Medications, both prescription and over-the-counter, are used every day to treat acute and chronic illness. Medications can help people live healthy lives for a prolonged period. Although medicines are prescribed often, it is important to realize that they must still be used with caution.

Foods, and the nutrients they contain, can interact with medications we take. This can cause unwanted effects. Nutrients are components of foods that are needed by the body in adequate amount in order to grow, reproduce and lead a normal healthy life.A drug is a chemical which interacts with the metabolic process in the body to bring about a desirable effect. A food/nutrient/drug interaction occurs when a food, or one of its components, interferes with the way a drug is used in the body. A drug/nutrient interaction occurs when a drug affects the use of a nutrient in the body.

Risk Factors

* Age
* gender
* medical history
* body composition
* nutritional status
* number of medications used

How Drugs React in the Body

In order to understand food/drug and drug/nutrient interactions, it’s important to understand how drugs work in the body.

There are four stages of drug action for medicines taken by mouth:

Stage 1.

The drug dissolves into a useable form in the stomach.

Stage 2.

The drug is absorbed into the blood and transported to its site of action.

Stage 3.

The body responds to the drug and the drug performs a function.

Stage 4.

The drug is excreted from the body either by the kidney, the liver, or both.

Foods can interfere with the stages of drug action in a number of ways. The most

common effect is for foods to interfere with drug absorption. This can make a drug less effective because less gets into the blood and to the site of action. Second, nutrients or other chemicals in foods can affect how a drug is used in the body. Third, excretion of drugs from the body may be affected by foods, nutrients, or other substances. With some drugs, it’s important to avoid

taking food and medication together because the food can make the drug less effective. For other drugs, it may be good to take the drug with food to prevent stomach irritation.Alcohol can affect many medications. Always check with your pharmacist about possible effects of alcohol on your medication.

Different classes of drugs

1. Analgesics: Analgesics are drugs that relieve pain. Analgesics often cause stomach irritation. It’s a good idea to take analgesics, like aspirin, with food. A full stomach lowers the risk for stomach irritation.
2. Antacids: Antacids neutralize stomach acid. Long term use of these drugs may lead to certain nutrient deficiencies. This is because stomach acid is important in the digestion and/or absorption of nutrients. Older people produce less stomach acid, which leads to low absorption of vitamin B12. Regular use of antacids lowers B12 absorption even more. Vitamin B 12 supplements may be needed in this situation.
3. Antibiotics: Antibiotics are used to treat bacterial infections. There are many different types of antibiotics. Some antibiotics decrease the synthesis of vitamin K by the bacteria normally found in our intestines. Vitamin K is important for normal blood clotting. Tetracycline antibiotics bind to calcium found in dairy products. This can decrease the absorption of the antibiotic. Other drugs like penicillin and erythromycin are most effective when taken on an empty stomach. This is because they may be partially destroyed by stomach acid when taken with food. However, food can reduce the chance of stomach irritation from these drugs. Ask your pharmacist if you should take your particular antibiotic with or without food.
4. Anticoagulants: Anticoagulants slow the process of blood clotting. This can decrease risk of strokes in patients whose blood tends to clot too easily. These drugs, like warfarin (Coumadin), work by interfering with the use of vitamin K in blood clotting. People taking these anticoagulants should be consistent in the amount of vitamin K they get from foods. It’s very important to avoid eating large amounts of foods high in vitamin K. Rich sources of vitamin K include liver, and green vegetables such as broccoli, spinach and other leafy greens.
5. Anticonvulsant: Anticonvulsant drugs help control seizures. Phenytoin (Dilantin), Phenobarbital and primidone may cause diarrhea and a decrease in appetite. This can decrease the availability of many nutrients. These drugs also increase the use of vitamin D in the body. This means that less vitamin D is available for important functions such as calcium absorption. Vitamin D supplements may be needed. Some anticonvulsants also interact with the B vitamin folic acid. When drug therapy is started, folic acid levels in the body decrease. Because folic acid supplements affect blood levels of the drug, folate supplementation must be supervised by a doctor.
6. Diuretic: Diuretics cause the body to excrete more urine and are often used to treat high blood pressureand fluid buildup. Some diuretics increase urine losses of minerals such as potassium, magnesium, and calcium. Others limit mineral loss (especially potassium). It is important to talk with your doctor about whether you need to take or avoid mineral supplements.
7. Laxative: Laxatives speed up the movement of materials through the digestive tract. This reduces the time for nutrient absorption. Excessive use of laxatives can deplete vitamins and minerals needed for normal body function. Laxatives also increase fluid losses. This may lead to dehydration.
8. Lipid Lowering Drugs: Lipid lowering drugs, also called Antihyperlipemic drugs reduce blood cholesterol levels. Medications such as cholestyramine (Questran) may decrease the absorption of the fat soluble vitamins (A, D, E, and K), vitamin B12, folic acid, and calcium. For long-term use, it may be helpful to take a multivitamin and a calcium supplement.
9. Mental Health Drugs: Psychotherapeutic drugs treat depression, anxiety, and other mental health conditions. Some of these drugs increase appetite while others decrease it. Either effect can impact weightin a significant way
10. Blood Pressure Lowering Drugs: Antihypertensives are used to control high blood pressure. This group of medications is widely used throughout the United States due to the large number of people with high blood pressure. These medications can affect body levels of minerals such as potassium, calcium, and zinc. For patients with diabetes, these drugs can cause problems in controlling blood sugar.
11. Cancer Drugs: Antineoplastic agents are used to treat different forms of cancer. These drugs can irritate the cells lining the mouth, stomach and intestines. Many cause nausea, vomiting, and/or diarrhea. All of these can affect nutrient status.