

# CHAPTER 1

## OVERVIEW OF CHRONIC GRAFT VERSUS HOST DISEASE

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As we make strides to save lives through the use of bone marrow and stem cell transplants, progress also has been made in helping patients navigate through their post-transplant challenges, including **chronic Graft Versus Host Disease (cGVHD)**.

This book offers support, tips and answers about cGVHD for patients and their caregivers. We hope it will leave you better informed to manage the days and years ahead.

Throughout this book you may come across terms or concepts that you have not heard before. Many of these terms are bolded and are defined in the **Words to Know** section. As always, if you have any concerns or questions after reading this book, talk to a member of your transplant team.

“GVHD is hard, and nobody understands it. Even my spouse, who has been a faithful and steadfast caregiver living through this with me, sometimes doesn’t get it.”

### What is Chronic Graft Versus Host Disease?

Chronic Graft Versus Host Disease is often called cGVHD for short. Chronic GVHD is the immune mediated disorder that occurs after an allogeneic stem cell transplant (transplant from a donor).

Another way to describe it would be as a common and long-term side effect of a transplant caused by the genetic differences between you (the transplant recipient) and your donor. These genetic differences may result in the graft (the donor’s **immune system**) attacking you (the host), hence the term “graft versus host.”

While severe cGVHD is very debilitating, mild cGVHD can be helpful. When your new donor immune system attacks and harms tissues and organs, it also targets any cancer cells left in your body, which lowers the risk of your cancer coming back. When this happens, it is called “Graft Versus Leukemia Effect” or “Graft Versus Tumor Effect.”

“Be patient and don’t give up. Be willing to accept that life may be different from what it was before. Enjoy every accomplishment, any progress, and every good day.”

## The difference between Acute GVHD and Chronic GVHD

In the past, GVHD was called acute or chronic based on when it occurred after transplant. Today, we know that timing isn't everything. Whether GVHD is acute or chronic depends on the manifestations of GVHD, how it looks, and which organs it affects. Although **acute GVHD** most often occurs one to three months after transplant, it can happen for the first time or come back three months or more after transplant. Chronic GVHD can also happen within the first three months after transplant, but chronic GVHD is more common after the first three months. Chronic GVHD does not have the same symptoms or response to treatment as acute GVHD.

## Symptoms of cGVHD

Chronic GVHD can affect your skin, eyes, mouth, lungs, muscles, joints, liver, stomach, intestinal tract, and genitals. Often GVHD symptoms appear or worsen when immune suppression medicines are being **tapered** down or decreased.

Symptoms can be sudden, such as a new skin rash. Or, they can be hard to notice, such as a slow increase in dry eyes or mouth, stiff muscles, or tight skin. Take note of any changes in the way you feel, and report them right away to your transplant team so you can be seen and treated.

## Risk Factors for cGVHD

Risk factors for getting cGVHD are:

- prior acute GVHD
- unrelated donor transplant
- female donor for a male recipient
- female donor with more than one pregnancy
- use of radiation during the conditioning plan before transplant
- use of peripheral blood stem cells

Many of these risk factors cannot be changed. Although there are some scientific advances in this field, they are not yet ready for implementation in a clinical setting.

## Treatment Options

Treatments for cGVHD depend on how early it is caught, how bad it is, and what organs it affects. Finding symptoms early is vital. Certain problems, such as dry eyes, may be permanent, so the sooner it is noticed and treated, the better. Other problems, such as skin rashes can go away completely.

Treatment is based on which organ is involved. If cGVHD is severe or if more than one organ system has cGVHD, systemic immunosuppressive treatment may be used. **Systemic treatment** affects the whole body.

Recently, the FDA (Food and Drug Administration) approved ibrutinib (Imbruvica®) for the treatment of adults with cGVHD after failure of one or more lines of therapy. This is the first drug to be FDA approved for cGVHD, and hopefully there will be more to come; research studies are ongoing.

In general, current treatment strategies are based on knowledge acquired from prior experience and research studies. **Clinical trials** (research studies) for acute and chronic GVHD treatments are taking place all over the country. You may want to think about joining a clinical trial, especially if your cGVHD has come back or has become worse after treatment. To learn more about clinical trials, see Chapter 3.

“At the beginning, I used to be very passive, relying heavily on everything the doctors and nurses told me. I then realized that I was the one person responsible for my well-being and that sometimes I should listen to my instincts more because I knew what was best for me. The medical team can provide a lot of good information, but nobody reacts the same way to treatments, nobody has the same side effects, etc. At the end of the day, you’re the one dealing with the symptoms.”

## Increased Risk of Infection

Chronic GVHD often weakens your **immune system** and can increase your risk of getting an infection. Treatment for cGVHD tends to hold back your immune system, further raising the risk of infection. It is very common to be on **antibiotics** and antiviral or antifungal medicines to prevent infections while you are being treated for cGVHD.

Vaccines should be administered according to published, recommended schedules to help prevent infections. Although they may not work as well while being treated for cGVHD, these can still be considered. You should talk to your physician and transplant center about vaccinations.

Most transplant centers will start vaccinations six to 12 months after transplant. These often include flu vaccine, pneumococcal vaccine, and “childhood” vaccines such as DTaP and hepatitis A and B. Live vaccines, such as nasal influenza or varicella (chicken pox), should

not be taken. Discuss your vaccination options and potential risks and benefits with your healthcare team.

## Late Effects of cGVHD

Late effects are changes that happen to your body well after your transplant. As the number of transplant survivors grows, the focus of care has shifted to addressing these late effects.

Late effects from cGVHD can depend on:

- how your original disease was treated
- how your cGVHD has been treated
- what type of chemo and/or radiation you got during transplant
- when your cGVHD started

Late effects of cGVHD or transplant can include:

- high blood pressure
- diabetes (high blood sugar)
- greater risk of heart problems
- elevated lipids (a type of fat in your body)
- bone loss (osteoporosis)
- thyroid problems
- lung problems
- secondary cancers

Most of these late effects can be treated if found early. Go to your transplant center for follow-up visits and take part in comprehensive screenings and testing for late effects so you can live longer and healthier. See Chapters 9 and 10 for tips on managing your care and for guidelines for needed tests.

Also, eating healthy, exercising, and avoiding substance use, such as smoking, illicit drugs and too much alcohol, is important. To learn more on wellness and keeping healthy, see Chapter 7.

## Ideal Post-Transplant Care

Taking care of your health challenges long after your transplant requires doctors who are experts at dealing with cGVHD and its late effects. Many transplant centers have transplant clinics to follow your treatment in a well-planned way.

There are also many long-term follow up and survivorship clinics for transplant patients, which provide specialized long-term follow up care focused on patients who have undergone allogeneic stem cell transplants or patients who have cGVHD. The American Society for Transplantation and Cellular Therapy (ASTCT) has a directory of these clinics). Look for a team of experts from many areas of medicine, such as dermatology, ophthalmology, cardiology, **pulmonology**, and endocrinology, who know how to work with transplant patients and who can spot your special needs. You and your post-transplant team should update your primary care provider often to ensure coordinated care.

## Your Caregiver

Another vital part of transplant care is your caregiver. Very few transplant centers will offer transplant without any support from family or friends. While a lot is demanded of caregivers, they often get little support. It is common for caregivers to have fatigue, worry, and many other concerns. To learn more about caregiver issues, see Chapter 8.