

Nutrition for Adult Non-Intubated Burn Patients (in acute care)

Site Applicability

VGH BC Professional Fire Fighters Burn Unit

Practice Level

Registered Nurse (RN) – Basic Skill

Registered Dietitian (RD) – Basic Skill with Restricted Activities A & B

Requirements

- Burn patients should receive an oral diet or nutrition support within 24 hours of admission unless contraindicated.
- Patients with inhalation injuries or tracheostomies should be referred to the Speech Language Pathologist (SLP) for a dysphagia evaluation prior to receiving oral intake.
- Nothing by mouth (NPO) period for procedural sedation should be limited to 6 hours prior to procedure unless otherwise ordered by the provider.
- Oral diets and tube feeds should be resumed immediately post-procedure unless otherwise ordered by the provider. Note: tube feeds should be resumed at goal rate.

Need to Know

Patients with burn injuries undergo a hypermetabolic and catabolic response that may persist for several months¹⁻⁴. Calorie and protein requirements are elevated up to twice normal levels, increasing with the size of the burn¹⁻⁴. Vitamin, mineral, and trace element requirements are also increased^{1,4-6}. The provision of appropriate nutrition interventions is a vital part of wound healing and recovery¹⁻⁶.

Guideline

Assessment

Nutritional Status

- The dietitian screens all burn patients for risk factors that may impair nutritional status. For burns less than 10% total body surface area (TBSA), complete a full assessment as needed based on nutrition risk factors, other than burn size, using the nutrition care process (refer to [eNCpt](#))
- The dietitian completes a full nutritional assessment for all burn patients with greater than or equal to 10% TBSA using the nutrition care process.
 - Refer to [Guidelines for Nutritional Management of Patients at Risk for Refeeding Syndrome – \(BD-00-07-40058\)](#) as needed.

- The nurse should refer patients to the dietitian if any of the following are noted:
 - Chewing or swallowing difficulty
 - Weight loss
 - Reduced oral intake (e.g. consuming less than 75% of a General or High Calorie High Protein diet as ordered by the dietitian or provider)

Swallowing

- A swallow screen is completed by the nurse as indicated. Refer to [Swallow Screening for Dysphagia - \(D-00-13-30289\)](#).
- For patients who fail a swallow screen or develop swallowing difficulties, the nurse should refer to the SLP and notify the provider and dietitian for direction regarding initiation of nutrition support.

Intervention

Trace Elements

- Burn patients with greater than or equal to 20% TBSA injury should receive trace element (TE) supplementation. **Note:** patients require central line for TE administration.
- The nurse will administer the TE supplementation and draw baseline, monitoring, and post treatment bloodwork according to the provider order (PowerPlan: PLASURG Burn Trace Elements Supplementation). **Note:** two tubes required. Navy top with purple line (Copper, Zinc) available on the unit, and navy top with red line (Selenium) which must be obtained from the lab.
- The dietitian will discuss TE levels and interpretation of the results with the pharmacist and provider to determine appropriate TE supplementation.

Electrolytes

- Burn patients should have electrolyte replacement protocol and monitoring bloodwork ordered on admission and after surgery. PowerPlan: ICU/HAU Electrolyte Replacement (Module).
- The nurse will replace electrolytes according to the protocol.

Fecal Management System (FMS)

- Burn patients with peri-anal wounds may require insertion of a fecal management system for stool diversion and wound protection.
- The nurse will:
 - Refer to [Internal Fecal Management Systems \(FMS\) Guideline for Adults](#)
 - Insert the device as ordered by the provider. PowerPlan: ICU/HAU Fecal Management System (FMS) (Flexi-Seal) For Burn-Injured Patients (Module)
 - Administer laxatives as ordered and monitor FMS output
 - Discuss additional laxatives with the pharmacist/dietitian/provider if outputs are not at target volume (300 mL q12 hrs)
 - Remove the device as ordered by the provider
- The dietitian will:
 - Discuss indications/contraindications for the FMS with the provider

- Monitor outputs and discuss additional laxatives as needed with the pharmacist/provider
- Discuss removal of the FMS with the provider when appropriate

Optimizing Oral Intake

- The dietitian will order oral nutritional supplements when appropriate and individualize the patient's diet with preferences and additional menu choices.
 - Paper menus will only be made available on request by the dietitian or nurse.
- The dietitian and nurse should encourage families to bring food from outside the hospital to provide additional options and optimize intake.
 - Mini fridges are available to put in patient's room to store items that cannot be held at room temperature.
- The dietitian and nurse should offer milkshakes prepared on the unit, if appropriate, to supplement meals and snacks.
 - Supplies for milkshakes are available on the unit.
- The dietitian and nurse should liaise with the occupational therapist for assistance with feeding strategies and aids to facilitate self-feeding.

Calorie counts

- The dietitian will order a Calorie Count when needed for monitoring of oral intake.
- The nurse will record the oral intake on the VGH Nutrient Intake Record (print from FormFast WFI) which will be kept in the chartlet for the dietitian to collect.
- The dietitian will calculate calories and protein consumed from the Intake Record.
- The dietitian will modify the nutrition care plan and discuss nutrition support strategies with the provider if intake is inadequate. [Refer to Enteral \(Tube\) Feeding – Dietitian Guidelines \(in Acute Care\) - BD-00-07-40108](#) or [Parenteral Nutrition – Role and Responsibilities of the Dietitian BD-00-12-40100](#).

Monitoring

Patient Weights

- The nurse should weigh burn patients on admission and weekly thereafter, or as ordered by the provider or dietitian.
- The dietitian will use measured weight as needed for assessment of nutritional requirements and evaluation of nutritional care plans.

C-Reactive Protein and Prealbumin

- Burn patients with greater than or equal to 20% TBSA injury should have C-Reactive Protein (CRP) and prealbumin drawn weekly (every Sunday) as ordered by the provider.
- The dietitian will review the trends and discuss the interpretation of the results with the provider if changes to the nutrition care plan are indicated.

Documentation

Dietitians:

- [Documentation Guidelines: Dietitians – BD-00-07-41006](#)

Nurses:

- [HAU Assessment and Documentation Protocol with CST Cerner – D-00-13-30091](#)
- Document any abnormal or significant findings and/or interventions under narrative charting.

Patient and Family Education

- [Nutrition for Wound Healing \(BB.200.N959\)](#)
- [High Protein Foods \(BB.200.N96\)](#)

Evaluation

- Patient will meet at least 80% of nutritional requirements, as determined by the dietitian, through oral diet, nutrition support, or a combination of nutrition interventions.

Related Documents

- [Enteral \(Tube\) Feeding – Dietitian Guidelines \(in Acute Care\)](#)
- [Enteral Pump Prioritization/Substitution and Gravity/Syringe Feeding](#)
- [Parental Nutrition: Care and Management \(Adult\) in Acute and Community](#)
- [Parental Nutrition: Roles and Responsibilities of the Dietitian](#)
- [Elsevier: Feeding Tube: Enteral Nutrition via Nasoenteric, Gastrostomy, or Jejunostomy Tube](#)

References

- 1) Clark A, Imran J, Madni T, Wolf SE. Nutrition and metabolism in burn patients. Burns & trauma. 2017 Dec 1;5.
- 2) Masch JL, Bhutiani N, Bozeman MC. Feeding during resuscitation after burn injury. Nutrition in Clinical Practice. 2019 Oct;34(5):666-71.
- 3) Rollins C, Huettner F, Neumeister MW. Clinician's guide to nutritional therapy following major burn injury. Clinics in Plastic Surgery. 2017 Jul 1;44(3):555-66.
- 4) Wise AK, Hromatka KA, Miller KR. Energy expenditure and protein requirements following burn injury. Nutrition in Clinical Practice. 2019 Oct;34(5):673-80.
- 5) Berger MM, Shenkin A, Schweinlin A, Amrein K, Augsburger M, Biesalski HK, Bischoff SC, Casaer MP, Gundogan K, Lepp HL, de Man AM. ESPEN micronutrient guideline. Clinical Nutrition. 2022 Jun 1;41(6):1357-424.
- 6) Pantet O, Stoecklin P, Charrière M, Voirol P, Vernay A, Berger MM. Trace element repletion following severe burn injury: a dose-finding cohort study. Clinical nutrition. 2019 Feb 1;38(1):246-51.

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