Medical Coverage Policy

Effective Date.....**03/15/2021**
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Coverage Policy Number **0325**

Whole Body Dual X-Ray Absorptiometry (DXA)

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INSTRUCTIONS FOR USE
The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This Coverage Policy addresses whole body dual x-ray absorptiometry (DXA) for body composition testing.

Coverage Policy

Whole body dual x-ray absorptiometry (DXA) is considered experimental, investigational, or unproven for body composition testing.

General Background

Body composition refers to the relative percentage of muscle, fat, bone, and other tissue of which the body is composed. If a person has too much fat — especially at the waist — this places a person at higher risk for such health problems as high blood pressure, high blood cholesterol and diabetes. That increases a person's risk for heart disease and stroke. Skinfold thickness, waist circumference and body mass index (BMI) are currently used to assess body composition. More complex methods include bioelectrical impedance, dual-energy X-ray absorptiometry, body density, and total body water estimates.

Body composition measurement has been used as a tool in the research setting in studies evaluating normal human growth and development, as well as disease processes and treatments. However, current peer-reviewed, scientific literature does not define what specific role, if any, body composition measurement has in patient management, predicting health risk and whether it improves clinical outcomes.

Dual-energy x-ray absorptiometry (DXA) scanning was primarily developed for the diagnosis of osteoporosis and was initially applied to clinically important sites of the lumbar spine, femoral neck, and forearm. With whole body DXA scanning, a controlled x-ray beam scans the entire body for determination of bone mineral content, body fat and lean tissue mass. The comprehensive view of body composition provided by DXA provides relatively low dose of ionizing radiation, speed, and ease of application. Its proposed utility includes determining appropriate nutritional support during disease progression and monitoring response to therapeutic interventions. The limitations of DXA vary according to body shape and outcome. Bias varies with age and fatness and, in some cases, underlying disease state. There remains a lack of normal reference data.

U.S. Food and Drug Administration
Companies such as GE and Hologic have FDA-approved software packages that are used with their FDA-approved bone densitometers. For example, Hologic, Inc., (Bedford MA) 'Hologic Whole Body DXA Reference Database' received 510(k) FDA-approval in 2011 (K103265). Indications for use are as follows: The Hologic Whole Body DXA Reference Database software used on Hologic QDR bone densitometers measures the regional and whole body bone mineral density, lean and fat tissue mass and calculates derivative values of bone mineral conten t, area, soft tissue mass, regional soft tissue mass, total soft tissue mass, fat free mass, regional and total soft tissue mass ratios, % fat, regional % fat, total body % fat, android % fat, gynoid % fat, android/gynoid ratio, and body mass index. The values can be displayed in user-defined statistical formats and trends with color image mapping, and compared to reference populations at the sole discretion of the health care professional. These body composition values are useful to health care professionals in their management of diseases and conditions where the disease or conditions itself, or its treatment, can affect the relative amounts of fat and lean tissue.

Literature Review
There is insufficient evidence to support the use of whole body DXA for the purpose of determining body composition. Peer-reviewed scientific literature has not demonstrated the impact of body composition findings determined by whole body DXA, on meaningful clinical outcomes. Published evidence is primarily in the form of small, heterogeneous studies that focus on the level of agreement or correlation between various methods of body composition measurement. The studies demonstrate whole body DXA is used in a research setting, across a broad range of disease states and normal growth and development. Well-designed comparative studies evaluating the diagnostic accuracy and clinical utility of body composition findings as determined by whole body DXA, are lacking.

Professional Societies/Organizations
The Centers for Disease Control and Prevention (CDC) uses body mass index (BMI) in children growth charts. The National Institute of Health (NIH) use BMI values to define obesity. The U.S. Preventive Services Task Force (USPSTF) Recommendation Statements on Obesity in Children and Adolescents: Screening (2017) refers to BMI.

The American College of Radiology Practice Parameter for the Performance of Dual-energy X-ray Absorptiometry (DXA) (2018) primarily speaks to measuring bone mineral density (BMD). The ACR does state that DXA may be used to measure whole-body composition, including nonbone lean mass (LM) and fat mass (FM). DXA-measured LM and FM may be helpful in assessing a number of conditions, including sarcopenia and cachexia.

On behalf of the American Society for Parenteral and Enteral Nutrition (ASPEN), a systematic review was conducted to evaluate available evidence regarding the validity of relevant body composition methods (eg, dual energy X-ray absorptiometry [DXA], ultrasound [US], and bioelectrical impedance analysis [BIA]) in certain clinical populations. Clinical population included adults >18 years of age with a potentially inflammatory condition or pathological end point associated with a specific disease or clinical condition. In total, 7375 studies were retrieved, and 15 DXA, 7 US, and 23 BIA studies provided applicable data. The review concluded that DXA

appears to be a reasonably valid methodology to assess regional and total fat mass (FM) in a heterogeneous group of adult patients. The use of DXA is recommended for assessment of FM in patients with a specific disease or clinical outcome. No studies were found that reported the validity of DXA for lean mass (LM) assessment in any patient population; thus, the value of its use for this compartment remains unknown. Quality of the Evidence: Low; Grade Recommendation: Strong (Sheean, et al., 2020).

The American Academy of Pediatrics (AAP) Clinical Report titled Promotion of Healthy WeightControl Practices in Young Athletes (Carl RL, et al., 2017) states there is no agreed-on gold standard for the assessment of body composition. The most precise way to determine body composition is by using several different methods (a multicomponent model), such as skinfold measurements, DXA, and waist circumference measurements. However, the multicomponent method is rarely feasible in the clinical setting. Body composition is most accurately calculated with serial measurements that use the same assessment technique performed by an experienced health care provider, such as an exercise physiologist, athletic trainer, registered dietitian nutritionist (RDN), or sports medicine physician.

The American Board of Internal Medicine's (ABIM) Foundation Choosing Wisely® Initiative
No relevant information.

Use Outside of the US
No relevant information.

Medicare Coverage Determinations

	Contractor	Determination Name/Number	Revision Effective Date
NCD		No National Coverage Determination found	
LCD		No Local Coverage Determination found	

Note: Please review the current Medicare Policy for the most up-to-date information.

Coding/Billing Information

Note: 1) This list of codes may not be all-inclusive.
2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Experimental/Investigational/Unproven when used to report whole body dual x-ray absorptiometry (DXA) for body composition testing:

CPT®* Codes	**Description**
76499	Unlisted diagnostic radiographic procedure

***Current Procedural Terminology (CPT®) ©2020 American Medical Association: Chicago, IL.**

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