

**ATI Nutrition Proctored**  
**Part 1: General Notes**  
**Part 2: Focused Review Notes**  
**Part 3: ATI Rational with Additional/Supported Information**

**PART 1: GENERAL NOTES (Important Facts)**

- Be wary of questions regarding children drinking too much milk i.e. more than 3-4 cups of milk each day. Too much milk intake reduces intake of other essential nutrients, especially iron. Watch for anemia with milk-aholics.
- Vitamin D's presence is required by the parathyroid gland, in order for it to function.
- If the patient is taking digoxin or K-supplements, avoid salt substitutes because many are potassium based
- Potassium Sources: bananas, potatoes, citrus fruits
- No milk (as well as fresh fruit or veggies) on neutropenic precautions.
- Nondairy sources of calcium include RHUBARB, SARDINES, COLLARD GREENS 24
- Nonfat milk reduces reflux by increasing lower esophageal sphincter pressure
- Yogurt has live cultures, so do not give to immunosuppressed patients
- No phenylalanine with a kid positive for PKU (no meat, no dairy, no aspartame).
- Acid Ash diet: cheese, corn, cranberries, plums, prunes, meat, poultry, pastry, bread
- Alk Ash diet: milk, veggies, rhubarb, salmon

**PART 2: Focused Review Notes**

*Manifestations of Vitamin A Toxicity*

- Can cause teratogenic effects on fetuses
- Blurred vision
- Bone pain or swelling
- Hypercalcemia
- ICP
- Liver damage
- Skin peeling, itching
- Nausea and vomiting
- Abnormal softening of the skull bone (children) and bulging fontanelles

*Planning Care for a Client Who Follows Seventh-Day Adventist Dietary Laws*

- *Vegetarianism*
  - Do not consume animal products of any type INCLUDING eggs and *milk products*.
  - Vitamin B12 and Vitamin D supplements may be needed with a pure vegan diet.
- Vegan diets are adequate in protein due to intake of nuts and legumes (dried peas and cooked beans).

### *Initiating Continuous Enteral Feeding*

- This is recommended for critically ill patients because it is associated with small residual volumes, **and a lower risk of aspiration and diarrhea.**
- Residual volumes should be measured q4-6hrs.
- Feeding tubes should be flushed with water q4hr to maintain patency and hydration.
- If patient's gastric volume exceeds 500ml, the continuous feeding should be HELD and tolerance reassessed.
  - In children, residual volumes should be measured and held if the amount is equal to or greater than  $\frac{1}{4}$  the prescribed feeding amount.
- Residual should be returned and the amount rechecked in 30min to 1hr.

### *Recommendations for Nutritional Supplement*

- Add skim milk to powder milk (double strength milk)
- Use whole milk instead of water recipes
- Add cheese, peanut butter, chopped hard-boiled eggs, yogurt.
- Dip meats in eggs or milk and coat with bread crumbs before cooking.
- Nuts and dried beans are significant sources of protein □ great alternatives to dairy allergy or lactose intolerance!

### *Assessing Caloric Intake*

- Toddlers: 1 to 3 years old
  - Limit 100% juice 4 to 6oz a day
  - The 1 to 2-year-old requires whole cow's milk to provide adequate fat.
  - Food serving size is 1 tablespoon for each year of age.
- Preschoolers: 3 to 6 years old
  - Preschoolers need 13 to 19 g/day of complete protein.
  - 1 tablespoon per year of age for size of foods.
  - May switch to skim or 1% low-fat milk after 2 years.
- School-Age Children: 6 to 12 years old
  - Weight loss program is directed for children 40% overweight.
- Adolescence
  - Energy requirements average 2,000 calorie/day for a 12 to 18-year-old female.
  - Energy requirements average 2,200 to 2,800 calorie/day for a 12 to 18-year-old male.
  - Average U.S. adolescent consumes a diet deficient in folate, vitamin A and E, iron, zinc, mag, calcium, and fiber.
- Adulthood and older adulthood
  - Need a balanced diet that consists of 40% to 55% carbs, and 10-20% fat (with no more than 30% fat).
  - A 24 hr dietary intake is helpful in determining the need for dietary education.
- Use whole grains, select orange and dark green leafy vegetables, avoid fruits with added sugar (make half your plate vegetables and fruits), use vegetable oils, 132-362 discretionary calories are permitted per day.

**MEN CALORIE INTAKE**

**WOMEN CALORIE INTAKE**

19 to 30 years old: 2,400 calories	19 to 30 years old: 2,000 calories
31 to 50 years old: 2,200 calories	31 to 50 years old: 1,800 calories
51+ years old: 2,000 calories	51+ years old: 1,600 calories

### *Teaching about High-Fiber Food Sources*

- Beans
- Vegetables
- Oats
- Whole grains
- Cereals
- Nuts, seeds
- Raw or dried fruits
- Barley
- Flaxseed
- Avocado
- Chickpea
- Brown Rice
- Sweet Potato/Reg. Potato
- Quinoa

### *Priority Cholesterol Levels to Report*

- HDL (good cholesterol) should have levels greater than or equal to 60mg/dl
- LDL (bad cholesterol) is less than 130mg/dl.
- Optimal cholesterol level is less than 200mg/dl.

### *Prioritizing Care for Intermittent Enteral Feeding*

- Formula is administered q4-6hr in equal portions of 250 to 400 ml over a 30-60min time frame usually by gravity drop or pump.
- Residual volumes should be measured prior to initiating the feeding and held if the amount is greater than the amount stated in the prescription.
- Tube should be marked with ink or tape and checked to make sure it has not migrated.
- Assess bowel sounds. Dysfunction can indicate a need for alternate forms of nutrition.
- Elevate head of bed 30 degrees and for at least 30 to 60 minutes after.

### *Menu Choices for Preventing Aspiration*

- Encourage small bites and thorough chewing.
- Pills should be taken with at least 8oz of fluid (can be thickened).
- Avoid thin liquids and sticky foods.

### *Interventions for Diarrhea Caused by Radiation Therapy*

- Ensure adequate intake of liquids to replace losses.
- Avoid foods that exacerbate diarrhea (foods high in roughage)
- Consume foods high in pectin to increase bulk of the stool.
- Limit caffeine, hot or cold drinks, and fatty foods.

### *Evaluating Teaching about Complete Proteins*

- Complete proteins are from animal sources and soy
- They contain sufficient amounts of all 9 amino acids.

### *Folate Intake During Pregnancy*

- Helps prevent neural tube defects in utero (Folic acid is the synthetic form).
- Deficiency causes spina bifida, anencephaly.
- Take 400-800 mcg a day (According to the internet, does not say anywhere in ATI)

### *Food Choices for a Client Who Practices Orthodox Judaism*

- Special food preparations (kosher kitchens) **NO MEAT AND MILK TOGETHER**
- Guidelines state that animal slaughter must be “humane” and do not waste meat.
- They avoid all pork and shellfish products.

### *Heme Sources of Iron*

- Meat
- Fish
- Poultry

### *Appropriate Food Choices for a Toddler*

- Prefer finger foods due to autonomy
- Prefer plain foods rather than mixture foods, but usually like macaroni, spaghetti, and pizza.

### *Teaching a Client Who Has Dumping Syndrome*

- Recommend small, frequent meals.
- Recommend protein and fat at each meal.
- Avoid concentrated sugar and restrict lactose intake.
- Suggest that the client consume liquids 1 hour before or after eating instead of during meals (dry diet).
- Instruct patient to lie down for 20-30min after meals to delay gastric emptying. If reflux is an issue, suggest a recliner.
- Monitor for deficits in iron and vitaminB12.

### *Primary Function of Calcium*

- Bones/teeth formation
- blood pressure
- blood clotting
- Nerve transmission

### *Complications of Childhood of Obesity*

- Diabetes
- Hypertension

- Bone/joint problems
- Respiratory problems such as asthma
- Sleep apnea
- Earlier than normal puberty or menstruation
- Anorexia or bulimia
- Skin infections due to moisture from sweat trapped in skin folds
- Fatigue

#### *Administrating Parenteral Nutrition*

- Preparation
  - **A micron filter is required!**
  - Evaluate allergies to soybeans, safflower, or eggs if lipids are prescribed.
- Ongoing Care
  - Assess I&O's, weight, vitals
  - Insulin may be prescribed due to hyperglycemia.
  - Hyperosmolar diuresis can result from rapid infusion.
  - You can avoid hypoglycemia by administering 20% water and 10% Dextrose.
  - **MONITOR FOR “CRACKING”** which occurs if calcium or phosphorus is too high. It has an oily appearance or a layer of fat on top of the solution. Don't use.
  - **Use aseptic technique.**
  - **Use sterile technique when changing central line dressing and tubing.**

#### *Nutritional Interventions for Pancreatitis*

- NPO and NG Tube is inserted.
- TPN can be used until oral intake is resumed.
- Low fat, high protein, and high carbohydrate diet is prescribed.
- Includes supplements of Vitamin C and B-complex vitamins.

#### *Providing a Culturally Sensitive and Sodium-Restricted Meal*

- African American
  - Encourage frying lightly with canola/olive oils
  - Encourage fruit and veggies and decrease meat.
  - Suggest dark green leafy vegetables and low-fat cheeses as calcium sources.
  - Associate “good health” with better food choices and portion control.
  - Suggest unhealthy food only on special occasions.
- Asian American
  - Encourage continued use of plant-based diet and food preparation as generations take on “American Foods”
  - Moderate salt intake
  - Limit sugar-laden foods.

#### *Indications of Fluid Volume Deficit*

- Tachycardia
- Weak, thready pulse

- Hypotension
- Orthostatic hypotension
- Tachypneic
- Hyperthermia
- Decrease central venous pressure

*Providing Dietary Guidelines for Client with Cystic Fibrosis*

- Well balanced diet that is high in protein
- 3 meals a day

*Diabetes Mellitus*

- Managing Acute Illness
  - Still continue to take medications
  - Contact doctor if unable to keep food/fluids down;
  - Monitor glucose q4hrs
  - Stay hydrated!!!

*Calculating Appropriate Fat Calories Intake*

- Approx. 20% to 35% of total calories should come from fat
- Less than 10% should come from saturated fat sources.

*Body Stress Response Teaching*

- Stress causes protein catabolism
- Stress causes increase in blood glucose
- & increased metabolism
- Eat foods high in protein
- Avoid the things that are stressing you! Duh

*GERD Dietary Recommendations*

- Avoid known trigger foods
- Avoid tight fitting clothes
- Sit upright for 30mins after eating
- Avoid eating 2 hours before bed
- DO NOT LAY FLAT (Head elevated 6 to 8inches)
- Avoid large meals or bedtime snacks

*Dysphagia Interventions*

- **Modify food textures for swallowing ease**
- **High-Fowlers**
- Oral care to help
- Allow adequate time for meals
- Medications taken with at least 8oz of water
- **Avoid thin liquids and sticky foods!**

### *Foods to Manage Diarrhea*

- Foods high in fiber (lentil, peas, broccoli, beans, pears, almonds, avocado, carrots)

### *Dietary Recommendations During Lactation*

- Breastfeeding women need to increase caloric intake based on the infants age
- For the first 6 months, an extra 330 calories are recommended
- Increasing to 400 extra calories for the remaining 6 months of the first year.

### *Expected Weight Range for 6-month-old*

- Birth weight should double by 6 months and triple by a year.
- The child should gain 5 to 7oz per week.
- Growth should be in 1 inch a month for proper development.

### *Identifying Low-Phosphorus Foods*

- Beef
- Chicken
- Seafood
- Turkey
- Noodles
- Eggs
- Rice
- Macaroni
- Soy/almond milk
- AVOID BREADED MEATS AND MOST DAIRY!

### *Heart Healthy Diet*

- Low fat/cholesterol diet
- Cholesterol should be less than 200mg/daily
- Sodium should be less than 2,300 daily
- Increase fiber, carbs, omega 3, folate, and vitamins B 6 & 12.
- Limited saturated fats, fried foods, butter, salt, and alcohol consumption.
- Increase mono-saturated fats and soluble fiber.

### *Needs based on BMI*

- Low fat diet, increase water intake, and exercise.
- BMI under 24.5 is best
- BMI is calculated based on Weight in Kg/Ht (M2)

### *Preventing Cancer*

- Consume 14g/1,000 cal/daily
- Eat at least 5 servings of fruits and vegetables (vitamin C and A)
- Whole grains rather than refined grains
- Avoid smoked, pickled, and nitrate meats
- Consume polyunsaturated and mono-saturated fats

- Limit alcohol

## PART 3: ATI Nutrition Online Practice A Rationales

### *Controlling Hypertension*

- Eat a diet rich in nonfat or low-fat dairy products (avoid whole milk)
- Eat a diet rich in potassium
- Consume 4-5 servings of unsalted nuts, seeds, or legumes per week for a heart healthy diet.
- Drink alcohol in moderation (1 drink or less per day)

### *Manifestations of Hypoglycemia*

- Diaphoresis, irritability and tremors are manifestations of hypoglycemia
- They are tachycardia
- They will NOT have abdominal cramps (associated with hyperglycemia)
- They will NOT have acetone breath also known as fruity breath □ hyperglycemic.

### *Medication: Nifedipine*

- Do not take with grapefruit because it can elevate levels
- Bananas, aged cheese, or milk is not contraindicated.

### *Stress Management*

- Exercise is a benefit to reduce stress.
- Avoid eating 2 to 3 hours before bedtime to promote sleep and reduce stress. (NOT 1HR)

### *What foods contain the highest amount of zinc?*

- 4 oz ground beef patty (red meat provides the majority of zinc in the American diet) ATI
  - ADDITIONAL FOODS CONTAINING ZINC FROM INTERNET (Nothing else found in ATI)
  - Lamb: 3 ounces: 6.7mg of zinc
  - Pumpkin seeds: 1 cup: 6.6mg
  - Chickpeas: 1 cup: 2.5mg

### *Reducing the risk of infection in cancer patients*

- Discard leftover food after 3 days
- Thaw food in the refrigerator NOT at room temp
- Use home canned goods within 1 year and cook for 10 min prior to eating to reduce risk of infection
- Keep hot cooked food at a temp greater than 60C or 140F

### **Laboratory results for a patient on TPN**

- Prealbumin levels is a sensitive indicator for nutritional status. Level of 30 mg/dl is within the expected range.
- 16 to 40 is within expected range for prealbumin (according to internet, cannot find on ati, probs in med surg book)
- Cholesterol, hemoglobin, and calcium are not indicative of TPN being effective.
- WILL ADD WHAT LABS ARE EFFECTIVE FOR TPN

*Laboratory results for a patient with Type 2 Diabetes*

- HbA1c level of less than 7% indicates effectiveness in client with Diabetes

*Dietary teaching to client with COPD*

- Consume foods that are soft in texture and easy to chew.
- Add gravy and sauces to prevent dry mouth
- Drink HIGH-protein, HIGH-calorie formulas between meals
- Eat 6 small meals a day (no large meals) ati

*Breastfeeding for a newborn*

- Breast milk is nutritionally complete for an infant up to 6 months of age. It will support growth and development.
- Introduce cow's milk AFTER the age of 1 years old.
- You do not need supplemental water to provide an adequate fluid intake. Both breast milk and formula provide an adequate water-to-calorie ratio to meet needs.
- Iron-fortified infant formula IS an acceptable substitute for or supplement to breastfeeding.

*Dietary teaching for a 3-year-old*

- Do not give peanut butter – it is sticky + large, also a choking hazard. Spread the PB if you want to give it to the child.
- Do not give whole grapes. Cut into smaller pieces that are the size of a nickel.
- Popcorn or hard pretzels are withheld until 4-years-old.
- Whole milk is necessary for neuro development for kids up to 2 years old.
- When kids are older than 2, switch to low-fat or skim milk.

*Managing Irritable Bowel Syndrome*

- Do not take fruits high in fructose, such as pears. Can increase manifestations IBS.
- Increase probiotics.
- Take peppermint oil during exacerbation of manifestations; it relaxes the smooth muscle in the GI tract and decreases manifestations.
- Choice on ati was *substitute white sugar with honey*. That is incorrect as honey is high in fructose and difficult to absorb. White sugar contains glucose which is easy to absorb and would've help the absorption of fructose.

*Education for Mother's planning to Breastfeed*

- Plan 5 min feeding on each breast on the first day after birth as it helps promote milk production.

- Breastfeed on demand, when the newborn shows indications of hunger, usually 8 to 12 times per day (Do not go in intervals.. example: I will breastfeed every 6 hours)
- Instruct clients to avoid offering the newborn fluids other than breast milk to promote milk production.
- Do not use supplemental formula or water with artificial nipples to decrease the risk of nipple confusion.

*Enteral feedings via an NG tube. Which reduce risk of aspiration if develops abdominal distention*

- Assist in ambulation (not bedrest) to relieve distention by promoting peristalsis.
- Position the client on the right (right lateral position) to promote movement of gastric contents through the pylorus and to help relieve distention.
- Do not increase the rate, can worsen distention.
- Request a change to a lower-fat formula when the client is having distention and bloating.

*Teaching to pregnant woman with nausea/vomiting*

- Eat dry cereal.
- Carbohydrates, like dry cereal, are absorbed quickly and readily raise blood sugar levels, which could reduce nausea.
- Do not increase fat. High fat foods delay gastric emptying time, which increases nausea.
- Avoid caffeinated drinks such as coffee and tea because they can contribute to heartburn.

*Counting calories*

- Carbohydrate count is NOT dependent on the calorie count.
- Portion size does affect the number of carbohydrates.
- 3-5 carbohydrate choices, or 45G! are allowed per meal (+1-2 carbohydrates for each snack).
- Instruct the difference between starchy and nonstarchy vegetables.

*Enteral tube feedings*

1. Place in fowler's position
2. Verify tube placement
3. Check the residual
4. Flush tubing with 30ml water
  - Discard opened cans of formula withing 24 hours to decrease bacterial contamination.
  - Warm the formula to room temp.
  - Feed the client in small, frequent volumes
  - High calorie formula for diarrhea.

*Somogyi phenomenon*

- Monitor blood glucose levels during the night. (Somogyi is fasty hyperglycemia that occurs in the morning in response to hypoglycemia during the nighttime).

*Minerals and side effects*

- Calcium can lead to constipation by decreasing peristalsis

- Excessive magnesium can cause diarrhea and cramping.
- Excessive Potassium can cause vomiting.
- Excessive phosphorus does not cause constipation.

*Dumping syndrome*

- Avoid simple sugars and sugar alcohols which make food mass more hypertonic which causes a greater fluid shift.
- Instruct to lie down.
- Eat small frequent meals to slow gastric emptying.
- Select grains with less than 2g fiber per serving.

*Losing weight meal plan*

- Do not taste foods while cooking to avoid overeating.
- Control your portion sizes rather than restricting certain foods to prevent cravings.
- Make a list before going shopping because it will help adhere to meal planning and prevent impulse buying.
- Eat 3 to 5 meals a day to prevent hunger and overeating.

*Acute pancreatitis labs expectations*

- Decreased serum calcium
- Increased serum bilirubin
- Increased serum glucose
- Increased serum alkaline phosphatase

*Cardiovascular disease dietary teaching*

- Increase dietary potassium to reduce hypertension.
- Increase your dietary fiber intake.
- Decrease intake of trans fatty acids to reduce risk of cardio.
- Eat 2 or more 3.5-oz servings of fatty fish per week to reduce risk of cardiovascular disease.

*Wound healing labs*

- A Hgb below expected reference range can impair wound healing. (ranges are 14 to 18 for men and 12 to 16 for women.)
- Serum albumin is 3.5 to 5 so anything less can impair wound healing.
- Prothrombin time expected reference range is 11 to 12.5 seconds.
- WBC range is 5,000 to 10,000. Out of reference range can cause wound healing impairment.