

Neutropenia (Adult)

Neutropenia

Neutrophils are a type of white blood cell that help the body fight infection. They are made in your bone marrow. Neutropenia means you have a low number of these cells, so it is harder for your body to fight infection.

What Causes Neutropenia

Neutropenia can be caused by many things, sometimes the cause is unknown. Common causes are:

- Chemotherapy
- Radiation treatments to areas of the body that produce blood cells, such as your bones
- Some cancers
- Autoimmune disorders
- Viral infections
- Certain medicines

Testing for Neutropenia

Neutrophils are measured in a simple blood test called a “complete blood count with differential” or “CBC with diff.”.

The test results will give the neutrophil count (Absolute Neutrophil Count, ANC). This will tell you how many neutrophils you have. A normal ANC is 1,700 - 7,500 cells/mm³. When your ANC is less than 1500 cells/mm³ you are neutropenic, and at a greater risk for infection because there are not as many neutrophils being produced.

If you have autoimmune neutropenia, your doctor may order an antibody blood test. In some cases, a bone marrow test may be needed to determine the cause.

Treatment

The treatment depends on what caused you to get neutropenia.

If it was caused by a medicine you took, your doctor might have you stop taking the medicine or switch to another medicine. Sometimes neutropenia is treated with drugs that help your bone marrow make neutrophils. These drugs are called granulocyte-colony stimulating factors (G-CSF).

If you are getting chemotherapy, a side effect can be neutropenia. We expect this to occur in about 7-14 days after chemotherapy. Your doctor may have you take G-CSF or allow your bone marrow to recover on its own and start making white blood cells again.

How to Avoid Infection

When you are neutropenic, it is very important to protect yourself from infection.

Hand Washing

Hand washing is the best way to stop the spread of infections. The hands can have many germs on them and can get into the mouth or nose easily. Wash your hands with a liquid anti-bacterial soap and water for 15-30 seconds.

People who will be in contact with you should wash their hands often. Refer to HFFY#5236 “The Power to Stop Infection Is in Everyone’s Hands”.

When to Wash Your Hands

- Before eating, drinking, and taking medicine.
- After using the bathroom.
- Before touching food.
- Before and after any type of physical care such as brushing your teeth.
- Before and after touching the eyes, nose, or mouth.
- After touching things that may be dirty.
- After contact with pets.

How to Wash Your Hands

1. Wet hands under a stream of warm water.
2. Using liquid anti-bacterial soap, scrub for at least 15 to 30 seconds.
3. Scrub under your nails daily and whenever they become dirty.
4. Rinse well under a stream of warm water.
5. Use a paper towel to turn off the faucet.
6. Dry your hands.

Keep anti-bacterial wipes/gel in your car, purse, or pocket for times when you may not have soap and water.

Visitors and Crowds

Stay away from people who are coughing, sneezing, or sniffing. People with colds, flu, or other symptoms should not visit you.

Avoid large crowds. Think of a crowd as more than 8 people in an average sized room (living room or family room). If you are out and strangers are within 3 feet of you, you are in a crowd.

Food Safety

Food safety is important for people with cancer because treatment can weaken the immune system.

You must be careful when handling, cooking, and eating foods to avoid getting a foodborne illness.

- Wash hands, utensils, counters, and tables with hot soapy water before and after preparing food.
- Wash raw fruits and vegetables.
- Avoid unpasteurized dairy products.
- Cook meat and eggs until well done.
- Avoid salad bars and buffets when eating out.

If you are a bone marrow transplant patient, see HFFY #476 “Food Safety for the Immunocompromised Patient.”

Mouth Care

- Use a very soft toothbrush. Keep it clean by rinsing with warm water. Store in a dry area.
- Brush your teeth gently after meals and before bed.
- After brushing, rinse your mouth for 1 to 2 minutes with a mixture of a half-teaspoon of salt or baking soda in 8 ounces of water.
- **Do not** use mouthwash that contains alcohol as it can irritate and dry your mouth.
- Gently floss your teeth once each day unless you have been told not to. **Do not** floss if it causes pain or bleeding.
- If you wear dentures, clean every day. Brush and then soak them in new denture cleaner for a few minutes. Rinse them well. If your dentures don't fit, contact your dentist.

Check with your doctor or nurse before having any dental work done. Some dental work can increase the risk of infection. Tell your dentist about your neutropenia before your visit.

Sexual Activity

You may need to avoid sex when you are neutropenic. Talk to your doctor or nurse about when you can resume sex. Some contact with your partner may be safe.

- Avoid sex and kissing people who have colds, flu, or cold sores.
- Use a water-soluble lubricant (such as K-Y Jelly, Replens) during sex to avoid vaginal trauma due to dryness.
- Avoid anal sex.
- A condom should be used for vaginal and oral sex.
- If your partner may have a sexually transmitted infection (STI) a condom may not be enough barrier during and after treatment. That means no sex until the STI is treated and resolved.
- Avoid more than one sex partner.
- **Do not** use an IUD for birth control.
- Report any signs of infection, such as discharge, itching, odor, bleeding, or pain.

Prevent Infection

- Shower daily. Be sure to wash under your arms, in your groin, and rectal areas.
- Keep your skin dry and clean.
- Avoid cleaning birdcages, fish tanks, reptile cages, and cat litter boxes.
- Limit exposure to soil or dirt.
- **Do not** smoke and avoid people who do smoke. This includes vaping type smoking.
- **Do not** put anything in your rectum before checking with your doctor.
- **Do not** get manicures or pedicures at salons or spas.
- During severe neutropenia you may need to wear a mask (see below).

Treatment of Infection

Oral or IV antibiotics may be given.

Depending on the infection, you may need to go in the hospital so we can closely watch you.

When to Call

Call your doctor right away if you have any of these signs:

- You have a temperature of 100.5°F (Take your temp in the morning and every night).
- Shaking chills.
- Chest congestion or cold symptoms.
- Sore throat.
- Sores in mouth.
- Sinus pain.
- Problems with urination, such as burning or urgency.
- Loose bowel movements.
- Inflamed or bleeding hemorrhoids.
- Changes in mental status.
- Vaginal discharge or irritation.
- Pimples or boils on the skin (may appear without pus, because white blood cells like neutrophils are needed to make pus).
- If you have a venous access device (PICC, Port, Hickman, or Groshong) report any swelling, redness, pain at catheter site or along tunnel area, or drainage from exit site.

Masks

If you need a mask, your nurse will help fit your mask and give you a small supply to use. You can buy more masks from your local drug store.

In the hospital you need to wear your mask when you are out of your room. When outside the hospital you should always have your mask on in public places. You should also have your mask on if it has been less than 100 days since your bone marrow transplant or organ transplant.

How to Wear the Mask

- The upper and lower edges of the mask are snug to your face.
- The elastic bands are placed so that one is on the base of the skull and the other is near the top of your head.
- The nosepiece on the top of the mask must be pinched down to snugly fit the bridge of your nose.
- There should not be gaps between the mask and your face.
- Masks may be reused. Store them in a clean dry place. Change your mask if it is moist, won't keep its shape or you have worn longer than 8 hours.



Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 3/2024. University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#4577