



How Rehabilitation Medicine Can Help Patients with Graft-versus-Host Disease



Megan Nelson MD
UofL Health
Brown Cancer Center

Celebrating a Second Chance
at Life Survivorship Symposium

April 30 - May 6, 2022



Ekta Gupta MD
The University of Texas
MD Anderson Cancer Center

Rehabilitation in Chronic Graft-versus-host Disease

Megan B. Nelson, MD
Associate Professor, University of
Louisville
Medical Director of Cancer Rehabilitation

Ekta Gupta, MD
Assistant Professor, UT MD Anderson
Cancer Center

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Outline

- Describe roles of rehabilitation providers
- Review potential areas of the body affected by chronic Graft-versus-Host disease (cGVHD) that can impact function
- Describe the side effects of steroids
- Exercise precautions
- How to advocate for self

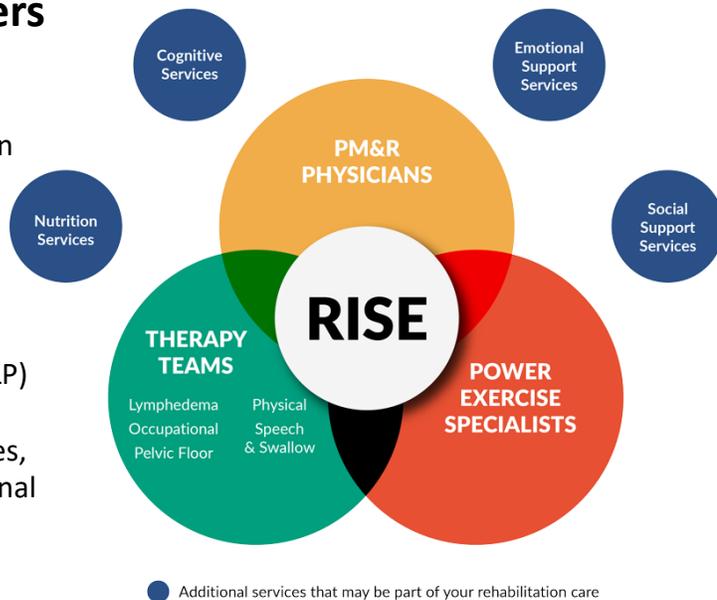


BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

<https://depositphotos.com/124755282/stock-illustration-rehabilitation-word-cloud.html> Accessed 3/18/22

Rehabilitation Providers

- Physical Medicine and Rehabilitation (PM&R) Physician
- Physical Therapy (PT)
- Occupational Therapy (OT)
- Speech Language Pathology (SLP)
- Other includes nutrition services, social support services, emotional support services, prosthetist/orthotist



BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

<https://healthcare.utah.edu/huntsmanrecoveryinstitute/treatment/rehabilitation.php> Accessed 3/17/22

	Physical Therapy
Goal	<ul style="list-style-type: none"> • Restore and maintain mobility and function • Treat physical source of injury & help reduce future injury
Focus	<ul style="list-style-type: none"> • Ability to walk or use devices to help with mobility including wheelchair/walker/cane, maintain balance, sit and stand up or transfer between surfaces
Tools	<ul style="list-style-type: none"> • Stretching, strengthening, exercise equipment, manipulations, electrical stimulation, etc • Durable medical equipment use – wheelchair, walker, cane, crutches, etc
Setting	Wide Range (Hospitals, Skilled Nursing Facilities, Outpatient, Homes)

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

	Occupational Therapy
Goal	<ul style="list-style-type: none"> • Restore and maintain ability to do daily tasks • Optimize independence • Treat physical source of injury and help reduce future injury. Typically in arms/hands
Focus	<ul style="list-style-type: none"> • Ability to manage daily tasks and hygiene. Brushing teeth, getting dressed, bathing, toileting, cooking, cleaning • Adapting to jobs or hobbies
Tools	<ul style="list-style-type: none"> • Same as Physical Therapy but with different focus and goals. • Durable medical equipment use – shower bench/chair, toilet adaptations, grab bars, adapted food utensils, etc.
Setting	Wide Range (Hospitals, Skilled Nursing Facilities, Outpatient, Homes)

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

	Speech Therapy
Goal	<ul style="list-style-type: none"> • Restore and maintain communication skills, swallow, and cognition
Focus	<ul style="list-style-type: none"> • Ability to communicate with voice or signs or technology • Ability to swallow • Ability to use cognitive abilities to engage with environment and others
Tools	<ul style="list-style-type: none"> • Strengthening of oral and swallow muscles • Adapted communication devices
Setting	Wide Range (hospitals, skilled nursing facilities, outpatient, homes)

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Physiatrist – Physical Medicine & Rehabilitation Physician

	Physiatrist
Goal	<ul style="list-style-type: none"> • Maximize patients’ daily function • Maximize quality of life
Focus	<ul style="list-style-type: none"> • Diagnose, treat, and prevent impairments of function • Identify contributors to reduced function: such as, cancer itself, cancer treatments and their side effects (such as cGVHD), other • Assist with creating functional goals with the patient

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Physiatrist – Physical Medicine & Rehabilitation Physician

	Physiatrist
Tools	<ul style="list-style-type: none">• Diagnostic evaluations – imaging, labs, neuropsychology testing, driving assessment, vocational assessment, etc.• Appropriate referrals to therapy interventions (physical therapy, occupational therapy, speech-language pathologist, psychology assistance, etc.)• Interventions – injections, prescribing appropriate durable medical equipment
Setting	Hospitals and outpatient offices

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

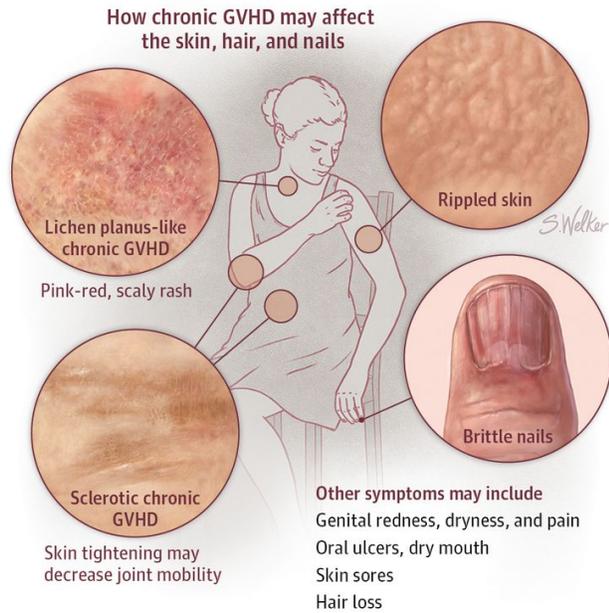
Areas of the Body affected by cGVHD Can Impact Function

- Skin and connective tissues (fascia)- includes mouth
- Eyes (ocular)
- Heart/lungs (cardiopulmonary)
- Muscle

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Skin & Fascia

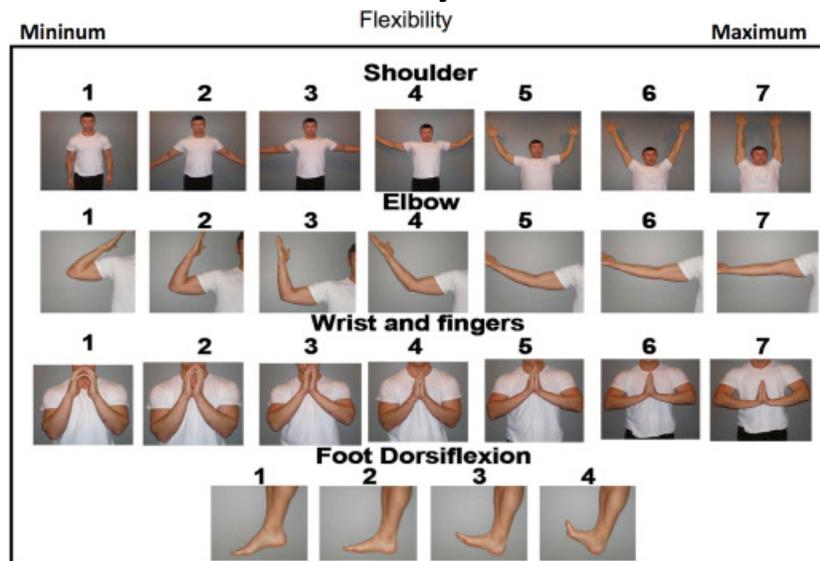
- Impacts -
 - Movement & Mobility
 - Daily hygiene and tasks
 - Job & Hobbies
- Stretching, but monitor skin integrity
- Avoid pools with open wounds



BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Cowen, EW. "Graft-vs-Host Disease" JAMA Dermatology March 2016;152(3):356. doi:10.1001/jamadermatol.2015.5659

cGVHD – Skin & Fascia – Way to Monitor

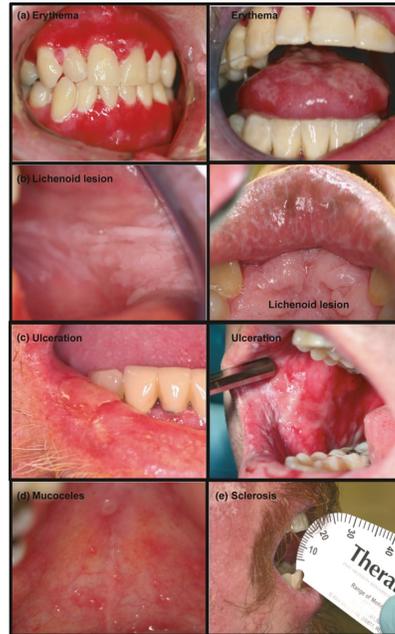


BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

The P-ROM assessment and scoring system
From Carpenter PA. How I conduct a comprehensive chronic graft-versus-host disease assessment. Blood 2011;118(10):2682

cGVHD - oral

- Impacts:
 - Swallow
 - Speech
- Assistance
 - Speech therapy
 - Dietitian assistance
 - Therabite/Dynasplint

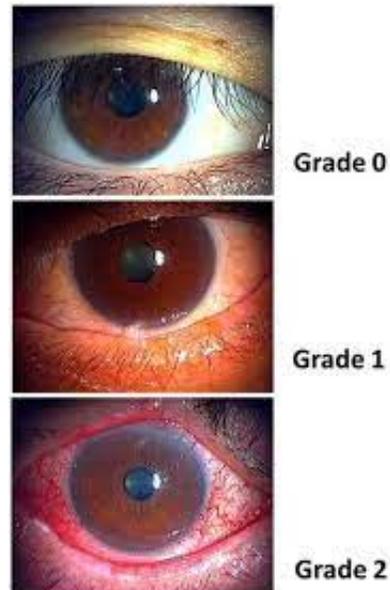


BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Mays, JW, et al. "Oral chronic graft-versus-host disease: current pathogenesis, therapy, and research" *Oral Diseases* May 2013;19(4):327-346, online library.wiley.com/doi/10.1111/odi.12028

cGVHD - Ocular

- Impacts:
 - Vision
- Assistance
 - Driver evaluation
 - Equipment to help mobility



BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Nair, S, et al. "Ocular Graft versus Host Disease: A Review of Clinical Manifestations, Diagnostic Approaches and Treatment" *Open Journal of Ophthalmology* Feb-2016;6(1):1-10; DOI: [10.4236/ojoph.2016.61003](https://doi.org/10.4236/ojoph.2016.61003)

cGVHD – Cardiopulmonary – Heart & Lungs

- Impacts:
 - Fluid in the lungs
 - Changes to lung function
 - Breathing muscles weakness
 - Constriction around the heart
- Assistance
 - Cardiopulmonary Rehabilitation
 - Monitor increase in activity supervised



BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

<https://www.ahajournals.org/doi/full/10.1161/circheartfailure.113.000462>

Steroid-Induced Myopathy

- Impact:
 - Weakness in proximal muscles and neck
 - Slow onset of weakness
 - Difficulty going from sitting to standing
- Assistance
 - Can improve off steroids or with reduced dose
 - Rehab can help maintain and eventually restore function



BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

"Inflammatory Myopathies" https://www.orthopedic.com/inflammatory_Myopathies, Accessed 3/17/22

Things to keep in mind

- **Blood levels**
 - Anemia – **low red blood cell count** can make you tired/faint/dizzy and have difficulty doing activity
 - Neutropenia – **low white blood cell count** puts you at risk for infection
 - Thrombocytopenia – **low platelet count** puts you at risk for easy bruising and bleeding

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Things to keep in mind

- **Skin breakdown**
 - Avoid water/pool exercise
 - Avoid stretching that pulls/tugs at a wound

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

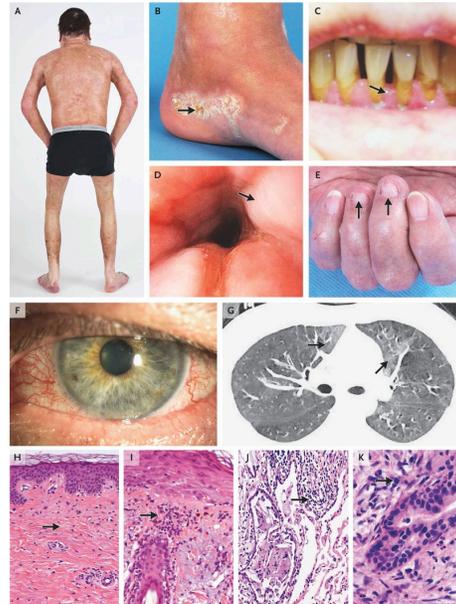
Things to keep in mind

- **Weakened bones**
 - Steroids can contribute to osteoporosis and weakened bones like femur heads
 - Weight bearing activity (such as walking) and resistance training (lifting light weights) is beneficial for bone integrity
 - If having pain in bones, have it evaluated before starting exercise programs

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Rehabilitation can help

- Maintain function
- Prevent worsening of function
- Restore function



Zeiser R, BR Blazar "Pathophysiology of Chronic Graft-versus-Host Disease and Therapeutic Targets" NEJM 2017; 377:2565-2579
DOI: 10.1056/NEJMr1703472

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

Which rehabilitation providers and why?

- Physical Medicine & Rehabilitation Physicians
 - diagnose conditions that affect patient's function
- Physical Therapists work on
 - mobility (walking, wheelchair, walker)
 - stretching, strengthening
- Occupational Therapists work on
 - arm and hand function
 - activities of daily living (bathing, dressing, toileting, etc.)
- Speech Therapists work on
 - swallow difficulty
 - communication difficulty

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

How to find a rehabilitation physician?

- Ask your oncologist for a referral to Physical Medicine and Rehabilitation
- Search the American Academy of Physical Medicine and Rehabilitation (AAPM&R) directory and put "Cancer" under areas of practice
members.aapmr.org/AAPMR/AAPMR_FINDER.aspx
- Talk to support/patient groups

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium



Megan B. Nelson, MD
Associate Professor, University of
Louisville
Medical Director of Cancer Rehabilitation

Ekta Gupta, MD
Assistant Professor, UT MD Anderson
Cancer Center

Thank You!

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium

<https://strawman.com/blog/5-key-questions-every-investor-should-ask/>, Accessed 3/18/22

BMT *infonet.org*
BLOOD & MARROW TRANSPLANT INFORMATION NETWORK
SURVIVORSHIP SYMPOSIUM



Megan Nelson MD

Questions?



Ekta Gupta MD

Celebrating a Second Chance at Life Survivorship Symposium 2022

bmtinfonet.org ♦ help@bmtinfonet.org ♦ 847- 433-3313



Let Us Know How BMT InfoNet Can Help YOU!



Visit our website: bmtinfonet.org

Email us: help@bmtinfonet.org

Give us call: 888-597-7674

We're here to help every step of the way!

BMT InfoNet Celebrating a Second Chance at Life Survivorship Symposium