Selection of nutrition support regimen

Determining the need for nutrition support (FIG 1)

1-Deciding if nutrition intervention is needed
- Consider the presence, type, degree of malnutrition, overall nutritional status
- Use objective measures, lab test, and clinical assessment to assess nutritional status
- A simple nutrition screening includes:
  - weight history, albumin, TLC
  - Brief review of medical history
  - Subjective impression of pts nutritional status

Determining the need for nutrition support (FIG 1)

2-When the GI tract is functional, accessible and safe → enterally
- If the pt has an appetite → high calorie, high protein diet by mouth and calorie count to document intake
- oral supplements and snacks provided between meals
- encourage food from home if appropriate
- If pt unable to eat adequately → supplemental EN or total EN

Determining the need for nutrition support (FIG 1)

3-If the GI is not functional or pt is malnourished and will be NPO for an extended period of time → PN

Enteral Nutrition
- Indicated when oral intake is inadequate
- Timing is important
  - feeding immediately after injury ↓ degree of hypermetabolism
- Indications
  - GI maintained adequate digestive and absorptive capacity but pt cannot or will not eat adequately
Route of administration
- Route and type of access determined by (FIG 2)
  - expected length of therapy
  - risk of aspiration

Nasoenteric access → short term (4-6 wks)
- interim access before placement to long term feeding tube

Route of Administration
Nasoenteric access
- Contraindication
  - placement of the tip of the tube into the bowel without fluoroscope or endoscope is not possible
  - pts who pull the tube due to dementia or psychological disorder

Route of Administration
Nasoenteric access
- indication
  1-nasogastic
    - appropriate for pt with intact gag reflex
  2-nasoduodenal and nasojejunal for pts with
    - risk of aspiration
    - gastroparesis

Route of Administration
Percutaneous or surgically placed tubes
- long-term feeding > 6 weeks

Percutaneous: more popular because
- cost less than surgical
- have decreased procedure related morbidity and mortality
- do not require general anesthesia generally
- all feeding to be initiated more quickly

Surgical
- better choice when a pt requires long-term EN feeding into the small bowel

Selection of Formula
Step 1: questions to ask before choosing formula
1) Is there a limiting factor
   - Example: the need for a formula low in potassium for renal failure

Selection of Formula
Step 1: questions to ask before choosing formula
2) Are the pt’s digestive and absorptive capabilities intact
   - polymeric should be the first line
   - use defined formula if trial of intact nutrient has failed
   - defined formula can be used as starter regimen in pts who have not received EN for long time
Selection of Formula

**Step 1: questions to ask before choosing formula**

3) Is the patient fluid restricted OR
4) Does the pt have high metabolic requirements
   - fluid restriction and high metabolic requirements require the use of caloric dense formula to provide adequate nutrients without exceeding the pt’s fluid limits

**Selection of Formula**

**Step 2: beyond these questions**

- Selection based on matching calorie and protein requirements with formulas available

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**Selecting Method of Administration**

According to type and location of GI access

**A- bolus:**
- for gastric feeding
- easiest to administer
- may be difficult to tolerate
- easiest method to teach and manage for home therapy
- most physiologic method because gut can rest between feeds
- usually through gastrostomies

**Selecting Method of Administration**

According to type and location of GI access

**B- intermittent**
- eliminate GI side effects associated with bolus feed

**Selecting method of Administration**

**C- Continuous:**
- best tolerated
- required in postpyloric access
- maximum rate 125 ml/hr

**D- Cyclic**
- pts who are making transition from enteral to oral feed
- pts who will be receiving home EN to allow bowel rest and time away from the pump
- may be administrated at night
Transitional feeding

- After prolonged period of illness or being NPO, return of GI function may be slow
- Nutritional support should not be discontinued without plans for maintenance therapy

Transitional feeding

- The integrity of GI tract should be assessed by
  - presence of bowel sounds
  - passage of flatus and stools
  - return of appetite
  - upper GI and small bowel X-ray may be needed after trauma or surgery
  - the pt should not be vomiting or have uncontrolled diarrhea

Transitional feeding

- Determine whether pt can take nutrition by mouth (fig 4)
- If the pt has an appetite and is capable of oral intake start oral feeding

Progression of Oral Feeding

- From clear liquid to full liquid diet to solid foods
- Tapering NS as oral intake ↑ depends on clinical judgment
- Pt should consume 2/3 to ¾ of his nutritional requirements before D/C NS

Progression of Oral Feeding

- In the absence of adequate assessment continue NS until pt demonstrate tolerance to solid foods and liquid intake is sufficient to maintain adequate hydration→ then taper NS
- Tapering → cycle tube feeding at night to give pt better chance to eat during the day