

Understanding Cytokine Release Syndrome (CRS) During Cancer Treatment

What is Cytokine Release Syndrome (CRS)?

Cytokine Release Syndrome (CRS) is a side effect that can happen after certain immune therapy treatments. These treatments make T-cells release proteins called cytokines. Cytokines bring immune cells together to help kill cancer cells. They also cause inflammation, similar to what happens when your body fights a bad infection.

When does CRS happen?

For most patients, CRS usually starts within hours or days, but may occur up to 1 week after treatment, depending on the type of therapy you get. It often begins with a fever and flu-like symptoms, but it can get worse quickly and lead to serious illness.

What are the signs and symptoms of CRS?

Common symptoms of CRS include:

- Fever of 100.4 °F (38 °C) or higher
- Feeling very tired
- Feeling unwell
- Shortness of breath or low oxygen levels
- Nausea and vomiting
- Chills
- Fast heartbeat or changes in heart rhythm
- Rash
- Headache
- Muscle and joint pain
- Changes in kidney function
- Low blood pressure

What puts me at risk of experiencing CRS?

Your risk for CRS can increase if you have an active infection or have large amounts of cancer in your body (also called “bulky disease”).

How is CRS diagnosed?

CRS is diagnosed based on whether you have a fever with low blood pressure, low levels of blood oxygen, or both.

Note: Your vital signs (like temperature, blood pressure, and blood oxygen levels) will be monitored during the periods that you are at highest risk of developing CRS.

What are the complications of CRS if my symptoms are not managed?

If not treated, mild to moderate cases of CRS can lead to uncontrolled fevers, shortness of breath, and low blood pressure. Severe cases can cause organ failure and even death.

What can I do to prevent or minimize CRS?

- Check your temperature regularly or whenever you feel unwell, and report any fevers right away.
- Tell your care team if you have signs of fever, like chills, shivering, sweating, or weakness.
- Inform your care team if you have symptoms of infection, like a cough, runny nose, sore throat, or diarrhea.
- Check your blood pressure regularly or when feeling unwell, and report low readings immediately.
- Tell your care team if you have shortness of breath, trouble breathing, or changes in your heart rhythm.
- Avoid taking over-the-counter pain medications like acetaminophen (Tylenol), ibuprofen (Advil), or naproxen (Aleve) unless your care team says it's okay.

What might my care team provide to help?

- Your care team will monitor you closely for fevers, low blood pressure, or shortness of breath.
- Treatment for CRS includes fever-lowering medications, intravenous (IV) fluids, or oxygen to control symptoms.
- Some patients may need to be treated in the hospital and receive additional medications, such as steroids or medications that block the effects of cytokines.
- For severe cases, patients may need treatment in the intensive care unit.

When should I call my care team?

Call your care provider or get emergency help right away if you experience any of the following:

- Difficulty breathing.
- Fever (100.4°F/38°C or higher).
- Chills or shivering.
- Confusion.
- Dizziness or lightheadedness.
- Shaking or twitching (tremor).
- Fast or irregular heartbeat.
- Severe fatigue.
- Severe nausea, vomiting, or diarrhea.

How can I tell if my CRS is getting better?

Signs that CRS is improving include:

- Less frequent fevers and lower fever temperatures.
- Improved shortness of breath and/or decreased need for oxygen.
- Improved or normalized blood pressure readings.

What questions should I ask my care team about CRS?

- How long will I have to stay at or near a hospital?
- Do I need a caregiver?
- How closely should I be monitored after my treatment?
- Is it helpful for me to track my symptoms? What do you recommend?
- Who should I contact if I experience any symptoms of CRS or have any questions?
- When should I go to the emergency department if I experience any symptoms of CRS?
- How will you or my caregiver know I am having symptoms of CRS?
- How will you treat CRS?
- Are there any medications or activities I should avoid while receiving therapy?
- Will I receive a wallet card? What do I need to do with it?

Notes

Updated Date: September 29, 2025

Scan the QR code below to access this education sheet.



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