Pocket Guide to Nutrition Assessment

Third Edition

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ACADEMY OF NUTRITION AND DIETETICS
POCKET GUIDE TO

Nutrition Assessment
THIRD EDITION

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Ainsley Malone, MS, RD, LD, CNSC, FAND, FASPen
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INTRODUCTION

With the introduction of the Nutrition Care Process and Model (NCPM) in 2003, the dietetics profession established a mechanism to communicate about specific interventions unique to dietetics practice. The NCPM serves as a framework to consistently describe the process registered dietitian nutritionists (RDNs) use to think critically and make decisions in all care settings (1–4). As such, it helps RDNs to clearly and systematically articulate the vital services they provide and demonstrate that they are integral members of the health care team.

Patients/clients and other health care providers generally recognize that the RDN provides a unique and highly valued service. However, regulatory agencies and third-party payers are focused on outcomes. When evaluating nutrition care, they ask: “Do RDN services positively impact health outcomes or quality of care in ways that can be documented and measured?” Use of the NCPM helps answer this question through creation of a framework for collecting and analyzing data regarding outcomes of nutrition care.
HEALTH CARE PROCESSES AND QUALITY OF CARE

Avedis Donabedian, MD, is known as the “father of health care quality” (5), and in 1965 he noted that health outcomes are a key component of any assessment of care quality. Donabedian also noted that evaluation of health care quality can be complicated because many outside factors may influence health outcomes. For example, there may be a lengthy time lag between the time of the intervention and significant improvement in the health outcome of interest (6). When health outcomes are not as expected or desired, health care administrators are tasked with determining potential causes. Outcomes can be impacted by something done by the particular health care provider or by how care is provided (i.e., the care process). For example, a physician might decide that a patient who has a wound infection needs to have a specific antibiotic. The infection might fail to improve because the provider ordered the wrong antibiotic (an issue specific to the provider) or because too much time lapsed between entry of the order and the antibiotic being administered (an issue related to the process of care). Having a standardized care process for a profession, such as the NCPM, helps differentiate between provider-specific causes from process-related issues when evaluating health outcomes.

RDNs are not the only health care providers who utilize a care process to guide critical thinking and decision making in practice. Each of the health care professions has a care process that allows them to delineate the aspects of care that are unique to that profession.

THE NCPM EXPLAINED

In the 2008 visual representation of the NCPM (2), the relationship between the RDN and the patient, client, or
The group is positioned in a circle at the center of the graphic and surrounded by three rings. The first ring depicts the four steps of the Nutrition Care Process (NCP):

- Nutrition assessment
- Nutrition diagnosis
- Nutrition intervention
- Nutrition evaluation and monitoring

The next ring lists factors intrinsic to the practice of dietetics that affect nutrition care, and the fourth and most external ring identifies concepts that make up the environment in which nutrition care is provided (see Table 1.1) [2]. Finally, the graphic shows the screening and referral system and the outcomes management system as outside of the NCP but closely related to it (an arrow points from screening to nutrition assessment; another arrow points from nutrition monitoring and evaluation to the outcomes management system).

### Table 1.1 Factors That Impact Nutrition Care

<table>
<thead>
<tr>
<th>Factors intrinsic to the RDN</th>
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<tbody>
<tr>
<td>• Dietetics knowledge</td>
<td></td>
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<tr>
<td>• Skills and competencies</td>
<td></td>
</tr>
<tr>
<td>• Critical thinking</td>
<td></td>
</tr>
<tr>
<td>• Collaboration</td>
<td></td>
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<tr>
<td>• Communication</td>
<td></td>
</tr>
<tr>
<td>• Evidence-based practice</td>
<td></td>
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<tr>
<td>• Code of ethics</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Factors that make up the environment</th>
<th></th>
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<tbody>
<tr>
<td>• Practice settings</td>
<td></td>
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<tr>
<td>• Health care systems</td>
<td></td>
</tr>
<tr>
<td>• Economics</td>
<td></td>
</tr>
<tr>
<td>• Social systems</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Data are from reference 2.*
Successful implementation of the NCP in clinical practice is supported by use of the Nutrition Care Process Terminology (NCPT; formerly the International Dietetics and Nutrition Terminology [IDNT]). Prior to the development of the NCPT, RDNs would use a variety of words and phrases to describe nutrition problems. In most cases the words and phrases used were accepted and understood by other RDNs and members of the particular health care team. However, providers in other settings may have defined the same terms differently. While convenient at the local level, use of locally developed terminologies made it impossible to correctly aggregate and analyze data from multiple care settings over a wider geographical area.

NCPT is a standardized terminology for the dietetics profession, and use of the NCPT ensures that, regardless of practice setting and geographic location, there is consistent use of words and phrases that have the same meaning (4). For example, data from the nutrition assessment may indicate that intake of food and beverages is not sufficient to meet estimated nutrient requirements. When the RDN uses the NCPT term “inadequate oral intake” to label the problem, it is known that “oral food/beverage intake is less than established reference standards or recommendations based on physiological needs”

NUTRITION ASSESSMENT AND THE NUTRITION CARE PROCESS

As noted above, nutrition assessment is the first step of the NCP. Nutrition screens are used to identify individuals who may have a nutrition diagnosis even though they do not have overt signs or symptoms of a nutrition problem.
If the nutrition screen indicates risk for a nutrition problem, the RDN completes a nutrition assessment to correctly diagnose existing nutrition problems. (See Chapter 2 for more information on nutritional risk screening.)

**Nutrition Assessment Components**

NCPT terms for nutrition assessment are organized into five domains or categories (4). These are:

- Food/nutrition related history
- Anthropometric measurements
- Biochemical data, medical tests, and procedures
- Nutrition-focused physical findings
- Client history

Assessment techniques for each of these domains are discussed in detail in Chapters 3 through 7 of this pocket guide.

**Collecting and Evaluating Data**

A great deal of research in medicine and nursing practice demonstrates that novice, proficient, and expert clinicians differ in the type and amount of data needed to accurately diagnose health conditions. At this time there is no reason to think that dietetics practice would differ. Regardless of the amount of information gathered in the nutrition assessment, the goal is to correctly diagnose the patient/client’s nutrition problem.

Expert RDNs quickly determine the type and amount of information needed, efficiently gather and evaluate the information, create a “nutrition differential” (list of potential diagnoses), rule out incorrect diagnoses, and correctly diagnose existing nutrition problems. Novice and proficient RDNs are also expected to correctly diagnose nutrition problems but will need additional time and resources. Regardless of the level of practice, RDNs are obligated
to refer patients/clients to more experienced practitioners when the situation is outside their area of practice and experience.

**What and How Much Data To Collect**

Accurate and efficient diagnosis of nutrition problems requires that RDNs determine the types and amounts of nutrition assessment data that should be collected. Although novice and proficient RDNs may need to collect more data than the expert RDN, practitioners at all levels of experience must have an organized approach to data collection.

Nutrition assessment begins with the reason for referral to the RDN and information from the patient history. This information guides selection of the type and amount of data collected. For example, if the patient is not taking any medications, there would be little reason to conduct a detailed assessment of the diet for possible food/medication interactions. On the other hand, if the patient has a recent history of GI surgery, weight loss, and chemotherapy for colorectal cancer, the RDN will focus on data that will help determine the extent and severity of weight loss and the impact of surgery and chemotherapy on nutrient needs, intake and metabolism.

After collecting data, the RDN determines whether data are normal or abnormal. If it is determined that data are abnormal, the clinical significance of the abnormality must be evaluated. The last step before diagnosing nutrition problems is to categorize data. In most cases, an expert RDN completes these final steps quickly. Experience has taught experts how to quickly evaluate nutrition assessment data. Proficient RDNs may complete part of this step efficiently while other parts may require more thought and evaluation. Novice RDNs typically need to
take more time to think and consider each alternative while evaluating assessment data.

Regardless of level of practice, the RDN is responsible for determining when enough data has been collected to correctly diagnose existing nutrition problems. Collection of insufficient data may lead to incorrect diagnosis. Collection of extraneous or unnecessary data may lead to incorrect diagnosis and increases costs associated with nutrition care.

**NUTRITION DIAGNOSIS**

Nutrition diagnosis is the second step of the NCP. RDNs are responsible for correctly diagnosing nutrition problems. A recent search of the Medline database revealed no research focused on thought processes used by RDNs to correctly diagnose nutrition problems. However, there is no reason to believe that RDNs would “think differently” from other health care professionals when diagnosing nutrition problems. Research in medical and nursing education describes several patterns of thinking used to make decisions in patient care. Table 1.2 describes several thought patterns used to make decisions (7–9).

| Table 1.2  Examples of Diagnostic Thought Processes |
|-----------------------|-----------------------------------------------|
| **Pattern recognition** | • Decision making based on past experience with similar cases  
• Most successfully used by clinicians with experience |
| **Exhaustive thinking** | • Gathering of as much data as possible followed by search through data for any and all possible diagnoses.  
• Typically used by novice clinicians |

(continued)
### Table 1.2  Examples of Diagnostic Thought Processes (continued)

<table>
<thead>
<tr>
<th>Algorithms</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Answers to a series of yes/no questions lead to diagnosis</td>
</tr>
<tr>
<td>• Most often used by novice and proficient clinicians</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypothetico-deductive reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• List of possible diagnoses is developed and altered as information gathering progresses</td>
</tr>
<tr>
<td>• Most appropriately used by experienced clinicians</td>
</tr>
</tbody>
</table>

*Source: Data are from references 7–9.*

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**Documenting the Diagnosis**

Recommendations for documenting and communicating nutrition diagnoses continue to be the least understood part of the NCP. The Academy of Nutrition and Dietetics recommends use of PES (problem, etiology, and signs and symptoms) statements when documenting nutrition diagnoses. This recommendation is based on nursing research that led to creation of the NANDA (North American Nursing Diagnosis Association) nursing terminology (10–12).

When correctly written, the PES statement can clearly and concisely describe what the RDN diagnosed, why the diagnosis was made, and the key finding that triggered the diagnosis (see Table 1.3) (4). Clear, concise PES statements communicate the value of nutrition care to all stakeholders (see Table 1.4).

### Table 1.3  What Is a PES Statement?

- A PES statement is written in the form: **Problem** (the nutrition diagnosis) *related to* **Etiology** (the major factor[s] contributing to the nutrition diagnosis) *as evidenced by* **Signs and Symptoms** (the key abnormal finding[s] that determined the nutrition diagnosis).
- Example: Inadequate oral intake related to chemotherapy-related nausea as evidenced by documented intake that is 25% of estimated requirements.
Table 1.4  Tips for Documenting Nutrition Diagnoses

- The PES statement must be clear and concise—it must be easily understood by other members of the health care team.
- Each PES statement must consist of one nutrition diagnosis, one etiology, and one set of signs/symptoms.
- Unless local synonyms have been developed and mapped to the NCPT, terms used should be from the standardized NCPT terms.

Before documenting a nutrition diagnosis, the RDN must be sure that it is correct and contextually appropriate. In many cases, more than one diagnosis could be made. For example, it is not unusual for a patient who has the nutrition diagnosis “overweight/obesity” to also have “Excessive oral intake,” “Physical inactivity,” and/or “Food/nutrition-related knowledge deficit.” RDNs (or their employer) will need to determine if a PES statement must be written for each diagnosis or if the RDN is able to prioritize and document based on the situation. However, all nutrition diagnoses must be documented—ignoring a nutrition diagnosis implies that the RDN did not correctly diagnose all nutrition problems. Additionally, when nutrition diagnoses are not documented, the implication is that someone else is responsible for nutrition care.

**Note:** Use of PES statements to document nutrition diagnoses is not required by any regulatory agency. PES statements are one of a number of ways to communicate and document nutrition diagnoses. Each facility should determine how documentation should be accomplished.

**Examples**

Table 1.5 shows examples of poorly written PES statements followed by revisions to improve clarity. A brief explanation is also included.
Table 1.5  Improving PES Statements

Example 1
- **Original**: Inconsistent carbohydrate intake related to poor diet choices as evidenced by A1C.
- **Improved**: Inconsistent carbohydrate intake related to poor diet choices as evidenced by consumption of 180% more carbohydrate than recommended.
- **Explanation**: The original nutrition diagnosis is not supported by the sign/symptom. A1C is a lab test used to estimate long-term blood glucose control. A1C does not measure carbohydrate intake. Since the diagnosis focused on carbohydrate intake, the sign/symptom must describe some aspect of carbohydrate intake that can be measured in order to determine if the nutrition intervention was effective.

Example 2
- **Original**: Altered GI function related to short bowel syndrome as evidenced by hypoalbuminemia and parenteral nutrition.
- **Improved**: Altered GI function related to short bowel syndrome as evidenced by 7 watery stools per day for previous 5 days.
- **Explanation**: Although there is some thought that the etiology of a nutrition diagnosis should never include a medical diagnosis, in some cases nutrition diagnoses are directly caused by a medical problem. In this example, altered GI function is a logical consequence of short bowel syndrome. Hypoalbuminemia is not a finding that can be directly related to altered GI function, nor will improvement in albumin levels indicate improvement in GI function. Parenteral nutrition is an intervention, not a sign/symptom of a nutrition diagnosis. Changes in stool output can be considered an indicator of bowel function in patients who have short bowel syndrome.

**NUTRITION INTERVENTION**

Nutrition intervention is the third step in the NCP. After correctly diagnosing nutrition problems, the RDN is responsible for ensuring that the appropriate intervention is carried out.
Ideally the intervention is directly related to either the diagnosis or its etiology. Table 1.6 illustrates this point. See reference 4 for a full discussion of the nutrition intervention step.

Table 1.6  Examples of Correct Nutrition Interventions

<table>
<thead>
<tr>
<th>Nutrition Diagnosis (Etiology)</th>
<th>Intervention Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity (related to overeating)</td>
<td>• Correct: Energy-modified diet: Decreased energy diet</td>
</tr>
<tr>
<td></td>
<td>• Incorrect: Nutrition education—content: Education on low-calorie diet</td>
</tr>
<tr>
<td></td>
<td>• Rationale: The correct intervention is related to the cause of the problem, overeating. Education would treat a knowledge deficit.</td>
</tr>
<tr>
<td>Food/nutrition-related knowledge deficit (related to inability to identify lower calorie foods)</td>
<td>• Correct: Nutrition education—application: Label reading skills</td>
</tr>
<tr>
<td></td>
<td>• Incorrect: Energy-modified diet: Decreased energy diet</td>
</tr>
<tr>
<td></td>
<td>• Rationale: A knowledge deficit is treated by increasing knowledge.</td>
</tr>
</tbody>
</table>

NUTRITION MONITORING AND EVALUATION

Nutrition monitoring and evaluation is the fourth step of the NCP. In this step, the RDN assesses the patient or client to determine and document whether the intervention has had the desired impact on the diagnosis. Because monitoring and evaluation involves reassessment, the standardized terminology for this step is mostly the same as the NCPT for nutrition assessment. The exception is the Client History domain, which only applies to assessment (because an intervention could not change history). See
reference 4 for more information about monitoring and evaluation.

MALNUTRITION DIAGNOSIS AND TREATMENT

The adoption of the NCP and standardized terminology aims to improve nutrition care in all areas of dietetics practice, including the care of patients who are malnourished or at risk of malnutrition. It is generally accepted that malnutrition is associated with increased risk for iatrogenic complications, increased length of hospital stay, and increased health care costs (13). RDNs have always been responsible for correct diagnosis and treatment of malnutrition, although reimbursement for malnutrition was inconsistent. It has only been recently that third-party payers have noted the link between nutrition and outcomes, which is leading to improved reimbursement strategies when malnutrition is correctly diagnosed.

Malnutrition is diagnosed using findings from the patient history and physical examination combined with the RDN’s clinical judgment. Recent consensus statements recommend utilization of certain characteristics for accurate diagnosis of malnutrition (14). The NCPT incorporates these characteristics and can be utilized not only to document the nutrition diagnosis “malnutrition,” but also to ensure that the role of the RDN in diagnosis and treatment of malnutrition is clearly described. Table 1.7 compares consensus characteristics to the associated NCPT domains (4,14).
Table 1.7  Malnutrition Consensus Characteristics Compared to NCPT Nutrition Assessment Domains

<table>
<thead>
<tr>
<th>Malnutrition Consensus Characteristic</th>
<th>NCPT Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>History and clinical diagnosis</td>
<td>Client history</td>
</tr>
<tr>
<td>Physical exam/clinical signs</td>
<td>Nutrition-focused physical findings</td>
</tr>
<tr>
<td>Anthropometric data</td>
<td>Anthropometric measurements</td>
</tr>
<tr>
<td>Laboratory data</td>
<td>Biochemical data, medical tests, and procedures</td>
</tr>
<tr>
<td>Food/nutrient intake</td>
<td>Food/nutrition related history</td>
</tr>
<tr>
<td>Functional assessment</td>
<td>Nutrition focused physical findings</td>
</tr>
</tbody>
</table>

Source: Data are from references 4 and 14.

REFERENCES


A1C: Glycated hemoglobin; used to assess the patient’s mean plasma glucose level during the preceding two to three months

ABG: Arterial blood gas

acanthosis nigricans: Skin condition characterized by dark discoloration in body folds; associated with obesity and diabetes

ACD: See anemia of chronic disease (ACD)

ACE inhibitors: See angiotensin-converting enzyme (ACE) inhibitors

achlorhydria: Absence/deficiency of hydrochloric acid in gastric secretions

acid-base disorder: Change in the normal value of extracellular pH that may result when renal or respiratory function is abnormal or when an acid or base load overwhelms excretory capacity

acidosis: Excess acid in body fluids

acromegaly: Autonomous endocrine disease in which the pituitary gland produces excess growth hormone

activities of daily living (ADLs): Basic tasks of everyday life

acute respiratory distress syndrome: Syndrome caused by major lung injury, which leads to fluid in alveoli (air sacs) and prevents enough oxygen from getting to the lungs and into the blood

acute-phase response: Systemic response to acute or chronic inflammation associated with conditions such as infection, trauma, surgery, and cancer

Addison’s disease: Adrenal insufficiency due to disorder of the adrenal glands
ADIME: Acronym for the steps of the Nutrition Care Process (Assessment, Diagnosis, Intervention, and Monitoring, and Evaluation)

adiposity: Obesity; fatness

ADL: See activities of daily living (ADLs)

AFA: See arm fat area (AFA)

AIDS: Acquired immunodeficiency syndrome

albumin: The major plasma protein

algorithm: Problem-solving method that uses answers to a series of yes/no questions to lead to diagnosis

alkalosis: Excess alkali (base) in body fluids

alopecia: Loss of hair; baldness

Alzheimer’s disease: Irreversible brain disease that leads to memory loss and dementia

AMA: See arm muscle area (AMA)

amphetamines: Type of central nervous system-stimulant medications, which increase heart rate and blood pressure and decrease appetite

amyotrophic lateral sclerosis: Rapidly progressive, invariably fatal neurological disease that attacks the neurons responsible for controlling voluntary muscles

anabolism: The phase of metabolism in which simple substances are synthesized into the complex materials of living tissue

anasarca: Generalized massive edema

androgens: Male sex hormone compounds

anemia: Abnormally low number of red blood cells in the blood

anemia of chronic disease (ACD): Inability to use iron stores; typically mild and with a gradual onset after a malignant, infectious, inflammatory, or autoimmune condition. Therapy for ACD involves correcting the underlying disorder and use of erythropoietic agents.
angiotensin-converting enzyme (ACE) inhibitors: Group of medications that cause blood vessels to dilate, thereby reducing blood pressure

angular stomatitis: Sores or inflammation at the corners of the mouth

anion gap: The difference between the primary measured cation (sodium) and anions (chloride, bicarbonate). This difference or “gap” helps to determine the etiology of metabolic acidosis because it is increased when other unmeasured anions are present. Anion gap = (Sodium) – (Chloride + Bicarbonate)

anorexia nervosa: Eating disorder characterized by loss of weight greater than is considered healthy, distorted body image, and intense fear of gaining weight/becoming fat

anthropometry: The study of human body measurement, often for comparative purposes

antibiotics: Class of medicines that fight bacterial infections

anticonvulsants: Medications used to stop or control seizures

antihistamines: Class of medications that inhibit the action of histamine; used to treat allergies

antineoplastics: Class of drugs used to kill cancer cells

APACHE II: Tool used in intensive care to evaluate severity of disease

arm fat area (AFA): Indirect parameter of body composition calculated using triceps skinfold and arm circumference measurements; a person’s AFA percentile may correspond to alterations in total body weight

arm muscle area (AMA): Indirect parameter of body composition calculated using triceps skinfold and arm circumference measurements; a person’s AMA percentile may correspond to alterations in total body weight
arrhythmia: Irregular heartbeat
ascites: Accumulation of serous fluid in the abdominal cavity

Assessment, nutrition: First step in the Nutrition Care Process; an ongoing, nonlinear and dynamic process that involves data collection and continual analysis of the patient/client’s nutritional status compared to specified criteria in order to identify nutrition-related problems, their causes, and significance

ataxia: Poor muscular coordination
atopic dermatitis: Chronic type of dermatitis; also called allergic dermatitis
atrophic lingual papillae: Slick tongue
auscultation: Listening for sounds within the body
azotemia: Disorder involving abnormally high levels of nitrogen-containing compounds (eg, urea, creatinine) in the blood, due in large part to renal dysfunction

barbiturates: Class of medications that depress the central nervous system; commonly used for their sedative effects

bariatric surgery: Procedure that alters the stomach and/or intestinal tract to help a person with obesity lose weight and reduce risk for obesity-related comorbidities

Bartter’s syndrome: Type of congenital kidney defect that causes excessive urinary loss of sodium and calcium as well as potassium wasting

benzodiazepines: Class of medications used to treat anxiety and other psychological disorders

bezoar: Mass of swallowed foreign material (eg, hair) that is not digested and may cause blockage in the GI tract

BIA: See bioelectrical impedance analysis (BIA)
bile acid sequestrants: Lipid-lowering medications that work by binding to bile in the intestinal tract
bioelectrical impedance analysis (BIA): Tool that passes a small alternating current through the body to assess body composition
Bitot’s spots: Superficial, triangular, foamy gray spots on the conjunctiva, consisting of keratinized epithelium
blood urea nitrogen (BUN): Amount of urea nitrogen in the blood; a BUN test evaluates renal function
BMI: See body mass index (BMI)
body mass index (BMI): Ratio of weight to height (kg/m^2) used as an estimate of body fat in the healthy population
bradycardia: Slower than normal heart rate; less than 60 pulses/min
bronchitis: Inflammation of the lining of the bronchial tubes; can be chronic or acute
bronchorrhea: Excessive discharge of mucus from the bronchi
bulimia nervosa: Type of eating disorder characterized by repeated episodes of bingeing and purging
cachexia: Profound state of muscle and fat wasting
Calorie count: See Nutrient intake record (calorie count)
CAM: See complementary and alternative medicine (CAM)
cathartics: Medications that cause the emptying of the bowels/defecation
CBW: Current body weight
ceruloplasmin: Copper-containing protein in the blood
cheilosis: Dry, cracking, ulcerated lips
cholinergics: Drugs that produce the same effect as the neurohormone acetylcholine
Chvostek’s sign: Twitch of the facial muscles upon tapping the facial nerve in front of the ear; twitching is due to neuromuscular excitability secondary to hypocalcemia

cirrhosis: Disease caused by the slow accumulation of scar tissue in the liver, which prevents normal hepatic functions

CMS: Centers for Medicare & Medicaid Services
cobalamin: Vitamin B-12
colonic interposition: Esophagectomy (surgical procedure to replace the esophagus) in which part of the colon is used as the replacement

complementary and alternative medicine (CAM): Medical practices and products that are not part of standard care provided by physicians and allied health care providers; complementary medicine is provided along with standard care; alternative medicine is provided instead of standard care

computerized tomography (CT): Imaging technique that uses X-ray to produce images of the different tissues in the body; used to estimate whole and regional body composition

congenital adrenal hyperplasia: Any of a group of autosomal recessive disorders that involve a deficiency of an enzyme that helps synthesize cortisol, aldosterone, or both

conjunctiva: Membrane that lines the eyelids and covers the exposed surface of the sclera

COPD: Chronic obstructive pulmonary disease
corticosteroids: Class of medications that closely resemble the adrenal hormone cortisol; used to suppress inflammation (eg, in asthma)

costochondral beading/rachitic rosary: Prominent, beadlike knobs on bones in the rib cage; a sign of rickets
crackles: Discontinuous breath sounds. Fine crackles are “popping” noises. Coarse crackles are lower pitched and more noticeable on expiration

C-reactive protein: Type of plasma protein; the most predominant of the acute-phase proteins

creatine: Byproduct of creatine phosphate breakdown in muscle; blood or urine tests of creatinine levels can help assess renal function

CT: See computerized tomography (CT)

Cushing’s syndrome: Autonomous endocrine disease involving exposure to high levels of cortisol

cystic fibrosis: Genetic disorder that affects the lungs as well as the pancreas and liver

cytokines: Types of proteins that are released by a cell population on contact with a specific antigen, to act as intercellular mediators (eg, in an immune response)

decubitus: The position of lying down

decubitus ulcers: Pressure ulcers / “bed sores.”

dehydration: The clinical consequences of losing excess free water; not to be confused with hypovolemia (a loss of water and sodium leading to extracellular fluid [ECF] volume contraction)

delayed cutaneous hypersensitivity: Skin test formerly used to quantify the impaired immune function associated with uncomplicated malnutrition

dementia: General loss of cognitive abilities, including the impairment of memory, severe enough to impair activities of daily living

dermatitis: Inflammation of the skin

desquamation: Exfoliation; shedding of skin

DETERMINE Checklist: Nutritional risk screening tool for elderly adults. DETERMINE stands for Disease, Eating poorly, Tooth loss/mouth pain, Economic
hardship, Reduced social contact, Multiple medications, Involuntary weight loss/gain, Needs assistance in self-care, Elder years > age 80

diabetes insipidus: Uncommon condition in which the kidneys are unable to prevent the excretion of water

diabetes mellitus: State of chronic hyperglycemia resulting from a deficiency of insulin and/or resistance to the action of insulin

diabetic ketoacidosis: Serious complication of diabetes characterized by high levels of ketones in the blood

Diagnosis, nutrition: Second step in the Nutrition Care Process; the nutrition diagnosis identifies and describes a specific nutrition problem that can be resolved or improved through treatment/nutrition intervention by a dietetics practitioner. A nutrition diagnosis (eg, inconsistent carbohydrate intake) is different from a medical diagnosis (eg, diabetes)

diarrhea: Having frequent, loose watery stools (>3 times/d)

diastolic blood pressure: The bottom number in the blood pressure measurement; measures the pressure in the arteries between heart beats

diurnal variation: Fluctuation during a day

dual energy X-ray absorptiometry (DXA): Noninvasive method of direct measurement of the three components of body composition (water, protein, and fat)

dumping syndrome: Reaction secondary to excessively rapid emptying of gastric contents into the jejunum, which occurs after ingestion of food in patients who have had part or all of their stomach removed; symptoms can include cramps, nausea, weakness, sweating, palpitation, and diarrhea

DXA: See dual energy X-ray absorptiometry (DXA)

dyspnea: Breathlessness or shortness of breath
**ecchymosis**: Small hemorrhagic spot, which is a nonellevated, rounded, or irregular blue or purplish patch in the skin or mucous membranes; larger than a petechia

**ECF**: *See* extracellular fluid volume (ECF)

**edema**: Much larger than normal amounts of fluids in the intracellular tissue spaces of the body

**EHR**: Electronic health record

**EKG**: Electrocardiogram

**emesis**: The process of vomiting

**emphysema**: Type of chronic obstructive pulmonary disease that damages the alveoli (air sacs)

**EN**: *See* enteral nutrition (EN)

**enteral nutrition (EN)**: Delivery of nutrition through a feeding tube into the stomach or small intestine

**enterocutaneous fistula**: Abnormal connection between the large or small bowel and the skin

**erythrocyte sedimentation rate (ESR)**: Blood test used to indirectly measure inflammation in the body

**ESR**: *See* erythrocyte sedimentation rate (ESR)

**exhaustive thinking**: Gathering of as much data as possible followed by search through data for any and all possible diagnoses

**extracellular fluid volume (ECF)**: A measurement of the body’s volume status

**Fanconi syndrome**: Disorder of the kidney tubes in which certain substances normally absorbed into the bloodstream by the kidneys are released into the urine instead; may or may not be congenital

**fat-free mass (FFM)**: Total body mass minus the fat; used to assess body composition

**ferritin**: Intracellular protein that stores iron

**FFM**: *See* fat-free mass (FFM)

**fistula**: Abnormal connection between an organ, vessel, or intestine and another structure
flag sign: Transverse pigmentation of hair
flail chest: Injury in which a segment of the thoracic cage is separated from the rest of the chest wall, preventing the injured part from contributing to lung expansion; indicates an underlying pulmonary contusion
follicular hyperkeratosis: Skin condition characterized by excessive development of keratin in hair follicles; looks like “goose bumps” but the bumps do not go away with warming or rubbing
food diary: Record of food and nutrient intake for a set period of time, kept by the patient/client or caregiver
food frequency questionnaire: Questionnaire for determining food and nutrient intake
gastrectomy: Removal of part or all of the stomach
gastric banding: Type of bariatric procedure in which a band is used to restrict the capacity of the stomach
gastric pull-up: Esophagectomy (surgical procedure to replace the esophagus) in which part of the stomach is used as the replacement
gastroesophageal reflux disease (GERD): Condition in which the stomach contents (food or liquid) leak backwards from the stomach into the esophagus
gastroparesis: Muscular dysfunction in the stomach that delays or prevents digestion
gender: The Institute of Medicine defines gender as “a person’s self-representation as male or female, or how that person is responded to by social institutions based on the individual’s gender presentation.” See also sex
GERD: See gastroesophageal reflux disease (GERD)
glomerulonephritis: Type of kidney disease in which the glomeruli are damaged, causing blood and protein to be lost in urine
 glucagonoma: Rare neuroendocrine tumor of the pancreas
**glucosuria**: Glucose excreted in urine

**Guillain-Barré syndrome**: Neuromuscular disorder in which the body’s immune system attacks part of the peripheral nervous system. Symptoms range from mild tingling in extremities to total paralysis

**Hamwi formula**: Equation (not validated) used to estimate ideal body weight in a clinical setting

**heart murmur**: Swishing or blowing sound resulting from altered blood flow in the heart

**hematocrit**: Blood test to measure the percentage of whole blood volume made up of red blood cells

**hemochromatosis**: Type of iron-overload disease

**hemoconcentration**: Increased concentration of cells and solids in the blood, often due to hypovolemia

**hemolysis**: Breakdown of red blood cells

**hemolytic anemia**: Anemia caused by the bone marrow failing to replace red blood cells that are being destroyed

**hemotherax**: Collection of blood in the pleural cavity (space between chest wall and lung)

**hepatomegaly**: Enlargement of the liver

**HHS**: See hyperosmolar hyperglycemic state (HHS)

**HIV**: Human immunodeficiency virus

**HMG CoA reductase inhibitors**: Statin drugs; used to lower serum cholesterol levels

**homeostatic mechanisms**: Mechanisms activated by negative feedback that contribute to the tendency of an organism or cell to regulate its internal conditions (homeostasis)

**hungry bone syndrome**: Disorder that occurs in some patients after a parathyroidectomy and is characterized by rapid/excessive osteogenesis that can result in hypocalcemia
hyperaldosteronism: Excess of the hormone aldosterone, which is secreted by the adrenal gland
hypercalcemia: Abnormally high serum calcium level
hypercapnia: High concentration of carbon dioxide in the blood (PCO₂ > 45 mmHg)
hyperchloremia: Abnormally high serum chloride level
hyperchloremic acidosis: Type of metabolic acidosis that occurs when there is an excessive loss of sodium bicarbonate from the body (eg, with severe diarrhea)
hyperglycemia: Abnormally high blood glucose level (>140 mg/dL in hospital setting)
hyperkalemia: Abnormally high serum potassium level
hyperlipidemia: Abnormally high blood lipid levels
hypermagnesemia: Abnormally high serum magnesium level
hypernatremia: Abnormally high serum sodium level (>145 mEq/L)
hyperosmolar hyperglycemic state (HHS): Serious complication of diabetes characterized by hyperglycemia, hyperosmolarity, and dehydration without significant ketoacidosis
hyperosmolar hyponatremia: Hyponatremia with elevated serum osmolality
hyperparathyroidism: Disorder involving secretion of abnormally high levels of parathyroid hormone (PTH)
hyperphosphatemia: Abnormally high serum phosphate levels
hypertension: Blood pressure >140 mmHg/90 mmHg
hyperthermia: Abnormally high body temperature
hyperthyroidism: Overactive thyroid gland
hypervolemia: A state of extracellular fluid (ECF) volume expansion
hypervolemic hypernatremia: Total-body sodium excess greater than total-body water excess (uncommon)

hypervolemic hypotonic hyponatremia: Excess total-body sodium with larger excess of total-body water

hypoalbuminemia: Abnormally low serum albumin levels

hypocalcemia: Abnormally low serum calcium level

hypodipsia: Abnormally reduced sense of thirst

hypoguesia: Decreased sense of taste

hypoglycemia: Abnormally low blood glucose level (eg, <70 mg/dL)

hypokalemia: Abnormally low serum potassium level

hypomagnesemia: Abnormally low serum magnesium level

hyponatremia: Abnormally low serum sodium level (<135 mEq/L)

hypoparathyroidism: Disorder involving secretion of abnormally low levels of parathyroid hormone (PTH)

hypoperfusion: Decreased blood flow through an organ

hyporeflexia: Reduced functioning of the reflexes

hyposmia: Decreased sense of smell

hypotension: Abnormally low blood pressure

hypothermia: Abnormally low body temperature

hypothetico-deductive reasoning: Problem-solving method in which a list of possible diagnoses is developed and altered as information gathering progresses

hypothyroidism: Insufficient level/production of thyroid hormone

hypovolemia: Decrease in the volume of circulating blood

hypovolemia: Loss of water and sodium leading to extracellular fluid (ECF) volume contraction; not to be confused with dehydration (the clinical consequences of losing excess free water)
**hypovolemic hypernatremia**: Total-body sodium deficit with larger total-body water deficit

**hypovolemic hypotonic hyponatremia**: Total-body water deficit with larger total-body sodium deficit

**hypoxemia**: Abnormally low blood oxygen

**hypoxia**: Failure of oxygenation at the tissue level

**iatrogenic**: Inadvertently resulting from medical treatment, therapy, or procedure

**IBD**: See inflammatory bowel disease (IBD)

**IBS**: See irritable bowel syndrome (IBS)

**IBW**: See ideal body weight (IBW)

**IDA**: See iron-deficiency anemia (IDA)

**ideal body weight (IBW)**: Historically, the weight associated with the lowest mortality determined by actuarial data from life insurance companies; also sometimes defined as a weight that would fall within the “normal” range for body mass index or as a weight estimated using an IBW formula based on height, sex, and possibly frame size

**IDNT**: See International Dietetics and Nutrition Terminology (IDNT)

**ileocecal valve**: Valve between the small and large intestines that keeps material from flowing back into the small intestine after it enters the large

**ileus**: A disruption of the normal propulsive ability of the gastrointestinal tract

**inflammatory bowel disease (IBD)**: Chronic inflammation of all or part of the gastrointestinal tract; types of IBD include ulcerative colitis and Crohn’s disease

**inspection**: The gathering of data via close observation

**insulinoma**: Pancreatic tumor that secretes insulin
**International Dietetics and Nutrition Terminology (IDNT):** Former name for the standardized terminology now called Nutrition Care Process Terminology (NCPT)

**interstitial fluid:** Fluid in spaces between cells in tissues

**Intervention, nutrition:** The third step in the Nutrition Care Process; a purposefully planned action intended to positively change a nutrition-related behavior, environmental condition, or aspect of health status for an individual (and his/her family or caregivers), target group, or the community at large

**intrinsic factor:** Protein used by the intestine to absorb vitamin B-12

**iron-deficiency anemia (IDA):** Anemia caused when body has insufficient iron to create normal levels of red blood cells

**irritable bowel syndrome (IBS):** Common disorder of the colon characterized by cramping, gas, constipation, and/or diarrhea, but not involving inflammation

**iso-osmolar hyponatremia:** Hyponatremia with normal serum osmolality

**isovolemic hypernatremia:** Total-body water loss with normal total-body sodium

**isovolemic hypotonic hyponatremia:** Normal to moderately increased total-body water ± total-body sodium

**jaundice:** Yellow (bile pigment) discoloration of skin, mucous membranes, and sclera as a result of elevated serum bilirubin

**ketoacidosis:** Type of metabolic acidosis characterized by a high concentration of ketones. *See also* diabetic ketoacidosis
koilonychia: Dystrophy of the fingernails resulting in thin, concave nails with the edges raised. Also called “spoon nail”; associated with iron deficiency

Korsakoff’s psychosis: Permanent damage to areas of the brain involved with memory caused by thiamin deficiency

kwashiorkor: A severe type of protein-energy malnutrition most often affecting young children, particularly in areas of famine; rare in developed nations

kyphoscoliosis: A type of spinal deformity involving outward and lateral curvature

lactic acidosis: Persistently high levels of lactic acid in association with metabolic acidosis

leukemia: Cancer of the bone marrow that affects white blood cell production

leukocytosis: Disorder characterized by excessive number of white blood cells

loop diuretics: Diuretic medications that work in the loop of Henle; may be used to treat heart failure, hypertension, and edema

lymphoma: Cancer of the lymph system

MAC: See midarm circumference (MAC)

Malnutrition Screening Tool (MST): Rapid nutritional risk screen that can be completed, by nurses or other ancillary personnel, when a patient is admitted to acute or ambulatory care

Malnutrition Universal Screening Tool (MUST): Nutritional risk screening tool that uses an assessment of the severity of illness and body mass index

MAMC: See arm muscle area (AMA)

MAOI: See monoamine oxidase inhibitors (MAOIs)
**marasmus**: Severe type of protein-energy malnutrition seen in children who experience prolonged, severe energy deficit in the first year of life; rare in developed nations

**MCT**: Medium-chain triglyceride

**MCV**: *See* mean corpuscular volume (MCV)

**MDS**: *See* Minimum Data Set (MDS)

**Meals on Wheels**: Network of volunteer programs that home-deliver meals to senior citizens

**mean corpuscular volume (MCV)**: Measurement of the average size of red blood cells

**megaloblastic anemias**: Vitamin B-12- or folate-deficiency anemia

**metabolic acid-base disorder**: Acid-base disorder that manifests as changes in serum chloride and bicarbonate (HCO₃). The body attempts to compensate for a primary metabolic acid-base disorder with “secondary” or “compensatory” respiratory changes

**metabolic acidosis**: Acidosis that occurs when the kidneys cannot eliminate acid buildup or when the body excretes too much base

**metabolic alkalosis**: Alkalosis caused by too much bicarbonate in the blood; may be associated with renal disease

**methylmalonic acid (MMA)**: Substance produced when amino acids in the body break down; serum MMA is measured to assess vitamin B-12-deficiency anemia

**midarm circumference (MAC)**: Measurement of the circumference of the upper arm at the midpoint between the acromion process of the scapula and the olecranon process of the ulna; used in the assessment of body composition/muscle protein

**midarm muscle circumference (MAMC)**: *See* arm muscle area (AMA)
**Minimum Data Set (MDS):** Primary screening and assessment tool published by the Centers for Medicare & Medicaid Services (CMS) for use in long-term care facilities. The MDS contains items that measure physical, psychological, and psychosocial functioning.

**Mini Nutritional Assessment (MNA):** Nutritional risk screening tool published by Nestlé for use with elderly patients/clients in long-term care settings; formerly known as Mini Nutritional Assessment Short Form (MNA-SF)

**MNA:** See Mini Nutritional Assessment (MNA)

**Monitoring and evaluation, nutrition:** The fourth step of the Nutrition Care Process; nutrition monitoring and evaluation aims to determine and measure the amount of progress made for the nutrition intervention and whether the nutrition-related goals or expected outcomes are being met. Monitoring and evaluation help promote more uniformity within the dietetics profession in assessing the effectiveness of nutrition intervention.

**monoamine oxidase inhibitors (MAOIs):** Class of antidepressant medications

**MST:** See Malnutrition Screening Tool (MST)

**multiple myeloma:** Cancer of plasma cells

**multiple sclerosis:** Abnormal immune-mediated response directed against myelin and nerve fibers in the central nervous system, which causes interruptions in the communication between the spinal cord, nerves, and brain

**muscular dystrophy:** Group of more than 30 genetic diseases characterized by progressive weakness and degeneration of the skeletal muscles that control movement
**MUST:** *See* Malnutrition Universal Screening Tool (MUST)

**myalgia:** Muscle pain

**myasthenia gravis:** Chronic autoimmune neuromuscular disease characterized by varying degrees of weakness of the skeletal (voluntary) muscles of the body, with weakness increasing after activity and decreasing with rest

**NCP:** *See* Nutrition Care Process (NCP)

**NCPM:** *See* Nutrition Care Process Model (NCPM)

**NCPT:** *See* Nutrition Care Process Terminology (NCPT)

**necrosis:** Death of body tissue

**neoplasm:** Tumor; abnormal mass of tissue that results when cells divide more than they should or do not die when they should

**NPO:** *Nil per os* (nothing by mouth); instruction to withhold oral intake of food and fluids

**NRS-2002:** *See* Nutrition Risk Score (NRS-2002)

**NSAID:** Nonsteroidal anti-inflammatory drug

**Nutrient intake record (calorie count):** Recording of actual nutrient consumption via direct observation or tray audit

**Nutrition Care Process (NCP):** Process for identifying, planning for, and meeting nutritional needs. Includes four steps: nutrition assessment, nutrition diagnosis, nutrition intervention, nutrition monitoring and evaluation

**Nutrition Care Process Model (NCPM):** Graphic visualization that illustrates the steps of the Nutrition Care Process (NCP) and the internal and external factors that impact use of the NCP. The screening and referral and outcomes management systems referenced in the
Glossary

NCPM are outside the nutrition care steps managed directly by the RDN.

**Nutrition Care Process Terminology (NCPT):** Standardized language used to describe, document, and record nutrition and dietetics practice

**Nutrition Risk Score (NRS-2002):** Tool used to evaluate whether patients need enteral or parenteral nutrition support

**oliguria:** Reduced urine output in relation to fluid intake

**ophthalmoplegia:** Paralysis of the ocular muscles

**opiates:** Class of medications used to treat pain

**orthostatic hypotension:** Rapid drop in blood pressure of 25 mmHg when changing from supine to sitting or standing position (associated with hypovolemia)

**osmolality:** Particles per kilogram of water

**osmolarity:** Particles per liter of solution

**osteomalacia:** Softening of the bones caused by vitamin D deficiency

**osteoporosis:** Decrease in amount of bone mass that increases risks of fractures and other bone problems

**ostomy:** Surgery to create an opening (stoma) from an area inside the body to the outside

**palpation:** Using the hands, fingertips, and finger pads to apply light to deep pressure to the skin to determine structures beneath the surface and to detect abnormalities

**pancreatectomy:** Surgical removal of all or part of the pancreas

**pancreatic insufficiency:** Deficiency of exocrine pancreatic enzymes that results in maldigestion

**pancreaticoduodenectomy:** Surgical procedure to remove malignancies from the pancreas, duodenum, and related organs
**pancreatitis**: Inflammation of the pancreas

**paracentesis**: Procedure to aspirate fluid from the abdomen or other body cavity; may be used for diagnostic or therapeutic purposes

**paralytic ileus**: Paralysis of the intestine

**paraplegia**: Paralysis of the lower half of the body

**parenteral nutrition (PN)**: Nutrition given into the blood through an intravenous tube into a vein

**paresthesias**: Sudden numbness, burning, pricking (pins and needles), or itching sensation in the skin

**parotid enlargement**: Swelling of the major salivary gland

**pattern recognition**: Decision making based on past experience with similar cases

**PCO₂**: Partial pressure of carbon dioxide in the blood

**PCOS**: See polycystic ovary syndrome (PCOS)

**percussion**: The act of striking one object against another to produce vibration and sound waves; percussion data from the medical record may be relevant to nutrition assessment

**pericardial friction rub**: Squeaky or rubbing heart sound, caused by inflamed layers of the pericardium rubbing against each other

**peristalsis**: Series of muscle contractions in the gastrointestinal tract that move food through the digestive system

**peritonitis**: Bacterial or fungal infection of the peritoneum, a tissue that lines the inner abdomen and covers the abdominal organs

**PES statement**: Method for structuring a nutrition diagnosis. PES is an abbreviation for “problem, etiology, signs and symptoms,” and the PES statement is written in the form “Problem [the specific diagnosis] related to etiology [the specific cause(s)] as evidenced
by signs and symptoms [the key abnormal findings that determined the diagnosis].”

**petechia**: Pinpoint, nonelevated, round, purplish-red spot, which occurs with intradermal or submucosal hemorrhage

**pH**: A measure of acidity/alkalinity based on the number of hydrogen ions (H+) present

**phenothiazines**: Class of tranquilizing/antipsychotic medications

**pheochromocytoma**: Rare tumor of the adrenal gland

**Pickwickian syndrome**: Obesity hypoventilation syndrome; a disorder in people with obesity in which poor breathing leads to lower oxygen and higher carbon dioxide levels in the blood

“**pigeon**” **chest**: Horizontal depression along the lower border of chest

**pleural friction rub**: Lung sounds that vary from a few intermittent sounds similar to crackles to harsh grating, creaking, or leathery sounds that occur with respiration

**PMH**: Past medical history

**PN**: See parenteral nutrition (PN)

**pneumothorax**: Total collapse of the lung

**polycystic ovary syndrome (PCOS)**: Hormonal disorder that affects women of reproductive age, causing menstrual irregularities and problems with fertility/conception

**polycythemia vera**: Rare bone marrow disorder that leads to overproduction of blood cells, especially red blood cells

**polydipsia**: Excessive thirst

**polyphagia**: Excessive hunger/increased appetite

**polyuria**: Excessive urination
**prealbumin**: Transport protein for thyroxin (thyroid hormone). Also, when combined with retinol-binding protein, transports vitamin A. Also known as “transthyretin”

**prescription, nutrition**: The patient’s or client’s individual recommended dietary intake of energy and/or selected foods or nutrients based on current reference standards and dietary guidelines and the patient’s or client’s specified health and nutrition diagnosis

**prokinetic agents**: Class of drugs that increases gastrointestinal motility; used in various gastrointestinal disorders

**proteinuria**: Abnormally high amount of protein in urine, a sign of chronic kidney disease

**pseudohyponatremia**: Artifically low serum sodium concentration related to certain laboratory techniques; does not warrant treatment

**pulmonary artery occlusion pressure**: Procedure used to evaluate pulmonary edema; a measurement of pressure in a small pulmonary arterial branch

**purpura**: Any of a group of conditions characterized by ecchymoses or other small hemorrhages in the skin or mucous membranes

**QOL**: See quality of life (QOL)

**quadriplegia**: Paralysis of the entire body below the neck or of all four limbs

**quality of life (QOL)**: Patient/client-centered measure of the patient’s/client’s social, physical, emotional, and mental well-being. Nutrition may affect quality of life.

**rachitic rosary**: See costochondral beading/rachitic rosary
RDW: See red cell distribution width (RDW)
red blood cell folate: Test to assess megaloblastic anemia
red cell distribution width (RDW): Measurement of variation in red blood cell size or red blood cell volume
refeeding syndrome: Potentially fatal metabolic shifts in fluids and electrolytes that may occur in malnourished patients receiving nutrition support (enteral or parenteral)
renal dysplasia: Congenital disorder of the kidney in which normal kidney tissue is replaced by cysts
renal tubular acidosis: Disorder in which the kidneys fail to sufficiently excrete acids in the urine, leading to excessive levels of acid in the blood
reset osmostat syndrome: Disorder in which kidneys can concentrate and dilute urine appropriately but the threshold for antidiuretic hormone (ADH) secretion is reset to a lower-than-normal value, thus resulting in hyponatremia
respiratory acid-base disorder: Acid-base disorder that is characterized by abnormalities in partial pressure of carbon dioxide in the blood (PCO₂). Primary respiratory acid-base disorder typically elicits a compensatory renal response.
respiratory acidosis: Acidosis that develops when there is too much carbon dioxide in the body; usually caused when the body is unable to remove enough carbon dioxide through breathing
respiratory alkalosis: Alkalosis caused by low levels of carbon dioxide in the blood
retinol-binding protein: Type of plasma protein that transports retinol to the peripheral tissues
rhabdomyolysis: Breakdown of muscle tissue that leads to the release of myoglobin into the blood; can cause renal damage
rhoncus: Snoring sound caused by secretions in the trachea or bronchi
rickets: Disorder caused by a lack of vitamin D, calcium, or phosphate, which leads to softening and weakening of the bones
RLQ: Right lower quadrant, the location of the ileocecal valve
Roux-en-Y gastric bypass: Type of bariatric procedure in which a stomach pouch is created out of a small portion of the stomach and attached directly to the small intestine, bypassing a large part of the stomach and duodenum. The pouch restricts the volume of food intake, and bypass of the duodenum reduces fat absorption.
sacral edema: Edema in the region of the sacrum, the triangular bone just below the lumbar vertebrae
salt-wasting nephropathy: Intrinsic renal disease causing abnormal urinary sodium loss
scaphoid abdomen: Abdomen that appears sunken/concave
sclera: White of the eye
screening, nutrition: Process of identifying patients, clients, or groups who may have a nutrition diagnosis and benefit from nutrition assessment and intervention by a registered dietitian nutritionist (RDN). Patients/clients enter nutrition assessment, the first step of the Nutrition Care Process (NCP), through screening, surveillance systems data, and/or referral, all of which are outside of the NCP
seborrhea: Scaling of skin around nostrils
sepsis: Severe infection in which release of immunological agents leads to inflammation throughout the body
sex: The Institute of Medicine defines sex as “the classification of living things, generally as male or female,
according to their reproductive organs and functions assigned by chromosomal complement.” See also gender

**SIADH**: See syndrome of inappropriate antidiuretic hormone (SIADH)

**sickle cell anemia**: Genetic disease in which the body produces crescent-/sickle-shaped red blood cells; symptoms include anemia and pain

**sleep apnea**: Chronic disorder in which shallow breathing or pauses in breathing interrupts sleep

**sleeve gastrectomy**: Type of bariatric procedure in which a large portion of the stomach is removed

**SNAQ**: Short Nutritional Assessment Questionnaire

**soluble transferrin receptor (sTfR)**: Laboratory value that is useful to distinguish between iron-deficiency anemia and anemia of chronic disease

**sorbitol**: Type of sugar alcohol; used as an artificial sweetener

**Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)**: State-run program using federal grants to provide supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk

**spider angioma**: Abnormal collection of blood vessels near the skin; the lesion has reddish extensions that move out from a center point

**stadiometer/statiometer**: Measuring rod used to assess height

**steatorrhea**: Presence of fat in stools as a result of fat malabsorption

**sTfR**: See soluble transferrin receptor (sTfR)
sulfonylureas: Class of drugs used to increase insulin release from the pancreas and manage type 2 diabetes

syndrome of inappropriate antidiuretic hormone (SIADH): Syndrome of inappropriate antidiuretic hormone (ADH) secretion, characterized by hypertonic urine output, normal glomerular filtration rate, normal or expanded (no edema) total body water, urinary sodium wasting, hypoosmolality, hyponatremia, and increased antidiuretic hormone (ADH) release

systolic blood pressure: Top number in the blood pressure measurement; measures the pressure in the arteries when the heart beats

tachycardia: Faster than normal heart rate; more than 100 pulses/min

TCAs: See tricyclic antidepressants (TCAs)

tendon reflex: Stretch reflex caused by a blow to a muscle tendon; test is used to assess spinal cord and neuromuscular integrity

tetany: Hyperexcitability of nerves and muscles due to decrease in concentration of extracellular ionized calcium; characterized by muscular twitching or cramping

thiazides: Class of diuretic medications

thrombocytopenia: Decrease in the number of platelets

thrombocytopenia: Disorder in which platelet levels are abnormally low

thrombocytosis: Disorder characterized by excessive number of platelets in the blood

TIBC: See total iron-binding capacity (TIBC)

total iron-binding capacity (TIBC): Blood test used to measure iron in blood
**total lymphocyte count**: Test formerly used to quantify the impaired immune function associated with uncomplicated malnutrition

**transferrin**: Plasma protein that binds and transports iron

**transferrin saturation (TSAT)**: Blood test to measure the percentage of serum iron that is bound to transferrin (ie, the amount of iron available to tissues)

**transthyretin**: See prealbumin

**triceps skinfold (TSF)**: Indirect index of body fat stores; TSF is measured using skinfold calipers on the midline posterior surface of the arm over the triceps muscle, at the midpoint between the acromion process of the scapula and the olecranon process of the ulna

**tricyclic antidepressants (TCAs)**: Class of medications used to treat depression

**Trousseau’s sign**: Hand spasm observed when the blood pressure cuff is inflated to above systolic blood pressure for up to three minutes; the muscular contractions are due to neuromuscular excitability secondary to hypocalcemia

**TSAT**: See transferrin saturation (TSAT)

**TSF**: See triceps skinfold (TSF)

**tumor lysis syndrome**: Group of metabolic complications (hyperuricemia, hyperkalemia, hyperphosphatemia, hypocalcemia, and acute renal failure) that can follow anticancer treatment

**24-hour recall**: Interview method for determining food and nutrient intake

**tympany**: Drum- or bell-like sound created when percussion is performed over an air-filled cavity

**UBW**: See usual body weight (UBW)

**ulcerative colitis**: Type of inflammatory bowel disease affecting the colon and rectum
ureterosigmoidostomy: Surgical diversion of ureters to the sigmoid colon

urine specific gravity: Laboratory test of the concentration of chemical particles in urine; used to assess hydration status

usual body weight (UBW): An individual’s typical weight, based on weight history; used in assessment of weight change

vagotomy: Resection of the vagus nerve (the nerve that causes acid secretion to the stomach)

vasodilation: Widening of the blood vessels

villous adenoma: Type of polyp (sometimes malignant) in the colon or other parts of the gastrointestinal tract

weight pattern: Changes in weight (often measured as percentages) over time

Wernicke-Korsakoff syndrome: Brain disorder due to thiamin deficiency

Whipple procedure: See pancreaticoduodenectomy

WIC: See Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

xerosis: Abnormal dryness of the eye
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This edition of the *Pocket Guide to Nutrition Assessment* is substantially revised. Features include:

- A new chapter on how nutrition assessment fits within the Nutrition Care Process, with tips on documentation and the identification of nutrition diagnoses
- Updated information on nutrition screening
- Current recommendations, guidelines, and equations for all five categories of nutrition assessment data
- Evidence-based guidance on estimating energy and nutrient requirements
- Additional anatomical illustrations
- An expanded glossary with definitions of more than 400 terms and abbreviations used in this pocket guide