Texas A&M Dietetic Internship Program

Clinical Rotation Descriptions and Related Workbooks
### Baylor Scott & White Clinical Rotation Descriptions and Workbooks

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### CHI-St. Joseph Regional Health Center Clinical Rotation Descriptions and Workbooks

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TEXAS A & M UNIVERSITY DIETETIC INTERNSHIP
ROTATION INFORMATION: Cardiology - Scott and White

CARDIOLOGY: Location: Scott and White Memorial Hospital
Rotation: Inpatient Cardiology
Duration: 40-80 hours

GOALS: Increase knowledge and enhance skills in meeting the nutritional needs of cardiac patients in acute and chronic phases of illness, as well as nutrition education for inpatients and outpatients. Promote continued development of basic nutrition care skills and provide the opportunity to participate in a team approach in the acute care and rehabilitation of patients.

I. ROTATION PREPARATION (Complete prior to starting rotation)
   A. Contact the Dietitian one week prior to the first day of the rotation to make necessary arrangements.
   B. If you will miss a day during the rotation, you must give one weeks’ notice.
   C. Read the attached cardiology articles and complete the workbook.
   D. Prepare a written list of at least 3 goals and objectives for the rotation to discuss with the dietitian on day 1.

II. ROUTINE DUTIES
   A. Participate in daily activities of the cardiology dietitian in providing for nutritional care to patients on 4 North and CTICU.
   B. Gather pertinent chart and lab information to complete nutrition assessments and develop care plans for patients assigned.
   C. Complete calorie counts as appropriate.
   D. Attend all meetings and conferences as assigned.
   E. Diet instructions and consultations as assigned.

III. ROTATION ASSIGNMENTS
   A. Complete Cardiology workbook before first day of rotation.
   B. Attend Cardiac Rehab as available, teach class, develop handout as assigned.
   C. Assignments and projects as assigned including one case study to be presented to the S&W clinical dietetic staff during the rotation.
   D. Review and write one paragraph summary of 2 recent articles (published within last 5 years) pertaining to the nutrition for Cardiology patients.

IV. EVALUATION
   A. Submit completed written assignments to the dietitian as assigned in a timely manner.
   B. Schedule rotation evaluation for the last day of rotation.
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP  
ROTATION INFORMATION: Cardiology — Scott & White  

1. Readings: Packet to be picked up prior to rotation  
   
   Nutrition Intervention in the Critically Ill Cardiac Patient (see attached)  
   
   The Heart Speaks I and II: Embracing Integrative Medicine for Heart Health (see attached)  

2. Workbook: Due on 1st day of rotation  

3. Project: 1 case study presented to S&W clinical dietitians during rotation  

4. Assignments: As assigned 22415760. Evaluation  
   **All Assignments will be typed, except the evaluation**
1. Identify at least six risk factors for coronary heart disease.

2. Define the following lipids (fats) and their roles in the development of heart disease.
   a. Cholesterol
   b. Saturated fats
   c. Monounsaturated fats
   d. Polyunsaturated fats
   e. Triglycerides

3. Define the following cardiac disease states or conditions associated with cardiac disease.
   a. Aortic stenosis (AS)
   b. Arteriosclerosis
   c. Atherosclerosis
   d. Cardiac cachexia
   e. Cardiomyopathy
   f. Cardiorenal syndrome
   g. Congestive Heart Failure (CHF)
   h. Coronary Artery Disease (CAD)
   i. Hypertension (HTN)
   j. Ischemic heart disease
   k. Myocardial infarction (MI)
   l. Pericarditis
   m. Peripheral vascular disease (PVD)
   n. Sick sinus syndrome (SSS)

4. Define the following cardiology terms:
   a. Angina pectoris
   b. Arrhythmia
   c. Atrial fibrillation
   d. Bradycardia
   e. Cardioversion
   f. Tachycardia

5. What are the recommended normal values for
   a. Lipid panel (Cholesterol, Triglycerides, HDL, LDL)
   b. BNP
   c. Troponin (what does this lab correlate with)
   d. Sodium
   e. Hemoglobin A1C
6. Discuss the rationale for each of the following diets as related to the cardiac disease state.
   a. Sodium restricted
   b. Fluid restricted
   c. Low fat
   d. Low cholesterol

7. Discuss the use of the following drugs in the treatment of cardiac disease and their nutrition implications.
   a. Albumin
   b. Cholestyramine
   c. Coumadin
   d. Furosemide
   e. Nicotinic acid
   f. Hydrochlorothiazide

8. Define and discuss the following cardiac procedures:
   a. Aortic Valve Replacement (AVR)
   b. Mitral Valve Replacement (MVR)
   c. Cardiac catheterization
   d. Stent
   e. Coronary Artery Bypass Graft (CABG)
   f. Orthotopic Heart Transplantation (OHT)
   g. Percutaneous Transluminal Coronary Angioplasty (PTCA)

9. Diet:
   a. List common foods that are high in cholesterol and acceptable daily intake of cholesterol
   b. List common foods that are high in saturated fats and acceptable daily intake of saturated fat
   c. List common foods that are high in polyunsaturated fats.
   d. What foods are good sources of monounsaturated fats?
   e. What foods are good sources of omega 3 fatty acids?
   f. What information or suggestions would you give to a patient on a fat-controlled, sodium-controlled diet for meals eaten away from home?
   g. How many mg of Na+ are in 1 tsp. of salt?
   h. Describe the clinical effects of dietary fiber on hyperlipidemia.

12. Explain how the figure % kcals from fat on a nutrition food label. What is the acceptable % for fat?
13. Identify the following abbreviations. (may not directly apply to cardiology)

Based on the 3 nutrition articles, answer the following questions

1. EN should be initiated on all critically ill patients (ex: high dose pressors). True or False. Explain

2. What dietary strategies have been shown to have value for primary prevention of cardiovascular disease?

3. What are the national and international guidelines for ω-3 fatty acids for the general population (servings)?
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP
ROTATION INFORMATION: General Medicine - Scott & White

I. General Medicine/Neurological disorders
Location: Scott & White Hospital

GOAL:
1. Increase knowledge of and enhance skills in meeting the nutritional care needs of patients with a wide variety of illnesses/conditions. Develop and increase skills in nutritional assessment. Promote continued development of competence in nutrition care delivery. Participate in a team approach to patient care.

II. Rotation Preparation (Complete prior to starting rotation)
   a. Reading list (attached)
   b. Complete General Medicine workbook prior to first day of rotation.
   c. Prepare written list of goals and objectives for rotation to discuss with the dietitian on first day of rotation.
   d. Contact the dietitian prior to the first day of the rotation (at least one week prior) to make necessary arrangements and pick up reading packets, etc.

III. Routine Duties
   a. Keep record of diagnosis seen. Make sure to see at least one patient with the following diagnosis if at all possible: COPD, pancreatitis, hepatitis/cirrhosis, pressure ulcer, malnutrition, Crohn’s/Ulcerative Colitis, ESRD, CKD, Cystic Fibrosis
   b. Set up snack and supplements for patients as needed and record patient preferences in Hospitality Suite.
   c. Attend clinical meetings as assigned by dietitian.
   d. Give diet instructions for the following: Renal, Diabetic, Heart Healthy, and any other assigned by dietitian.

IV. Routine Assignments
   a. Do at least one calorie count during the rotation if applicable.
   b. Attend pertinent lectures and/or presentations as assigned by dietitian.
   c. Present a case study to the dietitians on the last week of rotation.
   d. Perform other duties as assigned by the dietitian.
   e. Complete one written article summary by end of the two week rotation and present to Baylor Scott and White Dietitians.

IV. Evaluation
   a. Schedule a mid-rotation evaluation with the dietitian.
   b. Submit completed written assignments as requested by the dietitian.
   c. Schedule rotation evaluation for the last day of the rotation.
   d. Submit completed evaluation forms and written rotation assignments to the Internship Director no later than one week from the last day of the rotation.
1. Medications: Briefly indicate usage for each drug and any nutrition-related side effects.

Reglan
Prednisone
Lomotil
Lasix
Dilantin
Heparin
Coumadin
Metamucil
Dulcolax
Miralax
Colace
Zantac
Zoloft
Zofran
MOM
Phenergan
Lactulose
Synthroid
Zemplar
Ferrous Sulfate
Epogen
Megace
Pancreatic enzymes
Metformin
Insulin
Glyburide
Glipizide
HCTZ
Furosemide
Spironolactone
PhosLo
Calcium Carbonate

2. List names and meaning for the following abbreviations.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<tbody>
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<td>Alb</td>
<td>PO</td>
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<tr>
<td>BID</td>
<td>NPO</td>
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<tr>
<td>TID</td>
<td>PUD</td>
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<tr>
<td>QID</td>
<td>PVD</td>
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<tr>
<td>CAD</td>
<td>PRN</td>
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<tr>
<td>c/o</td>
<td>CVA</td>
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<tr>
<td>CAD</td>
<td>TIA</td>
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<tr>
<td>CABG</td>
<td>TPN/CPN</td>
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<tr>
<td>Term</td>
<td>Abbreviation</td>
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<td>CHF</td>
<td>WNL</td>
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<td>COPD</td>
<td>NGT</td>
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<td>DKA</td>
<td>LLL-LLQ</td>
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<td>DM</td>
<td>HTN</td>
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<td>Dx</td>
<td>IBS</td>
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<td>GERD</td>
<td>MI</td>
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<td>H/O-h/o</td>
<td>IVF</td>
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<td>HCTZ</td>
<td>IBD</td>
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<td>AAA</td>
<td>SBS</td>
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<td>Abd</td>
<td>NKFA</td>
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<td>AKA-BKA-</td>
<td>PEG</td>
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<td>ESRD</td>
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<td>IDPN</td>
<td>CRF/CKD</td>
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<td>GFR</td>
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<td>HgbA1c</td>
<td>CF</td>
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<td>PCM</td>
<td>SNF</td>
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<td>Abbreviation</td>
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<tr>
<td>R/O; r/o</td>
<td>SOB</td>
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<tr>
<td>S/P –</td>
<td>UTI</td>
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<td>N/V/D</td>
<td>PICC</td>
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<td>DVT</td>
<td>CVC</td>
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<td>LFT</td>
<td>CA</td>
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<td>NS</td>
<td>MVA</td>
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<tr>
<td>sx</td>
<td>MVI</td>
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<tr>
<td>GSW</td>
<td>CBC</td>
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3. Briefly define the following conditions/diseases and list the primary nutrition intervention(s) for each:

**Acute Kidney Injury (AKI)-**

**Coronary Artery Disease (CAD)-**
<table>
<thead>
<tr>
<th>Condition</th>
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<td>Congestive Heart Failure (CHF)</td>
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<tr>
<td>Cirrhosis</td>
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<tr>
<td>Cholecystitis</td>
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<tr>
<td>Chronic Renal Failure (CRF)/ Chronic Kidney Disease (CKD)</td>
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<tr>
<td>Crohn’s Disease</td>
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<tr>
<td>Chronic Obstructive Pulmonary Disease (COPD)</td>
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<tr>
<td>Condition</td>
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<tr>
<td>------------------------------------</td>
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<tr>
<td>Dysphagia-</td>
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<tr>
<td>Cystic Fibrosis-</td>
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<tr>
<td>Diabetes, Type 1-</td>
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<tr>
<td>Diabetes, Type 2-</td>
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<tr>
<td>Diarrhea-</td>
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<td>Dumping Syndrome-</td>
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<tr>
<td>Condition</td>
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<td>Gastrectomy, full or partial-</td>
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<td>GERD-</td>
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<td>Hepatic Encephalopathy-</td>
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<td>Hypoglycemia-</td>
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<td>Disease</td>
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<td>Irritable Bowel Syndrome-</td>
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<td>Pancreatitis-</td>
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<td>Peptic Ulcer Disease (PUD)-</td>
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<td>Short Bowel Syndrome-</td>
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<td>Celiac Disease-</td>
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<td>Rhabdomyosis-</td>
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<td>Ulcerative Colitis-</td>
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<tr>
<td>Colostomy-</td>
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<tr>
<td>Ileostomy-</td>
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What are some reasons for requiring an Ostomy?

Normal Output for a Colostomy is 1000 ml. True or False

Normal Output for a Ileostomy initially is > 1200ml. True or False

What is considered High Ostomy Output?
  a. 1200-2000 ml
  b. 500-1000ml
  c. 200-600 ml

What are some important nutrition related issues when managing an Ostomy (Colostomy/Ileostomy)?
4. What labs might be altered in the following conditions? Indicate direction of impact for all that apply.

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<th>Labs which may be altered</th>
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<td>Hepatic Dysfunction</td>
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<td>Pancreatitis</td>
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<td>Refeeding Syndrome</td>
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<tr>
<td>Renal Failure</td>
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Describe what happens with Refeeding Syndrome:
## Neurological Disorders

5. Briefly define the following conditions/diseases and list the primary nutrition intervention(s) for each:

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<tr>
<td>TIA</td>
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<tr>
<td>Guillain-Barre Syndrome</td>
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<tr>
<td>Myasthenia Gravis</td>
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6. Why is Dysphagia a concern?

7. Name at least 3 signs of Dysphagia.

8. List the 3 stages of swallowing

   1. 
9. When thickening drinks, how do you know how much thickener to add?

Research Article (Attached)

What vitamins and minerals have been found to be beneficial for patients recovering from an Ischemic Stroke?

Several studies have shown that patients receiving ~20g/d protein supplement had a better recovery of their Neurocognitive Functions? True or False

Zinc plays an important role in Brain Functioning? True or False
Case Study Nutrition Scenarios:

Mr. Johnson is a 45 year old BM who is 5’11” and weighs 170 pounds. He presented to the ER with acute abdominal pain. His physician has told him that he has acute pancreatitis.

1. What abnormal lab values are indicative of pancreatitis?

2. Calculate Mr. Johnson's caloric needs using Kcal/Kg. How much protein should he receive?

Two years later Mr. Johnson presents with a worsening condition. He has developed ascites and pedal edema. Urinary output is decreasing. He now weighs 150 pounds.

1. Define the following additional diagnoses:
   a. Hepatic encephalopathy
   b. Portal Hypertension
   c. Esophageal Varices
   d. Asterixis

2. What is the mechanism of the following drugs?
   a. Sprinolactone
   b. Furosemide (Lasix)
   c. Lactulose

3. Re-calculate Mr. Johnson's total caloric and protein needs.

4. What other dietary recommendations would you make?

Mrs. Jones is a 68 year old who is 5'4" and weighs 170 lbs. She has been diagnosed with diverticulitis in the sigmoid and descending colon.

1. What is Mrs. Jones IBW, % IBW and Adjusted Body weight?

2. Define diverticulitis and diverticulosis, and the suggested dietary recommendation for each.

3. What are some of the symptoms of diverticulitis?
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP
ROTATION INFORMATION: BAYLOR SCOTT & WHITE RENAL

RENAI NUTRITION: Location: Baylor Scott & White Hospital
Duration: 75-80 hours

Goals:
- To observe and work with the Renal Dietitian in hospital services
- To be able to work independently while under the supervision of the Renal
  Dietitian observing all rules and regulations on assigned duties and projects
- To develop a basic knowledge of Renal nutrition by using critical thinking

I. ROTATION PREPARATION: (Complete prior to starting rotation)
   A. Contact the Renal Dietitian one week prior to the first day of the rotation to make
      necessary arrangements
   B. Answer all of the questions on the Renal worksheet and read the assigned Articles
   C. Prepare a written list of goals and objectives specific to the Renal rotation. Be
      prepared to discuss with the Dietitian on Day 1
   D. Come willing to learn and work and be flexible with work hours

II. ROUTINE DUTIES:
   A. Participate daily in the activities of the Renal Dietitian
   B. Discuss daily research and homework assignments with the Renal Dietitian
   C. Plan and prioritize daily activities
   D. Cover assigned patients
   E. Complete assignments in a timely manner

III. ROTATION ASSIGNMENTS:
   A. Daily homework and or research assignments
   B. Develop or update patient education material
   C. Provide two research articles on an assigned topic

IV. EVALUATION:
   A. Evaluation will be based upon performance, critical thinking process, and
      assignments. All assignments are expected to be turned in on time. The intern is
      expected to discuss with the Renal Dietitian any problems in these areas
   B. A verbal but informal evaluation will be given at the end of the first week. This will
      be a feedback session
   C. A written formal evaluation will be given the last day of the rotation and the intern is
      expected to bring the evaluation forms at least the morning the day before
1. List the major functions of the kidney.

2. Discuss the following Nephropathies and their effects on the kidney.
   a. Nephrotic Syndrome
   b. Lupus Nephritis
   c. Diabetic Nephropathy
   d. Nephrolithiasis
   e. Glomerulonephritis

3. Describe the following lab tests and their use in determining Renal function.
   a. Creatinine Clearance
   b. Blood Urea Nitrogen (BUN)
   c. Glomerular Filtration Rate (GFR)
   d. Serum Phosphorus
   e. Serum Potassium
f. Serum Sodium

g. Serum Calcium

h. Serum Magnesium

i. Creatinine

j. Urinalysis

4. List the nutrient requirement for adults for each method of therapy.

   a. Pre-dialysis

   b. Hemodialysis

   c. Peritoneal Dialysis

   d. Transplant

   e. Acute Renal Failure

5. Why is it usually necessary to limit Potassium, Phosphorus, and Sodium in the diet of the CKD patient?

6. What percentage of the allowed protein should be High Biological Value? Give examples of HBV proteins.
7. What is the easiest and safest way to increase calories in the Renal diet?

8. Why are B-complex, Ascorbic Acid, Folic Acid, Iron, Calcium and Zinc supplemented in the Renal diet?

9. Fluid balance in a Hemodialysis patient is evaluated by their dry weight. Define dry weight and describe symptoms of being above or below dry weight.

10. Explain the rationale for the more liberal Sodium, Potassium, Phosphorus, and Protein amounts needed by the Peritoneal Dialysis patients.

11. Define Dialysate and explain its importance.

12. Indicate drug classifications and possible reasons for use of the following drugs in patients with Renal failure.
   a. Erythropoietin (Epogen/Procrit)
   b. Calcitriol
   c. Calcium Citrate
   d. Calcium Carbonate
   e. Zemplar
   f. Insulin
   g. Kayexalate
h. Renvela

i. Nephrocaps

j. Nephrovite (Dialyvite)

k. Hydrochlorothiazide

l. Aldactone

m. Lasix

n. Phoslo

o. Flomax

p. Cholecalciferol

q. Calcium Gluconate

13. Define the following:

a. Anuria

b. Oliguria

c. Polyuria

d. Anemia
e. Azotemia

f. Glomerular Filtration Rate (GFR)

g. Hemodialysis

h. Peritoneal Dialysis

i. Osteodystrophy

j. Uremia

k. Secondary Hyperparathyroidism

Questions regarding required Articles:

1. What is the daily recommended energy allowance for patients receiving CRRT and patients with AKI? (Provide Kcal and Protein for both)

2. Why are ARF patients more prone to exacerbated insulin resistance?

3. Patients with ARF present with increased oxidative stress, further amplified by deficiencies in which micronutrients?

4. What are the 3 main causes of death associated with AKI

5. What are the goals for nutrition support with a patient with AKI?
Long Term Acute: Location: Scott & White Continuing Care Hospital
Duration: 10 days (maybe off on Thursdays)
Rotation: 30 hours week

Goal: Increase knowledge and enhance skills in meeting the nutritional needs of med-surg patients in a long term acute (LTAC) and sub-acute phases of critical illness and specific disease states. Promote continued development of basic nutrition care skills and provide the opportunity to participate in a team approach in the long term acute care setting.

Rotation Preparation (Complete prior to starting rotation)
A. Contact the Dietitian prior to the first day of the rotation to make necessary arrangements. Office 254-215-0869 cell 254-541-1597
B. Read the LTAC reading list and complete the pre-rotation worksheet.
C. Prepare a personal written list of goals and objectives for the rotation to discuss with the Dietitian on day 1.
D. Research Long Term Acute Facility vs. Skilled Nursing Facility – write a summary and review with RD for discussion on day 1

II. Routine Duties
A. Participate in daily activities of the LTAC Dietitian in providing for nutritional care to patients at the CCH facility.
B. Gather pertinent chart and lab information to complete nutrition assessments and develop care plans for patients assigned.
C. Check enteral and parenteral patient list daily- reassess patients as needed
D. Attend all meeting and conferences as assigned.
E. Diet instructions and consultations as assigned.
F. Meal rounds as assigned.
G. Interact with the interdisciplinary team as needed or assigned
H. Any other assigned duties as needed

III. Rotation Assignments
A. Complete LTAC pre-rotation worksheet by day 1 no later than day 2.
B. Complete a full assessment w/out direct supervision on an enteral/ parenteral pt.
C. Assignments and projects as assigned
D. Quizzes as assigned.
E. Review and write a summary of 1 recent article pertaining to the enteral or parenteral nutrition for an abdominal wound patient or nutrition support in general
F. Complete a case study if assigned
G. Daily homework assignments

Revised August 2018
IV. EVALUATION

A. Submit completed written assignments to the Dietitian as assigned in a timely manner.
B. Schedule rotation evaluation for the last day of rotation.
LTAC PRE-ROATION WORK SHEET QUESTIONS:

1. What products and/or medications are used typically to control diarrhea and/or high output ostomies in a hospital patient?

2. What are causes of Cholestasis Induced by Parenteral Nutrition/CPN or TPN?

3. What are the nutritional recommendations for Ventilated Patients to avoid overfeeding?

4. What are the 3 stages of Acute Renal Failure and the 5 stages of Chronic Kidney Disease?

5. Why is albumin not a single marker for nutritional status and the relationship to inflammation? What other lab values would be used for evaluation of inflammation?

6. What are the 5 functions of albumin in the body?

7. What is difference between an intact protein tube feeding formula vs. an elemental or semi-elemental formula?

8. Short bowel syndrome- definition, symptoms and treatment. When is TPN/CPN recommended for use in this syndrome?

9. Colonic, Enterocutaneous fistula (ECF)- definition and challenges of treating this diagnosis.

10. What is a single difference between Medicare and Medicaid for in hospital payer coverage?

11. Decubitus ulcer wound, how are they staged and/or classified and what are the nutritional recommendations?

12. What is Refeeding Syndrome? What electrolytes are of concern in this syndrome?

13. Know the tube feeding location difference between percutaneous gastrostomy, jejunostomy; post-pyloric feeds.

TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP

ROTATION INFORMATION: Long Term ACUTE CARE — Scott & White Continuing Care Hospital (CCH)

1. Readings: Packet to be picked up prior to rotation

2. Research the difference between an LTAC and a Skilled Nursing Facility 1st day

3. Type your personal Objectives for this rotation, and what you expect to do/learn

4. Worksheet: Due on first or second day of rotation.

5. Project: As assigned

6. Case study If assigned

7. Care plan meeting attendance on Tuesday 1pm

8. Quizzes: As assigned

9. Assignments/homework: As assigned

10. Abstracts: 1 current article, due by last week of rotation.

11. Evaluation

**All Assignments will be typed or hand written legible, except the Evaluation.**

Rotation address: 546 Kegley Road
Temple, Texas 76502
(254)215-0869 or 215-0868
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP
Longterm ACUTE CARE READING LIST

1. Is There a Role for Albumin in Nutrition Assessment. Medical Nutrition Matters Vol 30 No 1 Summer 2010


6. Postgastrectomy Nutrition C.Rogers Nutrition In Clinical Practice Vol 26 No2 April 2011


Revised August 2018
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP

ROTATION INFORMATION: Oncology – BS&W

Baylor Scott & White Oncology: Location: Baylor Scott & White Hospital
Duration: 75 – 80 hours

I. Goal: Increase knowledge and enhance skills in meeting the nutritional needs of oncology patients who are receiving chemotherapy, radiation treatments, and/or bone marrow transplantation. Promote continued development of basic nutrition assessment and care skills and provide an opportunity to participate in a team approach to patient care.

II. Rotation Preparation:
   a. Contact Dietitian one week prior to the first day of the rotation to make necessary arrangements.
   b. Read the Oncology Reading List
   c. Complete the Oncology Workbook
   d. Prepare written list of goals and objectives for rotation to discuss with the Dietitian on day 1.

III. Routine Duties:
   a. Participate in daily activities of Oncology Dietitian.
   b. Gather pertinent chart and lab information to complete nutritional assessments.
   c. Actively participate with the Oncology Health Care Team.
   d. Attend all meetings/conferences as assigned.
   e. Diet instructions and consultations as assigned.

IV. Rotation Assignments:
   a. Complete Oncology Workbook by day 1.
   b. Review and write summary, critique of article, and reference on 2 recent articles pertaining to nutrition of oncology patients.
   c. Projects as assigned.
   d. Tests as assigned.

V. Evaluation
   a. Submit completed written assignments to the Dietitian as assigned.
   b. Schedule rotation evaluation for the last day of rotation.
   c. Submit completed evaluation forms and written rotation assignments to the Director no later than one week from the last day of rotation.
1. Define the following terms related to Hematology/Oncology:

- Benign
- Carcinoma
- Dysgeusia
- Dyspepsia
- Dysphagia
- Dyspnea
- Esophagitis
- Hematology
- Immunosuppression
- Leukocytosis
- Metastasis
- Mucositis
- Neoplasm
- Odynophagia
- Oncology
- Pancytopenia
- Stomatitis
- Tumor
- Tumor Marker
- Xerostomia

2. Define the following Hematology/Oncology diseases, disorders and syndromes:

- Acute Leukemia
- Aplastic Anemia
- Chronic Leukemia
- Hodgkin’s Lymphoma
- Multiple Myeloma
- Myelodysplastic Syndrome (MDS)
- Non-Hodgkin’s Lymphoma
- Sarcoma
- Sickle Cell Anemia
- Thrombotic Thrombocytopenia Purpura (TTP)
- Tumor Lysis Syndrome (TLS)
3. Define the following treatment terms:

   Adjuvant Therapy
   Consolidation Chemotherapy
   Immunotherapy
   Induction Chemotherapy
   Intrathecal Chemotherapy
   Neoadjuvant Therapy
   Palliative Treatment
   Plasmapheresis
   Salvage Therapy

4. Discuss the following medications, including use and nutritional side effects:

   Ciprofloxacin (Cipro)
   Dexamethasone (Decadron)
   Docusate (Surfak)
   Dronabinol (Marinol)
   Filgastin (Neopogen)
   Levoflaxacin (Levaquin)
   Megestrol Acetate (Megace)
   Methotrexate
   Metoclopramide (Reglan)
   Metronidazole (Flagyl)
   Moxiflaxacin
   Ondansetron (Zofran)
   Pantoprazole (Protonix)
   Polyethylene Glycol (Miralax)
   Posaconazole (Noxafil)
   Prednisone
   Prochlorperazine (Compazine)
   Promethazine (Phenergan)
   Senna (Senokot)

5. Explain differences between “normal cells” and “cancer cells.”
6. Define the following surgical terms. What diet recommendations would you make for each?

Colectomy
Gastrectomy
Whipple

7. Define and list consequences of malnutrition.

8. List and define the three stages of cancer cachexia.

9. How can the following cancer treatments affect a patient nutritionally?
   a. Chemotherapy
   b. Radiation therapy
   c. Surgical therapy
   d. High dose chemotherapy with bone marrow transplantation

10. You are consulted to discuss with a patient ways of maintaining nutrient intake during and between chemotherapy treatments. What suggestions would you make?
11. Define neutropenia (including the causes and symptoms). What precautions (medical and nutritional) should be taken with a patient diagnosed with neutropenia?

12. What diseases are treated with a bone marrow transplant?

13. What is the difference between autologous, allogeneic, and syngeneic BMT transplants?

14. Briefly discuss the four phases of the BMT procedure:
   a. Harvest
   b. Conditioning
   c. Transplantation
   d. Engraftment

15. List potential complications related to the transplantation.
16. Why is a multidisciplinary approach important for caring for the cancer patient?

TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP
READING LIST
Oncology – BS&W


Nutrition Support: Location: Baylor Scott and White Memorial Hospital
Duration: 40 hours

**Goal:** Participate in a team approach to recognize, understand and develop medical nutrition therapy for the critically ill adult patient. Promote continued development of basic nutrition care skills and begin to develop advanced nutrition support skills.

I. **Rotation Preparation**
   A. Contact Dietitian one week prior to the first day of the rotation to make necessary arrangements
   B. If you will plan to miss a day during the rotation, you must give one weeks’ notice and get approval
   C. Read the attached article and answer the provided questions
   D. Complete the workbook prior to the first day of the rotation
   E. Prepare a written list of at least 3 goals/objectives for the rotation to discuss with the dietitian on day one

II. **Expectations**
   A. Participate in daily activities of the surgical/trauma ICU dietitian in providing nutritional care to patients in the STICU
   B. Navigate and review patient medical records, interview patient and nursing staff, and collaborate with medical team to implement nutrition intervention
   C. Attend all meetings/conferences/medical rounds as assigned
   D. Diet consultations as assigned

III. **Schedule of Daily Duties**
   A. Day One: Intern will “shadow” the precepting RD
   B. Day Two: Intern will perform dietitian duties with supervision of RD
   C. Day Three to Five: Intern will independently see patients but will discuss cases with the precepting dietitian before discussing with physician or documenting recommendations
   D. Daily: Precepting dietitian will attest every intern documentation in the medical record

IV. **Assignments and Written Materials**
   A. Complete workbook prior to start of rotation
   B. Review attached documents and be prepared to discuss with precepting dietitian on day one
   C. Complete one written article summary by end of one week rotation and present to Baylor Scott and White Dietitians
V. Evaluation
   A. Submit completed written assignments to dietitian as assigned in timely manner
   B. Provide evaluation to precepting dietitian 2 days prior to final day of rotation
   C. Schedule rotation evaluation for the last day of rotation

VI. Learning Objectives
   A. Demonstrate understanding of ICU medications that impact nutrition status
   B. Identify appropriate enteral formulas for a variety of critically ill patients including traumatic brain injury, post-operative complications, multiple trauma, etc.
   C. Formulate macronutrient content for parenteral nutrition solutions
   D. Calculate minimum volume of parenteral nutrition solutions
Workbook Assignment

Answer the follow questions before the first day of your rotation to be reviewed with the RD.

Define the following terms or give a brief description:

1. Subarachnoid Hemorrhage (SAH)
2. Intracerebral Hemorrhage (ICH)
3. Traumatic Brain Injury (TBI)
4. Subdural Hematoma
5. Aneurysm
6. Degloving
7. Necrotizing Fasciitis
8. Mesenteric Ischemia
9. Bowel Perforation
10. Abdominal Compartment Syndrome

Define the following procedures

1. Whipple
2. Roux-en-y
3. Video-assisted thoracoscopic surgery (VATS)
4. Endoscopic retrograde cholangiopancreatogram (ERCP)
5. Hartmann’s Procedure
6. External Ventricular Drain (EVD)
7. Irrigation and Debridement (I&D)

What are the caloric values per gram in each of the following parenteral substrates?
Dextrose ______
What is the maximum glucose infusion rate recommended for an adult patient with glucose intolerance or uncontrolled diabetes mellitus on TPN?
A. 5 mg/kg/min
B. 7 mg/kg/min
C. 2 gm/kg
D. 500 gm daily

What is the maximum glucose infusion rate recommended for all adult patients on TPN?
A. 5 mg/kg/min
B. 7 mg/kg/min
C. 2 gm/kg
D. 500 gm daily

How many grams of dextrose are in one liter of D10 and what caloric value does it have?

A patient is receiving D5W at 75 ml/hr. How many calories from dextrose are provided in a 24 hour period?

Is insulin compatible in the TPN admixture?

Propofol (Diprivan) has _____ kcal/ml.

If a patient is receiving Propofol at 20 ml/hr, how many calories from propofol are provided in a 24 hour period?

In the ICU, which drug calls for monitoring of triglycerides?

In the ICU patient, what factors may be contributing to elevated blood sugars?

Exogenous pancreatic enzymes may be needed after which surgical procedure?
True or False. In Refeeding syndrome potassium and phosphorous migrate intracellularly?

What is normal ostomy output after adaptation for

Colostomy _____
Ileostomy _____

If TPN is long-term, it is recommended to obtain serum levels of copper, chromium, zinc, selenium, and magnesium

A. Every 3 months
B. Every 6 months
C. Every 9 months

Which trace element is renally excreted and subject to significant losses through fistula and diarrheal fluids?

True or False? Promotility agents (i.e. Reglan and Erythromycin) can be added for a short period of time to increase gastric motility.

Describe Refeeding syndrome.

Which of the following is NOT the correct therapy for a diabetic patient with gastroparesis undergoing transition from parenteral nutrition to enteral tube feeding?

A. Parenteral metoclopramide (Reglan) during initial transition phase
B. Jejunostomy or postpyloric feeding route
C. Intermittent feedings: 400 ml of a high fat, fiber-containing formula, 4 times daily
D. Continuous pump infusion

If a patient reported an allergy to egg whites, which of the following components of a total nutrient admixture should be omitted from the solution:

A. Dextrose
B. Lipid emulsion
C. Amino acids
D. Vitamins

Acute pancreatitis is usually associated with which two diseases?
A. Type 1 diabetes mellitus and alcohol abuse  
B. Alcohol abuse and biliary tract obstruction  
C. Short bowel syndrome and AIDS  
D. Type 2 diabetes mellitus and cardiomyopathy

What percentage of kilocalories should be provided by soy or safflower oil to prevent essential fatty acid deficiency?

What are the recommends from ASPEN for holding tube feeds based on elevated GRV?

True or False? In the ICU, it is recommend to maintain glucose levels between 70-100 ml/dL.

Article Questions
1. The brain is dependent on which two factors for functioning?  
   a. Glucose and Protein  
   b. Glucose and Thiamine  
   c. Oxygen and Glucose  
   d. Oxygen and Protein

2. All of the following can reduce the metabolic rate in those with brain injuries EXCEPT?  
   a. Sedatives  
   b. Barbiturates  
   c. Analgesics  
   d. Paralytics  
   e. Hypothermia

3. A Glasgow Coma Scale (GCS) score of less than ___ is deemed severe brain injury with significant risk of mortality and increased risk for elevated ICP?  
   a. 8  
   b. 15  
   c. 3  
   d. 10

4. Which of the following is a treatment therapy may be used in traumatic brain injury?  
   a. Hyperthermia  
   b. Therapeutic Hypotension  
   c. Medically induced cerebral vasospasm  
   d. Hypernatremia
TEXAS A & M UNIVERSITY DIETETIC INTERNSHIP
ROTATION INFORMATION: Baylor Scott and White
Medical Intensive Care Unit

Location: Scott and White Memorial Hospital
Rotation: Medical Intensive Care Patients
Duration: 40 hours

GOAL: Increase knowledge and enhance skills in meeting the nutritional needs of medicine intensive care patients with an emphasis on nutrition support for intubated patients. Promote continued development of basic nutrition care skills and provide the opportunity to participate in a team approach.

I. ROTATION PREPARATION (Complete prior to starting rotation)
   A. Contact the Dietitian one week prior to the first day of the rotation to make necessary arrangements.
   B. If you will miss a day during the rotation, you must give one weeks’ notice.
   C. Read the attached articles and complete the workbook.
   D. Prepare a written list of at least 3 goals and objectives for the rotation to discuss with the dietitian on day 1.

II. ROUTINE DUTIES
   A. Participate in daily activities of the nutrition support dietitian in providing nutritional care to patients in the MICU.
   B. Gather pertinent chart and lab information to complete nutrition assessments and develop care plans for patients assigned.
   C. Calculate enteral nutrition formulations as appropriate.
   D. Attend all meetings and conferences as assigned.
   E. Diet instructions and consultations as assigned.

III. EVALUATION
   A. Submit completed written assignments to the dietitian as assigned in a timely manner.
   B. Schedule rotation evaluation for the last day of rotation.
Workbook Assignment:
Answer the follow questions before the first day of your rotation to be reviewed with the RD.
Define the following terms or give a brief description:

DKA vs HONK

HCAP vs CAP

Sepsis/Severe Sepsis/Septic Shock

SIRS

ARDS

Multi-organ Failure

Respiratory Acidosis

Respiratory Alkalosis

Metabolic Acidosis

Metabolic Alkalosis

Gastrointestinal Bleed/GIB

Hepatic Encephalopathy/Cirrhosis

Status Epilepticus

Total Bilirubin vs. Direct Bilirubin
HIV/AIDS

Hepatorenal syndrome

Multiple sclerosis

Cerebral Palsy

Sickle Cell Anemia

Metabolic Encephalopathy

Acute Renal Failure/Acute Kidney Injury

Hypoxic/Hypercapnic respiratory failure

Pancreatitis, necrotizing

SLE/Lupus Nephritis

Myasthenia Gravis

Describe Refeeding syndrome.

List patients at potential risk for refeeding syndrome (minimum 3)
Distinguish the differences between the following enteral products. Utilize Abbott and Nestle websites as needed:

**Standard:**
- Osmolite 1.2
- Jevity 1.2
- Promote

**Specialty:**
- Glucerna 1.2
- TwoCal HN
- Vital 1.0
- Vital AF 1.2
- Vital High Protein
- Pivot 1.5
- Nepro
- Suplena
- Vivonex RTF

Is potassium able to be replenished without replenishing magnesium? Yes or No

The drug Propofol (Diprivan) has ___kcal/mL.

Tube feeding formulas are seldom the cause of diarrhea. True or False

Define the following terms associated with the various routes of feeding.
- a. Gastrostomy or PEG
- b. Jejunostomy
- c. Gastrojejunostomy
- d. Postpyloric
- e. Nasogastic
- f. Orogastric
- g. Nasojejunal
True or False:

a. Most patients with acute respiratory distress syndrome (ARDS) are hypermetabolic or catabolic. True or False.
b. Underfeeding will result in excessive CO2 and may further complicate respiratory function and ventilator weaning and should be avoided. True or False.
c. Protein requirements are increased in ARDS secondary to systemic inflammatory response and generally range from 1.5 g to 2 g protein per kilogram of body weight. True or False.

How many milligrams of potassium is in 1100 mL volume of
   Nepro
   Vital AF 1.2
   Vital High Protein
   Osmolite 1.2
   Promote

A standard renal diet provides ___ mg of potassium. Convert mg of K to mEq ___
A standard renal diet provides ___ mg of phosphorus.

Correct the following statement. In an adult critically ill patient: Enteral feeding should be started early within the first 48-72 hours following admission. The feedings should be advanced toward goal over the next 72-96 hours. (note: pt is hemodynamically stable)

True/False: Restrict protein in Hepatic Encephalopathy

True/False: Restrict protein in Chronic Kidney Disease

True/False: Restrict protein in Acute Kidney Failure
CASE STUDIES:
Note: we calculate continuous tube feedings over 22 hours because we anticipate interruptions for procedures, etc. Utilize hospital formulary on page 4.

1. 63 year old male patient s/p CABG with acute respiratory failure (ventilated) and AKI. Past medical history of DM, CAD, CHF, and HLD. Physician consult to initiate tube feeding via small bore feeding tube.

Anthropometrics: HT 5 feet 9 inches, WT 193lb
Labs: BG 187, BUN 61, Cr 1.89, GFR 36, Na 145, K 3.4, Ca 8.8, ALB 2.5, Phos 2.5, Mg 2.2
Medications: Propofol @ 15.8 mL/hr, Insulin gtt, Lasix

Using ADIME format, provide a plan of care for the patient (BMI, IBW, estimated needs etc) with TF recommendations. Explain why you chose the formula.

2. 56 year old male. Admit with septic shock secondary to HCAP. On a ventilator s/p acute respiratory failure. Past medical history of ETOH Cirrhosis, Esophageal varices, and GERD. Physician ordered Glucerna 1.2 @ 20 mL/hr to be initiated. RD consulted for nutrition assessment and tube feeding recommendations.

Anthropometrics: HT 6 feet 1 inch, WT 239lb
Labs: BG 148, BUN 27, Cr 1.46, Na 133, K 4.1, ALB 2.5, Phos 3.8, Mg 2.3, Lactic Acid 1.8. Total Bili 9.9, Alk Phos 381, AST 323, ALT 59.
Medications: Propofol @ 29.4 mL/hr, IV Abx, Lactulose, Folic Acid, Thiamine, Rifaximin, Levophed, MVI, Nexium, Albumin, Insulin gtt, NaHCO3

Using ADIME format, provide a plan of care for the patient (BMI, IBW, estimated needs etc) with TF recommendations. Explain why you chose the formula.
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP

ROTATION INFORMATION: Pediatrics

PEDIATRICS  Location:  Scott & White Memorial Hospital
Duration:  80 hours

GOAL: Increase knowledge of and enhance skills in meeting the nutritional care needs of pediatric and neonatal patients with various diagnoses, in an acute care setting. Promote continued development of basic nutrition care skills and provide opportunity to participate in a team approach in to patient care.

I. ROTATION PREPARATION (Complete prior to starting rotation)
   A. Contact the dietitian prior to the first day of the rotation to make necessary arrangements.
   B. Read the required references from the Pediatrics Reading List & complete the Common Diagnosis & Terminology worksheet prior to the first day of the rotation.
   C. Review the Pediatric Nutrition Assessment Policy and Infant & Pediatric formula handouts. Prepare written list of goals and objectives for rotation to discuss with the dietitian on Day 1 in acute and clinic setting.

II. ROUTINE DUTIES
   A. Participate in the daily activities of the Pediatric dietitian.
   B. Attend daily rounds with the Health Care Team as assigned.
   C. Gain understanding of normal lab values and medical terminology in the pediatric population.
   D. Calculate caloric and protein content of specific enteral and parenteral feedings, as assigned in the inpatient setting.
   E. Gather pertinent chart information, obtain appropriate information from pediatric patients and parents to formulate an assessment and nutritional care plan for documentation in the inpatient setting.
   F. Diet instructions as assigned.
   G. Provide inpatient and parent counseling in the inpatient setting.
   H. Will do community activities when necessary.

III. ROTATION ASSIGNMENTS
   Day 1 – Introduction to pediatric rotation
   Day 2 – Screening charts, assessment parameters
   Day 3 – Estimating caloric, protein, and fluid needs
   Day 4 – Formulas, Infant and Adolescent
   Day 5 – Enteral/Parenteral Nutrition
   Day 6 – Assessing pre-term infants
   Day 7 – Pediatric Case Study
   Day 8 – Formula Recipe Assignment I & II Due
   Day 9 – NICU Nutrition Competency Due
   Day 10 – Evaluation

Revised 2017
IV. EVALUATION

A. Submit completed written assignments and the clinical workbook section to the dietitian as requested.
B. Schedule rotation evaluation for final day of the rotation.
C. Submit completed evaluation forms and written rotation assignments to the Educational Coordinator no later than once a week from the last day of the rotation.

PEDIATRIC READING LIST


1) Infant Formulas Chapter 3 Pages 69-77
2) Preterm Infant Chapter 4 Pages 83-92; 97-104
3) Parenteral Nutrition Chapter 22 Pages 523-537
4) Formula Selection (Enteral Nutrition) Chapter 23 Pages 547-554
5) Assessment Chapter 24 Pages 562-564
Choosing the right formula for your patient

Infant Formulas

Standard Term Infant Formulas:

- Are cow’s milk-based: include whey and casein
- Higher in protein than breast milk
- Primary carbohydrate is lactose
- Standard caloric density is 19 kcal/oz
- Similac Advance is the breast milk comparable formula

Low-Lactose (Contain 0.1 gm Lactose/100 kcal)

- Cow’s milk-based proteins (not for infants with cow’s milk protein sensitivity)
- Corn syrup solids are main source of carbohydrates
- Similac Sensitive

Soy Formulas

- Soy protein and Lactose free
- 30-64% of infants with cow’s milk protein sensitivity, will also be sensitive to soy protein
- Higher in vitamins and minerals due to lower bioavailability
- Not recommended for premature infants due to poor growth and reduced bone mineralization
  - Similac Soy Isomil

Premature Infant Formulas

- Higher in protein, calcium, phosphorus and some vitamins
- High in MCT (40-50%)
- Carbohydrate mix of lactose and glucose polymer due to lower lactase activity in premies and allows for lower osmolality
  - Similac Special Care 20, 24, 30 kcal/oz
  - Similac Special Care 24 kcal High Protein (3.3 g protein/100 kcal)

Human Milk Fortifier

- For institutional use only
- To increase kcal, protein, calcium, phosphorus, calcium, and other vitamins and minerals
  - Initiate with 1 packets/50 mL EBM (22 kcal/oz)
  - Can advance to 2 packets/50 mL EBM (24 kcal/oz)
- Not recommended for discharge
EBM can be fortified with formula at discharge or feedings can be alternated with EBM and formula

Post-Discharge Formulas (for Premature Infants)

- Recommended to continue until 9-12 months corrected age
- Higher amounts of Protein, Calcium, Phosphorus, and Vitamins A and D than term formula
- Standard mixing is 22 kcal/oz
  - Similac Neosure

Specialty formulas

Prethickened formulas

- To help reduce frequent spit-ups
- Added rice starch but nutrients are not displaced
- Flow freely through standard nipple
- Should not be mixed past 24 kcal
  - Similac Sensitive

Semi-Elemental- hydrolyzed protein

- For protein allergy and malabsorption
- Protein source is casein hydrolysate + amino acids
- 33% MCT
- High osmolality
  - Alimentum

100 % Elemental

- For intact protein intolerance, allergies, malabsorption, gut resection
- Elecare
  - Fructose, galactose, lactose, gluten and soy free
  - 33% MCT
  - 100% free amino acids
- Neocate Infant DHA & ARA
  - Sucrose, lactose, galactose free
  - 33% MCT
  - 100% free amino acids

Pediatric Formulas (Ages 1-10)

Standard Formulas

- Whey and Caseinate
- Lactose free
● Comes with or without fiber
● Pediasure, Pediasure 1.5

Elemental

● Pediasure Peptide 1.0 or 1.5
  o Peptide Based; Hydrolyzed whey
  o 50% MCT
  o Lactose, Gluten Free
● Neocate Junior
  o 100% Amino Acid Based
  o MCT, Safflower oil
  o Hypoallergenic
● Elecare
  o Free L-amino acids
  o For infants/children who cannot tolerate intact or hydrolyzed protein
  o 33% MCT
  o Free of Lactose, Gluten, Soy, Milk Protein, Fructose, & Galactose

Adult Formulas (≥ 10 years)

Standard Formulas

● Osmolite 1.2
  o High protein, low-residue formula
  o 20% MCT
  o Lactose, Gluten Free, Kosher
  o Usually chosen as “house” formula
● Jevity 1.2
  o High protein
  o Fiber Fortified
  o Lactose, Gluten Free, Kosher
● TwoCal HN (2 kcal/mL)
  o High calorie, high protein
  o For patients requiring low-volume feedings
  o Lactose, Gluten Free

Elemental Formula

● Vital (1 kcal/mL)
  o Peptide Based; Hydrolyzed whey
  o MCT:LCT ratio 47.5:52.5
  o Lactose, Gluten Free
● Vital AF 1.2
- Peptide based, Hydrolyzed whey
- Contains fish oil (EPA & DHA) to help manage inflammation
- MCT:LCT ratio 45:55
- Lactose, Gluten Free
- Higher in protein vs standard formulas (75 gm/1000 mL)

- Vivonex RTF (1 kcal/mL)
  - 100% Free Amino Acid Based (28% from BCAA)
  - 10% Calories from fat, 70% Calories from carb, 20% Calories from protein
  - Lactose, Gluten Free
  - Reduce pancreatic stimulation
PEDIATRICS- Growth (Birth to 18 years old)

- Determine weight status using the age and gender specific growth charts available from the CDC or WHO.
- Weight/age, head circumference/age, height/age, weight/length, and body mass index (BMI) are plotted on the growth curves and compared to the 50th percentile age.
- Anthropometric Indexes Associated with Protein-Calorie Malnutrition (PCM)

![Pediatric Care Online](image)

**Malnutrition Consensus Statement from ASPEN & AND 2014**

<table>
<thead>
<tr>
<th>Table 3. Primary Indicators When Single Data Point Available</th>
<th>Mild Malnutrition</th>
<th>Moderate Malnutrition</th>
<th>Severe Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight-for-height z score</td>
<td>-1 to -1.9 z score</td>
<td>-2 to -2.9 z score</td>
<td>-3 or greater z score</td>
</tr>
<tr>
<td>BMI-for-age z score</td>
<td>-1 to -1.9 z score</td>
<td>-2 to -2.9 z score</td>
<td>-3 or greater z score</td>
</tr>
<tr>
<td>Length/height-for-age z score</td>
<td>No data</td>
<td>Greater than or equal to -2 to -1.9 z score</td>
<td>Greater than or equal to -3 z score</td>
</tr>
<tr>
<td>Mid-upper arm circumference</td>
<td>Greater than or equal to -1.9 z score</td>
<td>Greater than or equal to -2 to -1.9 z score</td>
<td>Greater than or equal to -3 z score</td>
</tr>
</tbody>
</table>

BMI, body mass index.

<table>
<thead>
<tr>
<th>Table 4. Primary Indicators When 2 or More Data Points Available</th>
<th>Mild Malnutrition</th>
<th>Moderate Malnutrition</th>
<th>Severe Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight gain velocity (&lt;2 years of age)</td>
<td>Less than 75% of the norm for expected weight gain</td>
<td>Less than 50% of the norm for expected weight gain</td>
<td>Less than 25% of the norm for expected weight gain</td>
</tr>
<tr>
<td>Weight loss (2–20 years of age)</td>
<td>5% usual body weight</td>
<td>7.5% usual body weight</td>
<td>10% usual body weight</td>
</tr>
<tr>
<td>Deceleration in weight for length/height z score</td>
<td>Decline of 1 z score</td>
<td>Decline of 2 z score</td>
<td>Decline of 3 z score</td>
</tr>
<tr>
<td>Inadequate nutrient intake</td>
<td>51%–75% estimated energy/protein need</td>
<td>26%–50% estimated energy/protein need</td>
<td>≤25% estimated energy/protein need</td>
</tr>
</tbody>
</table>


- The American Academy of Pediatrics (AAP) considers a child with a body mass index (BMI) plotting greater than the 85th percentile to be at risk for overweight.
- Those with a BMI that plots greater than the 95th percentile are considered overweight and at risk for obesity.

PEDIATRICS- Energy Needs (Birth to 18 years of age)

- Estimated Energy and Protein Requirements for Infants Through Adolescents- Please refer to page 19 of the Pediatric Nutrition Reference Guide

Adjustments for special needs and developmental conditions:

A) Chronic Hospitalized Children:
- RDA of kcal/kg of IBW; Protein g/kg of actual body weight

B) CHD (Congenital Heart Disease):
- Stressed: 100-120 kcal/kg of actual body weight
- Maintenance: 120 kcal/kg of IBW or 150-180 kcal/kg of actual body weight

C) Cerebral Palsy (ages 5-11):
- Spasticity: Moderate 13.9 kcal/cm ht
- Severe 11.1 kcal/cm ht
  - Athetoid: up to 6000 kcal/day (adolescence)
  - Ataxia: 11.1 kcal/cm ht

D) Down’s Syndrome:
- Males: 16.1 kcal/cm ht
- Females: 14.3 kcal/cm ht

E) Cystic Fibrosis:
- Energy Needs: 110-200% RDA (No more than 200% RDA)
- Protein Needs: 150-200% RDA (No more than 4 g/kg/day)

F) Obesity:
- If >120% IBW use kcal/cm to estimate energy needs.

G. Vent Dependent or very little movement (i.e. bed rest):
- Use REE to determine energy needs

Calculating energy needs for catch-up growth:

\[ \text{Kcal/kg/day} = \text{IBW in kg (50th%tile wt/ht)} \times \text{kcal/kg/day (RDA for age)} \]

Actual weight (kg)

Estimate protein needs using the same formula.

**PREMATURE INFANTS- Growth**
- Premature growth charts (*Fenton, Babson/Benda, IHDO or Ehrenkranz) will be utilized to determine time to regain weight and determine average daily weight gain goal.
- Time to regain birth weight will be evaluated.
- Average daily weight gain goals on 15-20 g/kg/day once regained birth weight to be documented.
- Head circumference, length, and size for gestational age will be evaluated.
  - Head circumference growth: goal of 0.8 to 1.0 cm/week
Length growth: goal of 0.8 to 1.1 cm/week

- Size: Weight, head circumference, length for gestational age
- Term: AGA, SGA, LGA, IUGR

PREMATURE INFANTS- Energy Needs

Recommended energy and protein needs for growth of the stable Preterm Infant:

Parenteral: 3.0-4.0 gm Protein/kg/day 90-120 Kcal/kg/day

Enteral: 3.5-4.5 gm Protein/kg/day 120-150 Kcal/kg/day

For the acutely stressed infant realistic maintenance needs are:

Protein: 1-1.4 gm Protein/kg/day

Energy: 50-60 Kcal/kg/day

Determining Fluid Needs

PEDIATRICS

- 1-10 kg 100/ml/kg/day
- 11-20 kg 1000/ml + 50ml for each kg above 10kg
- >20kg 1500/ml + 20 ml/kg for each kg above 20 kg

PREMATURE INFANTS

- >1000 gm = 150 mL/kg/day
- <1000gm = 100-150 mL/kg/day

*These are estimated minimum fluid needs. Larger or smaller volumes may be necessary depending on the size of the infant and the multiple factors influencing needs. Continuous monitoring is necessary to make appropriate adjustments.

Revised April 2018

Pediatric Case Studies

Case Study 1:
Aliyah is a 5 month-old diagnosed with RSV. She was born at 24 weeks and was in the NICU for 2 months. She was on TPN during her NICU stay and was transitioned to oral feeds of Neosure 24 kcals/ounce prior to discharge. She was doing well on feeds at home until 2 days ago when her oral intake started to decline. She has also been experiencing non-bilious emesis after each feeds over the last 2 days.

Ht: 52 cm FOC: 33 cm
Wt: 3.25 kg
Home Feeds: Neosure 24 kcal 45 ml q 3 hours

1. Fill in the following:
   Ht/age: Wt/age: IBW: % IBW:
   Wt/Ht: % FOC:
2. Calculate the patient’s needs:
   Calorie:
   Protein:
   Fluids:
3. Are her home feeds appropriate? If no, explain why and how much should the patient be taking?

Case Study 2:

Mason is a 12 year old diagnosed with cystic fibrosis (CF). He is admitted for CF exacerbation and poor weight gain over the last 4 months. He is on home feedings of 4 cans of Pediasure 1.5 nocturnally at 95 ml over 10 hrs with water flushes of 30 ml of water before and after feedings. He eats regular meals during the day but his oral intake has declined over the last week.

Ht: 158 cm
Wt: 34 kg
1. Fill in the following:
   Ht/age: Wt/age: IBW: % IBW: Wt/Ht:
2. Calculate the patient’s needs:
3. Aside from meeting the patient’s nutritional needs, what must the patient be compliant with in order to prevent malabsorption?

4. Is his home TF regimen/diet appropriate? If no, explain why and what would you recommend for his TF regimen/diet?

It is appropriate for infants less than 12 months to be on cow’s milk. True or False

Explain your answer:

Case Study 3:

William is a 15 year-old with a past medical history of cerebral palsy, quadriplegia, seizure disorder and dysphagia. He has a gastrostomy button and baclofen pump. He is admitted for sepsis and is on the ventilator. He has a stage III decubitus ulcer on his sacrum and wound care has been consulted. He has been NPO for the last 3 days and the nutrition team has been consulted to start tube feedings.

Wt: 44 kg Ht: 160 cm

1. Calculate the patient’s needs:

2. Choose the appropriate formula and/or modular and calculate the rate to run the TF continuously.
Case Study 4:

Skylar is 7 year-old with celiac disease with newly diagnosed celiac disease. She was growing appropriately however, has had a 10% weight loss over the last 2 months due to abdominal pain, nausea, vomiting and diarrhea. The nutrition team is consulted to start TPN. Is the form of nutrition support appropriate? Explain your answer. What diet should the patient be on when she is weaned off nutrition support?

Formula Recipe Assignment I

What are the primary differences between preterm formulas and standard infant formulas?

For the following, provide total mL/kg, kcal/kg and grams protein/kg:
1. 24 cal/oz Similac Special Care at 18 mL q 3 h for a 900 g infant.

2. 27 cal/oz Similac Special Care (made with SSC 24 High Protein) at 22 mL q 3 h for a 1200 g baby.

3. 24 cal/oz EBM (preterm) with HMF at 24 mL q 3 h for a 1300 g infant.

4. 22 cal/oz Neosure at 40 mL q 3 h for a 2100 g infant.

5. 22 cal/oz EBM (term) with Neosure at 35 mL q 3 h for a 2210 g baby.

6. TPN @ 6.0 mL/hr with 15% dextrose, 3 g protein/kg/day, 3 grams lipids/kg/day for a 1100 g infant.

7. TPN @ 4.8 mL/hour of 10% dextrose, 3.0 g pro/kg/day, 2 grams lipids/kg/day and EBM 20 cal/oz at 5 mL q 3 for a 1200 g baby.

**Formula Recipe Assignment II**

Develop infant formula recipes for babies at home.

1. Baby A is going home on Neosure 24 cal/oz formula.

Determine how many scoops of formula and how much water will be needed to make a ~ 6 oz bottle.
2. Baby B takes expressed breast milk fortified with Neosure powder to make 27 cal/oz. How many teaspoons of Neosure powder are needed to fortify a 3 oz bottle of EBM to 26 cal/oz?

3. Baby C is preparing to go home on Neocate 22 cal/oz. Mother of child wants to make a large volume of formula to cover several feeds during the day. Develop a recipe to make 21 ½ oz. Formula recipe measurements can be given in household measuring cups or scoops.

Develop infant formula recipes for babies in the hospital.

How much powder in grams and sterile water in milliliters? What is the total volume?

1. Baby K takes 32 ml of Alimentum 27 cal/oz q 3 hours.

2. Baby S takes 60 ml of Neosure 24 cal/oz q 4 hours.

DIABETES: Location: Baylor Scott & White Clinic
                   Center for Diagnostic Medicine
Duration: Rotation 80 hours

I. ROTATION PREPARATION: (Complete prior to starting rotation)
   a. Contact dietitian prior to the first day of the rotation to make necessary
      arrangements.
   b. Prepare written list of goals and objectives for to discuss with the dietitian on Day
      1.
   c. Review the reading list.

II. ROUTINE DUTIES:
   a. Observe diabetes classes.
   b. Observe individual counseling by diabetes dietitian with clinic patients

III. ROTATION ASSIGNMENTS:
   a. With approval of dietitian, present component(s) of diabetes class.
   b. After observing dietitian and with the dietitian's approval, provide education
      clinic patients including calculating individual meal plan.
   c. Complete questions from workbook and case studies.

IV. EVALUATION:
   a. Submit completed written assignments to the dietitian as requested.
   b. Schedule rotation evaluation for the last day of the rotation.
   c. Submit completed evaluation forms and written rotation assignments to the
      Internship Director no later than one week from the last day of the rotation.
S&W Diabetes Clinic Reading List

Required


1. Discuss the major differences between Type 1 Diabetes and Type 2 Diabetes. Include etiology, pathology, treatment, and diagnosis.

2. Briefly define and be prepared to discuss the following.
   a. Fasting blood sugar (FBS)
   b. Glycosylated hemoglobin (HgA1C)
   c. Self Blood Glucose Monitoring
   d. Postprandial blood sugar (PC)
   e. Urine ketone testing
   f. Microalbumin (random and 24 hour)
   g. Cardiac Risk Profile (CRP)
   h. Diabetic nephropathy
   i. Diabetic neuropathy
   j. Diabetic retinopathy
   k. Gastroparesis
   l. Diabetic amyotrophy
   m. Diabetic ketoacidosis
   n. Syndrome X
   o. Somogyi Effect
   p. Dawn phenomenon
   q. Hypoglycemia
   r. Hypoglycemia unawareness
   s. Hyperglycemic hyperosmolar non-ketotic syndrome
   t. Fructosamine testing
   u. Polyphagia
   v. Polyuria
   w. Nocturia
   x. Ketonuria
   y. Polydipsia
   z. Gangrene and tissue necrosis
   aa. Mucormycosis
3. Look up some common oral medications used in diabetes management.

4. Look up the different types of insulin and non-insulin injections.

5. Discuss the advantages of dietary fiber in relation to diabetes, blood sugar, and weight control.

6. What are the symptoms, treatments, and causes of hyperglycemia?

7. What are the symptoms, treatments, and causes of hypoglycemia?

8. Read about gestational diabetes mellitus and be ready to discuss.

9. Read about insulin pumps and continuous glucose monitoring. Be ready to discuss.
DIABETES CLINIC CASE STUDIES

CASE #1

Ms. J is 24 years old. She was diagnosed with Type I DM at age 14. Ms. J takes 2 insulin injections daily, N + Humalog before breakfast and supper. Ms. J is an elementary school teacher.

Lab:  
HgA1C – 8.4%  
Microalbumin/Creatinine – 7  
Cholesterol – 175 Trig – 140 HDL Chol – 39 LDL Chol – 110

Parameters:  
Ht 5' 4" 140#
Blood Pressure: 110/70
Diet History:
Breakfast 2 pcs toast w/margarine, 8 oz. Orange juice 6:30
Lunch Sandwich w/meat and cheese, mayonnaise, lettuce and tomato, chips, 12:30 fruit, and diet soda
Supper Frozen Dinner (lowfat variety), salad with dressing, iced tea w/sugar sub, 6:30 fruit. Also eats out 2-3 times per week
Snacks AM – nothing (if she has a reaction she has a candy bar)
PM – fruit or peanut butter crackers
Bedtime – cereal with milk or fruit (she only has a snack if she is hungry)

Ms. J has been sent to you for Medical Nutrition Therapy. She would like to improve her HgA1C and is concerned about having hypoglycemic reactions. Develop an appropriate meal pattern for her. What would you discuss with her?
CASE #2

Mr. S is newly diagnosed with diabetes. He is sent to you for Medical Nutrition Therapy. Mr. S hopes to control his diabetes with diet and exercise. Mr. S is mildly hypertensive. Mr. S is presently on no structured exercise program. He works regular hours, 8-5 and is sitting at his desk doing computer work throughout most of the day.

Parameters:

Ht: 6’0”       Wt: 240#       Age 55

Mr. S states that he has had no major weight changes recently but over the last 20 years has gradually gained 20 – 30#.

Labs:
2/10 glu – 146 (fasting)
2/20 glu – 132 (fasting)
Chol: 220 Trig: 243
HDL: 35 LDL: 138

Diet History:
Breakfast: Usually omitted. Black coffee to drink.

Lunch: Fast foods, typically hamburger, french fries, and soda. Mr. S would be Willing to take his lunch to work with him.

Supper: Cooked meal at home includes 4-6 oz. portion of meat, 1-2 buttered veg, potatoes or rice, 1-2 slices of bread, sweetened ice tea.

Snacks: Sodas, 2-3 average per day and candy or chips from the vending machine. Bowl of ice cream before bed.

Mr. S is very motivated to control his diabetes. Develop a plan for him. What would you discuss with him?
CASE #3

Mrs. M is 29 weeks pregnant. She is 35 years old. She is currently unemployed. She has a family history of Type 2 DM.

Parameters:

<table>
<thead>
<tr>
<th>Ht 5' 2&quot;</th>
<th>Wt 180#</th>
<th>PPW 155#</th>
</tr>
</thead>
</table>

Labs:

- 3 hr OGTT
  - Fasting 105
  - 1 hr 195
  - 2 hr 175
  - 3 hr 155

Mrs. M is being sent to you for assistance with an appropriate diabetic diet.

Diet History:
- Breakfast: Bacon, egg, toast, and a large glass of OJ
  - 8:00
- Lunch: Sandwich with bologna and mayonnaise, chips, fruit, and soda
  - 12:00
- Supper: Fast food such as hamburgers and fries, pizza, or fried chicken, Mrs. M usually drinks either soda or sweetened tea.
  - 6:30
- Snacks: Cookies or fruit if eaten

Mrs. M is unable to drink milk. She is currently taking prenatal vitamins plus extra iron.

Develop a meal plan for Mrs. M. What would you discuss with her?
CASE #4

Mr. S is 33 years old. He has a 31 year history of Type 1 Diabetes. He has been on multiple injections and is now considering an insulin pump.

Parameters:
- Ht 6' 1"
- Wt 215#

Labs: HgBA1C – 7.1%
- Microalbumin/creatinine ratio: 3
- Chol: 213
- Trig: 66
- HDL: 58
- LDL: 142

Diet History:
- Breakfast: Nutrigrain bar, black coffee (breakfast is omitted some days).
- Lunch: Usually eaten out (Ex. BBQ meat, beans, potato salad, and bread. Iced tea with sweet – n- low).
- Supper: Usually eaten at home. 3-4 oz. portion of meat, 2 or more vegetables, 2 dinner rolls.
- Snack: Fat free pudding and 2% milk

Patient's wife was present and felt the description of typical meals was accurate, but there was also inclusion of more "junk foods" (i.e. chips, fast food meals, candy, and other sweets) on occasion.

What would you discuss with him?
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP
ROTATION INFORMATION: SCOTT & WHITE RENAL

RENAL NUTRITION: Location: Scott & White Dialysis Center, Hospital and Clinic
Duration: 75-80 hours

Goal: To observe and work with the Renal Dietitians in dialysis, hospital and clinic services. To be able to work independently as possible while under the supervision of the Renal Dietitian observing all rules and regulations on assigned duties and projects. To develop a basic knowledge of Renal Nutrition by using critical thinking.

I. ROTATION PREPARATION: (Complete prior to starting rotation)
   A. Contact the Renal dietitian prior to the first day of the rotation to make necessary arrangements.
   B. Pick up the Renal Rotation Readings' Binder at the dialysis center- read articles assigned.
   C. Answer all the questions on the Renal Worksheet- typed, day 1
   D. Prepare a written list of goals and objectives specific to the Renal Rotation. Be prepared to discuss with the dietitian on Day 1.
   E. Come willing to learn and work and be flexible with work hours

II. ROUTINE DUTIES:
   A. Participate daily in the activities of the Renal Dietitian (work hours not always standard)
   B. Discuss daily research and homework assignments with the Renal dietitian
   C. Plan to prioritize daily activities
   D. Staff hospital service on second week of the rotation
   E. Cover assigned patients
   F. Complete assignments in a timely manner
   G. Explain and discuss all written assignments

III. ROTATION ASSIGNMENTS:
   A. Daily homework and or research assignments
   B. Case study due and presented on the last day of the rotation
   C. Complete a comprehensive exam in two parts
   D. Donate 2 articles to the Renal Reading’s Binder
   E. Develop or update patient education material
   F. Prepare a renal recipe for patient taste testing or develop a recipe

IV. EVALUATION:
   A. Evaluation will be based upon performance, critical thinking process, comprehensive exam and assignments. All assignments are expected to be turned in on time. The intern is expected to discuss with the Renal Dietitian any problems in these areas.
   B. A verbal but informal evaluation will be given at the end of the first week. This will be a feedback session.
   C. A written formal evaluation will be given the last day of the rotation and the intern is expected to bring the evaluation forms at least the morning the day before.
1. List the major functions of the kidney.

2. Discuss the following Nephropathies and their effects on the kidney. Include nutritional requirements and recommendations.
   a. Nephrotic Syndrome
   b. Lupus Nephritis
   c. Diabetic Nephropathy
   d. Nephrolithiasis
   e. General Focal Sclerosis
   f. Goodpastures Syndrome
   g. IgG&IgA Nephropathy
   h. Glomerulonephritis
   i. Polycystic Kidney Disease
   j. Cholesterol Emboli Syndrome

3. Describe the following test and their use in determining renal function.
   a. Creatinine clearance
   b. BUN
   c. Glomerular filtration rate
   d. Albumin
   e. serum potassium
   f. serum sodium
   g. Creatinine
   h. Urinalysis

4. What is GFR of patients requiring chronic hemodialysis?

5. List nutritional goals for patients in renal failure.

6. List the nutrient requirement for adults for each method of therapy.
   a. Pre-dialysis
   b. Hemodialysis
   c. CAPD (continuous ambulatory peritoneal dialysis)
   d. Transplant
   e. Acute Renal Failure

7. Why is it usually necessary to limit potassium and sodium in the diet of the CRD patient?

8. What percentage of the allowed protein should be HBV? Give examples of HBV proteins.

9. What is the easiest and safest way to increase calories in the renal diet?

10. Why are B-complex, ascorbic acid, folic acid, iron, calcium and zinc supplemented in the renal diet?

11. Calculate a diet for the assigned problems:
   a. 115g Protein, 2g Na+, 3gK+, 2000ADA
   b. 60g Protein, 3g Na+, 3g K+, 2000ADA
12. Fluid balance in a hemodialysis patient is evaluated by his dry weight. Define dry weight and describe symptoms of being above or below dry weight. List some complications seen as long term results of fluid abuse.

13. Explain the rationale for the more liberal sodium, potassium and protein amounts needed by the CAPD patients.

14. Name a medication frequently used on dialysis patients to prevent clotting on hemodialysis and clogging of catheter on peritoneal dialysis. List the differences between Nephrocaps and Nephrovite.

15. Indicate drug classifications and possible reasons for use of the following drugs in patients with renal failure.
   
   a. Erythropoietin (Epogen)  
   b. Basaljel  
   c. Calcium citrate  
   d. Calcium carbonate  
   e. Calcium acetate  
   f. Nephrocaps  
   g. Nephrovite  
   h. Kayexalate  
   i. Minoxidil  
   j. Rocaltrol  
   k. Sorbitol  
   l. Synthroid  
   m. Bicitra  
   n. Captopril  
   o. Calcij ex  
   p. Allopurinol  
   q. Mannitol  
   r. Lasix  
   s. Metolazone  
   t. ACE Inhibitors

16. Define the following:
   
   a. Anuria  
   b. Oliguria  
   c. Polyuria  
   d. Anemia  
   e. Azotemia  
   f. GFR  
   g. Hemodialysis  
   h. Peritoneal dialysis  
   i. Osteodystrophy  
   j. Uremia  
   k. Secondary hyperparathyroidism
Location: Central Texas Veterans Health Care System

Rotation: Variable - 80 to 120 hours

Goals:

1. Increase knowledge of and enhance skills in meeting the nutritional care needs of patients with a wide variety of illnesses and conditions. Develop and increase skills in nutritional assessment. Promote continued development of competence in nutrition care delivery. Gain experience with a variety of feeding modalities, including tube feeding. Participate in a team approach to patient care.

2. Gain skills in assessing nutrition education needs for inpatients and in planning and providing education to meet those identified needs. Enhance listening, interviewing, and communication skills. Develop ability to translate communication principles and technical nutrition information into patient counseling and teaching.

I. ROTATION PREPARATION: (Complete prior to starting rotation)
   A. Contact preceptor minimum of 2 weeks prior to the first day of the rotation to make necessary arrangements.
   B. Read the articles on the reading list.
   C. Complete Section A of Clinical Workbook prior to 1st day of rotation. Be prepared to discuss your answers with preceptor. Handwritten, no copying & pasting.

II. ROUTINE DUTIES:
   A. Arrive on time daily.
   B. Check email messages.
   C. Check for doctors’ consults, screening referrals and follow-ups.
   D. Print out ward roster and screening forms for consults/referrals/follow-ups.
   E. Review patients for appropriateness of diet order (adjust diet orders and tray tickets as needed), adequate of PO intake, and potential changes in nutrition status.
   F. Keep ward roster updated with nutritional statuses and follow-up dates.
   G. Attend Interdisciplinary Team Meetings on ward to discuss patients.
   H. Meal rounds.
   I. Give diet instruction as needed.
   J. Look up any unfamiliar medications and their important nutritional side effects and abbreviations.
   K. Notes on your patients should be written out for review and approved or revised before they are entered in the medical record. Have all assigned notes
completed and ready for review at least 60 minutes prior to end of work day.

III. ROTATION ASSIGNMENTS:
   A. Complete remainder of General Medicine workbook and turn in at least 5 days prior to the end of the rotation. Handwritten, no copying & pasting.
   B. You will then be expected to provide 1:1 diet education under supervision of preceptor (will be given opportunity to observe diet educations before being expected to educate on your own).
   C. If the opportunity arises, follow at least one patient receiving a tube feeding.
   D. Case Studies and other projects as assigned.
   E. Attend pertinent lectures and presentations.
   F. Review education materials available at the VA.

IV. EVALUATION
   A. Submit complete written assignments to the dietitian as requested.
   B. Submit completed written rotation assignments to the preceptor no later than 3 days prior to the last day of the rotation.
   C. Incomplete or late assignments can result in failing the rotation.
READING LIST – TO BE READ PRIOR TO ROTATION

HELPFUL REFERENCES:
Fluid & Electrolytes Made Incredibly Easy! Lippincott Williams & Wilkins, 2011.
1. What is SGA? How is this tool used in patient care?
2. What does SOAP stand for? What type of information is included in each section?
3. What is the Nutrition Care Process (NCP)? What are the four steps of the NCP process?
4. What role does albumin play in the body? What is the half life and normal serum levels? Is albumin an appropriate indicator of nutrition status? Why/why not?
5. What is prealbumin? What is the half life and normal serum levels? Is prealbumin considered a stronger nutritional indicator than albumin?
6. What is Coumadin/Warfarin used for? Which food products can affect the efficacy of this drug? What are examples of these foods?
7. Where is potassium stored in the body? What are the possible causes of hypokalemia?
8. How do you calculate corrected calcium?
9. How do you calculate ideal body weight (IBW) using the Hamwi method for males and females?
10. Based on AND and ASPEN guidelines, what are the 6 clinical characteristics used to support a diagnosis of malnutrition and how many of these characteristics does a patient need to meet in order to be classified as malnourished?

1. Define the following terminology:
a. Diverticulosis & Diverticulitis (also list appropriate diet for each)
b. Hepatitis C
c. Cirrhosis
d. Ascites
e. Hepatic Encephalopathy
f. Acute Kidney Injury
g. Dysphagia
h. Ileostomy
i. Colostomy
j. Pneumonia
k. Delirium Tremens
l. Pleural Effusion
m. COPD
n. Congestive Heart Failure
o. Myocardial Infarction
p. Cardiovascular Accident
q. Transient Ischemic Attack
r. Atrial Fibrillation
s. Unstable Angina
t. Cardiac Catheterization

2. Determine the function, brand name and food/drug interactions (if any) of the following drugs commonly prescribed at the VA:
   a. Ondansetron:
   b. Omeprazole:
   c. Pantoprazole:
   d. Acetaminophen:
   e. Furosemide:
   f. Metoprolol:
   g. Lisinopril:
   h. Warfarin/Coumadin:
   j. Heparin:
   k. Spironolactone:
   l. Prednisone:
   m. Hydrochlorothiazide:
   n. Ranitidine:
   o. Docusate:
   p. Allopurinol:
   q. Rosuvastatin:
   r. Sennosides:

3. List the words for these common abbreviations seen in the medical record.
   a. INR
   b. HTN
   c. GERD
   d. CVA
   e. TIA
   f. BRBPR
   g. CXR
   h. IV
   i. EKG
   j. SSI
   k. SOB
   l. NKDA/NKFA
   m. CABG
   n. DNR/DNI
   o. WBC
   p. EGD
   q. DKA
   r. MBS
   s. PICC
4. What are normal values for the following lab tests? What might be indicated if the value is
NOT within normal limits (high/low)?
a. BUN  
b. Creatinine  
c. eGFR  
d. INR  
e. WBC  
f. Sodium  
g. C-reactive protein

5. Discuss the major differences between Type 1 and Type 2 Diabetes. Briefly summarize
etiology, pathology, and treatment.

6. According to the American Diabetic Association, what are considered normal lab
values for the following lab tests in a non-pregnant adult with diabetes:
a. HbA1c:  
b. Preprandial plasma glucose:  
c. Peak postprandial plasma glucose

7. For the following oral hypoglycemic agents, discuss their mode of action, as well as
recommended timing for medication use.
a. Metformin:  
b. Glipizide:  
c. Actos:  
d. Acarbose:

8. For the following insulin types, discuss how it is administered. What is the onset, peak
and duration of each? Which are considered bolus, basal, and premixed insulin?
a. Aspart (Novolog):  
b. Regular (Humulin R/Novolin R):  
c. Detemir (Levemir):  
d. NPH (Humulin N/Novolin N):  
e. Glargine (Lantus):  
f. 70/30:  
g. SSI

9. Briefly discuss the advantages of dietary fiber in relation to diabetic control.

10. What is the rule of 15s in relation to diabetes?

11. Briefly discuss the following conditions including nutritional requirements and
recommendations:
a. Acute renal failure:  
b. Chronic renal failure without dialysis:
c. Chronic renal failure with hemodialysis:
d. Nephrotic syndrome:

12. Define each of the following and their appropriate use. Which are most commonly utilized for jejunostomy tube feedings?
a. Bolus feeding
b. Intermittent feeding
c. Continuous feeding
d. Gravity drip feeding
e. Trophic feeding

13. What are the uses and benefits of the following enteral formulas? What is the kcal/mL for each?
a. TwoCal HN:
b. Nepro:
c. Suplena:
d. Diabetisource AC:
e. Nutren:
f. Fibersource HN:
g. Peptamen HF:
h. Replete Fiber:

14. According to the Dietary Guidelines for Americans 2015, what is the recommended UL for sodium intake? Which foods are commonly high in sodium?

15. Briefly explain what diuretics are and how they are utilized in the treatment of heart failure.
a. Explain the difference between potassium-sparing diuretics, loop diuretics, and thiazide diuretics; provide examples of each.
b. Why must we monitor BUN and creatinine levels when providing this medication?

16. How do the following drug classes function in the body?
a. ACE inhibitors
b. Beta-blockers

17. What are possible causes of the following electrolyte imbalances? What can result if these imbalances are not corrected?
a. Hypercalcemia
b. Hypocalcemia
c. Hypomagnesemia
d. Hyperkalemia
e. Hypokalemia
f. Hyponatremia
g. Hypernatremia

18. What is refeeding syndrome?
Texas A&M University Dietetic Internship Rotation Information:
Gerontology, Wound Care, Rehabilitation and Hospice/Palliative Care
Temple Community Living Center (CLC)

Location: Central Texas Veterans Health Care System
Temple Dietitian's office: Bldg. 221, Pod A, 2nd floor, Rm. 2A119

**Goal:** Increase knowledge and enhance skills in nutritional assessment of various resident population in Community Living Center (CLC) setting. Promote continued development of basic nutrition care skills and provide the opportunity to participate in a team approach to resident care. Emphasis is placed on assessment of nutritional status in the resident and understanding the physiological effects and appropriate nutrition intervention/s.

**I. Rotation Information (Please read prior to rotation.)**

A. Contact the dietitian prior to the first day of the rotation to make necessary arrangements.
   (phone number contacts: 743-0932 or 743-1476)
B. Review the CLC information included on the "Nutrition Screen, Assessment, Care and Reassessment Policy." (In your VA Orientation packet.)
C. Prepare written list of personal goals and objectives for rotation to discuss with the dietitian on Day 1.
D. See attached reading list (Attachment A) to prepare for the rotation. Prior to rotation, write a brief synopsis of the articles (what you learned, anything of particular interest to you, etc.). Bring the synopsis with you on your first day of rotation.
E. Complete the medication interaction worksheet prior to completion of rotation (see Attachment B). Bring completed list on first day of rotation.
F. Complete at least one special project by last day of rotation.

**II. Routine Duties**

A. Print inpatient rosters daily.
B. Complete work-up on new residents—chart review, interview and complete Extended Care Nutrition Assessment.
C. Complete Extended Care Reassessment
D. Complete Extended Care Monthly Notes.
A. For all initial assessments, reassessments and monthly notes: appropriately document including the Nutrition Care Process. For initial assessments and reassessments, add a nutrition component to the resident’s Care Plan in the “I care” plan format and complete the nutrition section (Section K) of the Minimum Data Set (MDS) form.

*Revised August 2018*
B. Notify Doctors, Nurse Practitioners or Physician's Assistants of recommendations via e-mail or in person.
E. Meal rounds at noon—dining room and Veteran rooms.
   Make computerized diet changes as needed.
F. Appropriate follow through on all recognized problems.
G. Attend Interdisciplinary Treatment Team meeting on Tuesdays and Thursdays. Provide nutrition information on Veterans that are scheduled for discussion.
H. Attend Resident Council meeting as rotation schedule allows
I. Other duties as needed/assigned.

III. Rotation Opportunities

A. Observe the following activities/procedures as time allows & as desired:
   1. Glucometer training
   2. Kinesiotherapy, Physical Therapy, and/or Occupational Therapy
      1. Resident monthly weights—bed scale, sling scale, wheelchair scale
      2. Resident group or Recreation activity
      3. Modified Barium Swallow, EGD, Colonoscopy

B. Develop confidence/competence in the following areas:
   1. Effect of aging, surgery, infection, and wounds on nutritional status.
   2. Identify common diseases and nutritional deficiencies of the elderly.
   3. Observe factors determining food intake.
   4. Communicate effectively with the residents and/or members of their family and with the health care team.
   5. Understand educational needs and identify readiness for change and effective education techniques.
      1. Assessment of special needs to promote optimal intake (i.e., built-up utensils, texture modification, divided plate).
      2. Effect of diet on therapeutic efficacy and adverse nutritional effect of medications.
      3. Basic clinical skills in CLC unit.
      4. Confer with team and physician on referrals to other services.

IV. Rotation Special Project Suggestions
(Choose one of the following or develop your own idea. Discuss with dietitian.)

A. Small group 20-30 minute class presentation: Diabetes, Lipid, Weight Control, High Fiber, Importance of Adequate Hydration, Low Sodium, Normal Nutrition (recipes, label reading, etc.). Develop nutrition education material as appropriate. Document education in residents' charts appropriately.
A. Case study: diagnosis of interest (needs nutritional involvement). Present to VA dietitians and dietetic interns.
B. Educational bulletin board.
C. Staff in-service based on needs assessment.

Revised August 2018
V. Evaluation

A. Participate in ongoing communication/feedback with the dietitian throughout the rotation (at least weekly).
B. Submit completed assignments to the dietitian prior to rotation and special project prior to last day of rotation.
A. Schedule rotation evaluation for the last day of the rotation.
Texas A&M University Dietetic Internship

Rotation Information:
Gerontology, Wound Care, Rehabilitation, and Hospice/Palliative Care

Required Reading List

Please write a brief synopsis (what you learned/found of interest, words whose definition you had not known, etc.).

*Individualized Nutrition Approaches for Older Adults in Health Care Communities (October 2010) – Position Paper of the AND; access at:

*Ethical and Legal Issues in Nutrition, Hydration and Feeding (June 2013) – Position Paper of the AND; access at
https://jandonline.org/article/S0002-8223%2808%2900390-8/abstract

*Oral Health and Nutrition (May 2013) – Position Paper of AND; access at
https://jandonline.org/article/S2212-2672(13)00236-0/abstract

*Health Implications of Dietary Fiber (November 2015) – Position Paper of AND; access at

*Partnership for Health in Aging Position Statement; access through AND,

*Mission Nutrition Pressure Ulcer Prevention is More than Skin Deep.
https://myees.lrn.va.gov/iLearn.aspx/#q=14141 (can only be accessed at the VA, watch video during rotation)

*Nutrition Management in the Rehabilitation Setting, access at
http://emedicine.medscape.com/article/318180-overview
Workbook

Choose two of the following topics. Please do a literature search for a current article, using a peer reviewed journal and write a synopsis.

Nutrition and Wound Healing
Dysphagia
Nutrition Build-up
Anemia
Restorative Dining
Constipation Management
Adaptive Feeding Devices
**Commonly used Medications** – Describe what the medication is used for and any potential food/drug interactions:

Lasix or Furosemide:

Hydrochlorothiazide:

Potassium Chloride:

Lisinopril:

Omeprazole:

Docusate:

Polyethylene Glycol:

Sorbitol:

Bisacodyl:

Lactulose:

Megestrol or Megace:

*Revised August 2018*
Dronabinol:

Statins:

Niacin:

Warfarin:

Novolog Insulin:

Regular Insulin:

Lantus Insulin:

Detemir Insulin:

70/30 Insulin:

Glyburide:

Vicodin:

Revised August 2018
Morphine Sulfate:

Doxycycline:

Levofloxacin:

Moxifloxacin:

Ciprofloxacin
Texas A&M University Dietetic Internship
Rotation Information:
Geriatric Psych, Dementia, and Hospice/Palliative Care

Location: Central Texas Veterans Health Care System
Waco Dietitian's office: Bldg. 10 and Bldg. 11

Goal: Increase knowledge and enhance skills in nutritional assessment of various resident population in Community Living Center (CLC) setting. Promote continued development of basic nutrition care skills and provide the opportunity to participate in a team approach to resident care. Emphasis is placed on assessment of nutritional status in the resident and understanding the physiological effects and appropriate nutrition intervention/s.

I. Rotation Information (Please read prior to rotation.)

A. Contact the dietitian prior to the first day of the rotation to make necessary arrangements.
   (phone number contacts: 297-5126 or 297-3293)
B. Review the CLC information included on the "Nutrition Screen, Assessment, Care and Reassessment Policy." (In your VA Orientation packet.)
C. Prepare written list of personal goals and objectives for rotation to discuss with the dietitian on Day 1.
D. See attached reading list (Attachment A) to prepare for the rotation. Prior to rotation, write a brief synopsis of the articles (what you learned, anything of particular interest to you, etc.). Bring the synopsis with you on your first day of rotation.
E. Complete the medication interaction worksheet prior to completion of rotation (see Attachment B). Bring completed list on first day of rotation.
F. Complete at least one special project by last day of rotation.

II. Routine Duties

A. Print inpatient rosters daily.
B. Complete work-up on new residents—chart review, interview and complete Extended Care Nutrition Assessment.
C. Complete Extended Care Reassessment
D. Complete Extended Care Monthly Notes.
E. For all initial assessments, reassessments and monthly notes: appropriately document including the Nutrition Care Process. For initial assessments and reassessments, add a nutrition component to the resident’s Care Plan in the “I care” plan format and complete the nutrition section (Section K) of the Minimum Data Set (MDS) form.
F. Notify Doctors, Nurse Practitioners or Physician's Assistants of recommendations.

G. Meal rounds at noon—dining room and Veteran rooms.

H. Make computerized diet changes as needed.

I. Appropriate follow through on all recognized problems.

J. Attend Interdisciplinary Treatment Team meetings as scheduled during the week. Provide nutrition information on Veterans that are scheduled for discussion.

K. Other duties as needed/assigned.

III. Rotation Opportunities

A. Observe the following activities/procedures as time allows & as desired:
   1. Kinesiotherapy, Physical Therapy, and/or Occupational Therapy
   2. Resident monthly weights—bed scale, sling scale, wheelchair scale
   3. Resident group or Recreation activity
   4. Resident council meetings

B. Develop confidence/competence in the following areas:
   1. Effect of aging, dementia, psych disorders, surgery, infection, and wounds on nutritional status.
   2. Identify common diseases and nutritional deficiencies of the elderly.
   3. Observe factors determining food intake.
   4. Communicate effectively with the residents and/or members of their family and with the health care team.
   5. Understand educational needs and identify readiness for change and effective education techniques.
   6. Assessment of special needs to promote optimal intake (i.e., built-up utensils, texture modification, divided plate).
   7. Effect of diet on therapeutic efficacy and adverse nutritional effect of medications.
   8. Basic clinical skills in CLC unit.
   9. Confer with team and physician on referrals to other services.

IV. Rotation Special Project Suggestions

(Choose one of the following or develop your own idea. Discuss with dietitian.)

A. Case study: diagnosis of interest (needs nutritional involvement). Present to VA dietitians and dietetic interns.
B. Educational bulletin board.
C. Staff in-service based on needs assessment.
D. Collaborate with Recreation Therapy on providing a food-related activity.
V. Evaluation

A. Participate in ongoing communication/feedback with the dietitian throughout the rotation (at least weekly).
B. Submit completed assignments to the dietitian prior to rotation and special project prior to last day of rotation.
C. Schedule rotation evaluation for the last day of the rotation.
Texas A&M University Dietetic Internship

Rotation Information:
Geriatric Psych, Dementia, and Hospice/Palliative Care

Required Reading List

Please write a brief synopsis (what you learned/found of interest, words whose definition you had not known, etc.).

*Individualized Nutrition Approaches for Older Adults in Health Care Communities (October 2010) – Position Paper of the AND; access at www.eatright.org

*Ethical and Legal Issues in Nutrition, Hydration and Feeding (June 2013) – Position Paper of the AND; access at www.eatright.org

*Oral Health and Nutrition (May 2013) – Position Paper of AND; access at www.eatright.org

*Health Implications of Dietary Fiber (October 2008) – Position Paper of AND; access at www.eatright.org

*Partnership for Health in Aging Position Statement; access through AND, www.eatright.org (http://www.eatright.org/About/Content.aspx?id=6442460576)


*Unintended Weight Loss in Older Adults, Evidenced-Based Nutrition Practice Guidelines; access at www.an evidencedelibrary.com

*Heart Failure Evidenced-Based Nutrition Practice Guidelines; access at www.an evidencedelibrary.com

*Nutrition Management in the Rehabilitation Setting, access at http://em edicine.medscape.com/article/318180-overview
Workbook

Choose two of the following topics. Please do a literature search for a current article, using a peer reviewed journal and write a synopsis.

Nutrition and Wound Healing
Dysphagia
Nutrition Build-up
Anemia
Restorative Dining
Constipation Management
Adaptive Feeding Devices
Dementia
Dehydration
**Commonly used Medications** – Describe what the medication is used for and any potential food/drug interactions:

Lasix or Furosemide:

Hydrochlorothiazide:

Potassium Chloride:

Lisinopril:

Omeprazole:

Docusate:

Polyethylene Glycol:

Sorbitol:

Bisacodyl:

Lactulose:

Megestrol or Megace:

*Revised 2017*
Dronabinol:

Statins:

Niacin:

Warfarin:

Novolog Insulin:

Regular Insulin:

Lantus Insulin:

Detemir Insulin:

70/30 Insulin:

Glyburide:

Morphine Sulfate:

Doxycycline:

Revised 2017
Levofloxacin:

Moxifloxacin:

Ciprofloxacin:

Donepezil:

Mirtazapine:

Olanzapine:

Quetiapine:
Location: Central Texas Veterans Health Care System  
Temple Dietitian's office: Building 204  
Room 4G37  
743-0542 or 254-778-4811 Ext. 40542

Duration: Introductory Clinical - 80-120 hours

Goal: Increase knowledge and enhance skills in meeting the nutritional needs of hospitalized patients in acute care oncology setting. Improve counseling skills in an outpatient oncology setting. Promote continued development of basic nutrition care skills and provide the opportunity to participate in a team approach to patient care.

I. Rotation Preparation (Complete prior to starting rotation.)
A. Contact the dietitian prior to the first day of the rotation to make necessary arrangements.
B. Prepare written list of goals for rotation to discuss with the dietitian on day 1
C. Prepare hand written answers to workbook by day 1 and be prepared to discuss with the dietitian.

I. Routine Duties
A. Arrive on time daily.
B. Check e-mail messages
C. Check for doctors’ consults, screening referrals, and follow-ups.
D. Print out ward roster and screening forms for consults/referrals/follow-ups.
E. Utilize Ward Diet Order List for up-to-date listing of patient’s diet orders, between meal feedings, etc. Review patients for appropriateness of diet order (adjust diet orders and tray tickets as needed), adequate PO intake, and potential changes in malnutrition risk.
F. Observe intake: good, fair, poor; note on Ward Diet Order List.
G. Keep ward roster updated with follow-up and reassessment dates
H. Attend Interdisciplinary team Meetings on ward. Be prepared to contribute during the meeting concerning appropriate/present diet for patients, rationale for diet, patient's intake, tolerance, and recommendations.
I. Meal rounds.
J. Honor food preferences as possible. Do not encourage patients to voice numerous preferences. Do honor food preferences to improve intake or tolerance.
K. Modify consistency as indicated to improve tolerance and intake. May change consistency toward liquid as indicated without order. Must have doctor's order to change consistency toward more solid as there may be danger of choking or other problems of which one is not aware. Good idea to check with nurse working with
patient before consulting doctor concerning change in order.

L. Oncology Nutrition clinic: outpatient consults as needed
M. Give diet instructions as needed.
N. Look up any unfamiliar medications and their important nutritional side effects and abbreviations
O. Notes of your patients should be written and printed out for review. They must be approved or revised before they are entered into the medical record. Have all assigned notes completed and ready for review at least 60 minutes prior to end of work day.

II. **Rotation Assignments**
   A. You will then be expected to provide 1:1 diet education under supervision of preceptor (will be given opportunity to observe diet educations before being expected to educate on your own).
   B. If the opportunity arises, follow at least one patient receiving a tube feeding.
   C. Case Studies and other projects as assigned.

III. **Evaluation**
   A. Submit or present written/oral assignments to the dietitian as requested.
   B. Schedule rotation evaluations with the dietitian for the last day of the rotation and give evaluation form to the dietitian to complete by Wednesday of the last week of the rotation.
1. Discuss the role of nutrition therapy for cancer patients.
2. Discuss calorie and protein needs for a cancer patient who is nutritionally compromised. Discuss goals for weight management for a patient with cancer.
3. Please explain how the following side effects of cancer treatment impact a patient and nutritional intake. Discuss strategies of nutritional therapy that may be utilized by a patient.
   - Fatigue
   - Aversions to foods or flavors.
     - Which food group is most commonly affected and why and provide alternatives to ensure adequate intake. Discuss role of zinc?
   - Cachexia
   - Cold food preference
   - Constipation
   - Diarrhea
   - Difficulty swallowing (dysphagia)
   - Dry mouth (xerostomia)
   - Early satiety
   - Fatigue
   - Loneliness
   - Mouth or throat soreness (stomatitis, mucositis, or esophagitis)
   - Nausea
   - Vomiting
4. Describe the usual treatment for hypercalcemia when experienced by a cancer patient. Discuss calcium toxicity and causes
5. Discuss osmolality. Discuss osmotic diarrhea.
6. Discuss possible cause of diarrhea for a cancer patient and those who have had a gastric resection. Discuss diet interventions to resolve diarrhea.
7. Discuss lactose intolerance in cancer patients. Discuss recommendations for those patients.
8. Define the following:
   - Anorexia
   - Cachexia
   - Colostomy
   - Colorectal cancer and risk/frequency
   - Cytopenia
   - Gastric cancer
   - Gastrostomy tube
   - Head and neck cancers
   - Hepatocellular carcinoma
   - Hodgkin’s Lymphoma
9. What form(s) of nutritional support would you recommend for a nutritionally compromised patient with a bowel resection? What would you recommend for a patient with the same problem who was normal nutrition status?

10. A patient with head and neck cancer is having a G-tube placed due to dysphagia. He is currently receiving chemotherapy and radiation. The patient is 6 foot tall and weighs 185 lbs. Calculate patient’s calorie and protein needs. Determine which formula (between Fibersource HN, Nutren 1.0, Replete Fiber, TwoCal HN, Diabetisource, Nepro, Peptamen) would be most appropriate to initially initiate at continuous infusion. Then, calculate a tube feeding regimen that veteran may utilize at home with an intermittent feeding regimen while still providing adequate nutrition.
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP

ROTATION INFORMATION: Nutrition Support VA

Nutrition Support VA: Location: CTVHCS – Temple
1901 South 1st Street
Temple, TX 76501
Duration: 80 hours

Goals: 1. Increase knowledge and enhance skills in meeting nutritional care needs of patients critically ill and surgical intensive care patients and including those who are receiving parental or enteral feedings. Become familiar with the role of each member of the nutrition support team.

2. Gain skill in physical assessment of the critically ill patient to determine if a patient has a vitamin deficiency by assessing their skin, determine if a patient has appropriate bowel function to start enteral feeding, determine a patient’s frame size using various methods and determine a patient’s fluid status from observation.

I. ROTATION PREPARATION
   A. Contact dietitian 1 week prior to rotation to make necessary arrangements.
   B. Read required articles and text chapters. Be able to discuss any of this information on the first day of the rotation.
   E. Complete the worksheet for parenteral formulas and turn it in the first day of rotation (Worksheet is found immediately behind this rotation information. Use your own ht/wt information).

II. ROUTINE DUTIES
   A. Arrive on time (daily). If time off is needed, you must discuss on first day of the rotation.
   B. Check Vista and Outlook email messages daily and throughout the day.
   C. Print ward roster and screening sheets for consults, referrals and patients needing reassessments (daily). Keep roster updated with nutrition status, and follow-up dates.
   D. Check for doctors’ consults, screening referrals and follow-ups (daily). Maintain flow sheets on all patients followed by NST. Update daily.
   E. Visit each patient daily and be able to discuss their nutrition intake with preceptor and medical team.
   F. Attend daily rounds for pulmonary/medical, cardiology. Surgery team on Friday mornings.
   G. Present any new patients during weekly to NST.
H. Give diet instructions as needed.
I. Observe placement of feeding tube, PICC line, central line and abdominal surgery if possible.
J. Observe endoscopic or radiologic placement of feeding tube, if possible.
K. Observe preparation of parenteral nutrition in pharmacy.
L. Use appropriate abbreviations; do NOT use all caps in typing notes.

III. ROTATION ASSIGNMENTS
   A. Complete Nutrition Support questions/definitions and turn in by end of first week.
   B. In the 2nd week choose an article in JPEN/NCP and present it to the staff during lunch. Have slides and handouts as appropriate.
   C. Case studies and other projects as assigned.
   D. Attend pertinent lectures and presentations.
   E. Sign on to the ASPEN website and get an account by the end of the 2nd day and explore the website and discuss with preceptor.

IV. EVALUATION
   A. Submit completed written assignments to the Dietitian as requested.
   B. Submit completed evaluation forms and written assignments no later than 3 days prior to the last day of the rotation or as requested by the preceptor.
   C. Incomplete or late assignments will result in points being taken off evaluation and may result in failure of the rotation.
READING LIST – To Be Read Prior To Rotation


(provided by TAMU Director of the Dietetics Internship: the intern is responsible for reading the following chap: 1 through 4, 6, 20, 21.


1. Define the following and their appropriate use:
   a. Bolus feeding
   b. Intermittent feeding
   c. Continuous feeding
   d. Gravity feeding
2. Distinguish the difference between:
   a. Osmolite, 1 cal/ml and Promote 1cal/ml and Jevity 1cal/ml
   b. Nepro vs Suplena vs 2calHN
   c. Jevity vs Ensure Plus vs Boost Plus
   d. Vivonex RTF vs Optimental vs Vital AF
   e. Oxepa vs Impact
3. Be able to verbalize the indications for the use of the above formulas.
4. Know the amount of the different formulas needed to meet the RDI
5. Verbalize the nutritional calculations of enteral and parenteral patient's needs.
6. Calculate the appropriate parenteral substrate mixture.
7. Demonstrate an understanding of the rationale for additives used in parenteral nutrition.
8. Write a parenteral nutrition order; write an enteral feeding order.
CALCULATING NUTRITION NEEDS FOR TPN

1. Determine total kcal needs: BEE x 1.2 to 2
   BEE = (men) 66 + 13.7(W) + 5(H) – 6.8(A)
   (women) 655 + 9.6(W) + 1.7(H) – 4.7(A)
   Total kcals: __________

2. Determine protein needs: 0.6 to 2gm/kg IBW = ________gms.
   Multiply x 4 (# kcal/gm)
   To estimate IBW:
   ● (men) 106# + 6# for each inch over 5’
   ● (women) 100# + 5# for each inch over 5’
   Protein kcals: __________

3. Determine non-protein kcals. Subtract protein kcals from total kcals.
   Non-protein kcals: __________

4. Determine lipid needs: 30% to 60% of non-protein kcals = ________ kcals.
   Lipids come in 500 ml bottles. We give whole bottles. 20% lipids = 2 kcal/ml or 1000 kcal/bottle.
   Unless trying to restrict kcals use 20% lipids for TPN.
   Lipid kcals: __________

<table>
<thead>
<tr>
<th>Days</th>
<th>20% lipids Avg. kcals</th>
<th>10% lipids Avg. kcal</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
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<tr>
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<td>6</td>
</tr>
<tr>
<td>7</td>
<td>1000</td>
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</tr>
</tbody>
</table>

   (example: 20% lipids given 5 x /week = 5000 kcal divided by 7 days/week = average of 714 kcal/day)

5. Determine dextrose needs:
   Dextrose kcals: __________
   ● Subtract lipid kcals from non-protein kcals.
   ● Divide by 3.4 (# kcal/gm) to get gm dextrose
   Gms dextrose: __________
I. REGIONAL HOSPITAL EXPERIENCE

   Location: St. Joseph Regional Health System
   Rotation: 80 to 160 hours

GOALS:
   1. Increase knowledge of and enhance skills in meeting the nutritional care needs of patients with a wide variety of illnesses and conditions. Develop and increase skills in nutritional assessment utilizing the nutrition care process and computerized charting. Promote continued development of competence in nutrition care delivery. Gain experience with a variety of feeding modalities, including tube feeding and total parenteral nutrition. Participate in a team approach to patient care.
   2. Gain skill in assessing nutrition education needs for inpatients and in planning and providing education to meet those identified needs. Enhance listening, interviewing, and communication skills. Develop ability to translate communication principles and technical nutrition information into patient counseling and teaching.

II. ROTATION PREPARATION: (Complete prior to starting rotation).
   A. Contact the Clinical Nutrition Manager one month prior to the first day of the rotation to make necessary arrangements and complete the Authorization for Non-Paid Internship Form.
   B. Complete required orientation and background checks with Human Resources. You will be contacted by them once your Authorization form is returned to the CNM.
   C. Read the articles on the reading list.
   D. Prepare a written list of goals and objectives for rotation to discuss with the dietitian on day one
   E. Clinical Nutrition Manager will review scheduled rotation calendar and expectations for this rotation
   F. Complete case studies prior to first day of rotation.
   G. Bring copy of ServSafe Certification or a current food handler’s card which can be completed online.
H. Provide a list of procedures you would like to try to observe. (PEG placement, Modified Barium Swallow, Wound Care, Cancer Center, Diabetes Class, Bariatric Class, etc.).
I. Provide verification of liability insurance on first day of rotation.

III. ROUTINE DUTIES: (inpatient)
   A. Arrive at scheduled time with clean pressed lab coat.
   B. Receive directions from Registered Dietitian
   C. Give Diet instructions as needed
   D. Attend multidisciplinary rounds and other meetings.
   E. Look up any unfamiliar medications and their important nutritional side effects and abbreviations.
   F. Enter notes on patients in the electronic medical record and edit as needed after being reviewed by the dietitian.

IV. ROTATION ASSIGNMENTS:
   A. Complete at least one Nutrient Intake Analysis (Calorie Count) during the rotation if possible.
   B. Follow at least one patient receiving a tube feeding &/or total parenteral nutrition.
   C. Attend pertinent lectures and presentations.
   D. Review education materials available.
   E. Teach Joint University Class.

V. EVALUATION
   A. Submit completed written assignments to the dietitian as requested.
   B. Provide evaluation forms to the dietitians to complete one week prior to the last day of the rotation.
   C. Schedule final rotation evaluations.
   D. Submit completed evaluation forms and written rotation assignments to the Clinical Nutrition Manager by the last day of the rotation.
St. Joseph Regional Health Center Rotation Reading List

Please familiarize yourself with the following:

- **Cardiovascular**

- **2015 Dietary Guidelines**
  (https://health.gov/dietaryguidelines/2015/)

- **TLC guidelines - Therapeutic Lifestyle Changes Diet**

- **NIH stroke scale** (http://www.ninds.nih.gov/doctors/NIH_Stroke_Scale.pdf)

- **Critical Care**

  - **ASPEN guidelines**
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP ROTATION INFORMATION:
Outpatient Digestive Disease Center

Location: Memorial Hermann Medical Plaza, Texas Medical Center
Rotation: Variable - 80 to 120 hours

Goals:

1. Increase knowledge and enhance skills in gastrointestinal disease and medical nutrition therapy recommendations for different digestive disorders.
2. Complete a full nutrition assessment that includes all steps in the Nutrition Care Process.
   - Nutrition Assessment:
     1. Review medical record
     2. Gather information from patient and/or family member(s)
     3. Malnutrition risk evaluation using the Malnutrition Screening Tool (MST) and conducting a Nutrition Focused Physical Exam, if appropriate
   - Nutrition Diagnosis using a PES statement format
   - Nutrition Intervention that is evidence-based and achievable by patient
   - Nutrition Monitoring and Evaluation
     1. Establish goals with patient
     2. Communicate with physicians, nurses, and other providers if needed, to coordinate monitoring
3. Gain skills in providing nutrition care for home nutrition support patients, including enteral and parenteral nutrition

I. Rotation Preparation: (Complete prior to starting rotation)

a) Contact preceptor minimum of 2 weeks prior to the first day of the rotation to make necessary arrangements.
b) Read the articles on the reading list

*Prior experience with nutrition support is highly recommended; particularly central PN

II. Routine Duties:

a) Arrive on time daily.
b) Check email messages daily.
c) Discuss with preceptor nutrition plan/interventions prior to discussing recommendations with patients.
d) Provide 1:1 diet educations under supervision of preceptor (will be given opportunity to observe diet educations before being expected to educate on your own).
e) Look up unfamiliar conditions, medications and their relationship with food and
nutrition, if any.
f) Clinical notes should be written in the medical record (Care4) for review and approved
or revised by preceptor before the end of the day or at least 60 minutes prior to end of
work day.

III. Rotation Assignments:

a) Complete at least 3 full nutrition plans for patients with 3 different gastrointestinal
(GI) diagnosis (not on nutrition support)
b) Complete at least 1 full nutrition plan for a patient on nutrition support by the end of the
rotation.
c) Complete 1 project related to any GI disorder. The project may be one or a combination
of the following:
   a. Case study with literature review
   b. Handout development for patients
   c. Recipe or menu planning for a particular GI disorder
d) Review education materials available
e) Optional: attend pertinent lectures and presentations as available during rotation

IV. Evaluation:

a) Submit complete written assignments to the preceptor dietitian as requested.
b) A draft of your project should be turned in at least during the mid-rotation review date (to
be set by Preceptor)
c) Submit completed evaluation forms and written rotation assignments to the Director no
later than 3 days prior to the last day of the rotation.
d) Incomplete or late assignments will usually result in failing the rotation.
TEXAS A&M UNIVERSITY DIETETIC INTERNSHIP
OUTPATIENT GI ROTATION – MEMORIAL HERMANN HOSPITAL

READING LIST – TO BE READ PRIOR TO ROTATION


I. REGIONAL HOSPITAL EXPERIENCE

Location: Metroplex Adventist Hospital
2201 South Clear Creek Road
Killeen, TX 76549

Rotation: 80 – 120 hours

Contacts: Beverly Hodges, MHA, RD, LD
Director of Nutrition Services
Metroplex Health System
(254)519-8172 (o)
(254)541-5898 (c)
beverly.hodges@ahss.org

Colby Myers, RD, LD
Clinical Dietitian
Metroplex Health System
(254)519-8576 (o)
(512)734-2215 (c)
colby.myers@ahss.org

GOALS:

1. Increase knowledge of and enhance skills in meeting the nutritional care
   needs of patients with a wide variety of diagnoses. Develop and/or increase skills
   in nutritional assessment utilizing the Nutrition Care Process, Nutrition-Focus
   Physical Exams, and utilization of the Electronic Medical Record (CERNER).
   Increase competence of clinical skills, including feeding modalities. Participate in
   the Multidisciplinary Team approach to patient care.

2. Increase Medical Nutrition Therapy skills, including assessment of needs
   and appropriate delivery of services. Improve interpersonal skills in meeting the
   nutritional needs of patients and customers in a manner suited to their learning
   style.

II. ROTATION PREPARATION (Must be completed prior to beginning rotation.)

A. Contact Ramona Phelps, HR Specialist, at (254)519-8309 at least two
   weeks prior to the start of the rotation with the following information:
   a. Contact information
   b. Full SSN & DOB
   c. Background check
d. Drug screen

e. Current immunizations
   i. Influenza or declination (during flu season)
   ii. MMR (2 doses)
   iii. DPT (2 doses) and Tdap
   iv. Hepatitis B Series
   v. Proof of Varicella vaccine or physician statement documenting chickenpox exposure
   vi. TB testing (within last year)

B. You will be notified once the required information is received and processed.

C. Contact the Clinical Dietitian one week prior to the start of the rotation to obtain additional information and instructions.

D. Prepare a written list of goals and objectives to discuss with the Clinical Dietitian(s) on Day 1 of the rotations. Additionally, include a list of procedures you would like to observe for discussion.

E. Provide verification of Liability Insurance on first day of rotation.

III. ROTATION DUTIES

A. Arrive at scheduled time wearing clean pressed scrubs or lab coat and professional attire.

B. Receive directions from Clinical Dietitian(s).

C. As appropriate, provide diet instructions.

D. Attend multidisciplinary rounds and other meetings as assigned.

E. Review any unfamiliar medications, abbreviations, and possible serious nutritional side effects.

F. Enter notes on patients in the Electronic Medical Record and edit as recommended by Clinical Dietitian(s) after review.

IV. ROTATION ASSIGNMENTS

A. Follow at least one patient receiving an enteral feeding and/or a parenteral nutrition, if possible.

B. Complete nutrition topic assignment(s) and present review to Clinical Nutrition Team.

C. Attend pertinent lectures and presentations.

D. Review available educational materials, as appropriate.

E. Teach outpatient or community-based class, if possible.

V. EVALUATION

A. Submit completed written assignments to the Clinical Dietitian(s) as requested.

B. Provide evaluation forms to the Clinical Dietitian(s) to be completed one week prior to the last day of the rotation.

C. Schedule final rotation evaluations.
D. Submit completed evaluation forms and written rotation assignments to the Clinical Dietitian(s) by the last day of the rotation.
Texas A&M University Dietetic Internship Rotation Information
Liberty Dialysis Renal Rotation

GOALS:

1. To foster the individual’s basic knowledge of Renal nutrition through skills learned during previous rotations and advanced education.
2. To work with the Renal Dietitian in an outpatient ESRD clinic.
3. To be able to work independently while under the supervision of the Renal Dietitian, observing all guidelines and regulations for assigned duties and projects.

I. Renal Rotation:

A. Contact the Renal Dietitian one week prior to start date of rotation regarding preparation.
B. Review Renal Module resources provided by Renal Dietitian and become familiar with medications and modalities used in ESRD setting.
C. Come with a willingness to learn and be flexible with work hours.
D. Meet with other Renal Team members and become familiar with their role in renal dialysis.

II. Rotation Duties:

A. Observe Renal Dietitian and participate in daily assignments.
B. Cover assigned patients, including their assessments, nutrient needs, oral protein supplementation and actual intakes.
C. Compare nutrient intakes to KDOQI guidelines.
D. Other duties as assigned by Renal Dietitian that could arise (i.e. nutrition action plan activities).

III. Rotation Assignments:

A. Develop and create patient education materials via bulletin board displays and handouts.
B. Attend monthly patient care plan and QAI meetings with interdisciplinary team members including Renal Dietitian.

IV. Evaluation:

A. Evaluation will be based upon performance, critical thinking process, and assignments. All assignments are to be completed before the last day of the rotation. The intern is expected to discuss with the Renal Dietitian any issues or concerns.
B. A written formal evaluation will be given the last day of the rotation and the intern is expected to bring the evaluation forms at least the day before.

Revised August 2018
<table>
<thead>
<tr>
<th>Renal Rotation</th>
<th>Complete</th>
<th>Incomplete</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Renal Module</td>
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<tr>
<td>Observe preceptor</td>
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<td>Assess: 3 HD’s/ 1 PD</td>
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<tr>
<td>Assigned Patients: Assess (SGA), Implement, Document, Evaluate</td>
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<tr>
<td>Calculate actual intake (kcal/protein) from 1 diet recall and compare to KDOQI guidelines</td>
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<td>Develop a renal meal plan using the ADA renal pattern guidelines</td>
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<td>Calculate kcal provided by PD fluid (module)</td>
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<td>Lab &amp; Med review</td>
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<tr>
<td>Discuss Oral supplementation</td>
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<td>Meet with Social Worker</td>
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<td>Meet with other IDT members</td>
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<td>Meet with PD Team Members and Shadow</td>
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<td>Observe HD patient connection</td>
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<td>Observe HD tech</td>
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<td>Preceptor: Appropriate documentation in Clarity</td>
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*Revised August 2018*
Please consult your checklist during your renal rotation. It is your responsibility to meet all objectives with guidance of the preceptors.