Neutropenia/Leukopenia  
(Low White Blood Cell Count)

White blood cells help your child’s body fight infection. Many things can lower the number of white blood cells in your child’s blood – disease, medications (including chemotherapy), infection, and radiation.

There are different types of white blood cells in the blood. Neutrophils are the most important white blood cells that fight infection. The number of neutrophils in your child’s blood can be determined when your child has a CBC (complete blood count). From this information, your child’s doctor or nurse can determine his ANC (absolute neutrophil count). The ANC can tell us how well the body can fight off infections. ANC can be calculated by the following method (Your child’s doctor or nurse will help you learn how to do this.

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\text{% Segs + % Bands} \times (\text{WBC} \times 10) = \text{ANC}
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OR
\[
\text{% Neutrophils} \times \text{WBC} = \text{ANC}
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Normal ANC is greater than 1,500/mm³. An acceptable ANC for children on chemotherapy is greater than 1,000/mm³. When your child’s ANC is less than 500/mm³ or less than 1000/mm³ and falling, you will need to take the following precautions:

- At home you do not need to keep your child away from other family members unless they are sick. Your child may also play outdoors in good weather.
- Check your child’s temperature twice a day or at any other time you are concerned. Check his temperature by mouth, under the arm or by ear. Never check his temperature rectally.
- Call the oncology nurse on call immediately if your child has a fever of 101.5°F (38.6°C) or higher. Your child will need to see the doctor in the clinic or in the Emergency Room if he has a fever. The doctor will take a blood culture to see what is causing the fever. Your child will then need antibiotic therapy to help fight the infection. Your child may need antibiotics for several days depending on the infection causing his fever and illness. Your child will probably be admitted to the hospital for antibiotic therapy.
- Do not give your child acetaminophen (Tylenol®) or ibuprofen when his ANC is low unless instructed by his doctor or nurse. Acetaminophen or ibuprofen can hide a fever that may keep you from realizing the need to see the doctor.
- Generally, your child will not be given chemotherapy while his ANC is low.
- Check your child’s skin carefully every day while his ANC is low. Your child’s skin is his first infection fighter. Even small cuts and sores can become infected at this time. Bath time and bedtime are good times for checking your child’s skin. Remember old IV sites and bone marrow or spinal tap sites can be a source of infection. Report any redness or drainage around such sites to your child’s doctor or nurse.
• Have your child use good bathroom habits. Keeping clean and hand washing are always important, but especially while your child’s ANC is low. Be sure to check the skin around your child’s rectum for cleanliness and any other signs of irritation daily. Report anything unusual to your child’s doctor or nurse.

• Remember to have your child brush his teeth several times each day. Check for any sores in or around the mouth. Report any sores or blisters to your child’s doctor or nurse.

• It is important to avoid anything that might cause a skin infection when your child’s ANC is low. No tattoos or piercings should be done.

• If your child has a central line, be sure to check for any redness or drainage around the catheter insertion site. Report any sores or blisters to your child’s doctor or nurse.

• Always have your child wear a mask while in the hospital or the clinic when his ANC is low. You can pick up a mask from the reception desk as you enter the clinic or the oncology unit.

In addition to the above, when your child’s ANC is low:

• **Your child should not attend school.** Talk with your child’s teacher to have school work sent home to allow your child to keep up with his studies.

• Your child should not go near large crowds of people. Church, shopping malls, theaters and athletic events are places that should be avoided.

• Your child should wear a mask outside.

• Immunizations are generally withheld until chemotherapy is done and your child has no low blood counts for 6 months.

**Infections that develop when your child’s ANC is low may not be easily noticed. Be sure to report any of the following to your child’s doctor or nurse immediately.**

• Fever of 101.5°F (38.6°C) or higher

• Any changes in the way your child is acting

• Any unusual redness or drainage from any part of your child’s body

• Chills

Call the Hematology/Oncology nurse at (816) 234-3265 (Monday through Friday, 8 am to 5 pm) or the Hematology/Oncology nurse on call at (816) 234-3000 (after office hours, and on weekends and holidays).

**If your child needs to be seen or come in for treatment, please call ahead so we can prepare the clinic or Emergency Room for you and your child.**