



Prenatal and Postpartum Nutrition Module Level II

**Arkansas WIC Program
Department of Health**

Adapted from Colorado Department of Public Health and Environment WIC Program September 2006



**Evaluation Questionnaire
Prenatal and Postpartum Nutrition Module
Level II**

Dear Employee:

Your comments on this module would be helpful. After completing the module, please respond to the following questions and fax or mail them to:

Training Coordinator
Attention: WIC Program
Arkansas Department of Health
Freeway Medical Building
5800 West 10th Street Suite 810
Little Rock AR 72204-1703
Fax: 501-661-2004

Check the appropriate title of your position:

- Nutritionist
- Home Economist
- Nurse
- Public Health Technician
- Clerk
- Other

1. How long did it take you to complete this module (actual hours spent in all activities – learning, reinforcement, quizzes, etc)?
2. On a scale of 1-3, how understandable were the concepts? Circle the number that most closely describes your thoughts.
1 = Easy to understand 2 = Understandable 3 = Hard to understand.
3. On a scale of 1-3, how understandable were the activities? Circle the number that most closely describes your thoughts.
1 = Easy to understand 2 = Understandable 3 = Hard to understand.
4. On a scale of 1-3, how readable was the module? Circle the number that most closely describes your thoughts.
1 = Easy to read 2 = Okay to read 3 = Difficult to read

Thank you for completing this questionnaire.



PRENATAL AND POSTPARTUM NUTRITION MODULE LEVEL II

Your questions and comments and/or suggestions about this module are welcome.
Please forward them to:

Nutrition Coordinator
Attention: WIC Program
Arkansas Department of Health
Freeway Medical Building
5800 West 10th Street Suite 810
Little Rock AR 72204-1703
501-661-2508

This work may be reproduced and used in any form without permission.

TABLE OF CONTENTS

Prenatal

	<u>Page</u>
Performance Objectives	1
Introduction	2
Part I: Importance of Nutrition and Prenatal Care During Pregnancy	3
The Importance of Nutrition	3
The Importance of Prenatal Care	4
Self-Check #1	5
Prenatal Growth and Development.....	6
Part II: Anthropometric Indicators of Nutritional Need	9
Weight Gain – How Much is Enough?	9
Weight Gain Distribution During Pregnancy.....	10
Identifying Weight Categories and Recommendations for Weight Gain	10
Assessing Weight Gain During Pregnancy.....	12
The Prenatal Weight Gain Chart.....	12
What Prenatal Weight Gain Charts Tell Us	17
Identification of Anthropometric Indicators of Nutritional Need	18
Underweight Women	18
Overweight Women	19
Inadequate Weight Gain/Weight Loss.....	20
High Maternal Weight Gain	21
Self-Check #2	23
Part III: Dietary Indicators of Nutritional Need	25
Nutritional Needs of Pregnancy.....	25
Dietary Risk	26
Calories	27
Protein	28
Water	28
Food Guide Pyramid/MyPyramid.....	29
Self-Check #3	30
Iron Needs During Pregnancy.....	31
Iron Deficiency During Pregnancy.....	31
Iron Content in Foods.....	32
Meeting the Daily Mark for Iron.....	33
Folic Acid Needs During Pregnancy	34
Self-Check #4	36
Calcium Needs During Pregnancy.....	37
Lactose Intolerance.....	37
Calcium Equivalents to One Cup of Milk	38
Vitamin/Mineral Supplements During Pregnancy.....	39
Nutrient Supplementation in Special Circumstances	39
Other Considerations.....	39

Excessive Intake of Dietary Supplements, Vitamins, or Minerals	40
Individual Dietary Preferences and Concerns.....	42
Adult Vegetarian Daily Food Guide.....	44
Self-Check #5	45
Part IV: Special Concerns During Pregnancy	46
Morning Sickness or Nausea	46
Heartburn	48
Constipation.....	48
Fluid Retention and Swelling.....	49
Oral Health.....	50
Listeriosis.....	50
Self-Check #6	52
Substances that Affect the Pregnant Woman and Fetus	53
Pica: Craving Non-Food Items.....	53
Caffeine.....	54
Alcohol.....	54
Tobacco.....	56
Drugs.....	59
Crack/Cocaine.....	59
Lead.....	60
Self-Check #7	62
Part V: Clinical Indicators of Nutritional Need	63
Pregnancy at a Young Age	63
Nutrient Requirements	64
Eating Behaviors of Young Women	64
Eating Disorders.....	66
Closely-Spaced Pregnancies	67
Multifetal Gestation	68
Breastfeeding During Pregnancy	68
Medical Conditions.....	69
AIDS and HIV	71
Gestational Diabetes	72
Complications of Previous Pregnancy.....	73
Self-Check #8	74
Part VI: Social Indicators of Nutritional Need	75
Homelessness.....	75
Migrancy.....	75
Self-Check #9	77
Part VII: WIC Prenatal Protocol	78
Normal Pregnancy Protocol.....	78
Self-Check #10	80

Postpartum

Part VIII: Postpartum Nutrition and General Guidelines	81
Postpartum: The “Fourth” Trimester	81
Pregnancy Weight Gain	82
High Maternal Weight Gain.....	83
Teen Postpartum Weight Loss	84
Breastfeeding Complications	84
Fetal or Neonatal Loss	85
Healthy Tips for New Moms	85
Food Guide Pyramid/MyPyramid.....	86
Normal Postpartum Protocol.....	88
Self-Check #11	90
Self-Check Answers	
Self-Check #1	91
Self-Check #2	91
Self-Check #3	92
Self-Check #4	93
Self-Check #5	93
Self-Check #6	94
Self-Check #7	95
Self-Check #8	95
Self-Check #9	96
Self-Check #10.....	96
Self-Check #11	96
Appendix	98
Local Resources	99

Prenatal and Postpartum Nutrition Module Performance Objectives

At the completion of this module the learner will be able to:

1. State two reasons why adequate nutrition during pregnancy is important.
2. State the major criteria used in assessing the nutritional status of prenatal participants.
3. List at least three nutrition risk factors for pregnant women and state why these factors affect nutritional needs and status.
4. Demonstrate the correct use of the BMI chart for women to assess pregravid weight.
5. State the recommended range of weight gain and the recommended pattern of weight gain during pregnancy for underweight, normal weight, overweight, and obese women.
6. Demonstrate the correct use of the Prenatal Weight Gain Chart to assess weight gain during pregnancy.
7. State current recommendations regarding vitamin/mineral supplementation, salt restriction, and use of diuretics during pregnancy.
8. Make appropriate dietary recommendations to prenatal participants to enhance their nutrient intake.
9. State counseling recommendations for the common problems of pregnancy: nausea, heartburn, and constipation.
10. List common nutrition concerns for the pregnant adolescent.
11. State counseling recommendations for excessive weight gain and weight loss in pregnancy.
12. State recommendations regarding the use of caffeine, alcohol, drugs, and cigarettes during pregnancy.
13. State the dietary recommendations indicated for iron-deficiency anemia.
14. State one reason why adequate nutrition during the postpartum period for non-breastfeeding women is important.

Pregnancy: The state in which the mother is carrying the embryo/fetus, from conception to birth.

Prenatal: During pregnancy.



Breastfeeding is well recognized as the best feeding method! Breast milk is nutritionally complete, promoting optimal growth and development, and protecting against many infant and childhood illnesses. Moms also benefit—breastfeeding lowers a woman’s risk for certain cancers and bone fractures later in life and helps her return to her prepregnancy weight.

The prenatal period is the best time to help a woman learn about the many benefits of breastfeeding, as well as “how to” breastfeed. Because breastfeeding is so important to a mother’s and infant’s health, WIC regulations require staff to provide breastfeeding education at each prenatal visit and in the early postpartum period.

Introduction

From the day she hears, “You’re pregnant,” until the day the baby is born, the pregnant woman is on an adventure that will determine how healthy her baby will be at birth and will impact the baby’s life forever. The smell of food may make her sick, yet she needs to eat well to have a good pregnancy outcome. She must reconsider drinking wine or beer or smoking cigarettes. She needs to decide how she will feed her new baby. Finding a doctor and arranging for medical care may be a big problem that must be handled.

Even with all of the changes and decisions to be made, pregnancy is an exciting time in the life of a woman. She is often the center of attention because of the pregnancy and may receive special attention from her partner, friends, and the soon-to-be grandparents. She can dream of what the future will bring her child. There is so much to look forward to!

Because of the excitement and the desire to do “the best for the baby,” the nine months of pregnancy is also a time when a woman is especially interested in learning. She will want information about what and how much foods to eat, how much to exercise, how to manage nausea, vomiting, or heartburn, and how to feed her baby.

As a WIC staff person, you are in an important position to help pregnant women improve their eating habits, to take care of themselves, and nurture the growing fetus. You can:

- Determine if the woman has a nutritional need based on her height, weight, hematocrit/hemoglobin and her dietary intake;
- Identify food habits and concerns that the woman may have;
- Offer nutrition information that supports good eating habits;
- Help the woman set nutrition and health goals;
- Make referrals to other needed services;
- Issue food instruments (WIC checks) for supplemental foods; and
- Document the nutrition education given and plan for future education.

This module will give you the information, tools, and procedures you need to help pregnant women have healthy, successful pregnancies.



Part I: Importance of Nutrition and Prenatal Care

The Importance of Nutrition

Adequate nutrition before conception as well as during pregnancy influences the outcome of the pregnancy.

Adequate nutrition before and during the early weeks of the prenatal period can prevent birth defects of the brain and spine.

Adequate nutrition during pregnancy is needed to maintain the tissues and nutrient stores of the mother and to allow for normal growth and development of the fetus. Women who consume an inadequate diet during pregnancy have a greater chance of complications and difficult deliveries including stillbirths, prematurity, and infants with birth defects.

A woman who eats poorly during pregnancy may not gain weight adequately and thus increase the chance that her infant will be low birth weight (less than or equal to 5½ pounds at birth). Low birth weight infants are more likely to become ill and die during the period just before and after birth (the perinatal period). Low birth weight infants may also suffer long-term health problems, including obesity and developmental disabilities.

Adequate prenatal nutrition is vital to ensure a healthy baby and a healthy mother who can breastfeed her child, if she so chooses.

Stillbirth: The birth of a dead child.

Prematurity: Birth occurring at or before 37 completed weeks gestation.

Perinatal: Pertaining to the period around childbirth beginning at 20 weeks of gestation to the end of the neonatal period (28 days after birth).

Low birth weight (LBW): A birth weight less than or equal to 5 pounds 8 ounces (2500 grams).



Primary Care Provider: A physician, usually family practice, pediatrician, internist, or obstetrician, who provides a broad range of routine medical services and refers patients to specialists, hospitals, and other providers as necessary.

Inadequate Prenatal Care
Nutrition Risk Code 334

Prenatal care beginning after 13 weeks (gestation).

Moderate Risk

The Importance of Prenatal Care

It is important to point out that nutrition care, although extremely important, is only one component of good prenatal care. The quality, quantity, and timing of prenatal care influence pregnancy outcomes. WIC staff should encourage participants to visit a primary care provider, an obstetrician, a nurse midwife, or a prenatal clinic as soon as they learn of their pregnancy. They should return for regular checkups during their pregnancy to ensure that everything is progressing normally. Many complications of pregnancy that result in illness or mortality of infants and mothers are preventable. Early detection of potential problems is more likely when the pregnant woman makes regular visits to medical personnel. In addition, the doctor or nurse can answer questions and suggest pamphlets, videos, or books on topics of interest to mothers. Lack of prenatal care is closely associated with teenage pregnancy, low income, and substance abuse.

Women who choose not to have prenatal care when it is available make this decision for many reasons. Some of these reasons are:

1. Fearing that the cost of prenatal care may be too high. They may not be able to afford even the reduced cost prenatal programs.
2. Not wanting to bother with the complicated application process necessary to get assistance (e.g., Medicaid).
3. Not trusting doctors or not feeling prenatal care is necessary. Perhaps they had previous pregnancies without prenatal care and had healthy children.
4. Not wanting to confront their health issues (e.g., pregnancy, substance use).

CPA Role:

Ask important questions: *Do you now receive prenatal care from a doctor or clinic? In which month of pregnancy did care begin?* For women who are not receiving prenatal care, try to identify the reasons they have not begun prenatal care. You may need to reassure them that high-quality care at very reasonable prices is available throughout the entire period of their pregnancies. Inform them that adequate prenatal care has been shown to result in better outcomes of pregnancy—fewer complications for the mother and her baby, fewer low weight births, and lower neonatal death rates. Any time and effort spent on having a healthy pregnancy will pay off after the baby is born. Healthy babies require less time away from work and leisure activities.

The following begins a series of **√ Self-Checks** that occur throughout this module. As you come to each Self-Check, complete it right away. The answers are located beginning on page 91.

√ Self-Check #1

1. Name at least two reasons why adequate nutrition during pregnancy is important.
 - a.
 - b.

True or False

2. ____ Low birth weight in infants is desirable because it results in an easier delivery.
3. ____ Women are at nutrition risk due to inadequate pre-natal care if they begin visiting their provider after 13 weeks gestation.

Conception: Occurs when the egg is fertilized by the sperm.

Embryo: The stage of development of the unborn baby from conception up to the end of the 8th week of gestation.

Fetus: The state of development of the unborn baby from the beginning of the 9th week until birth.

Trimesters: The length of the pregnancy generally determined in terms of weeks:
0-13 weeks gestation = first trimester
14-26 weeks gestation = second trimester
27-40+ weeks gestation = third trimester

Placenta: The organ which connects the fetus to the mother and carries nutrients to the fetus, and removes its wastes. It is completely formed by the 12th week of gestation.



The first trimester is the most critical phase of development. Exposure to drugs, alcohol, viruses, chemicals, radiation, and inadequate folic acid can lead to birth defects.

Prenatal Growth and Development

A full-term baby develops in 40 weeks or nine months. The nine months of pregnancy are divided into three trimesters of three months each. On the next few pages you will learn what happens to both the mother and the newborn baby during the three trimesters.

The First Trimester (conception through 13 weeks)

Pregnancy begins with conception, when an egg is fertilized by a sperm. The fertilized egg moves to the uterus where it grows for the next nine months. The fertilized egg divides into many cells almost immediately. The fertilized egg is called an embryo for the first eight weeks of life. After eight weeks the developing embryo is called a fetus.

During the first trimester, a mother's body changes to help her baby grow. The placenta develops to carry nutrients and oxygen to the fetus and carry carbon dioxide and other wastes away from it. The amniotic sac fills with fluid to cushion the developing baby. The mother's uterus and its supporting muscles increase greatly in size, strength, and flexibility. Her breasts grow and change in preparation for breastfeeding. Also, her blood volume increases by 50 percent to carry the extra nutrients and waste products.

The Embryo/Fetus

By the end of the first month the embryo is one-fifth of an inch long. The brain, eyes, spinal cord, liver, arms, legs, and pancreas have begun to develop. The heart is already beating.

The first trimester is the most critical phase of human development because so many parts of the body are forming. Anything that interferes with development at this time could cause birth defects or could even kill the embryo. Sadly, many women do not even realize they are pregnant at this point.

During this time, exposure to drugs, alcohol, viruses, chemicals, radiation, and inadequate folic acid can lead to birth defects.



Gestation: The state of pregnancy. The period of carrying the developing embryo/fetus from fertilization to birth. This period of time is usually 40 weeks. If a woman is “at 20 weeks gestation,” this means that she is 20 weeks along in her pregnancy.

Gestational age: The age of the embryo/fetus since gestation. Computed from the first day of the last menstrual period to any time up to birth.

Vernix: A waxy white protective substance covering the skin of the fetus.



By the end of the first trimester, the fetus is about 2½ to 3 inches long and weighs about one-half ounce. The urinary and circulatory systems are functioning and other organs of the body continue to develop. The sex organs are developed, but it is difficult to tell if the baby is a boy or a girl.

The Pregnant Woman

During the first month of this trimester, many women don’t know they are pregnant. Yet this is the most critical period in the fetus’ development. A woman will often continue to drink, smoke, or take medications that might harm her baby, because she doesn’t know she is pregnant.

After a missed menstrual period, the woman may be fairly certain she is pregnant. Even before that she may feel nauseated or sleepier than usual. She may need to urinate more often and notice that her breasts are tingly and tender. She may also have heartburn, indigestion, constipation, nausea, or vomiting. These symptoms may continue through the first trimester.

The Second Trimester (14th week through 26 weeks)

The Fetus

The fetus keeps growing and developing during the second trimester. During the fourth month, the fetus grows to about four inches and is able to suck and swallow. Fingers and toes are becoming recognizable.

During the fifth month the fetus grows another 4 to 6 inches and is actively moving and kicking strongly enough to be felt by the mother. Hair is growing on the head, and eyebrows and lashes are beginning to grow. Vernix covers the fetus.

By the end of the sixth month the fetus is developed enough to have a chance of survival if born prematurely although the lungs are still immature. The fetus weighs about one and three-quarters pounds and is about 13 inches long. The eyes are able to open and finger and toe prints can be seen.

The Pregnant Woman

During the second trimester, women usually do not need to urinate as often and have less nausea and vomiting. But they still may feel tired and have constipation. Their heartburn and indigestion can get worse as the fetus grows larger. Their breasts no longer feel tender, but they have definitely gotten bigger.



The Third Trimester (27th week through 40th week)

The Fetus

The fetus quickly gains weight during the last trimester. An average fetus is about seven and a half pounds and about 20 inches long at birth. The fetus moves around and is very active during the 7th and 8th months, but has little room to move during the final month. The brain continues to develop and the baby can see and hear.

The Pregnant Woman

During the third trimester most women feel less tired. They have many things to think about and prepare for such as infant clothes, a place for the baby to sleep, a car seat, etc. The woman may have more heartburn and indigestion as the baby gets bigger. Pressure of the growing fetus on the bladder may bring on the return of frequent urination. Leg cramps and swelling are also common during the final trimester.

Part II: Anthropometric Indicators of Nutritional Need

Pregravid: Before pregnancy; preconceptual.

Pregravid weight: Weight before a woman became pregnant.



The first step to evaluate a woman's nutritional need is anthropometric assessment. Anthropometric assessment is the process of learning whether the woman's pregravid (prepregnancy) weight was low, normal, or high, and whether she is gaining enough weight in her current pregnancy. Her pregravid weight and her weight gain during pregnancy can both be indicators of her nutritional need and affect the outcome of her pregnancy. For example, low weight gain may mean that the woman is not eating enough to balance the energy she is using. WIC staff have a unique opportunity to provide nutrition education and counseling to improve pregnancy outcomes.

Refer to *Screening Module – Level I* for correct techniques for measuring height and weight in women. WIC staff must make an extra effort to be accurate with height and weight measurements because this is the information used for assessing a woman's health.

Weight Gain – How Much is Enough?

Weight gain during pregnancy has a tremendous effect on the outcome of the pregnancy. Adequate weight gain is necessary for normal growth and development of the fetus.

Babies whose mothers *do not gain enough* weight are likely to grow poorly in the uterus and be born prematurely or small for gestational age. Low birth weight (a birth weight of less than or equal to 5 pounds 8 ounces) has been associated with mental retardation, birth defects, growth and development problems, including increased chances of overweight and obesity. Babies whose mothers *gain too much* weight may have high birth weights, Caesarean section deliveries, and birth trauma. Women who gain too much weight during pregnancy may have gestational diabetes, difficulties with delivery, and high blood pressure. Also, it can be difficult to lose the weight after the baby is born.

Adequate weight gain during pregnancy increases the likelihood that a woman will deliver a full-term, healthy baby.

How much weight should a woman gain during pregnancy? This recommendation depends on many things such as her age, pregravid weight status, or if she is having multiple births, to name a few.



BMI: The commonly accepted index for classifying a person's degree of thinness or fatness.

Prepregnancy BMI: A calculation based on a woman's prepregnant weight and height that is used to determine her recommended weight gain range for a specific pregnancy.

Current BMI: A calculation that has value for postpartum women. It serves no useful function during pregnancy.

BMI can be calculated using a mathematic formula. BMI is a person's weight in kilograms divided by their height in meters squared. Or,

$$\text{BMI} = \frac{\text{wt kg}}{\text{ht m}^2}$$

OR

$$\text{BMI} = \text{wt (in lbs)} \div \text{height (in inches)} \div \text{height (in inches)} \times 703$$

Because the United States uses pounds and inches, if using the metric calculation, staff first need to convert the woman's measurements to kilograms and meters.

Weight Gain Distribution During Pregnancy

You may be wondering why some women need to gain 25 to 35 pounds to deliver a 7½-pound baby. Some of this weight is necessary to nourish the growing fetus. As you can see from the following breakdown, the baby accounts for only a portion of the total weight gain.

Components of Prenatal Weight Gain

1½ to 3 pounds	breasts
1½ to 2 pounds	placenta
2 to 4 pounds	uterus (womb)
8½ to 9 pounds	increased blood and fluids
7½ pounds	baby
4 to 8 pounds	mother's fat stores (needed to supply energy for labor, delivery, and the production of milk after birth)

Identifying Weight Categories and Recommendations for Weight Gain

During a pregnant woman's certification visit, the WIC CPA advises her on how much weight she should gain during this pregnancy. WIC CPAs determine how much weight should be gained by following these three steps:

1. Determine the prepregnancy Body Mass Index(BMI):

This BMI value is a calculation using her pregravid weight and height. BMI correlates with total body fat and is considered to be a good screening tool to indicate maternal nutrition status. There are two ways WIC staff can determine the BMI value. Using the Prenatal Weight Gain Chart (MCH 33), find the woman's height and weight (or weight range) in the Body Mass Index (BMI) Table for Pregnant Women in the upper right hand corner. Then identify her BMI in the column in which the weight and height are found (Underweight, Normal Weight, Overweight or Obese). In addition, the same table may be found in the WIC Policies and Procedures Manual Appendix (Page APP-26).



2. *Identify the weight category:*

Once the BMI value is determined, the weight category can be identified. Weight categories are defined by the following BMI values:

Under	BMI <19.8
Normal:	BMI 19.8 – 26.0
Over:	BMI 26.1 – 29.0
Obese:	BMI ≥29.1

For example: A 5’4” (64”) woman with a pregravid weight of 160 pounds has an estimated BMI of about 27.5. Her BMI value falls into the “Over” weight category.

3. *Determine the recommended target weight gain range:*

Target weight gain recommendations during pregnancy are expressed in the table below:

<i>Prepregnancy BMI</i>	<i>Target weight gain range</i>
Under <19.8	28 – 40 pounds
Normal 19.8 – 26.0	25 – 35 pounds
Over 26.1 – 29.0	15 – 25 pounds
Obese ≥29.1	15 pounds

In addition to looking at prepregnancy weight categories to recommend a normal weight gain, other factors must be considered:

- ♦ **Women who smoke** during pregnancy tend to gain less weight in pregnancy and may give birth to infants with growth retardation. A weight gain at the higher end of her range may help reduce this risk.
- ♦ Weight gain for **multifetal pregnancies** is obviously higher. Women pregnant with twins are encouraged to gain 35-45 pounds and at a rate of weight gain of 1.5 pounds/week for normal weight women during the second half of pregnancy. Women pregnant with triplets are recommended to target weight gain to 50 pounds.
- ♦ It is acceptable for **short women** (under 62”) to gain weight at the lower end of each range.
- ♦ Underweight women should gain at the higher end of the target weight gain range and higher weight women should gain at the lower end of the range.

Additional considerations for women who:

- smoke
- are carrying twins or triplets
- are short

Assessing Weight Gain During Pregnancy

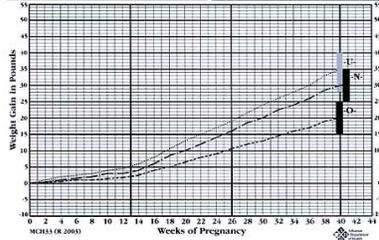
In addition to estimating how much weight a woman should gain, we need to evaluate her weight gain during pregnancy. Weight gain should be slow and steady.

Women generally gain between 2 to 4 pounds in their first trimester. For women in their second and third trimesters, weight gain recommendations are as follows:

- ◆ Underweight women are encouraged to gain about 4½-5 ½ pounds per month (1.3 pounds per week);
- ◆ Normal weight women are encouraged to gain about 4 pounds per month (1 pound per week);
- ◆ Overweight women are encouraged to gain about 3½ pounds per month (¾ pounds per week);
- ◆ Obese women are encouraged to gain about 2½ pounds per month (individualize but generally ½ pound per week).



PRENATAL WEIGHT GAIN CHART					
Client's Name: _____					
EDP (Estimated Date of Delivery) _____		Height (in feet and inches without shoes) _____			
Immediate Prepregnancy Weight _____					
<input type="checkbox"/> Documented <input type="checkbox"/> Reported <input type="checkbox"/> Unknown					
Weight Status: <input type="checkbox"/> Under <input type="checkbox"/> Normal <input type="checkbox"/> Over <input type="checkbox"/> Obese					
DESIRABLE WEIGHT GAIN DURING PREGNANCY					
	Underweight	Normal weight	Overweight	Obese	Twins
Total	28-40 lbs	25-35 lbs	15-25 lbs	15 lbs	35-45 lbs
40-45 weeks	5	3.5	2	1.5	4-6
	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
46-48 weeks	3.5	3	2	1.5	4-6
	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
49-52 weeks	3.5	3	2	1.5	4-6
	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
* Underweight women should gain at the higher end of the range and higher weight women should gain at lower end of the range.					



The Prenatal Weight Gain Chart

(Secure at least 2 copies of the Prenatal Weight Gain Chart- MCH 33 for an activity in this section.)

The Prenatal Weight Gain Chart MCH 33 (see page 16) is a graph that enables WIC staff to plot a woman’s weight gain throughout her pregnancy. It provides a pictorial view of her weight gain so that she can see how her weight gain compares to the recommended rate of gain for her weight category. Remember, the recommended total weight gain range is based on a woman’s prepregnancy weight category.

The weight gain ranges are depicted on the grid as three different upward sloping lines. The upper-most line represents the target weight range for underweight women. The middle line represents the target weight gain range for normal weight women. The bottom line represents the target weight gain range for overweight women and represents the 15 pound recommended weight gain for women with an “obese” prepregnancy BMI.

These lines show recommended weight gains. In real life, every woman’s weight gain is not going to track exactly along a sloping line. However, a pregnant woman can increase her chances of a healthy pregnancy by using these weight gain recommendations as a target during her pregnancy.

These charts are useful for providing a picture of the pregnancy weight gain. They make it easier to detect inappropriate changes in weight over time. Let’s take a closer look at how you would plot weight gain on them.

Procedure for Using the Chart

Instructions when prepregnancy weight is known.

1. Complete the upper left-hand box. Enter the woman's name, immediate pre-pregnant weight (documented, reported or unknown), height in feet and inches, and EDD (estimated date of delivery). Identify the woman's prepregnancy weight category and target weight gain range.

PRENATAL WEIGHT GAIN CHART						
Client's Name _____		Body Mass Index (BMI) Table for Pregnant Women				
EDD _____	Height _____	Weight [Underweight] [Normal Weight] [Overweight] [Obese]				
(Estimated Date of Delivery) (In feet and inches without shoes)		BMI < 18.5 BMI 18.5-24.9 BMI 25.0-29.9 BMI ≥ 30				
Immediate Pre-pregnant Weight _____		4'8"	<88	88-115	116-129	>129
<input type="checkbox"/> Documented <input type="checkbox"/> Reported <input type="checkbox"/> Unknown		4'9"	<91	91-120	121-134	>134
Weight Status <input type="checkbox"/> Under <input type="checkbox"/> Normal <input type="checkbox"/> Over <input type="checkbox"/> Obese		4'10"	<95	95-124	125-138	>138
DESIRABLE WEIGHT GAIN DURING PREGNANCY		4'11"	<98	98-128	129-142	>142
Total	28-40 lbs	5 lbs	3.5 lbs	2 lbs	1.5 lbs	35-45 lbs
1 st trimester	5 POUNDS	3.5 POUNDS	2 POUNDS	1.5 POUNDS	4.6 POUNDS	
2 nd & 3 rd trimester	1.5 (18-24 weeks)	1 (15-20 weeks)	.66 (14-20 weeks)	1.5 (10-20 weeks)	1.5 (10-20 weeks)	
*Underweight women should gain at the higher end of the range and higher weight women should gain at lower end of the range.		5'0"	<102	102-133	134-148	>148
		5'1"	<105	105-137	138-153	>153
		5'2"	<108	108-142	143-158	>158
		5'3"	<112	112-146	147-162	>162
		5'4"	<116	116-151	152-169	>169
		5'5"	<119	119-156	157-174	>174
		5'6"	<123	123-161	162-179	>179
		5'7"	<127	127-166	167-185	>185
		5'8"	<130	130-171	172-190	>190
		5'9"	<134	134-176	177-196	>196
		5'10"	<138	138-181	182-202	>202
		5'11"	<142	142-186	187-208	>208
		6'0"	<146	146-191	192-213	>213

Client's Name _____

EDD _____ Height _____

(Estimated Date of Delivery) (In feet & inches without shoes)

Immediate Pre-pregnant Weight _____

Documented Reported Unknown

Weight Status Under Normal Over Obese

DESIRABLE WEIGHT GAIN DURING PREGNANCY

	Under weight	Normal weight	Over weight	Obese	Twins*
Total	28-40 lbs	25-35 lbs	15-25	15 lbs	35-45 lbs
1 st trimester	5 lbs	3.5 lbs	2 lbs	1.5 lbs	4-6 lbs
2 nd /3 rd trimester	1.3 lbs per week	1 lb per week	.66 lb per week	.5 lbs per week individualize	1.5 lbs per week

Underweight women should gain at the higher end of the range and higher weight women should gain at the lower end of the range.

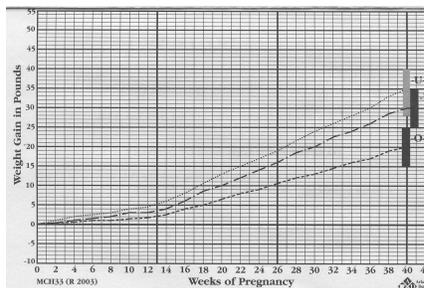
2. Determine client's immediate prepregnant weight and check the appropriate:
 - Use a documented weight from a medical record or the reported weight if it seems plausible

Or

- If unknown, use an estimated plausible weight
3. Determine Weight Status, using "Body Mass Index (BMI) Table for Pregnant Women":
 - Find the client's height in the left vertical column.
 - Follow across the chart to find the client's pre-pregnancy weight range.
 - The row at the top of the chart gives the client's weight status:

Underweight, normal weight, overweight, or obese.

4. Plot the first visit's weight **on** the line that corresponds to the client's weight status-**U**nderweight, **N**ormal or **O**verweight/**O**bese.
5. Each time a new weight measurement is available at subsequent visits plot the pounds gained or lost from this point comparing the current weight from the previous weight.



6. Compare the total amount gained with the gain expected for the woman's prepregnancy weight status (Under, Normal, Over, or Obese), as indicated by the entry you previously made.
7. Use this assessment along with the findings from other information such as dietary, to determine appropriate recommendations.

Instructions when prepregnancy weight is NOT known



8. When the prepregnancy weight is not known at the first visit, estimate the woman's prepregnancy status using an estimated plausible weight (Under, Normal, Over, or Obese) by considering her current height and weight.
9. Determine the weeks of gestation at the time of the current weight.
10. Place a dot on the grid where the line representing the weeks of gestation crosses the lower line of the weight gain range estimated to be appropriate for the woman. (For example, if the woman's prepregnancy BMI weight is overweight or obese, you would place a dot on the dotted and dashed line that corresponds with a 15 pound weight gain.)
11. Subtract the number of pounds represented by the line at the dot from the current weight to determine an estimated prepregnancy weight. Record this estimated prepregnancy weight on the form, noting that it is estimated.

At subsequent visits—

1. Determine the weeks of gestation on the date of the current weight. Enter the current date below the weeks of gestation.
2. Place a dot on the chart where the line representing the number of pounds gained or lost crosses the line representing the weeks of gestation.
3. Compare the change in weight between measurements and the total amount gained with the gain expected for the woman's estimated prepregnancy weight status Under, Normal, Over, or Obese.
4. Consider the results of this assessment with the results of other parts of the WIC nutrition assessment (anthropometric, biochemical, clinical, dietary, environmental and family issues and other adjunct health issues) to determine appropriate recommendations.



A Word About Unknown Prepregnancy Weights

When a woman states that she does not know her prepregnancy weight, ask questions that might help you determine an approximate weight. Sometimes women have trouble remembering what they weighed before pregnancy or they may have purposefully never weighed themselves. Some questions you might ask are:

- *Did the doctor or clinic staff weigh you when you found out you were pregnant? What was that weight?*
- *Do you think you gained any weight between the time you became pregnant and when you first got weighed?*
- *Has your dress or pants size changed since you got pregnant?*

**Prenatal Weight Gain Chart
MCH 33 (R 2003)**

PRENATAL WEIGHT GAIN CHART

Client's Name _____

EDD _____ Height _____
(Estimated Date of Delivery) (In feet and inches without shoes.)

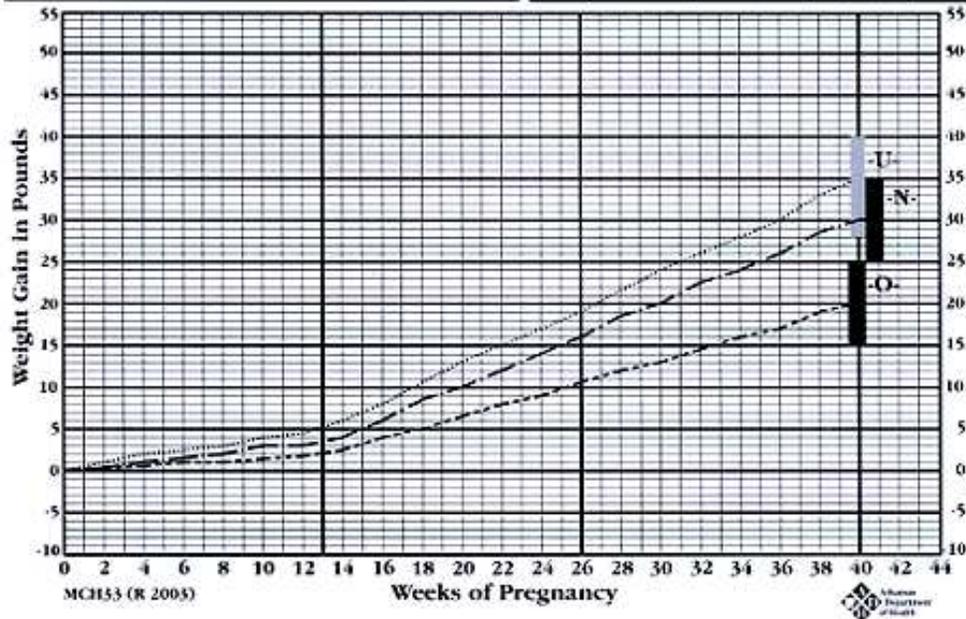
Immediate Pre-pregnant Weight _____
 Documented Reported Unknown

Weight Status Under Normal Over Obese

Height	Underweight BMI < 19.8	Normal Weight BMI 19.8-26.0	Overweight BMI 26.1-29.0	Obese BMI > 29.1
4'8"	<88	88-115	116-129	>129
4'9"	<91	91-120	121-134	>134
4'10"	<95	95-124	125-138	>138
4'11"	<98	98-128	129-143	>143
5'0"	<102	102-133	134-148	>148
5'1"	<105	105-137	138-153	>153
5'2"	<108	108-142	143-158	>158
5'3"	<112	112-146	147-163	>163
5'4"	<116	116-151	152-169	>169
5'5"	<119	119-156	157-174	>174
5'6"	<123	123-161	162-179	>179
5'7"	<127	127-166	167-185	>185
5'8"	<130	130-171	172-190	>190
5'9"	<134	134-176	177-196	>196
5'10"	<138	138-181	182-202	>202
5'11"	<142	142-186	187-208	>208
6'0"	<146	146-191	192-215	>215

	Under weight	Normal weight	Over weight	Obese	Twins *
Total	28-40 lbs	25-35 lbs	15-25 lbs	15 lbs	35-45 lbs
1ST TRIMESTER	5 POUNDS	3.5 POUNDS	2 POUNDS	1.5 POUNDS	4-6 POUNDS
2ND & 3RD TRIMESTER	1.3 LBS PER WEEK	1 LB PER WEEK	.66 LBS PER WEEK	.5 LBS PER WEEK	1.5 LBS PER WEEK

*Underweight women should gain at the higher end of the range and higher weight women should gain at lower end of the range.



What Prenatal Weight Gain Charts Can Tell Us

Evaluating one plotted weight

Weight plotted at one point tells us how a woman's weight has changed since she became pregnant.

Some women will not be sure about their prepregnancy weights. They may not have weighed themselves recently, or they may remember weights from several years, or several pregnancies ago. They may also tell you weights lower than their true weights if they are embarrassed.

If the prepregnancy weight is inaccurate, then we cannot accurately assess weight gained at the first time a pregnancy weight is plotted. However, we will have a starting point to compare and assess future measurements during the pregnancy.

Evaluating several plotted weights

Several measurements plotted at different weeks of pregnancy give more reliable information to help determine the pattern of weight gain and if the woman is gaining a healthy amount of weight. To most accurately compare weight change, WIC staff should weigh prenatal participants at all follow-up visits.

Some participants will offer their weight from an earlier doctor's visit to save time. Because of the variation in scales, it is best that the participant be weighed again on the WIC clinic scale.

Unexpected weight changes

A slightly lower or higher rate of weight gain than the recommended is okay as long as there is a progressive increase in weight that approximates the recommended weight gain. Most weight gain occurs in the second and third trimester. For all pregnant women, weight gain should be slow and steady. This means that for the pregnant woman who is gaining at a rate slightly above her recommended weight gain, we recommend slow, steady weight gain. At no point do we recommend a woman stop gaining weight and try to maintain her weight throughout the remainder of her pregnancy.





Anthropometry: Study of human body measurement.

Monitor Weight:
Underweight
Nutrition Risk Code 101

Prepregnancy BMI < 19.8

Increased Risk

Usually rapid weight changes are a red flag for a concern. Reasons for unexpected changes may include errors in measuring or re-recording the weight, differences in clothing, severe nausea and/or vomiting, gaining extra body fluid, eating too much or too little, and when a woman is expecting twins or triplets.

If the woman has an abnormal weight change, first weigh her again to make sure she was weighed accurately. If there is a sudden increase or decrease, refer the woman to her prenatal care provider for follow up. You can assess her diet to learn if she is eating more or less than her usual diet.

Identification of Anthropometric Indicators of Nutritional Need

Now you can use accurate heights and weights, BMI, and the Prenatal Weight Gain Chart to determine if WIC participants have anthropometric indicators of nutritional risk. Remember: **any one** of these indicators make pregnant women nutritionally eligible for WIC and will also identify the type of education and counseling the woman should receive (normal protocols or Increased Risk counseling).

Underweight Women

Scenario: Ellen Trovato is a pregnant woman who is 64 inches tall and weighed 103 pounds before she became pregnant. Her BMI is <19.8. She would therefore be considered underweight.

Underweight pregnant women have twice the chance of delivering a low birth weight infant or growth impaired infant. These infants tend to have more health problems after birth. An underweight woman is also more likely to have complications during the pregnancy and delivery. These complications include higher likelihood of pre-birth hemorrhage, premature rupture of membranes necessary for pregnancy, anemia, endometriosis (inflammation of the uterus lining), and Cesarean delivery.

Underweight women may have eaten poor diets over a period of time. They may continue to eat poorly during pregnancy, resulting in an inadequate intake of calories and nutrients. Underweight women may continue to eat poor diets after delivery and have anemia.

CPA’s Role:

Follow the normal prenatal nutrition protocols (which will be discussed in Part VII) and Prenatal Nutrition Education Plan and try to determine the potential cause of her low weight status. Potential causes might include concerns about body image, poor appetite, availability of food, feelings about food, excessive activity, and health problems. Review the dietary assessment. Some questions might be:

- *How do you feel about gaining weight?*
- *Do you need help in getting enough food to eat?*
- *How is your appetite?*

Then find solutions. You may help them by providing a list of places the participant can go to get some food (e.g., food pantries) or perhaps refer them to a place that can provide assistance in the area they need.

Overweight Women

Scenario: Janelle Meirs is a pregnant woman who is 65 inches tall. Before she became pregnant she weighed 170 pounds. Her BMI is ≥ 26.1 , so she is considered overweight.

An overweight woman is more likely to have complications during pregnancy and delivery. These complications include conditions such as diabetes, high blood pressure, premature delivery, birth defects, birth of a very large infant, and blood clot difficulties. The heavier a pregnant woman is, the more chance she may develop some of these problems. The importance of weight gain must also be stressed to the overweight women. The recommendation is to gain about 15 pounds.

However, excessive weight gain puts the mother and infant at future risks. Pregnancy is not a time to lose weight—even obese women are encouraged to gain some weight. Overweight women may not necessarily have adequate nutrient stores since the quality of the diet may not have been adequate.

CPA’s Role:

Follow the normal prenatal nutrition protocols and Prenatal Nutrition Education Plan. Gather information about the participant’s beliefs about nutrition during pregnancy. A healthy diet is especially important for these women since dieting or weight reduction is NOT advised during pregnancy. Emphasize food choices of high nutritional quality, limiting unnecessary high-calorie foods. Ask questions about the food availability and resources, eating behaviors, feelings about weight gain, and review the dietary assessment. Collect information on lifestyle.

Monitor Weight
Overweight:
Nutrition Risk Code 111

Prepregnancy BMI ≥ 26.1

Increased Risk

Pregnancy is not a time to lose weight; even obese women are encouraged to gain weight.

Monitor Weight:
Low Maternal Weight Gain/
Month in 2nd & ^ 3rd trimester
Nutrition Risk Code 131

Singleton pregnancy: underweight < 4lb; normal/overweight <2lb; obese <1lb: OR low gain at any point in pregnancy OR Multifetal pregnancy: gain of < 1.5lb/week.

Increased Risk

Monitor Weight:
Maternal Weight Loss
Nutrition Risk Code 132

Any loss below pregravid weight 1st trimester; ≥ 2 lb 2nd & 3rd trimesters

Increased Risk

Inadequate Weight Gain/Weight Loss

Women who do not gain adequate weight during pregnancy tend to give birth to infants with smaller average birth weights and with fetal growth restriction. Lower birth weight and fetal growth restriction are indicators of poor health for an infant that can have lasting effects throughout the infant's entire life.

Any time a woman has a loss of two or more pounds in her 2nd or 3rd trimester, or loses below her pregravid weight in the first trimester, she is at risk.

The supplemental foods and nutrition education provided by WIC should improve maternal weight status and infant outcomes. This is an increased risk factor and she must be referred to the WIC nutritionist for Increased Risk counseling.

CPA's Role:

Collect information addressing food resources, food and drink intake, and lifestyle behaviors. Questions to ask include:

- Ask if she thinks her weight gain is a problem.
- Also ask her why she thinks she is losing weight.

If she seems reluctant to gain weight, remind her how beneficial her weight gain is to the health of her baby. Refer to the table on components of weight gain on page 10 to explain why weight gain is crucial to the normal process of pregnancy.

Depending on the issues, you may need to provide information on any of the factors that can contribute to poor weight gain. Address such problems as nausea, vomiting, poor appetite, not having enough money to buy food, poor absorption of nutrients by the body, infections, emotional stress, eating disorders, and substance abuse.

The woman with poor weight gain may simply need advice on what to eat in order to gain weight. Show her how to properly eat, using the *Eating for You and a Healthy Baby, Too* pamphlet. Also, rather than trying to completely change her diet, recommend that she try to increase her intake of snacks throughout the day. Some nutritious snack foods that are also high in calories include nuts, peanut butter, milk shakes, whole milk, cheese made with whole milk, yogurt (flavored), pizza, and cheeseburgers. Adding powdered milk or shredded cheese to meals during preparation will also increase the caloric content of the meals.

Monitor Weight:
High Maternal Weight Gain
Nutrition Risk Code #133

> 7 lbs/month (singleton pregnancy)

Increased Risk

High Birth Weight: Infant birth weight greater than 8.8 pounds (4000 grams).

Preeclampsia: A condition characterized by an acute elevation of blood pressure, protein in the urine, and edema (abnormal fluid retention) usually in the latter half of pregnancy, without the convulsions and coma typical of eclampsia.

Eclampsia: Eclampsia is the sudden development of conditions characterized by all of the symptoms of preeclampsia in the latter part of pregnancy with varying degrees of severity (including convulsions and possibly coma).

Tool to Determine High Maternal Weight Gain

Weeks between weights	Pounds of wt gain should be less than
4	7
5	8.75
6	10.5
7	12.25
8	14
9	15.75
10	17.5
11	19.25
12	21
13	22.75
14	24.5
15	26.25
16	28

High Maternal Weight Gain

Gaining too much weight during pregnancy is an indicator of nutritional risk. Women who have high weight gain during pregnancy often give birth to high birth weight infants. If the infant is too large there is significant risk of injury to the woman and infant during delivery. High maternal weight gain is associated with other complications of pregnancy including high blood pressure, preeclampsia, and eclampsia. Women who gain extra weight in pregnancy also have extra weight to lose after delivery. If extra weight is not lost after delivery, a woman may enter a subsequent pregnancy overweight.

This is a subjective risk factor that requires you to calculate weight gain per month. Any time a pregnant woman gains 7 or more pounds per month (four-week period), assign this risk criterion. This risk criterion applies to all pregnant women regardless of their weight category (low, normal, high, obese). It does not apply to multifetal pregnancies (twins, triplets, etc.).

Calculating High Maternal Weight Gain

To determine if a woman has high weight gain you may use the tool in the side bar on the left. It is also good if you can learn to determine weight gain in a four-week period. If the woman was seen one month ago, and her weight gain appears high, you simply need to subtract her previous weight from her current weight. If the difference is greater than or equal to 7 pounds, then the risk factor applies (remember this **does not** apply to multifetal pregnancies).

If the time period between weights is less than four weeks, subtract the previous weight from the current weight. If the difference is greater than or equal to 7, then the risk factor should be assigned.

If a woman's last visit is more than four weeks ago, use this calculation:

Weight should be less than:

$$1.75 \text{ pounds} \times \text{number of weeks between weights}$$

For example, a woman has gained 13 pounds since her visit 7 weeks ago. By using the formula above:

$$1.75 \times 7 = 12.25 \text{ pounds}$$

Since her weight gain is more than 7 pounds, she meets the high weight gain risk criterion.



CPA's Role:

Follow the normal protocol for pregnancy first. Eating too many calories for the amount of activity the person engages in may cause excessive weight gain. However, excessive weight gain during pregnancy may result from edema or fluid retention associated with preeclampsia. Identifying the cause of excessive weight gain may be difficult, but it is necessary for determining whether medical or dietary management is needed. Rapid weight gain is a high-risk condition. The nutritionist should see this woman as soon as possible.

Summary

The Prenatal Weight Gain Chart serves as a visual aid for WIC staff throughout a participant's entire pregnancy. Staff can easily see on the grid patterns of weight gain during pregnancy and can be better prepared to offer appropriate education and counseling. The grid may serve as a teaching device for the participant to help explain weight recommendations.

A pregnant woman who is not gaining enough weight or gaining weight too rapidly should be referred to the nutritionist, because adequate weight gain directly relates to pregnancy outcomes.

√ **Self-Check #2**

1. a. What is the recommended range for weight gain for a normal weight(BMI 19.8-26.0) woman during pregnancy?

 - b. What is the recommended range for weight gain for an underweight (BMI <19.8) woman during pregnancy?

 - c. What is the recommended range for weight gain for an overweight (BMI 26.1-29.0) woman during pregnancy?

 - d. What is the recommended range for weight gain for an obese (BMI \geq 29.1) woman during pregnancy?

2. A normal weight woman has gained 27 pounds of weight at 27 weeks gestation. She should be encouraged to: (Circle the letter of the correct answer.)
 - a. Lose some weight before her delivery.
 - b. Not lose any weight, but maintain her weight gain at 27 pounds for the rest of the pregnancy.
 - c. Gain weight at a slow, steady rate for the rest of her pregnancy.
 - d. Gain as much weight as she can for the rest of her pregnancy.

True or False

3. ___Pregnancy is an excellent time for an overweight woman to lose weight and she should be encouraged not to gain any weight during her pregnancy.
4. ___It is acceptable for a woman to gain 12 pounds during one week of the last trimester of pregnancy as long as her total weight gain doesn't exceed 30 pounds.

✓ **Self-Check #2 (cont.)**

Complete Prenatal Weight Gain Charts after reading the case studies presented in questions 5 and 6.

5. Mary Suarez comes to your clinic for her first visit today, June 1, (any year). She is 14 weeks pregnant and was 25 years old at conception. Her estimated date of delivery is December 1 (any year). She is 5'2" and weighs 121 pounds at this visit (at 14 weeks gestation). She reports that her prepregnancy weight was 115 pounds.
 - a. Fill out a Prenatal Weight Gain Chart accordingly. Determine an approximate BMI by using the Body Mass Index (BMI) Table for Pregnant Women on the Prenatal Weight Gain Chart. Fill in the information needed in the upper left corner (pregnancy weight, height, EDD, etc.), and identify her weight status.
 - b. Plot her current weight at 14 weeks gestation.
 - c. What range of total weight gain do you recommend for her?
 - d. Circle which nutrition risk criteria applies to her:
 - #101 – underweight prepregnancy
 - #111 – overweight prepregnancy
 - #131 – low maternal weight gain
 - #133 – high maternal weight gain
 - None apply

6. Susan Jones arrives at your clinic and reports that she is 10 weeks pregnant and her estimated date of delivery is August 15. This is the first time she is being seen in the clinic (January 17). After measuring and weighing her, you determine she is 5'5" and she weighs 185 pounds at this visit. When asked about her prepregnancy weight, she says she has no idea what she weighed before her pregnancy. She tells you she doesn't think she has gained much weight because she still fits into the clothes she wore before becoming pregnant. Fill out a Prenatal Weight Gain Chart accordingly:
 - a. Fill in the information needed in the upper left corner (pregnancy weight, height, EDD, etc.) and determine her weight status.
 - b. Plot her current weight at 10 weeks gestation.
 - c. What range of total weight gain do you recommend for her?
 - d. Circle which risk criteria applies to her:
 - #101 – underweight prepregnancy
 - #111 – overweight prepregnancy
 - #131 – low maternal weight gain
 - #133 – high maternal weight gain
 - None apply



Part III: Dietary Indicators of Nutritional Need

Nutritional Needs of Pregnancy

While a pregnant woman does not have to eat for two, she does have to eat more calories and certain nutrients than a non-pregnant woman.

Every pregnant woman can make sure that her baby gets the best possible start by eating a good diet. In WIC we use the “Eating for You and a Healthy Baby Too” (English #PM-208, Spanish #PM-209) to help women learn how to meet the nutritional needs of pregnancy. It is a sensible, easy-to-follow guide that encourages women to choose the right amount of foods they like. The pamphlet includes recommendations about serving sizes and amounts for pregnant women based on calorie levels of 1800 to 2400. These guidelines are available to help WIC staff educate the pregnant woman about her diet.

Using the Food Guide Pyramid/MyPyramid from *Eating for You and a Healthy Baby Too* or the Recommended Minimum Daily Servings Tool (commonly referred to as the “Pumpkin Sheet”-ask your Regional Nutrition Coordinator or designated Nutritionist for this tool), review the daily dietary needs for pregnancy.

Women consuming the minimum number of recommended servings, plus a moderate amount of added sugars and fats, would receive approximately 1800-2000 calories. The energy (calorie) recommendation for the average pregnant woman is an additional 300 calories/day above what she normally consumes when not pregnant. In order to meet the increased calorie and nutrient needs of pregnancy, most women are encouraged to eat the middle to the top of the range of servings recommended for fruits, vegetables and grains. In general, emphasize:

- increasing the amount of foods (total of 6 to 8 ounces) high in complex carbohydrates (Grains Group);
- eating at least 1 ½ cups to 2 cups of fruits and 2 ½ to 3 cups of vegetables each day;
- decreasing fat intake and limiting less nutrient-dense foods, like sugar.

For pregnant women, servings of the protein-rich foods and milk products are increased to meet the additional demands of pregnancy.

For now, the Recommended Minimum Daily Servings Guide is used to assess dietary intake. Use this tool to assess the adequacy of the pregnant woman's diet. Also assess using the MyPyramid recommendations as listed in the *Eating For You....* pamphlet. Remember that the amount recommended from each food group is based on calorie requirements and BMI status.

Inadequate/Highly Restrictive Diet
Risk Code 400

Increased Risk

Dietary Risk
Risk Code 410

Moderate Risk

Dietary Risk

Currently in WIC we use two levels of dietary risk, "Increased Risk" and "Moderate Risk." Risk Criteria 410 is assigned for less serious (Moderate) risk, while Risk Criteria 400 is used when more severe limits or omissions of diet are identified (Increased Risk). Both risks, when identified, should be addressed by the CPA in counseling the pregnant woman during nutrition risk assessment at certification. A woman with the Increased Risk Criteria 400 should be referred to the nutritionist for Increased Risk counseling. See online WIC Policies and Procedures Manual Page CER-19 through 20 for definitions of these two criteria.



Calorie: A unit in which energy is measured. Food energy is measured in **kilocalories** (thousands of calories). Most people simply refer to these units as “calories.”

Nutrient-dense food: A food with a great amount of protein, vitamins, and minerals for a set amount of calories.

Calories

Extra energy is required to meet the increased growth needs of pregnancy. A pregnant woman with a normal pregravid weight needs approximately 300 extra calories each day to meet the special needs of the fetus and the changes in her body. It is important that this increase in calories come from nutrient-dense foods. Three hundred calories is not a great deal of extra food. A peanut butter sandwich on whole grain bread and an orange or a 12-ounce can of soda and ten slices of French fried potatoes will supply about 300 calories. The sandwich and orange are far superior because along with their 300 calories, they provide far more nutrients (hence are nutrient-dense).

A woman who was underweight before she became pregnant will need to increase her calories to at least 300 more per day to gain the amount of weight needed to assure a healthy pregnancy. A woman pregnant with twins will need even more calories. Women who are physically active during pregnancy are likely to have energy requirements higher than those of sedentary women.

Other women become less active in pregnancy, choosing to sit rather than stand more often. Studies show these behaviors can be energy saving, which is why some women may end up gaining more weight than they expected.

Too many calories consumed and not enough energy expended can lead to excess weight gain.

Why are calories so important? Calories provide energy for the body to function. If the extra energy needs are not met, the body uses protein to provide the needed energy. The main function of protein is supposed to be for tissue building (skin, muscles, etc.), not for energy. Tissue building is a critical need of the developing fetus and for changes in the pregnant woman’s body. Additional calories allow protein to be available for tissue building and growth.



Protein

As the pregnancy begins, protein is needed to build all the tissues that will support the fetus. This includes the placenta, amniotic fluid, the breast, uterus, and the extra amount of blood that will be needed. Protein is also essential for the growth and development of the fetus. The increased need for protein can be met by adding one additional serving of protein-rich food to the daily meals. Inadequate protein in the woman's diet alone can lead to a low birth weight infant.

Many protein-rich foods also contain other essential nutrients such as iron, vitamin B6, and zinc. Both animals and some plants provide excellent sources of protein. Animal sources of protein such as whole-fat milk and red meats can provide excessive fat if eaten regularly. For normal and overweight women who are gaining adequate weight, encourage consumption of lean animal products, low fat and nonfat dairy products, and vegetable proteins (such as beans).

Water

The need for water during pregnancy is as important as during the non-pregnant state. Water weight makes up about 2/3 of the weight gained during pregnancy. The body uses water from both food and beverages. The recommendation is to "drink to thirst." In other words, a pregnant woman should drink whenever she feels thirsty.



Most women have some edema or swelling or puffiness in the ankles and feet during the last months of pregnancy. Pregnant women should never use diuretics or "water pills" because these can cause a dangerous imbalance in the sodium and potassium levels in the baby. Edema will be discussed later in this module.

Food Guide Pyramid/MyPyramid
A Guide to Daily Food Choices
Pregnant Women



How much do I need?

Calorie Level	1800	2000	2200	2400
Fruits	1 ½ cups	2 cups	2 cups	2 cups
Vegetables	2 ½ cups	2 ½ cups	3 cups	3 cups
Grains	6 oz	6 oz	7 oz	8 oz
Meat & Beans	5 oz	5 ½ oz	6 oz	6 ½ oz
Milk	3 cups	3 cups	3 cups	3 cups
Oils	5 tsp	6 tsp	6 tsp	7 tsp
Discretionary	195	267	290	362

How do I meet my needs?

Fruits: 1 cup fruit or 100% fruit juice = 1 cup fruit

Vegetables: 1 cup raw or cooked vegetables or vegetable juice, or 2 cups of raw leafy greens = 1 cup vegetables

Grains: 1 slice of bread, 1 cup ready-to-eat cereal, or ½ cup cooked rice, pasta, or cooked cereals = 1 ounce grains. At least half of all grains consumed should be whole grains

Meat & Beans: 1 ounce lean meat, poultry, or fish, 1 egg, 1 Tbsp peanut butter, ¼ cup cooked dry beans, or ½ ounce of nuts or seeds = 1 ounce meat & beans

Milk: 1 cup of milk or yogurt, 1 ½ ounces of natural cheese, or 2 ounces of processed cheese = 1 cup milk

Discretionary Calorie Allowance: The remaining amount of calories after accounting for the calories needed for all food groups.

Calorie level is dependent upon age, weight and physical activity level. See <http://www.MyPyramid.gov> website for determining calorie needs.

√ Self-Check #3

1. Fill in the blanks below indicating the amount recommended each day from each food group for a pregnant woman needing 2200 calories each day.

Food Group	Amount Recommended for 2200 calories
Milk	
Meat and Beans	
Grains	
Fruits	
Vegetables	

2. The following foods belong to which group from the Food Guide Pyramid/MyPyramid?

cottage cheese _____	oranges _____
corn tortilla _____	broccoli _____
apples _____	crackers _____
tuna _____	yogurt _____
pinto beans _____	peanut butter _____

True or False

3. ___ Some women may put on more weight than they expected during pregnancy because they become less active.
4. ___ Water should be restricted in pregnancy when a woman has edema.



Iron Needs During Pregnancy

Of all the minerals needed in greater amounts during pregnancy, iron is the one that is almost impossible to get enough of from the diet alone. The need for iron during pregnancy is very high. Even though a pregnant woman's body conserves iron by not menstruating and absorbing iron at three times its normal rate, she still needs additional iron.

Iron Deficiency During Pregnancy

Let's focus on what happens when there is not enough iron in the body. Iron is needed to form hemoglobin, a protein found in red blood cells. Hemoglobin assists in carrying oxygen to the body cells and carbon dioxide back to the lungs. Hemoglobin combined with oxygen gives blood its red color. If an iron deficiency exists, then sufficient amounts of hemoglobin are not formed, and the final result is that less oxygen is carried to all parts of the body.

This condition is called iron-deficiency anemia. It is characterized by the production of smaller, light-colored red blood cells. A woman who is anemic can look pale; she may complain of fatigue, listlessness, and irritability. She may also report that her appetite has dropped and that she has headaches and dizziness.

We can determine if there is enough hemoglobin in the blood by doing either a hematocrit or hemoglobin level test. A hematocrit test measures the amount of red blood cells in the blood after centrifugation. A low hemoglobin or low hematocrit level can indicate an iron deficiency.

In our discussion of weight gain during pregnancy, we mentioned that several pounds are due to an increase of blood volume and other fluids. Because a woman's blood volume increases dramatically throughout pregnancy, her hemoglobin or hematocrit may actually drop during the second and third trimesters. Her red blood cells are essentially diluted. This drop is normal. However, extra iron is required during pregnancy to form new red blood cells which are needed to carry oxygen to and carbon dioxide from the baby's tissues and to provide an extra supply of blood to compensate for the losses at delivery.

Anemia: A condition where the blood does not contain the proper amount of hemoglobin or erythrocytes (red blood cells). When this is due to insufficient iron in the body, the condition is called **iron-deficiency anemia**.



Anemia
Nutrition Risk Code 201

1st & 3rd Trimester

Hgb < 11gdl

Hct < 33%

2nd Trimester

Hgb < 10.5 g/dl

Hct < 32%

Increased Risk

Morbidity: Sickness, or a condition resulting from disease.

Mortality: Death.

Dietary Risk:
Inadequate Iron Supplementation
Nutrition Risk Code 410

Pregnant woman not taking 30 mg of iron daily.

Moderate Risk

Heme: The iron-holding part of the hemoglobin and myoglobin (muscle cell) proteins.

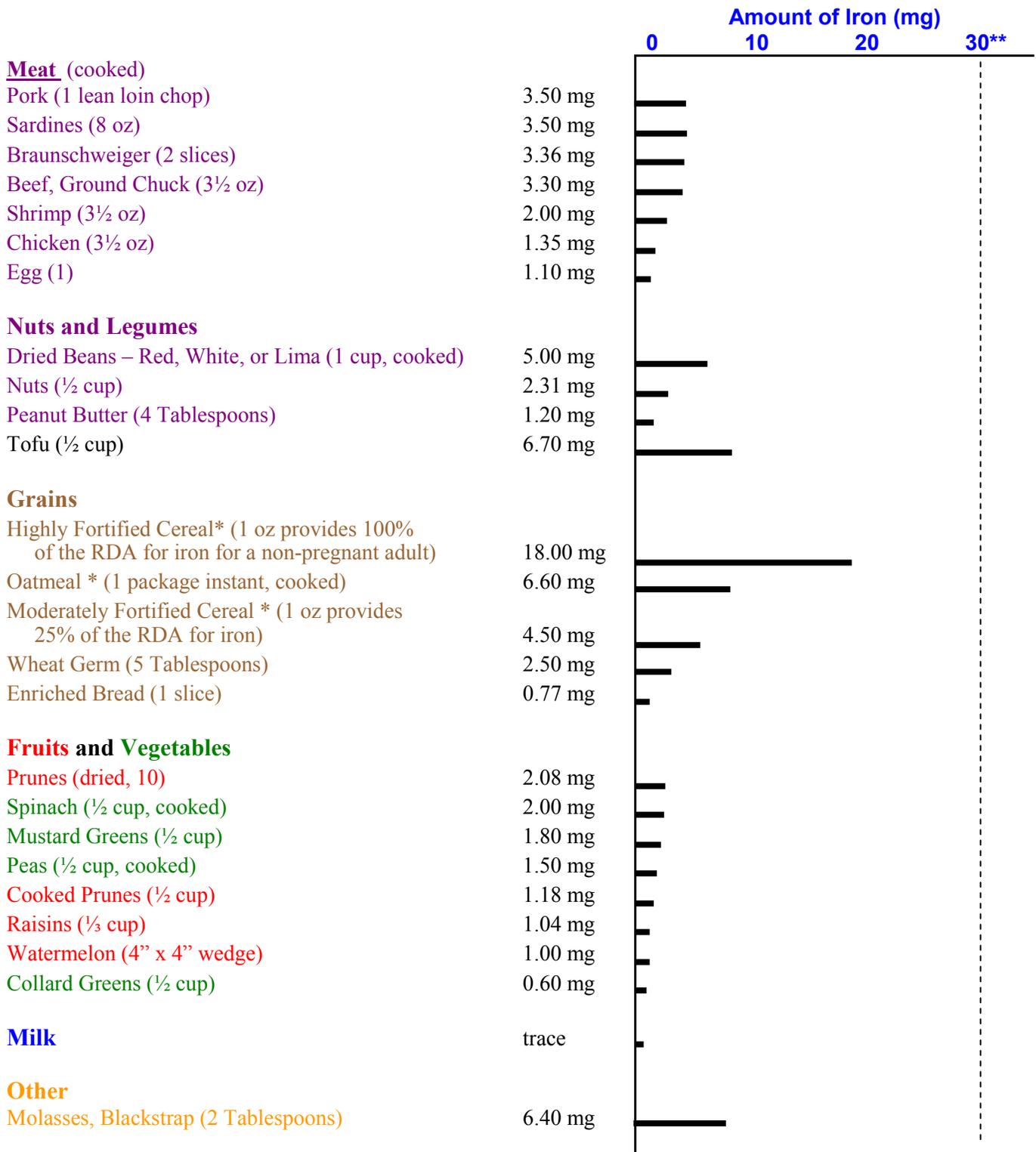
Anemia during pregnancy is associated with the delivery of low birth weight infants and an increased risk of infant mortality. Anemia late in pregnancy is a predictor of pre-term delivery. Many women begin pregnancy without enough iron stores to meet the needs of pregnancy. For these reasons, a daily supplement of 30 mg of ferrous iron is recommended during pregnancy. This supplement should be prescribed by the doctor or other primary care provider and is usually contained in the prenatal vitamin/mineral supplement.

Iron Content in Foods

Following is a list of foods and their iron content. The black bars indicate the milligrams of iron in each food. Note that some foods contain much more iron than others, and that milk is a very poor source of iron. Most of the iron in animal products (heme-iron) is better absorbed by the body than the iron in plant products (non-heme iron). Even though some plant foods may contain more iron than animal foods, the absorption may be much less.

One way to increase the body's absorption of iron from meals containing vegetables and grains is to eat them with meat or a vitamin C-rich food at the same meal. Thus, it is important to get enough vitamin C each day. Foods high in vitamin C include oranges and orange juice, grapefruit and grapefruit juice, strawberries, cantaloupe, and broccoli. Another way to slightly increase the amount of iron in a person's diet is to cook with an iron skillet. Some substances in foods inhibit the absorption of iron including tannins (in tea), phytates (in bran), oxalic acid (in spinach), and calcium. Again, by eating meat or vitamin C at the same meal, you can help limit the effect of these inhibitors.

Meeting the Daily Mark for Iron



*Iron fortification is different for each cereal. READ THE LABEL to find out the amount of iron contained in a box of cereal. For a cereal to be approved by the WIC Program, it must contain a minimum of 28 mg of iron per 100 g of dry cereal. This is equivalent to 8 mg of iron per 1 oz serving of cereal.

**The Recommended Daily Allowance (RDA) of iron for a pregnant woman is 30 mg/day.



CPA's Role:

Because a pregnant woman can easily become anemic, it is important to encourage her to eat high-iron foods, as well as take her prenatal vitamin supplement that contains iron. To improve the absorption of iron, it is best to recommend supplements be taken an hour before, or two hours after, a meal with juice or water (not milk, tea, or coffee). If the participant reports that she is nauseated, tell her that iron supplements may be best tolerated when taken at bedtime.

A history of poor dietary intake of iron, heavy blood loss, or frequent pregnancies is the best indicators of iron deficiency. Women with low hematocrit or hemoglobin values should receive education on the recommendations for iron supplementation and dietary sources of iron. They should be referred to their health care provider if they are not receiving iron in either a prenatal vitamin/mineral supplement or an individual iron supplement.

Neural Tube Defects (NTDs) and Folic Acid:

Questions & Answers

What are NTDs? Serious birth defects that affect the brain and spinal cord.

Who is at risk for having a baby with NTDs? Any woman of childbearing age.

What causes NTDs? Researchers are not exactly sure, however, inadequate nutrition (especially folate), poverty, diabetes, obesity, drugs, and alcohol use have been linked.

Are there any health risks associated with folate supplements?

Folate is safe, but it is recommended that total daily intake from supplements be limited to less than 1,000 micrograms.

Folic Acid Needs During Pregnancy

Folic acid, or folate, is a B vitamin that is necessary for normal cell growth and healthy blood. A pregnant woman needs extra folic acid because of her increased blood volume and the needs of her growing fetus. Folic acid also prevents up to 70% of neural tube birth defects (NTD), such as spina bifida. Any woman who does not get enough folate has a greater chance of having a baby with NTD.

The neural tube forms within the first month of development. By days 22 and 23 of the pregnancy, usually before the woman knows she is pregnant, the neural tube has formed and closed. Once this process is completed, there is no way to correct it.

Folic Acid Needs During Pregnancy (cont.)

Folic acid is now part of the U.S. fortification program and is included in bread, pasta, rice, breakfast cereals and other grain products labeled as “enriched.” However, it is very difficult to get enough folate by diet alone. The Institute of Medicine, a prestigious panel of medical experts, issued a recommendation in 1998 stating that all women of child-bearing age should consume 400 micrograms of synthetic folic acid daily and eat a healthy, varied diet. The recommended level is increased to 600 mcg during pregnancy. It is important to remember that folic acid will not prevent 100% of the NTDs, but it can prevent many of them.

Women with a history of having a baby with an NTD are at greater risk for another and should consider taking 4,000 mcg, or ten times the usual amount.

Foods naturally rich in folate include green, leafy vegetables, such as collards, spinach and romaine lettuce; fruits such as oranges, strawberries, and kiwi; orange juice; and dried beans and peas. Some of the WIC cereals that are high in folic acid include Multigrain Cheerios, Life, King Vitamin, Malt-O-Meal.

Folate-rich Foods

8 oz orange juice	75 mcg
1 cup dark leafy greens	100 mcg
8 strawberries	100 mcg
½ cup cooked (dried) beans	100 mcg
1 cup Multi-grain Cheerios (enriched)



√ Self-Check #4

1. What two nutrients are necessary for healthy blood and need to be supplemented during pregnancy?

- a. _____
- b. _____

2. Describe some of the symptoms of a woman who has iron-deficiency anemia.

3. Fill in each blank with the correct word:

- a. A _____ test measures the amount of red blood cells in the blood.
- b. Vitamin _____ helps the body absorb iron.

4. List 5 iron-rich foods:

5. When is the most important time that a woman has an adequate intake of folic acid to prevent neural tube defects?



Calcium Needs During Pregnancy

Calcium is important for everyone, but especially for the pregnant woman and her baby. Calcium is needed for strong bones and teeth, blood clotting, and enzyme activity. It is also essential for the nerves, heart, and muscles to develop and work properly.

The fetus is totally dependent on the mother for calcium needs. Fortunately, during pregnancy a woman can efficiently absorb calcium from the foods she eats.

The calcium recommendations for pregnancy are 1,000 mg/day for women 19 years and older, and 1,300 mg/day for women less than 18 years. One cup of milk (whole, 2%, 1%, or fat-free) has about 300 mg of calcium. A daily diet that includes 3-4 cups of milk plus 1-2 servings of green vegetables, whole grains, or other dairy items supplies enough calcium.

For a few women it is not always easy to meet the recommended daily requirements from dairy products. Some women do not like milk. It is necessary, then, not only to stress the importance of calcium, but also to offer food choices other than regular milk that will help meet calcium needs. Chocolate milk and milk shakes are acceptable alternatives for many women who do not like the taste of milk. Adding cheese or powdered milk to casseroles, meat loaves, mashed potatoes, and baked foods during preparation may also help satisfy calcium requirements.



Nutrition related Medical Disorder:
Lactose Intolerance
Nutrition Risk Code 300

Increased Risk

Lactose Intolerance

Lactose intolerance is a type of food intolerance—it's not an allergy. People should talk to their doctor about their symptoms rather than self-diagnosing the condition.

Woman with lactose intolerance may limit their intake of milk because their body cannot digest the main sugar (lactose) in milk. Depending on the degree of lactose intolerance, people may be able to eat a variety of lactose-containing foods. Some of the symptoms of lactose intolerance include gas, bloating, and diarrhea. Here are some tips to increase tolerance:

- ▶ Offer small servings of lactose-containing foods versus large servings.

- ▶ Eat dairy products with other foods instead of on an empty stomach.
- ▶ Eat active-culture foods (such as yogurt). The “friendly” bacteria in the cultures help break down lactose.
- ▶ Use enzyme tablets and lactose-reduced milks. These are available and can greatly increase tolerance. (The WIC Program provides lactose-reduced food packages).
- ▶ Heated milk may be easier to digest than cold milk.
- ▶ Aged or hard cheeses are lower in lactose.



There are other foods that contain calcium and don't contain lactose such as greens, baked beans, canned fish with bones, and calcium-fortified foods (e.g., orange juice).

The following chart on calcium equivalents illustrates that various food sources of calcium and the portion sizes to be eaten in order to receive roughly the same amount of calcium that is contained in one cup of milk.

Calcium Equivalent to One Cup (8 oz) of Milk (~300 mg)	
Milk and Milk Products:	Serving Size:
Milk (whole, 2%, 1%, fat-free, buttermilk)	1 cup
Yogurt	1 cup
Cheese	1½ oz natural or 2 oz processed
Powdered milk	⅓ cup
Evaporated milk	½ cup
Cottage cheese	1½ cups
Cream soup	2 cups
Pudding or custard	1 cup
Ice cream	1½ cups
Other Food Sources:	Serving Size:
Soy milk, calcium-fortified	1 cup
Tofu processed with calcium salt	2½" cube
Broccoli, cooked	3 cups
Dried beans, cooked	3 cups
Almonds	1 cup
Sardines	3 oz
Blackstrap molasses	2 Tbsp
Corn tortillas processed with lime	7 medium

Vitamin/Mineral Supplements During Pregnancy



What about taking vitamins during pregnancy? The Institute of Medicine concludes that routine supplementation of any nutrient, excepting iron, is unnecessary. A carefully chosen diet of whole grains, fruits, vegetables, protein sources, and dairy products or other calcium sources can provide adequate nutrition during pregnancy without supplementation. However, because many individuals on WIC consume diets inadequate in vitamins and minerals, prenatal multivitamin-mineral supplementation may be needed as an addition to a healthy diet.

Iron needs to be supplemented because the increased requirement during pregnancy is too great to be met by diet alone. For more information on iron, refer back to the section “Iron Needs During Pregnancy.”

Nutrient Supplementation in Special Circumstances

For pregnant women who consume a balanced diet, iron is the only routinely supplemented nutrient. However, for pregnant women who do not consume an adequate diet on a regular basis and those at high risk such as women carrying more than one fetus, heavy smokers, and substance abusers, a daily multivitamin/mineral preparation is recommended starting the second trimester. The supplement should contain the following nutrients (typically contained in prenatal supplements):

Iron:	30 mg	B ₆ :	2 mg
Zinc:	15 mg	Folate:	.3 mg
Copper:	2 mg	Vitamin C	50 mg
Calcium:	250 mg	Vitamin D	5 micrograms (200 IU)

Other Considerations

Complete vegetarians – pregnant women who consume no animal products:

- Vitamin D: 10 micrograms (400 IU) and
- Vitamin B₁₂: 2.0 micrograms daily

Women <25 years of age with calcium intake <600 mg –
600 mg calcium daily

Anemic Women – When anemic women are given therapeutic levels of iron (>30 mg/day), supplementation with 15 mg of zinc and 2 mg of copper is recommended because the iron may interfere with the absorption and utilization of those necessary trace elements.

Inadequate/Highly Restrictive Diet:

Nutrition Risk Code 400

Includes:

Inappropriate or Excessive Intake of Dietary Supplements, Vitamins, or Minerals is defined as:

Routinely taking inappropriate or excessive amounts of any dietary supplement with potentially harmful consequences including, but not limited to, ingestion of unprescribed excessive or toxic:

- multi or single vitamins
- mineral doses
- herbal remedies

Increased Risk

Excessive Intake of Dietary Supplements, Vitamins or Minerals, as an Indicator of Nutritional Risk

There are times when women, in an effort to do the best they can for their health and fetus, may take additional vitamins or minerals. Yet certain vitamins and minerals can be toxic to the mother and/or fetus when taken in excess amounts. Toxic or unsafe levels of vitamins and minerals vary greatly from as little as a couple of times the Recommended Dietary Allowance (RDA) to many times the RDA. For example, WIC prenatal participants should be cautioned about taking over-the-counter vitamin preparations which contain 25,000 I.U. (International Units) or more of vitamin A per day. High vitamin A intake by pregnant women may cause birth defects. Supplements should contain no more than 5,000 IU/day of vitamin A.

For many vitamins and minerals there is inadequate research to determine toxic amounts. In general, it is safest to stay close to the RDA when taking daily supplements. Additionally, vitamin and mineral supplements do not take the place of a nutritionally adequate diet. Food provides the full variety of nutrients as well as fiber and other healthful substances.

CPA's Role:

In completing the nutrition assessment, including the 24-Hour Diet Recall and Assessment, ask if the woman is taking a daily prenatal vitamin as well as any other vitamins and minerals. If the woman replies "yes" to the other vitamins and minerals, ask questions to learn if she is taking a potentially excessive amount of a vitamin or mineral. For instance:

Why are you taking this supplement?

Who recommended that you take it?

Have you spoken with your prenatal provider about taking it?

How often do you take it?

How many do you take at once?



Intake of additional daily supplements that is not recommended by a physician should be discouraged. Some reasons to discourage this are that safe upper limits for many vitamins and minerals are not yet known, and the Food and Drug Administration do not regulate dietary supplements and, therefore, their safety for use in pregnancy has most likely not been well researched. Almost nothing is known about the long-term metabolic effects of consuming these substances. Advertising claims made for many supplements are not proven by scientific research.

Recommend to the woman that she stop taking the supplement until she discusses it with her prenatal provider at her next visit.



Individual Dietary Preferences and Concerns

A final point to remember when educating about dietary intake is that recommendations should be modified according to an individual's dietary practices. Many factors play a role in shaping a person's food habits, and these factors must be considered if nutrition counseling is to be realistic and appropriate for a participant. WIC staff must make every effort to be knowledgeable about the ethnic food habits as well as the individual preferences and practices of the WIC participants they serve.

A person's income level, cultural background, religious beliefs about food, climate, and philosophical attitudes toward food may influence his or her eating habits. Recognize that a woman's food habits during pregnancy may reflect information that has been transferred along generations. For example, among Mexican-American women, certain foods may be eaten to modify a complication of pregnancy while other foods are avoided during pregnancy. Some women avoid milk because they believe milk will make their infant grow large and be difficult to deliver.

Some participants may be vegetarians with religious and/or personal philosophical beliefs about food.

The vegan diet, which excludes all animal products, can be used successfully in pregnancy, but demands close assessment, counseling, and surveillance to ensure nutrient adequacy. Unless a vegan has a good understanding of a healthy vegan diet, several nutrients are a concern, including calcium, iron, vitamin D, and vitamin B12. Vitamin B12 is of major importance because the only practical non-fortified food sources are from animal foods. The effects of a deficiency in pregnancy can be irreversible. Not everyone who adopts a vegan diet understands the importance of vitamin B12 and where it can be obtained. Vegetarian diets are often high in fiber and vegan diets are often very low in fat, making it potentially difficult for the woman to meet the caloric needs of pregnancy.

Inadequate/Highly Restrictive Diet

Nutrition Risk Code 400

Includes:

Diets that are very low in calories or severely limit intake of entire food groups or important food sources of nutrients such as, but not limited to: vegan diets, macrobiotic diets, very high protein/low carbohydrate diets

Increased Risk



Participants with lower incomes require special attention since a nutritionally adequate diet is difficult to obtain when there is not enough money to purchase the necessary foods. Efforts should be made to provide education and information on topics such as budgeting, shopping, and meal planning. You may want to contact your local extension agency for materials addressing meal planning and budgeting. Refer low-income participants to other food programs such as Food Stamps and community food banks.

Finally, it is important to identify the participant's favorite foods, and to offer new ways to incorporate these foods into a balanced diet.

Diets that are very low in calories or that restrict entire food groups often lack essential nutrients needed by pregnant women.

CPA's Role:

Collect information, eliciting the participant's perspective of her diet. Assess the participant's diet using a 24-hour diet recall. Respond to her perspective without criticism. Keep in mind that, generally, the more restrictive the diet, the greater the nutritional risk. A nutrient adequacy or deficiency depends not on what a diet is *called*, but on the foods consumed; and that nutrient needs can be met in a variety of ways, some of which are ways that may differ from our own. Using the Prenatal Nutrition Education Plan as a guide, summarize what the participant is doing right and suggest areas for improvement. Provide reasons why changes may be beneficial to the infant and mother. Build a bridge between the participant and the WIC Program perspectives. Provide the participant with a handout that reinforces information discussed.

Recommended
Minimum # of Servings

**ADULT VEGETARIAN
DAILY FOOD GUIDE***

				Preg & BF Adult PP Teen	Preg & BF Teen (Ages 11-17)	Adult PP
<u>DAIRY PRODUCTS</u>						
1 c milk (whole, 2%, skim)		1 c yogurt		4	5	3
1 c buttermilk		1½ c cottage cheese				
1 c pasteurized kefir, goat's milk		1½ c ice cream/frozen yogurt				
1/3 c powdered milk		2 oz processed cheese				
½ c canned evaporated milk		1 c fortified soy milk				
<u>PROTEIN FOODS</u> <i>Eat one serving of a complete protein every day!</i>						
<u>Complete</u>		<u>Incomplete</u>				
1 c tofu	<u>Nuts/Seeds</u>	<u>Beans/Lentils</u>		3	3	3
4 oz tempeh	½ c almonds, cashews,	1 c cooked dried beans,				
2/3 c cooked soybeans	walnuts, pine nuts	lentils, peas				
½ c soy flour	¼ c peanut and other	3 TB hummus				
2 eggs	nut butter					
2-3 oz fish, poultry	½ c sunflower, pumpkin, sesame seeds					
<u>BREADS AND CEREALS</u>						
½ c hot cereal	¼ c wheat germ	1 pancake/waffle (5")		6	6	6
¾ c cold cereal	1½ c popped corn	½ English muffin				
½ c noodles/pasta	1 slice bread	bagel, pita				
½ c millet, barley, rice,	1 tortilla (6")	1 roll, croissant, muffin				
kasha, other grains	4-5 crackers	1 hot dog/hamburger bun				
<u>FRUITS AND VEGETABLES</u> <i>Recommended daily servings include 1 serving from the vitamin A group and 1 serving from the vitamin C group. 1 serving equals 1 c raw leafy and ½ c chopped vegetables, 1 medium, ¾ c juice, ¼ c cooked or canned, or ¼ c dried.</i>					5	
<u>VITAMIN A FRUITS AND VEGETABLES</u>						
apricots	chili sauce (red)	mango (½)	spinach	1		
broccoli	collards } "greens"	papaya	sweet potato			
cantaloupe (¼)	kale }	pepper (1 c red)	watercress			
carrots		pumpkin	winter squash			
<u>VITAMIN C FRUITS AND VEGETABLES</u>						
broccoli	grapefruit	pepper (½ c raw green/red)		1		
Brussels sprouts	orange	strawberries (½ c)				
cantaloupe (¼)	orange/grapefruit juice	vitamin C-enriched juices				
chili sauce (green)	papaya (½)					
<u>OTHER FRUITS AND VEGETABLES</u>						
apple	cabbage	grape juice	peach	<i>Count in Total Daily Servings</i>		
avocado	cauliflower	green beans	pear			
bamboo	celery	jicama	peas			
shoots	corn	lettuce	pineapple			
banana	cucumber	mushrooms	potato			
beets	grapes	onion	raisins, other			
bok choy			dried fruits			
<u>OTHER FOODS</u> <i>Offer flavor, calories, or small amounts of nutrients</i>						
Brewer's yeast (folacin)		torula (protein, iron)		salad dressing, gravy honey, jam, syrup natto, soy sauce		
miso (trace minerals)		butter, margarine, oil				
tahini, soy milk (protein)		sour cream, cream cheese				

*Provided by the Colorado Department of Public Health & Environment/Nutrition Services/WIC Program; based on USDA Food Guide Pyramid

√ **Self-Check #5**

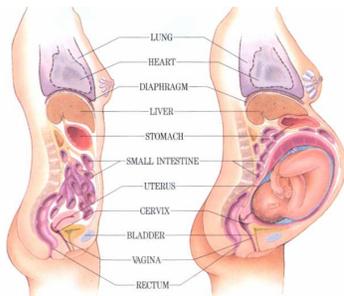
1. List two recommendations you might make to a woman who states she doesn't like the taste of milk.

2. List three recommendations you might make to a woman who has lactose intolerance.

3. Name at least three factors which can influence an individual's eating habits and preferences.

True or False

4. ___ If a pregnant woman takes a vitamin/mineral supplement, it is not important that she eats a well-balanced diet.



- **Crowded lungs may cause shortness of breath.**
- **Crowded intestines may cause bloated feeling, heartburn, and feeling of nausea.**
- **Crowded spine may cause backache and fatigue.**
- **Crowded bladder may cause frequent and/or urgent urination**

Pregnancy Induced Conditions that Affect Nutritional Needs: Hyperemesis Gravidarum Nutrition Risk Code 300

Defined as severe nausea and vomiting to the extent that the pregnant woman becomes dehydrated and acidotic as diagnosed by a physician and self-reported by the participant.

Increased Risk

Part IV: Special Concerns During Pregnancy

Now that you've reviewed the three trimesters of pregnancy and the nutrients needed to support both the mother and fetus during this special time, let's look at some of the typical concerns that many pregnant women have during their pregnancy. Nausea and vomiting, heartburn and indigestion, and constipation are all common concerns. Other areas of concern during pregnancy are oral health and avoiding listeria bacteria.

Morning Sickness or Nausea

One of the most notorious problems during pregnancy is nausea and vomiting, or morning sickness. It often occurs during the early months of pregnancy and usually disappears after the first trimester. The following pages contain some counseling suggestions to share that may be helpful to women suffering from morning sickness or nausea. Morning sickness does not always occur in the morning; many women experience nausea only in the evening or throughout the entire day. Nausea can be caused by strong odors and flavors, and particular foods. Some foods that often cause nausea include fried, fatty, or spicy foods and drinks with caffeine like coffee and tea. Some odors that often cause nausea are cigarette smoke, gasoline, perfumes, and many cooking odors.

Some women vomit during pregnancy. The vomiting can be so severe and happen so often that the pregnant woman may become dehydrated or lose weight. If severe enough, this condition is called hyperemesis gravidarum. It requires medical attention and is a nutrition risk factor.

CPA's Role:

For women with nausea, you can make these suggestions:

Before going to bed

Be sure to have fresh air in the room.

Place some dry, ready-to-eat cereal, crackers, or dry bread (e.g., toast) within reach of the bed.



Before getting up in the morning

Eat some of the dry bread or cereal. A little jelly on the bread may make it taste better, but do not use butter or margarine.

When getting up

Get up very slowly, take several minutes.

Avoid sudden movements when getting out of bed.

For meals

Eat several small meals a day instead of three large ones.

Women are more likely to feel nauseated when their stomach is empty.

- Sometime during the day try to eat a regular meal, but do not overeat.
- Eat slowly and try to eat while relaxed.
- The smell or taste of fresh lemon can sometimes help with nausea.
- Open a window while you cook to get rid of the odor of cooking foods.

Foods to avoid

Fats and greasy foods tend to upset the stomach. For this reason, avoid fried foods and foods cooked with grease, oils, or fatty meats. Minimize the following foods: butter, margarine, gravy, bacon, salt pork, oils, mayonnaise, salad dressings, pie crusts, pastries.

Strong-smelling foods, such as cooked food, can increase nausea. Try preparing cold foods such as sandwiches or cereal.

Highly-seasoned foods such as those cooked with garlic, onion, pepper, chili, and other spices may increase nausea. Eat foods that are lightly seasoned.

Counseling Focus

While it's true that pregnancy benefits by better eating habits, eating well with frequent vomiting can be more harmful overall. So help the participant learn how to cope with the nausea. When feeling nauseated, she should ask herself:

What food or beverage would ease this nausea? something salty, sour, bitter, tart, sweet, crunchy/lumpy, soft/smooth, mushy, hard, fruity, wet, dry, bland, spicy, aromatic, hot, cold, thin, or thick?

Interestingly, some new food ideas may occur to her. These ideas may consist of a novel food or one that falls into the “junk” food category. At this point in time, “junk food” can contribute needed calories and she can resume a healthier diet when she feels better. Many times nausea can be kept to a minimum when she is able to eat the food almost at the moment she decides she wants that food.

Heartburn

Heartburn happens when the acidic digestive juices in the stomach back up and cause a burning feeling in the chest and throat. This usually happens during meals. It is common during the second and third trimesters. It is called heartburn because it is felt near the heart, but it has nothing to do with the heart.



One cause of heartburn is the pressure on the stomach by the growing uterus and fetus. Another cause of heartburn is that the hormones of pregnancy relax the top part of the stomach so that the stomach contents flow back into the esophagus.

Over-the-counter drugs (such as antacid tablets) should not be used unless prescribed by a doctor. Instead, offer the following suggestions to a pregnant woman that may help relieve her heartburn:

- Eat 5 or 6 small meals per day.
- Limit fatty and fried foods.
- Limit or avoid coffee if it triggers heartburn.
- Avoid spicy foods.
- Wear clothes that are loose around the waist.
- Do not lie down when heartburn occurs because this can make it worse—instead walk after eating, or at least remain seated for a while. Avoid eating close to bedtime.

Constipation

Constipation may occur during pregnancy due to the normal hormonal changes of pregnancy that makes the food move more slowly through the intestines. Lack of exercise or too little fiber or fluids in the diet can also promote this condition. Sometimes women who receive supplements with higher amounts of iron complain of constipation. Never encourage the use of over-the-counter drugs, e.g., laxatives, to relieve constipation. Instead offer the following suggestions which may help relieve constipation:

- Eat more fruits and vegetables, including the skins. Also try dried fruits or prune juice.
- Choose whole grain cereals and breads.
- Participate in light exercise regularly; daily if possible.
- Eat meals at regular times.
- Drink more liquids. Liquids include water, milk, fruit juice, and soup. Select these liquids rather than pop or other low nutrient-dense fluids.

Fluid Retention and Swelling

Almost 80 percent of all pregnant women have swollen ankles and feet some time during the third trimester. The swelling is called edema.

As the fetus grows, it puts pressure on the blood vessels that lead to the mother's legs. This causes the fluid from the blood to move into the surrounding tissues. This extra fluid flows to the lowest part of the body and collects in the ankles and the feet.

This may cause a woman to gain extra weight. Eating too much food or calories does not cause it.

In the past women were often told to restrict their intake of sodium (as salt) and to take diuretics (drugs that increase water and sodium loss from the body) to reduce the fluid retention and swelling. We know now the harm of this advice. Pregnant women actually have a slightly increased need for sodium because of the expanded blood volume.

Sodium is a mineral that is required by the body and must be supplied in the diet. Restricting sodium or using diuretics during pregnancy could result in a sodium deficiency in the pregnant woman. These practices should, therefore, be discouraged. **Sodium restriction is no longer recommended except in cases involving other physical problems.**

Excessive sodium use, however, is not acceptable for anyone, including the pregnant woman. A diet of primarily natural foods can be safely salted "to taste." Advise the participant with a diet containing large amounts of sodium that these foods should be used in moderation. Some foods with high sodium content include potato chips, corn chips, canned soups, salad dressings, salted nuts, ham, luncheon meats, and bacon.



Sodium restriction is no longer recommended except in cases involving other physical problems.

Nutrition Related Medical Condition:

Pregnancy-induced Hypertension (PIH)

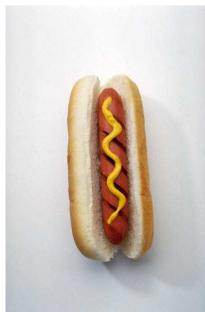
Nutrition Risk Code 340

A condition characterized by acute elevation of blood pressure, edema, and proteinuria. Sometimes occurs in the latter half of pregnancy.

Increased Risk

Dental or oral health problems may present as:

- ▶ severe tooth decay, periodontal disease, tooth loss, and/or ineffectively replaced teeth which impair the ability to ingest food in adequate quantity or quality
- ▶ gingivitis of pregnancy



To help with the discomfort of swelling, recommend that women put their feet up throughout the day and wear comfortable shoes and loose-fitting clothes.

Swelling or edema in other parts of the body, such as the eyelids and face, could be a sign of a more serious problem called Pregnancy-Induced Hypertension (PIH). Women with PIH need immediate medical attention.

Oral Health

Oral disease can negatively affect the outcome of a pregnancy. Women who have periodontal disease are more likely to give birth prematurely or to a low birth weight infant.

Your role in WIC as a CPA is to encourage the pregnant woman to:

- Brush teeth twice a day.
- Eat a balanced diet.
- Stop smoking.
- Have regular dental check-ups.

Listeriosis

Listeriosis is a potentially life-threatening infection, particularly for pregnant women and their unborn children. It can result in miscarriage, fetal death, and severe illness or even death of a newborn infant. All consumers should store ready-to-eat foods at 40° F or lower, and consume perishable and ready-to-eat items as soon as possible.

The Food and Drug Administration (FDA) provides the following additional advice to pregnant women:

- Do not eat soft cheeses such as Feta, Brie, and Camembert, blue-veined cheeses, queso blanco, queso fresco, and Panela **unless it is labeled as made with pasteurized milk.**
- Do not eat hot dogs and luncheon meats, unless they are reheated until steaming hot.
- Do not eat refrigerated pates or meat spreads. Canned or shelf-stable pates and meat spreads may be eaten.



- Do not eat refrigerated smoked seafood, unless it is contained in a cooked dish, such as a casserole. Refrigerated smoked seafood, such as salmon, trout, whitefish, cod, tuna, or mackerel, is most often labeled as “nova-style,” “lox,” “kippered,” “smoked,” or “jerky.” The fish is found in the refrigerator section or sold at deli counters of grocery stores and delicatessens. Canned or shelf-stable smoked seafood may be eaten.
- Do not drink raw (unpasteurized) milk or eat foods that contain unpasteurized milk.

√ Self-Check #6

1. Increasing exercise and consuming more liquids, whole grains, fruits, and vegetables would be appropriate suggestions for a pregnant woman with which of the following conditions: (circle the correct answers)

- a. Nausea
- b. Constipation
- c. Heartburn

2. List at least three suggestions to relieve nausea during pregnancy.

True or False

- 3.
- (a) ____ A pregnant woman who suffers from heartburn should take antacid tablets from the drugstore without consulting her doctor first.
 - (b) ____ A pregnant woman who suffers from constipation should use a laxative like Ex-Lax.
4. ____ Salt should be restricted for pregnant women who appear to be retaining water.
5. ____ A pregnant woman with gum disease has an increased risk of having a premature baby.



Inadequate/Highly Restrictive

Diet:

Pica

Nutrition Risk Code 400

Current or recent craving for, or ingestion of, non-food items such as: clay, starch (laundry or corn starch), dirt, ashes, paint chips, large quantities of ice, or baking soda.

Increased Risk

Substances that Affect the Pregnant Woman and Fetus

Other concerns of pregnancy that are not necessarily common to all women are described below.

Pica: Craving Non-Food Items

Sometimes pregnant women eat things that are not food, such as clay, laundry starch, or dirt. This is called pica; it is the craving for and eating of non-food items. Other non-food items which pregnant women may eat are ashes, charcoal, coffee grounds, paint chips, and Play-Doh. Excessive ice consumption is also included as pica. Ice is a food substance that is occasionally eaten by many individuals. However, pica is a condition for the person who consumes several trays of ice cubes daily.

The cause of pica is not known, but it has been related to certain nutritional deficiencies (especially zinc and iron) as well as culture, physiological changes in the body such as pregnancy and mental states. Many women feel that their babies will not be normal unless they eat clay or dirt, just as their mothers and grandmothers believed.

What's wrong with eating these things? Pica can contribute to lead poisoning (when paint chips are eaten), anemia, poor nutrition (because the non-food item takes the place of nutritious food from the diet), stomach and intestinal blockage, and parasitic infections. Consumption of substances such as mothballs or paint chips can lead to toxic conditions that could result in death.

CPA's Role:

Discuss reasons why pica is a risk during pregnancy and help the participant to decide on some healthy changes she can make to avoid pica. These may include making sure she takes her prenatal vitamin prescribed by her health care provider and chooses healthy snacks to substitute for the non-food items. Encourage her to talk with her health care provider about the items she is eating.



Caffeine Content of Selected Beverages & Foods

Coffee (5 oz cup)	
Brewed	95 mg
Instant	65 mg
Tea (5 oz cup)	
Brewed	40 mg
Instant	30 mg
Iced (12 oz)	70 mg
Cocoa (5 oz cup)	4 mg
Chocolate Milk (8 oz)	5 mg
Soft Drinks	
Cola (12 oz)	45 mg
Milk chocolate (1 oz)	6 mg
Source: FDA, Food Additive Chemistry Evaluation Branch	



Any Alcohol Use
Nutrition Risk Code 372
Defined as any current use of alcohol.

Moderate Risk

Caffeine

Caffeine is a drug, and in many people it produces the side effects of nervousness, difficulty in sleeping, and frequent urination. Caffeine is found predominantly in coffee, tea, cocoa, chocolate, and some soft drink beverages. It is also contained in some prescription drugs and several over-the-counter drugs; e.g., some aspirin tablets and many cold preparations contain 360 mg of caffeine per tablet.

Studies of the safety of caffeine have been inconclusive. Some studies have shown large doses of caffeine cause birth defects in animals; however, there is no convincing evidence that it is associated with birth defects in humans. At this point caffeine consumption is not used as a nutrition risk factor for pregnant women on the WIC Program. It appears that small amounts of caffeine (no more than 3 six-ounce cups of coffee per day [<300 mg]) are probably safe for the growing fetus. Since we do not know for sure if caffeine is safe for the pregnant woman, it is best to recommend that caffeine-containing products be limited during pregnancy. Use the chart in the side bar to help you identify how many milligrams of caffeine are contained in the foods and drinks listed. Note the serving size of each entry.

Alcohol

Alcohol is the second most widely used drug in the United States. It is easy to get and is so socially acceptable that most people don't consider it a drug. Alcohol contains ethanol, which decreases nerve and brain activity. For a pregnant woman and her fetus, this can have serious consequences because it causes further slowing of body functions already affected by the hormonal changes of pregnancy.

The hormone progesterone relaxes the muscles and tissues of the digestive and circulatory system. If alcohol further relaxes these systems, the fetus will not receive adequate amounts of food and oxygen. Alcohol enters the fetal blood stream in the same concentration as the mother's blood. Because the fetus is so much smaller than the mother, alcohol has a much greater effect on the fetus compared to the mother.

Even small amounts of alcohol consumed during a pregnancy can increase the risks of miscarriage, vaginal bleeding, early separation of the placenta from the uterus, and preterm labor.

Fetal Alcohol Syndrome: A syndrome related to alcohol use during pregnancy and characterized by prenatal and post-natal growth retardation, distinct facial anomalies, and mental deficiency.

“Fetal alcohol syndrome is a tragedy that doesn’t have to happen.”

Only you can make sure alcohol won’t affect your baby.”
- A positive alcohol abuse prevention message

Alcohol is the leading cause of mental retardation in our country today. A woman who drinks excessive amounts of alcohol during her pregnancy can have a baby with **Fetal Alcohol Syndrome (FAS)**. These babies often have low birth weights, mental retardation, heart defects, cleft palate, and face, arm, and leg deformities. The FAS child has difficulty learning.

Drinking moderate amounts of alcohol is also associated with an increased risk of physical and mental deficits in the newborn. Occasional “binge” drinking, especially in early pregnancy, is also unsafe for the developing fetus.

There is **no** safe level of alcohol that a pregnant woman can drink without harming the fetus. Warnings about the possible effects of alcohol are printed on every alcohol container and bottle. **Pregnant women should be informed that it is dangerous to drink while pregnant.**

Studies show the more alcoholic beverages a woman drinks, the greater the risk to her baby. Heavy drinkers may develop nutritional deficiencies and more serious diseases, like cirrhosis of the liver, certain cancers, and heart disease.

CPA’s Role:

If necessary, provide an informal referral to resources available in your community. Occasional drinkers should be advised to stop drinking alcohol. Quitting at any time during pregnancy is beneficial.

Do not advise pregnant women who are heavy drinkers to stop on their own. This step should be taken only under the supervision of a physician or skilled alcohol treatment specialist. Educate on the effects of alcohol and make a referral to a resource for help.



Smoking during pregnancy is the leading cause of premature births.

Any Daily Tobacco Use
Nutrition Risk Code 371

Defined as any daily smoking of tobacco products, i.e., cigarettes, pipes or cigars.

Moderate Risk

Tobacco

Pregnant women who smoke increase their chance of having a low birth weight baby by up to 39 percent. Low birth weight is directly associated with stillbirths and newborn deaths. Smoking even one low-nicotine cigarette a day greatly increases the chance of having a low birth weight baby.

The primary goal of weight gain during pregnancy is to deliver a healthy weight baby. Smoking makes this goal harder to achieve. Why? When inhaling smoke, toxic substances such as carbon monoxide compete with oxygen; nicotine causes blood vessels to constrict which decreases the nutrient supply to the fetus. Also, smoking decreases appetite thus affecting weight gain.

Fortunately, pregnancy and the period before and after it provide a special window of opportunity when pregnant women have a unique motivation to quit smoking. WIC staff have an enormous chance to improve the health of mothers and their babies by helping pregnant smokers quit by asking them about their use of tobacco, advising them to stop, offering support, and referring them to smoking cessation resources.

Ask your participant about her smoking status, both her past and current use of tobacco. Be aware that there is a high rate of deception with pregnant women when they respond to smoking questions. Congratulate those who have quit and encourage continued abstinence.

Advise her in a clear, strong and personalized manner about the risks of smoking (greater chance of having a low birth weight baby and/or a premature baby to name two) and the benefits of quitting for herself and her fetus (see below). In the recent past, women were encouraged to cut back if they couldn't quit. The recommendation now is an all or nothing approach. The most current information suggests that smoking even one cigarette a day may harm the fetus. Some of the benefits of quitting to share with her are:

- ❖ Your baby will get more oxygen, even after just 1 day of not smoking,
- ❖ Your baby's lungs will work better,



- ❖ There is less risk that your baby will be born too early,
- ❖ There is a better chance that your baby will come home from the hospital with you,
- ❖ You will be less likely to develop heart disease, stroke, lung cancer, chronic lung disease or other smoking-related diseases,
- ❖ You will have more energy and can breathe more easily,
- ❖ You will have more money that you can spend on other things,
- ❖ Your clothes, hair and home will smell better,
- ❖ Your food will taste better,
- ❖ You will feel good about what you have done for yourself and your baby.

Because the WIC visit has limited time, your role is to advise her to stop, and to offer her information and refer her to smoking cessations resources (see following in box). If the participant brings up reasons why she finds quitting difficult you can offer some of the suggestions below to help her overcome those challenges.

Challenge	Coping Strategies
Negative moods	Participate in physical activity, like walking. Try deep breathing. Talk to a friend. Write in a journal. Remind yourself that you are a nonsmoker.
Being around other smokers	Spend more time with friends who don't smoke. Ask others not to smoke around you. Establish a "smoke-free" zone in the house or car. Walk away from smokers when you feel like smoking.
Triggers	Identify and anticipate situations that prompt cravings, such as social gatherings, being on the phone, waking up from sleep, or stressful situations. Change your routine: immediately brush your teeth or take a walk after meals and after waking. Engage in distracting activities; for example, take a walk, knit, garden, read, listen to music.
Time pressures	Change your behavior or lifestyle to reduce stress. Use physical activity, like walking.



Challenge

General

Coping Strategies

Any smoking (even a single puff) increases the likelihood of full relapse.

Withdrawal symptoms, including negative moods, urges to smoke, and difficulty concentrating, are normal and will only last a few weeks at most.

Most people try to quit several times before they are successful. A “slip” is not a failure; learn from it and try again.

If she is ready to quit, encourage her to set a date, tell family and friends, remove tobacco products from the home, and contact the **Arkansas Quitline** (see **Smoking Cessation Resources** box below).

Prenatal Smoking Cessation Resources:

- 1. Visit a Division of Health supported resource www.stampoutsmoking.com for more information on the latest programs and resources.**
- 2. 1-866-NOW-QUIT or 1-866-669-7848.**

Postpartum Maintenance

Encourage mothers to stay quit. Up to 35% of women who stop smoking during pregnancy remain nonsmokers. The great news is that if they abstain from smoking tobacco their baby will get fewer chest colds, coughs, ear infections, have little asthma and wheezing problems, be at lower risk for SIDS, breathe better, grow better, and be less likely to become a cigarette smoker themselves.



Any Illegal Drug Use
Nutrition Risk Code 372a

Defined as any illegal drug use.

Moderate Risk

Drugs (Prescription, Over-the-Counter, “Street”)

A woman who uses drugs during pregnancy puts herself and her fetus at a terrible risk. Many common drugs—both prescription and over-the-counter—that are usually harmless can poison an unborn baby. Even megadoses of vitamins are dangerous to the growing fetus. Fetal toxicity with maternal overdose of five essential nutrients, vitamin A, vitamin D, vitamin C, vitamin B₆, and iodine have been documented. Only medications approved by a physician for use during pregnancy should be taken.

Drugs are the most toxic to the fetus during the first half of pregnancy. During this time, organs and tissues (such as arms, heart, brain, and kidneys) are being formed and are, therefore, more susceptible to malformation. In addition, this is also the time when the woman may not realize she is pregnant. In the second half of pregnancy, drugs may negatively affect the growth of the infant.

Street drugs (e.g., crack, cocaine, marijuana, speed, etc.) can be especially dangerous. They can cause addiction of the fetus and severe withdrawal discomfort of the infant after birth. Infants born to addicted mothers are at greater risk for low birth weight, hepatitis, intrauterine growth retardation, and infant death.

Crack/Cocaine

The use of crack, which is a highly potent, purified form of cocaine, is becoming more and more common. Heavy cocaine use is associated with higher rates of miscarriage, premature labor, intrauterine growth retardation, and congenital anomalies. Individuals who are addicted crack users appear extremely underweight and nervous, and frequently complain of headaches and insomnia.

CPA’s Role:

Since nutritional deficiencies may be present with substance users, it is important to provide diet counseling to improve food intakes.

Stopping alcohol and/or drug use at any time, even late in pregnancy, can decrease harm to the developing fetus.

Warn all pregnant women of the possible dangers of drug and alcohol use. Share information about resources available in your community. WIC staff must document in the WIC record that women are told about the dangers of using drugs. Heavy substance abusers may require referral to a community substance abuse program.

Summary

All pregnant women on WIC must be provided accurate and understandable information about the dangers of alcohol and drug use. Participants who report using alcohol and/or drugs must be informed that stopping the use of these substances increases the chances for a normal delivery and a healthy baby. **See the Appendix for a list of local referral sources.**

Lead

Lead poisoning is a public health problem that is entirely preventable. It is most common in children, but can occur in adults as well. In pregnant women, lead crosses the placenta and can have a detrimental effect on a developing fetus. Lead poisoning is defined as a blood lead concentration of ≥ 10 micrograms/deciliter. Symptoms of lead poisoning are often mild or nonexistent, but the effects on learning and behavior can be significant.

The main sources of lead exposure in our environment are from residual deposits (such as in soil dust, old paint, and plaster) of preceding decades, certain occupations, which involve lead, and imported containers used for serving or storing food, or beverages that have lead as a component. Women who are at greater risks for lead poisoning are those who live in older homes, have pica (are eating lead-containing substances), and/or women who use lead-containing imported containers for food storage or preparation.

Adequate intake of calories and nutrients, specifically calcium, iron, and vitamin C, decreases the absorption of lead in adults.





CPA's Role:

Occasionally a pregnant WIC participant will share with you that she is craving and eating clay. In this situation, she may benefit from referrals to her health care provider for lead testing as well as information on how to reduce her exposure to lead. WIC staff can reinforce the nutrition principles of the Food Guide Pyramid/MyPyramid to promote adequate intake of calories and nutrients that may help decrease the body's absorption of lead.

√ Self-Check #7

True or False

1. ___ During pregnancy, a safe level of alcohol intake is not more than one drink per day.
2. ___ Pregnant women should only take medication which has been approved by their physician.
3. A woman who smokes during pregnancy increases her chances of delivering a _____ than normal infant.
 - a. Smaller
 - b. Larger
4. Place an "X" by the following substances which can be nutrition risk factors for a pregnant woman participating in the WIC Program. Beside your "X," indicate if it is a Moderate or Increased Risk condition.

_____ Pica	_____ Alcohol
_____ Cocaine	_____ Marijuana
_____ Caffeine	_____ Tobacco



Part V: Clinical Indicators of Nutritional Need

Pregnant women can have physical or medical conditions that increase their risk of poor health and poor birth outcomes.

These conditions include:

- pregnancy at a young age
- closely-spaced pregnancies
- multifetal gestation
- breastfeeding pregnant woman
- medical problems such as Gestational Diabetes, HIV
- past pregnancy problems

Pregnancy at a Young Age

The adolescent period represents a time of extremely rapid growth and development accompanied by an increased need for energy and nutrients. If an adequate diet is not consumed during the adolescent years, the body will not have the required building materials with which to reach its full potential for growth and development.

The timing and rate at which children develop into adults is quite variable. For most adolescents, it is estimated that the median age of menarche is about 12½ years. A pregnant adolescent who is within two years after menarche may still be in a period of growth and will have increased energy and nutrient needs as compared to an adolescent who has completed her growth.

Studies suggest that pregnancy at a young age is associated with an increased incidence of anemia, infection, prematurity, high blood pressure, placental problems, and delivery of low birth weight infants. The younger the mother, the greater the risks. Young pregnant women are least likely of all age groups to get early and regular prenatal care, and are more likely to smoke while pregnant.

There may also be social risk factors associated with pregnancy at a young age such as not accepting the pregnancy, body image, unfinished education, and living in an unstable family environment. Poverty, rather than maternal age, could be an important factor in pregnancy complications. These social factors can negatively influence her nutritional status.

< age 17 at Conception (or last menstrual period) (current pregnancy)
Nutrition Risk Code 331

Defined as less than or equal to 17 years at time of conception

Increased Risk

Menarche: The initiation of a female's first menstrual period.



Nutritional Requirements



The needs for calcium are increased for the woman pregnant at a young age. The Dietary Reference Intake is 1300 mg calcium daily for pregnant and lactating women aged 18 years and younger. (For women aged over 18 years the requirement for calcium is 1000 mg.) Low calcium intakes of young women are well documented. The average intake for calcium for girls aged between 12-19 years is about 800 mg, putting them at risk especially during pregnancy for not being able to support the development of bone mass. Young pregnant women can meet their calcium needs by having at least 4 glasses of milk a day or the equivalent (e.g., a cup of yogurt, or 1½ ounces of cheese). Soft drinks appear to displace milk.

Energy requirements are generally greater for young pregnant women than their non-pregnant peers. The current recommendation for the pregnant woman is to increase her daily average intake by 300 calories during the second and third trimesters. For the younger woman, the energy intake may be even higher and in most cases young women should not consume below 2000 calories a day during pregnancy. Because energy needs vary, the best way to determine an adequate intake is to observe satisfactory weight gain.

Eating Behaviors of Young Women



Young women tend to be motivated in their food choices not by nutritional or health concerns but by factors of availability, sociability, and status. Put simply, they eat what is available, tastes good, and is what their friends like to eat. In addition, lack of nutrition information, failure to understand the effect of present dietary habits on future health status, busy school and social schedules may leave young women with inadequate time and motivation to prepare or eat the most nutritious foods.

Common eating behaviors to investigate and counsel on that apply to many young women include meal skipping, frequent snacking on foods high in fat or sugar, and low in nutritional value, being too busy to eat so relying on convenience and fast foods, and concerns about weight.

Alternatives to Conventional Breakfast Foods . . . pizza, tortilla w/melted cheese, peanut butter and jelly sandwich, hard-cooked egg, packet of nuts and raisins, granola or cereal bars and fruit, graham crackers w/peanut butter, yogurt w/nuts and raisins added, dry cereal



Meal skipping, particularly breakfast is a common practice that is often begun in adolescence. Studies show that skipping breakfast can decrease the total amount of needed calories and nutrients to support a healthy pregnancy. Lack of time, wanting to sleep more, and lack of appetite are common reasons to skip breakfast and for the pregnant woman nausea, fatigue, and other pregnancy-related complaints may contribute to it. WIC staff can inform her that she is more likely to have more energy all day if she consumes breakfast. Offer breakfast ideas that may fit into her lifestyle, such as less conventional breakfast foods (sandwiches or leftovers that are easy to prepare) and tips for coping with nausea.

Snacking is actually a good practice for the growing young woman, especially if she is pregnant. It is important that snacks contribute nutrients to build a healthy baby. Obviously high-fat, high-sugar, low-nutrient-dense snacks will contribute mostly toward weight gain and will not complement the diet with the needed nutrients. Encourage healthier snack choices such as fruit, whole wheat crackers, carrot or other raw vegetable sticks, pretzels, nuts, yogurt, cheese sticks, and juice. Most of these can easily fit into a backpack or purse.

On average young women visit fast food restaurants twice a week. The service is quick, it is socially acceptable and a place to meet friends, the food doesn't cost much and they may even work there. Depending on the choices a person makes, fast food meals can be high in fat and calories and low in fiber. Offer ideas to improve the food choices (e.g., choose milk or juice, salads, grilled foods, baked potatoes, or smaller size hamburgers). Recommend splitting large servings of food such as French fries with a friend. Offer ideas rather than trying to convince her not to eat at fast food restaurants. Bringing a piece of fruit or raw vegetables from home can help to "round out" the fast food meal.

It is important to discuss and reinforce the positive aspects of the diet and address only those that may be harmful or compromise the nutritional quality of the diet or growing baby.

A young woman's weight concerns can surface by noticing an unbalanced or unusual food pattern on the diet assessment tool and through dialogue that reveals a concern about weight gained. Special attention should be given to the woman regarding the reasons for weight gain, the components of weight gain, and if there appears to be continued concern, she may need additional support to deal with the weight gain.

Inadequate/Highly Restrictive Diet
Nutrition Risk Criteria 400

Includes:

Diets that are very low in calories or severely limit intake of entire food groups or important food sources of nutrients such as, but not limited to: vegan diets, macrobiotic diets, very high protein/low carbohydrate diets

Increased Risk



Eating Disorders

Concerns about weight and food intake often appear for the first time during adolescence. Preoccupation with weight, early dieting and exercise may trigger eating disorders such as anorexia nervosa and bulimia. While specific causes of eating disorders remain a mystery, clinicians believe that sociocultural, neurochemical, and psychological factors are all contributing factors. "Normal" adolescent dieting can be the start of an eating disorder when intensified by adolescent turmoil, low self and body concept, and poor identity of self. Poor pregnancy outcomes are associated with eating disorders. Potential risks associated with eating disorders in the prepregnancy period, during gestation, and after delivery, include: low prepregnancy weight; inadequate gestational weight gain, excessive weight gain (binge eating); decreased nutrient stores; and decreased bone density.

Anorexia Nervosa

Anorexia nervosa is typified by self-starvation, extreme weight loss, preoccupation with food, an extreme fear of weight gain, and may include a rigid exercise routine. Anorexia nervosa can be life threatening. It can cause delays in puberty, development, and heart and kidney problems. In adolescence it can contribute to decreases in bone mass and increase the risk of fractures. The young woman with anorexia nervosa strives for perfection and control over her life and associates gaining weight with being out of control. Part of the recovery from the disease is gaining an understanding of growth as a normal physical process.

Bulimia

Bulimia, like anorexia, involves a preoccupation with food and body weight. However, bulimia manifests itself in secretive binge-eating episodes followed by self-induced vomiting or other forms of purging. The disease usually occurs in later adolescence after a series of unsuccessful weight loss attempts. Individuals with bulimia usually appear to be near normal weight and are very difficult to identify. Because of repeated vomiting, bulimia is associated with fluid and electrolyte imbalances, eroded tooth enamel, and damaged esophagus.

Treatment of eating disorders requires a multidisciplinary approach with nutrition falling under intervention and education. WIC's role is to help identify the possibility of eating disorders and make appropriate referrals for the participant to seek help in their community.

Most pregnant adolescents want to have a healthy baby yet are less likely to breastfeed their baby than adult mothers. Pregnancy creates a “teachable moment” to motivate them to learn more about breastfeeding. They may benefit from hearing they can continue to eat their favorite foods while breastfeeding and that breastfeeding may help them return to their pre-pregnancy weight faster.

CPA’s Role:

Working with pregnant teens is a challenge! There is so much a pregnant teen may need to learn—the importance of eating nutritious food, gaining an appropriate amount of weight, avoiding harmful substances, and taking care of herself.

How you present this information to the pregnant teen can make a difference in how successful you are in getting through to her. It is important to try to talk with the teen alone, without the influence from her mother, etc. If this is not possible on the first visit, try it the second visit.

Avoid lecturing and giving too many instructions. Provide information and alternatives. Avoid using the word “should” because it is a guilt word that some teens associate with parents.

Take a neutral stand. Be aware of your own biases and don’t push your own values.

Be positive. By highlighting the positive, the negative will diminish. Thank the teen for coming in and keeping appointments.

Closely-Spaced Pregnancies

A woman who has an expected delivery date before 16 months postpartum has an indicator of nutritional need based on “pregnancy interval.” This is known as short interconceptual period.

A woman who has been pregnant several times in a short period of time is more likely to have poor physical and nutritional status. There is a greater chance of having a poor pregnancy outcome and health problems for the mother.

Pregnancy stresses a woman’s nutritional stores. She needs enough time between pregnancies to “rebuild” these stores.



Current Conception before 16 Months Postpartum
Nutrition Risk Code 332

Moderate Risk

Multifetal Gestation
Nutrition Risk Criteria 335

Defined as a pregnant woman carrying more than one fetus.

Increased Risk

Pregnant Woman Currently Breastfeeding
Nutrition Risk Code 338

Defined as a pregnant woman currently breastfeeding another infant or child.

Increased Risk

CPA's Role:

Follow normal pregnancy protocols discussed in Part VII. Use the short interconceptual period to reinforce to the woman the importance of adequate nutritional and prenatal care.

Multifetal Gestation

Women carrying more than one fetus have a greater chance of having problems in pregnancy. A multiple pregnancy imposes increased nutritional needs due to greater fetal weight and the expansion of plasma blood volume. The mother's heart rate, breathing, kidney and liver functions are affected. Multifetal pregnancies are associated with low birth weight, fetal growth restriction, placental and cord abnormalities, preeclampsia, anemia, shorter gestation, and an increased risk of infant mortality.

CPA's Role:

In addition to normal pregnancy protocols, these women may need education and counseling to ensure they get enough calories and nutrients for themselves and their fetuses, and that they gain enough weight.

Remember: A weight gain of 1.5 pounds/week for normal-weight women during the second half of a twin pregnancy is suggested, and that a normal weight gain is 35-45 total pounds.

Breastfeeding During Pregnancy

Breastfeeding during pregnancy can influence a woman's ability to meet the nutrient demands for her growing fetus and her nursing child. The hormones of pregnancy can also dramatically decrease a woman's milk supply, creating a situation where the breastfeeding infant will not get enough milk. Additionally, oxytocin (the hormone released during breastfeeding) can cause premature contractions that could lead to a premature birth. When a woman breastfeeds during pregnancy, she needs breastfeeding evaluation and special nutrition counseling.



CPA’s Role:

Discuss with the woman her feelings about breastfeeding while pregnant. This will help you to determine why she has decided to continue to breastfeed. Consider the child’s age. Perhaps she is nursing a child out of habit. If the mother prefers to wean an older child, recommend the mother identify when the child requests to nurse and try to substitute nursing with another favorite activity. If the mother decides to continue breastfeeding because she feels that breastfeeding meets a real need, encourage the woman to talk to her health care provider as there could be some medical consequences, such as uterine bleeding or pain, a history of premature delivery, and continued weight loss during pregnancy. If no medical contraindications exist, a well-nourished mother should be able to provide for the nutritional needs of the nursing child (over one year of age) and the unborn infant. It may be necessary for the mother to consume extra calories of nutrient-dense foods to ensure adequate weight gain. Let the mother know that children often wean themselves from breastfeeding during pregnancy.

Nutrition related medical conditions

Risk Criteria 340

Increased Risk



Medical Conditions

There is a long list of medical conditions that are considered nutrition risk factors on the WIC Program. All of these medical conditions must have been diagnosed by a physician or as self-reported by the participant, or be reported or documented by a physician or someone working under a physician’s orders. The following is a general list of these conditions.

- Cancer
- Celiac Disease
- Central Nervous System Disorders
- Depression
- Developmental Delays, Sensory or Motor Delays
- Interfering with the Ability to Eat
- Diabetes Mellitus
- Eating Disorders
- Food Allergies
- Gastro-Intestinal Disorders
- Genetic and Congenital Disorders
- Hypertension (includes chronic and pregnancy induced)
- Hypoglycemia
- Inborn Errors of Metabolism
- Infectious Diseases
- Lactose Intolerance
- Recent Major Surgery, Trauma, Burns
- Renal Disease
- Thyroid Disorders
- Other Medical Conditions



CPA's Role:

Individuals with these medical conditions can develop nutritional deficiencies. Deficiencies may result from a variety of reasons such as vomiting, chronic diarrhea, malnutrition, infections, poor absorption, and altered metabolism. The WIC Program provides key nutrients through foods and education that may help restore nutritional status and promote rehabilitation when nutrient losses are present. As with all nutrition risk factors, WIC staff assesses dietary intake and weight gain. WIC staff should provide education on eating a balanced diet and reinforce good eating habits. Staff can work with the participant to identify the best food package to meet the identified nutritional needs, such as lactose-reduced food packages or special formula packages.

At the initial certification visit these medical conditions are all increased risk and require a referral to the nutritionist. The nutritionist will provide more in-depth assessment and counseling. Staff should also make referrals to community resources and health care providers when appropriate.

Infectious Disease

A disease caused by growth of pathogenic microorganisms in the body severe enough to affect nutritional status, such as **HIV/AIDS**.

**AIDS and HIV⁺**

AIDS, which stands for Acquired Immune Deficiency Syndrome, is a very serious illness that weakens the body's ability to fight infections. A virus called HIV, the Human Immunodeficiency Virus, causes AIDS. AIDS is the third leading cause of death among 25 to 44 year-old women, and seventh leading cause of death among 1 to 4 year-old children in the United States. Most women become infected with HIV through heterosexual activity.

As the incidence of infection increases among women of child-bearing age, increasing numbers of children are exposed perinatally to HIV. The virus can be transmitted from an HIV-positive pregnant woman to her child in utero, during delivery, or through breast milk. Pregnant women who are HIV-positive are advised not to breastfeed.

Current medical treatments have been proven effective in significantly reducing the risk of mother-to-unborn baby HIV transmission. Without treatment for HIV infection, a pregnant woman has about a one out of four (25%) chance of passing the virus onto her baby. However, with the use of the drug AZT during pregnancy and a Cesarean delivery, the risk of HIV transmission is reduced to about one in fifty (2%).

Pregnant women who are HIV-infected need routine prenatal care, but may also have special needs to be addressed. Nutritional status is compromised in AIDS because of the frequent infections associated with the disease. Symptoms such as coughing, labored breathing, vomiting, and chronic diarrhea cause nutritional status to deteriorate; eating and swallowing are often very painful because of oral and gastrointestinal lesions.

Although not curative, nutritional support may maximize the body's ability to fight infection and possibly delay the onset of symptoms in women infected with HIV.

A person can be infected with HIV for many years without experiencing any AIDS symptoms, yet she is capable of infecting others. As the infection progresses, however, she usually begins to experience some of the symptoms of HIV disease, which include swollen glands, "night sweats," and persistent diarrhea. Most HIV-infected people eventually develop AIDS. At this point, their body's immune system is so weakened that they become susceptible to certain infections or rare diseases that are potentially life-threatening.

Universal Precautions: Limits occupational exposure to blood and other potentially infectious materials.



Pregnancy Induced Conditions that Affect Nutritional Needs
Nutrition Risk Code 300

Includes:
Gestational Diabetes
Presence of gestational diabetes as diagnosed by a physician and self-reported by applicant/ participant

Increased Risk

Diabetes Mellitus: A disorder of energy metabolism caused by a deficiency of insulin.

CPA’s Role:

USDA requires that WIC staff inform each pregnant woman that she should know her HIV status. Each clinic should have a list of places to refer women for HIV testing, treatment, and counseling.

Refer all HIV-infected women who are not under treatment to a health care provider. Additionally, because HIV is an increased-risk condition, refer HIV-positive women to the WIC nutritionist to evaluate their nutritional status and provide appropriate counseling.

Treat women with infectious diseases such as HIV and hepatitis just as you would non-infected participants. HIV cannot be spread through casual contact in the WIC clinic. When collecting hemoglobin or hematocrit, use the same universal precautions (i.e., medical gloves, etc.) that are used for other participants. See your clinic supervisor if you are unaware of the methods used in universal precautions. Also refer to the procedure in Level I Screening Module.

Gestational Diabetes

Gestational Diabetes is a form of diabetes that appears during pregnancy. It usually begins about midway through the pregnancy. It is noted by an excess of glucose (a sugar that provides energy to the body) in the blood. In a normal pregnancy the body makes additional insulin (a hormone) to carry the body’s glucose in the body’s cells so that it can be used. Sometimes even this extra insulin is not enough, and the woman develops gestational diabetes. Most women with gestational diabetes have no symptoms.

Women with gestational diabetes have a greater risk of delivering a baby that is very large. Diet and physical activity are very important for the treatment of gestational diabetes. The better a woman controls her diabetes the more likely she is to have a healthy baby without complications.

Women are typically screened for gestational diabetes between the 24th and 28th week of pregnancy. Once gestational diabetes is diagnosed many women control their blood sugar with diet alone. Those who can’t require insulin injections.

Once the baby is delivered, most women’s blood sugar will return to normal. Women with gestational diabetes are at increased risk of developing diabetes mellitus later in life.

Complications of Previous Pregnancy – Presence of any of the following conditions during the last pregnancy.

Nutrition Risk Codes:

- 300** gestational diabetes
- 310** preterm delivery ≤ 37 weeks
- 310** delivery of low birth weight infant ($\leq 5\#8oz$)
- 321** fetal death (≥ 20 weeks gestation) or neonatal death (within birth-28 days of life)
- 339** delivery of an infant with neural tube defect or cleft palate or lip

It is important they understand the value of maintaining a normal weight from now on.

CPA's Role:

Follow normal prenatal nutrition protocols. Refer this woman to the nutritionist for Increased Risk counseling. The nutritionist will reinforce the treatment prescribed by the diabetes specialist.

Complications of Previous Pregnancy

A medical problem in a past pregnancy may indicate additional nutritional need. These problems include gestational diabetes, preterm delivery, delivery of a low birth weight infant, fetal death, or delivery of an infant with neural tube defect or cleft palate or lip.

These women have a greater chance of these problems recurring in their current pregnancy.



√ Self-Check #8

1. List two reasons why pregnant teens are at higher nutritional risk than older women.

2. Put a check next to the factors below which present nutritional risks for pregnancy.

- a. Mother is normal weight prior to conception.
- b. Inadequate prenatal weight gain
- c. Inadequate diet
- d. Medical conditions, such as iron-deficiency anemia and gestational diabetes
- e. Mother is pregnant with more than one fetus
- f. Mother is 45 years old
- g. Mother is underweight prior to conception
- h. Mother is 16 years old

True or False

- 3. Certain health conditions are considered to be nutritional risks. These nutritional risks affect a woman's nutritional needs and/or her food habits. Women with these risks need special consideration for nutrition counseling.
- 4. Using drugs, alcohol, or cigarettes during pregnancy is okay because the mother's body can filter out harmful substances so they do not reach the fetus.



Part VI: Social Indicators of Nutritional Need

Some pregnant women are at nutritional risk based upon their living accommodations and/or their ability to take care of themselves. Situations where the WIC Program identifies the woman as being at nutritional risk include homelessness or migrancy. Generally in these situations where her shelter is temporary, the woman is less able to ensure that she has access to adequate nutritious food, food storage, and cooking facilities.

**Homeless
Nutrition Risk Criteria 801**

Moderate Risk

Homelessness

A homeless individual is defined as a woman or child who lacks a fixed and regular nighttime residence; or whose primary nighttime residence is: a supervised publicly or privately operated shelter (including a welfare hotel, a congregate shelter, or a shelter for victims of domestic violence) designated to provide temporary living accommodations; an institution that provides a temporary residence for individuals intended to be institutionalized; a temporary accommodation in the residence of another individual not exceeding 365 days; or a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings.

**Migrant
Nutrition Risk Criteria 802**

Moderate Risk

Migrancy

Migrancy is defined as a woman whose family's principal employment is in agriculture on a seasonal basis, who has been so employed within the last 24 months, and who establishes, for the purposes of such employment, a temporary abode.



CPA's Role:

Follow the normal pregnancy protocols to identify nutritional needs. Discuss with the woman ways the WIC Program can assist her in meeting her nutritional needs.

Work with the woman to select a food package that will fit her ability to store and prepare food.

For women who are homeless or migrants, find out if they are aware of local resources in the community. These families can often benefit from more than just WIC foods and education. You can help by giving families information about agencies that help families with these challenges.

√ **Self-Check #9**

1. Name two reasons why being homeless or a migrant would put a pregnant woman at nutritional risk.
 - a.
 - b.



Part VII: WIC Prenatal Protocols

Now that you have some background information on the importance of adequate nutrition and weight gain during pregnancy, let's review the Protocols for Normal Pregnancy. Use the Prenatal and Breastfeeding Promotion Nutrition Education Plans as counseling guides.

These protocols are steps for assessing the anthropometric and nutritional status of the pregnant woman and for counseling on the top one or two priorities.

Normal Pregnancy Protocol

I. Assessment at Certification Visit

- A. Check current height and weight and obtain pre-gravid weight. Determine if pregravid weight is underweight, normal, overweight, or obese, and highlight the recommended weight gain curve based on her pregravid weight. Plot weight gain on the Prenatal Weight Gain Chart MCH 33.
- B. Check hemoglobin.
- C. Complete a 24-Hour Diet Recall and Assessment.
- D. Complete Obstetric History
- E. Assign Nutrition Risk Criteria

II. Counseling Points

- A. Explain reasons for WIC eligibility, including qualifying risk criteria. Complete Nutritional Screening Form-Pregnant Women (MCH: WIC-5P)
- B. Refer to Prenatal Nutrition Education Plan. Utilize the three step client-centered process for eliciting concerns and assessing knowledge.
- C. Review 24-Hour Diet Recall and Assessment. Prioritize diet inadequacies.
- D. Prioritize concerns/problems and counsel on only one or two at each contact.
- E. Ask participant what she has heard about breastfeeding. Refer to counseling points in the Prenatal Nutrition Education Plan (both for breastfeeding and for formula feeding).



IV. Referral

- A. Schedule with nutritionist within one month for Increased Risk nutrition criteria
- B. Refer to provider of prenatal care (if not receiving).
- C. Refer to Family Planning services as appropriate
- D. Refer to other community services as needed, such as Medicaid, La Leche League, child birth classes, Food Stamps, or TEA, etc.
- E. Refer to drug or alcohol abuse treatment programs, as appropriate. See Appendix for referral resources.

V. Documentation

- A. Document referrals made.
- B. Document education materials provided.
- C. Document client comments.
- D. Document follow-up on goals and referrals.
- E. Document assessment/nutrition education plan provided.
- F. Document behavior change goals set.

√ Self-Check #10

1. List the steps of the Assessment at Certification Visit listed in the Normal Prenatal Protocol.
2. List two of the Counseling Points listed in the Normal Prenatal Protocol.



Postpartum: That period of time occurring after childbirth up to 6 months after delivery.

Part VIII: Postpartum Nutrition and General Guidelines

Postpartum: The “Fourth” Trimester

The postpartum period is a time of dramatic emotional and physical change for women, yet it is most often treated as an after-thought in nutrition and health care. So much time is spent talking about the baby and preparing for delivery, that we often forget the new mom’s needs.

Just as adequate nutrition is important during pregnancy, it is also important during the postpartum period. A good diet is important to rebuild the nutrient stores that were depleted during pregnancy.

This section will review six healthy tips for new moms. It reviews the nutrient needs of the non-breastfeeding, postpartum woman. Although breastfeeding is the optimal way to feed an infant, some women may be unable to or may not choose to breastfeed. Refer to the Breastfeeding/Postpartum Nutrition Education Plan.

The postpartum period continues to be a special time for the mother and it is important to convey this message to her. The new mother will be experiencing many physical and emotional changes. Some of these changes may be linked to her nutritional status and diet. It is very important to stress the positive effects of good nutrition during this postpartum period.

Replenishing the body’s nutrient stores is important for the health status of the mother. The nutrition questionnaire, along with the diet assessment, anthropometric measurements, and hemoglobin that you collect will help you identify the factors that indicate a postpartum woman may be at nutritional risk. Many of the same nutrition risk factors of pregnancy will apply to the postpartum woman. Some of these include:

- being at a young age;
- being underweight postpartum;
- being overweight postpartum;
- having anemia;
- having closely-spaced pregnancies;

- having complications during the most recent pregnancy;
- using drugs and/or alcohol;
- following highly-restrictive diets;
- specific medical conditions;
- having an inadequate diet;
- a multifetal pregnancy during the most recent pregnancy;
- having pica;
- and any of the social indicators of nutritional risk.

There are two risk factors unique to the postpartum woman:

- high maternal weight gain during the most recent pregnancy, and
- breastfeeding complications

These will be reviewed in this section of the module.

Equally important at this time is the fact that a mother's nutritional status after a pregnancy can affect the outcome of future pregnancies. So it is critical that the mother practice healthy nutrition habits even after the postpartum period since the benefits of her maintaining a good nutritional state are extended to her future pregnancies. **For example, it is recommended that all women of childbearing age take a multivitamin with folic acid daily, in addition to eating a healthy diet that includes foods rich in folic acid to help prevent neural tube defects.**



Pregnancy Weight Gain

During the first six weeks of the postpartum period, the woman's weight is not a good indicator of whether the woman is truly overweight or not. She will still be retaining extra body fluids produced during pregnancy that helped to form the extra blood volume needed to nourish the baby.

If a woman gained an adequate amount of weight during pregnancy, her postpartum weight will probably be more than her prepregnancy weight. Besides the maternal fluids just mentioned, she will most likely be carrying some extra fat. A review of studies found that the average postpartum weight retention (gained during pregnancy and not lost during the postpartum period) is about one kilogram (2.2 pounds) for each live birth (although there is a widespread weight gain range). This may help explain why the number of live births a woman has can influence her long-term body weight by retaining a small amount of weight with each pregnancy.



High Maternal Weight Gain
Nutrition Risk Code 133

For singleton pregnancies only, total gestational weight gain during most recent pregnancy of:

- greater than 40 pounds for underweight women
- greater than 35 pounds for normal weight women
- greater than 25 pounds for overweight women
- greater than 20 pounds for obese women

Moderate Risk

High Maternal Weight Gain

Higher weight gains during pregnancy are associated with greater postpartum weight retention. The added health risks of being overweight or obese include heart disease, diabetes, gallbladder disease, sleep apnea, osteoarthritis, several reproductive cancers, infertility, and miscarriages. It can cause complications with future pregnancies. For these reasons, high maternal weight gain is a risk factor on the WIC Program. WIC staff have an opportunity to offer sound nutritional advice on diet and to encourage moderate and appropriate physical activity.

Most women want to get back to their prepregnancy weight as soon as possible. Not realizing the importance of replenishing their nutrient stores during this postpartum period, many will go on “crash” diets or adopt inadequate eating patterns. Because of this, postpartum women should be counseled soon after delivery (or even before) about weight loss, the need to eat a balanced diet, and how they can sensibly achieve a desirable weight when it is appropriate.

Another good reason not to restrict calories severely during the postpartum period is because, generally, new mothers are already tired from the demands of a newborn baby. Going on a weight reduction diet puts even more demands on the mother’s body.

Some weight loss may occur naturally during the weeks just following delivery. This is fine as long as the weight loss does not exceed ½ to 1 pound per week and the woman is eating a well-balanced, nutritious diet. She should be counseled on careful, slow weight loss while eating a variety of foods from each of the food groups.

CPA’s Role:

Other suggestions that you may use when assisting a woman with weight loss include:

- Cut down on high-calorie foods such as cookies, cakes, candies, chips, and soda pop.
- Reduce fat intake by using:
 - little or no fat when cooking. Bake, broil, or steam.
 - lean meats, fish, poultry.
 - vegetable proteins such as dried beans and peas.
 - nonfat, reduced-fat, and/or low fat dairy products.

Losing Weight with High-Protein Diets

There are several diets that promote weight loss by restricting carbohydrates and consuming unlimited fat and protein. Weight loss from these diets is initially due to rapid water loss. People are at risk for ketosis, which can cause slight nausea, light-headedness, and fatigue. It may also worsen existing medical problems, such as gout and kidney disease. Pregnant women should avoid the diet because chronic ketosis in the mother could negatively affect the fetus.

There is no scientific evidence to suggest that these diets have any advantages over the more conventional diets for weight reduction. There is no magic panacea to weight loss; a calorie is still basically a calorie, and there must be a long-term deficit between calories eaten and calories burned if weight loss is to be maintained.

Breastfeeding Women

Risk Criteria that apply to postpartum women also apply to breastfeeding women. Two Risks that apply only to breastfeeding women are:
602-Breastfeeding Complications and 371-Any Daily Smoking

- Increase consumption of fresh fruits and raw vegetables and whole grains.
- Increase physical activity and exercise.
- Consider a weight loss support group.
- Avoid fad diets or quick weight loss programs.
- Avoid liquid diets or supplements.
- Seek a professional for severe problems. Consult the nutritionist for losing weight.

Teen Postpartum Weight Loss

Adolescents in the postpartum period should receive special attention regarding the weight loss issue. It may be more difficult to convince this age group to maintain a good diet during the postpartum period. They still may be very unhappy with their weight 3-6 months after delivery, even though their new weight may be a result of their own normal growth and maturation that occurred during their pregnancy, and not due to the actual pregnancy itself.

It may help the teenager accept and understand her new weight if you take the time to thoroughly assess her prior and current weight status by looking at her prepregnancy weight, the total amount of weight she gained during pregnancy, and her current BMI.

Encourage normal eating, active living, self-respect, and an appreciation for differences in body size.

Breastfeeding Complications

Risk Criteria 602: A breastfeeding woman with any of the following complications or potential complications for breastfeeding:

- Severe breast engorgement
- Recurrent plugged ducts
- Mastitis (fever or flu-like symptoms with localized breast tenderness)
- Flat or inverted nipples
- Cracked, bleeding or severely sore nipples
- Age \geq 40 years
- Failure of milk to come in by four days postpartum
- Tandem nursing (breastfeeding two siblings who are not twins)

Note: Complications that require immediate attention, such as severe breast engorgement, mastitis, cracked, bleeding or severely sore nipples, failure of milk to come in by four days postpartum, etc., should be given immediate, appropriate attention with referral, as needed, for follow-up.

History of fetal death (> 20 weeks gestation or Neonatal loss (birth to 28 days of life)
Risk Criteria 321

Moderate Risk



Fetal or Neonatal Loss

A woman who miscarried or underwent a therapeutic abortion is eligible to receive WIC services up to six months after termination of the pregnancy. Nutrition still plays an important role in helping the mom's body to recover from pregnancy. Utilize the same "Healthy Tips" below as you would for a mom who had a successful pregnancy outcome.

Healthy Tips for New Moms

There are six "Healthy Tips" or educational messages that WIC staff can reinforce to the postpartum woman. Let's examine each tip in more detail.

Healthy Tip #1: Eat Right

Use the information in the Breastfeeding/Postpartum Nutrition Education Plan to help mothers choose nutritionally adequate diets. Review with the new mom the Food Guide Pyramid/MyPyramid (shown on page 86) to help them plan meals. The guide includes recommendations for amounts based on calorie needs. Calorie needs are based on age and physical activity. Particular attention should be given to consuming adequate amounts of calcium and iron.

Healthy Tip #2: Eat Foods Rich in Folate Every Day

As discussed previously, folate is a B vitamin that can help prevent birth defects of the brain and spinal cord called neural tube defects (NTDs) when taken before pregnancy. Since NTDs originate in the first month of pregnancy before many women know they are pregnant, it is important that the woman have enough folate in her system before pregnancy. One way to ensure that women have an adequate intake of folate in addition to a healthy diet is to take a multivitamin with folic acid daily.

**Food Guide Pyramid/MyPyramid
A Guide to Daily Food Choices
Postpartum Women**



How much do I need?

Calorie Level	1800	2000	2200	2400
Fruits	1 ½ cups	2 cups	2 cups	2 cups
Vegetables	2 ½ cups	2 ½ cups	3 cups	3 cups
Grains	6 oz	6 oz	7 oz	8 oz
Meat & Beans	5 oz	5 ½ oz	6 oz	6 ½ oz
Milk	3 cups	3 cups	3 cups	3 cups
Oils	5 tsp	6 tsp	6 tsp	7 tsp
Discretionary	195	267	290	362

How do I meet my needs?

Fruits: 1 cup fruit or 100% fruit juice = 1 cup fruit

Vegetables: 1 cup raw or cooked vegetables or vegetable juice, or 2 cups of raw leafy greens = 1 cup vegetables

Grains: 1 slice of bread, 1 cup ready-to-eat cereal, or ½ cup cooked rice, pasta, or cooked cereals = 1 ounce grains. At least half of all grains consumed should be whole grains

Meat & Beans: 1 ounce lean meat, poultry, or fish, 1 egg, 1 Tbsp peanut butter, ¼ cup cooked dry beans, or ½ ounce of nuts or seeds = 1 ounce meat & beans

Milk: 1 cup of milk or yogurt, 1 ½ ounces of natural cheese, or 2 ounces of processed cheese = 1 cup milk

Discretionary Calorie Allowance: The remaining amount of calories after accounting for the calories needed for all food groups.

Calorie level is dependent upon age, weight and physical activity level. See <http://www.MyPyramid.gov> website for determining calorie needs.

Healthy Tip #3: Be Active



Exercise is important for everyone. Encourage women to ask their health care provider first to find out when they can begin exercising. Usually a light, reasonable exercise regime, such as walking, can be suggested. Encourage the mom to take walks with the baby. Once the health care provider approves exercise, recommend that the mom try to exercise 3 to 4 times a week, starting at 10 minutes and working up to 20 to 30 minutes each time. A regular routine of exercise is very important to regaining body tone, encouraging weight loss, and improving a new mother's overall spirits.

Healthy Tip #4: See a Health Care Provider

Encourage the postpartum mother to visit her prenatal provider about 6 weeks after delivery. This is an opportunity for the provider to evaluate the woman's recovery as well as discuss birth control methods. Also, if the new mother is feeling sad or angry after the birth of her baby, she can talk with her provider about her feelings. The provider can evaluate her for more serious conditions, such as postpartum depression, and offer resources to help her with the adjustments of having a new baby.

Healthy Tip #5: Make Time for Being a New Mom

Once the baby arrives, often the attention is switched from the mom to caring for the new baby. Encourage the postpartum mom to take time for herself each day to help her to be a good mother and decrease stress. Some suggestions to offer include:

- Take a walk
- Take a warm bath
- Talk to a friend or relative
- Read a magazine or book

Since the new mother is probably tired with her routine dramatically altered, encourage her to fix meals that require little preparation time or, better yet, to enlist the assistance of other adults in the household.

Postpartum Pamphlet Resources:

- Why Every Woman Needs Folic Acid
- Building Blood
- Building Blood Snack Foods
- What Makes Good Snacks
- Increasing Protein and Calories
- Calcium Facts

Healthy Tip #6: Stay Smoke-Free



Praise women who quit smoking during pregnancy. To stop smoking is one of the best things they can do for themselves and their baby. Discourage exposure of second-hand smoke to the baby that can cause breathing difficulties and more respiratory and middle ear infections. Offer resources in the community to help the new mom stay smoke-free. Although smoking cessation should be encouraged and praised in all women, any daily smoking, Risk Criteria 371, only applies to the breastfeeding woman as a nutrition risk.

Normal Postpartum Protocols

Just as with pregnancy, the WIC Program has protocols for providing care to the postpartum woman. These protocols guide you through the assessment process and educational points of a certification visit. Let's review the protocols for normal postpartum nutrition education and counseling.



I. Assessment at Certification Visit

- A. Check weight and height and assess if underweight, normal weight, overweight, or obese.
- B. Check hemoglobin.
- C. Complete a 24-Hour Diet Recall and Assessment.
- D. Assign Nutrition Risk Criteria

II. Counseling Points

- A. Explain reasons for WIC eligibility, including qualifying nutrition risk criteria.
- B. Refer to Breastfeeding/Postpartum Nutrition Education Plan; utilize the three step client-centered process for eliciting concerns and assessing knowledge
- C. Review 24 Hour Diet Recall and Assessment (MCH 51 A). Prioritize diet inadequacies; counsel on only one to two at each contact.



III. Behavior Change Goal Setting

Help participant prioritize their nutrition concerns and identify one to two nutrition activities or diet changes that the participant is willing to make to improve nutrition issues. Define specific goals—what, how much, how often, and by when.

IV. Referral

- A. Schedule with nutritionist within one month for Increased Risk counseling if applicable.
- B. Refer to other community services as needed, such as Family Planning, Medicaid, parenting classes, Food Stamps, TEA, drug or alcohol abuse treatment programs, as appropriate.

V. Documentation

- A. Document referrals made.
- B. Document education pamphlets provided.
- C. Document client comments.
- D. Document follow-up on goals and referrals.
- E. Document assessment and nutrition education plan provided
- F. Document behavior change goals set.

✓ **Self-Check #11**

1. Why is it important for non-breastfeeding, postpartum women to consume an adequate diet?

2. Name the 6 healthy tips to reinforce with postpartum women.

- _____
- _____
- _____
- _____
- _____
- _____

True or False

3. ___ During the postpartum period, a woman who does not breastfeed her baby needs the same number of daily servings of breads and cereals as the woman who is breastfeeding her baby.

4. ___ After the initial postpartum period of rebuilding body stores and after breastfeeding has been discontinued, a woman should then be encouraged to lose weight if it's necessary.

√ Self-Check Answers

Self-Check #1- ANSWERS IN BOLD

1. Name at least two reasons why adequate nutrition during pregnancy is important.
Any two of the following answers are correct:
 - **To maintain mother's body tissues and nutrient stores.**
 - **To decrease the chance of complications and difficult deliveries, including prematurity, stillbirths, birth defects.**
 - **To decrease the chance of nervous system disorders and impaired mental development in the newborn.**
 - **To decrease the chances of having low birth weight infants.**
 - **To allow for the normal growth and development of the fetus.**
2. **False** Low birth weight in infants is desirable because it results in an easier delivery.
3. **True** Women are at nutrition risk due to inadequate prenatal care if they begin visiting their provider after 13 weeks gestation.

Self-Check #2- ANSWERS IN BOLD

1. a. What is the recommended range for weight gain for a normal weight(BMI 19.8-26.0) woman during pregnancy? **25 to 35 pounds**
- b. What is the recommended range for weight gain for an underweight (BMI <19.8) woman during pregnancy? **28 to 40 pounds**
- c. What is the recommended range for weight gain for an overweight (BMI 26.1-29.0) woman during pregnancy? **15 to 25 pounds**
- d. What is the recommended range for weight gain for an obese (BMI \geq 29.1) woman during pregnancy? **15 pounds**
3. A normal weight woman has gained 27 pounds of weight at 27 weeks gestation. She should be encouraged to:
 - c. **Gain weight at a slow, steady rate for the rest of her pregnancy.**
3. **False** Pregnancy is an excellent time for an overweight woman to lose weight and she should be encouraged not to gain any weight during her pregnancy.
4. **False** It is acceptable for a woman to gain 12 pounds during one week of the last trimester of pregnancy as long as her total weight gain doesn't exceed 30 pounds.

5. Complete a Prenatal Weight Gain Chart for the case study.
 - a. **BMI = 19.8-26.0; prepregnancy weight = 115 lb. - reported; height = 5 ft. 2 in.; EDD = December 1; weight status = Normal weight**
 - b. **plot weight of 121 lbs at 14 weeks gestation on Normal weight line**
 - c. **Range of weight gain = 25 to 35 pounds**
 - d. **None apply because her prepregnancy weight is normal, she is gaining slightly above her minimum weight gain line, and she has not gained more than 7 pounds in one month.**

6. Complete a Prenatal Weight Gain Chart for the case study.
 - a. **BMI \geq 29.2; prepregnancy weight = unknown but estimated plausible weight = 185 pounds; height = 5 ft. 5 in.; EDD = August 15; weight status = Obese**
 - b. **plot weight of 185 lbs at 10 weeks gestation on Overweight/Obese weight line**
 - c. **15 pounds**
 - d. **Nutrition Risk Criteria 111 – Her prepregnancy BMI is \geq 29.1 putting her in the Obese weight category**

Self-Check #3-ANSWERS IN BOLD

1. Fill in the blanks below indicating the amount recommended each day from each food group for a pregnant woman needing 2200 calories each day.

Food Group	Amount Recommended for 2200 calories
Milk	3 cups
Meat and Beans	6 ounces
Grains	7 ounces
Fruits	2 cups
Vegetables	3 cups

2. The following foods belong to which group from the Food Guide Pyramid/MyPyramid?

cottage cheese <u>Milk</u>	oranges <u>Fruit</u>
corn tortilla <u>Grains</u>	broccoli <u>Vegetable</u>
apples <u>Fruit</u>	crackers <u>Grains</u>
tuna <u>Meat and Beans</u>	yogurt <u>Milk</u>
pinto beans <u>Meat and Beans</u>	peanut butter <u>Meat and Beans</u>

3. **True** Some women may put on more weight than they expected during pregnancy because they become less active.

4. **False** Water should be restricted in pregnancy when a woman has edema.

Self-Check #4- ANSWERS IN BOLD

1. What two nutrients are necessary for healthy blood and need to be supplemented during pregnancy?
 - a. **Iron**
 - b. **Folic Acid**
2. Describe some of the symptoms of a woman who has iron-deficiency anemia.
A woman who is anemic can look pale; she may be tired, listless, and irritable; she may report headaches, dizziness, and a drop in appetite.
3. a. A **hematocrit** measures the amount of red blood cells in the blood.
 b. Vitamin **C** helps the body absorb iron.
4. List 5 iron-rich foods. **Look at the chart on page 33 for those foods that are high in iron.**
4. When is the most important time that a woman has an adequate intake of folic acid to prevent neural tube defects?
Within the first month of pregnancy (and preconceptually).

Self-Check #5- ANSWERS IN BOLD

1. List two recommendations you might make to a woman who states she doesn't like the taste of milk:
**Try adding: flavoring to milk (chocolate, strawberry)
 powdered milk to casseroles and other foods**
2. List three recommendations you might make to a woman who has lactose intolerance.
Any three of the following:
 - **Offer small servings of lactose-containing foods.**
 - **Eat dairy products with other foods.**
 - **Active-culture foods (such as yogurt) help break down lactose.**
 - **Enzyme tablets and lactose-reduced milks are available and can greatly increase tolerance.**
 - **(The WIC Program provides lactose-reduced food packages.)**
 - **Heated milk may be easier to digest than cold milk.**
 - **Aged cheeses are lower in lactose.**

3. Name at least three factors which can influence an individual's eating habits and preferences.
Any three of the following factors:
- **income level,**
 - **cultural background**
 - **religious beliefs**
 - **climate**
 - **philosophical attitudes about food.**
4. **False** If a pregnant woman takes a vitamin/mineral supplement, it is not important that she eats a well-balanced diet.

Self-Check #6- ANSWERS IN BOLD

1. Increasing exercise and consuming more liquids, whole grains, fruits, and vegetables would be appropriate suggestions for a pregnant woman with which of the conditions:
b. Constipation
2. List at least three suggestions to relieve nausea during pregnancy:
Any three of the following:
- Before going to bed**
Be sure to have fresh air in the room.
Place some dry, ready-to-eat cereal, crackers, or dry bread (e.g., toast) within reach of the bed.
- For meals**
Eat several small meals a day instead of three large ones.
Women are more likely to feel nauseated when their stomach is empty.
-Sometime during the day try to eat a regular meal, but do not overeat.
-Eat slowly and try to eat while relaxed.
-The smell or taste of fresh lemon can sometimes help with nausea.
-Open a window while you cook to get rid of the odor of cooking foods.
- Foods to avoid**
Fats and greasy foods tend to upset the stomach. For this reason, avoid fried foods and foods cooked with grease, oils, or fatty meats. Minimize the following foods: butter, margarine, gravy, bacon, salt pork, oils, mayonnaise, salad dressings, pie crusts, pastries.
- Strong-smelling foods, such as cooked food, can increase nausea. Try preparing cold foods such as sandwiches or cereal.**
- Highly-seasoned foods such as those cooked with garlic, onion, pepper, chili, and other spices may increase nausea. Eat foods that are lightly seasoned.**
3. (a) **False** A pregnant woman who suffers from heartburn should take antacid tablets from the drug store without consulting her doctor first.
(b) **False** A pregnant woman who suffers from constipation should use a laxative like Ex-Lax.

4. **False** Salt should be restricted for pregnant women who appear to be retaining water..
5. **True** A pregnant woman with gum disease has an increased risk of having a premature baby.

Self-Check #7 – ANSWERS IN BOLD

1. **False** During pregnancy, a safe level of alcohol intake is not more than one drink per day.
2. **True Pregnant women should only take medication which has been approved by their physician.**
3. A woman who smokes during pregnancy increases her chances of delivering a **smaller** than normal infant.
4. Place an “X” by the following substances which can be nutrition risk factors for a pregnant woman participating in the WIC Program. Beside your “X,” indicate if it is a Moderate or Increased Risk condition.

<u>X Increased Risk</u> Pica	<u>X Moderate Risk</u> Alcohol	<u>X Moderate Risk</u> Cocaine
<u> </u> Caffeine	<u>X Moderate Risk</u> Tobacco	
	<u>X Moderate Risk</u> Marijuana	

Self-Check #8- ANSWERS IN BOLD

1. List two reasons why pregnant teens are at higher nutritional risk than older women:
Any two of the following reasons:
 - **they may not have yet completed their own growth**
 - **poor eating habits**
 - **influence of social risk factors.**
2. Put a check next to the factors below which present nutritional risks for pregnancy:
 - a. Mother is normal weight prior to conception
 - b. √ **Inadequate prenatal weight gain**
 - c. √ **Inadequate diet**
 - d. √ **Medical conditions, such as iron-deficiency anemia and gestational diabetes**
 - e. √ **Mother is pregnant with more than one fetus**
 - f. Mother is 45 years old
 - g. √ **Mother is underweight prior to conception**
 - h. √ **Mother is 16 years old**
3. **True** Certain health conditions are considered to be nutritional risks. These nutritional risks

affect a woman's nutritional needs and/or her food habits. Women with these risks need special consideration for nutrition counseling.

4. **False** Using drugs, alcohol, or cigarettes during pregnancy is okay because the mother's body can filter out harmful substances so they do not reach the fetus.

Self-Check #9- ANSWERS IN BOLD

1. Names two reasons why being homeless or a migrant would put a pregnant woman at nutritional risk.
 - **Difficulty storing foods (fresh or frozen) would limit types of foods purchased.**
 - **Limited access to cooking facilities.**

Self-Check #10- ANSWERS IN BOLD

1. List the steps of the Assessment at Certification Visit listed in the Normal Prenatal Protocol
Assessment at Certification Visit
 - A. Check current height and weight and obtain pre-gravid weight. Determine if pregravid weight is underweight, normal, overweight, or obese, and highlight the recommended weight gain curve based on her pregravid weight. Plot weight gain on the Prenatal Weight Gain Chart MCH 33.**
 - B. Check hemoglobin.**
 - C. Complete a 24-Hour Diet Recall and Assessment.**
 - D. Complete Obstetric History**
 - E. Assign Nutrition Risk Criteria**
2. List two of the Counseling Points listed in the Normal Prenatal Protocol.
Any two of the following:
Counseling Points
 - A. Explain reasons for WIC eligibility, including qualifying risk criteria. Complete Nutritional Screening Form-Pregnant Women (MCH: WIC-5P)**
 - B. Refer to Prenatal Nutrition Education Plan. Utilize the three step client-centered process for eliciting concerns and assessing knowledge.**
 - C. Review 24-Hour Diet Recall and Assessment. Prioritize diet inadequacies.**
 - D. Prioritize concerns/problems and counsel on only one or two at each contact.**
 - E. Ask participant what she has heard about breastfeeding. Refer to counseling points in the Prenatal Nutrition Education Plan (both for breastfeeding and for formula feeding).**

Self-Check #11

1. Why is it important for non-breastfeeding, postpartum women to consume an adequate diet?
To replenish the body's nutrient stores that were depleted during pregnancy.

2. Name the 6 healthy tips to reinforce with postpartum women.
 - **Eat right**
 - **Eat foods rich in folate every day**
 - **Be active**
 - **See a health care provider**
 - **Make time for being a new mom**
 - **Stay smoke free**

3. **True** During the postpartum period, a woman who does not breastfeed her baby needs the same number of daily servings of breads and cereals as the woman who is breastfeeding her baby.

4. **True** After the initial postpartum period of rebuilding body stores and after breastfeeding has been discontinued, a woman should then be encouraged to lose weight if it's necessary.

APPENDIX

LOCAL RESOURCES

1. **ANGELS** (The Antenatal and Neonatal Guidelines, Education and Learning System) Call Center for High Risk Pregnancy; UAMS, Department of Health and Human Services Medicaid Program and the Arkansas Medical Society fund and staff a 24 hour call center to provide education, resources and treatment options for patients and providers.

ANGELS Call Center: 866-273-3835 or 501-526-7425

Email: www.uams.edu/angels/dream/local_resources.asp

2. **Arkansas Mental Health Services**

Directory of Programs by County

List of Mental Health Providers Interested in Perinatal Depression

UAMS Adult Clinic Little Rock 501- 686-5900

Melissa Powell, MD, Rice-Lewis Clinic Little Rock 501-225-0576

3. **Arkansas Medicaid**

Email: <http://www.medicaid.state.ar.us>

4. **Arkansas Cares**

Arkansas Center for Addictions, Research, Education and Services

Comprehensive Services to Women with substance abuse addictions and to their children

Email: www.arcare.uams.edu

5. **Smoking Cessation Program**

Smoking Cessation -Call SOS Quitline directly @ 1-866-669-7848

For additional information, please visit <http://www.uams.edu/coph/tobacco/>

6. **Domestic Violence**

a. **Domestic Violence Shelters in Arkansas**

<http://www.domesticpeace.com/shelters.html>

b. **Arkansas Coalition on Domestic Abuse**

<http://www.domesticpeace.com>

1401 West Capitol, Suite 170

Little Rock, AR 72201

1-800-269-4668

E-Mail: Info@domesticpeace.com

c. **Arkansas Commission on Child Abuse, Rape and Domestic Violence**

<http://www.accardv.uams.edu>

2102 Riverfront Drive, Suite 102

Little Rock, AR 72202

Phone: (501) 661-7975

d. **The Center for Children at Risk at Arkansas Children's Hospital**

<http://www.uams.edu/childrenatrisk.edu>

Dr Gerry Jones and Dr Karen Farst
800 Marshall St Slot 512-24A/ 1600 Maryland
Little Rock, AR 72202
Phone: (501) 364-2680

e. **Family Violence Prevention Fund**

<http://www.endabuse.org>

383 Rhode Island Street, Suite 304
San Francisco, CA 94103-5133

4. **Mommy and Baby Fitness Classes**

This is a three part workout program which benefits the mother and her baby.

Part I Warm –Up and Workout: 45 minute postnatal fitness class for mom and baby

Part II Infant Stimulation: 30 minute infant stimulation session

Part III Group Discussion: Topics include postpartum Depression

More information and newsletters at <http://www.mommyandbabyfitness.net>

8. **MOM-ME Connection Support Group:**

This is a special group for breastfeeding mothers that meets the first Wednesday of the month at 10:30am in Little Rock on the second floor of the Hickingbotham Outpatient Center at 9400 Kanis Rd. behind Baptist Health Medical Center.

Topics include:

- Breastfeeding
- Returning to Work

9. **USA National Toll-free Suicide Hotlines**

1-800-SUICIDE 1-800-273-TALK

1-800-784-2433 1-800-273-8255

10. **Northwest Arkansas Crisis Intervention Center**

Toll-free Statewide 1-888-274-7472