



PATIENT & CAREGIVER EDUCATION

About Clonal Hematopoiesis (CH)

This information will help you learn about clonal hematopoiesis (hee-MA-toh-poy-EE-sis), also known as CH. It also provides information about Memorial Sloan Kettering (MSK)'s CH clinic.

What is CH?

CH is when a hematopoietic (hee-MA-toh-poy-EH-tik) stem cell (a cell that makes blood cells) starts making blood cells that all have the same genetic mutation (change in their genes). The blood cells with the genetic mutation are different from the rest of your blood cells.

Your blood cells are made in your bone marrow (the soft tissue in the center of your bones).

How do I know if I have CH?

There are no warning signs of developing CH. Most people with CH never have any symptoms. Most people find out they have CH accidentally if they have a blood test to look for other genetic mutations.

What causes CH?

There's no single thing that causes CH. Risk factors that can increase your chances of developing CH include:

- Getting older
- Being male
- Being white

- Smoking

Radiation therapy and some types of chemotherapy may also be linked to CH, but more research is needed.

It's possible to get CH even if you don't have any of these risk factors.

What are the risks of CH?

CH can lead to blood cancer, but most people with CH never get blood cancer. Less than 1% of people (no more than 1 out of every 100 people) with CH get blood cancer each year.

People with CH have a higher risk of having cardiovascular (heart) disease, such as heart attacks. People with CH are about twice as likely to get heart disease as people without CH.

Should I be tested for CH?

Most people shouldn't be tested for CH. This is because:

- Right now, there are no treatments for CH.
- Most people with CH have a low risk of developing a blood cancer.
- There aren't special heart disease screening guidelines for people with CH. People with CH should follow general heart disease screening guidelines.

Your doctor will tell you if you should be tested for CH.

What should I do if I have CH?

There's no treatment for CH, but you should tell your doctor if you've been diagnosed with CH. They'll monitor you for any risks related to CH. You can also make an appointment with MSK's CH clinic.

If you're at a higher risk for blood cancers (such as if you have low blood counts or certain genetic mutations), you may need to have tests to check for blood cancers

and other blood disorders. Less than 5% of people (fewer than 5 out of every 100 people) with CH need to do this. If you do, your doctor will give you more information.

These tests may include:

- Regular blood tests, such as a complete blood count (CBC) every 6 to 12 months.
- A bone marrow biopsy. For more information about bone marrow biopsies, read the resource *Bone Marrow Aspiration and Biopsy* (http://cdn.mskcc.org/pe/bone_marrow_aspiration_biopsy).

If you have CH, it's important to follow guidelines to lower your risk of heart disease. Talk with your primary care provider or cardiologist (heart doctor) about ways to do this, including:

- Keeping track of your blood pressure.
- Controlling your blood pressure if it's high.
- Keeping track of your cholesterol levels.
- Controlling your cholesterol if it's high.
- Following a healthy lifestyle.
- Quitting smoking if you smoke.

Some people may need other heart tests to check for heart disease, such as a computed tomography (CT) scan of their chest. If you do, your doctor will give you more information.

If I have CH, what are the risks to my children?

CH can't be passed to your children. They aren't at a higher risk of getting it.

What is MSK's CH clinic?

MSK's CH clinic team is made up of nurses and CH specialists, including hematologists (doctors who specialize in blood diseases) and cardiologists. If you would like more information about MSK's CH clinic, or to make an appointment, talk with a member of your healthcare team.

In the CH clinic:

- If you're at a higher risk for blood cancers, you'll have tests (such as blood tests or a bone marrow biopsy) to check for blood cancers and other blood disorders.
- You'll meet with a cardiologist to be screened for heart disease. This includes blood tests and, in some cases, additional heart testing.

If you're diagnosed with a blood cancer, your CH clinic team will work with blood cancer specialists at MSK to create a treatment plan.

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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