NURSING CHALLENGES CARING FOR BMT PATIENTS WITH GVHD

~~GVHD~~

JOYCE NEUMANN PHD, APRN, AOCN, BMTCN

PROGRAM DIRECTOR, SCTCT/ADVANCE PRACTICE NURSE

ADJUVANT ETHICIST, SECTION OF INTEGRATED ETHICS

THE UNIVERSITY OF TEXAS

MD Anderson ~~Cancer~~ Center

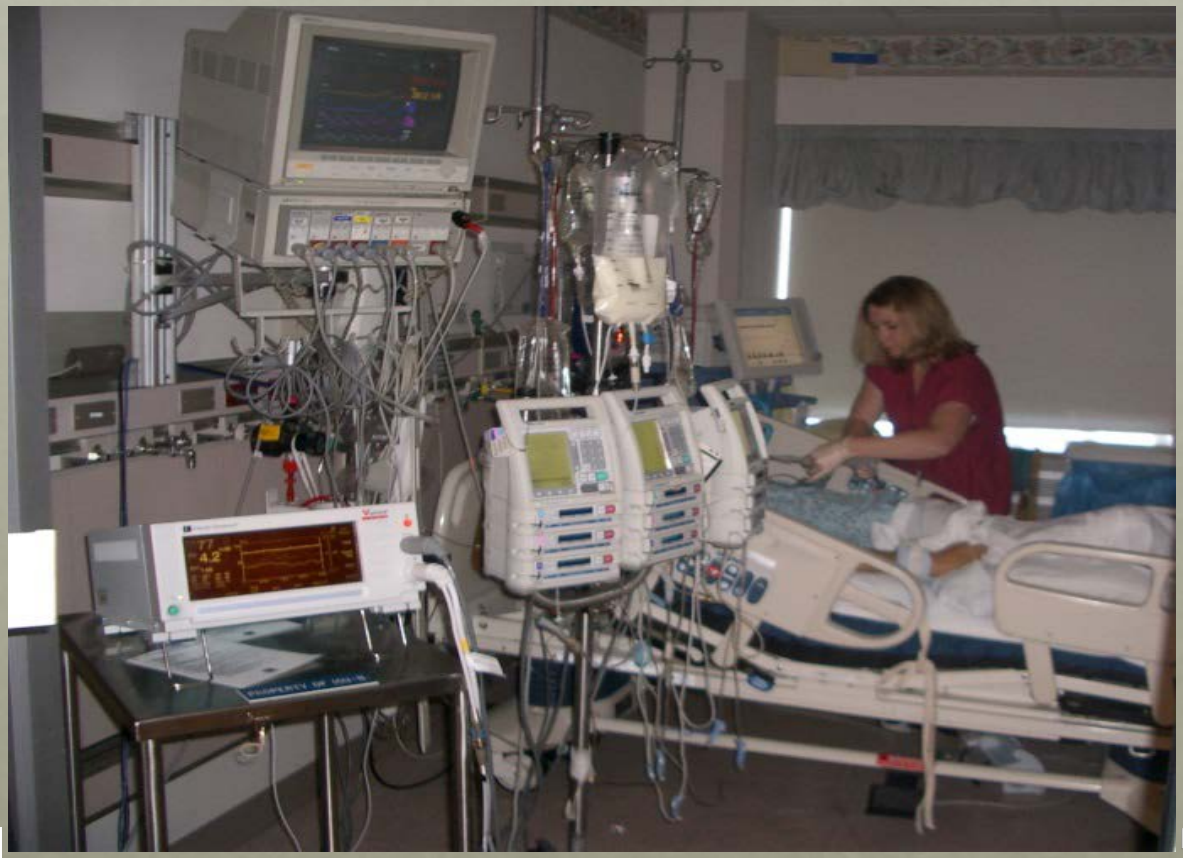
Making Cancer History®

WBMT

worldwide network for blood and marrow transplantation

WWW.WBMT.ORG

NURSING (AND MEDICAL) CARE OF BMT PATIENTS IS COMPLICATED !



WBMT
worldwide network for blood and marrow transplantation
WWW.WBMT.ORG

ITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

TRENDS IN BMT

- **Survival is improving** and patients are experiencing better quality of life (QOL) during treatment, early recovery and long term.
  - Expanding pool of stem cell sources
  - More effective, less toxic regimens
  - New supportive care drugs
  - Maintenance therapy
  - Specialized medical and nursing care
- Disease recurrence, **Graft-versus-host Disease (GVHD),** organ failure and secondary cancer common causes of late death

Majhail & Rizzo, 2013; Wingard et al., 2011 (CIBMTR)

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

NURSING CONSIDERATIONS

GVHD requires additional set of skills and knowledge: expected and less common side effects, assessment skills, standard and novel treatments, and acute/ICU care.

Effects of acute (late acute or overlapping syndrome) and chronic GVHD:

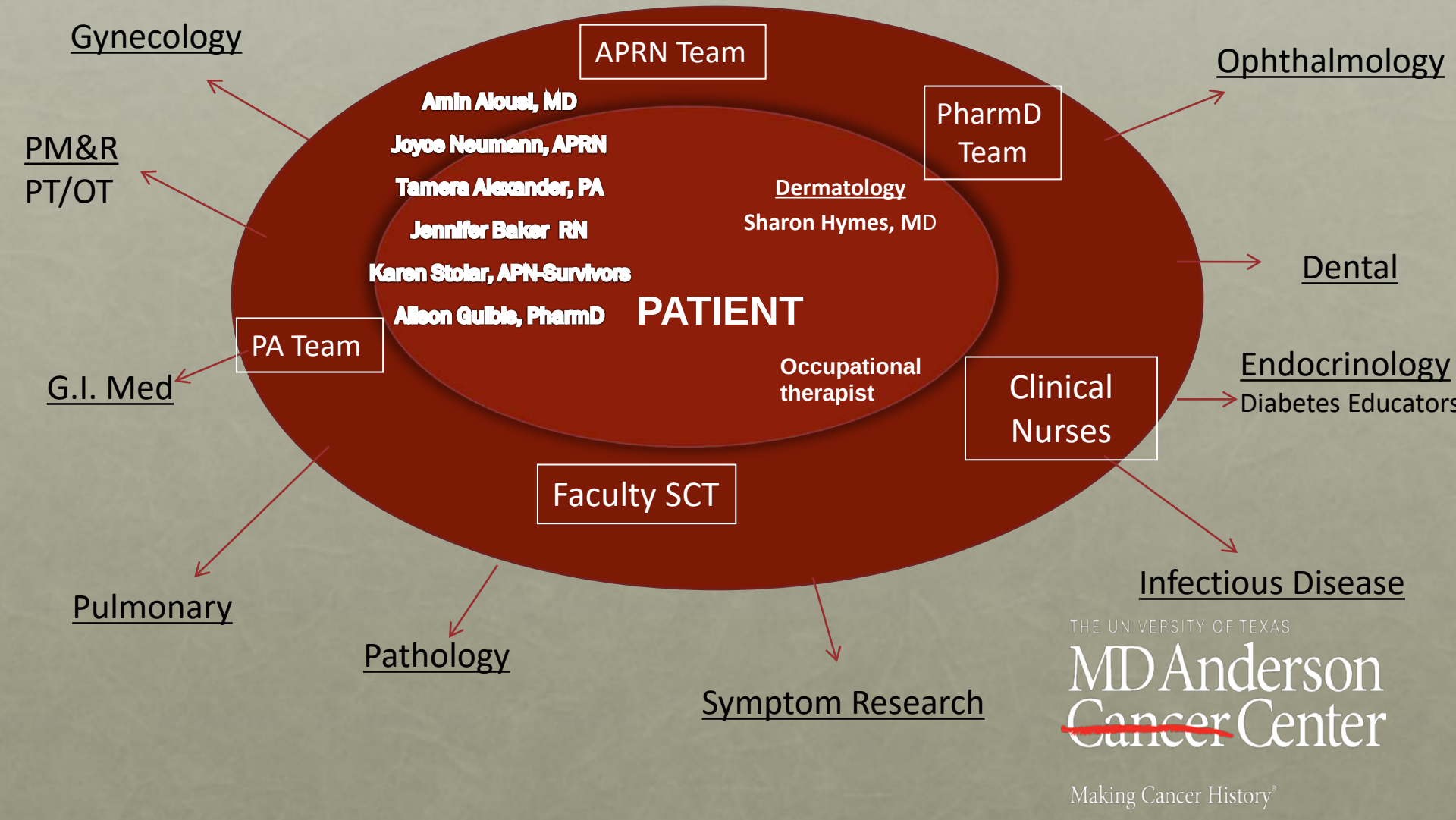
- **require symptom recognition/knowledge of treatment modalities**
- **management and care of physical & psychosocial elements**
- **require consistent coordination of care for possible prolonged period of time**

Advocating for patient may include preparing for end of life IF refractory to treatment.

WBMT
worldwide network for blood and marrow transplantation
WWW.WBMT.ORG

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

MULTI-DISCIPLINARY GVHD CLINIC



THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

Nursing care of patients with Skin GVHD

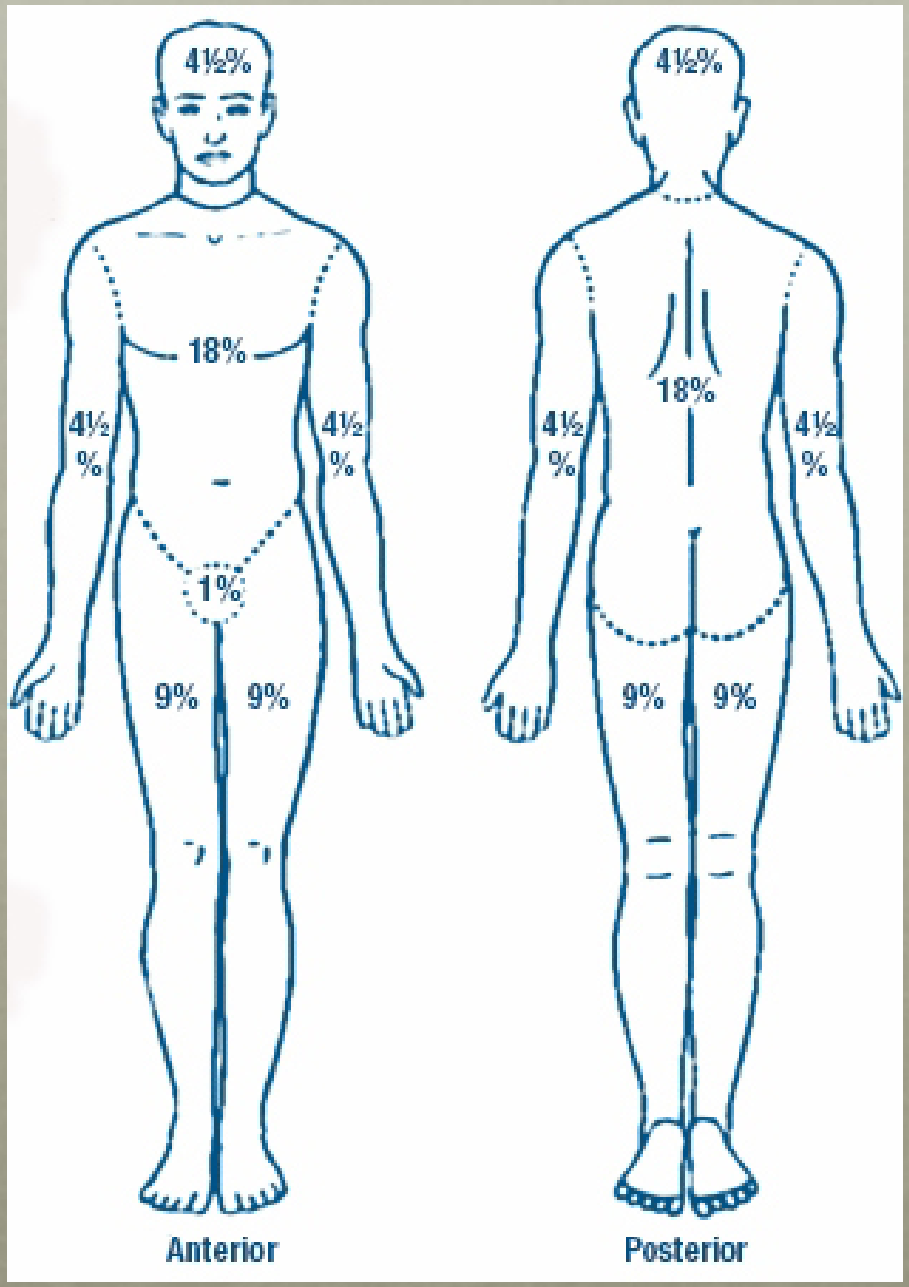
Degree of skin alteration will dictate nursing measures to provide:

- **hygiene**
- **treatment, topical and systemic**
- **infection prevention**
- **relief of discomfort**
- **functional ability (ADL)**
- **body image alterations**

- Chronic GVHD Prevention/Early detection: patient education essential.
  - Avoiding sun, use sun protection
  - Skin assessment – regular self and medical exam
  - Recognize risk for skin/oral cancer.

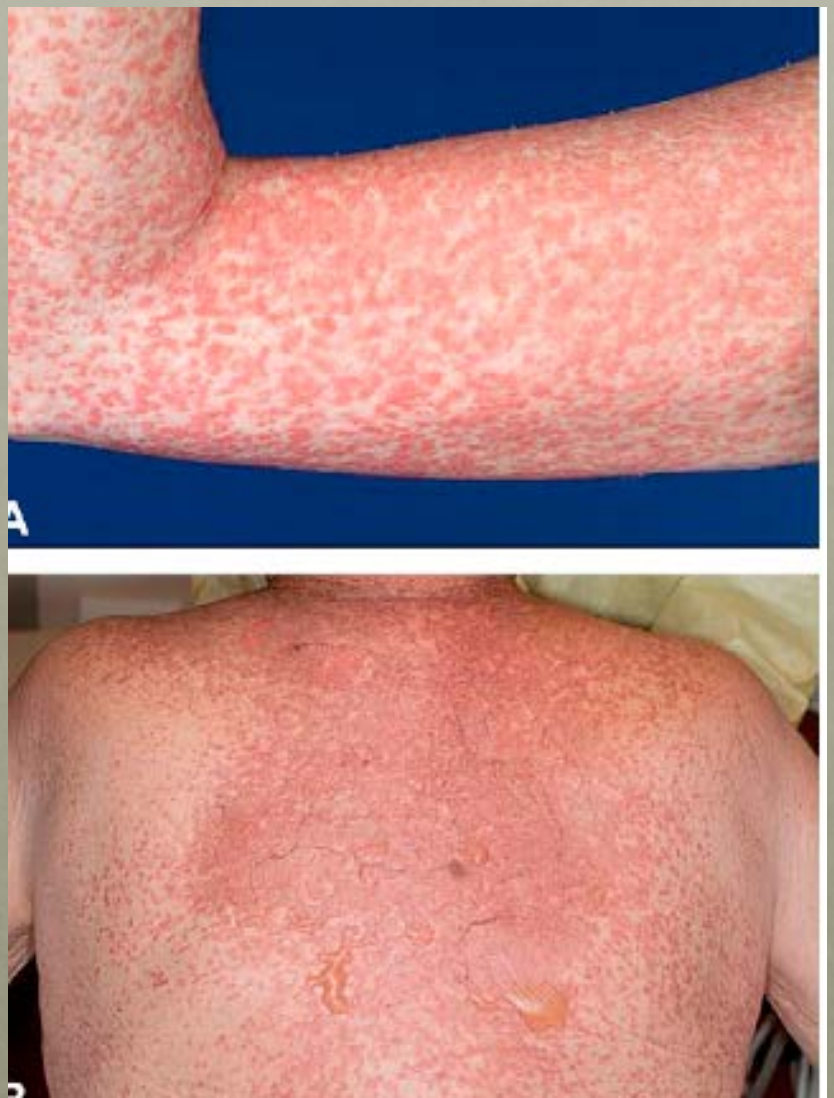
Nursing Care Considerations of Skin GVHD (Neumann, Hymes, Alousi)

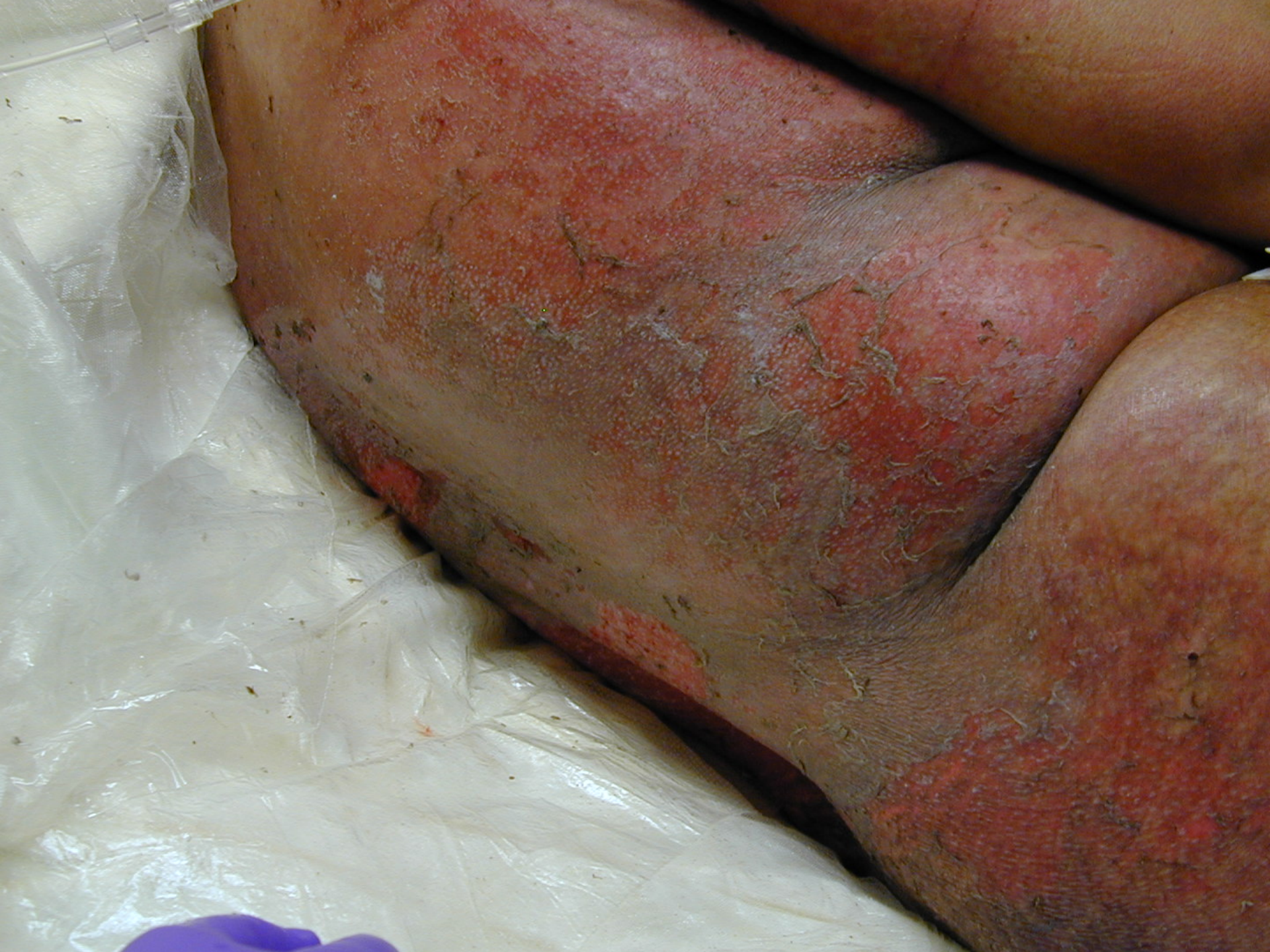
Skin Alteration	Topical steroid	Systemic steroids	Cleansing	Dressing	Infection	Moisturize	Pain/ discomfort	Functional status/body image
Rash – acute or chronic*	Yes** Acute and non-sclerotic chronic- cream or ointment not lotions	Body surface***	Mild soap – Dove (x contact dermitis), cetaphil, CeraVe soap	None	Culture suspicious lesions	Yes (esp.after topical steroids Use unscented hypoallergenic cream/ointment,. Aquaphor, CeraVe, Eucerin, Cetaphil, avoid lotions	Pruritis- Sarna, Sarna sensitive (hydrocortisone/ pramoxine), antihistamine, H_2 blocker. Pain – mild/moderate	Limited ambulation 2nd to pain, edema Disfigurement –change in appearance 2nd rash or steroids Provide emotional support for temporary changes
Exfoliative/ Desquamation	+	+ (depending on body surface)	Same	None – consider cotton glove/sock after moisturizer applied at night	Culture – antibiotic ointment on open lesion	++	Same	Same
Epidermal denudation/ Moist desquamation/ Ulceration Ulceration area (sclerotic skin)	Avoid open areas	+	Normal saline or sterile water (if using dressing with Ag	Non-adherent with antibiotic ointment / Silver foam (mepilex) /CoolMagic (hydrogel) No adhesive tape/secure w surgiflex/wrap	Culture, if vesicular viral culture to r/o herpes simplex or varicella-zoster	++ (under dressing if non-adherent drsg and intact skin)	Pain – severe, narcotic esp. before dressing change. May need additional med/sedation for more severe pain w drsg changes.	Dependent on location impend ambulation/movement; promote range of motion and/or isometric exercise. Provide emotional support for (temporary) changes
Bullae	+ Area around if needed	+	Mild soap unless broken, then as above	Protective	Same	++ Surrounding intact skin	Above, decompress with sterile needle, if painful.	Above
Sclerotic, hidebound	No	+ Second line tx	Mild soap	No unless with ulceration	Same	+	+ mild to moderate, neuropathy	Prevent contracture- PT, OT, stretching, massage, heat/whirl-pool/support
Dyspigmentation	No	No	Mild soap (Dove, cetaphil)	None	Same	Yes	Referral, cosmetic consideration	None/may be temporary or permanent provide emotional support

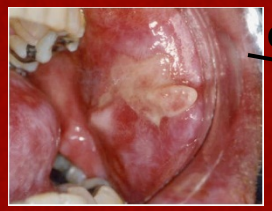

4½%
18%
4½%
4½%
1%
9%
9%
Anterior
4½%
18%
4½%
4½%
9%
9%
Posterior

ERYTHEMATOUS MACULOPAPULAR RASH (MORBILLIFORM ERUPTION)

- Nikolsky sign



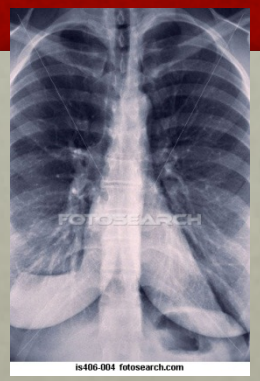




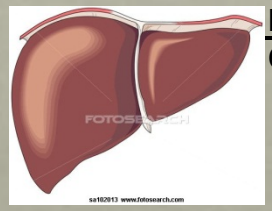
Oral cavity: dryness, ulcers, sclerosis

Eyes:
dryness,
sicca syndrome

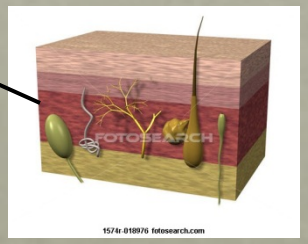
Esophagus:
strictures



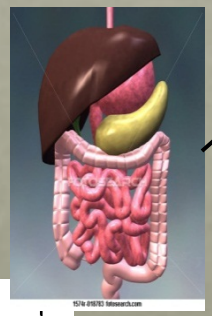
Lungs:
Bronchiolitis
obliterans



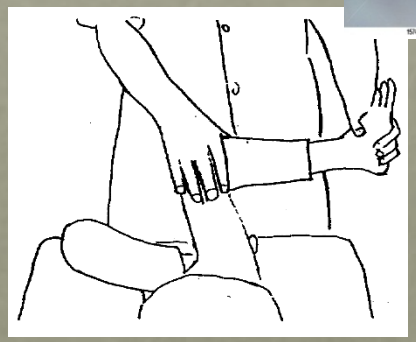
Liver:
Cholestasis



Skin:
Sclerosis
Morphea

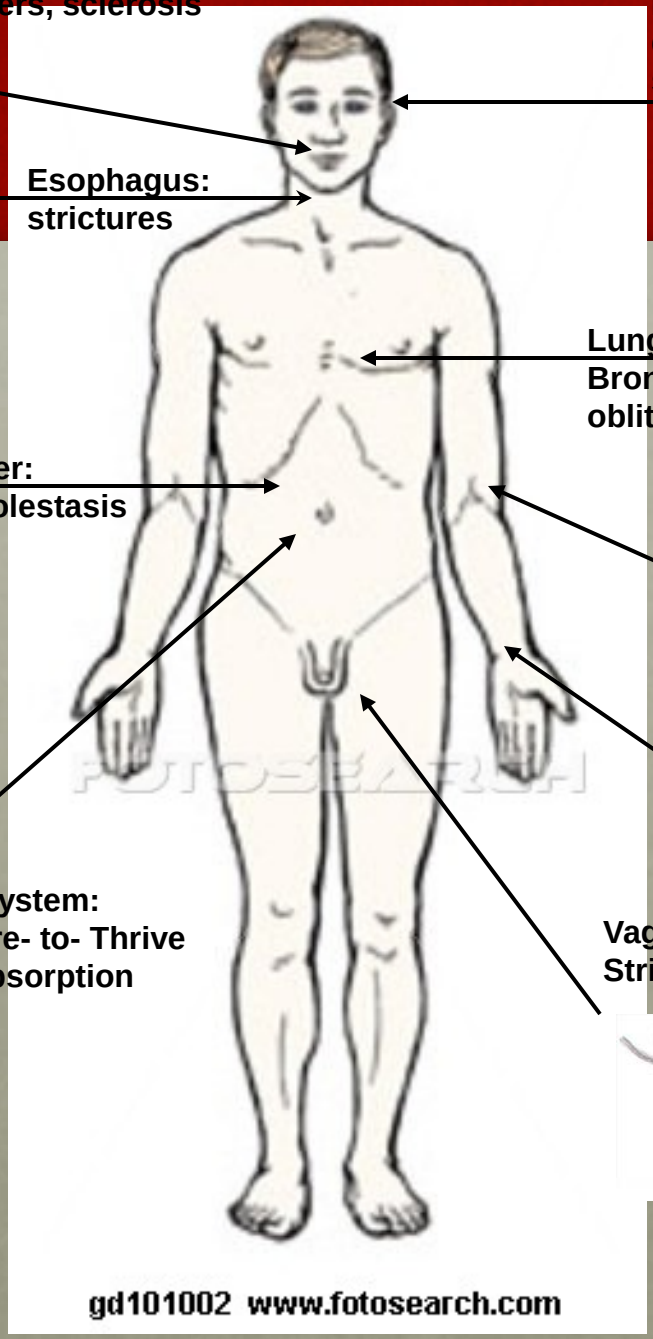


G.I. System:
Failure- to- Thrive
Malabsorption



Vaginal Canal:
Strictures

Fascia: Fascitis
Scleroderma



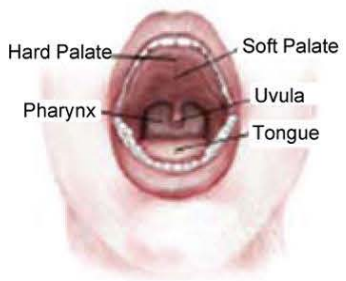
gd101002 www.fotosearch.com

	SCORE 0	SCORE 1	SCORE 2	SCORE 3
PERFORMANCE SCORE: ☐ **KPS ECOG LPS**	☐ Asymptomatic and fully active (ECOG 0; KPS or LPS 100%)	☐ Symptomatic, fully ambulatory, restricted only in physically strenuous activity (ECOG 1, KPS or LPS 80-90%)	☐ Symptomatic, ambulatory, capable of self-care, >50% of waking hours out of bed (ECOG 2, KPS or LPS 60-70%)	☐ Symptomatic, limited self-care, >50% of waking hours in bed (ECOG 3-4, KPS or LPS <60%)
SKIN *Clinical features:* ☐ Maculopapular rash ☐ Lichen planus-like features ☐ Papulosquamous lesions or ichthyosis ☐ Hyperpigmentation ☐ Hypopigmentation ☐ Keratosis pilaris ☐ Erythema ☐ Erythroderma ☐ Poikiloderma ☐ Sclerotic features ☐ Pruritus ☐ Hair involvement ☐ Nail involvement **% BSA involved** ☐	☐ No Symptoms	☐ <18% BSA with disease signs but **NO** sclerotic features	☐ 19-50% BSA **OR** involvement with superficial sclerotic features "not hidebound" (able to pinch)	☐ >50% BSA **OR** deep sclerotic features "hidebound" (unable to pinch) **OR** impaired mobility, ulceration or severe pruritus
MOUTH	☐ No symptoms	☐ Mild symptoms with disease signs but not limiting oral intake significantly	☐ Moderate symptoms with disease signs **with** partial limitation of oral intake	☐ Severe symptoms with disease signs on examination **with** major limitation of oral intake
EYES	☐ No symptoms	☐ Mild dry eye symptoms not	☐ Moderate dry eye symptoms	☐ Severe dry eye symptoms

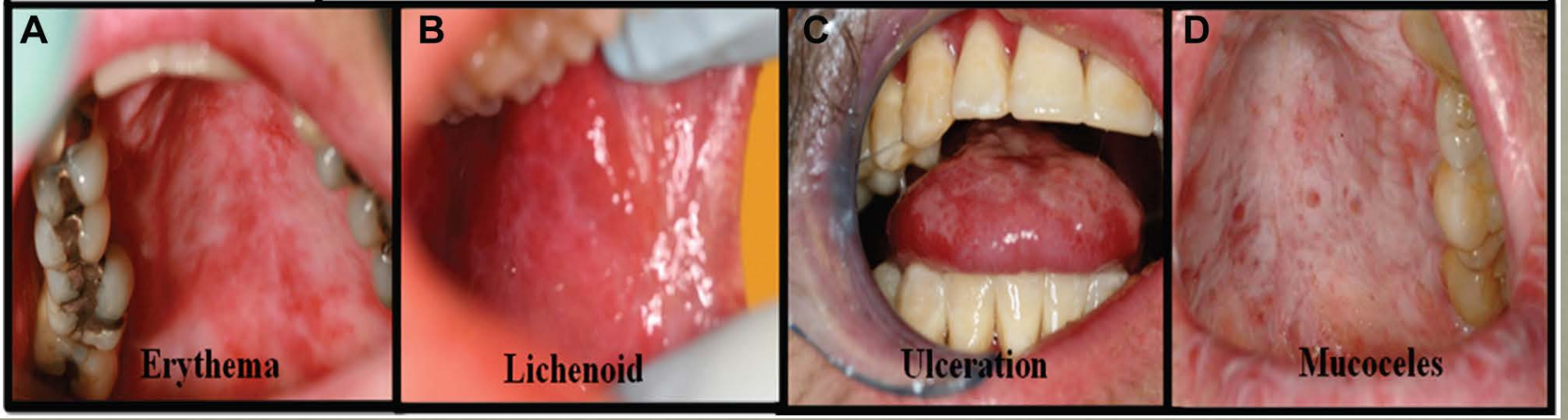
NIH consensus scoring

Subcutaneous Sclerosis- Cellulite-like Rippling

Mouth



Mucosal change	No evidence of cGVHD		Mild		Moderate		Severe	
Erythema	None	0	Mild erythema or moderate erythema (<25%)	1	Moderate (≥25%) or severe erythema (<25%)	2	Severe erythema (≥25%)	3
Lichenoid	None	0	Hyperkeratotic changes (<25%)	1	Hyperkeratotic changges (25%-50%)	2	Hyperkeratotic changes (>50%)	3
Ulcers	None	0	None	0	Ulcers involving ≤20%	3	Severe ulcers (>20%)	6
Mucoceles*	None	0	1-5 mucoceles	1	5-10 mucoceles	2	Over 10 mucoceles	3
			*Mucoceles scored for lower labial and soft palate only				Total score for all mucosal changes	

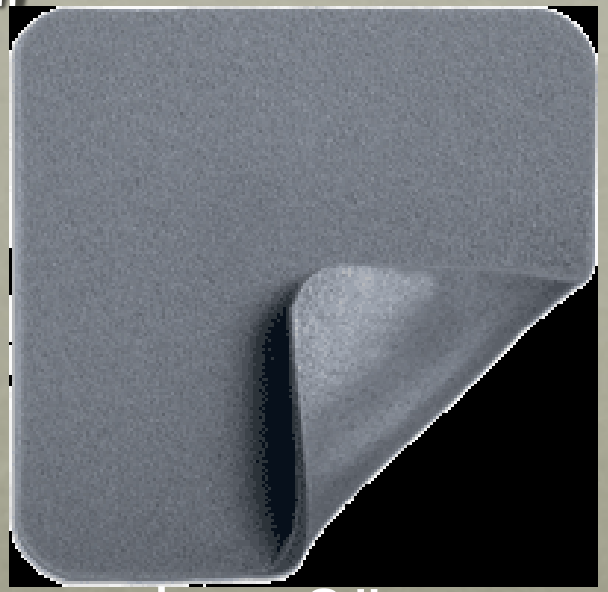


ASBMT, Response Criteria; http//asbmtr.affiniscape.com
in Fassil, et al (2012), J DENT RES.

FIGURE 3. Boston Foundation for Sight PROSE (Prosthetic Replacement of the Ocular Surface Ecosystem) Scleral Lenses

DRESSING

Mepilex Ag Foam Dressing w/silver, 4" X 4"



Mepilex border adhesive foam

PolyMem Foam Dressing 3" x 3" Non-Adhesive Pink Pads

hydrophilic polyurethane membrane matrix with a semi-permeable polyurethane continuous thin film backing


Dove
deep moisture
nutrium moisture
softer, smoother skin after one shower
3 FL. OZ./88 mL
CeraVe
DEVELOPED WITH DERMATOLOGISTS
Moisturizing Cream
FOR NORMAL TO DRY SKIN
MVE DELIVERY TECHNOLOGY
Moisturizes, restores, and maintains protective skin barrier
With ceramides and hyaluronic acid
Net Wt. 16 OZ (453 g)
Refresh
Liquigel
Lubricant Eye Gel
0.5 fl oz (15 mL) Sterile
#1 FOR DRY, CRACKED SKIN
Aquaphor
HEALING OINTMENT
Advanced Therapy
For dry, cracked, or irritated skin

NURSING CONSIDERATION OF GI – GVHD

- Accurate **Intake and output** – **measuring stool volume is essential,** cramping, nocturnal defecation, incontinence.
- **Culture stool** for c. diff, virus (rotavirus, norovirus, adenovirus), parasitic infections.
- Correct **fluid and electrolyte imbalance**, **nutrition** consult
- Administer **treatmen**t: steroid, antidiarrheal (ATC), antispasmodic, pain medication as needed
- **Skin care** – peri-anal barrier, consider bowel management system (Zassi) if needed for incontinence, bedridden.

COMPLICATIONS OF GVHD TREATMENT

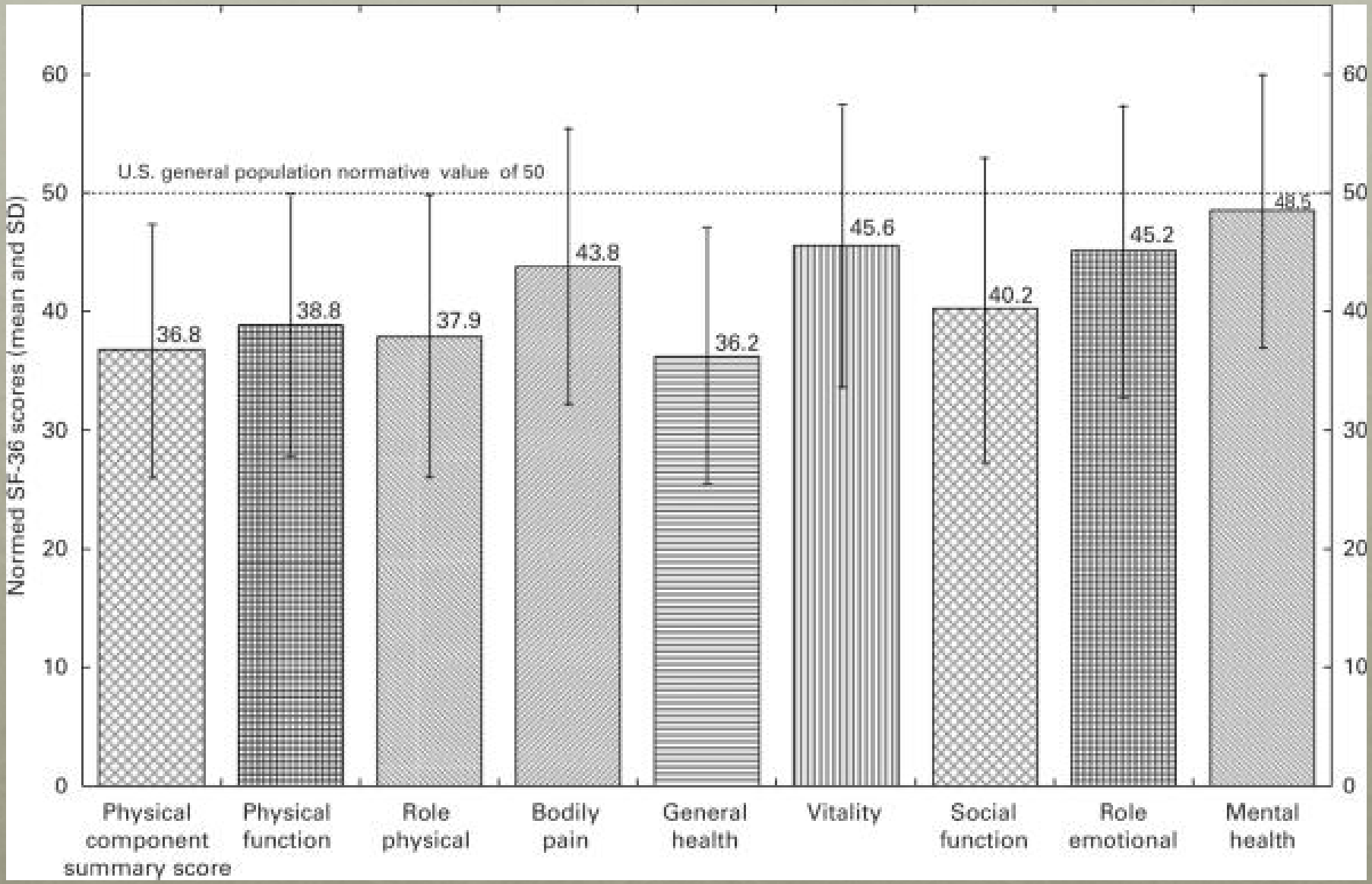
- Monitor for treatment adverse effects
  - Infectious complications
  - Microvascular damage
  - Renal
  - Steroid myopathy
- Physical therapy/occupational consult
- Endocrine consult – diabetic nursing educator
  - Topical management
- Psychosocial – body image

PSYCHOSOCIAL & SEXUAL FUNCTION

- Fatigue/mobility issues/cognitive alteration
- Sleep disorders
- Body image disturbance
- Anxiety disorders, depression
- Post traumatic stress disorder
- Post traumatic growth- new appreciation for life
- Sexual function- assess (dryness, narrowing), vaginal moisturizer & dilator, referral

Bishop & Wingard, 2004; Lee et al., 2003; Kydd & Rowett, 2006

Functional Performance (Physical Component SF-36) cGVHD



Mitchell, Leidy, Mooney, Dudley et al.(2010) BMT. 100 pts., mean 42 m. post SCT, 40% denovo, 46% multiple sites, 50% severe, 45% moderate, 5% mild

Ethical Issues Related Caring for Patients w GVHD

- Outcome for patient is related to response to treatment for GVHD
- Steroid refractory (progression after ≥3 days of (max dose) steroids or no response after 7-14 days) aGVHD increase TRM (70%)
- **Breaking bad news** – start early (cultural differences); living will, medical power of attorney. "Advance care planning prior to your Stem Cell Transplantation" patient education document – GVHD discussed.

ISSUES RELATED CARING FOR BMT PATIENTS W GVHD

- Multi-displinary team may experience **burnout, compassion fatigue, and/or moral distress*, low career satisfaction, work-life imbalance**
- Importance of **support for patients/family, caregivers, and professional care providers** (each other)

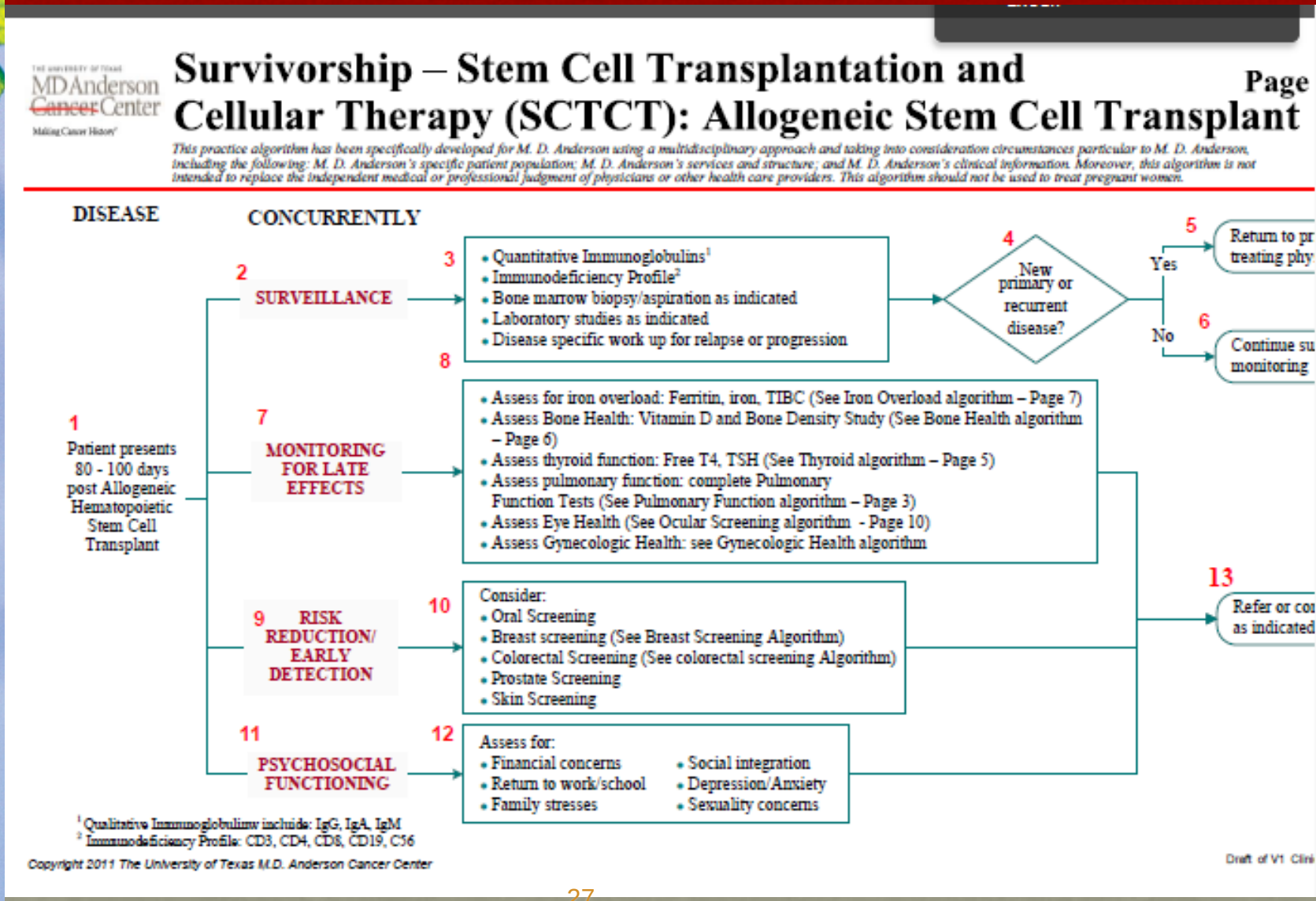
*Neumannn, Burns, et al (2016). Hematopoietic Cell Transplantation Multidisciplinary Care Teams: National Survey of Transplant Provider Burnout, Moral Distress and Career Satisfaction

SURVIVORSHIP

GVHD is a major component in any allogeneic BMT Survivorship Program - cover the continuum of treatment, recovery and beyond.

Nurses (and primary care providers) in community settings are presented with unique challenges as more BMT survivors transition from the BMT centers to the community.

BMT SURVIVORSHIP ALGORITHM



MD Anderson Cancer Center
Making Cancer History®

Survivorship – Stem Cell Transplantation and Cellular Therapy (SCTCT): Allogeneic Stem Cell Transplant

Page

This practice algorithm has been specifically developed for M. D. Anderson using a multidisciplinary approach and taking into consideration circumstances particular to M. D. Anderson, including the following: M. D. Anderson's specific patient population; M. D. Anderson's services and structure; and M. D. Anderson's clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

DISEASE

CONCURRENTLY

1 Patient presents 80 - 100 days post Allogeneic Hematopoietic Stem Cell Transplant

2 SURVEILLANCE → 3
- Quantitative Immunoglobulins[1]
- Immunodeficiency Profile[2]
- Bone marrow biopsy/aspiration as indicated
- Laboratory studies as indicated
- Disease specific work up for relapse or progression

→ 4 New primary or recurrent disease?
- Yes → 5 Return to pr treating phy
- No → 6 Continue su monitoring

7 MONITORING FOR LATE EFFECTS → 8
- Assess for iron overload: Ferritin, iron, TIBC (See Iron Overload algorithm – Page 7)
- Assess Bone Health: Vitamin D and Bone Density Study (See Bone Health algorithm – Page 6)
- Assess thyroid function: Free T4, TSH (See Thyroid algorithm – Page 5)
- Assess pulmonary function: complete Pulmonary Function Tests (See Pulmonary Function algorithm – Page 3)
- Assess Eye Health (See Ocular Screening algorithm - Page 10)
- Assess Gynecologic Health: see Gynecologic Health algorithm

9 RISK REDUCTION/ EARLY DETECTION → 10
Consider:
- Oral Screening
- Breast screening (See Breast Screening Algorithm)
- Colorectal Screening (See colorectal screening Algorithm)
- Prostate Screening
- Skin Screening

11 PSYCHOSOCIAL FUNCTIONING → 12
Assess for:
- Financial concerns
- Return to work/school
- Family stresses
- Social integration
- Depression/Anxiety
- Sexuality concerns

13 Refer or cou as indicated

[1] Qualitative Immunoglobulinw include: IgG, IgA, IgM
[2] Immunodeficiency Profile: CD3, CD4, CD8, CD19, C56

Draft of V1 Clini

Resources for Nurses & Patients

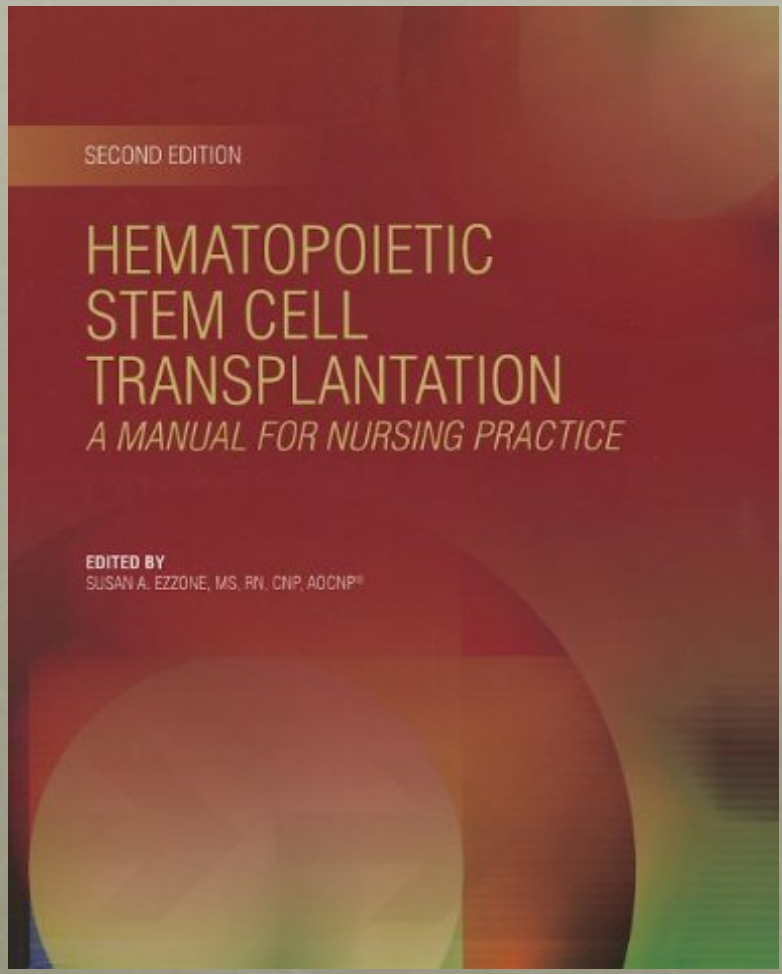
- National Marrow Donor Program /Be The Match
  - bethematchclinical.org
  - Post Transplant Care Guidelines
    - 6, 12, and 24 month post-BMT follow up guidelines in print & electronic format
  - Advances e-newsletter
    - Stay up to date on current research

RESOURCES FOR NURSES & PATIENTS

- www.bmtinfonet.org
- BeTheMatch.org
- www.cancer.org
- www.cancer.gov
- CIBMTR.org
- www.cancercare.org
- www.fertilehope.org
- www.lls.org
- www.nbmtlink.org
- www.oncofertility.northwestern.edu/
- www.resolve.org
- www.resolve.org
- www.supersibs.org
- www.stupidcancer.com
- www.planetcancer.org
- www.vitaloptions.org
- www.youngsurvival.org

EDUCATION/CERTIFICATION FOR BMT NURSING PRACTICE

- Manual for BMT nursing practice, Oncology Nursing Society
- ONS web-based BMT course
- ASBMT – Nursing Special Interest Group
- Oncology Nursing Certification Corporation (ONCC) – Blood and Marrow Transplantation Certified Nurse (BMTCN)



CONCLUSIONS

Nursing care of BMT patients with GVHD require unique knowledge and skills that go beyond basic nursing care:

- **Administer medication (IV/oral) including novel targeted therapies**
- **Perform procedure** commensurate with training : ECP-extracorporeal photopheresis, skin biopsy (APRN)
- **Skin/dressing care -** specialized
- **TEACH** patient and family on expected care requirements and about their "new normal"
- **Coordinate care** and resource (SW, PT, OT, wound care)
- **Evaluate** effectiveness of treatment: report and document

Assist patient and caregiver to cope with complications and care requirements

Seek opportunities to stay current on new therapies in the ever changing specialty. Seek and apply for special training/certification

Support colleagues and seek assistance when needed to the mitigate "cost of caring" (compassion fatigue, moral distress, burnout)