.

For more information, see the Nutrition Risk Manual. 

General Assessment

Lifestyle changes can help reduce high blood pressure before, during and after pregnancy. Some changes you can encourage include:

DASH Diet (Dietary Approaches to Stop Hypertension) - This diet includes reducing total fat, saturated fat, cholesterol and sodium while increasing consumption of fruits, vegetables, low-fat dairy products and nuts. (3)

Exercise - Ask the women about their current exercise routine and offer ideas for other activities they can participate in to get exercise. For example, joining a local walking or hiking

group, getting a group of moms and kids to go walk at community location, or play dates at the park where moms play on the equipment too are all great!

Maintaining Healthy Weight - Work with the women to take steps towards making healthier nutrition and lifestyle choices so they can reach a healthy weight and BMI. Some talking points include:

- Portion sizes
- Healthy snacks
- Healthy family meal recipes
- Easy on-the-go meals and snacks
- Tips on shopping at the grocery store - what foods may contain hidden salt, fat and added sugar

Assessment for Pregnant Women

If a participant was diagnosed with HTN before getting pregnant, it is very important to manage the high blood pressure during pregnancy, as pregnancy can make HTN more severe. Some complications from not controlling HTN and HBP during pregnancy include:

- Preterm delivery and low birth weight
- Harm to mother's kidneys and other organs

Talk with this mom to make sure she understands the nutrition care plan given by her medical team. Following a low-sodium diet is important to help keep blood pressure within normal range. You may want to help this mom find easy-to-prepare low-sodium meal recipes or offer her some resources such as the American Heart Institute's Recipes for Blood Pressure Management. See Appendix, code 345 for links to recipes . (4)

Oftentimes, HTN and HBP medications are not safe to take during pregnancy. For women who are taking an ACE inhibitor or an angiotensin II receptor blocker (ARB) and think they might be pregnant, they must see their doctor immediately. These drugs have been shown to be dangerous to mother and baby alike during pregnancy. See Appendix, code 345 for more information about HTN and HBP medications (5)

Assessment for Breastfeeding Women

Little is known about the effects of HTN or HBP on milk production. Mother's milk-making potential and her infant's weight gain are influenced by hormone regulation. HTN and HBP are associated with hormonal imbalance and changes which may impact milk supply and the breastfeeding relationship. Consideration should be made to any medications that the mother may be prescribed to ensure compatibility with lactation.

Assessment for Postpartum Women

It is common for women's blood pressure to normalize within days up to 12 weeks after the birth of their baby. However, this is not always the case. Talk with mom to make sure she is still working with her health care provider to make sure her blood pressure is under control.

Some women might get postpartum hypertension, which is usually characterized by HBP just following delivery of their baby. Symptoms might include swelling of ankles and throbbing headaches. Often, postpartum hypertension is a side effect of the drugs administered during the delivery. Tips for these moms include:

- Low-sodium meals and snacks
- Limit high-fat and greasy foods
- Exercise when cleared by their doctor

If you are seeing a postpartum woman who had preeclampsia during her pregnancy but states that she is no longer hypertensive, talk with her about making healthy lifestyle changes to help prevent cardiovascular disease. Here are some lifestyle changes you may want to talk about:
Smoking cessation, Diet, Exercise, Glucose control

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 345 question 1.

H 346: Renal Disease

- Any kidney disease (does not include bladder infections)

Definition and Etiology

Renal disease includes any type of disease relating to the kidneys but excludes urinary tract infections. The main types of kidney disease include: acute renal failure, chronic kidney disease, and nephrotic syndrome.

Acute renal failure (ARF) is a condition that occurs suddenly when the kidneys are unable to filter out waste products. The waste can build up in the body and cause blood chemical imbalances that can lead to death. ARF can be caused by heart attack, blood or fluid loss, or from using aspirin, ibuprofen, and other related drugs. (1)

Chronic kidney disease (CKD) is when kidney function has decreased for three or more months. It can be caused by hypertension or diabetes. CKD is classified from stages 1-5, with stage 5 needing dialysis or transplant. (2)

Nephrotic syndrome (NS) can occur with a group of symptoms including: proteinuria, hypoalbuminemia, dyslipidemia and edema. NS can be caused by diabetes, medications and preeclampsia. (3)

Women that become pregnant and have renal disease are at higher risk for developing:

- Chronic hypertension
- Preeclampsia
- Anemia
- Fetal growth restriction
- Prematurity.

For more information, see the Nutrition Risk Manual. 

General Assessment

Participants will most likely be followed closely by a dietitian. Some of the main things to be aware of with these participants include:

Nutrient Levels - Their diet will be monitored by checking their blood for certain vitamins and minerals. The nutrients of concern include: protein, phosphorus, sodium, potassium and other vitamins and minerals (depending on the person). Encourage moms to keep their medical appointments to get their blood checked for these nutrients so they can be in their best health. You may want to consider tailoring the food package for these participants if they have any restrictions on certain nutrients. For example, if she needs to be restricting phosphorous in her diet, you can decrease the amount of dairy in her food package.

Special Diets - Vegetarian diets for those with CKD may be beneficial but also pose risks. Encourage discussions with their health care provider to ensure all their nutrient levels stay within the safe zone after any diet changes. (4)

Assessment for Pregnant Women

These women and babies are at very high risk, especially if the woman has kidney failure. However, some women can still become pregnant and carry a healthy baby to term with close medical monitoring. Crucial topics for the WIC RDN/Nutritionist to be aware of and things to discuss with pregnant women may include:

Medical Care - Because of the additional risks to pregnant women, it is very important that these women continue to work closely with their medical team to ensure proper nutrition and medical treatment is being followed and monitored. Some of these women continue to receive dialysis and other women do not. It is interesting to note that women with moderate to severe renal insufficiency are at higher risk for worsening kidney function during pregnancy. (5) The degree of renal insufficiency is more important than the type of kidney disease in predicting pregnancy outcomes. (5)

Offer Support - As a WIC RDN/Nutritionist, you can offer support to these mothers and encourage them to continue with their nutrition care plan as prescribed by their medical team. Many of these mothers may feel run down and scared for their baby, so your affirmations and

encouragement for her hard work during her pregnancy can be very helpful and uplifting.

Assessment for Breastfeeding Women

As during pregnancy, impairments in kidney function and renal failure for breastfeeding women has a major impact on nutrition status. Depending on the nature and severity of the change in kidney function it is important to work closely with the health provider and ensure dietary needs are being met. Some women may be able to breastfeed by managing their dietary intake and through the support of their medical team. For other women, especially for those with renal failure and who receive dialysis treatment, the ability to breastfeed may be limited or contraindicated. As the WIC RDN your role is to listen to mom, coordinate care with her health care provider, and offer the breastfeeding support that is appropriate for her situation. Your encouragement can help moms who want to nurse their baby but may find the challenge of developing a plan overwhelming.

Assessment for Postpartum Women

As with all postpartum women, their bodies are going through many physical changes which can last several months after the birth of the baby. The topics below are the same as for pregnant women, but for different reasons.

Medical Care - Because of all the changes that occur after pregnancy and delivery, women need to be closely monitored by their medical team to ensure renal function, blood pressure and body fluids return to a normal nonpregnancy state. (6)

Offer Support - You can also support a mom by praising her for taking such great care of herself during her pregnancy and delivering a healthy baby, and now working so hard to take care of her new baby. Helpful tips for easy meal prep and healthy snacks can be helpful to these new moms managing kidney disease and a new baby. Also, encouraging mom to stick to the recommendations of her medical team and meeting with them as planned is very important to her health.

H 347: Cancer

- Any cancer

Definition and Etiology

Cancer is the uncontrolled growth of abnormal cells in the body. Today there are over 100 different types of cancers; however, the types of cancers mostly seen in pregnant, breastfeeding and postpartum women include: cervical cancer, breast cancer, thyroid cancer, some lymphomas and melanoma. While it is rare for cancer to occur during pregnancy, it can happen. Often the diagnosis of cancer is prolonged because the symptoms are masked by the pregnancy. For example, bloating, rectal bleeding or headaches are symptoms that are commonly seen with pregnancy as well as certain types of cancer. If a woman is diagnosed with cancer during her pregnancy, treatment may have to wait until the birth of the baby in order to ensure no harm is done to the baby while in utero. Because of the increase in hormones in the woman during and after pregnancy, the cancer may grow and spread faster than in a nonpregnant or postpartum woman. (1)

For more information, see Nutrition Risk Manual. 

Assessment for Pregnant and Postpartum Women

If a participant is currently receiving cancer treatment, some general guidelines include:

Encourage calorie intake - Side effects of chemotherapy are harsh. Nausea, vomiting, dry mouth and painful swallowing are some things that could occur. Encouraging intake in creative ways can be helpful for the participant. For example, smoothies full of protein, fat and nutrients are a great way to help them get more nutrients.

Unconventional Diets - Several diets may be promoted as helping to treat cancer (i.e., Gerson Diet, Gonzalez Diet, High-Dose Vitamin C, and Shark Cartilage). (2) While some of these diets may make participants feel better, there is not enough evidence to know if they work. Discourage any intervention that delays conventional treatment that is proven effective, treatment by unlicensed professionals, and injection of substances not approved by the US Food and Drug Administration. Cancer patients are often a target for trying new diets in the hopes of finding something that works for them.

Supplements - Inform participants that “natural" does not mean "safe." Current labeling regulations do not ensure that what is in the bottle corresponds to what is on the label. Currently, there is not sufficient research to know what interaction there might be between cancer treatments and therapeutic doses of supplements. (2)

Assessment for Breastfeeding Women

There are more than 100 types of cancer, with different symptoms and treatment according to the specific diagnosis. Depending on the type of cancer and treatment, mom may have little or no difficulty successfully breastfeeding. Other types of cancer may require medications and therapies that affect the breastfeeding relationship without prohibiting it entirely.

Work with the healthcare provider to counsel mom about strategies that accommodate medications and therapies with breastfeeding. For example, mom may be able to pump and dump while taking medications that affect her breastmilk to maintain her supply until she can return to nursing. In other cases, mom may be able to put baby to breast while pumping and storing her milk for times when she will undergo radiation treatments or chemotherapy. For moms whose cancer treatment requires them to end their breastfeeding relationship you can affirm mom’s efforts to do her best for baby and encourage her to continue offering skin-to-skin and bonding with baby.

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 347 question 1.

H 348: Central Nervous System Disorders

- Epilepsy, cerebral palsy, neural tube defects, Parkinson's or multiple sclerosis

Definition and Etiology

Central nervous system disorders are classified as high risk because of the affect the disorder has on energy requirements, the ability to feed oneself, and because they alter the nutritional status metabolically, mechanically or both. These conditions include: epilepsy, cerebral palsy, neural tube defects, Parkinson's disease and multiple sclerosis. The most common disorders found among women include epilepsy and multiple sclerosis.

For more information, see Nutrition Risk Manual. 

Epilepsy is a condition that causes recurrent seizures. Someone may be diagnosed with epilepsy if: they have had at least one seizure, are likely to have more, and there is no other treatable medical condition causing the seizures. (1) Epilepsy can be caused by a traumatic brain injury or brain infection or it can be inherited. (2)

Multiple sclerosis (MS) is an abnormal response of the immune system where the immune system basically attacks the central nervous system, causing fatigue, walking difficulty, vision problems, numbness, weakness, cognitive changes and more. (4) MS is found more in women of childbearing years than any other group. (5)

General Assessment

Many of these diseases have symptoms that range from mild to severe. Participants can be anywhere along the range in their disease state, so it is important to talk with the participant to see where she is in the range of her symptoms.

Some things to consider for the specific diseases:

Epilepsy

- Ketogenic diet - This diet is sometimes used when medications and other treatments are not helping with the seizures. It is not something that a WIC RDN/Nutritionist would be prescribing, as initiation onto this diet usually requires hospitalization. It is good, however, to be aware of the diet, as participants could already have started this diet before you see them. This diet is low in carbohydrates and high in fats and includes protein. It

creates ketones and the body functions normally when using these ketones for energy; however, without strict adherence to this diet, the ketosis will not occur. Even one high-carbohydrate snack can destroy ketosis. (3) You can support these women by encouraging adherence to the diet and helping them to better understand other low-carbohydrate/high-fat meals and snacks they can have.

Multiple sclerosis

- Consuming a low-fat and high-fiber diet, as recommended for any other adult, is currently considered the best approach for managing MS. Several other diets have potential for managing MS, but none currently have sufficient evidence to be directly related to helping MS symptoms. For more information on diets that have been studied for effects on MS, see Dr. Pavan Bhargava's summary list of diets here: http://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Documents/Diet-and-Multiple-Sclerosis-Bhargava-06-26-15.pdf

Assessment for Pregnant Women

Many of the medications used to manage MS symptoms are not safe to take during pregnancy. For some of these women, their MS symptoms could worsen, For example, symptoms such as fatigue, bowel problems and walking problems may increase. However, some women experience reduced symptoms and do great during pregnancy, which may be from increased natural immunosuppressants and corticosteroids due to pregnancy. (5)

Assessment for Breastfeeding Women

The overall assessment should focus on the same indicators and behaviors used to assess any breastfeeding mom. Central nervous system disorders do not affect the quality of breastmilk and infants of mothers with CNS disorders benefit from breastfeeding. Due to the increased fatigue caused by CNS disorders the breastfeeding assessment should give attention to breastfeeding positions that help mom increase her comfort and avoid physical exhaustion. In some cases a mom may find that she is experiencing remission or reduced symptoms during her lactational period. Moms may not be aware of whether the medications they use are compatible with breastfeeding. For breastfeeding moms using medication(s) it is important to offer mom the information about her medication(s) and allow her the opportunity to continue the conversation with her health care provider.

Assessment for Postpartum Women

Relapses occur for those with MS more often than prior to pregnancy, especially during three to six months postpartum. Some research shows a 20-40% rise in relapses, but most often the higher relapse rate is temporary and does not cause long-term disability. (6)

Women with MS are at higher risk for postpartum depression than the regular population, so make sure to refer these women to their doctor if they have any signs of depression.

H 349: Genetic and Congenital Disorders

- Cleft palate, Down syndrome, muscular dystrophy

Definition and Etiology

Genetic and congenital disorders are present at birth and alter nutritional status metabolically, mechanically or both. These disorders include: cleft lip or palate, down syndrome, thalassemia major, sickle cell anemia (not sickle cell trait), and muscular dystrophy. If women that are pregnant, breastfeeding or postpartum have any of these conditions, it can greatly affect their nutrition, which is so important during pregnancy.

For more information, see Nutrition Risk Manual. 

Cleft lip and palate is the presence of an opening in the lip, palate or combination of both due to the lip or palate not forming properly in utero. (1) These usually get corrected early in life and it would be rare to see a woman with this condition.

Down syndrome is one of the most common chromosomal abnormalities and occurs due to extra genetic material on chromosome 21. It is characterized by developmental delay, hypotonia (low muscle tone), short stature, and certain features of the face and hands. Other complications can be present, including heart defects, GI malformations, hearing loss, obstructive sleep apnea, obesity and more. (2)

Sickle cell anemia is an inherited blood disease where the red blood cells are a crescent shape instead of a doughnut shape (like normal red blood cells). Some of the symptoms of sickle cell anemia include: shortness of breath, coldness in hands and feet, and jaundice. (3) More complications are present in a pregnant woman with sickle cell anemia; she may have more pain episodes and is at higher risk for preterm labor, a low birth weight baby and more. (4)

Muscular dystrophy is a genetic disorder where abnormal genes interfere with proteins being made for healthy muscle. It is a gradual disease where people may eventually lose the ability to perform everyday tasks like walking or sitting up. (5)

General Assessment for Pregnant and Postpartum Women

Down syndrome

- Diet - Obesity is a concern among those with Down syndrome. Following a healthy and balanced diet and encouraging exercise will benefit these women. (6)
- Constipation - This is common among people with Down Syndrome and even more so when pregnant and postpartum. Fiber-rich foods like fresh fruits and vegetables can help keep them regular. Prune juice and/or a stool softener or laxative can help as well. Encourage her to discuss this issue with her doctor so they can be aware, in case anything else might be causing the constipation. (6)

Celiac disease

Celiac disease is more prevalent among people with Down Syndrome than the general population (diagnosed in 7% to 16% of adults with Down Syndrome). Regular celiac monitoring is therefore recommended for adults with Down Syndrome. Usually symptoms appear in the form of the person losing a skill they had, not necessarily bowel changes. This is something to keep in mind in case participants mention losing a skill and not having a reason for the loss. Referring to their doctor for follow-up could be beneficial in these situations. (6)

Sickle cell anemia

- Nutrition during painful episodes - Anyone with sickle cell anemia can experience times of extreme pain; however, they can occur more often during pregnancy. Tips to

help prevent the episodes of pain include: drinking plenty of water (at least 64 ounces/ day), trying not to get too hot or too cold, avoiding high altitudes (i.e., flying, high altitude cities) and low oxygen situations (i.e., mountain climbing, intense exercise). (7)

- Diet and Nutrition - Women with sickle cell anemia can be encouraged to follow a balanced and healthy diet with plenty of fluids. If they are seeing an outpatient dietitian or nutritionist for further monitoring, they may be on a high calorie and high protein diet. This is not something that a WIC dietitian should prescribe, as the WIC setting is not ideal for thorough follow-up with these participants. However, it is something to be aware of so you can answer questions for participants or make referrals for additional nutrition support. Fat intake becomes important when consuming the high calorie diet as high calorie foods often have high fat content. Encouraging foods with healthy fats, limiting saturated fats and staying under 30% of calories from fat should be advised. (8)

Assessment for Breastfeeding Women

There is little available evidence to demonstrate the impact of Sickle Cell Disease on breastfeeding. Encourage breastfeeding moms with Sickle Cell Disease to follow the nutrition recommendations for Pregnant and Postpartum women with Sickle Cell. Coordinate infant feeding recommendations with mom's health care provider. Based on mom's health and the provider's recommendations for breastfeeding, offer support and guidance that helps mom establish a breastfeeding relationship appropriate for her situation.

H 351: Inborn Errors of Metabolism

- Phenylketonuria, Maple syrup urine disease or other metabolic disorders

Definition and Etiology

Inborn errors of metabolism (IEM) are disorders where a single unique enzyme or transport protein is affected at birth.

These disorders can be broken down into two categories:

1. Disorders that result in toxic accumulation
    - Disorders of amino acid or protein metabolism
    - Disorders of carbohydrate intolerance
    - Lysosomal storage disorders
2. Disorders of energy production or usage
    - Fatty acid oxidation disorders
    - Disorders of carbohydrate utilization or production
    - Mitochondrial disorders
    - Peroxisomal disorders

Usually these errors or disorders show up at birth, but they can fail to get noticed until adulthood.

The most common IEM is phenylketonuria (PKU), which is an example of an amino acid or protein metabolism disorder. PKU is the absence of a liver enzyme, phenylalanine hydroxylase, which breaks down the essential amino acid phenylalanine to tyrosine. Because this breakdown does not occur, phenylalanine builds up in the blood. If left untreated, neurological damage will occur, which can include intellectual disability, growth delay and seizures. Most women will be closely following a special PKU diet because they would have had to stick to this diet their whole life to avoid damaging effects of the phenylalanine. However, with pregnancy there is more risk because excess phenylalanine can harm the baby as well, including: small head size, low birth weight, heart defects and intellectual disabilities. (1)

For a complete list of all IEMs see the Nutrition Risk Manual. 

Assessment for Pregnant Women

Women who have an IEM and become pregnant need to be followed closely by a medical team.

Since women with an IEM aren't able to turn food into energy properly there can be health and growth issues for both the mom and the baby. For this reason, make sure mom is working closely with her medical team and that she understands the increased importance of following her prescribed diet and medications and other medical recommendations.

Women who have PKU and get pregnant can have healthy babies; they just have to follow their PKU diet to avoid damaging effects for the baby. The PKU diet limits foods that contain phenylalanine (or phe), which is mostly foods with high protein. Foods like milk, cheese, chicken, fish, legumes, grains, eggs and nuts are high in phe. Most people with PKU have to buy special foods with low levels of phe in them. (2)

Assessment for Breastfeeding Women

Some women with genetic disorders such as IEMs worry about transmitting a chronic illness to their breastfeeding infant. While genetic disorders cannot be prevented by breastfeeding, studies suggest that breastfeeding can delay the onset of symptoms for an infant. This can be empowering from a mother who is a chronic sufferer of illness, especially during her time as a breastfeeding mother. This window of time may be her opportunity to seek control and normalcy because she can provide optimal care for her baby at the breast. Encouragement and support as well as making mom feel heard can increase mom's confidence and improve her bond with baby.

Assessment for Postpartum Women

As with any pregnancy, women's bodies go through a lot of changes and then have to recover in the postpartum stage. For women with an IEM, this can create additional challenges for the new mom. For this reason, as with pregnant women with an IEM, it is essential that they work closely with their medical team.

As a WIC RDN, you can offer support and better understanding of her nutrition care plan as prescribed by her medical team. Having a newborn can be a lot of work, so offering her support and praising her for her strengths and hard work at taking care of herself and her baby can be very helpful and encouraging to the mother.

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 351 question 1.

H 352.1: Infectious Disease - Acute
352.2: Infectious Disease – Chronic

- Acute Infectious Diseases include diseases of shorter duration diagnosed within the last 6 months, such as Hepatitis A, Hep. E, Meningitis (Bacterial/Viral), Parasitic Infections, Listeriosis, Pneumonia, Bronchitis (3 episodes in past 6 months)
- Chronic Infectious Diseases include conditions that likely last a lifetime and require long-term management, such as HIV, AIDS, Hepatitis D, Hep. B, Hep. C

Definition and Etiology

Infectious diseases are caused by bacteria, viruses, fungi or parasites. Some of the common diseases that can affect women include: tuberculosis, pneumonia, meningitis, hepatitis, bronchitis and HIV/AIDS. These diseases are of concern because they are severe enough to interfere with nutritional intake. Listed below are some of the diseases that may affect mothers in WIC.
For more information, see Nutrition Risk Manual. 

Hepatitis is a general term meaning inflammation of the liver. The inflammation can be caused by too much alcohol, autoimmune diseases and viruses. There are three main types of hepatitis - A, B and C. When inflammation is severe or lasts for a long period, the tissue of the liver becomes tough and scarred. This scarring makes it harder for the blood to pump through the liver and clear toxins from the body. (1) There is potential for this disease to be passed on to the infant during the delivery. Pregnant women are usually tested for hepatitis B before giving birth and infants receive vaccines as a standard of care. (2)

Bronchitis is the inflammation of the bronchial tubes that carry air to and from your lungs. This disease is characterized by persistent coughs and can be acute or chronic. Viruses, smoking and pollution can all cause bronchitis to occur. (3)

HIV/AIDS is a virus. HIV stands for human immunodeficiency virus and it attacks the T cells or CD4 cells that fight infection in the body. This virus cannot be cured and will eventually lead to the final stage of infection, acquired immunodeficiency syndrome (AIDS). HIV is passed through body fluids, such as blood, semen, vaginal and rectal fluids, and breastmilk. It is not transferred through saliva. (4)

General Assessment

Participants probably won't be coming to you when they are in the midst of severe illness. Therefore, the WIC nutrition assessment will focus on how they have been eating and how to ensure they are getting the best nutrition possible. The woman's nutrition is critical to ensure she is getting enough calories and nutrients to boost her metabolism and meet energy needs as the body fights the infection.

HIV/AIDS

- Diet and Nutrition - There is no specific nutrition therapy for those with HIV/AIDS other than encouraging adequate food and fluid intake to maximize health and avoid wasting (losing body mass).

There are some specific things to consider in pregnant, postpartum and breastfeeding women.

Assessment for Pregnant Women

HIV/AIDS

Transmission to Baby - Mothers with HIV can pass the disease to their child through the pregnancy, vaginal birth and breastfeeding. Medications can be given at birth to reduce the chances of acquiring HIV. Without the medications for the babies, there is a 25% chance of them contracting HIV, but when medications are given, the risk drastically falls to less than 2% of babies contracting HIV. (5)

Hepatitis B (HBV)

Transmission to Baby - Moms can transmit HBV to their babies during delivery (both vaginally and by c-section). However, doctors can give the baby two shots that give them more than 90% protection from the virus. These shots are their first HBV shot and an HBIG (Hepatitis B Immune Globulin) shot which acts like a "booster" to help the baby fight the infection.

Assessment for Breastfeeding Women

HIV/AIDS

Transmission to Baby - Mothers with HIV can pass the disease to their child through the pregnancy, during vaginal birth, and breastfeeding. Breastfeeding is contraindicated in this circumstance.

Hepatitis B (HBV)

Transmission to Baby - Moms can transmit HBV to their babies during delivery (both vaginal and c-section). However, babies who are born to HBV-positive mothers are at no greater risk of obtaining the virus and breastfeeding is recommended. Hepatitis is not passed via breastmilk. If the mother has contracted the disease after birth, it can still be safe to continue breastfeeding. The mom, baby and any other additional family members should be vaccinated. In any case with the proper treatment and precautions mothers with HBV, HCV and HAV may continue to breastfeed. Precautions include vaccination, absence of bleeding or cracked nipples (HCV), and any necessary milk expression when the mother is too ill to have baby at the breast.

Assessment for Postpartum Women

Postpartum women with infectious diseases need to be aware of the dangers of transmission, if possible, to the new baby, as well as the importance of taking care of themselves and their health. They need to work with their doctor to make sure they are managing their specific disease and meeting their nutritional needs.

H* 353: Food Allergies

- Immune response to a food allergen

Definition and Etiology

Food allergies occur when the body mistakenly has an immune response to a protein in a specific food and attacks the body. It is extremely important to eliminate any food that has been identified as a food allergy. Reactions to allergic foods range from mild like a skin rash or eczema to life-threatening anaphylactic shock. About 12 million Americans have food allergies, which equates to 3.5% of the population. (1)

For adults, the foods that cause the majority of significant allergic reactions are:

- Peanuts
- Tree nuts
- Fish
- Shellfish

About 200 adults die from anaphylaxis due to a food allergy each year. Out of these 200 people, 80% of these reactions are from peanut and tree nut allergies. (1)

For more information, see Nutrition Risk Manual. 

General Assessment for Pregnant and Postpartum Women

Most of the time, participants will know that they have a food allergy before becoming pregnant. It is important to advise pregnant women to continue to avoid foods that cause an immune response in their body.

These women may need guidance on nutritious foods that can replace the food that they must avoid. For example, if a participant is allergic to peanuts, it would be good to understand their diet to see where they could get the nutrients that they are missing out on because of the peanut allergy (niacin, magnesium, vitamin E, manganese, and chromium). Taking a daily multivitamin is highly encouraged.

Participants may also need help in finding hidden allergens in foods. Asking them questions about their allergy and how they typically know what to avoid will help you to see how well their allergy is being managed.

Assessment for Breastfeeding Women

Breastfeeding can be an empowering time for a mom who suffers from food allergies. Breastmilk has been shown to support the infant's developing immune system and to reduce the risk of food allergies. Many mothers who struggle with food allergies are motivated to breastfeed in hopes of reducing the risk for their infant.

H 354: Celiac Disease

- Also known as celiac sprue, gluten enteropathy and non-tropical sprue

Definition and Etiology

Celiac disease (CD) is an immune reaction in the small intestine to eating gluten, a protein found in wheat, barley and rye. Over time this reaction can damage the lining of the small intestine and impair nutrient absorption. Damage to the small intestine can lead to bloating, diarrhea, weight loss and nutrient deficiencies. If left untreated, CD can impair brain, liver and nervous system function due to nutrient deficiencies. The exact cause of CD is unknown, but there may be a genetic link as well as other factors. The National Institutes of Health estimate that about 1 in 141 people have the disease, with most being Caucasian. It is important to note that in some cases, CD can be triggered, or become active, after surgery, pregnancy, birth or severe emotional stress. (1, 2)
For more information, see Nutrition Risk Manual. 

General Assessment

When properly managed, people with CD can live a normal and healthy lifestyle. Although there is currently no cure for CD, following a strict gluten-free diet can help to manage symptoms and promote small intestine repair and health. It's important that your client understands how crucial it is to follow the gluten-free diet to make sure they continue to be healthy. Make sure they have a clear understanding of what a gluten-free diet is and what foods contain or may contain gluten. (1, 2)
For more information on the gluten-free diet, see:

- Mayo Clinic: (http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/gluten-free-diet/art-20048530) or
- Gluten Free Living: (http://www.glutenfreeliving.com/gluten-free-foods/diet/basic-diet/)

Assessment for Pregnant Women

The most important thing for a pregnant woman with CD is to maintain a gluten-free diet to make sure they have a healthy gut that is able to absorb all of the nutrients the mom and baby needs during the pregnancy. There is currently little research to show how Celiac Disease affects complications during pregnancy for women who do not follow a gluten-free diet. There is also little evidence to demonstrate risks and complications for baby, but there may be a high risk for neural tube defects since most people with CD not following a gluten-free diet are low in folate.

Assessment for Breastfeeding and Postpartum Women

Some women may have had CD for a while before their pregnancy, and others may have developed the disease after delivering the baby. If mom is newer to the disease, you can talk to her about gluten-free foods that are easy to make or purchase at the store. Many of these moms will be tired and tempted to eat gluten-containing foods for convenience. Encouraging them to stick to a strict gluten-free diet will ensure good health. For women that have had CD for a while, you can affirm them for knowing so much about taking care of their body and making the sacrifice to eat gluten-free. Women with celiac disease are able to breastfeed. Research has shown that breastfeeding delayed the onset of celiac disease. Evidence also shows that breastfeeding at the time of gluten introduction has a significant protective effect against the disease in children. (1, 2, 3)

H 356: Hypoglycemia

- Low blood sugar

Definition and Etiology

Hypoglycemia is defined by a low amount of sugar in the blood. It is most often a side effect in people with diabetes, but it can be seen in pregnancy and is caused by hormonal shifts, increased exercise or medications. Symptoms of hypoglycemia include:

- Hunger
- Shakiness
- Weakness
- Sweating
- Dizziness
- Sleepiness

If hypoglycemia continues without being treated, it can cause confusion, clumsiness or fainting and when severe enough, it can cause seizures, comas, and death. (1)

For more information see Nutrition Risk Manual. 

General Assessment

If the participant has diabetes, they must manage their diabetes is to prevent episodes of hypoglycemia. Here are some of the areas that your nutrition assessment and education can cover:

- **Diet and exercise** – Learning about their eating patterns can be helpful to see times where hypoglycemia could potentially occur. Teach them about symptoms to be aware of and to keep snacks in easily accessible places, like their car, purse or workstation, in order to decrease the chances of hypoglycemia. Also, talk with them about their current exercise routine. If they have started working out and have not told their doctor, encourage them to do so. While exercise is beneficial, especially for those with diabetes, hypoglycemia could be caused by this new routine. Checking glucose and having snacks with them after their workout can help.

- **Consulting their physician** - Make sure that the participant is seeing her doctor regularly about her hypoglycemic episodes. Her doctor can monitor her more closely for any medications that she may be on and adjust doses if necessary.

Assessment for Pregnant Women

Being hypoglycemic during pregnancy can put the baby at higher risk for low birth weight, developmental delays, cognitive deficits and later for diabetes, coronary artery disease and hypertension. This is why it is critical for pregnant women to make sure they are keeping their blood sugars within a normal range. These women should be working closely with their health care team; however, there are a few tips that WIC RDNs can share with these women:

- **Snacks** - With the participant, brainstorm ideas for snacks that are easy for her to make, can easily be taken with her on the go, and are healthy. Sometimes these women are busy with a job, other kids or just not feeling well enough to eat, so helping them come up with easy snacks they can manage can be very helpful.
- **Consistent eating** - Discuss how she plans to eat every few hours. To some women with pregnancy discomforts this might seem impossible, so making a plan can help them learn to eat more often.
- **Listening to their body** - Participants may understand the symptoms of being hypoglycemic; however, it can be helpful to discuss the symptoms that they should be looking for. Encourage snacks or sweetened drinks to help get their blood sugars back up when they are having a hypoglycemic event.

Assessment for Breastfeeding and Postpartum Women

As with all new moms, they are probably tired and just getting to know their new baby. Encourage her to remember to take care of herself and to make her meals and snacks a priority. One tip you might share is setting a reminder on her phone or a kitchen timer to go off and remind her to eat every few hours. As with pregnant women, help the moms come up with easy snacks to prepare and to listen to their body. You can also support them by affirming the way they are balancing being hypoglycemic and taking care of a new baby. This can help build her confidence and trust in you.

H 358: Eating Disorders

- Anorexia nervosa, bulimia

Definition and Etiology

Eating disorders are characterized by abnormal eating habits and poor body image. The most common eating disorders include: anorexia nervosa, bulimia nervosa and binge-eating disorder. (1)

Anorexia nervosa Is characterized by an abnormally low body weight, extreme fear of gaining weight and distorted body image. Women suffering with this disease will severely restrict their food intake and may use extreme methods (i.e., laxatives, diuretics, enemas, vomiting and excessive exercise) to lose weight. Health consequences can be severe and life threatening; they include:

- Heart failure due to slowed heart rate and blood pressure
- Osteoporosis
- Kidney failure from severe dehydration
- Muscle loss and weakness
- Dry hair and nails
- Hair loss
- Lanugo (growth of downy hair all over the body)
- Death

Anorexia nervosa usually appears during adolescence and has one of the highest death rates among mental health disorders. (2, 3)

Bulimia nervosa is a disorder that involves eating large amounts of food at one time and then engaging in behaviors to make up for the intake, such as self-induced vomiting. The continual binging and purging episodes cause much harm to the body, especially the digestive system. Health consequences of bulimia nervosa include:

- Electrolyte imbalances due to the self-induced vomiting
- Irregular heartbeats, and even heart failure and death due to electrolyte imbalances
- Tooth decay and staining
- Inflammation or rupture of the esophagus
- Irregular bowel movements and constipation

People with bulimia usually appear to be of average body weight. Their self-worth and esteem are very much related to their body image. (4)

Binge eating disorder is the most common eating disorder. It is when someone consumes larger than normal amounts of food at one time, eating to the point of discomfort but not purging, and feeling shame and disgust after the binge. Continuing this pattern over a long time will have negative health outcomes, including:

- High blood pressure
- High cholesterol
- Heart disease
- Type 2 diabetes
- Gallbladder disease
- Joint pain
- Sleep apnea
- Fatigue (5)

Critical Thinking Question:
Please go to the accompanying Workbook to answer Risk 358 question#1.

There is treatment for all eating disorders. The most effective treatment for eating disorders includes some form of psychotherapy or psychological counseling together with careful medical and nutritional attention. (2)
For more information, see Nutrition Risk Manual.

General Assessment

While most women who come to see us will already be under the care of a medical provider, some may need additional referrals for treatment centers or support groups. Be sure to find these referrals so that you can share them with our participants. Women with eating disorders can be in a variety of stages within the disorder. Some may be actively struggling, restricting or binging and purging, while others may have gone through treatment and are coping on the recovery side. It is really important to listen to the participant's story and find out where they are in the spectrum of their eating disorder.

Assessment for Pregnant Women

It will be important to talk with the pregnant participants and see how they feel about gaining weight for their pregnancy. Some may be excited and ready for it while others may be terrified at the idea of weight gain. It is extremely important to urge these women to continue to seek treatment if they have been doing this previously. This is also a great way to encourage additional treatment for the participant. There are dietitians that specialize in working with these disorders and can help these women have a healthy pregnancy.

Assessment for Breastfeeding and Postpartum Women

Women who struggle with an eating disorder may be eager to get their body back to their pre-pregnancy weight. Because of their history of eating disorders they should be strongly encouraged to allow their body time to heal and replace nutrient stores. For breastfeeding women it is important to emphasize their dietary needs increase even beyond the body's recovery needs from pregnancy due the demands for producing abundant breastmilk for baby's growth. Discuss healthy ways to be eating

and exercising. Their nutrition is vital for their body to heal correctly and replenish lost nutrient stores from pregnancy and delivery. Exercise should not be encouraged until it is cleared by their physician.

H 362: Developmental, Sensory or Motor Disabilities Interfering with the Ability to Eat

- Brain injury/impaired function, autism, etc.

Definition and Etiology

Developmental delays are a delay in development in any or all of the following categories:

- Vision
- Speech and language
- Motor skills (movement)
- Cognitive skills (thinking)
- Social and emotional skills

There are many different causes of developmental delays in women, ranging from birth defects to parental neglect and usually occur from birth to 21 years of age. These women will have varying degrees of delay or impairment based upon their specific diagnosis. Many are still able to have children and become parents.
For more information, see Nutrition Risk Manual.

Assessment for Pregnant and Postpartum Women

In working with participants with developmental delays, it will be very important to know what kind of support system they have at home. Who lives with them? How much responsibility for their own care do they have? How independent are they? Do they grocery shop for themselves? Can they prepare infant formula for the baby? There are several concerns for any woman with developmental delays who is pregnant, postpartum, or breastfeeding, which include:

Oral health - These women may not have the ability to take good care of their teeth and gums. Their delay may also cause swallowing or chewing complications. Asking about normal intake or how a typical meal looks for this participant is a great way to learn about their abilities.

Pica - Eating non-food items is a bigger concern for those with developmental delays. If the participant has a caregiver present, this is a great question to also ask the caregiver - do they ever see the participant eating non-food items?

Obesity - Due to differences in metabolism, those with developmental delays tend to have higher risk for obesity. In many cases, mobility may be limited, further complicating the problem. Talk to the participant or their caregiver about their limitations and how they can get physical activity in ways that suit them. Some ideas include: walking, biking, household chores, dancing, and Special Olympic sports. The local YMCA or recreation centers may also have resources for those with developmental delays to get physical activity. (1)

Assessment for Breastfeeding Women

In addition to the concerns shared above for Pregnant and Postpartum women, explore whether the breastfeeding mother can recognize and respond to her infant's cues. If mom is unable to track the frequency of feeding, wet diapers, stool changes and other important indicators of healthy feeding find out what support is available to her. Friends and family who can help will become critical to recognizing when concerning changes occur. Also strongly recommend use of the 24-Hour Breastfeeding Hotline at 1-800-833-4642 for any questions or helps she may need.

H 363: Prediabetes (BF and P only)

- Hyperglycemia

Definition and Etiology

Prediabetes is when a person's blood sugar is higher than normal, but not high enough to be considered diabetic. There are usually no symptoms in those with prediabetes. Genetics, abdominal fat and inactivity all play roles in its development. While people with prediabetes have not been diagnosed with the actual disease, diabetes and all of its complications is likely to happen if they don't change anything about their lifestyle. The good news that we can share with participants is that they can work to actively change their fate and live a healthier lifestyle. (1)

For more information, see Nutrition Risk Manual. 

Assessment for Breastfeeding Women

The normal changes women experience while breastfeeding, such as increased metabolism and higher calorie needs, will be especially beneficial for women with prediabetes. By following recommendations for healthy eating and activity, women with prediabetes who are breastfeeding will find their body's natural response improves their ability to achieve modest weight loss and maintain glycemic control.

Assessment for Postpartum Women

Along with the diet and exercise tips that are given above in Module 1 for pregnant women, these moms can be encouraged to lose weight. Modest weight loss (7 percent of body weight) can have positive effects. (2) It doesn't have to happen quickly, but rather a slow progression of weight loss is good. Losing the "baby weight" will happen quickly for some moms, while others will struggle and may never be able to lose it. While their body is recovering, it is a good idea not to urge fast weight loss, but rather slower loss at one to two pounds per week. This is also recommended because the weight will likely stay off for longer.

Recommendations that you can provide postpartum moms with prediabetes include:

Eat healthy - Assess what their normal diet looks like. Ask the participant if there are areas of their eating they think they could improve. Based on what they want to work on, help them with tips or encouragement to follow through with those choices.

Exercise - Help get those new moms moving (AFTER they have been cleared by their doctor to start exercising, usually between six to eight weeks). Encourage activities that are suitable for new moms, like walking, swimming, yoga and more.

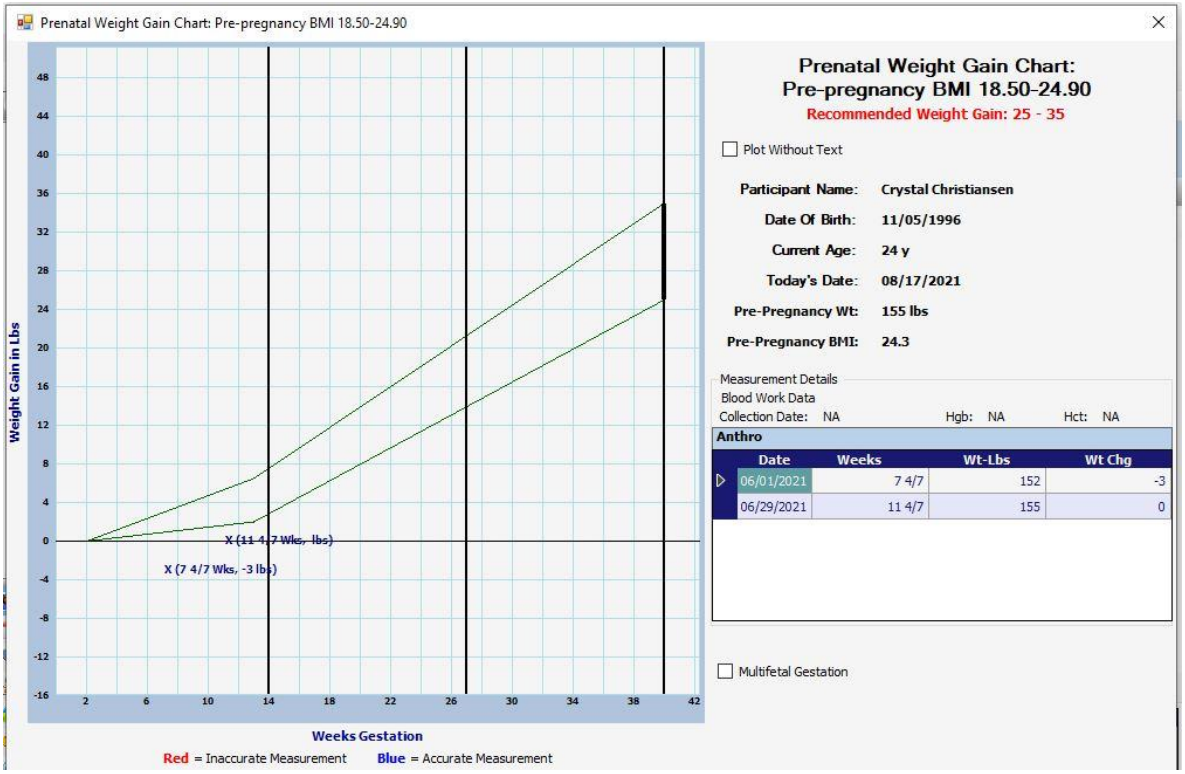
Module 4: Dietary Codes - The 400s Codes

There are no high-risk dietary WIC 400 codes. However, a participant with a high-risk code may have a dietary code assigned to them as well. You may discover meaningful connections in your high-risk appointment if you take the time to look into their previous certification appointment to see which codes were assigned. Often, dietary codes could be part of the cause that has made the participant high risk. Let's take a look at a few examples.

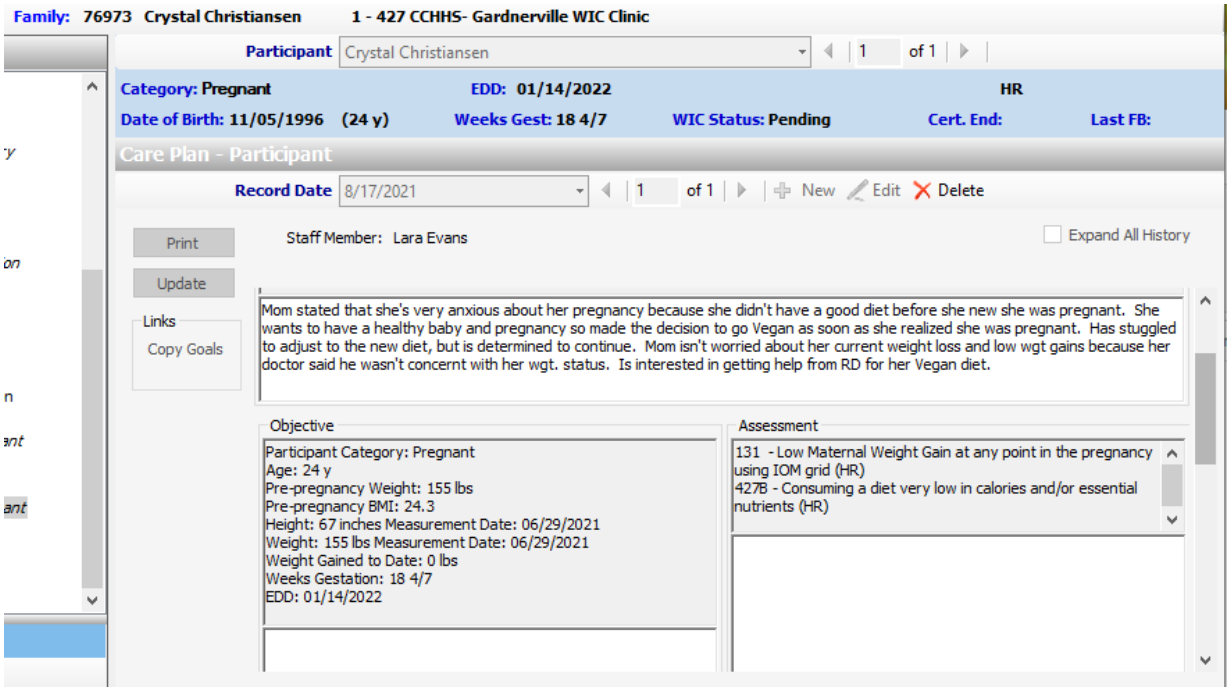
Review the information for each example and then go to your Workbook for the corresponding Critical Thinking Questions.

H 427.B: Diet Very Low in Calories/Essential Nutrients Example

You are seeing Crystal who is 18 weeks pregnant with her first baby. She has had some weight loss and is coming to her RDN appointment due to qualifying for high risk 132, Maternal Weight Loss. Before you bring Crystal into your office, you look into her chart for past notes and high-risk codes. Here is what you see



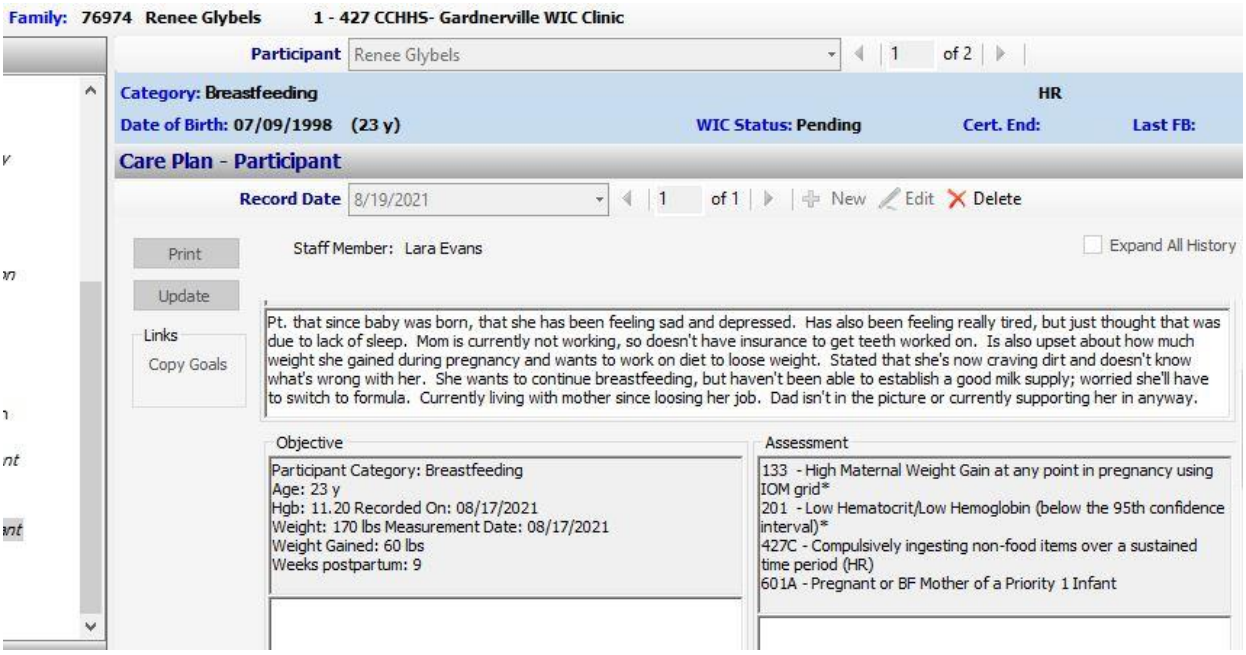
See the note left by previous nutritionist in WISH:



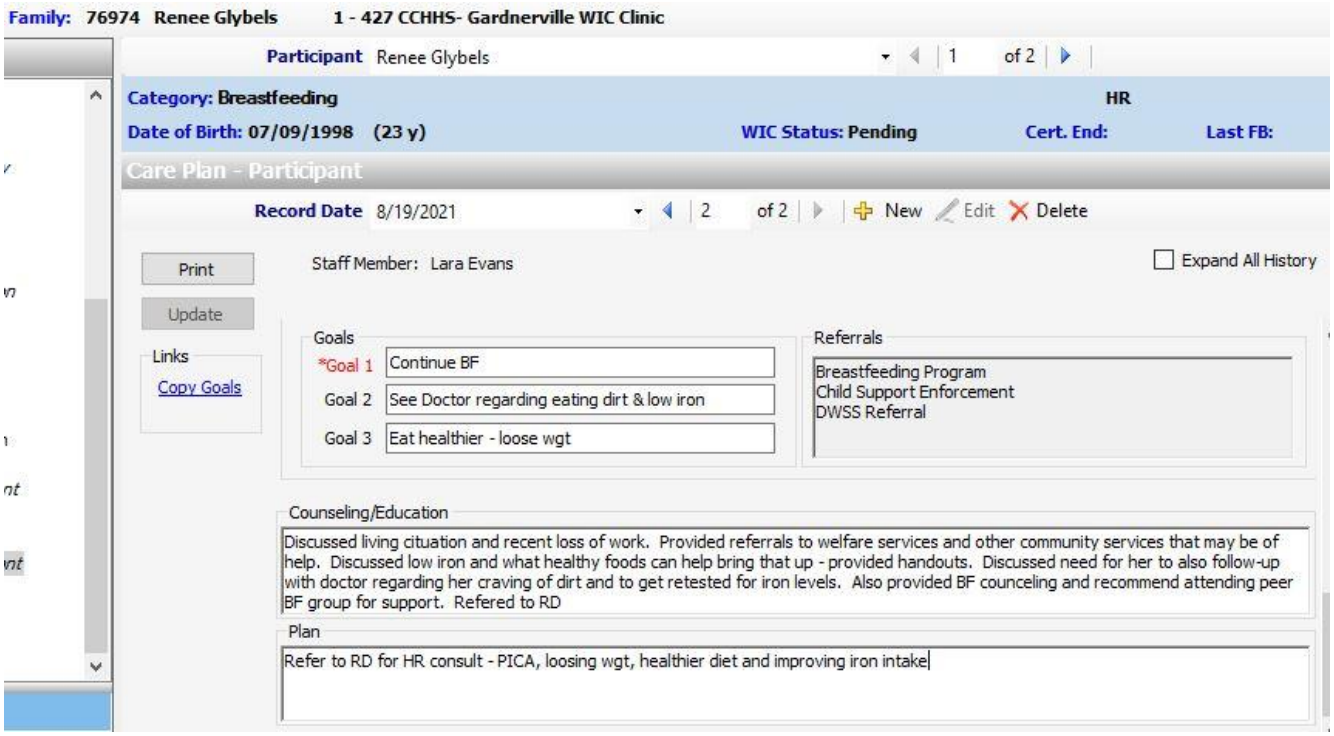
Go to your Workbook for the Critical Thinking Questions for this example.

H* 427.C: Pica Example

Renee and her 2-month-old come into your office because of code 201.1, hemoglobin below the Nutritionist level. Looking in her chart, you see:



See the note left by previous nutritionist in WISH:



Go to your Workbook for the Critical Thinking Questions for this examples and review with your trainer.

Looking at previous notes can help set up the high-risk appointment for success. Not only will you have more information about the participant, but the participant will have a better WIC experience because you will not be asking all the same questions that they answered at their last appointment.

Module 5: Breastfeeding Codes

WIC is a program that offers counseling and support to women throughout the pregnancy and postpartum periods with special attention to the challenges and benefits of breastfeeding.

Pregnancy offers a unique window of opportunity to increase mom's confidence to begin a successful breastfeeding relationship. The education, support and resources WIC provides helps pregnant participants prepare for baby's arrival.

Research shows that women who are given education about breastfeeding during their pregnancy are more likely to initiate breastfeeding after delivery and breastfeed longer. (1) Additionally, the knowledgeable breastfeeding support WIC provides helps breastfeeding moms find the confidence to ask questions and problem-solve new challenges. The support that you and fellow WIC staff provide greatly increases a mom's ability to navigate her breastfeeding journey successfully.

The high-risk breastfeeding code 602 is assigned for breastfeeding participants who need additional support. This code may be assigned independently or may be assigned in tandem with infant code 603. Infants are often reciprocally affected by factors that interfere with breastfeeding.

Nevada WIC equips staff with various individual roles in the program to provide breastfeeding support for participants. Specific designations have been established to identify which staff are trained to address certain types of breastfeeding issues, and to whom higher level breastfeeding issues should be referred.

Registered Dietitians are qualified to meet with all clients experiencing breastfeeding complications. Since individual dietitians come to WIC with different amounts breastfeeding-related training and experience, you may choose to refer clients with needs beyond your expertise to a peer counselor or an IBCLC. To learn more about the types of training and scope of practice for different level designations in the Nevada WIC Program, please refer to P&P BF: 1.

For WIC Counselors who seek to improve your knowledge and ability to support breastfeeding, please contact your LA Breastfeeding Coordinator for further assistance, referrals and mentoring. Additionally, throughout the year the Nevada Breastfeeding Team provides trainings and conferences to best support your continuing education needs.

602 Breastfeeding Complications or Potential Complications (Women)

- Any breastfeeding complications

Definition

A breastfeeding woman experiencing complications or with potential for breastfeeding complications.

Etiology

There are several reasons why a woman may be assigned the breastfeeding high risk code 602. This code may be present due to, but not limited to:

- anatomy of the breast
- age and health of an infant or mother
- latch, and position of an infant at the breast
- overall milk production.

Some of the concerns and complications that put mother and infant at higher risk are:

- severe breast engorgement
- recurrent plugged ducts
- mastitis
- flat or inverted nipples
- cracked, bleeding or severely sore nipples
- advanced maternal age
- failure of milk to come in by 4 days postpartum
- tandem nursing

For more information see Nutrition Risk Manual code 602

General Assessment

It is important that a full breastfeeding assessment is conducted in order to determine which intervention may be necessary. When a woman experiences complications during breastfeeding (including breastfeeding an older child during pregnancy) she may be at risk of early labor, infection,

trauma, and inadequate milk production to provide all of her infant's nutritional needs. Some complications may exaggerate other signs or symptoms.

Severe breast engorgement – Breast engorgement is a symptom of breast fullness. Breast engorgement can occur for a variety of reasons related to the health and behaviors of mom or baby and may be affected by their interaction. Signs of engorgement are full tender breast, the skin may appear shiny or taut, and the nipple may appear flattened as the breast tissue swells. Asking plenty of probing questions to determine the onset and the full assessment is important as you determine the best intervention or support a mom may need.

In some circumstances breast engorgement may be normal, for example within the first few days after birth when a mother's milk changes from the early small volume milk called colostrum to transitional and then mature milk which is greater in volume.

Engorgement may be an indication of poor milk transfer, a latch or position issue, potential health conditions for mom and/or baby. If feeding an infant is not successful and she is unable to remove milk from the breast, a mother will experience engorgement. Frequent breastfeeding or expression of breastmilk, breast shaping, and breast massage may all help to resolve the engorged breast.

When excess fluid is present in the mother's body she may experience engorgement as the breast tissue may fill with the excess fluid, indications of this would be if the mother reports her extremities such as fingers or ankles as swollen. This is an example not of engorgement due to milk production and as the fluids are flushed from her body she will see resolve. Mothers who had received large amounts of IV fluids may experience this sensation.

The best practice is allowing unrestricted access for the infant to feed at the breast, or for mom to express milk multiple times throughout the day based on age of infant. If engorgement is not resolved it can lead to infection, soreness or trauma to the nipple, feeding issues and weight gain for the infant, compromise the mother's milk making potential, and in some cases damaged breast tissue. Comfort management of an engorged breast is frequent feeds or expression of milk, cool compresses, rest and plenty of fluids and any pain medication if necessary.

Recurrent plugged ducts -- A plugged duct is when a breast is unable to effectively drain. When the milk is present for too long in the duct, excess liquid is absorbed into the tissue leaving behind thickened or mucous milk that is more difficult to remove. Once pressure builds behind the affected area the duct may release this thickened milk which can look like a string or small grains.

If a mother reports a plugged duct or an area that is hard or tender encourage her to feed more often from the affected breast, using breast massage or compressions or manually expressing milk to relieve the area. When working with clients who experience frequent plugged ducts asking questions about breastfeeding as well as the type or fit of their bra are important to cover. If a mother's bra is too tight fitting or some mothers may be sensitive to underwire bras that can impede on milk flow and ultimately cause a plugged duct.

Mastitis – If a plugged duct or breast engorgement or other breastfeeding concerns are not alleviated the likelihood for mastitis to occur is increased. Mastitis is an infection or inflammation within the breast. Signs of mastitis are typically tender or hard area on the breast, localized redness or heat with accompanying fever or flu like symptoms. If any of these signs or symptoms is present an immediate referral to a health care provider for treatment is necessary.

Mastitis is not harmful to the breastfeeding infant but some infants may reject that breast or milk due to the increased salty flavor which may be present. Important care for the mother is the continued milk removal from the affected breast along with care advice from the primary health care provider.

Flat or inverted nipples – The shape of the nipple may contribute to challenges in learning to breastfeeding but not always. When assessing a mom, determine if her nipples protruded prior to and during pregnancy, since during the first few days of breastfeeding she may be experiencing engorgement which would make the nipple appear to be flattened. If the mother previously had flattened or inverted nipples some interventions may be appropriate for this mom. Breastfeeding is beyond the nipple and consideration for how she is shaping her breast to allow adequate breast tissue to fill baby's mouth and encourage effective breastfeeding.

Cracked, bleeding or severely sore nipples – Some degree of nipple discomfort is expected during the first two weeks of breastfeeding, but it is transitional and should only last for the first 30 seconds of the feed. When a mother allows the pain to continue throughout the feed she will be at risk for nipple damage. If a mom states that she has cracked, bleeding or severely sore nipples the latch and position of the baby to breast should be addressed. If trauma on the nipple is present such as this, can be an indicator that either baby has a shallow latch or there is an anatomy anomaly with either mom or baby. If any persistent nipple damage continues the mother is at risk for infection and compromising her milk production; the infant is at risk for feeding difficulties and low weight gain. In cases of increased sensitivity and tissue damage it may be helpful to consider how pumping, hand expression, or use of a shield can allow increased time for healing and improve comfort.

Age ≥ 40 years – If a mother is older than 40 years of age at birth it does not pose a breastfeeding risk in itself, the key thought for this mom would be if she struggled with infertility or if she is simply having a baby at the age of 40. Fertility struggles would indicate hormone imbalances which play a significant role in lactation, so this mother may see that she also struggles with her milk production. The determination of pregnancy history would be an important factor during this breastfeeding assessment.

Failure of milk to come in by 4 days postpartum – Delay in milk production is when the transitional or greater volume of milk production has not increased by 4 days postpartum. Key points should be probed during your assessment with the mom. The amount of breastfeeding could be an indicator of milk making potential suggesting infrequent or ineffective milk removal as a factor. If the mother has experienced any surgeries to the area or breast trauma, or lack of glandular tissue prior to breastfeeding this could impede her ability to produce or 'let-down' her milk. Other considerations for this concern would be hormonal issues that are inhibiting the ability for the breast to produce milk. Examples can be but are not limited to endocrine dysfunctions, retained placental fragments, or reproductive complications.

Proven interventions that are beneficial for mothers with delayed onset of mature milk are skin to skin contact and the simulation and expression throughout the day to initiate milk production.

Tandem nursing – Tandem nursing is when a breastfeeding mom becomes pregnant and chooses not to wean. After delivery this mom will continue breastfeeding both children. Moms that practice tandem nursing should be encouraged to allow the younger baby to be fed first from the breast. A mother is able to fulfill the nutritional needs of both infants but some mothers worry about making enough. As the nutrition professional you have the opportunity to offer insight into satiety cues and growth patterns to support mom in her breastfeeding journey.

Tandem nursing is also an amazing way that mom can take time to reconnect with her older baby, as this is a special time for both. In some cases, an older infant may request to breastfeed more after the new baby is born as a way to be near mom. Mothers who tandem nurse will see that their early milk will transition earlier due to help from her older infant, and she may notice that the older infant begins to have loose stools due to the higher laxative effect of her early milk.

If a mom is tandem nursing, she may be in need of practical tips for easy meals and snacks for herself, as she will likely have more thirst and appetite. She may also need positive affirmations and emotional support, as with any new mom she is experiencing disrupted sleep patterns, increased hormones and fatigue of caring for a newborn plus her older child.

Assessment for Pregnant Women

When a woman is pregnant she may notice glandular tissue growth and around mid-pregnancy or weeks 16-20 of gestation her breast will even begin to produce early milk called colostrum. During pregnancy a mother may report that her breasts have become increasingly tender. For multipara women if they are currently breastfeeding an older child this tenderness or even nipple soreness can be the first indicator to a new pregnancy. During this time, she may find that her nursing child self-weans due to the regression of milk to its early stage of colostrum, which is concentrated and may be saltier in taste.

Some providers may express concerns over a pregnant mother who is also breastfeeding, typically there is no reason for her to wean if she and the older child do not choose to and her pregnancy is a normal and healthy pregnancy. The concern may be if she has a history of preterm delivery or complications during pregnancy, the normal release of oxytocin during breastfeeding may induce contractions in the uterus which could place the current pregnancy at risk.

Assessment for Breastfeeding Women

Understanding the complete picture of what breastfeeding looks like for a dyad is immeasurable when assessing a breastfeeding woman with or without a complication.

Breastfeeding complications can be a time sensitive risk and the ability to offer as much support as quickly and effectively is crucial. Best practice is to see mothers who are experiencing complications within a short time period of manifestation but sometimes there may be time between when they were first at WIC and when you as the high-risk nutritionist are scheduled to see this mom. When determining what happened for the complication to occur and what has occurred since that point, this situation may require additional probing questions and the start of a new breastfeeding assessment as things have most likely changed.

Assessment for Postpartum Women

Although women who are not breastfeeding are not categorically eligible, it is important to remember some techniques to offer them immediately postpartum to ensure they do not experience discomfort or infection in their breast. Encourage postpartum mothers to apply cold packs to the breast to relieve swelling, a supportive sports bra and small expression of milk can also help her breast to feel more comfortable.

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Competency Achievement Checklist: High Risk Guidebook for Women

RDN/Nutritionist name: _____

Trainer name: _____

*Trainer: Evaluate the RDN or Nutritionist competency of the basic nutrition information upon completion of Infant High-Risk Guidebook, all learning activities, case studies, and all discussion.

Registered Dietitian or Nutritionist can:	Dates Achieved:
Identify high risk codes for women	
Assign high risk codes for women according to Nutrition Risk Manual definitions	
Assess the relationship of subjective and objective information in in high-risk case studies to determine appropriate nutrition education options to offer clients	
Explore ways to facilitate behavior change consistent with NV WIC policy and Participant Centered Services approach	