## Commission on Dietetic Registration
### Oncology Nutrition
#### Examination Content Outline

<table>
<thead>
<tr>
<th>Content Domain (and subdomain)</th>
<th>Percentage Of Exam Questions</th>
<th>Number of Scored Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Nutrition Assessment and Diagnosis</strong></td>
<td></td>
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<tr>
<td>A. Screening and Assessment</td>
<td>4%</td>
<td>5</td>
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<tr>
<td>B. History and Physical</td>
<td>16%</td>
<td>22</td>
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<tr>
<td>C. Treatment Effects</td>
<td>15%</td>
<td>20</td>
</tr>
<tr>
<td>D. Signs and Symptoms</td>
<td>10%</td>
<td>14</td>
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<tr>
<td><strong>II. Nutrition Care</strong></td>
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<td></td>
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<tr>
<td>A. Nutrition Care Process</td>
<td>6%</td>
<td>8</td>
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<tr>
<td>B. Interventions</td>
<td>14%</td>
<td>19</td>
</tr>
<tr>
<td>C. Education</td>
<td>8%</td>
<td>11</td>
</tr>
<tr>
<td>D. Prioritization of Care</td>
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<td>9</td>
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<tr>
<td>E. Nutrition Support</td>
<td>5%</td>
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<tr>
<td><strong>III. Reassessment and Outcomes</strong></td>
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<td></td>
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<td></td>
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<td><strong>IV. Risk Reduction</strong></td>
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<tr>
<td></td>
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<tr>
<td><strong>TOTAL</strong></td>
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</table>

### I. NUTRITION ASSESSMENT AND DIAGNOSIS (45%)

#### A. Screening and Assessment (4%)
1. Age-specific standardized and/or validated tools used in screening for nutrition risk in the oncology and hematology populations (e.g. PG-SGA, MST)
2. Tools and equipment for assessing nutrition status in adult and pediatric cancers (e.g. bioelectrical impedance analysis, Patient Generated Subjective Global Assessment)
3. Standardized tools to evaluate functional and nutrition status in the oncology population (e.g. ECOG, KFS, CDC growth chart)

#### B. History and Physical (16%)
1. Specific types of cancer and cancer treatment and their implications for nutrition
2. Comorbidities that affect nutrition status of individuals with cancer
3. Latent health and disease conditions in cancer survivors
4. Nutrition, physical activity, and lifestyle practices that negatively impact nutrition status during cancer treatment (e.g. tobacco use, sedentary lifestyle)
5. Characteristics of nutrition practices, behaviors, food preferences for different cultures, ethnicities, religions, and general beliefs that could impact cancer treatment
6. Interactions between medications and/or dietary supplements and nutrients that impact cancer treatment or nutrition status in individuals with cancer
7. Integrative medicine and alternative therapies that may be used by individuals with cancer
8. Cancer screening, staging, and diagnostic methods (e.g. tumor markers, cytology, pathology, radiology)
9. Trade name medications and generic equivalents of medications used in pharmacotherapy regimens for cancer
10. Age-specific macronutrient and micronutrient needs of individuals with cancer

C. Treatment Effects (15%)
   1. Impact of psychosocial, socioeconomic, and psychological aspects on nutrition status and tolerance of therapy
   2. Effects of cancer treatments on nutrition status
   3. Effects of cancer and cancer treatments on gastrointestinal tract
   4. Effect of cancer treatment on growth and development of pediatric individuals
   5. Classifications and side effects of radiation therapy regimens
   6. Common surgeries performed on individuals with cancer
   7. Classifications and side effects of hematopoietic stem cell transplant (HSCT)
   8. Classifications and side effects of chemotherapy agents and routes of administration (e.g. intravenous, oral, intrathecal)
   9. Classifications and side effects of biotherapy regimens
  10. Classifications and side effects of hormone therapy regimens
  11. Intent of care (e.g. curative, control, palliative) on treatment goals
  12. Nutrition implications of pain and pain management
  13. Nutrition implications of supportive care pharmacotherapies

D. Signs and Symptoms (10%)
   1. Signs of malnutrition, nutrition-related problems, and nutrition impact symptoms in adult and pediatric patient populations with cancer
   2. Physical signs of muscle wasting and loss of fat stores
   3. Effect of hematological disorders on nutrition status
   4. Altered laboratory values and biomarkers in individuals with cancer resulting from cancer diagnosis and treatment
   5. Altered physical conditions impacting nutrition intake in individuals with cancer
   6. Conditions resulting from cancer and cancer treatment

II. NUTRITION CARE (40%)
   A. Nutrition Care Process (6%)
      1. Nutrition care process in cancer care
      2. Development of measureable outcomes to determine effectiveness of nutrition interventions throughout the continuum of cancer care
B. **Interventions (14%)**
   1. Age-specific energy needs and methods to determine energy needs of individuals with cancer
   2. Age-specific fluid requirements for individuals with cancer
   3. Nutrition strategies to manage side effects related to pain and pain management
   4. Nutrition strategies to manage side effects of cancer and cancer treatment (e.g. chemotherapy, biotherapy, hormone therapy, surgery, radiation therapy, stem cell transplant)
   5. Oral medical food supplements
   6. Care, use, and diet modifications for gastrointestinal devices and equipment for treatment or palliation (e.g. stents, tubes, drains)
   7. Nutrition strategies for alterations in hematological conditions
   8. Programs, services, and referrals for nutrition related care
   9. Medication and other supportive care to manage nutrition impact symptoms
   10. Nutrition issues involved in discharge planning to and from different care settings

C. **Education (8%)**
   1. Nutrition recommendations for treatment-related side effects and comorbidities in individuals with cancer
   2. Food safety guidelines and safe food-handling practices
   3. Age-specific Dietary Reference Intakes and limits of acceptable supplementation in cancer care
   4. Risks and benefits of integrative medicine and alternative therapies

D. **Prioritization of Care (7%)**
   1. Nutrition issues in palliative and end-of-life care
   2. Intent and goals of treatment regimes (e.g. palliative, curative)
   3. Anticipated side effects of cancer and cancer therapy
   4. Effect of cancer staging on nutrition care plans
   5. Malnutrition and relative importance of nutrition impact symptoms throughout the continuum of care
   6. Ethical and legal issues pertaining to artificial nutrition and hydration in end-of-life care

E. **Nutrition Support (5%)**
   1. Indications, benefits, and risks of enteral nutrition support
   2. Indications, benefits, and risks of parenteral nutrition support
   3. Guidelines for the selection of enteral nutrition formulas in cancer care
   4. Guidelines for the formulation parenteral nutrition recommendations in cancer care
   5. Guidelines for the initiation, advancement, transition, and discontinuation of enteral nutrition, parenteral nutrition, and intravenous hydration
III. REASSESSMENT AND OUTCOMES (11%)
1. Changes in intent and goals of treatment regimens (e.g. palliative, curative) and their impact on nutrition interventions
2. Alterations in metabolism resulting from cancer or cancer treatment
3. Standardized scales and criteria for side effects of cancer treatment (e.g. National Cancer Institute-Common Toxicity Criteria, World Health Organization)
4. Quality improvement measures to evaluate nutrition outcomes
5. Acute, chronic, and latent nutritional complications of cancer and cancer treatments
6. Impact of pain and pain management in individuals with cancer
7. Impact of fatigue and fatigue management in individuals with cancer
8. Neurological and cognitive changes as a result of cancer and cancer treatment
9. Indicators that determine need for adjustment of nutrition interventions based on changes in fluid balance, laboratory values, functional status, weight changes, and treatment goals

IV. RISK REDUCTION (4%)
1. Nutrition and lifestyle issues related to survivorship
2. Effect of diet, body weight, and physical activity on risk for cancer and other chronic diseases
3. Evidence-based and consensus guidelines on nutrition and physical activity for cancer prevention (e.g. American Cancer Society, American Institute for Cancer Research)
4. Evidence-based and consensus guidelines on nutrition and physical activity for survivorship (e.g. American Cancer Society, American Institute for Cancer Research)
5. Relationship among diet, cancer risk, and cancer prevention
6. Risk factors for cancers and their effect on cancer prevention
7. Latent effects of cancer treatment that impact nutrition status and chronic disease