

## **Track 2: Treatment Options**

### **Narrator**

Many people with CML have found education sessions and support groups helpful. Some of these try to meet the needs of people with all kinds of cancers; others focus on one type. Some provide information; others emotional support. Some are led by nurses or social workers, others by peers—people just like you with cancer.

You're about to listen in on a group very much like those that gather throughout the country. This group includes people with cancer, and family members and others in their lives. Some members have been living with CML for a while. Some are new.

### **Linda (Social Worker)**

Hello everyone. I'm Linda, an oncology social worker at the Cancer Center. I've been helping with this group for several years. Tonight, our focus is CML, how the diagnosis is confirmed and how it's treated. Dr. Griffin, a hematologist/oncologist, is here to help us learn.

### **Dr. Griffin**

Diagnosing CML is not always simple. Many signs and symptoms are common to other illnesses. They often develop slowly. Sometimes a person has no symptoms and CML is discovered during a routine check-up. Other times, a person may have symptoms such as tiredness, shortness of breath, pale skin, night sweats, weight loss, inability to tolerate warm temperatures, and an enlarged spleen. Does anyone have any questions? If you have a question, it's likely others have it, too. Feel free to ask anything...

### **Rick**

I've heard it's related to chromosomes. Can I pass it on to my children?

### **Dr. Griffin**

Chromosomes **do** relate to CML. Chromosomes contain DNA which defines how new cells grow and develop. Chromosome changes help to identify the type of leukemia, and other factors doctors use to guide treatment.

In CML, chromosomes 9 and 22 are abnormal. A piece of each breaks off. The shortened chromosome 22 is called the Philadelphia or Ph (pronounced P-H) chromosome.

For most people with CML, the causes of chromosome changes are unknown. In some, it's thought that they may have been exposed to high levels of radiation that resulted in chromosome damage. Even though chromosomes are affected, though, it's not something you can give to your children. It's not inherited.

### **Evelyn**

Why does it take so long to diagnose CML? For the longest time, my doctor wasn't sure what was going on.

### **Dr. Griffin**

It can take a long time to get diagnosed.

Signs and symptoms can relate to other conditions. There's a step-by-step process to diagnosing CML. Think of this process as a puzzle. The first pieces of the puzzle are the thorough health history and physical exam done by the doctor or nurse practitioner. Blood tests complete the picture and confirm the diagnosis. The complete blood count—or “CBC”—is often the first blood test. It measures number and types of red and white blood cells and platelets. A person with CML has higher than normal numbers of white blood cells, and may also have lower numbers of red cells and platelets. Immature white blood cells, called myeloblasts, are rarely found in the blood of healthy people, but may be present in the blood of people with CML. Other blood tests show the person's overall health

status – especially the health and levels of function of the heart, liver, and kidneys. Women of child-bearing age for whom chemotherapy could be needed will be tested for pregnancy.

### **Evelyn**

My doctor said I needed a bone marrow biopsy to find out for sure.

### **Dr. Griffin**

Bone marrow tests—bone marrow aspiration and bone marrow biopsy—are needed to confirm the presence of the Ph chromosome and the CML diagnosis. These tests can be done safely in your hematologist’s office. Fluid from the bone marrow is removed in the aspiration. A tiny core of marrow is removed in the biopsy. Usually the aspiration and biopsy are taken from the hipbone. The procedure can be uncomfortable or even painful, but local anesthetic is used to numb the area. Sometimes, sedative medications are used to limit discomfort.

Cells from the marrow are examined and specific tests – called cytogenetic analyses – look for changes in chromosomes, including the Philadelphia chromosome and the *Bcr-Abl* (pronounced B-C-R able) gene. The error on chromosome 9 involves a gene called *Abl*. The error on chromosome 22 involves a gene called *Bcr*. The *Bcr* and *Abl* genes combine to make the CML-causing gene called the *Bcr-Abl* cancer gene. These tests are very helpful in making treatment decisions and are repeated from time to time to assess disease status.

More information about CML is available at The Leukemia & Lymphoma Society website (<http://www.lls.org/diseaseinformation/leukemia/chronicmyeloidleukemia/>), or by calling The Leukemia & Lymphoma Society’s Information Specialists at (800) 955-4572.