

# Complications of EN



# Diarrhea

- Use of broad spectrum antibiotics, *Clostridium difficile* pseudomembranous colitis
- Other infectious etiologies
- Most episodes of nosocomial diarrhea are mild and self-limiting



- Osmotic (nutrition, Sorbitol)
- Medications
- Hypoalbuminemia
- Maldigestion/ malabsorption
- Formula choice/ rate of administration



# Diarrhea

## **Assessment:**

- An abdominal exam
- Fecal leukocytes, quantification of stool, stool culture for *C.difficile* (and/or toxin assay)
- Serum electrolyte panel
- Review of medications
- Nutrition assesment



- An attempt should be made to distinguish infectious diarrhea from osmotic diarrhea.



## **Persistent diarrhea:**

- **Soluble fiber containing**
- **Small peptide formulations**



# Constipation

- Inactivity
- Poor diet(Low in fiber, Low in water)
- Medications
- Diseases of GI
- Metabolic & Endocrine(Hypothyroidism, Uremia, Hypercalcemia)
- .....



- Nausea/ vomiting
- Distention/ bloating/ cramping
- Delayed gastric emptying





# Refeeding syndrome

- A medical emergency
- long-standing or severe malnutrition
- IBW < 75- 70% or severe Wt loss



- Rapid changes in fluids and electrolytes when malnourished patients are given oral, enteral, or parenteral feedings



# Refeeding syndrome

- Electrolyte disturbances (Mg, K, p)
- Respiratory distress
- Cardiac arrhythmias, resulting in cardiopulmonary arrest because of small mass of heart



## Cont'd

- initiate cautiously & approach goals slowly
- Calorie: BMR / less in PN
- CHO: 100- 150 gram
- Protein: 1.5 g/kg
- Fluid: 800 cc/ day + insensible loss



## Cont'd

- Na: 1.5 g/day
- B1
- K, P, Mg

Monitor: W, I/O, FBS, Electrolytes



## Cont'd

- Advancing formula: 300-400 Kcal/3-4day



- Drug-nutrient interactions



- Dehydration
- Overhydration





- Hyponatremia
- Hypokalemia/ hyperkalemia
- Hyperphosphatemia/hypophosphatemia



# Micronutrient deficiency Commercial formula

- Vitamin K
- Ca
- K
- Mg
- Na



# Micronutrient deficiency Commercial formula

- Tab Multi Vitamin Mineral
- Tab Calcium Carbonate
  
- Na, K, Mg: As physicians' order



# Micronutrient deficiency Commercial formula

## **Long time EN**

- Vitamin K: 1 mg
- Na: Salt
- K: 20 mg Tab or Powder
- Mg: Sachet
- Ca: Tab



Micronutrient deficiency  
Kitchen formula

## **Long time EN**

- Tab Multi Vitamin Mineral



## 1000 Kcal Kitchen formula (20% Pro)

- برنج، پخته: 1 واحد
- پودر کربومس: 3 و نیم واحد
- سبزیجات برگ سبز: یک و نیم واحد
- ماست کم چرب: 300 سی سی
- آب میوه طبیعی: 180 سی سی
- سینه ی مرغ (گاهی گوسفند): 120 گرم
- روغن مایع کانولا: 4 قاشق مرباخوری
- نمک ید دار: 1 گرم

