

## VITAMINS

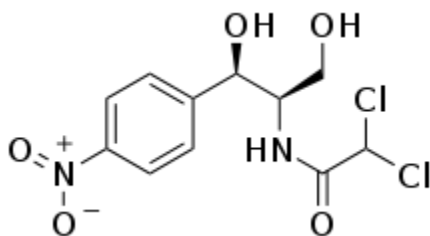
Vitamin	Function	Food Sources
Vitamin B1 (Thiamin) <b>(W)</b>	Helps with energy production in your body.	Whole grains, enriched grains Liver, pork, dried beans, nuts and seeds
Vitamin B2 (Riboflavin) <b>(W)</b>	Helps with energy production in your body. Helps your body use other B vitamins.	Soybeans, meat and poultry, liver and eggs Mushrooms Milk, cheese, yogurt Whole grains, enriched grains
Vitamin B3 (Niacin) <b>(W)</b>	Helps your body to use protein, fat and carbohydrate to make energy. Helps enzymes work properly in your body.	Mushrooms Peanut butter, meat, fish, poultry Whole grains, enriched grains
Biotin <b>(W)</b>	Allows your body to use protein, fat and carbohydrate from food.	Sweet potatoes Nonfat milk, yogurt Peanuts, almonds, eggs, liver, soy protein <i>*The biotin content in food can vary greatly</i>
Vitamin B6 (Pyridoxin) <b>(W)</b>	Helps your body to make and use protein and glycogen which is the stored energy in your muscles and liver. Helps form hemoglobin which carries oxygen in your blood.	Potatoes, bananas 100% bran, instant oatmeal Meat, fish, poultry, liver, soybeans, chickpeas, lentils, pistachio, nuts, sunflower seeds
Vitamin B12 (Cobalamin) <b>(W)</b>	Works with the vitamin folate to make DNA. Helps to make healthy blood cells. Low levels of vitamin B12 can cause a type of anemia. Keeps nerves working properly.	Milk, cheese, yogurt, fortified soy or rice beverages Meat, fish, poultry, liver, eggs, fortified soy products
Folate <b>(W)</b>  (also known as folacin and folic acid)	Helps to produce and maintain DNA and cells. Helps to make red blood cells and prevent anemia. Getting enough folic acid lowers the risk of having a baby with birth defects like spina bifida.	Asparagus, cooked spinach, romaine lettuce, Brussels sprouts, beets, broccoli, corn, green peas, oranges, orange juice Bread, enriched pasta, wheat germ Liver, dried beans, soybeans, chickpeas, lentils, sunflower seeds, flaxseeds <i>*Folic acid is the type of folate found in Vitamin supplements and fortified foods.</i>
Vitamin C <b>(W)</b>	May help prevent cell damage and reduce risk for certain cancers, heart disease and other diseases. Helps heal cuts and wounds and keeps gums healthy. Protects you from infections by keeping your immune system healthy. Increases the amount of iron your body absorbs from some foods.	Citrus fruits such as oranges, grapefruits and their juices, kiwi, strawberries, mangoes, papaya Red, yellow and green peppers, broccoli, Brussels sprouts, tomatoes, raw dark leafy vegetables
Vitamin A <b>(F)</b>	Helps you to see in the day and at night. Protects you from infections by keeping skin and other body parts healthy. Promotes normal growth and development.	Liver, some fish Milk, cheese
Carotenoids: <b>(F)</b>	Carotenoids are not vitamins but some types can turn into vitamin A in the body.	Cantaloupe, pink grapefruit, tomatoes, broccoli, dark green leafy vegetables like spinach, beet greens and

alpha, betacarotene and betacryptoxanthin	Act as antioxidants which protect your body from damage caused by harmful molecules called free radicals.	Swiss chard, dark orange vegetables such as carrots and sweet potatoes
Vitamin D ( <b>F</b> )	Increases the amount of calcium and phosphorus your body absorbs from foods. Deposits calcium and phosphorus in bones and teeth, making them stronger and healthier. Protects against infections by keeping your immune system healthy.	Milk, fortified soy and rice beverages Fortified margarine Some fish, eggs, organ meats, fish liver oils
Vitamin E ( <b>F</b> )	Helps to maintain a healthy immune system and other body processes. Acts as an antioxidant and protects cells from damage.	Vegetable oils Avocados, leafy green vegetables Wheat germ, sunflower seeds, some nuts, peanut butter
Vitamin K ( <b>F</b> )	Makes proteins that cause our blood to clot, when you are bleeding. Involved in making body proteins for your blood, bones and kidneys.	Broccoli, soybeans, dark green leafy vegetables such as kale, collards, turnip/beet greens and spinach

**(W ) Water soluble**

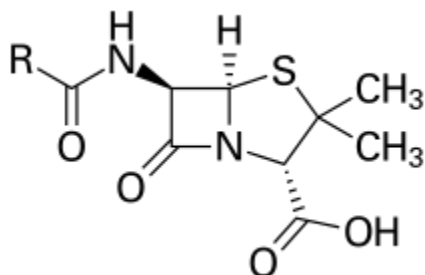
**(F) Fat soluble**

## Chloramphenicol



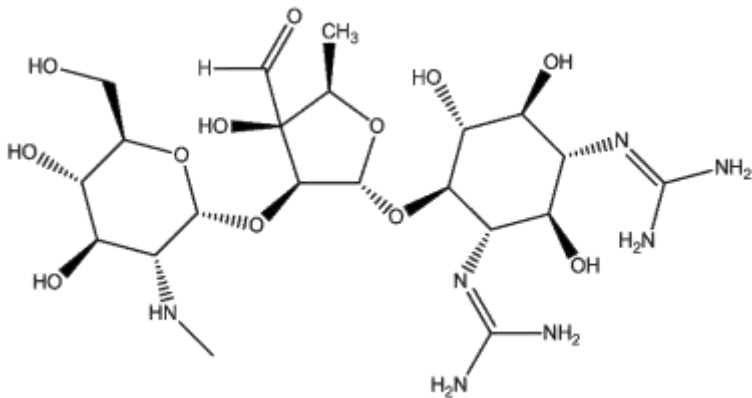
Chloramphenicol was in the treatment of typhoid, but the now almost universal presence of multiple drug-resistant *Salmonella typhi* has meant it is seldom used for this indication except when the organism is known to be sensitive. Chloramphenicol may be used as a second-line agent in the treatment of tetracycline-resistant cholera.

## Penicillin



Penicillin can still be used to treat a wide range of infections caused by certain susceptible bacteria, including Streptococci, Staphylococci, Clostridium, and Listeria genera.

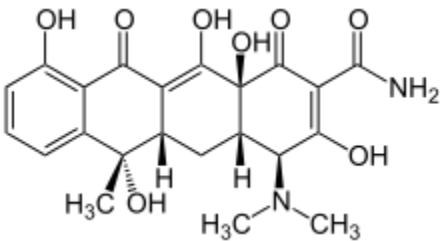
## Streptomycin



## Treatment of diseases

- Infective endocarditis caused by enterococcus when the organism is not sensitive to gentamicin
- Tuberculosis in combination with other antibiotics. For active tuberculosis it is often given together with isoniazid, rifampicin, and pyrazinamide.<sup>[3]</sup> It is not the first-line treatment, except in medically under-served populations where the cost of more expensive treatments is prohibitive. It may be useful in cases where resistance to other drugs is identified.
- Plague (*Yersinia pestis*) has historically been treated with it as the first-line treatment. However streptomycin is approved for this purpose only by the U.S. Food and Drug Administration.
- In veterinary medicine, streptomycin is the first-line antibiotic for use against gram negative bacteria in large animals (horses, cattle, sheep, etc.). It is commonly combined with procaine penicillin for intramuscular injection.
- Tularemia infections have been treated mostly with streptomycin.

## Tetracyclines



Tetracyclines are generally used in the treatment of infections of the urinary tract, respiratory tract, and the intestines and are also used in the treatment of chlamydia, especially in patients allergic to  $\beta$ -lactams and macrolides; however, their use for these indications is less popular than it once was due to widespread development of resistance in the causative organisms.

Their most common current use is in the treatment of moderately severe acne and rosacea (tetracycline, oxytetracycline, doxycycline or minocycline)

Anaerobic bacteria are not as susceptible to tetracyclines as are aerobic bacteria

Doxycycline is also used as a prophylactic treatment for infection by *Bacillus anthracis* (anthrax) and is effective against *Yersinia pestis*, the infectious agent of bubonic plague. It is also used for malaria treatment and prophylaxis

## Disinfectants

**Disinfectants** are antimicrobial agents that are applied to the surface of non-living objects to destroy microorganisms that are living on the objects. Disinfection does not necessarily kill all microorganisms, especially resistant bacterial spores; it is less effective than sterilization, which is an extreme physical and/or chemical process that kills all types of life. Disinfectants are different from other antimicrobial agents such as antibiotics, which destroy microorganisms within the body, and antiseptics, which destroy microorganisms on living tissue.

### Antiseptic

**Antiseptics** are antimicrobial substances that are applied to living tissue/skin to reduce the possibility of infection, sepsis, or putrefaction. Antiseptics are generally distinguished from antibiotics by the latter's ability to be transported through the lymphatic system to destroy bacteria within the body, and from disinfectants, which destroy microorganisms found on non-living objects.

### Antipyretics

**Antipyretics** are substances that reduce fever. Antipyretics cause the hypothalamus to override a prostaglandin-induced increase in temperature. The body then works to lower the temperature, which results in a reduction in fever.

An **analgesic** or **painkiller** is any member of the group of drugs used to achieve analgesia, relief from pain.

**Antimalarial medications**, also known as **antimalarials**, are designed to prevent or cure malaria. Such drugs may be used for some or all of the following:

- Treatment of malaria in individuals with suspected or confirmed infection
- Prevention of infection in individuals visiting a malaria-endemic region who have no immunity (Malaria prophylaxis)
- Routine intermittent treatment of certain groups in endemic regions