# RAPID RESOURCE 1: FEEDING FACTS (pg 1)

**INITIATION/TITRATION OF ENTERAL NUTRITION (EN)**

1) Unless contraindicated, include EN orders with admission orders (ALWAYS discuss with ICU Fellow/Attending).
- *GI access:* Insert #18 Fr Salem Sump NG tube (unless contraindicated)
- *"Enteral Feeding Continuous"*: Use the drop-down menu to order tube feeds.
  - Formula options: Isosource HP 1.0, Isosource 1.2, Resource 2.0, or Novasource Renal
  - Choose Isosource HP 1.0 unless patient requires a fluid restriction
  - Default is for feeds to start at 25mL/hr and advance to goal rate as per ICU Gastric Feeding Guideline.
  - Indicate goal rate in the yellow box in Cerner (see table on reverse to determine goal rate)

2) Following GI surgery, ***do not*** initiate EN until the Surgeon and ICU Fellow/Attending have discussed the feeding plan.
3) Unless contraindicated, order the ICU bowel protocol (standard or spine-injured) with ICU admission orders.
4) MVI (10 mL), folate (5 mg), thiamine (200 mg) IV once daily x 3 days are standard on ICU admission orders.

**MAINTENANCE OF EN**

5) Initiate metoclopramide (unless contraindicated) in patients with elevated gastric residual volumes (> 250 ml Q4H).
- normal renal function: 10 mg IV Q6H
- renal dysfunction: dosage adjustment required

6) *DO NOT STOP EN* in the following situations (unless medically indicated):
- elevated gastric residual volumes
- single episodes of stimulation related emesis
- absent bowel sounds
- diarrhea

7) Insert a nasoduodenal (ND) feeding tube (unless contraindicated) in the following patients:
- gastric residual volumes >250 mL despite 4 doses metoclopramide followed by 2 doses erythromycin
- aspiration risk (i.e. Hx. GERD; nursed in supine or prone position)

8) Manage patients with diarrhea as follows:
- discontinue bowel protocol
- send stool for C.*difficile*
- rule out stool impaction (rectal check/other)

***Note:*** Use of a FMS rectal tube requires a full evaluation and completion of the ICU FMS PowerPlan.

9) Adhere to the ICU approved peri-operative NPO periods**:**
- intubated: NPO 5 minutes; resume EN at pre-op rate within 1hr.
- non-intubated: NPO 6 hrs; resume EN at pre-op rate within 1hr.

10) Adhere to the ICU approved extubation NPO periods:
- pre-extubation: NPO 5 minutes (place NG Sump on suction).
- post-extubation: resume EN at last tolerated rate in 4 hrs (unless contraindicated).
- post-extubation: for oral intake, swallowing screen to be completed **no sooner than** 6 hours post-extubation*.

11) Prior to extubation, assess if EN is required. If required, ensure the patient has the appropriate feeding access. Unless contraindicated, a small bore nasogastric feeding tube is preferable.

12) Following extubation, a swallowing screen is required prior to oral intake (physician order required)*.

13) For patients on BiPAP EN is to be initiated/continued unless contraindicated (see below):
- <4 hrs post-extubation (see #10 above)
- impending intubation
- high risk aspiration (i.e. Hx GERD; elevated GRV; inability to protect airway – decreased LOC).

***Note***: When in doubt hold EN; clarify feeding plan with ICU Fellow/Medical Attending.

*See ICU Swallowing Screening Guide

**TERMINATION OF EN**

14) Following extubation resume EN if oral intake is contraindicated. Discontinue EN once oral intake is adequate.

**RESOURCES:** All VCHA critical care algorithms/guidelines are located at www.ubccriticalcaremedicine.ca. Refer to www.criticalcarenutrition.com for evidence based nutrition support practice guidelines.

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***Reviewed by:*** *Members of the ICU QI/QA Committee.* ***Approved by*****:** *Dr V. Dhingra, ICU Medical Director*

# DETERMINING ENERGY REQUIREMENTS: CALORIE CALCULATOR

**HOW TO USE**: Determine goal feed rate based on patient weight. Standard formula is Isosource HP 1.0. Only choose Resource 2.0 or Novasource Renal if a fluid restriction is required and/or patient is receiving IHD. CRRT patients should receive Isosource HP 1.0. Use refeeding goal rate for malnourished patients.

| PATIENT WEIGHT | GOAL CALORIES (25kcal/kg) | GOAL FEEDING RATE Isosource HP 1.0 (mL/hr) | GOAL FEEDING RATE Resource 2.0 or Novasource Renal (mL/hr) | REFEEDING GOAL RATE (20kcal/kg) Isosource HP 1.0 (mL/hr) |
|---|---|---|---|---|
| Less than 40kg | 1000 | 40 | 20 | 30 |
| 41-50kg | 1125 | 45 | 25 | 35 |
| 51-60kg | 1375 | 55 | 30 | 40 |
| 61-70kg | 1625 | 65 | 35 | 50 |
| 71-80kg | 1875 | 80 | 40 | 55 |
| Greater than 81kg | 2000 | 85 | 45 | 65 |

**MALNUTRITION AND REFEEDING SYNDROME:** To prevent significant electrolyte and fluid shifts associated with refeeding syndrome, recommend initial goal feeding rate provide 20kcal/kg for patients suspected to be malnourished. Advance to goal (25kcal/kg) when electrolytes have been within normal limits for 24h.

**SEVERELY MALNOURISHED PATIENTS:** Initiate feeds at 25mL/hr and only advance to the refeeding goal rate (20kcal/kg) once electrolytes are repleted.

**RISK FACTORS FOR MALNUTRITION**
- Substance use disorder
- NPO/suboptimal intake ≥ 5-7 days
- ≥ 10% weight loss over past 6 months
- Physical signs of malnutrition

***ENTERAL NUTRITION FORMULARY***

| FORMULA | ISOSOURCE HP 1.0 | RESOURCE 2 | NOVASOURCE RENAL | ISOSOURCE 1.2 | PEPTAMEN INTENSE |
|---|---|---|---|---|---|
| kcal/mL | 1.0 | 2.0 | 2.0 | 1.2 | 1.0 |
| % of calories from protein | 25% | 17% | 18% | 18% | 37% |
| COMMENTS | -Standard feed for ICU admission<br>-High protein<br>-Appropriate for CRRT | -Fluid restricted<br>-Quite low protein | -For stable IHD patients<br>-Fluid restricted<br>-Contains low levels of K and $PO_4$<br>-Quite low protein | -For stable ward patients<br>-Quite low protein | -Very high protein<br>-Use during Propofol infusion to provide adequate protein without overfeeding calories |

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