



# More Information about Medical Conditions

**A Reference for WIC Staff about Medical  
Conditions Encountered during WIC  
Certification**

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## **Introduction**

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This reference has information about medical conditions that are encountered during WIC certification. The medical conditions are listed in alphabetical order and reference the WIC nutrition risk code that may apply to each condition.

The information is designed to give a **basic** understanding of the medical conditions. For more information, visit the websites listed in the resource section for each condition.

Participants with these medical conditions should regularly visit their primary health care provider. Many of these conditions require special diets which are prescribed by the health care provider and/or community dietitian.

**Certifiers should use caution when counseling participants with these conditions and should not contradict the information provided by the participant's health care provider. Questions about diet for these participants should be referred to a health professional or WIC nutritionist.**

The WIC nutritionist will evaluate the diets of all high-risk participants. While it is outside the scope of WIC practice to prescribe medical nutrition therapy, the WIC nutritionist will work with the participant to use WIC foods to help meet the goals of the diet already established by the health care provider and/or community dietitian.

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### **NOTE**

Check the *Risk Info Sheets* or Policy 675 – *Risk Criteria Codes and Descriptions* to determine if a person qualifies for the risk.

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## ◆ AIDS

### ***See Risk 352 – Infectious Diseases***

Also see HIV.

#### ***Definition***

- ◆ The term AIDS applies to the most advanced stages of HIV infection.
- ◆ Definition of AIDS includes all HIV-infected people who have fewer than 200 CD4+ T cells per cubic millimeter of blood. (Healthy adults usually have CD4+ T-cell counts of 1,000 or more.)
- ◆ In addition, the definition includes 26 clinical conditions that affect people with advanced HIV disease.
- ◆ Most of these conditions are opportunistic infections that generally do not affect healthy people.
- ◆ In people with AIDS, these infections are often severe and sometimes fatal because the immune system is so ravaged by HIV that the body cannot fight off certain bacteria, viruses, fungi, parasites, and other microbes.

#### ***Symptoms***

Symptoms of opportunistic infections common in people with AIDS include:

- ◆ Coughing and shortness of breath
- ◆ Seizures and lack of coordination
- ◆ Difficult or painful swallowing
- ◆ Mental symptoms such as confusion and forgetfulness
- ◆ Severe and persistent diarrhea
- ◆ Fever

- ◆ Vision loss
- ◆ Nausea, abdominal cramps, and vomiting
- ◆ Weight loss and extreme fatigue
- ◆ Severe headaches
- ◆ Coma
- ◆ Children with AIDS may get the same opportunistic infections, as do adults with the disease. In addition, they also have severe forms of the typically common childhood bacterial infections, such as conjunctivitis (pink eye), ear infections, and tonsillitis.

### ***Counseling Notes***

People with AIDS are often on special diets.

### ***Resource Section***

[www.nih.gov](http://www.nih.gov) (National Institutes of Health)

- ◆ Click on “Health Information”
- ◆ Look in “Health Topics” for “AIDS”

## ◆ **Anencephaly**

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See Neural Tube Defects.

## ◆ **Anemia**

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***See Risk 201 – Low Hematocrit/Low Hemoglobin***

## **Description**

- ◆ Anemia is a lower than normal number of red blood cells (erythrocytes) in the blood, usually measured by a decrease in the amount of hemoglobin. Hemoglobin is the red pigment in red blood cells that transports oxygen.
- ◆ There are many types and potential causes of anemia.

## **Causes**

The cause varies with the type of anemia. Potential causes include:

- ◆ Blood loss
- ◆ Diet low in iron-rich foods
- ◆ Other diseases
- ◆ Reactions to medications
- ◆ Problems with the bone marrow
- ◆ Iron deficiency anemia is most common in women who have heavy menstrual periods

Risk factors include:

- ◆ Heavy periods in women
- ◆ Pregnancy
- ◆ Heavy bleeding at birth
- ◆ Other diseases that cause anemia
- ◆ Low iron diet in infants and children

## **Symptoms**

Possible symptoms include:

- ◆ Fatigue
- ◆ Chest pain
- ◆ Shortness of breath

### ***Counseling Notes***

- ◆ Iron-deficiency anemia can be treated by eating foods that are high in iron.
- ◆ Infants should be breastfed or drink an iron-fortified formula to prevent anemia (formula provided by WIC is iron-fortified).

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Iron Deficiency Anemia” or “Iron Deficiency Anemia – Children”

## ◆ **Arthritis**

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See Juvenile Rheumatoid Arthritis.

## ◆ **Asthma**

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### ***See Risk 360 – Other Medical Conditions***

### ***Description***

Asthma is a chronic lung condition. It is characterized by difficulty in breathing. People with asthma have extra-sensitive airways. The airways react by narrowing or closing when they become irritated. This makes it difficult for the air to move in and out.

## ***Causes***

This narrowing or closing of the airways is caused by:

- ◆ Airway inflammation (meaning that the airways in the lungs become red, swollen and narrow)
- ◆ Bronchoconstriction (meaning that the muscles that encircle the airways tighten or go into spasm)

Triggers of asthma include:

- ◆ Cold air
- ◆ Dust
- ◆ Strong fumes
- ◆ Exercise
- ◆ Inhaled irritants
- ◆ Emotional upsets
- ◆ Smoke
- ◆ Allergens
- ◆ Respiratory viral infections

## ***Symptoms***

The airway narrowing or obstruction can cause one or a combination of the following symptoms:

- ◆ Wheezing
- ◆ Coughing
- ◆ Shortness of breath
- ◆ Chest tightness

## ***Counseling Notes***

A number of individual medications exist for asthma, and many are used in combination with others. In general, the four types of treatments are:

- ◆ Long-term-control medications – These are used on a regular basis to control chronic symptoms and prevent attacks.

- ◆ Quick-relief medications – Used as needed for rapid, short-term relief of symptoms during an attack.
- ◆ Immunotherapy or allergy desensitization shots – These decrease the body’s sensitivity to a particular allergen.
- ◆ Anti-IgE monoclonal antibodies – These are designed to prevent the immune system from reacting to allergens.

Controlling the environment can also help control asthma:

- ◆ Avoid cigarette smoke
- ◆ Exercise
- ◆ Use your air conditioner
- ◆ Decontaminate your décor
- ◆ Maintain optimal humidity
- ◆ Keep indoor air clean
- ◆ Reduce pet dander
- ◆ Clean regularly
- ◆ Limit use of contact lenses

### ***Resource Section***

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Diseases & Conditions”
- ◆ Look for “Asthma”

[www.lungusa.org](http://www.lungusa.org) (American Lung Association)

- ◆ Click on “Diseases A to Z”
- ◆ Look for “Asthma”

## ◆ **Bronchial Asthma**

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See Asthma.

## ✦ **Bronchiolitis**

***See Risk 352 – Infectious Diseases***

### ***Description***

Bronchiolitis is an inflammation of the bronchioles (small passages in the lungs) usually caused by a viral infection. The disease usually affects children under the age of 2, with a peak age of 3 to 6 months. It is a common illness that can be severe.

### ***Causes***

- ◆ Bronchiolitis is seasonal and appears more frequently in the fall and winter months.
- ◆ Respiratory syncytial virus (RSV) is one common cause. Although RSV generally causes only mild symptoms in an adult, it can cause a severe illness in an infant.
- ◆ Other viruses that can cause bronchiolitis include parainfluenza, influenza, and adenovirus.
- ◆ Viruses that cause bronchiolitis are transmitted from person-to-person by direct contact with nasal secretions or by airborne droplets.
- ◆ Risk factors include:
  - ◇ Being less than 6 months old
  - ◇ Never being breastfed
  - ◇ Prematurity (born before 37 weeks gestation)
  - ◇ Exposure to cigarette smoke
  - ◇ Crowded living conditions

### ***Symptoms***

- ◆ Fever
- ◆ Cough
- ◆ Wheezing
- ◆ Rapid breathing
- ◆ Shortness of breath or difficulty breathing
- ◆ Bluish discoloration of skin due to lack of oxygen

### ***Counseling Notes***

- ◆ Sometimes, no treatment is necessary.
- ◆ Supportive therapy may include oxygen, humidified air, chest clapping (postural drainage to remove secretions), rest and clear fluids.
- ◆ In extremely ill children, antiviral medications are sometimes used. Antiviral treatment may decrease the severity and duration of the illness.
- ◆ Most cases of bronchiolitis are not readily preventable because the viruses that cause the disorder are common in the environment.
- ◆ Family members with an upper respiratory infection should be especially careful around infants. Wash hands frequently, especially before handling the child.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Bronchiolitis”

## ✦ **Celiac Disease (Gluten Enteropathy)**

### ***See Risk 354 – Celiac Disease***

#### ***Description***

- ◆ Celiac disease is also known as celiac sprue, nontropical sprue, and gluten-sensitive enteropathy.
- ◆ Celiac disease is a digestive disease that damages the small intestine and interferes with absorption of nutrients from food.
- ◆ People who have celiac disease cannot tolerate a protein called gluten, found in wheat, rye, and barley.
- ◆ Gluten is also found in food additives and also in products used every day, such as stamp and envelope adhesive, medicines, and vitamins.
- ◆ When people with celiac disease eat foods or use products containing gluten, their immune system responds by damaging the small intestine. As a result, a person becomes malnourished, regardless of the quantity of food eaten.

#### ***Cause***

- ◆ Celiac disease is a genetic disease.
- ◆ Sometimes the disease is triggered or becomes active for the first time after surgery, pregnancy, childbirth, viral infection, or severe emotional stress.

#### ***Symptoms***

- ◆ Celiac disease affects people differently.
- ◆ Symptoms may occur in the digestive system, or in other parts of the body.

- ◆ Symptoms of celiac disease may include one or more of the following:
  - ◇ Gas
  - ◇ Recurring abdominal bloating and pain
  - ◇ Chronic diarrhea
  - ◇ Pale, foul-smelling, or fatty stool
  - ◇ Weight loss / weight gain
  - ◇ Fatigue
  - ◇ Bone or joint pain
  - ◇ Tingling numbness in the legs (from nerve damage)
  - ◇ Muscle cramps
  - ◇ Seizures
  - ◇ Missed menstrual periods (often because of excessive weight loss)
  - ◇ Infertility, recurrent miscarriage
  - ◇ Delayed growth
  - ◇ Failure to thrive in infants
  - ◇ Pale sores inside the mouth
  - ◇ Tooth discoloration or loss of enamel
  - ◇ Itchy skin rash
  - ◇ A person with celiac disease may have no symptoms.
  - ◇ Anemia, delayed growth, and weight loss are signs of malnutrition.
  - ◇ The body is just not getting enough nutrients. Malnutrition is a serious problem for children because they need adequate nutrition to develop properly.

### ***Counseling Notes***

- ◆ The only treatment for celiac disease is to follow a gluten-free diet. The diet must be followed forever.
- ◆ For most people, following a gluten-free diet will stop symptoms, heal existing intestinal damage, and prevent further damage.
- ◆ Eating any gluten, no matter how small an amount, can damage the small intestine.

### **Resource Section**

www.hiddk.nih.gov (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Digestive”
- ◆ Click on “Digestive Diseases”
- ◆ Look for “Celiac Disease”

## ◆ **Celiac Sprue**

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See Celiac Disease.

## ◆ **Cerebral Palsy**

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***See Risk 348 – Central Nervous System Disorders***

### **Description**

- ◆ Cerebral palsy is a term used to describe a group of chronic disorders impairing control of movement.
- ◆ Cerebral palsy usually appears in the first few years of life and generally does not worsen over time.
- ◆ People with cerebral palsy have difficulty controlling movement and posture.

### **Causes**

- ◆ It is caused by damage to the brain.
- ◆ Cerebral palsy may be congenital or acquired after birth.

- ◆ Several of the causes of cerebral palsy are preventable or treatable:
  - ◇ Head injury
  - ◇ Jaundice
  - ◇ Rh incompatibility
  - ◇ Rubella (German measles)
  - ◇ Extreme prematurity

### ***Symptoms***

- ◆ The symptoms differ from person to person and may change over time.
- ◆ Symptoms of cerebral palsy include:
  - ◇ Difficulties with fine motor tasks (such as writing or using scissors)
  - ◇ Difficulty maintaining balance or walking
  - ◇ Involuntary movements
  - ◇ Infants with cerebral palsy are frequently slow to reach developmental milestones such as learning to roll over, sit, crawl, smile, or walk.

### ***Counseling Notes***

- ◆ Some people with cerebral palsy are also affected by other medical disorders, including seizures or mental impairment, but cerebral palsy does not always cause profound handicap.
- ◆ Doctors diagnose cerebral palsy by testing motor skills and reflexes, looking into medical history, and employing a variety of specialized tests.
- ◆ At this time, cerebral palsy cannot be cured, but many patients can enjoy near-normal lives if their neurological problems are properly managed.

### **Resource Section**

www.ninds.nih.gov (National Institute of Neurological Disorders and Stroke)

- ◆ Look in “Disorder Index” for “Cerebral Palsy”

## ◆ **Cholecystitis**

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See Gallbladder Disease.

## ◆ **Cholelithiasis**

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See Gallbladder Disease.

## ◆ **Cleft Lip or Palate**

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***See Risk 349 – Genetic and Congenital Disorders***

### **Description**

Normally the tissues that form the palate and the upper lip come together in the middle and join. If the baby has a cleft, this fusion failed to happen during pregnancy.

### **Causes**

- ◆ The cause is usually unknown.
- ◆ Clefts are most common in Asians. They are less common in whites and least common in blacks.

- ◆ Boys are more often affected than girls.
- ◆ In some families, clefts appear in several family members, so the cause may be genetic.

### ***Counseling Notes***

- ◆ Cleft lip and cleft palate are not life threatening.
- ◆ The cleft can be corrected by bringing together the tissues that should have fused before birth. Surgical repair of the cleft is done by choice. It can be done when the child is the right age and size and is in good general health to tolerate surgery.
- ◆ Surgery is often done after the baby is 10 weeks old and weighs 10 pounds.
- ◆ Before the cleft is corrected with surgery, an artificial palate may be used to fill the gap in the palate so that the baby can nurse and make the sounds that are the beginnings of speech.
- ◆ Infants with only a cleft lip can usually breastfeed.
- ◆ Infants with only a cleft palate can usually breastfeed if the gap in the palate is narrow.
- ◆ Infants with both cleft lip and cleft palate may not be able to nurse at the breast, but breast milk can be fed with a soft plastic bottle and a crosscut nipple. This special nipple allows the milk to flow at a rate comfortable for the baby to swallow.
- ◆ Some potential risks can included feeding difficulties, hearing loss, ear infections, speech / language delays and dental problems.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Cleft Lip and Palate”

## ✦ **Crohn's Disease**

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See Inflammatory Bowel Disease.

## ✦ **Cystic Fibrosis**

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***See Risk 360 – Other Medical Conditions***

### ***Description***

Cystic fibrosis (CF) is a disease that affects the mucus and sweat glands. Normal mucus is watery and keeps the linings of certain organs moist and prevents them from drying out or getting infected.

In CF, an abnormal gene causes mucus to become thick and sticky.

The mucus builds up and can block:

- ◆ The lungs and airways
- ◆ Tubes or ducts in the pancreas, preventing digestive enzymes from reaching the intestines

The symptoms and severity of CF vary from person to person.

Some people with CF have serious lung and digestive problems.

Other people have a more mild disease that doesn't show up until they are adolescents or young adults.

## ***Symptoms***

Most of the symptoms of cystic fibrosis (CF) are caused by the thick, sticky mucus. The most common symptoms include:

- ◆ Frequent coughing that brings up thick sputum
- ◆ Frequent bouts of bronchitis and pneumonia. They can lead to inflammation and permanent lung damage.
- ◆ Salty-tasting skin
- ◆ Dehydration (lack of enough water in the body)
- ◆ Ongoing diarrhea or bulky, foul-smelling, and greasy stools
- ◆ Huge appetite but poor weight gain and growth
- ◆ Stomach pain and discomfort caused by too much gas in intestines

## ***Counseling Notes***

- ◆ There still is no cure for cystic fibrosis, but treatments have improved greatly in recent years.
- ◆ The goals of CF treatment are to:
  - ◇ Prevent and control infections in the lungs
  - ◇ Loosen and remove the thick, sticky mucus from the lungs
  - ◇ Prevent blockages in the intestines
  - ◇ Provide adequate nutrition
- ◆ The main treatments for lung problems in people with CF are:
  - ◇ Antibiotics for infections of the airways
  - ◇ Chest physical therapy (clapping the lungs)
  - ◇ Exercise
  - ◇ Other medications
  - ◇ Nutritional therapy

## ***Resource Section***

[www.medlinesplus.gov](http://www.medlinesplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Cystic Fibrosis”

## ✦ **Diabetes Mellitus**

### ***See Risk 343 – Diabetes Mellitus***

Also see Gestational Diabetes (Risks 302 and 303).

#### ***Description***

Diabetes is a life-long disease marked by high levels of sugar (glucose) in the blood. The usual causes are too little insulin (a hormone produced by the pancreas to regulate blood sugar), resistance to insulin or both.

**Type 1 Diabetes:** Usually diagnosed in childhood. The body makes little or no insulin, and daily injections of insulin are required. Without proper daily management, medical emergencies can arise.

**Type 2 Diabetes:** Most common type. It usually occurs in adulthood. The pancreas does not make enough insulin to keep blood glucose levels normal, often because the body does not respond well to the insulin.

#### ***Causes***

Risk Factors:

- ◆ A parent, brother, or sister with diabetes
- ◆ Obesity
- ◆ Age greater than 45 years
- ◆ Some ethnic groups (particularly African-Americans and Hispanic Americans)
- ◆ Gestational diabetes or delivering a baby weighing more than 9 pounds
- ◆ High blood pressure

- ◆ High blood levels of triglycerides (a type of fat molecule)
- ◆ High blood cholesterol level

## **Symptoms**

### Symptoms of **Type 1 Diabetes**:

- ◆ Increased thirst
- ◆ Increased urination
- ◆ Weight loss in spite of increased appetite
- ◆ Fatigue
- ◆ Nausea
- ◆ Vomiting

### Symptoms of **Type 2 Diabetes**:

(symptoms may come on slowly and not be noticed)

- ◆ Increased thirst
- ◆ Increased urination
- ◆ Increased appetite
- ◆ Fatigue
- ◆ Blurred vision
- ◆ Slow-healing infections

## **Counseling Notes**

- ◆ There is no cure for diabetes.
- ◆ The immediate goals of treatment are to keep the blood sugar within normal range.
- ◆ People with **Type 1 Diabetes** often follow a specific diet plan – eating at about the same times each day and trying to be consistent with the types of food they choose. This helps to prevent blood sugars from becoming extremely high or low. Daily insulin injections are required.

- ◆ People with **Type 2 Diabetes** should follow a well-balanced and low-fat diet. Weight management is important to achieving control of diabetes. Some people with **Type 2 Diabetes** find they no longer need medication if they lose weight and increase activity because when their ideal weight is reached, their own insulin and a careful diet can control their blood glucose levels. Medications to treat diabetes include insulin and glucose-lowering pills, called oral hypoglycemic agents.

### **Resource Section**

[www.niddk.nih.gov](http://www.niddk.nih.gov) (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Diabetes”

## ◆ **Down Syndrome**

### **See Risk 349 – Genetic and Congenital Disorders**

### **Description**

Down syndrome is a chromosomal disorder caused by an error that results in the presence of an additional chromosome (trisomy 21). Down syndrome can be diagnosed in the fetus during pregnancy or in the infant following birth.

### **Causes**

- ◆ Genetic
- ◆ Presence of an extra chromosome 21

## ***Symptoms***

Health problems in a child with Down syndrome may include:

- ◆ Mental retardation
- ◆ Heart defects
- ◆ Intestinal malformations
- ◆ Crossed eyes, visual problems, and cataracts (haziness in eyes)
- ◆ Hearing loss
- ◆ Increased risk of colds and ear infections, as well as lung infections
- ◆ Increased risk of thyroid problems and leukemia

## ***Counseling Notes***

- ◆ There is no cure for Down syndrome, nor is there any prevention.
- ◆ Children with Down syndrome usually can do most things that any young child can do, such as walking, talking, dressing and being toilet-trained. They generally start learning these things later than other children.
- ◆ At risk for delayed feeding skills due to poor oral motor skills and low muscle tone.
- ◆ There are special programs beginning in the preschool years to help children with Down syndrome develop skills as fully as possible.
- ◆ Down's babies greatly benefit from breastfeeding. Mothers of breastfeeding Down's babies may need additional support.

## ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Down Syndrome”

## ◆ **Epilepsy**

***See Risk 348 – Central Nervous System Disorders***

### ***Description***

- ◆ Epilepsy is a neurological condition that makes people susceptible to seizures.
- ◆ A seizure is a brief electrical disturbance in the brain that causes a change in sensation, awareness, or behavior.
- ◆ Types of seizures include:
  - ◇ A momentary disruption of the senses
  - ◇ Short periods of unconsciousness
  - ◇ Staring spells
  - ◇ Convulsions
- ◆ Doctors treat epilepsy primarily with seizure-preventing medicines. Although seizure medications are not a cure, they control seizures in the majority of people with epilepsy.

### ***Causes***

- ◆ In most cases, the cause of epilepsy is unknown. In some cases, it may be caused by genetics, brain tumor, or brain injury.

### ***Epilepsy and Pregnancy***

- ◆ More than 90% of women with epilepsy have normal, healthy babies. But there are some risks:
  - ◇ Higher risk of stillbirth.
  - ◇ Higher risk for bleeding, early birth and delays in development and growth.

- ◇ Possibility of birth defects due to the anti-seizure medication. However, the risks of not taking medication are much higher for the baby – increased seizures can cause the fetus physical injury, developmental delay and even death.
- ◇ During pregnancy, the body processes anti-seizure medications differently. This can lead to medicine levels that are too high (which can cause side effects) or too low (which can mean more seizures).

### ***Counseling Notes***

- ◆ Vitamin supplements and folic acid (a B vitamin) are recommended before and during pregnancy to help prevent certain kinds of birth defects.

### ***Resource Section***

[www.epilepsyfoundation.org](http://www.epilepsyfoundation.org) (Epilepsy Foundation)

- ◆ Click on “About Epilepsy”

[www.ninds.nih.gov](http://www.ninds.nih.gov) (National Institute of Neurological Disorders and Stroke)

- ◆ Look in “Disorder Index” for “Epilepsy”

## ◆ **Failure to Thrive (FTT)**

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### ***See Risk 134 – Failure to Thrive (FTT)***

#### ***Description***

Failure to thrive is a description applied to children whose current weight or weight gain is significantly below that of other children of similar age and sex.

Failure to thrive in infants and children is usually noticed when they seem to be dramatically smaller or shorter than other children the same age. However, there is a wide variation in normal growth and development. In general, the gain in weight and height may be a better indicator of a problem than the actual measurements.

### ***Causes***

There are multiple medical causes of failure to thrive:

- ◆ Defects involving the chromosomes – Down’s and Turner’s Syndrome.
- ◆ Defects in major organ systems.
- ◆ Problems with the endocrine system, such as thyroid hormone deficiency and growth hormone deficiency.
- ◆ Damage to the brain, which may cause feeding difficulties in an infant.
- ◆ Abnormalities in the heart and lung, which can decrease the delivery of oxygen and nutrients to the body.
- ◆ Anemia
- ◆ Abnormalities in the stomach and bowels, which may result in decreased digestion and absorption.
- ◆ Psychological and social factors leading to emotional deprivation as a result of parental withdrawal, rejection, or hostility.
- ◆ Economic factors can also affect nutrition, living conditions, and parental attitudes.
- ◆ Environmental factors may include exposure to infections or toxins.
- ◆ Sometimes the cause of failure to thrive is simply poor eating habits, such as eating in front of the television and not having formal meal times.
- ◆ Many times the cause cannot be determined.

### ***Symptoms***

- ◆ Height, weight, and head circumference in an infant or young child do not progress normally according to standard growth charts. For example, weight less than the 3rd percentile, or weight 20% below the ideal weight for height, or a slow down of previously normal growth.
- ◆ Physical skills such as rolling over, sitting, standing and walking are slow to develop.
- ◆ Mental and social skills are delayed.

### ***Counseling Notes***

- ◆ The treatment depends on the cause of the delayed growth and development. Involvement of multiple health and social service professionals may be necessary.
- ◆ Delayed growth due to nutritional factors can be resolved by providing a well-balanced diet.
- ◆ If psychosocial factors are involved, treatment should include improving the family and living conditions.
- ◆ If the duration of delayed growth has been short, and the cause is found out and can be corrected, normal growth and development will follow. If it is prolonged, the problem may be long lasting, and normal growth and development may not occur.
- ◆ The best means of prevention is by early detection at routine well-baby examinations and regular follow-up with school age and adolescent children.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Failure to Thrive”

## ◆ **Fetal Alcohol Syndrome (FAS)**

***See Risk 382 – Fetal Alcohol Syndrome (FAS)***

### ***Description***

If the mother drinks alcohol while pregnant, the baby has a drink as well. This puts the baby at risk of a serious condition called fetal alcohol syndrome (FAS), which is a group of birth defects. These defects are irreversible. The syndrome includes physical, mental and behavioral problems.

### ***Causes***

Doctors are not sure how much alcohol places the baby at risk. However, the more alcohol the mother drinks, the greater the chance of problems – possibly even before the mother knows that she is pregnant.

### ***Symptoms***

Fetal alcohol syndrome is not a single birth defect. It is a cluster or pattern of related problems. The severity of signs and symptoms varies, with some children experiencing them to a far greater extent than others.

Problems associated with FAS include:

- ◆ Distinctive facial features, including small eyelid openings, a sunken nasal bridge, an exceptionally thin upper lip, a short, upturned nose and a smooth skin surface between the nose and upper lip
- ◆ Small teeth
- ◆ Heart defects

- ◆ Defects of joints, limbs and fingers
- ◆ Slow physical growth before and after birth
- ◆ Vision difficulties including nearsightedness
- ◆ Small head circumference and brain size
- ◆ Mental retardation and delayed development
- ◆ Abnormal behavior such as a short attention span, hyperactivity, poor impulse control, extreme nervousness and anxiety

### ***Counseling Notes***

Women who are pregnant or who are planning to become pregnant should be advised to avoid alcohol.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Fetal Alcohol Syndrome”

## ✦ **Fetal Growth Restriction**

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### ***See Risk 336 – Fetal Growth Restriction***

### ***Description***

Fetal growth restriction is often called Intrauterine Growth Restriction (IUGR). Babies with fetal growth restriction are smaller than normal during pregnancy. These babies usually have a low weight at birth.

## ***Causes***

IUGR has various causes.

- ◆ The most common cause is a problem with the placenta (the tissue that carries food and blood to the baby).
- ◆ Birth defects and genetic disorders can also cause IUGR.
- ◆ There is higher risk for IUGR in pregnant women:
  - ◇ with an infection
  - ◇ with high blood pressure
  - ◇ who smoke
  - ◇ who drink alcohol or abuse drugs
  - ◇ taking some prescription medications

## ***Symptoms***

During the prenatal exam, the health care provider notices that the baby is not growing inside the uterus at the normal rate. In some cases, IUGR may not be noticed until after delivery.

## ***Counseling Notes***

- ◆ During pregnancy, the health care provider will do tests to find out if the baby is growing normally.
- ◆ The main test for checking a baby's growth in the uterus is an ultrasound. During the ultrasound exam, the size of the baby's head, abdomen and legs will be measured. These measurements will tell if the baby is growing normally. The amount of amniotic fluid in the uterus is also measured.
- ◆ Some babies with IUGR are weak. The stress of labor and delivery may be too much for a weak baby. If the baby has problems during labor, a c-section delivery may be safer.
- ◆ IUGR with one pregnancy does not usually mean that future pregnancies will be affected by IUGR.
- ◆ Women can lower their chances of having another baby with IUGR by making sure they are doing everything possible to

lower their risk factors; for example, stop smoking, drinking alcohol or using drugs, and working to control high blood pressure.

- ◆ Good control of illnesses before and during pregnancy lowers the risk of having another baby with IUGR.
- ◆ Babies who are small at birth need to stay in the hospital until they can breathe and feed normally. After the baby is born, the doctor will check the baby's weight to make sure the baby is growing. Generally, babies stay in the hospital until they weigh about 5 pounds and can breathe and feed normally.
- ◆ Small babies usually catch up in size and have a normal height by about 2 years of age.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Intrauterine Growth Restriction”

## ◆ **Food Allergies**

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### ***See Risk 353 – Food Allergies***

#### ***Description***

True food allergies are not nearly as common as one might think. About 1 percent of adults and 5 percent of children actually have a true food allergy – an adverse reaction to a food that is triggered by the immune system. A true food allergy – also called hypersensitivity – can cause serious problems and even death. In a food allergy, even a tiny amount of food may trigger an allergic reaction.

Far more people have food intolerance, an unpleasant reaction to food that does not involve the immune system. Food intolerances may involve many of the same signs and symptoms as food allergies do – such as nausea, vomiting, cramping and diarrhea – hence, people often confuse the two. However, with food intolerance, small amounts of food can be tolerated.

Food allergies are most common in children, especially toddlers and infants. As the children grow older, their digestive system matures, and their body is less likely to absorb food or food components that trigger allergies. Fortunately, children typically outgrow allergies to milk, soy, wheat and eggs. Severe allergies and allergies to nuts and shellfish are more likely to be lifelong.

### ***Causes***

- ◆ In a true food allergy, the immune system mistakenly identifies a specific food or component of food as a harmful substance.
- ◆ The great majority of food allergies are triggered by certain proteins in:
  - ◆ Eggs
  - ◆ Peanuts
  - ◆ Fish
  - ◆ Shellfish, such as shrimp, lobster and crab
  - ◆ Tree nuts, such as walnuts and pecans
- ◆ In children, food allergies are also commonly triggered by proteins in these foods:
  - ◆ Cow's milk
  - ◆ Wheat
  - ◆ Soybeans

## **Symptoms**

The most common signs and symptoms of a true food allergy include:

- ◆ Hives
- ◆ Itching
- ◆ Swelling of the lips, face, tongue and throat, or other parts of the body
- ◆ Wheezing, nasal congestion or trouble breathing
- ◆ Abdominal pain, diarrhea, nausea or vomiting
- ◆ Dizziness, lightheadedness or fainting

In a severe allergic reaction to food – called anaphylaxis – the person may experience the following life-threatening signs and symptoms:

- ◆ Constriction of airways, including a swollen throat or a lump in your throat, that makes it difficult to breathe
- ◆ Shock, with a severe drop in blood pressure
- ◆ Rapid pulse
- ◆ Dizziness, lightheadedness or loss of consciousness

## **Counseling Notes**

- ◆ The only way to avoid an allergic reaction is to avoid foods that cause signs and symptoms.
- ◆ In severe food allergies, the person may need an emergency injection of adrenaline (epinephrine) for an anaphylactic reaction to a food. Some people with allergies carry injectable epinephrine with them at all times.
- ◆ For less severe allergies, the doctor may prescribe medications (antihistamines), which can be taken after exposure to an allergen to control the reaction and help relieve discomfort.

## **Resource Section**

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Diseases and Conditions”
- ◆ Look for “Food Allergy”

## ✦ **Gallbladder Disease**

***See Risk 342 – Gastro-Intestinal Disorders***

### ***Description***

The gallbladder is a sac located under the liver. It stores and concentrates bile produced in the liver, which is necessary for the digestion of fats. Normally, bile is released from the gallbladder into the intestine in response to food (especially fats). Conditions that slow or block the flow of bile out of the gallbladder result in gallbladder disease. Gallbladder disease includes:

#### ◆ **Cholecystitis (inflammation of the gallbladder)**

- ◇ Acute cholecystitis is a sudden inflammation of the gallbladder that can cause severe abdominal pain. Stones in the gallbladder are the most common cause. Although it may clear up on its own, surgery to remove the gallbladder is usually needed. After surgery, the outlook is usually very good. Other than surgery, avoiding fatty foods may decrease or prevent the attacks.
- ◇ Chronic cholecystitis is long-standing inflammation of the gallbladder. It is caused by repeated mild attacks of acute cholecystitis. The gallbladder shrinks and loses the ability to perform its function. Surgery is the usual treatment.

#### ◆ **Cholelithiasis (gallstones)**

- ◇ Gallstones may be as small as a grain of sand, or they may become as large as an inch in diameter.
- ◇ Gallstones often have no symptoms. Symptoms usually start after a stone of sufficient size blocks the outflow of bile. Surgery is done only if you have symptoms.

### ***Causes***

Women who have an increased risk of gallstones include:

- ◆ Native Americans
- ◆ Mexican Americans
- ◆ overweight women
- ◆ women who fast or lose a lot of weight quickly
- ◆ pregnant women
- ◆ women who use birth control pills

### ***Symptoms***

Symptoms include one or more of the following:

- ◆ abdominal fullness or gas
- ◆ abdominal pain (usually occurring after fatty meals and worsening with deep breath)
- ◆ fever
- ◆ nausea and vomiting
- ◆ heartburn
- ◆ chest pain under the breastbone (not common)

### ***Counseling Notes***

- ◆ Weight reduction may decrease the symptoms.
- ◆ Reducing intake of fatty foods may decrease the symptoms.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Gallbladder Disease”

## ◆ **Gestational Diabetes**

***See Risk 302 – Gestational Diabetes***

***See Risk 303 – History of Gestational Diabetes***

Also see Diabetes Mellitus (Risk 342).

### ***Description***

Gestational diabetes is a type of diabetes (high blood sugar) that begins during pregnancy. Gestational diabetes usually goes away after delivery, but the woman is at greater risk for developing diabetes at a later time.

Babies born to women with gestational diabetes may be large (macrosomia). This may cause birth complications. The baby may also have hypoglycemia (dangerously low blood glucose levels blood) after delivery.

### ***Causes***

Women with the following risks are more likely to get gestational diabetes:

- ◆ Over age 35 years.
- ◆ Gestational diabetes in past pregnancies.
- ◆ Obesity.
- ◆ History of Polycystic Ovarian Syndrome (PCOS).
- ◆ Hirsutism (excessive body and facial hair).
- ◆ Acanthosis nigricans (darkened patches of skin on the neck, groin and under the arms).
- ◆ Being a member of a population considered to be at high risk

for diabetes, including women of Aboriginal, Hispanic, South Asian, Asian or African descent.

### ***Symptoms***

Often there are no symptoms of gestational diabetes. Good prenatal care includes screening women for gestational diabetes at 24–28 weeks of pregnancy. The “glucose tolerance test” will show if a woman has gestational diabetes. Prenatal care also includes testing the urine for “ketones,” an indication of diabetes.

### ***Counseling Notes***

The goal of treatment is to keep the blood glucose level within the normal range to help the baby develop normally. The woman may need to test her blood sugar at home to monitor how she is doing. She will also need regular follow-up care with her health care provider, and may need a referral to a dietitian.

In many cases, blood sugar can be kept in the normal range by eating a healthy diet and exercising regularly.

Lifestyle changes can prevent or reverse gestational diabetes. These changes include eating a healthy diet and regular exercise.

To reduce the risk of developing diabetes in the future, women should be encouraged to:

- ◆ Breastfeed – breastfeeding has been shown to reduce the risk for subsequent diabetes in the baby.
- ◆ Follow a healthy lifestyle.
- ◆ Be screened regularly for the development of diabetes.
- ◆ Consult her physician before her next pregnancy.

### **Resource Section**

www.niddk.nih.gov (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Diabetes”
- ◆ Click on “A-Z list of Diabetes Topics and Titles”
- ◆ Look for “Gestational Diabetes”

## ◆ **Gluten Enteropathy**

See Celiac Disease.

## ◆ **Hepatitis**

### **See Risk 352 – Infectious Diseases**

Also see Liver Disease.

### **Description**

There are several types of hepatitis. The most common are:

- ◆ Hepatitis A
- ◆ Hepatitis B
- ◆ Hepatitis C

### **Causes**

**Hepatitis A** is a virus that is most commonly spread through eating food prepared by someone who has Hepatitis A. It is more common

in children who attend day care. Most infected people do not even know they have been exposed to the virus.

**Hepatitis B** can be spread by exposure to blood, through sexual relations, and from mother to baby. Symptoms of Hepatitis B may be absent, mild and flu-like, or acute. Most people will get better without any intervention, but some people are chronically infected and often have chronic damage to the liver.

**Hepatitis C** is passed the same way as Hepatitis B. Hepatitis C is less common than B as a cause of acute hepatitis, but the majority of the people who contract it become chronically infected, able to spread the infection to others, and usually have chronic damage to the liver.

### ***Symptoms***

Some symptoms include:

- ◆ dark colored urine
- ◆ light colored stools
- ◆ yellowish skin and eyes
- ◆ fatigue
- ◆ diarrhea
- ◆ stomach pain

### ***Counseling Notes***

People with Hepatitis A or Hepatitis C may be on a special diet.

### ***Resource Section***

[www.niddk.nih.gov](http://www.niddk.nih.gov) (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Digestive”
- ◆ Click on “A-Z list of Digestive Diseases Topics and Titles”
- ◆ Look for “Hepatitis”

## ◆ HIV

### ***See Risk 352 – Infectious Diseases***

Also see AIDS.

#### ***Description***

- ◆ Advanced infection of HIV (human immunodeficiency virus) causes AIDS.
- ◆ By killing or damaging cells of the body's immune system, HIV progressively destroys the body's ability to fight infections and certain cancers.
- ◆ People diagnosed with AIDS may get life-threatening diseases called opportunistic infections, which are caused by viruses or bacteria that usually do not make healthy people sick.

#### ***Causes***

- ◆ Having unprotected sex with an infected partner spreads HIV most commonly.
- ◆ HIV also is spread through contact with infected blood. However, because of blood screening and heat treatment, the risk of getting HIV from such transfusions is extremely small.
- ◆ HIV is frequently spread among injection drug users by the sharing of needles or syringes contaminated with very small quantities of blood from someone infected with the virus.
- ◆ Women can transmit HIV to their babies during pregnancy or birth. Approximately one-quarter to one-third of all untreated pregnant women infected with HIV will pass the infection to their babies. If the mother takes certain drugs during pregnancy,

she can significantly reduce the chances that her baby will get infected with HIV.

- ◆ HIV also can be spread to babies through the breast milk of mothers infected with the virus.
- ◆ Although researchers have found HIV in the saliva of infected people, there is no evidence that the virus is spread by contact with saliva.
- ◆ Scientists have found no evidence that HIV is spread through sweat, tears, urine, or feces.
- ◆ Studies of families of HIV-infected people have shown clearly that HIV is not spread through casual contact such as the sharing of food utensils, towels and bedding, swimming pools, telephones, or toilet seats.
- ◆ Biting insects such as mosquitoes or bedbugs do not spread HIV.

### ***Counseling Notes***

- ◆ HIV can be diagnosed with a simple blood test.
- ◆ People infected with HIV may take medications that require a special diet.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “HIV Infection”

## ✦ **Hyperemesis Gravidarum**

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***See Risk 301 – Hyperemesis Gravidarum***

## **Description**

Hyperemesis gravidarum is extreme, persistent nausea and vomiting during pregnancy that may lead to dehydration (not enough water in the body).

Nearly all women experience some degree of nausea and vomiting during pregnancy, particularly during the first trimester. However, too much vomiting can interfere with the weight gain needed for a healthy pregnancy and cause dehydration, which can be harmful to both mother and child.

## **Causes**

The cause of hyperemesis gravidarum is unknown.

## **Symptoms**

- ◆ Nausea
- ◆ Vomiting
- ◆ Lightheadedness
- ◆ Fainting

## **Counseling Notes**

This risk is used for women who have severe nausea and vomiting, when medical attention is required. Medication or hospitalization may be needed for severe cases to prevent dehydration.

For mild cases, the following tips may be helpful:

- ◆ Fluids should be taken during the times of the day when she feels least nauseated.
- ◆ The nausea is often worse when the stomach is empty. Try small amounts of food throughout the day.

- ◆ Every woman has a different food that won't cause nausea. Encourage her to eat the foods that sound good throughout the day. Dry, salty or sour foods may be helpful.
- ◆ Strong smells can make the nausea worse. Try eating cold foods and having someone else cook.
- ◆ Emotional support can help the woman cope with nausea and/or vomiting.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Hyperemesis Gravidarum”

“No More Morning Sickness” by Miriam Erick

## ◆ **Hypertension – Chronic**

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### ***See Risk 345 – Hypertension***

Also see Hypertension – Pregnancy Induced.

### ***Description***

Hypertension is also known as high blood pressure. Uncontrolled high blood pressure can increase the risk of serious health problems.

### ***Causes***

- ◆ Essential hypertension or primary hypertension has no known cause.
- ◆ Secondary hypertension is caused by another underlying condition such as:

- ◇ Kidney disease
  - ◇ Adrenal disease
  - ◇ Thyroid disease
  - ◇ Abnormal blood vessels
  - ◇ Certain medications, including birth control pills, cold remedies, decongestants, over-the-counter pain relievers and some prescription drugs, may also cause secondary hypertension.
  - ◇ Illegal drugs, such as cocaine and amphetamines.
- ◆ The risk factors you can control or manage include:
    - ◇ Obesity
    - ◇ Physical activity
    - ◇ Stress
    - ◇ Tobacco use
    - ◇ Alcohol use
    - ◇ Salt intake

## **Symptoms**

- ◆ Most people with high blood pressure have no signs or symptoms.
- ◆ Headaches, dizziness or nosebleeds are common symptoms of high blood pressure.
- ◆ Other symptoms sometimes associated with high blood pressure generally are caused by other conditions that can lead to high blood pressure. Such symptoms include:
  - ◇ Excessive sweating
  - ◇ Muscle cramps
  - ◇ Weakness
  - ◇ Frequent urination
  - ◇ Rapid or irregular heartbeat (palpitations)

### ***Counseling Notes***

- ◆ The goal of treatment is to prevent health complications that may occur as a result of high blood pressure.
- ◆ Treatment may require medications, lifestyle changes or a combination of both.
- ◆ Lifestyle changes that are helpful include:
  - ◇ Eat a healthy diet with plenty of grains, fruits, vegetables and low-fat dairy foods
  - ◇ Limit sodium (salt) in the diet
  - ◇ Drink less caffeine and alcohol
  - ◇ Lose weight (even losing a small amount is helpful)
  - ◇ Exercise regularly
  - ◇ Reduce stress
  - ◇ Get enough sleep
  - ◇ Stop smoking

### ***Resource Section***

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Diseases and Conditions”
- ◆ Look for “Hypertension”

## ◆ **Hypertension – Pregnancy Induced**

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***See Risk 345 – Hypertension and Pre-Hypertension***

Also see Hypertension – Chronic.

***See Risk 304 – History of Preeclampsia***

### **Description**

- ◆ Pregnancy induced hypertension (PIH) is a condition of high blood pressure that sometimes occurs during pregnancy.
- ◆ It usually begins in the third trimester, or last 3 months of pregnancy. Occasionally it can begin even earlier, but this is not common.
- ◆ May also be called pre-eclampsia or toxemia.

### **Causes**

- ◆ The cause of PIH is unknown.
- ◆ Some conditions may increase the risk of developing PIH, including the following:
  - ◇ Pre-existing hypertension (high blood pressure)
  - ◇ Kidney disease
  - ◇ Diabetes
  - ◇ PIH with a previous pregnancy
  - ◇ Mother's age, younger than 20 or older than 40
  - ◇ Multiple babies (twins, triplets)

### **Symptoms**

Symptoms may include:

- ◆ Increased blood pressure
- ◆ Protein in the urine
- ◆ Edema (swelling of legs, face and belly)
- ◆ Sudden weight gain
- ◆ Visual changes such as blurred or double vision
- ◆ Nausea, vomiting
- ◆ Pain around the stomach
- ◆ Passing small amounts of urine

### ***Counseling Notes***

- ◆ The only cure for this condition is delivery, but even following birth, the condition may continue for several hours or weeks.
- ◆ The standard treatment is bed rest with blood pressure monitoring.
- ◆ Other monitoring tests might include blood tests, fetal heart rate monitoring, urine tests for protein, and assessment of amniotic fluid volume and fetal growth if necessary.
- ◆ In PIH, blood flow is reduced to many organ systems in the expectant mother including the liver, kidneys, brain, uterus, and placenta.
- ◆ There are also other problems that may develop as a result of PIH, including:
  - ◇ Placental abruption (premature detachment of the placenta from the uterus)
  - ◇ Intrauterine growth restriction (poor growth of the baby)
  - ◇ Stillbirth
- ◆ If untreated, severe PIH may cause dangerous seizures and even death in the mother and fetus.
- ◆ Because of these risks, it may be necessary for the baby to be delivered early, before 37 weeks gestation.
- ◆ Education about the warning symptoms is also important because early recognition may help women receive treatment and prevent worsening of the disease.

### ***Resource Section***

- [www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)
- ◆ Click on “Medical Encyclopedia”
  - ◆ Look for “Preeclampsia”

## ✦ Hypoglycemia

### *See Risk 356 – Hypoglycemia*

#### **Description**

Hypoglycemia is a condition caused by an abnormally low level of blood sugar (glucose), our body's main energy source.

#### **Causes**

- ◆ Diabetes
- ◆ The causes of hypoglycemia in people without diabetes are:
  - ◇ Medications
  - ◇ Alcohol
  - ◇ Certain cancers
  - ◇ Diseases of kidney, liver or heart
  - ◇ Hormonal deficiencies
  - ◇ Disorders that result in the body producing too much insulin

#### **Symptoms**

The following symptoms are not specific to hypoglycemia. There may be other causes. The only way to know for sure that hypoglycemia is the cause is to test the blood sugar level.

- ◆ Confusion
- ◆ Abnormal behavior, such as the inability to complete routine tasks
- ◆ Visual disturbances, such as double vision and blurred vision
- ◆ Seizures
- ◆ Loss of consciousness

- ◆ Heart palpitations
- ◆ Tremor
- ◆ Anxiety
- ◆ Sweating
- ◆ Hunger

### ***Counseling Notes***

- ◆ Eating small, frequent meals can help prevent hypoglycemia.
- ◆ Hypoglycemia can be an indication of any number of illnesses.
- ◆ Eating food or candy usually raise the blood sugar level and help relieve symptoms.
- ◆ For people with diabetes, taking insulin or oral diabetes medications regularly, along with a regular diet, will help prevent hypoglycemia.

### ***Resource Section***

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Diseases & Conditions”
- ◆ Look for “Hypoglycemia”

## ✦ **Inborn Errors of Metabolism**

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### ***See Risk 351 – Inborn Errors of Metabolism***

### ***Description***

- ◆ Inborn errors of metabolism are rare.
- ◆ They are genetic disorders in which the body cannot turn food

into energy (metabolize food) normally.

- ◆ The disorders are usually caused by defects in the enzymes involved in the biochemical pathways that break down food components.

### **Resource Section**

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Inborn Errors of Metabolism”

## ✦ **Inflammatory Bowel Disease**

### **See Risk 342 – Gastro-Intestinal Disorders**

### **Description**

Inflammatory bowel disease causes chronic inflammation of the digestive system. It includes ulcerative colitis and Crohn’s disease. These diseases are painful and sometimes lead to life-threatening problems. Crohn’s disease can affect any part of the digestive system. Ulcerative colitis affects only the colon (large intestine).

### **Causes**

The cause of inflammatory bowel disease is unknown.

### **Symptoms**

Symptoms include one or more of the following:

- ◆ diarrhea

- ◆ abdominal pain
- ◆ blood in stool
- ◆ decreased appetite
- ◆ weight loss

### ***Counseling Notes***

- ◆ There is no known medical cure. However, medications or surgery may greatly reduce the symptoms and may keep them from returning.
- ◆ Certain foods and drinks can worsen the symptoms and should be avoided.

### ***Resource Section***

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Diseases & Conditions”
- ◆ Look for “Inflammatory Bowel Disease”

## ◆ **Intrauterine Growth Restriction (IUGR)**

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See Fetal Growth Restriction (Risk 336).

## ◆ **Juvenile Rheumatoid Arthritis (JRA)**

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***See Risk 360 – Other Medical Conditions***

## Description

Arthritis is an inflammation of the joints that is characterized by swelling, heat, and pain. Arthritis can be short-term, lasting for just a few weeks or months, then going away forever. It can also be chronic, lasting for months or years. In rare cases, it can last a lifetime.

Types of rheumatoid arthritis include:

- ◆ Polyarticular arthritis
  - ◇ Symptoms include swelling or pain in 5 or more joints
  - ◇ The small joints of the hands are affected as well as the weight-bearing joints such as the knees, hips, ankles, feet, and neck
  - ◇ In addition, a low-grade fever may appear, as well as bumps or nodules on the body on areas subjected to pressure from sitting or leaning.
- ◆ Pauciarticular JRA
  - ◇ Affects 4 or fewer joints
  - ◇ Symptoms include pain, stiffness, or swelling in the joints
  - ◇ The knee and wrist joints are the most commonly affected
  - ◇ An inflammation of the iris (the colored area of the eye) may occur with or without active joint symptoms
- ◆ Systemic JRA
  - ◇ Affects the whole body.
  - ◇ Symptoms include high fevers that often increase in the evenings and then may suddenly drop to normal.
  - ◇ During the onset of fever, the child may feel very ill, appear pale, or develop a rash. The rash may suddenly disappear and then quickly appear again.
  - ◇ The spleen and lymph nodes may also become enlarged.
  - ◇ Eventually many of the body's joints are affected by swelling, pain, and stiffness.

### ***Causes***

Research indicates that JRA is an autoimmune disease.

### ***Counseling Notes***

- ◆ In many cases, JRA may be treated with a combination of medication, physical therapy, and exercise.

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Juvenile Rheumatoid Arthritis”

## ✦ **Kidney Disease**

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See Renal Disease (Risk 346).

## ✦ **Lactose Intolerance**

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### ***See Risk 355 – Lactose Intolerance***

### ***Description***

People with lactose intolerance don't make enough of the enzyme lactase. Lactase breaks down lactose (milk sugar) into simpler forms that can be absorbed from the intestines into the blood. When there is not enough lactase, lactose continues through the intestines causing the symptoms.

## ***Causes***

- ◆ For most people, lactase deficiency is a condition that develops naturally over time.
- ◆ After about the age of 2 years, the body begins to produce less lactase. However, many people may not experience symptoms until they are much older.
- ◆ Certain diseases and injuries to the small intestine can reduce the amount of enzymes produced.
- ◆ In rare cases, children are born without the ability to produce lactase (galactosemia).

## ***Symptoms***

Symptoms usually begin about 30 minutes to 2 hours after eating or drinking foods containing lactose. They include:

- ◆ Nausea
- ◆ Abdominal cramps
- ◆ Bloating and gas
- ◆ Diarrhea

## ***Counseling Notes***

- ◆ No treatment can improve the body's ability to produce lactase, but symptoms can be controlled through diet.
- ◆ Dietary control of lactose intolerance depends on people learning through trial and error how much lactose they can handle.
- ◆ Many people can tolerate small amounts of milk, ice cream, yogurt and aged cheeses (like cheddar and Swiss).
- ◆ For people avoiding dairy products, green vegetables and fish with soft, edible bones (salmon and sardines) are excellent sources of calcium.

### **Resource Section**

www.niddk.nih.gov (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Digestive”
- ◆ Click on “A-Z list of Digestive Diseases Topics and Titles”
- ◆ Look for “Lactose Intolerance”

## ◆ **Lead Poisoning**

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### **See Risk 211 – Elevated Blood Lead Levels**

#### **Description**

Lead is toxic to the body. Children particularly are susceptible to lead poisoning because it can build up in their nervous system and brains as their bodies grow and develop. Dangerous levels of lead in children may cause serious health problems, including lower intelligence and poor school performance. Pregnant women are at increased risk because lead can damage the developing fetus.

#### **Causes**

Babies and young children especially are susceptible to lead exposure because they have a tendency to put objects in their mouths. Their hands or other objects placed in their mouths may be contaminated with lead dust. They may also eat paint chips or chew on windowsills or other wood areas painted with lead paint.

- ◆ Peeling lead-based paint in older homes (painted before 1978).
- ◆ House dust that contains lead (remodeling a house can increase the lead dust in the house).

- ◆ Using pottery or ceramics made in other countries for cooking, storing or serving foods/drinks.
- ◆ Using traditional or home remedies, such as Axarcon, Alarcon, Greta, Rueda, Pay-loo-ah, or Kohl.
- ◆ Water from lead pipes (especially hot water) – most common in houses built 1970-1985.

### ***Symptoms***

- ◆ Lead poisoning may go undetected because frequently there are no obvious signs or symptoms
- ◆ Signs and symptoms of lead poisoning in children are nonspecific and may include:
  - ◇ Irritability
  - ◇ Loss of appetite
  - ◇ Weight loss
  - ◇ Sluggishness
  - ◇ Abdominal pain
  - ◇ Vomiting
  - ◇ Constipation
  - ◇ Weakness from anemia
- ◆ Lead poisoning is also dangerous to adults. Signs and symptoms of lead poisoning in adults may include:
  - ◇ Pain, numbness or tingling of the hands and feet
  - ◇ Muscular weakness
  - ◇ Headache
  - ◇ Abdominal pain
  - ◇ Memory loss

### ***Counseling Notes***

Everyday Precautions:

- ◆ Wash your children's hands after they play outside, before eating

and going to bed.

- ◆ Clean your floors with a wet mop and wipe furniture, windowsills and other dusty surfaces with a damp cloth.
- ◆ Don't let your children play near major roadways or bridges.
- ◆ Prepare meals that are high in iron and calcium. A nutritious diet helps prevent lead absorption in your children's bodies.
- ◆ Run cold water for at least a minute before using, especially if it hasn't been used for a while.
- ◆ Use only cold water to make baby formula or for cooking.

Home Renovation Precautions:

- ◆ Wear protective equipment and clothing.
- ◆ Change your clothes, take a shower and wash your hair before leaving the job.
- ◆ Be careful where you eat. Don't eat or drink in an area where lead dust may be present.
- ◆ Don't use an open-flame torch to remove paint.
- ◆ Don't use the highest setting on a heat gun.
- ◆ Use caution in painting over old lead paint.

### ***Resource Section***

[www.mchealth.org/lead/](http://www.mchealth.org/lead/) (Multnomah County Health Department)

- ◆ Multnomah County Lead Line: (503) 988-4000

## ◆ **Liver Disease**

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***See Risk 342 – Gastro-Intestinal Disorders***

Also see Hepatitis (Risk 352 – Infectious Diseases).

## **Description**

Liver disease is an acute or chronic damage to the liver, usually caused by infection, injury, or intake of drugs or poisons. The disease can also be categorized by the effect it has on the liver.

- ◆ Hepatitis is an inflammation of the liver.
- ◆ Cirrhosis involves scarring of the liver and cell death.
- ◆ Fatty liver involves accumulation of fat in the liver.

## **Causes**

**Cirrhosis** – Anything that causes severe ongoing injury to the liver can lead to cirrhosis. It is marked by the death of liver cells and scar tissue formation. It is a progressive disease that creates irreversible damage. Cirrhosis has no signs or symptoms in its early stages, but as it progresses, it can cause fluid build-up in the abdomen, muscle wasting, bleeding from the intestines, easy bruising, and a number of other problems. In extreme cases, liver transplantation is needed.

**Fatty liver** causes the liver to enlarge and function abnormally. The most common cause is excessive alcohol intake. Fatty liver can usually be cured by not drinking alcohol.

## **Counseling Notes**

Many people with severe liver disease are on a special diet.

## **Resource Section**

[www.webmd.com](http://www.webmd.com) (Web MD)

- ◆ Click on “A-Z Guide/Topics”
- ◆ Look for “Cirrhosis”

## ✦ **Lupus Erythematosus**

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### ***See Risk 360 – Other Medical Conditions***

#### ***Description***

Lupus is one of many disorders of the immune system known as autoimmune diseases. In autoimmune diseases, the immune system turns against parts of the body it is designed to protect. This leads to inflammation and damage to various body tissues.

#### ***Causes***

- ◆ The exact cause is unknown. It is likely that a combination of genetic, environmental, and possibly hormonal factors work together to cause the disease.
- ◆ Lupus is three times more common in African American women than in Caucasian women and is also more common in women of Hispanic, Asian, and Native American descent.

#### ***Symptoms***

- ◆ Lupus can affect many parts of the body, including the joints, skin, kidneys, heart, lungs, blood vessels, and brain.
- ◆ Symptoms can range from mild to severe and may come and go over time.
- ◆ Although people with the disease may have many different symptoms, some of the most common ones include:
  - ◇ Extreme fatigue
  - ◇ Painful or swollen joints
  - ◇ Unexplained fever
  - ◇ Skin rashes

- ◇ Kidney problems
- ◇ Mouth ulcers
- ◇ Chest pain upon deep breathing

### ***Counseling Notes***

- ◆ Lupus is characterized by periods of illness, called flares, and periods of wellness, or remission.
- ◆ At present, there is no cure for lupus. However, lupus can be effectively treated with drugs, and most people with the disease can lead active, healthy lives.
- ◆ Although a lupus pregnancy is considered high risk, most women with lupus carry their babies safely to the end of their pregnancy.
- ◆ Women with lupus have a higher rate of miscarriage and premature births compared with the general population.
- ◆ Lupus patients with a history of kidney disease have a higher risk of pre-eclampsia (hypertension with a buildup of excess watery fluid in cells or tissues of the body).
- ◆ Pregnant women with lupus, especially those taking corticosteroids, also are more likely to develop high blood pressure, diabetes, hyperglycemia (high blood sugar), and kidney complications, so regular care and good nutrition during pregnancy are essential.
- ◆ It is also advisable to have access to a neonatal (newborn) intensive care unit at the time of delivery in case the baby requires special medical attention.

### ***Resource Section***

- [www.nih.gov](http://www.nih.gov) (National Institutes of Health)
- ◆ Click on “Health Information”
  - ◆ Look for “Lupus”

## ✦ **Malabsorption Syndromes**

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***See Risk 342 – Gastro-Intestinal Disorders***

### ***Description***

Malabsorption syndrome is a change in the ability of the intestine to absorb nutrients adequately into the blood. Protein, fats, and carbohydrates normally are absorbed in the small intestine.

### ***Causes***

There are many different conditions that affect fluid and nutrient absorption by the intestine. The causes include:

- ◆ Failure of the body to produce the enzymes needed to digest foods.
- ◆ Congenital defects or diseases of the pancreas, gall bladder or liver.
- ◆ Inflammation, infection, injury or surgical removal of portions of the intestine.
- ◆ Radiation therapy.
- ◆ The use of some antibiotics.

### ***Symptoms***

- ◆ Weakness, fatigue
- ◆ Diarrhea
- ◆ Fatty, greasy, foul-smelling stools
- ◆ Abdominal swelling with cramps
- ◆ Bloating, and gas
- ◆ Weight loss

- ◆ Muscle wasting

### ***Counseling Notes***

- ◆ Fluid and nutrient monitoring and replacement is essential for any person with malabsorption syndrome.
- ◆ Hospitalization may be required when the disease is severe.
- ◆ If the person is able to eat, the diet and supplements should provide bulk and be rich in carbohydrates, proteins, fats, minerals, and vitamins.
- ◆ The person should be encouraged to eat several small, frequent meals throughout the day, avoiding fluids and foods that promote diarrhea.
- ◆ The treatment and expected course for the individual with malabsorption syndrome varies depending on the cause.

### ***Resource Section***

[www.healthatoz.com](http://www.healthatoz.com) (Health A to Z)

- ◆ Click on “M”
- ◆ Look for “Malabsorption syndrome”

## ◆ **Meningitis**

***See Risk 352 – Infectious Diseases***

### ***Description***

Meningitis is an infection and inflammation of the membranes (meninges) and cerebrospinal fluid surrounding the brain and spinal cord.

### ***Causes***

- ◆ Viruses, bacteria and fungi can cause meningitis.
- ◆ Bacterial meningitis is generally much more serious than viral meningitis, and quick treatment is necessary.
- ◆ Viral meningitis is most common.

### ***Symptoms***

It is easy to mistake the early signs and symptoms of meningitis for the flu. They may develop over a period of one or two days, but some types of meningitis can prove fatal in a matter of days. These are the most common symptoms:

- ◆ A high fever
- ◆ Severe headache
- ◆ Vomiting or nausea with headache
- ◆ Confusion
- ◆ Seizures
- ◆ Sleepiness or difficulty waking up
- ◆ Stiff neck
- ◆ Sensitivity to light
- ◆ Lack of interest in drinking and eating
- ◆ Newborns and young infants may not have the classic signs and symptoms of headache and stiff neck. Instead, they may cry constantly, seem unusually sleepy or irritable, and eat poorly. Sometimes the soft spots on an infant's head may bulge.

### ***Counseling Notes***

- ◆ Viral meningitis may resolve without treatment in a few days. Mild cases of viral meningitis are usually treated with bed rest, plenty of fluids and over-the-counter pain medications to help reduce fever and relieve body aches.

- ◆ Bacterial meningitis can be serious and can come on very quickly. Acute bacterial meningitis requires prompt treatment with intravenous antibiotics to ensure recovery and reduce the risk of complications.

### ***Resource Section***

www.mayoclinic.com (Mayo Clinic)

- ◆ Click on “Diseases & Conditions”
- ◆ Look for “Meningitis”

## ◆ **Meningocele**

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See Neural Tube Defects.

## ◆ **Myelomeningocele**

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See Neural Tube Defects.

## ◆ **Necrotizing Enterocolitis**

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See Small Bowel Enterocolitis and Syndrome.

## ✦ Neural Tube Defects (NTD)

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***See Risk 339 – History of a Birth with a Congenital Birth Defect***

***See Risk 348 – Central Nervous System Disorders***

### ***Description***

- ◆ Neural tube defects (NTDs) are major birth defects of a baby's brain or spine.
- ◆ During the first few weeks of pregnancy, the neural tube (that later turns into the brain and spine) does not form right and the baby's brain or spine is damaged.
- ◆ The two most common NTDs are:
  - ◇ Spina bifida (myelomeningocele, meningocele and occulta)
  - ◇ Anencephaly
- ◆ **Spina bifida:**
  - ◇ Occurs when the spine and backbones do not close all the way. A sac of fluid comes through an opening in the baby's back. Much of the time, part of the spinal cord is in this sac and it is damaged.
  - ◇ Most children born with spina bifida live full lives, but they often have lifelong disabilities and need many surgeries. Some of their problems include:
    - ◇ Not being able to move lower parts of their body.
    - ◇ Loss of bowel and bladder control.
    - ◇ Fluid building up and putting pressure on the brain (hydrocephalus), which can be fixed with surgery.
    - ◇ Learning disabilities.
    - ◇ Allergy to latex (found in balloons or hospital gloves).

**◆ Anencephaly:**

- ◆ Occurs when the brain and skull bones do not form right. Part or all of the brain and skull bones might be missing.
- ◆ Babies with this defect usually die before birth (miscarriage) or shortly after birth.

**Causes**

All women are at risk of having a baby with a NTD. Risk is increased with:

- ◆ Low folic acid intake.
- ◆ Previous NTD-affected pregnancy.
- ◆ Diabetes when the blood sugar is out of control.
- ◆ Some medicines (like some of those that treat epilepsy).
- ◆ Obesity.
- ◆ High temperatures in early pregnancy (such as fever that lasts a while, or using hot tubs and saunas).
- ◆ Hispanic ethnicity (Hispanic women tend to have more babies affected by NTDs).

**Symptoms**

There are no symptoms. A health care provider may find the NTD during an ultrasound exam.

**Counseling Notes**

- ◆ Folic acid is a B vitamin that the body needs to make healthy new cells. If a woman has enough folic acid in her body before and during pregnancy, her baby is less likely to have an NTD.
- ◆ Women need to take folic acid every day, starting **before** they get pregnant.
- ◆ Every woman should take 400 micrograms (400 mcg or 0.4 mg) of folic acid daily in a vitamin supplement or in foods that have

been enriched with folic acid (the label on the side of the box should say “100%” next to folic acid).

### ***Resource Section***

[www.cdc.gov](http://www.cdc.gov) (Centers for Disease Control and Prevention)

- ◆ Click on “A-Z Index”
- ◆ Look for “Folic Acid”

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Disease and Conditions”
- ◆ Look for “Spina Bifida”

## ◆ **Nutrition-Related Congenital Birth Defects**

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See Neural Tube Defects.

See Zinc Deficiency Related Congenital Birth Defects.

See Vitamin A Excess – Congenital Birth Defects.

## ◆ **Occulta**

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See Neural Tube Defects.

## ✦ **Pancreatitis**

**See Risk 342 – Gastro-Intestinal Disorders**

### **Description**

Pancreatitis is an inflammation of the pancreas. The pancreas is a large organ that secretes digestive enzymes into the small intestine. These enzymes help digest fats, proteins, and sugars in food. The pancreas also releases the hormones insulin and glucagon into the bloodstream. These hormones help the body use the glucose it takes from food for energy.

- ◆ **Acute pancreatitis** occurs suddenly and lasts for a short period of time and usually resolves. Some people have more than one attack and recover completely after each. However, it can be a severe, life-threatening illness with many complications. Bleeding, low blood pressure, organ failure, and death may follow.
- ◆ **Chronic pancreatitis** occurs when digestive enzymes attack and destroy the pancreas and nearby tissues, causing scarring and pain.

### **Causes**

- ◆ The usual cause of **acute pancreatitis** is gallstones and drinking too much alcohol.
- ◆ The usual cause of **chronic pancreatitis** is many years of alcohol abuse. Other causes include blocked or narrowed pancreatic duct, heredity, high levels of calcium in the blood, high levels of blood fats, some drugs and unknown causes.

### ***Symptoms***

- ◆ Symptoms of **acute pancreatitis** include severe pain in the abdomen that may also reach to the back and other areas. Other symptoms include swollen abdomen, nausea, vomiting, and fever.
- ◆ Most people with **chronic pancreatitis** have abdominal pain, although some people have no pain at all. The pain may get worse when eating or drinking, spread to the back, or become constant and disabling. Other symptoms include nausea, vomiting, weight loss, and fatty stools.

### ***Counseling Notes***

In general, people with pancreatitis must stop drinking alcohol, eat a prescribed diet, and take the proper medications.

### ***Resource Section***

[www.niddk.nih.gov](http://www.niddk.nih.gov) (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Digestive”
- ◆ Click on “A-Z list of Digestive Diseases Topics and Titles”
- ◆ Look for “Pancreatitis”

## ◆ **Parasitic Infections (Parasites)**

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See Pinworm and Tapeworm.

## ◆ **Persistent Proteinuria**

***See Risk 346 – Renal Disease***

### ***Description***

- ◆ Proteinuria describes a condition in which urine contains an abnormal amount of protein.
- ◆ Protein in the urine can be a marker of almost any type of kidney disease, so tests are always needed if the cause of proteinuria is to be confirmed.
- ◆ Persistent proteinuria can be serious, especially in clinical illnesses or when accompanied by other urinary abnormalities, such as hematuria (blood in the urine) or bacteruria (bacteria in the urine).

### ***Causes***

The most common causes are:

- ◆ High blood pressure
- ◆ Diabetes
- ◆ Infection
- ◆ Glomerulonephritis
- ◆ Nephritis (inflammation of the kidney)

### ***Symptoms***

- ◆ Large amounts of protein in the urine may cause the urine to look foamy in the toilet.
- ◆ Because the protein has left your body, your blood can no longer soak up enough fluid and you may notice swelling in your hands, feet, abdomen, or face. These are signs of very large protein loss.

- ◆ More commonly, proteinuria may occur without any signs or symptoms.
- ◆ The amount of protein in the urine can be determined by testing the urine.

### ***Counseling Notes***

- ◆ The underlying kidney disease may be treatable with drugs.
- ◆ The type of treatment depends on the cause.
- ◆ Reducing the amount of salt and water taken in the diet each day can treat water retention.
- ◆ Some cases also require drugs to make the kidneys produce more urine.

### ***Resource Section***

[www.niddk.nih.gov](http://www.niddk.nih.gov) (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Kidney”
- ◆ Click on “A-Z List of Kidney and Urological Topics and Titles”
- ◆ Look for “Proteinuria”

[www.kidney.org.uk](http://www.kidney.org.uk) (UK National Kidney Foundation)

- ◆ Click on “Medical Information”
- ◆ Click on “Kidney Diseases”
- ◆ Look for “Proteinuria”

## ✦ Pinworm

### *See Risk 352 – Infectious Diseases*

#### **Description and Causes**

- ◆ Pinworms are small, white worms which infect the large intestine.
- ◆ The pinworm is about the length of a staple.
- ◆ The medical name for the pinworm is *Enterobius vermicularis*.
- ◆ It lives for the most part within the rectum of humans.
- ◆ While an infected person is asleep, female pinworms leave the intestines through the anus and deposit eggs on the skin around the anus.
- ◆ Within a few hours of being deposited on the skin around the anus, pinworm eggs become infective (capable of infecting another person).
- ◆ They can survive up to 2 weeks on clothing, bedding, or other objects.
- ◆ Infection is acquired when these eggs are accidentally swallowed.
- ◆ Preschool and school-age children have the highest rates of pinworm infection.
- ◆ Institutional settings, including day care facilities, often harbor cases of pinworm infection.

#### **Symptoms**

- ◆ The classic symptoms of pinworms consist of intense itching around the anus and/or vagina.
- ◆ Less common symptoms range from upset stomach to loss of appetite, irritability, loss of appetite, restlessness, and insomnia.

### ***Counseling Notes***

- ◆ Usually a single tablet of mebendazole (Vermox) is used for treatment.
- ◆ Prevention includes:
  - ◇ Washing hands after using the toilet, after playing outside, and before eating.
  - ◇ Bathing every day and changing underwear daily.
  - ◇ Keeping children’s fingernails short and clean.

### ***Resource Section***

www.medicinenet.com (Medicine Net)

- ◆ Click on “Diseases & Conditions”
- ◆ Look for “Pinworm Infection”

## ◆ **Pneumonia**

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### ***See Risk 352 – Infectious Diseases***

#### ***Description***

Pneumonia is an inflammation of the lungs usually caused by infection with bacteria, viruses, fungi or other organisms.

#### ***Causes***

People with other chronic illnesses or impaired immunity may be more likely to get pneumonia.

## ***Symptoms***

Pneumonia can be difficult to spot. Symptoms are similar to a cold or the flu. The common symptoms are:

- ◆ Chest pain
- ◆ Fever
- ◆ Chills
- ◆ Cough
- ◆ Shortness of breath

## ***Counseling Notes***

- ◆ Serious pneumonia can be life threatening.
- ◆ Treatments for pneumonia vary, depending on the severity of your symptoms and the type of pneumonia you have.
- ◆ Bacterial pneumonia is usually treated with antibiotics.
- ◆ Viral pneumonia is usually treated with rest and fluids.
- ◆ Mycoplasma pneumonias are treated with antibiotics.
- ◆ In addition to these treatments, the doctor may recommend over-the-counter medications to reduce fever, relieve aches and pains, and soothe the cough associated with pneumonia.
- ◆ Severe pneumonia may be treated by hospitalization, including intravenous antibiotics and oxygen.

## ***Resource Section***

[www.mayoclinic.com](http://www.mayoclinic.com) (Mayo Clinic)

- ◆ Click on “Diseases and Conditions”
- ◆ Look for “Pneumonia”

## ✦ **Pyelonephritis (Kidney Infection)**

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### ***See Risk 346 – Renal Disease***

Also see Renal Disease (Risk 346).

### ***Description***

Pyelonephritis is an infection of the kidney and the ducts that carry urine away from the kidney (ureters).

### ***Causes***

- ◆ Pyelonephritis most often occurs as a result of a urinary tract infection, particularly in the presence of occasional or persistent backflow of urine from the bladder into the ureters or kidney.
- ◆ Types of pyelonephritis are:
  - ◇ Acute uncomplicated pyelonephritis (sudden development of kidney inflammation)
  - ◇ Chronic pyelonephritis (a long-standing infection that doesn't clear)
  - ◇ Reflux nephropathy (an infection that occurs in the presence of an obstruction)
  - ◇ Although cystitis (bladder infection) is common, pyelonephritis occurs much less often.
  - ◇ The risk is increased when there is a history of chronic or recurrent urinary tract infection and when a particularly aggressive type of bacteria causes the infection.

## ***Symptoms***

Symptoms may include:

- ◆ Flank pain or back pain
- ◆ Severe abdominal pain (occurs occasionally)
- ◆ Fever
- ◆ Chills with shaking
- ◆ Warm skin
- ◆ Flushed or reddened skin
- ◆ Moist skin
- ◆ Vomiting, nausea
- ◆ Fatigue
- ◆ Painful urination
- ◆ Increased urinary frequency or urgency
- ◆ Need to urinate at night (nocturia)
- ◆ Abnormal urine color
- ◆ Blood in the urine
- ◆ Foul or strong urine odor

## ***Counseling Notes***

- ◆ The goals of treatment are to control the infection and reduce the symptoms.
- ◆ Acute symptoms usually resolve within 48 to 72 hours after appropriate treatment.
- ◆ Due to the risk of permanent kidney damage, prompt treatment is recommended.
- ◆ In diabetic patients and pregnant women, follow-up should include a urine culture at the completion of therapy to ensure that bacteria are no longer present in the urine.
- ◆ Most cases of pyelonephritis resolve without complication after the treatment.
- ◆ However, the treatment may need to be aggressive or prolonged. If sepsis occurs, it can be fatal.

### **Resource Section**

www.medlineplus.gov (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Kidney Infection (Pyelonephritis)”

## ✦ **Renal Disease**

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### **See Risk 346 – Renal Disease**

Also see Persistent Proteinuria (Risk 346) and Pyelonephritis (Risk 346).

### **Description**

The urinary system cleanses the blood and rids the body of excess water and waste in the form of urine. The urinary tract consists of two kidneys, one ureter from each kidney (tubes that drain urine from the kidneys), the bladder (a storage sac for urine) and the urethra (the tube that transports the urine out of the body).

The kidneys filter the waste from the blood and help your body maintain the correct fluid level.

When the kidneys are not working properly, waste products and fluid can build up to dangerous levels, creating a life-threatening situation.

There are more than 100 disorders, diseases, and conditions that can lead to progressive destruction of the kidneys. Some of the more common problems are described here:

- ◆ Obstruction – The urinary tract can become blocked, or

obstructed (for example, from a kidney stone, tumor, expanding uterus during pregnancy, or enlarged prostate gland).

- ◆ Cystitis (bladder infection) – Clients cannot qualify for WIC with only a bladder infection.
- ◆ Pyelonephritis – An infection of kidney tissue; most often, it is the result of cystitis that has spread to the kidney.
- ◆ Glomerular diseases – Diseases that attack the blood filtering units of the kidneys.
- ◆ Glomerulonephritis (also called nephritis or nephritic syndrome) – The glomeruli in the kidneys become inflamed.
- ◆ Nephrotic syndrome – The blood loses protein to the urine because of damage to the membrane between the glomeruli and tubules.
- ◆ Other factors – Any situation in which there is severe blood loss or reduced blood flow may prevent the kidneys from working correctly.

### ***Symptoms***

- ◆ Swelling or puffiness, particularly around the eyes or in the face, wrists, abdomen, thighs or ankles.
- ◆ Urine that is foamy, bloody, or coffee-colored.
- ◆ A decrease in the amount of urine.
- ◆ Problems urinating, such as a burning feeling or abnormal discharge during urination, or a change in the frequency of urination, especially at night.
- ◆ Mid-back pain (flank).
- ◆ High blood pressure.

### ***Counseling Notes***

- ◆ In general, the earlier kidney or urinary disease is recognized, the more likely it is to be treatable.
- ◆ Dietary restrictions, drug therapy, and surgical procedures may

be appropriate.

- ◆ If the kidneys can no longer effectively remove waste and water from the body, a dialysis machine used several times a week can take over kidney filtration.
- ◆ Kidney transplant surgery is another option when kidneys fail.
- ◆ People with diabetes or high blood pressure should control their diseases to prevent or minimize kidney damage.

### ***Resource Section***

[www.labtestonline.org](http://www.labtestonline.org) (Lab Test Online)

- ◆ Click on “Understanding Your Tests”
- ◆ Find “Kidney Disease” under “Conditions/Diseases”

## ◆ **Rheumatoid Arthritis**

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See Juvenile Rheumatoid Arthritis.

## ◆ **Short Bowel Syndrome**

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***See Risk 342 – Gastro-Intestinal Disorders***

### ***Description***

Short Bowel Syndrome (SBS) is defined as malabsorption resulting from loss of a significant length of the small intestine. It is also known as small bowel syndrome.

## ***Causes***

Most common after part of the intestine is removed during surgery (bowel resection). This surgery is most common in the newborns who have necrotizing enterocolitis.

## ***Counseling Notes***

- ◆ Children with SBS need regular nutrition monitoring to prevent problems associated with fluid and nutrient malabsorption.
- ◆ Immediately after bowel surgery that results in SBS, total parenteral nutrition (nutrition provided through IV) is required until bowel function returns.
- ◆ Normal eating may be achieved in a matter of weeks to months, or may never be achieved.
- ◆ Once a child is taking food through the mouth, adequacy of absorption becomes a concern.
- ◆ It is frequently necessary to give fat-soluble vitamins (like A, D, E, K). They may also need vitamin B12 injections every 1 to 3 months.
- ◆ B12 status, calcium and iron levels need to be monitored periodically.
- ◆ Sometimes, oral antibiotics may be needed to control bacterial overgrowth.

## ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Short Bowel Syndrome”

## ✦ **Sickle Cell Anemia**

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***See Risk 349 – Genetic and Congenital Disorders***

### ***Description***

Sickle cell anemia affects the red blood cells. Normal red blood cells are smooth and round like doughnuts. They move easily through blood vessels to carry oxygen to all parts of the body.

In sickle cell anemia, the red blood cells become hard, sticky, and shaped like sickles or crescents. When these hard and pointed red cells go through the small blood vessels, they tend to get stuck and block the flow of blood. This can cause pain, damage, and a low blood count or anemia.

Sickle cell trait is different from sickle cell anemia. A person with sickle cell trait does not have the disease but carries the gene that causes the disease. People with sickle cell trait do not qualify for WIC.

### ***Causes***

- ◆ Children who inherit sickle cell genes from both parents will have sickle cell anemia.
- ◆ Children who inherit the sickle cell gene from only one parent will not have the disease. They will have sickle cell trait.
- ◆ Sickle cell anemia is common in people whose families come from:
  - ◇ Parts of Africa (the region south of the Sahara Desert)
  - ◇ Spanish-speaking areas like South America, Cuba, and Central America
  - ◇ Saudi Arabia and India
  - ◇ Mediterranean countries, such as Turkey, Greece, and Italy

## **Symptoms**

The signs and symptoms of sickle cell anemia are different in each person. Some people have mild symptoms. Others have very severe symptoms and are often hospitalized for treatment.

The common symptoms are:

- ◆ Fatigue (feeling very tired)
- ◆ Paleness
- ◆ Yellowing of the skin and eyes (jaundice)
- ◆ Shortness of breath
- ◆ Pain
- ◆ Infections
- ◆ Acute Chest Syndrome – similar to pneumonia, it is caused by infection or by trapped sickle cells in the lung
- ◆ Delayed growth

## **Counseling Notes**

Health maintenance for patients with sickle cell disease starts with early diagnosis, preferably in the newborn period and includes:

- ◆ Penicillin prophylaxis
- ◆ Vaccination against pneumococcus bacteria
- ◆ Folic acid supplementation
- ◆ Blood transfusions

## **Resource Section**

[www.nhlbi.nih.gov](http://www.nhlbi.nih.gov) (National Heart, Lung and Blood Institute)

- ◆ Click on “A-Z Diseases and Conditions Index”
- ◆ Look for “Sickle Cell Anemia”

## ✦ **Small Bowel Enterocolitis and Syndrome**

***See Risk 342 – Gastro-Intestinal Disorders***

### ***Description***

Also known as necrotizing enterocolitis. This disease causes intestinal tissue to die. It occurs primarily in premature infants or sick newborns.

### ***Causes***

- ◆ The cause for this disorder is unknown, but it is thought that a decreased blood flow to the bowel keeps the bowel from producing the normal protective mucus.
- ◆ Bacteria in the intestine may also be a cause.
- ◆ At risk are small, premature infants, infants who are fed formula, and infants who have received blood exchange transfusions.

### ***Symptoms***

- ◆ Abdominal distension.
- ◆ Vomiting, diarrhea, and blood in stool.
- ◆ Not feeding properly, lethargy and weakness.

### ***Counseling Notes***

- ◆ Feedings should be stopped and gas relieved from the bowel by inserting a small tube into the stomach.
- ◆ Intravenous fluid replaces formula or breast milk.

- ◆ Antibiotic therapy is needed in most cases.
- ◆ If necessary, the dead bowel tissue is removed through surgery.

### **Resource Section**

www.medlineplus.gov (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Necrotizing Enterocolitis”

## ◆ **Small for Gestational Age (SGA)**

### **See Risk 151 – Small for Gestational Age (SGA)**

#### **Description**

Small for gestational age (SGA) is a term used to describe a baby who is smaller than usual for the baby’s age, gender and genetic heritage.

The SGA baby is smaller than 90 percent of all other babies of the same gestational age.

SGA babies may appear physically and neurologically mature.

Small for gestational age babies may be full-term or premature.

SGA babies may be:

- ◆ Proportionately small (equally small all over), or
- ◆ They may be of normal length and size but have lower body weight.

SGA babies may have problems at birth including the following:

- ◆ Decreased oxygen levels.
- ◆ Low Apgar scores (an assessment that helps identify babies with difficulty adapting after delivery).

- ◆ Meconium aspiration (inhalation of the first stools passed in utero) which can lead to difficulty breathing.
- ◆ Hypoglycemia (low blood sugar).
- ◆ Difficulty maintaining normal body temperature.
- ◆ Polycythemia (too many red blood cells).

### ***Causes***

- ◆ Most SGA babies are small because of growth problems that occur during pregnancy.
- ◆ Many babies with SGA have a condition called intrauterine growth restriction (IUGR). IUGR occurs when the baby does not receive the nutrients and oxygen needed for proper growth and development of organs and tissues. IUGR can begin at any time in pregnancy.
- ◆ When the fetus does not receive enough oxygen or nutrients during pregnancy, overall body and organ growth is limited, and tissue and organ cells may not grow as large or as numerous.

Some factors that may contribute to SGA and/or IUGR include the following:

- ◆ Maternal factors:
  - ◆ High blood pressure.
  - ◆ Chronic kidney disease.
  - ◆ Advanced diabetes.
  - ◆ Heart or lung disease.
  - ◆ Malnutrition, anemia.
  - ◆ Infection.
  - ◆ Substance use (alcohol, drugs).
  - ◆ Cigarette smoking.
- ◆ Factors involving the uterus and placenta:
  - ◇ Decreased blood flow in the uterus and placenta.
  - ◇ Placental abruption (placenta detaches from the uterus).
  - ◇ Placenta previa (placenta attaches low in the uterus).

- ◇ Infection in the tissues around the fetus.
- ◇ Factors related to the developing baby (fetus):
  - ◇ Multiple pregnancy (twins, triplets, etc.).
  - ◇ Infection.
  - ◇ Birth defects.
  - ◇ Chromosomal abnormality.

### ***Counseling Notes***

Babies with SGA may be physically more mature than their small size indicates. But they may be weak and less able to tolerate large feedings or to stay warm.

Specific treatment for SGA will be determined by the baby's physician based on:

- ◆ Gestational age, overall health, and medical history.
- ◆ Extent of the condition.
- ◆ Tolerance for specific medications, procedures, or therapies.
- ◆ How long the condition is expected to last.
- ◆ Parent's opinion or preference.

Treatment of the SGA baby may include:

- ◆ Temperature controlled beds or incubators.
- ◆ Tube feedings (if the baby does not have a strong suck).
- ◆ Checking for hypoglycemia (low blood sugar) through blood tests.
- ◆ Monitoring of oxygen levels.
- ◆ Babies who are also premature may have additional needs including oxygen and mechanical help to breathe.

Prevention of SGA includes:

- ◆ Prenatal care to identify problems with growth.
- ◆ Avoiding smoking and use of substances such as drugs and alcohol.
- ◆ Eating a healthy diet in pregnancy.

### **Resource Section**

www.lpch.org (Lucile Packard Children's Hospital at Stanford)

- ◆ Click on "Health Library/Children's Health A to Z"
- ◆ Click on "High Risk Newborn"
- ◆ Click on "Index of Topics"
- ◆ Click on "Small for Gestational Age"

## ◆ **Spina Bifida**

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See Neural Tube Defects (Risk 339)

## ◆ **Tapeworm**

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### **See Risk 352 – Infectious Diseases**

#### **Description and Causes**

- ◆ Tapeworm infection is acquired by eating raw or undercooked meat of infected animals.
- ◆ Beef generally carry *Taenia saginata*, while pigs carry *Taenia solium*.
- ◆ The larvae from the infected meat develop in the human intestine into the adult tapeworm, which grows and can attain lengths greater than 12 feet.
- ◆ Adults and children with tapeworm (pork tapeworm only) can, if appropriate hygiene is lacking, become self-infected by ingesting eggs from their tapeworm which were picked up on their hands while wiping or scratching the anus.

- ◆ Additionally, these individuals can expose other individuals to eggs, usually via food handling.
- ◆ Ingested eggs hatch in the intestinal track and the larvae migrate through the tissues, where they encyst.
- ◆ If larvae migrate to the brain, they can cause seizures and other neurological problems. This condition is called cysticercosis.

### **Symptoms**

- ◆ Tapeworm infestation does not usually cause any symptoms.
- ◆ Infection is generally recognized when the infected person passes segments of tapeworm in the stool, especially if the segment is moving.

### **Counseling Notes**

- ◆ Tapeworms are treated with oral medications, usually in a single dose.
- ◆ Adequate cooking of meat destroys the tapeworm larvae and will prevent infection by tapeworm.
- ◆ Good hygiene and hand washing after using the toilet will prevent self-infection in a person already infected with tapeworms.

### **Resource Section**

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on “Medical Encyclopedia”
- ◆ Look for “Tapeworm”

## ✦ **Thalassemia**

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### ***See Risk 349 – Genetic and Congenital Disorders***

#### ***Description***

- ◆ Thalassemia is an inherited disorder that leads to the decreased production and increased destruction of red blood cells.
- ◆ This causes very low levels of hemoglobin or none at all. Hemoglobin is the red pigment in red blood cells that carries oxygen through the body to all of the organ systems.
- ◆ The loss of red blood cells leads to anemia and the inability of the body to deliver needed oxygen to maintain normal body function.
- ◆ Thalassemias are named for the amino acid chain in the hemoglobin molecule that is affected. (Amino acids are the building blocks of protein.) The two main types are:
  - ◇ Alpha thalassemia – the alpha chain is affected
  - ◇ Beta thalassemia – the beta chain is affected
- ◆ Thalassemias are also categorized by the number of genes that are defective:
  - ◇ Thalassemia minor – one abnormal gene
  - ◇ Thalassemia major – two abnormal genes

#### ***Causes***

- ◆ Abnormal genes must be inherited from both parents to develop the disease.
- ◆ If one gene is inherited, the person will be a carrier of the disease, but will not have symptoms.

- ◆ Thalassemia is more common in people from the following areas:
  - ◇ Alpha thalassemia – Southeast Asia, Malaysia, and Southern China
  - ◇ Beta thalassemia – areas surrounding the Mediterranean Sea, Africa, and Southeast China

## ***Symptoms***

Symptoms of thalassemia usually begin within 3-6 months of birth. Symptoms may include:

- ◆ Anemia, which may be mild, moderate, or severe
- ◆ Yellowish discoloration of the skin, tissues, and body fluids (jaundice)
- ◆ Enlarged spleen
- ◆ Fatigue and listlessness
- ◆ Reduced appetite
- ◆ Enlarged and fragile bones
- ◆ Growth problems
- ◆ Increased susceptibility to infection
- ◆ Skin paler than usual
- ◆ Hormone problems
- ◆ Heart failure
- ◆ Shortness of breath
- ◆ Liver problems
- ◆ Gallstones
- ◆ Alpha thalassemia usually causes milder forms of the disease, with varying degrees of anemia.
- ◆ The most severe form of alpha thalassemia, which affects mainly individuals of Southeast Asian, Chinese and Filipino ancestry, results in newborn death.
- ◆ Beta thalassemia can be a mild form of disease, known as thalassemia intermedia, which causes milder anemia that rarely

requires transfusions or extensive medical care.

- ◆ Thalassemia major, also known as Cooley's anemia, is a serious disease that requires regular blood transfusions and extensive medical care.

### ***Counseling Notes***

Treatment may include:

- ◆ Blood transfusions
- ◆ Iron chelation therapy
- ◆ Splenectomy (surgical removal of the spleen)
- ◆ Bone marrow transplant

### ***Resource Section***

[www.medlineplus.gov](http://www.medlineplus.gov) (Medline Plus)

- ◆ Click on "Medical Encyclopedia"
- ◆ Look for "Thalassemia"

[www.healthgate.partners.org](http://www.healthgate.partners.org) (Brigham and Women's Hospital)

- ◆ Click on "Health Information"
- ◆ Click on "Health Topics A-Z"
- ◆ Click on "InBrief"
- ◆ Look for "Thalassemia"

## ✦ Tuberculosis (TB)

**See Risk 352 – Infectious Diseases**

### **Description**

- ◆ Tuberculosis (often called TB) is an infectious disease that usually attacks the lungs, but can attack almost any part of the body.
- ◆ Someone with **TB disease** is sick and can spread the disease to other people.
- ◆ Someone with **TB infection** has the TB germs, or bacteria, in their body. The body's defenses are protecting them from the germs and they are not sick.

### **Cause**

Tuberculosis is spread from person to person through the air. Usually a person has to be close to someone with TB disease for a long period of time. TB is usually spread between family members, close friends, and people who work or live together.

Risk Factors:

- ◆ People with HIV infection (the AIDS virus)
- ◆ People in close contact with those known to be infectious with TB
- ◆ People with medical conditions that make the body less able to protect itself from disease (for example: diabetes, or people undergoing treatment with drugs that can suppress the immune system, such as long-term use of corticosteroids)
- ◆ Foreign-born people from countries with high TB rates
- ◆ Some racial or ethnic minorities
- ◆ People who work in or are residents of long-term care facilities (nursing homes, prisons, some hospitals)
- ◆ Health care workers and others such as prison guards

- ◆ People who are malnourished (weak)
- ◆ Alcoholics, IV drug users and people who are homeless

### **Symptoms**

- ◆ A person with **TB infection** will have no symptoms.
- ◆ A person with **TB disease** may have any, all or none of the following symptoms:
  - ◇ A cough that will not go away
  - ◇ Feeling tired all the time
  - ◇ Weight loss
  - ◇ Loss of appetite
  - ◇ Fever
  - ◇ Coughing up blood
  - ◇ Night sweats

### **Counseling Notes**

- ◆ The TB skin test is a way to find out if a person has TB infection.
- ◆ If the person has TB infection, they will test for TB disease. Tests for TB disease include a chest X-ray and a test of the person's mucus.
- ◆ Treatment for TB depends on whether a person has TB disease or only TB infection.
- ◆ If a doctor decides a person with TB infection should have preventive therapy, the usual prescription is a daily dose of the medication INH, taken for six to nine months.
- ◆ TB disease is treated with a combination of drugs, which may include a hospital stay. After a few weeks of treatment, most people can return to normal activities and not have to worry about infecting others. They will need to continue taking daily medication for up to nine months.
- ◆ Immunization of babies shortly after birth with BCG vaccine can protect against severe forms of TB such as TB meningitis and disseminated TB in children less than five years old.

### **Resource Section**

www.lungusa.org (American Lung Association)

- ◆ Click on “Diseases A to Z”
- ◆ Look for “Tuberculosis”

## ◆ **Ulcerative Colitis**

See Inflammatory Bowel Disease.

## ◆ **Ulcers (Stomach and Intestinal)**

***See Risk 342 – Gastro-Intestinal Disorders***

### **Description**

A stomach or intestinal (duodenal) ulcer is a sore on the lining of the stomach or duodenum, which is the beginning of the small intestine.

### **Causes**

- ◆ Bacterial infection (*H.pylori*) – The majority of ulcers are caused by these bacteria.
- ◆ Long-term use of nonsteroidal anti-inflammatory agents (NSAIDs), like aspirin and ibuprofen.
- ◆ In a few cases, cancerous tumors in the stomach or pancreas can cause ulcers.
- ◆ Peptic ulcers are not caused by stress or eating spicy food, but these can make ulcers worse.

### ***Symptoms***

- ◆ Abdominal discomfort is the most common symptom. This discomfort usually is a dull, gnawing ache that:
  - ◇ Comes and goes for several days or weeks
  - ◇ Occurs 2 to 3 hours after a meal
  - ◇ Occurs in the middle of the night (when the stomach is empty)
  - ◇ Is relieved by eating
  - ◇ Is relieved by antacid medications
- ◆ Other symptoms include weight loss, poor appetite, bloating, burping, nausea, and vomiting.

### ***Counseling Notes***

- ◆ Drugs such as antacids and others provide relief of ulcer symptoms.
- ◆ Avoid stress, spicy food, smoking, and excess alcohol consumption.

### ***Resource Section***

[www.niddk.nih.gov](http://www.niddk.nih.gov) (National Institute of Diabetes & Digestive & Kidney Diseases)

- ◆ Click on “Health Information/Digestive”
- ◆ Click on “A-Z List of Digestive Diseases Topics and Titles”
- ◆ Click on “Ulcers”

## ✦ **Vitamin A Excess – Congenital Birth Defects**

***See Risk 339 – History of a Birth with a  
Congenital Birth Defect***

### ***Description***

Women who take large doses of vitamin A around the time of conception or early in their pregnancy have a high risk of delivering infants with birth defects.

Vitamin A excess can lead to:

- ◆ Cleft palate
- ◆ Cleft lip
- ◆ Cranial anomalies
- ◆ Eye defects
- ◆ Hydrocephalus
- ◆ Spina bifida

### ***Causes***

Women consuming large amounts of vitamin A from food, vitamin supplements, or medications have a 2 – 4 times greater risk of delivering children with craniofacial defects than did women with lower vitamin A intake.

### ***Counseling Notes***

- ◆ Women who may become pregnant should avoid the acne medication Accutane and other retinoid medications.
- ◆ Pregnant women should not take more than 5,000 IU of preformed vitamin A in vitamin supplements or fortified breakfast cereals.

### **Resource Section**

www.marchofdimes.com (March of Dimes)

- ◆ Click on “Professionals and Researchers”
- ◆ Click on “Medical References”
- ◆ Click on “Quick Reference and Fact Sheets”
- ◆ Click on “Accutane Use”

## ◆ **Zinc Deficiency Related Congenital Birth Defects**

***See Risk 339 – History of a Birth with a Congenital Birth Defect***

### **Description**

Zinc deficiency is the most common and problematic nutrient deficiency during pregnancy. Zinc deficiency is thought to cause:

- ◆ Fetal growth retardation (low birth weight)
- ◆ Miscarriage
- ◆ Stillbirth

### **Counseling Notes**

- ◆ Zinc is important during pregnancy for two reasons:
  - ◇ Proper growth
  - ◇ For developing a healthy immune system for the baby
- ◆ Red meat (beef), chicken and turkey provide the majority of zinc in the American diet.
- ◆ Other good food sources include oysters, beans, nuts, some seafood,

whole grains, fortified breakfast cereals, and dairy products.

### **Resource Section**

www.ods.os.nih.gov (Office of Dietary Supplements, National Institutes of Health)

- ◆ Click on “Health Information”
- ◆ Click on “Full List of Vitamin & Mineral Supplement Fact Sheets”
- ◆ Click on “Zinc”

## **References**

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Information in this document was compiled from the websites of the following organizations:

American Lung Association  
Brigham and Women’s Hospital at Stanford  
Centers for Disease Control  
Epilepsy Foundation  
Health A to Z  
Lab Tests Online  
Lucille Packard Children’s Hospital at Stanford  
March of Dimes  
Mayo Clinic  
Medicine Net  
Medline Plus  
Multnomah County Health Department  
National Institutes of Health  
United Kingdom Kidney Foundation  
University of Virginia  
University of Washington  
Web MD

