

Massage Therapy & Esthetics for Bone Marrow Transplant Patients

Supporting Healing & Comfort Through Touch

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Introduction

Objectives of the Presentation:

- Define stem cells
- Define bone marrow transplants (BMT)
- Discuss types of BMT and associated complications
- Explain graft-versus-host disease (GVHD)
- Explore the role of massage therapy and esthetics in supportive care

Why This Matters:

- BMT patients experience pain, fatigue, anxiety, and immune suppression
- Massage therapy and esthetics can offer symptom relief and improve quality of life



What is a Stem Cell?

- Undifferentiated cells that can develop more of the same type or differentiate into any other kind of cell.
- Though stem cells can produce various types of cells, the focus today is on what type of blood cells they can become, such as:
 - White blood cells (WBC) - fight infection
 - Red blood cells (RBC) - carry oxygen
 - Platelets (PLTS) - clot blood
- They are found in blood, umbilical cords, and in the bone marrow, the spongy tissue found inside bones.

What is a Bone Marrow Transplant?

- **Definition:** A medical procedure replacing damaged or diseased bone marrow with healthy cells.
- **Purpose:** Treats blood cancers (e.g., leukemia, lymphoma), aplastic anemia, and other immune disorders.

Types of Bone Marrow Transplants

Autologous Transplant:

- Uses patient's own stem cells
- Lower risk of rejection
- Used primarily in multiple myeloma, lymphoma, germ cell tumors, and Multiple Sclerosis.

In the mobilization stage, injections of a drug called filgrastim are given daily for 5 days prior to collection and throughout collection. Some patient may receive a greater number of injections due to their specific disease type.

- Filgrastim can cause body aches or bone pain due to it forcing the body to make more stem cells.

In the collection stage, patients undergo a lengthy day as the process typically takes 4-6 hours. This can be stressful for the patient.

During conditioning and treatment, the patient will receive high-dose chemotherapy 2-9 days prior to transplant, depending on specific disease type, to kill off all cancer cells and remaining bone marrow cells prior to transplant.

Autologous Stem Cell Transplantation

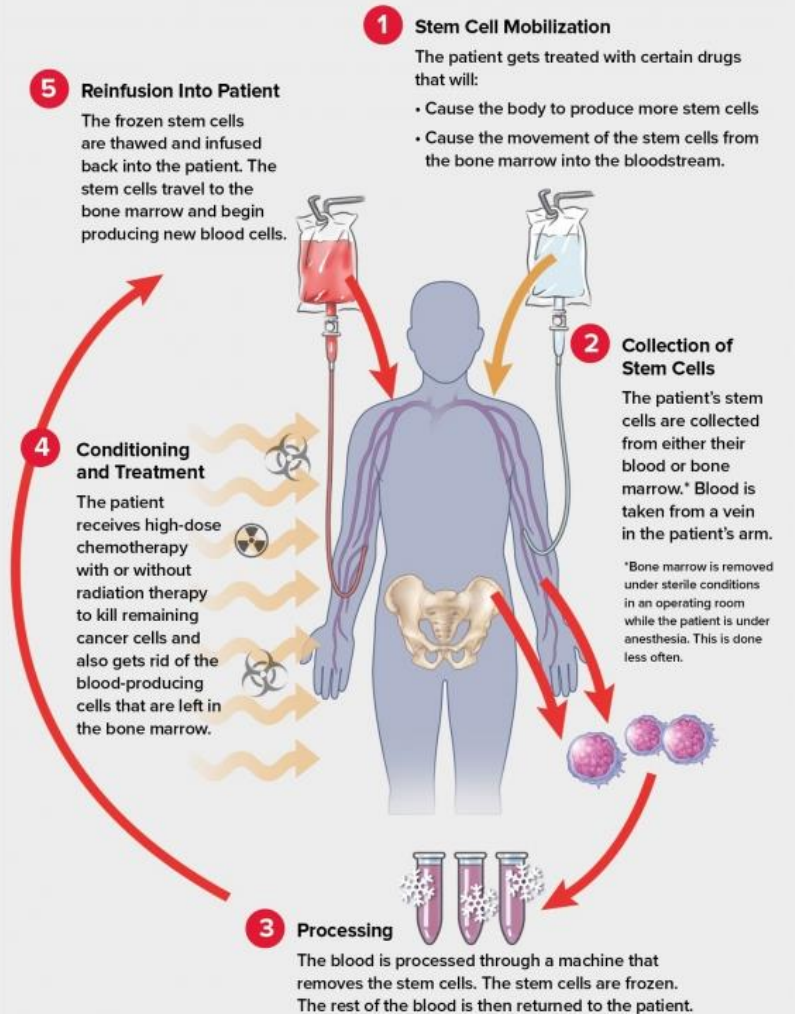


Figure 2. This illustration shows the autologous stem cell transplantation process. Once the stem cells are collected from the donor (patient), the cells are mixed with a cryoprotective agent so that they can be frozen (for many years) and then later thawed without injury. Once the patient has completed the conditioning treatment, the frozen stem cell collection is thawed and infused into the patient so that blood cell production can be restored.

Types of Bone Marrow Transplants

Allogeneic Transplant:

- Uses donor stem cells (matched related donor or matched unrelated donor)
- Risk of graft-versus-host disease (GVHD)
- Used in
 - Acute Myeloid Leukemia
 - Chronic Myeloid Monocytic Leukemia
 - Hodgkin's Lymphoma
 - Myelofibrosis
 - Myelodysplastic Syndrome
 - Aplastic Anemia

Haploidentical Transplant:

- Uses a half-matched donor (often a family member)
- Increasingly common for those without a full match

Allogeneic Stem Cell Transplantation

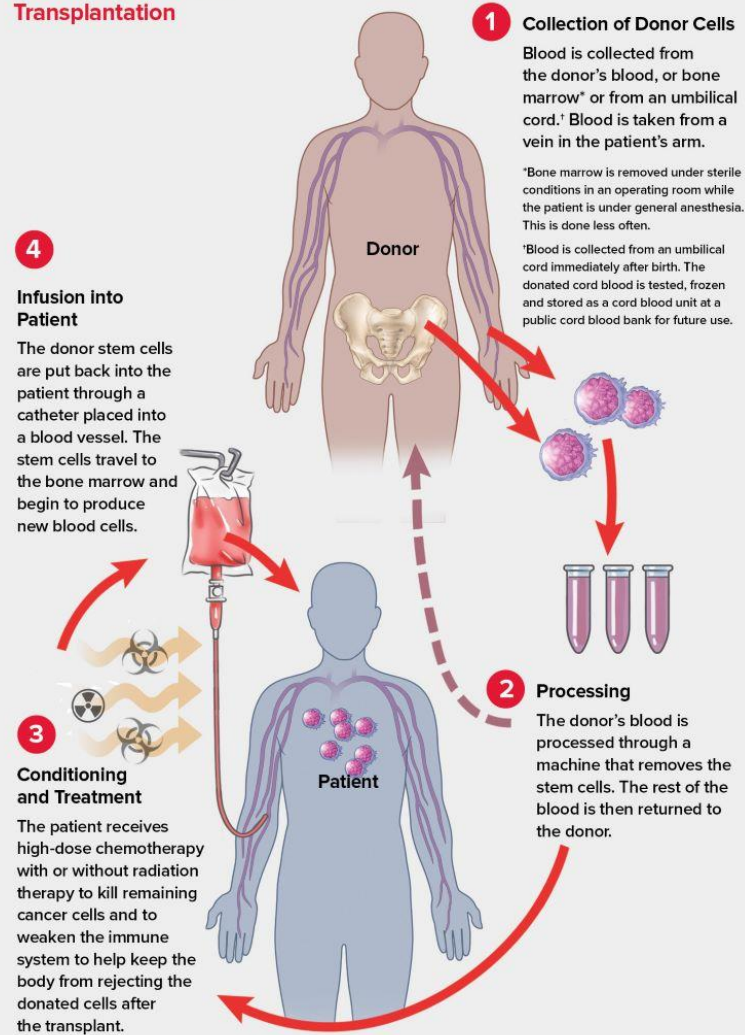


Figure 3. This illustration shows the allogeneic stem cell transplantation process. Once the stem cells are collected from the donor, the cells are mixed with a cryoprotective agent so that they can be frozen (for many years) and later once a patient is identified and the cells are needed, the cells can be thawed without injury and shipped to the patient.

CAR T-Cell Therapy – (Chimeric Antigen Receptor T-Cell)

- Removes T-cells from the blood and inserts a new gene into them to make it easier for T-cells to fight cancer.
- This is a new approach to fighting cancer using the patient's own immune system.
- Millions of these CAR T-cells are created and then re-infused into the patient to fight the cancer.
- It can take 3-6 weeks to create enough CAR T-cells for infusion.
- The patient may have additional recommended chemotherapy or radiation to prevent disease progression while waiting and they receive chemotherapy 5 days prior to receiving their CAR T-cells.



Common Complications of Bone Marrow Transplant

- **Infection Risks** – Due to weakened immune system
- **Mucositis** – Painful inflammation of the digestive tract
- **Graft Failure** – Donor cells don't engraft properly
- **Organ Damage** – Kidneys, liver, and lungs can be affected
- **Fatigue & Weakness** – Long-term effect of treatment
- **GVHD – Graft Versus Host Disease**

Additional Complications of CAR T-cell Therapy

- **ICANS – immune effector cell-associated neurotoxicity syndrome** can cause symptoms such as,
 - Headaches
 - Changes in consciousness
 - Confusion or agitation
 - Seizures
 - Shaking or twitching (tremors)
 - Trouble speaking and understanding
 - Loss of balance



Long-Term Needs of Bone Marrow Transplant Survivors require ongoing care for years after transplant due to potential late effects of treatment.

Common Long-Term Effects After a BMT

Fatigue & Weakness:

- Can persist for months to years

Chronic GVHD:

- May cause skin issues, organ involvement, and joint pain

Neuropathy:

- Nerve damage leading to numbness, tingling, or pain

Bone Health Issues:

- Risk of osteoporosis due to steroids or chemotherapy

Heart & Lung Concerns:

- Increased risk of cardiovascular disease

Emotional & Psychological Health:

- Anxiety, depression, or PTSD-like symptoms

Understanding Graft-Versus-Host Disease (GVHD)

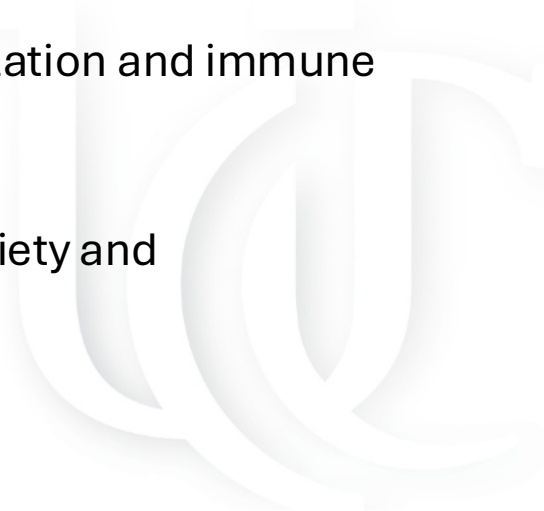
- **What is GVHD?**
 - Occurs when donor cells attack the recipient's body
 - More common in allogeneic transplants
- **Types of GVHD:**
 - **Acute GVHD:** Within 100 days post-transplant, affects skin, liver, and gut
 - **Chronic GVHD:** Can last months to years, affecting multiple organs
- **Symptoms of GVHD:**
 - Skin rash, dry eyes, liver problems, joint stiffness
 - GI issues (nausea, diarrhea)



Role of Massage Therapy in BMT Recovery

Benefits of Massage Therapy for BMT Patients

- **Pain Management:** Reduces muscle and joint pain
- **Stress Reduction:** Lowers cortisol, promotes relaxation
- **Improved Sleep:** Helps with insomnia and fatigue
- **Lymphatic Support:** Encourages circulation and immune function
- **Emotional Well-Being:** Decreases anxiety and depression



Pre-Massage Considerations

Obtain Medical Clearance

- Always **consult with the patient's medical team** before starting massage therapy.
- Ensure the patient is stable and does not have a fever, active infection, clotting disorder, or severe Graft-Versus-Host Disease (GVHD).

Assess the Patient's Condition

Before each session, evaluate:

- ✓ **Fatigue Levels:** Adjust session time based on energy levels.
- ✓ **Blood Counts:** Be cautious if the patient has low platelets
 - **<50,000/ μ L = increased bleeding risk**
 - **<20,000/ μ L = avoid massage as *spontaneous bleeding may occur**
- ✓ **Skin Integrity:** GVHD, rashes, or fragile skin may require modifications.
- ✓ **Medical Devices:** Consider the presence of PICC lines, central venous catheters, or ports.
- ✓ **Pain Levels:** Avoid over-stimulating sore areas.



Use Hygiene & Infection Control

- Wash hands thoroughly before and after treatment.
- Use gloves, if necessary (especially if the skin is broken or sensitive), and when high dose chemotherapy is being used.
- Sanitize the massage table, linens, and tools before and after each session, when in use.
- Avoid working if you have a cold, flu, or any contagious condition, and mask if needed.
- Use of CHG (chlorhexidine gluconate) compatible lubricants.

Communication & Consent

- **Build Trust:** Explain what to expect during the session
- **Encourage Feedback:** Adjust pressure and positioning as needed
- **Document Sessions:** Track patient response over time



How Massage Therapy Can Support Long-term Recovery

Pain & Fatigue Management

- Gentle massage techniques reduce muscle tension and improve circulation
- Shorter, more frequent sessions help prevent overstimulation

Supporting Skin & Soft Tissue Health (GVHD Considerations)

- Light lymphatic drainage for swelling
- Myofascial release to improve mobility and ease skin tightness

Enhancing Emotional Well-Being

- Regular massage sessions provide stress relief
- Helps improve sleep and reduce anxiety levels

Improving Circulation & Neuropathy Symptoms

- Reflexology & light foot massage can improve nerve function
- Hydrotherapy & contrast therapy can be used alongside massage

Massage Techniques & Modifications

Safe & Recommended Techniques

- **Gentle Swedish Massage** (Effleurage, Light Petrissage)
 - Benefits: Promotes relaxation, reduces stress, improves circulation.
 - Avoid deep tissue pressure due to potential bruising.
- **Lymphatic Drainage Massage (LDM)**
 - Benefits: Helps reduce swelling, supports immune function.
 - Use very light, rhythmic strokes toward lymph nodes.
 - It's important that massage therapists be fully and properly trained in this technique to prevent potential harm to the patient.
- **Craniosacral Therapy**
 - Benefits: Relieves tension, supports the nervous system.
 - Uses light touch techniques on the skull and spine.
- **Reflexology** (for hands and feet)
 - Benefits: Helps stimulate circulation and relaxation.
 - Avoid if the patient has peripheral neuropathy or sensitivity.
- **Myofascial Release (Modified for Fragile Skin)**
 - Benefits: Helps with **GVHD-related stiffness**.
 - Use **slow, sustained pressure**, avoiding aggressive stretching.



Special Considerations Based on BMT Complications

A. Patients with Graft-Versus-Host Disease (GVHD)

- **Acute GVHD:** Avoid massage if the skin is inflamed, peeling, or ulcerated.
- **Chronic GVHD:** Use extra hydration (gentle creams, hypoallergenic oils).

B. Patients with Peripheral Neuropathy

- **Symptoms:** Numbness, tingling, or pain in hands and feet.
- **Massage Modifications:** Use light pressure and slow movements, IF patient is ok with massage of these areas.

C. Patients with Low Platelets or Bleeding Risk

- **Use only feather-light touch** to prevent bruising.
- **Avoid** deep pressure or friction-based techniques.
- **<20,000 = NO MASSAGE!**

D. Patients with Fatigue & Weakness

- Use shorter, more frequent sessions.
- Encourage breathwork and guided relaxation techniques.

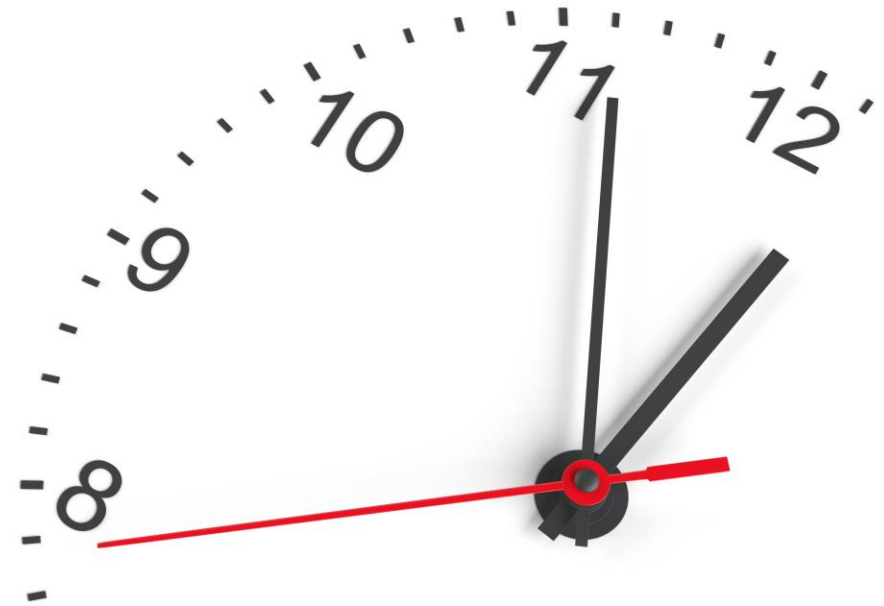
Areas to Avoid or Modify

- ✗ **Deep Tissue Work & Trigger Point Therapy** – High risk of bruising and discomfort.
- ✗ **Over-Stimulating the Immune System** – Avoid vigorous techniques.
- ✗ **Sensitive Areas (GVHD or Fragile Skin)** – Use only **light pressure** if tolerated.
- ✗ **Massage Over Medical Devices** (PICC lines, ports, catheters).
- ✗ **Work on the Abdomen During Active GVHD or Digestive Issues.**

Session Structure & Duration

General Guidelines

- Start with a shorter session (15-30 minutes) to assess the patient's response.
- Use a semi-reclined or side-lying position for comfort.
- Ask for real-time feedback about pressure and sensation.



Stage Post-Transplant	Recommended Duration	Frequency
0-3 Months	15-30 minutes	1-2 times per week, as patient can tolerate. Start with shorter sessions and build from there.
3-6 Months	30-45 minutes	Weekly or biweekly
6+ Months	45-60 minutes	As needed

After the Massage: Post-Session Care

Encourage Hydration

- Suggest room-temperature water or herbal tea.
- Avoid diuretics (like caffeine) that may dehydrate the body.

Monitor for Reactions

- Watch for dizziness, excessive fatigue, or skin reactions.
- If any adverse reaction occurs, report it to the medical team immediately.

Document the Session

- Note the patient's response, pressure tolerance, and any concerns for continuity of care.



Creating a Long-Term Plan for BMT Patients

A. First 6 Months Post-Transplant:

- ✓ Focus on stress relief & gentle touch therapy.
- ✓ Avoid stimulating deep circulation too aggressively.
- ✓ Use breathwork & relaxation techniques to support emotional well-being.

B. 6 Months – 2 Years Post-Transplant:

- ✓ Incorporate gentle myofascial release if mobility is affected.
- ✓ Address GVHD-related stiffness & scar tissue cautiously.
- ✓ Continue lymphatic drainage techniques as needed, and as trained.

C. 2+ Years Post-Transplant:

- ✓ Deep tissue work can be introduced gradually (with medical clearance).
- ✓ Continue maintenance massage for overall health & quality of life.
- ✓ Encourage self-care practices like stretching & mindfulness.





The Role of Estheticians in Caring for Bone Marrow Transplant (BMT) Patients

Estheticians can play a supportive role in the care of BMT patients by addressing skin-related side effects of treatment, promoting relaxation, and enhancing overall well-being. Given the immune-compromised state of these patients, special precautions must be taken.



Common Skin Concerns that Estheticians May Encounter with a Post-Bone Marrow Transplant Patient

A. Graft-Versus-Host Disease (GVHD) & Skin Changes

- **Acute GVHD (First 100 Days Post-Transplant):**
 - Skin rash, redness, peeling, itching
 - Can resemble a severe sunburn
- **Chronic GVHD (Beyond 100 Days Post-Transplant):**
 - Thickened, dry, or tight skin
 - Hyperpigmentation or hypopigmentation
 - Increased scarring and fibrosis

B. Chemotherapy & Radiation Side Effects

- Extreme dryness & sensitivity due to damage to sebaceous glands
- Skin thinning & bruising from long-term steroid use
- Photosensitivity requiring sun protection

C. Delicate Hair, Scalp, & Nail Changes

- Hair thinning or loss post-treatment
- Brittle nails & cuticle damage
- Scalp sensitivity & dryness



Emily Mendoza / Verywell

How Estheticians Can Help BMT Patients

A. Skin Care Treatments (Customized for Sensitivity)

- Always customize for skin sensitivity and then you can move into other concerns – predominantly dry skin
- Use gentle, fragrance-free, hypoallergenic products
- Focus on deep hydration (hyaluronic acid, ceramides, aloe vera)
- Avoid aggressive exfoliation, peels, or harsh scrubs
- Apply barrier repair creams for dry, irritated skin

B. Lymphatic Drainage & Facial Massage

- Helps reduce puffiness & inflammation
- Stimulates circulation without overstimulating the immune system
- Avoids deep pressure to prevent bruising

C. Scalp & Hair Care

- Gentle scalp treatments such as soothing serums
- Non-irritating, sulfate-free shampoos
- Scalp massage (light touch) to stimulate circulation
- Remember that with hair loss clients run cooler sometimes, so even an application of lotion left uncovered can bring the clients core temperature down.

D. Nail & Hand Care

- Use non-toxic, breathable nail polish
- Moisturize with nourishing oils (jojoba, vitamin E)
- Avoid cutting cuticles (infection risk)
- Gentle hand massages to improve circulation

E. Sun Protection Education

- Recommend broad-spectrum SPF 30+ (physical sunscreen preferred)
- Educate on UV protection for sensitive or GVHD-affected skin





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Safety Precautions for Estheticians Working with BMT Patients

- Ensure a sterile, clean environment (disinfect tools & surfaces)
- Avoid treatments during active infections, open sores, or GVHD flare-ups
- Check with the patient's medical team before providing services – *just because you have confirmed with their medical team doesn't make you safe! Know your role as a therapist and what you can and cannot do!*
- Modify treatments based on skin fragility, platelet levels, and overall health
- **Contradictions for Esthetic Treatments & GVHD**
 - Open wounds, ulcers or active infections – no work in these areas.
 - Blistering or peeling skin – risk of infection
 - Active rash or flare-ups – wait until medically stable
 - Use of electrical devices – refer to the medical device company you are working with.

Emotional & Psychological Support

- Provide a calming, spa-like atmosphere for relaxation
- Offer gentle touch therapy to ease anxiety
- Be empathetic & patient-centered, understanding body image changes



Estheticians can make a meaningful impact on BMT patients by providing safe, soothing treatments that support skin health, self-esteem, and overall comfort.

Collaboration with oncology teams ensures that services are safe and beneficial.

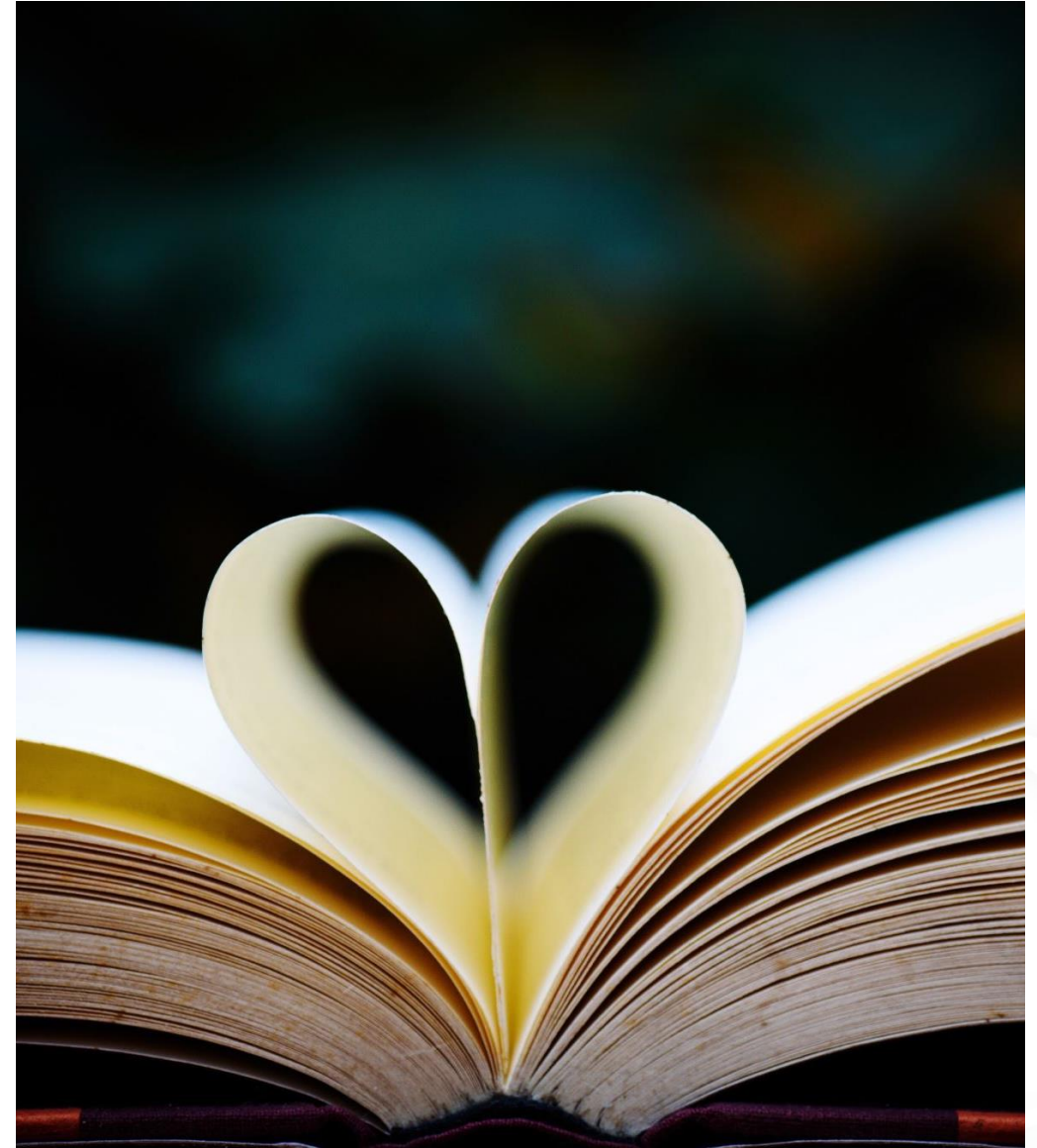


Summary & Takeaways

- Bone marrow transplants save lives but can have many challenges.
- Massage Therapy and esthetics can be a safe and effective supportive therapies and play a vital role in symptom relief and overall well-being for BMT patients.
- **Collaboration with Medical Team is Essential** to ensuring safe and effective care.
- **Individualized care is key** – Using a safety-first approach, techniques should be tailored based on fatigue, GVHD status, and other medical needs. Every patient's needs are different and ever changing.
- **Gentle & Relaxing Techniques Work Best** – Lymphatic drainage, light Swedish massage, and craniosacral therapy are preferred, with appropriate pressure adjustments based on platelet level.
- **Be Aware of Skin Sensitivity & GVHD** – Use hypoallergenic and CHG compatible products and avoid friction on fragile skin.
- **Avoid Deep Pressure & Circulatory Overload** – No deep tissue or aggressive stretching during the early post-transplant period and until patient is no longer in active treatment.
- **Emphasize Holistic Care** – Massage therapy should support mental, emotional, and physical well-being.
- Long-term survivors benefit from continued support for ongoing fatigue, neuropathy, discomfort, and stress.

Additional Resources & Training for Massage Therapists

- Advanced Oncology Massage Courses
- Lymphatic Drainage Therapy Training
- Hospice & Palliative Massage Training
- Energy therapy modalities
- Reflexology
- Acupressure Massage
- Hospital-Based massage training



Key Contributors

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