Nutrition Risk Factors for Infants

Good nutrition is critical for infants. Poor nutrition can have a greater and quicker impact on an infant's health than at any other time during their life. Infants depend on a single food (breast milk or formula) for much of their first year of life to give them nutrients they need to grow and stay healthy. Small deficiencies in their nutrition can quickly and seriously impact their growth and development. Table 4 at the end of this section lists all of the NRFs that apply to infants.

NRFs Related to Body Size

The first group of nutrition risk factors that we will examine are related to the body size of the infant and to the length of gestation.

NRF# 15 Underweight - Weight-for-length less than or equal to the 5th percentile.
NRF# 16 Underweight - Weight-for-length greater than the 5th percentile to less than or equal to the 10th percentile.

An infant under the 10th percentile weight-for-length is considered underweight and in need of nutrition intervention. Low weight-for-length is an indicator that an infant may be receiving insufficient nutrients to sustain normal growth. An infant below the 5th percentile is considered at greater risk and in need of more intensive intervention. For this reason infants under the 5th percentile are assigned NRF#15 which makes them high risk while those between the 5th and 10th are assigned NRF# 16 and are classified as moderate risk. While it may be "normal" for some infants to be below the 10th percentile **weight-for-age**, it is generally NOT considered normal for an infant to be below the 10th percentile **weight-for-length**. These two NRFs related to weight-for-length are objective risk factors and are assigned by the ASPENS system at the time of certification. If an infant falls below the 5th or 10th percentile after certification, these risk factors must be manually entered on the mid-cert risk assessment screen.

NRF# 17 Overweight - Weight-for-length greater than or equal to the 90th percentile to less than the 95th percentile.
NRF# 19 Overweight - Weight-for-length greater than or equal to the 95th percentile.

Overweight can result from excessive energy intake, decreased energy expenditure, or impaired regulation of energy metabolism. Weight-for-length during infancy predicts weight-for-height during childhood. Infants learn about eating cues during the first year of life. In order to help avoid overweight later in life it is important that infants are helped to develop appropriate feeding cues and habits early in life.

NRF# 17 & 19 are objective risk factors assigned by the ASPENS system at certification. NRF#17 is moderate risk while NRF# 19 is high risk. If an infant crosses above the 90th or 95th percentile during a certification period these risk factors must be manually entered on the mid-cert risk assessment screen.

NRF# 14 Short Stature - Length for age less than or equal to the 5th percentile.
NRF# 18 Short Stature - Length for age greater than the 5th percentile to less than or equal to the 10th percentile.

Abnormally short stature in infants is widely recognized as a response to a limited nutrient supply. The maintenance of basic metabolic functions takes precedence when nutrients are limited, and nutrients are diverted away from linear growth. Short stature can be related to the lack of total dietary energy or to a diet of poor quality, especially a diet lacking in nutrients such as protein. Short stature can also result from certain disease conditions. It is important, however, to recognize that for certain infants it is appropriate for their stature to be less than the 10th percentile. Infants with stature below the 10th percentile need to be evaluated to determine if their short stature is "normal" for the infant or due to limited nutrition or disease. Nutrition intervention is needed when poor growth is due to diet and disease (extra nutrients may be needed in disease or nutrients may need to be delivered in special forms). NRF# 14 & NRF# 18 are objective risk factors that are assigned by ASPENS. If an infant stature falls below the 10th or 5th percentile during a certification period these risk factors need to be assigned manually as mid-cert risk factors. NRF# 14 and NRF# 18 are both low risk conditions.

Practice!

G

What are the infant mid-cert nutrition risk factors for:

Underweight (less than the 5th) NRF#_____

Underweight (5th to the 10th) NRF#_____

Overweight (greater than 95th) NRF#_____

Overweight (90th to the 95th) NRF#_____

Short Stature (less than the 5th) NRF#_____

Short Stature (10th to the 5th) NRF#_____

(See answers in back of module for Practice G)

NRF # 25 Inadequate or Potentially Inadequate Growth (low risk)

Any weight gain that is less than the expected weight gain from the "Minimal Expected Weight Gain" tables using current weight and the most recent previous weight (as permitted by the tables).

NRF# 26 Inadequate or Potentially Inadequate Growth (moderate risk)

Meets criteria for low risk inadequate growth **AND** growth drops one channel in 6 months or less for weight for age, height for age, or weight for height.

NRF# 27 Inadequate or Potentially Inadequate Growth (high risk)

Current weight less than birth weight at 2 weeks of age or greater

or

Current weight 2 pound less than birth weight

or

Meets criteria for low risk inadequate growth **AND**

- $ growth drops two channels in 6 months or less for weight for age, height for age or weight for height
- $ weight loss or no gain in 6 months or less
- $ both weight for age and height for age less than the 5th percentile

These three NRFs indicate that an infant may have inadequate growth. There are three risk factors to indicate low, moderate and high risk. Each has its own definition.

If an infant is following their normal growth channel you do not need to evaluate them for inadequate growth. Their growth is adequate. If, however, an infant's growth is decreasing with respect to their growth channel, then you will need to evaluate the weight to see if one of the above NRF's applies. In order to do this you need to use the "Minimal Expected Weight Gain" tables from your mini-manual. Read the instructions included with the Tables to see how to use them. If an infant's weight gain between WIC visits is less than the number given by the tables then one of the three NRFs for inadequate weight gain will apply. You need to evaluate if the infant should be marked low, moderate or high risk. The infant must ALWAYS qualify by the tables before any of the inadequate growth risk factors can be assigned with two exceptions:

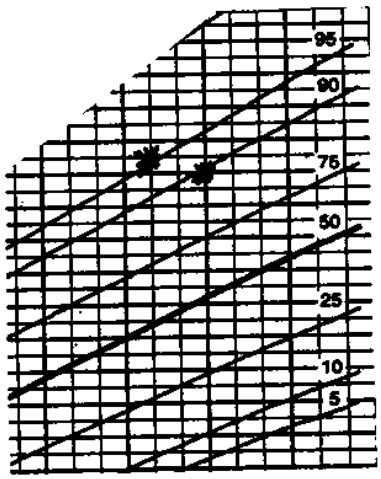
- $ if an infant has lost 2 pound or more since birth (as reflected in the infants current weight) then NRF# 27 Inadequate Growth (high risk) automatically applies.
- $ if an infant is two weeks of age or older and their current weight is less than their birth weight then NRF# 27 Inadequate Growth (high risk) automatically applies.

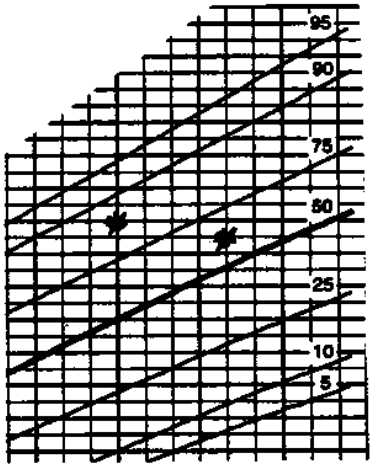
For this NRF you must always base weight gain on the infant's current weight and the most current previous weight. The most current previous weight may not be more than 7 months in the past and it may not be less than 1 month in the past for infants under 6 months of age. The most current previous weight may not be less than 3 months in the past for infants over 6 months of age. Do not panic if this sounds confusing. If you use the "Minimal Expected Weight Gain" tables correctly they will guide you to use the correct weights.

Note: The age at which each weight is taken should be the age shown on the ASPENS screen. This age is usually written on the growth grid and so can be easily determined. ASPENS also gives you the weight difference between measurements on the Infant/Child Visit screen. Learn to use ASPENS to make your life easier!

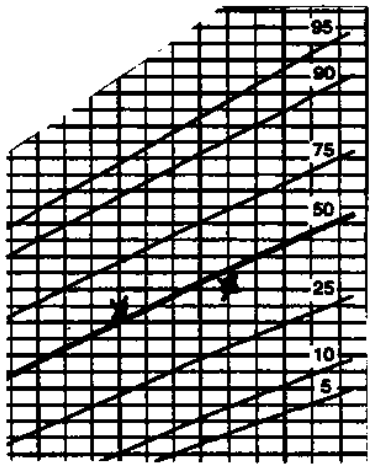
What is a channel drop? A channel drop occurs when the plot point falls the entire width of a channel. It can be from channel line to channel line, mid-channel to mid-channel, or any combination that constitutes a full channel width. Look at the examples below. The two on the left show channel drops; the two on the right do not.

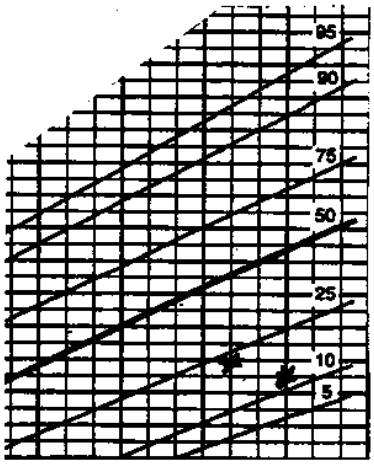
Channel Drops





Non-Channel Drops





When both plot points fall below the 5th percentile or the above 95th percentile there are **NO** channel drops. It is not appropriate to extrapolate channel lines where there are none. Other NRFs apply to infants and children who fall below the 5th or above 95th percentiles.

Practice!

H

Below are four examples of infants being evaluated for "inadequate growth." Indicate which of the three risk factors (if any) apply in each case. You will need to plot each infant's growth on an appropriate weight gain grid and refer to the weight gain grids in your mini-manual.

1. Infant (male) with current weight of 8 pounds 7 ounces at three weeks of age.
   Birth weight 8 pounds 9 ounces.

   Answer (List NRF that applies):

2. Infant (female)
   Birth weight = 7 pounds 8 ounces
   Weight at 3 months and 1 week = 10 pounds. Length = 23 3 inches.
   Weight at 5 months and 3 weeks = 13 pounds 8 ounces (current weight). Length = 25 3 inches.

   Answer (List NRF that applies):

3. Infant (female)
   Weight at 6 months and 1 week = 17 pounds 9 ounces. Length = 26 3 inches.
   Weight at 10 months and 3 weeks = 19 pound 12 ounces (current weight). Length = 28 3 inches.

   Answer (List NRF that applies):

4. Infant (male)
   Weight at 6 months = 16 pounds. Length = 26 3 inches.
   Weight at 7 months 2 weeks = 16 pounds 8 ounces. Length = 26 : inches.
   Weight at 9 months 1 week = 17 pounds 12 ounces. Length = 27 : inches.

   Answer (List NRF that applies):

(See answers in back of module for Practice H)

NRF# 12 Low Birth Weight - Birth weight of 5 2 pounds (2500 grams) or less.

Low birth weight (LBW) is one of the most important biological predictors of infant health and development. Low birth weight infants have more health problems and difficulties than infants who are born at higher weights. Low birth weight remains a predictor of health and development into childhood. Infants born with LBW need optimal nutrition to complete their normal growth and development. This is an objective risk factor that is assigned by the ASPENS system after an infant's birth weight is entered into the computer at certification.

NRFs Related to Prematurity and Medical Conditions

NRF# 11 Prematurity - Live birth which occurs at or before 37 weeks gestation.

Premature infants may have physical problems that have nutritional implications, including immature sucking, swallowing and immature digestion and absorption of carbohydrates and fats. Premature infants have increased nutrient and caloric needs for rapid growth. This is a subjective risk factor that must be entered into the ASPENS risk assessment screen. WIC staff should be alerted to the question on the nutrition questionnaire that asks if an infant was born prematurely to identify this risk factor. (Full-term is 40 weeks).

Medical Conditions - Moderate Risk
Medical Conditions - High Risk

HA - Nutrient Deficiency Disease
HB - Gastro-Intestinal Disease
HC - Diabetes Mellitus
HD - Thyroid Disorder
HE - Hypertension
HF - Renal Disease
HG - Cancer
HH - Nervous System Disorder
HI - Genetic/Congenital Disorder
HJ - Inborn Error of Metabolism
HK - Infectious Disease
HL - Food Allergy
HM - Celiac Disease
HN - Lactose Intolerance
HO - Eating Disorder
HP - Major Surgery or Burns
HQ - Juvenile Rheumatoid Arthritis
HR - Lupus Erythematosus
HS - Cardiorespiratory Disease
HT - Heart Disease
HU - Cystic Fibrosis
HV - Asthma
HW - Clinical Depression
HX - Developmental Delay
HY - Dental Problem
HZ - Failure to Thrive
JA - Small for Gestational Age
JB - Large for Gestational Age
JC - Fetal Alcohol Syndrome
JD - Pyloric Stenosis

You have seen these risk factors previously in the module. The group is presented here again because there are some added conditions which only apply to infants and/or children. Failure to Thrive, Small for Gestational Age, Large for Gestational Age, Fetal Alcohol Syndrome and Pyloric Stenosis have been added to the list. All of these conditions must be diagnosed by a physician to be used as a qualifying NRF with the exception of Lactose Intolerance, Eating Disorder, Dental Problem, AND Large for Gestational Age. Lactose Intolerance, Eating Disorder and Dental Problem may be diagnosed as a risk factor by a physician or by a WIC RD/RN who must document the rationale for the diagnosis in the participants record. Any WIC staff person, however, may identify

Large for Gestational Age as a risk factor based on an infant's birth weight. Any infant with a birth weight of 9 pounds or greater may be assigned this NRF. For more complete explanations of each of the medical conditions listed in this group refer to the table in your mini-manual that lists Medical Conditions. These risk factors are assigned in the ASPENS system in the same manner as they are for women.

The next set of nutrition risk factors for infants is related to feeding practices. This is a fairly long list that identifies numerous feeding practices that can put an infant at nutritional risk.

NRFs Related to Infant Feeding

NRF# 82 Inappropriate Feeding Practices: Routine use of any of the following:

- $ infant not fed breast milk or infant formula as a primary source of nutrients during the first 6 months of life (includes infant prescribed low iron formula without iron supplementation);
- $ feeding goat's milk, sheep's milk, imitation milks, or substitute milks in place of breast milk or FDA-approved infant formula during the first year of life;
- $ early introduction of solids: addition of solid food(s) into daily diet before 4 months of age;
- $ late introduction of solids: failure to introduce solids by 7 months of age;
- $ not using a spoon to introduce and feed early solids;
- $ infant not beginning to finger feed by 7-9 months;
- $ using a syringe-action nipple feeder;
- $ feeding foods of inappropriate consistency, size, or shape that put the infant at risk of choking;
- $ inappropriate or highly restrictive feeding schedules or forcing an infant to eat a certain type or amount of food;
- $ feeding any amount of honey;
- $ feeding any form of cow's milk;
- $ routine overdilution or underdilution of formula (failure to follow manufacturer's dilution instructions or specific instructions accompanying a prescription).

The definition of this nutrition risk factor is a little more challenging than others in that it includes a wide diversity of conditions. Review the list of conditions to become familiar with its contents. This is a subjective risk factor and must be manually marked on the ASPENS risk assessment screen. The list of conditions related to the risk factor, once again, points out the importance of using the nutrition questionnaire properly. All of the above conditions have been included in questions on the nutrition questionnaire for infants. If a participant's caregiver marks yes to any of the questions related to this NRF the questionnaire identifies the appropriate risk factor. You need to ask about any of the questions marked yes to determine if the caregiver understands the question properly and to start collecting information to help provide appropriate education.

Practice!

I

To help you become familiar with the conditions listed under this nutrition risk factor complete the following exercise.

Which of the following would indicate that a participant should be assigned NRF#82: (for each answer that applies to NRF# 82 write a one sentence explanation of why the answer applies to NRF# 82).

____ Infant who is getting cow's milk in a bottle

____ Infant who is getting formula (in a bottle) plus cereal and strained fruits and vegetables (by spoon) at 5 months

____ Infant who is getting cereal and strained fruits and vegetables (by spoon) at 3 months

____ Infant who is being fed cereal mixed with formula by spoon at 3 months

____ Infant being fed carrot "coins" and disks of hotdog at 9 months of age

____ Infant being exclusively fed Enfamil at 5 months of age (no cereal of other solids)

____ Infant being exclusively fed Enfamil at 3 months of age that is being mixed one scoop per 2 ounces of water

____ Infant being exclusively fed Low Iron Enfamil at 3 months of age

____ Infant being fed Enfamil (by bottle) with various solid foods (by spoon and fingers) at 7 months of age including toast squares with butter and honey

(See answers in the back of module for Practice I)

NRF# 87 Lack of Sanitation in Preparation and Handling of Nursing Bottles - Lack of knowledge or access to facilities to ensure that water, bottles, and nipples used for feeding infants have been properly sanitized. This includes:

- $ no access to a safe water supply or stove for sterilization;
- $ failure to practice appropriate sanitation techniques in preparing bottles;
- $ failure to properly handle prepared formula, such as:
- $ feeding formula held at room temperature longer than 2 hours or longer than recommended by the manufacturer;
- $ feeding prepared formula held in refrigerator longer than 48 hours; and
- $ re-feeding formula remaining from an earlier feeding.

Good sanitation is critical for the health of an infant. Gastrointestinal diseases caused by bacteria and viruses are a major cause of illness and death in young infants. Infants do not have a fully functioning immune system to protect them from many diseases. Infants who are fed infant formula also lack the immunological factors from breast milk that are important in helping to pre-vent gastrointestinal infections. This is a subjective risk factor and must be entered on the ASPENS risk assessment screen.

Some discussion may be helpful in deciding which situations are indicated by this NRF:

- $ If water is used to mix formula and clean bottles that is not from a municipal water supply or from a well that has been tested for pathogens and contaminants, then this NRF should be assigned.
- $ If the caregiver of an infant identifies that they do not have a stove in their home, then this NRF should be assigned.
- $ If the water used in formula preparation is not boiled and the bottles used for feeding are not sterilized by boiling for CERTAIN infants then this NRF applies. It is generally not expected that parents will boil water and bottles when feeding a healthy, term infant (assuming that the water being used is from a safe supply). However, if an infant is premature (first month of life) and/or has very fragile health then it is probably a wise policy to boil water and bottles for formula preparation and this NRF should be assigned.
- $ If normal sanitary techniques are not followed then this NRF should be assigned. For example if bottles/nipple are not washed between feedings, nipples have mold growth, bottles are not protected from contamination after washing (i.e., they are used as toys, pets have access to them) then this risk factor should be assigned.
- $ If formula is stored at room temperature for more than 2 hours then this NRF should be assigned. When formula is kept at room temperature it gives bacteria a chance to grow and multiply. Large numbers of bacteria can make an infant very sick. If formula is stored in the refrigerator more than 48 hours this NRF should also be assigned. While bacteria do not grow very quickly at cold temperatures they do grow slowly. After 48 hours the number of bacteria present in refrigerated formula could make an infant sick.

Note: This rule applies to liquid formula once the can has been opened (before the can is opened the formula is sterile) and to powdered formula once the formula has been mixed with water (bacteria do not grow well in dry formula).

Note: If a formula manufacturer gives different guidelines (more or less than 2 hours) that the formula can be safely kept at room temperature then those guidelines should be used as criteria for this NRF.

- Whenever a bottle of formula is offered to an infant, partially consumed, then saved for future use, this NRF should be assigned. An infant's mouth contains bacteria which contaminate the formula in the bottle while they are feeding. When the formula is stored these bacteria can multiply quickly to large numbers.

NRF# 88 Inappropriate Use of Nursing Bottles

- $ routine use of the bottle to feed liquids other than breast milk, formula, or water, such as fruit juice, soft drinks, corn syrup solutions, or other solid foods;
- $ allowing the infant/child to fall asleep at naps or bedtime with the bottle;
- $ allowing the infant/child to use the bottle without restriction (e.g., walking around with a bottle);
- $ propping the bottle;
- $ use of a bottle for feeding or drinking beyond 14 months of age.

Inappropriate use of a nursing bottle can damage an infant or child's teeth. This includes use of sweet liquids in a bottle, propping a bottle, using the bottle as a pacifier or putting an infant to bed with a bottle. Parents sometimes argue that these practices are not bad if an infant does not yet have teeth. These practices set food habits that are very hard to break as the infant or child gets older. Putting an infant to bed with a bottle also increases the likelihood of ear infections.

Solids and sweet fluids in a bottle limit intake of formula. Solids in a bottle can also result in choking especially if the hole in a nipple is made larger to accommodate flow of the solid out of the bottle. Use of a bottle for an extended time as a primary source of fluids may hamper normal development of feeding skills needed as a child gets older. NRF# 88 is a subjective risk factor and must be assigned on the ASPENS risk assessment screen. Remember to look at the nutrition questionnaire for help in identifying this risk factor.

Note: NRF# 88 and NRF# 87 may at times identify the same condition. For example, an infant who is kept in crib all day with a bottle of formula would qualify for both NRF# 88 and NRF# 87. Because they are allowed to use the bottle without restriction (it is being used as a pacifier) NRF# 87 applies. Because the bottle is at room temperature for more than 2 hours NRF# 88 also applies.

NRF# 90 Inadequate Diet - Diet history reveals any of the following:

- $ no routine age appropriate iron source given after 6 months of age, such as, iron-fortified cereal, meats, or oral iron supplements;
- $ routinely feeding foods low in essential nutrients:
  -adding salt, fat, or sugar to infant's food
  -feeding infant or adult desserts
  -feeding sweet liquids
- $ feeding caffeine-containing foods or beverages;
- $ feeding excessive amounts of water (any routine use of supplemental water under 6 months or routine use of more than 4 oz/day over age 6 months);
- $ infrequent feeding of an infant <u>NOT yet taking any solid foods</u>:
- $ less than 8 feedings of breast milk and/or formula in 24 hours if less than 2 months of age, or
- $ less than 6 feedings of breast milk and/or formula in 24 hours if 2 months of age or older.

Infants have a different NRF for inadequate diet than do children and women. Children and women have NRF# 81 for inadequate diet that compares their diet to the Food Guide Pyramid. Infant diets are not evaluated in the same way because their nutrient needs are met primarily from breast milk or formula so they have a special risk factor, NRF# 90, for inadequate diet.

If an infant does not get adequate breast milk or formula, growth and development of the infant will be compromised. When foods are added to an infants diet that provided volume (like water) or empty calories (like desserts or sweet liquids) the amount of breast milk or formula consumed usually decreases and the infant does not get adequate nutrients. Caffeine is a central nervous system stimulant and is considered an inappropriate and potentially harmful substance for infants.

Supplemental water is not recommended for infants under 6 months of age and its use should be limited in older infants. It can lead to water intoxication, electrolyte imbalances and decreased formula intake. An infant under 6 months of age receiving any water supplementation on a regular basis should be assigned this NRF. Older infants would be assigned this NRF if they are receiving more than 4 ounces of water on a regular basis. Generally, breast milk and formula provide adequate water for a healthy infant. Infants who are ill, especially if they have fever, vomiting or diarrhea may require extra water, but it should only be given after consultation with the infant's physician. Physicians will generally recommend plain water under these circumstances, but instead recommend oral electrolyte solutions like Pedialyte. Oral electrolyte solutions should not routinely be given to healthy infants (though their use does not qualify for this NRF).

> Water Intoxication: In infants it is a condition usually caused by providing an infant with too much plain water. An infant has immature kidneys and does not regulate fluid and electrolytes (salts) very well. The infant develops electrolyte imbalances that result in listlessness, cramping, nausea, vomiting, convulsions and coma. This is a very serious, life threatening condition.

NRF# 90 is a subjective risk factor and must be entered into ASPENS on the risk assessment screen. The nutrition questionnaire will help identify conditions that are part of this NRF.

This NRF should be assigned to infants who are not receiving any iron supplementation (i.e., none of the following: iron fortified formula, iron fortified cereal, meat or iron supplements). With respect to iron, this NRF (# 90) applies only to infant who are **over 6 months of age**. NRF# 82 Inappropriate Feeding Practices is assigned to infants **under 6 months of age** who are not getting iron fortified formula or breast milk.

Note: The issuance of iron fortified formula for infants over 4 months of age is required by the Colorado WIC Program except when there is a diagnosis of certain specific blood diseases.
Note: The addition of extra salt, fat or sugar to foods, use of desserts or feeding sweetened liquids must occur on a regular basis for this NRF to be assigned. Occasional use of these substances, while not recommended, is not sufficient to assign this NRF.

Practice!

J

Complete the following exercise to help you become familiar with the infant nutrition risk factors related to feeding. For each condition list the risk factor or risk factors that would apply (if any).

NRF#	Condition
_____	Mother mixes infant formula with water from a well that has never been tested for purity.
_____	Infant is fed formula from a bottle. Formula remaining in the bottle is returned to the refrigerator for later use.
_____	Infant is given a bottle that remains with them in their car seat until the contents are consumed (usually several hours after the bottle is originally given).
_____	Mother adds honey to the infants bottle.
_____	Mother routinely adds sugar to the infant's bottle.
_____	Infant is given a bottle with Kool-Aid on a regular basis.
_____	Infant is routinely fed in a car seat with the bottle propped.
_____	Mom reports that she mixes up three days of formula at one time.
_____	5 month old infant is getting low iron formula.
_____	Infant cereal is added to the infant's (5 months old) bottle on a regular basis.
_____	Infant is fed chocolate milk in a bottle on a regular basis.
_____	3 month old infant is only given 4 bottles of formula per day.
_____	Mom does not allow 10 month old infant to feed self because it is messy.
_____	Infant is always put to bed with a bottle of formula.
_____	5 month old infant is put to bed each night with a bottle of water.

(See answers in back of module for Practice J)

NRF# 52 Breastfeeding Complications or Potential Complications - A breastfed infant with any of the following:

- $ jaundice
- $ weak or ineffective suck
- $ difficulty latching onto mother's breast
- $ inadequate stooling (for age, as determined by a physician or other health care professional), or less than 6 wet diapers per day.

> Jaundice: condition where the skin and whites of the eyes turn yellow due to a build up of bilirubin in the blood.

All of the above conditions can be indicators that an infant is not getting adequate breast milk for normal growth and development. Any infant with one of these conditions is considered high risk and should be referred to the WIC dietitian or nurse immediately. Failure to evaluate the situation immediately and offer intervention can result in breastfeeding failure and severe health consequences for the infant. See the Breastfeeding Module for further explanation.

Miscellaneous NRFs for Infants

The last set of nutrition risk factors that we are going to discuss for infants are related to the status of their mother. These NRFs allow the WIC Program to assign risk factors to the infant based on their mother's risk. An infant's health is often dependent on the health of their mother.

NRF#23 Mother on WIC
NRF#24 Mother at Risk, Not on WIC
NRF#74 Infant of Priority 1 Breastfeeding Mother - Used for an infant whose mother is currently eligible for the WIC Program as a breastfeeding woman due to any of the priority 1 nutrition risk factors.

These three nutrition risk factors have to do with the relationship between a mother and her infant. If a mother was at medical/nutritional risk during pregnancy this becomes a nutritional risk factor for her infant after the infant is born. An infant's health is dependent on the health of the mother during pregnancy. An infant born to a mother with medical/nutritional risks may be at a health disadvantage at birth. If an infant is breastfeeding, the infant is especially dependent on the mother's current health for adequate amounts of nutritious breast milk.

NRF#23 and NRF# 24 are objective risk factors assigned by the ASPENS system. If an infant's mother was on the WIC Program during her pregnancy the ASPENS system will automatically assign NRF#23. If the mother was not on WIC, but had the NRFs during pregnancy that would have qualified her for the WIC Program then ASPENS assigns the infant NRF# 24. These two NRF can only be assigned if an infant is less than 6 months of age.

How does ASPENS know to assign NRF#23 or NRF# 24?

On the Update Infant/Child Health Data screen (WICPS105) during certification of an infant less than 6 months of age, ASPENS asks you "WIC Mother"? The options are "Y" if the woman was on the WIC Program during pregnancy, "Q" if the mother was not on WIC during pregnancy, but would have qualified for WIC if she had applied, or "N" if the woman was not on WIC and she would not have qualified if she had applied. The system is asking you about the woman during pregnancy, not about her current status with respect to the WIC Program.

NRF# 74 asks about the mother's priority status. If the infant is breastfeeding and their mother has NRFs that would make her a priority 1 breastfeeding mother then the infant should also be assigned NRF#74 (whether the mother is on the WIC Program or not). If a breastfeeding woman is high priority then her infant needs to be high priority since the infant depends on the mother's ability to provide sufficient milk. Conditions that would make a breastfeeding woman priority 1 are listed in the box below.

Look at the list of conditions below. If any of these conditions apply to a breastfeeding woman then her infant should be assigned NRF# 74 Infant of Priority 1 Breastfeeding Mother. NRF numbers are in the first column.
Underweight, Overweight
High Maternal Weight Gain
Anemia, Severe Anemia
Elevated Blood Lead Level
Complications of Last Pregnancy
Pregnancy at a Young Age
Closely Spaced Pregnancies
Multi-fetal Gestation
Use of Cigarettes, Alcohol or Illegal Drugs
Medical Conditions
Breastfeeding a Priority 1 Infant
Breastfeeding Complications

We have now reviewed all of the nutrition risk factors that apply to infants. In addition to the NRF's presented in this section remember that there are other risk factors that were presented in the beginning of this module which may also apply to infants. Infants can be a foster child, homeless or part of a migrant family, they can have anemia or high blood lead, they may have medical conditions or highly restrictive diets. Review the table in your mini-manual that lists all of the possible NRFs for infants or look at Table 4 at the end of this section.

Practice!

K

Below are two examples of an infant being certified on the WIC Program. For each example list the NRFs that would apply.

1. John Moore, 6 week old infant (certification visit).
   Fed iron fortified formula in a bottle.
   Powdered formula mixed with city tap water and stored in the refrigerator for up to 24 hours.
   Birth weight = 6 pounds 4 ounces, born at 36 weeks gestation. Birth length = 18 2 inches.
   Current weight = 8 pounds
   Current length = 20 1/4 inches
   Born with a cleft lip.
   Mom is feeding infant cereal in a bottle and concentrating the formula more than recommended by the manufacturer because mom believes it makes it easier to feed the formula.
   Mom has been crushing vitamin C pills and been adding them to the formula because she believes it will make her infant healthier.
   Mom is on the WIC Program as a postpartum women.

Answer (List NRFs):

	Priority	Risk

What is his priority?_____ What is his risk?_____

2. Rachael Singer, 7 month, 1 week old infant (certification visit)
   Breastfed exclusively other than a bottle of dilute tea (2 ounces) that is given before an afternoon nap. The tea is slightly sweetened with corn syrup.
   Birth weight = 7 pounds 4 ounces, born at term
   Birth length = 19 inches
   Hematocrit = 33 and 34% (5200 feet)
   Current weight = 15 pounds
   Current length = 26 inches
   Mother is a vegan.
   Infant is breastfed 8-12 times a day.

Answer (List NRFs):

	Priority	Risk

What is her priority?_____ What is her risk?_____

(See answers in back of module for Practice K)

Table 4. Risk Factors That Apply to Infants

		Priority	O/S	Risk
45/46	Anemia/Severe Anemia	1/1	O	L/H
AB	Elevated Blood Lead	1	O	M
91	Excessive Intake of Dietary Supplements, Vitamins, or Minerals	4	S	L
86	Highly Restrictive Diets	4	S	M
70	Homelessness	4	O	L
71	Migrancy	4	O	L
93	Woman or Primary Caregiver with Limited Ability to Make Feeding Decisions	4	S	L
94	Foster Care	4	S	L
15/16	Underweight	1	O	H/M
17/19	Overweight	1	O	M/H
14/18	Short Stature	1	O	L
25/26/27	Inadequate or Potentially Inadequate Growth	1	S	L/M/H
12	Low Birth Weight	1	O	M
11	Prematurity	1	S	M
	Medical Conditions HR/MR	1	S	H/M
82	Inappropriate Feeding Practices	4	S	L
87	Lack of Sanitation in Preparation and Handling of Nursing Bottles	4	S	L
88	Inappropriate Use of Nursing Bottles	4	S	L
90	Inadequate Diet	4	S	L
52	Breastfeeding Complications	1	S	H
23/24	Mother on WIC/Mother at Risk, Not on WIC	2	O	L
74	Infant of Priority 1 Breastfeeding Mother	1	S	L
69	Regression	4	S	L
95/96	Transfer		S	L