

CANDIDATE HANDBOOK

**Commission
on Dietetic
Registration**

the credentialing agency for the
Academy of Nutrition
and Dietetics



TABLE OF CONTENTS	PAGE
INTRODUCTION	1
TESTING AGENCY	1
STATEMENT OF NONDISCRIMINATION	1
CONFIDENTIALITY	1
EXAMINATION APPOINTMENTS	1
HOLIDAYS	2
TEST CENTER LOCATIONS	2
SPECIAL ARRANGEMENTS FOR CANDIDATES WITH DISABILITIES	2
TELECOMMUNICATION SERVICES FOR THE DEAF	3
RESCHEDULING OR CANCELING AN EXAMINATION APPOINTMENT	3
INCLEMENT WEATHER, POWER FAILURE OR EMERGENCY	3
EXAMINATION CONTENT	4
COPYRIGHTED EXAMINATION QUESTIONS	4
ON THE DAY OF YOUR EXAMINATION	4
SECURITY	4
PERSONAL BELONGINGS	4
EXAMINATION RESTRICTIONS	5
MISCONDUCT	5
COMPUTER LOGIN	5
PRACTICE TUTORIAL	5
TIMED EXAMINATION	6
CANDIDATE COMMENTS	6
FOLLOWING THE EXAMINATION	6
PASS/FAIL SCORE DETERMINATION	7
QUALITY CONTROL/SCORING	7

TABLE OF CONTENT CONTINUED	PAGE
SCORES CANCELLED BY THE CLIENT OR PSI	7
IF YOU PASS THE EXAMINATION	7
RE-ESTABLISHING ELIGIBILITY	7
FAILING TO ARRIVE FOR AN EXAMINATION	7
DUPLICATE SCORE REPORT	7
APPEALS PROCESS	7
RECERTIFICATION	8
ONCOLOGY NUTRITION CONTENT OUTLINE	9
KEY FEATURE SAMPLE QUESTIONS	13
MULTIPLE CHOICE SAMPLE QUESTIONS	15
REFERENCE LIST	18
NOTES PAGE	20
REQUEST FOR SPECIAL EXAMINATION ACCOMODATIONS FORM	21
DOCUMENTATION OF DISABILTY-RELATED NEEDS	22

INTRODUCTION

Specialty Board Certification for registered dietitians is offered by the Commission on Dietetic Registration (CDR), the credentialing agency for the Academy of Nutrition and Dietetics in the areas of gerontological nutrition, oncology nutrition, pediatric nutrition, renal nutrition and sports dietetics. CDR Specialty Board Certification is granted in recognition of the applicant's documented practice experience and successful completion of a computerized examination in the specialty area. There are two examination windows for the Board Certification Specialist in Oncology Nutrition, one in March and one in September. The examination consists of 150 multiple-choice and Key Feature questions. It is essential that you keep this Candidate Handbook readily available for reference until you have successfully completed the examination. You are responsible for knowing its contents.

TESTING AGENCY

PSI Services LLC (PSI) is currently the professional testing agency retained by CDR to assist in the development, administration, scoring, and analysis of this specialty examination. PSI is a research and test development company that specializes in conducting professional competency assessment research and providing examination services through its nationwide network of test centers and has worked with a number of health practitioner credentialing programs.

STATEMENT OF NONDISCRIMINATION

CDR and PSI do not discriminate among candidates on the basis of race, color, creed, gender, religion, national origin, disability or marital status.

CONFIDENTIALITY

Information about candidates for testing and their examination results are considered confidential. Test question drafts and other materials used to create examination questions (except for test content outlines or reference lists) are secure and confidential. All such materials shall be kept in secure, locked storage, accessible only by authorized personnel, and not disclosed to or shared with others. All questions written and materials developed for questions are considered a "work for hire," and remain the property of CDR. Question writers are not allowed to conduct "review courses" or other programs designed to prepare candidates to take a CDR Specialty examination. Studies and reports concerning candidates will contain no information identifiable with any candidate, unless authorized by the candidate.

EXAMINATION APPOINTMENTS

After you have received notification of your eligibility from CDR, and about one month before the examination dates, you may schedule an examination appointment by one of the following methods. Be prepared to confirm a date and location for testing and to provide your unique identification number, which is your CDR registration number (no leading zeros or letters in front).

Schedule Online:

For the fastest and most convenient test scheduling process, PSI recommends that candidates schedule their examination appointment using the Internet. Candidates schedule online by accessing PSI's scheduling website at www.psiexams.com. Internet scheduling is available 24 hours-a-day. In order to schedule by Internet, complete the steps below:

- Once candidate information is received by PSI, candidates will receive an email from support@psionline.com containing a link to the PSI website for scheduling.
- From the website, candidates will be able to select a desired testing date and location.
- After scheduling your examination appointment online, you will receive an email confirmation from no-reply@psiexams.com. This will contain the test date, time, site address and directions.

Telephone Scheduling:

Call PSI at (800) 733-9267 to schedule an examination appointment. This toll-free number is answered from 6:30 a.m. to 9:00 p.m. (Central Time) Monday through Friday, and 8:00 a.m. to 4:30 p.m. on Saturday. You will also receive an e-mail confirmation if you schedule by phone.

If special accommodations are requested, please submit the Request for Special Examination Accommodations form included at the end of the Handbook, prior to contacting PSI.

The examinations are administered by appointment only Monday through Saturday at various times based on location. Individuals are scheduled on a first-come, first-served basis.

When the appointment is made, the applicant will be sent an email providing the time to report to the Test Center. The applicant will only be allowed to take the examination for which the appointment has been made. No changes in examination type will be made at the Test Center. **UNSCHEDULED CANDIDATES (WALK-INS) WILL NOT BE ADMITTED** to the Test Center.

HOLIDAYS

The examinations are not offered on the following holidays:

- New Year's Day
- Memorial Day
- Independence Day (July 4)
- Labor Day

- Thanksgiving Day (and the following Friday)
- Christmas Day
- New Year's Eve Day

TEST CENTER LOCATIONS

Examinations are administered by computer at over 260 Test Centers geographically distributed throughout the United States. Test Center locations and detailed maps are available on PSI's website, www.psiexams.com. Specific address information will be provided once an appointment has been scheduled. While every effort is made to find the closest test center location, it is possible that some candidates may have to travel up to the industry standard of 2 ½ hours.

SPECIAL ARRANGEMENTS FOR CANDIDATES WITH DISABILITIES

PSI complies with the Americans with Disabilities Act and strives to ensure that no individual with a disability is deprived of the opportunity to take the examination solely by reason of that disability. PSI will provide reasonable accommodations for candidates with disabilities. After the candidate has been approved for the accommodation, he/she must call PSI at (800) 733-9267 ext. 6750 to schedule the examination.

Wheelchair access is available at all established Test Centers. Candidates must advise PSI at the time of scheduling that wheelchair access is necessary.

Candidates with visual, sensory or physical disabilities that would prevent them from taking the examination under standard conditions may request special accommodations and arrangements.

Verification of the disability and a statement of the specific type of assistance needed must be made in writing to CDR using the form at the end of the Candidate Handbook, at least 45 calendar days prior to your desired examination date. Please inform PSI of your need for special accommodations when scheduling your examination appointment.

TELECOMMUNICATION DEVICES FOR THE DEAF

PSI is equipped with Telecommunications Device for the Deaf (TDD) to assist deaf and hearing-impaired candidates. Candidates may call (800) 735-2929 for assistance. This phone option is for individuals equipped with compatible TDD machinery.

RESCHEDULING OR CANCELING AN EXAMINATION APPOINTMENT

A candidate may reschedule an examination appointment during the current testing window one time, at no charge by calling PSI at (800) 733-9267 at least two business days prior to the scheduled testing session. (See table below).

If your examination is scheduled on...	You must call PSI by 4:00 p.m. Pacific Time to change your appointment by the previous...
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday
Thursday	Monday
Friday	Tuesday

A candidate who does not schedule his/her examination appointment during the current test administration window may have their application and examination fee transferred to the next test administration window free of charge by contacting CDR at (800) 877-1600, ext 4705 or ext. 4816 or specialists@eatright.org. Candidate's eligibility and examination fee will only extend one test administration window. A new application and examination fee will need to be submitted if the candidate does not take an examination after transferring once to the next test administration window.

A candidate who does not schedule his/her examination appointment after confirmation of eligibility may request a full refund if they do not wish to test during the current or subsequent

test administration window. Requests for refunds must be made in writing and mailed, faxed or e-mailed to CDR. If the candidate wishes to take the examination again, a new application and examination fee will need to be submitted.

A candidate who wishes to reschedule his/her examination appointment, but fails to contact PSI at least two business days prior to the scheduled testing session will be required to pay a \$85 fee to reschedule the examination. The fee applies even if the candidate waits until the next test window to reschedule their appointment. In order to reschedule your appointment, you will need to contact CDR at (800) 877-1600, ext. 4705 or ext. 4816 or specialists@eatright.org. Note that your examination eligibility expires after the next test administration window.

INCLEMENT WEATHER, POWER FAILURE OR EMERGENCY

In the event of inclement weather or unforeseen emergencies on the day of an examination, PSI will determine whether circumstances warrant the cancellation, and subsequent rescheduling, of an examination. The examination will usually not be rescheduled if the Test Center personnel are able to open the Test Center.

Candidates may visit PSI's website at www.psiexams.com prior to the examination to determine if PSI has been advised that any Test Centers are closed. Every attempt is made to administer the examination as scheduled; however, should an examination be canceled at a Test Center, all scheduled candidates will receive notification regarding rescheduling or reapplication procedures.

If power to a Test Center is temporarily interrupted during a test administration, your examination will be restarted. The responses provided up to the point of interruption will be intact.

EXAMINATION CONTENT

The examination consists of 150 multiple-choice questions (135 scored questions and 15 pretest

questions), and is constructed using approximately the number of items indicated in the Content Outline. Pretesting is done to see how well items perform before they are used in the scored portion of the examination. The pretest questions cannot be distinguished from those that will be scored, so it is important that you answer all questions to the best of your ability. Candidates will have to choose the one best answer from either three or four options provided. Candidates will have 3 hours to complete the examination.

COPYRIGHTED EXAMINATION QUESTIONS

All examination questions are the copyrighted property of CDR. It is forbidden under federal copyright law to copy, reproduce, record, distribute or display these examination questions by any means, in whole or in part. Doing so may subject you to severe civil and criminal penalties.

ON THE DAY OF YOUR EXAMINATION

On the day of your examination appointment, report to the Test Center no later than your scheduled testing time. A CANDIDATE WHO ARRIVES MORE THAN 15 MINUTES AFTER THE SCHEDULED TESTING TIME WILL NOT BE ADMITTED.

To gain admission to the Test Center, a candidate needs to present two forms of identification; one must be a valid government issued identification with photograph. Both forms of identification must be current and include the candidate's current name and signature. The candidate will also be required to sign a roster for verification of identity.

Acceptable forms of identification include a current:

1. State Issued Driver's License with photograph
2. State Issued Identification card with photograph
3. US Government Issued Passport

4. US Government Issued Military Identification card with photograph
5. US Government Issued Alien Registration Card
6. Social Security Card (secondary form)
7. CDR Registration Identification Card (secondary form)
8. Credit Card (secondary form)

Employment ID cards, student ID cards and any type of temporary identification are NOT acceptable as primary identification. Candidates are prohibited from misrepresenting their identities or falsifying information to obtain admission to the Test Center.

SECURITY

CDR and PSI maintain examination administration and security standards that are designed to ensure all candidates are provided the same opportunity to demonstrate their abilities. The Test Center is continuously monitored by video surveillance equipment for security purposes.

The following security procedures apply during the examination:

- Examinations are proprietary. No cameras, notes, tape recorders, Personal Digital Assistants (PDAs), computers, pagers or cellular phones are allowed in the testing room. Possession of a cellular phone or other electronic devices is strictly prohibited and will result in dismissal from the examination.
- No guests, visitors or family members are allowed in the testing room or reception areas.

PERSONAL BELONGINGS

Personal items including wallets, keys, hats, caps, jackets, watches, backpacks, pens, pencils, or other writing devices, food, drinks, weapons and good-luck items are not allowed in the Test Center. Coats must be left outside the testing room. You will be provided a locker or secure folder to store your belongings during testing.

You will not have access to these items until after the examination is completed.

You will be asked to pull out your pockets to ensure they are empty. If any personal items are observed in the testing room after the examination is started, you will be dismissed and the administration will be forfeited.

EXAMINATION RESTRICTIONS

- Pencils will be provided during check-in.
- You will be provided with one piece of scratch paper at a time to use during the examination. You must return the scratch paper to the supervisor at the completion of testing, or you will not receive your participation report.
- No documents or notes of any kind may be removed from the Test Center.
- No questions concerning the content of the examination may be asked during the examination.
- Eating, drinking or smoking will not be permitted in the Test Center.
- You may take a break whenever you wish, but you will not be allowed additional time to make up for time lost during breaks. You may not leave the testing building during your break.

MISCONDUCT

If you engage in any of the following conduct during the examination you may be dismissed, your scores will not be reported and examination fees will not be refunded. Examples of misconduct are when you:

- create a disturbance, are abusive, or otherwise uncooperative;
- display and/or use electronic communications equipment such as pagers, cellular phones, PDAs;
- talk or participate in conversation with other examination candidates;
- give or receive help or are suspected of

doing so;

- leave the Test Center during the administration;
- attempt to record examination questions or make notes;
- attempt to take the examination for someone else;
- are observed with personal belongings, or
- are observed with notes, books or other aids.

COMPUTER LOGIN

After your identification has been confirmed, your photograph will be taken prior to entering the testing room. This photograph will also print on your score report. You will be directed to a workstation where you will be instructed on-screen to enter your unique identification number, which is your CDR registration number (no leading zeros or letters in front).

PRACTICE TUTORIAL

Prior to attempting the examination, you will be given the opportunity to take a practice tutorial on the computer.



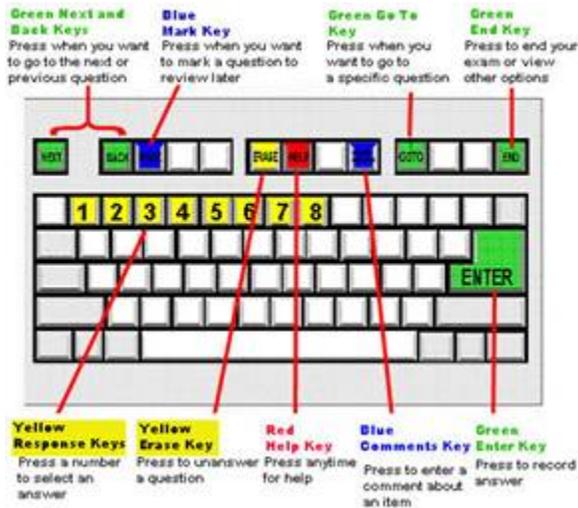
The time you use for this practice tutorial is NOT counted as part of your examination time or score. When you are comfortable with the computer testing process, you may quit the practice session and begin the timed examination. Please note that this practice tutorial is to help you become familiar with the computerized examination format; it is possible that the problems will not be nutrition related.

TIMED EXAMINATION

Following the practice tutorial, you will begin the timed examination. Before beginning, instructions for taking the examination are provided on-screen.

The computer monitors the time you spend on the examination. The examination will terminate if you exceed the time allowed. A digital clock located at the top of the screen updates as you record your answers and indicates the time remaining for you to complete the examination.

Only one examination question is presented at a time. Choices of answers to the examination question are identified as 1 through 8. Taking the PSI examination by computer is simple. You do not need any computer experience or typing skills. You will use fewer keys than you use on a touch-tone telephone. All response keys are colored and have prominent characters. An illustration of the special keyboard is shown here. You may also use the mouse.



You may change your answer as many times as you wish during the examination time limit.

To move to the next question, click on the green NEXT key in the top left of the keyboard. This action will move you forward through the examination, question by question. If you wish to review any question or questions, click the green BACK key located in the top left area of the keyboard.

An examination question may be left unanswered for you to return later in the examination session. Questions may also be marked for later review by clicking in the blue MARK key in the top row of the keyboard or using the mouse to click on the "MARK" icon at the top right of the page. If not all questions have been answered and there is time remaining, return to the examination and answer those questions. Be sure to provide an answer for each examination question before ending the examination. There is no penalty for guessing. Also if more than one answer is required it will be indicated within the question.

CANDIDATE COMMENTS

During the examination, comments may be provided for any question by clicking on the BLUE COMMENTS button or using the mouse to click on the exclamation point (!) at the top right of the page. This opens a dialogue box where comments may be entered. Comments will be reviewed, but individual responses will not be provided. Once you leave the test center, if you still have comments you may forward written comments to CDR at specialists@eatright.org. All comments should be sent to CDR (Attn: Specialty Certification) no later than five business days after the close of the examination window. Please note that the appeal process is different.

FOLLOWING THE EXAMINATION

After completing the examination, candidates are asked to complete a short survey of their examination experience. Candidates are then instructed to report to the examination proctor to receive their written score report. The examination is scored on a scale of 200-400. A scaled score of 300 is required to pass. Please note the scaled score is neither the number correctly answered questions nor the percent of correctly answered questions. In order to keep the scaled passing score constant across forms, scaling and equating techniques are used to standardize examination forms.

PASS/FAIL SCORE DETERMINATION

The methodology used to set the minimum passing score is the Angoff method, based upon data gathered during the performance of a Passing Point Study by a panel of experts in the field. The experts evaluated each question on the examination to determine how many correct answers are necessary to demonstrate the knowledge and skills required to pass this examination portion. Your ability to pass the examination depends on the knowledge and skill you display, not on the performance of other candidates.

Passing scores may vary slightly for each version of the examination to accommodate for variances in examination difficulty. To ensure fairness to all candidates, a process of statistical equating is used. Slight variations in difficulty level are addressed by adjusting the passing score up or down, depending on the overall difficulty level statistics for the group of scored questions that appear on a particular version of the examination.

QUALITY CONTROL/SCORING

Before the examination is administered, each form undergoes quality control checks. A thorough item analysis is completed and is used as part of the statistical review of the performance of the examination.

SCORES CANCELLED BY THE CLIENT OR PSI

CDR and PSI are responsible for the validity and integrity of the scores they report. On occasion, occurrences, such as computer malfunction or misconduct by a candidate, may cause a score to be suspect. CDR and PSI reserve the right to void or withhold examination results if, upon investigation, violation of its regulations is discovered.

IF YOU PASS THE EXAMINATION

All candidates who pass the examination will receive a wall certificate, specialty identification card and orientation materials about four weeks after they receive their score report.

RE-ESTABLISHING ELIGIBILITY

To take the examination again during a subsequent testing window, a new application will need to be submitted. Candidates are not allowed to retest during the same examination window.

FAILING TO ARRIVE FOR AN EXAMINATION

A candidate who fails to report for an examination forfeits the registration and all fees paid to take the examination. A new eligibility application and examination fee are required to reapply for examination.

DUPLICATE SCORE REPORT

Candidates may purchase additional copies of their results at a cost of \$25 per copy. Requests must be submitted to CDR, in writing. The request must include the candidate's name, registration number, mailing address, telephone number, date of examination and examination taken. Submit this information with the required fee payable to CDR in the form of a check, money order or cashier's check. Duplicate score reports will be mailed within approximately two weeks after receipt of the request and fee.

APPEALS PROCESS

The Appeals Panel of the Commission on Dietetic Registration evaluates requests to review adverse decisions. The applicant must submit a written petition to the Commission on Dietetic Registration, 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606-6995, within seven (7) calendar days after notification of an adverse decision. A \$20 Appeal Review Fee will be required with every appeal submitted. Appeals submitted without the \$20 fee will not be considered by the CDR Appeals Panel. Appeal letters should be sent to:

Attn: Specialty Certification
Commission on Dietetic Registration
120 S Riverside Plaza, Ste 2000
Chicago, IL 60606-6995

RECERTIFICATION

At the end of the specialist five-year certification period, specialists who wish to recertify must be a current Registered Dietitian with CDR and:

1. Successfully complete an eligibility application – including the required minimum number of specialty practice hours
2. Submit an examination fee
3. Pass the specialty examination

The reasoning for requiring recertification testing is that the Specialty Board Certification is a practice credential, a credential that represents to the public that the certificant possesses the knowledge, skills and experience to function effectively as a specialist in that area. The nature of the knowledge and skills to practice at a specialty level is subject to change due to technological and scientific advances. Recertification testing helps to provide continuing assurance that the certified specialist has indeed maintained their knowledge in the specialty area.



Commission on Dietetic Registration
Oncology Nutrition
Examination Content Outline

Content Domain (and subdomain)	Percentage Of Exam Questions	Number of Scored Questions
I. Nutrition Assessment and Diagnosis	45%	61
<i>A. Screening and Assessment</i>	4%	5
<i>B. History and Physical</i>	16%	22
<i>C. Treatment Effects</i>	15%	20
<i>D. Signs and Symptoms</i>	10%	14
II. Nutrition Care	40%	54
<i>A. Nutrition Care Process</i>	6%	8
<i>B. Interventions</i>	14%	19
<i>C. Education</i>	8%	11
<i>D. Prioritization of Care</i>	7%	9
<i>E. Nutrition Support</i>	5%	7
III. Reassessment and Outcomes	11%	15
IV. Risk Reduction	4%	5
TOTAL	100%	135

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)

Characteristics of nutrition practices, behaviors, food preferences for different cultures, ethnicities, religions, and general beliefs that could impact cancer treatment

5. Interactions between medications and/or dietary supplements and nutrients that impact cancer treatment or nutrition status in individuals with cancer
6. Integrative medicine and alternative therapies that may be used by individuals with cancer
7. Cancer screening, staging, and diagnostic methods (e.g. tumor markers, cytology, pathology, radiology)
8. Trade name medications and generic equivalents of medications used in pharmacotherapy regimens for cancer
9. 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

Development of measureable outcomes to determine effectiveness of nutrition interventions throughout the continuum of cancer care

A. 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

B. 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

C. 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

D. 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

Key Features Sample Questions:

A 55-year-old male has a history of surgical resection of an abdominal sarcoma. The preoperative note reports that he had a resection of his ileum with a jejunocoloanastomosis. His preoperative weight is 165 lbs, current weight is 154 lbs and his height is 5 ft 7 in. He reports that he is hungry all the time and he is eating three large meals per day. He reports that he has 5-6 loose bowel movements per day.

1. What nutrition diagnoses are indicated in this case? Select two.
 - A. Inadequate mineral intake (zinc)
 - B. Inadequate intake from parenteral nutrition
 - C. Underweight
 - D. Altered GI function
 - E. Impaired nutrient utilization
 - F. Inadequate oral food/beverage intake

*IC. Nutrition Assessment and Diagnosis: Signs and Symptoms

T8. Evaluate nutrition related physical findings for signs and symptoms of cancer and its treatment, e.g., cancer cachexia, early satiety, dysphagia.

K6. Knowledge of physical signs of cancer-related malnutrition or cancer cachexia.
--

2. What nutrition interventions should be implemented for this patient? Select three.
 - A. Supplement vitamin B₆
 - B. Supplement vitamin B₁₂
 - C. Initiate soluble fiber
 - D. Initiate stress management
 - E. Modify distribution, type or amount of food and nutrients within meals or at specified time
 - F. Initiate enteral or parenteral nutrition

*IC. Nutrition Assessment and Diagnosis :Signs and Symptoms

T17. Determine signs and symptoms of nutrition problem(s) to validate nutrition diagnosis.
--

K16. Knowledge of nutrition care process in cancer care.
--

Key:

1. D, E, F
2. B, C, E,

A patient diagnosed with lung cancer presents with temporal wasting, an albumin of 2.6 mg/dL, depletion of fat stores, hypertension, profound anorexia, and weight loss. He lives alone, is recently divorced and continues to abuse alcohol and tobacco. His diet history reveals infrequent small meals, large amounts of coffee, and concentrated sweets. The patient states he has never been a big eater. Because of his lack of medical insurance, he wishes to continue his construction job during treatment. His planned treatment will include carboplatin and etoposide (VP-16) and radiation therapy.

1. What elements in the patient's scenario support a diagnosis of cancer cachexia? Select three.
 - A. Temporal wasting
 - B. Inadequate protein intake
 - C. Depleted fat stores
 - D. Profound anorexia
 - E. Alcohol abuse
 - F. Tobacco abuse
 - G. Undesirable carbohydrate intake

*IC. Nutrition Assessment and Diagnosis :Signs and Symptoms
T8. Evaluate nutrition related physical findings for signs and symptoms of cancer and its treatment, e.g., cancer cachexia, early satiety, dysphagia.
K6. Knowledge of physical signs of cancer-related malnutrition or cancer cachexia

2. What aspects of the patient's history indicates a risk for poor tolerance of treatment? Select three.
 - A. Tobacco abuse
 - B. Lack of medical insurance
 - C. Marital status
 - D. Alcohol abuse
 - E. Continuing to work in construction
 - F. Hypertension

*IC. Nutrition Assessment and Diagnosis :Signs and Symptoms
T17. Determine signs and symptoms of nutrition problem(s) to validate nutrition diagnosis.
K6. Knowledge of physical signs of cancer-related malnutrition or cancer cachexia

3. What lifestyle recommendations should the dietitian make to improve his nutrition status prior to beginning treatment? Select three.
 - A. Reduce alcohol intake
 - B. Increase physical activity
 - C. Avoid concentrated sweets
 - D. Encourage intake of small, frequent meals
 - E. Adopt a low sodium diet
 - F. Increase intake of protein and calories

*IIB. Nutrition Care Plan- Prioritization of Goals
T25. Determine strategies to optimize oral nutrition intake prior to, during or after cancer treatment.
K6. Knowledge of medication and other supportive care to manage nutrition impact symptoms

Key:

1. A, C, D
2. A, D, E
3. A, D, F

Multiple Choice Sample Questions:

1. Which of the following patients with cancer would benefit from total parenteral nutrition?
- A. A well-nourished female patient diagnosed with cervical cancer who is receiving radiation therapy and chemotherapy and presents with radiation enteritis
 - B. A well-nourished female patient diagnosed with ovarian cancer who is receiving chemotherapy and presents with a total bowel obstruction
 - C. A malnourished male patient diagnosed with lung cancer who has had a 20% weight loss in the past 3 months and will be starting radiation therapy and chemotherapy
 - D. A malnourished male patient diagnosed with esophageal cancer who is unable to swallow due to tumor obstructing his esophagus.

*IIA. Nutrition Care Plan: Strategies

T27. Determine risks and benefits of nutrition support routes for patients before, during, or after cancer treatment, e.g., PEG vs. parenteral nutrition.

K32. Knowledge of indications, benefits and risks of parenteral nutrition support.
--

2. Which of the following foods should be avoided by autologous transplant patients during the first three months after hematopoietic cell transplantation?
- A. Canned tuna
 - B. Deli lunch meat
 - C. Commercial peanut butter
 - D. Pasteurized eggs

*IIIA. Nutrition Care Interventions: Education
--

T30. Recommend nutrition choices and safe food handling practices that reduce risk for foodborne illness in patients with cancer.

K43. Knowledge of food safety guidelines for patients with cancer

3. A hospice patient with Stage IV ovarian cancer is admitted to the hospital due to nausea and vomiting. It is determined that she has a bowel obstruction and a gastric tube is placed for decompression. The patient's obstruction is resolved and she is ready to transition from a clear liquid to solid foods. Which of the following diet orders should be recommended for this patient?
- A. High calorie, high protein diet
 - B. High fiber diet
 - C. Regular diet
 - D. Soft diet

*IVA. Monitoring and Evaluation: Treatment changes
--

T40. Evaluate nutrition implications of patient's medical treatment plan, e. g., radiation treatment fields, surgical interventions, medical interventions, chemotherapy to revise nutrition care plan as needed.

K62. Knowledge of changes in gastrointestinal function from cancer or cancer treatment.

4. Which of the following nutrients should be emphasized when providing nutrition counseling for a post menopausal breast cancer survivor who has just completed adjuvant therapy?
- A. Calcium and vitamin D
 - B. Vitamins A and K
 - C. Iron and vitamin C
 - D. Selenium and vitamin E

*V. Risk Reduction
T46. Recommend lifestyle, nutrition and physical activity strategies for patients at risk for chronic disease and latent side effects of cancer treatment, e.g., osteoporosis, heart disease, diabetes.
K.44 Knowledge of nutrition and lifestyle issues related to survivorship.

5. Which of the following chemotherapy agents should indicate the restriction of tyramine-containing food and beverages because of its MAO inhibitor-like (monoamine oxidase) action that can cause severe hypertensive events?
- A. Procarbazine (Mutulane)
 - B. Streptozocin (Zanosar)
 - C. Mitomycin (Mutamycin)
 - D. Darcabazine (DTIC)

*IIA. Nutrition Care Plan: Strategies
T22. Define nutrition interventions that address current and anticipated symptoms according to patient's treatment care plan.
K27. Knowledge of chemotherapy treatment modalities.

6. Which of the following snacks would be recommended for a patient who complains of mucositis?
- A. Peanut butter on soda crackers and orange juice
 - B. Peanut butter and jelly sandwich and milk
 - C. Peanut butter and jelly sandwich and orange juice
 - D. Peanut butter on soda crackers and milk

*IIIB. Nutrition Care interventions: Coordination
T31. Recommend modifications of oral nutrition intake based on patient's tolerances before, during, or after cancer treatment, e.g., texture modifications.
K53. Knowledge of nutrition strategies for managing complications of radiation therapy.

7. After initiating treatment, when do individuals receiving pelvic radiation therapy typically begin to experience acute treatment-related side effects which impact nutrition intake?
- A. Second or third day
 - B. Second or third week
 - C. Fourth or fifth day
 - D. Fourth or fifth week

*IB. Nutrition Assessment and Diagnosis: Treatment Effects
T12. Anticipate nutrition-related effects of dose and timing of cancer treatment that may affect performance status and nutrition intake.
K2. Knowledge of effects of cancer treatments on nutrition status.

8. A patient who was receiving an isotonic fiber containing enteral formula with good tolerance was recently admitted to the hospital for laryngectomy. The patient continued his preoperative enteral feeding plan throughout his hospitalization. He has been discharged and is now complaining of diarrhea. Which of the following recommendations should be made to his medical team?
- A. Evaluate the patient for infectious diarrhea (e.g., *C. difficile*)
 - B. Start the patient immediately on Imodium (loperamide)
 - C. Change the enteral formula to a non-fiber formula
 - D. Start the patient immediately on Metamucil (psyllium)

*IIIC. Nutrition Care Interventions: Nutrition Support
T32. Recommend enteral formulas for nutrition support based on patient's needs before, during, or after cancer treatment.
K50. Knowledge of guidelines for initiation, advancement and transition in enteral and parenteral nutrition.

Note: Sample questions do not appear for all areas of the examination. Examination sample questions do not necessarily reflect the difficulty of the examination.

*Please refer to Content Outline

Key:

- 1. B
- 2. B
- 3. C
- 4. A
- 5. A
- 6. B
- 7. B
- 8. A

REFERENCE LIST

Cancer Prevention

Kushi LH, Doyle C, McCullough M, Rock C, Demark-Wahnefried W, Bandera EV, Gapstur S, Patel AV, Andrews K, Gansler T, and the American Cancer Society 2010 and Nutrition and Physical Activity Guidelines Advisory Committee. American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention: Reducing the Risk of Cancer with Healthy Food Choices and Physical Activity. *CA Cancer J Clin* 2012; 62: 30-66. <http://onlinelibrary.wiley.com/doi/10.3322/caac.20140/pdf>

Cancer Survivors

Rock C, Doyle C, Denmark-Wahnefried, Meyerhardt J, Courneya K, Schwartz A, Bandera E, Hamilton K, Grant B, McCollough M, Byers T, Gansler T. Nutrition and Physical Activity During and After Cancer Treatment: An American Cancer Society Guide for Informed Choices. *CA Cancer J Clin* 2012; 62: 242-274. Available at: <http://onlinelibrary.wiley.com/doi/10.3322/caac.21142/pdf>

Cancer Symptom Management

Brown CG. *Guide to Oncology Symptom Management*. 2nd ed. Pittsburgh, PA: Oncology Nursing Society: 2015. ISBN: 978-1935864530.

Wilkes GM, Barton Burke M. *Oncology Nursing Drug Handbook* 2016. Burlington, MA: Jones and Bartlett Learning: 2015. ISBN: 978-1284091977.

Chemotherapy

Polovich M, Whitford JM, Olsen M. *Chemotherapy and Biotherapy Guidelines and Recommendations for Practice*. 4th ed. Pittsburgh, PA: Oncology Nursing Society: 2014. ISBN: 978-1935864332.

Enteral and Parenteral Nutrition

Charney P, Malone A. *Academy of Nutrition and Dietetics Pocket Guide to Enteral Nutrition*. 2nd ed. Chicago, IL: American Dietetic Association: 2013. ISBN: 978-0880914697.

Charney P, Malone A. *ADA Pocket Guide to Parenteral Nutrition*. Chicago, IL: American Dietetic Association: 2007. ISBN: 978-0880913690.

Medical Nutrition Therapy

Academy of Nutrition and Dietetics. *Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care*. Chicago, IL: Academy of Nutrition and Dietetics: 2015. <http://ncpt.webauthor.com>

Escott-Stump, S. *Nutrition and Diagnosis-Related Care*. 8th ed. Philadelphia, PA: Lippincott, Williams & Wilkins: 2015. ISBN: 978-1451195323.

Grant B. *Academy of Nutrition and Dietetics Pocket Guide to the Nutrition Care Process and Cancer*. Chicago, IL: Academy of Nutrition and Dietetics: 2015. ISBN: 978-0880914840.

Nutrition Assessment

Charney P, Malone A. *Academy of Nutrition and Dietetics Pocket Guide to Nutrition Assessment*. 3rd ed. Chicago, IL: Academy of Nutrition and Dietetics: 2016. ISBN: 978-0880914895.

Oncology Nutrition

Academy of Nutrition and Dietetics. Position of the Academy of Nutrition and Dietetics: Ethical and Legal Issues in Nutrition, Hydration and Feeding. *Journal of the Academy of Nutrition and Dietetics*. 2013; 113:828-833. <http://www.eatright.org/About/Content.aspx?id=8408>

Oncology Nutrition Dietetic Practice Group of the Academy of Nutrition and Dietetics. Leser M, Ledesma N, Bergerson S, Truillo E. *Oncology Nutrition for Clinical Practice*. Oncology Nutrition Dietetic Practice Group of the Academy of Nutrition and Dietetics: 2013. <http://www.oncologynutrition.org/store/product/oncology-nutrition-for-clinical-practice-165?returnBack=%2Fstore>

Radiation Therapy

Iwamoto RR, Haas ML, Gosselin TK. *Manual for Radiation Oncology Nursing Practice and Education*. 4th edition. Pittsburgh, PA: Oncology Nursing Society. 2012. ISBN: 1935864122.

NOTES PAGE:

REQUEST FOR SPECIAL EXAMINATION ACCOMMODATIONS

If you have a disability covered by the Americans with Disabilities Act, please complete this form and the Documentation of Disability-Related Needs so your accommodations for testing can be processed efficiently. The information you provide and any documentation regarding your disability and your need for accommodation in testing will be treated with strict confidentiality. Please return this form to CDR within 45 days of the desired testing date.

CANDIDATE INFORMATION

CDR Registration Number		
Last Name	First Name	Middle Initial
Address		
City	State/Province	Zip Code/Postal Code and Country
Daytime Phone Number	Fax Number	E-mail Address

SPECIAL ACCOMODATIONS

I request special accommodations for the _____ examination.

Please provide (check all that apply):

- Reader
- Extended examination time (time and a half)
- Reduced distraction environment
- Other special accommodations (please specify)

Description of disability: _____

Signed: _____ **Date:** _____

Return this form to:
Attn: Specialty Certification, Commission on Dietetic Registration,
120 S Riverside Plaza, Ste 2000, Chicago, IL 60606-6995
specialists@eatright.org

DOCUMENTATION OF DISABILITY-RELATED NEEDS

Please have this section completed by an appropriate professional (**education professional, physician, psychologist, psychiatrist**) to ensure that AMP is able to provide the required examination accommodations.

PROFESSIONAL DOCUMENTATION

I have known _____ since ____ / ____ / ____ in my capacity
as a Examination Applicant Name

Professional Title

The applicant discussed with me the nature of the examination administered. It is my opinion that because of this applicant's disability described below, he/she should be accommodates by providing the special arrangements listed on the previous page.

Description of disability: _____

Signed: _____
Title: _____

Date: _____ **License # (if applicable):**

Return this form to:
Attn: Specialty Certification
Commission on Dietetic Registration,
120 S Riverside Plaza, Ste 2000, Chicago, IL 60606-6995
specialists@eatright.org

Commission on Dietetic Registration
120 S Riverside Plaza, Ste 2000
Chicago, IL 60606-6995
specialists@eatright.org