



CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Whole Body Dual X-Ray
Absorptiometry (DXA)**

Effective Date 3/15/2011
Next Review Date 3/15/2012
Coverage Policy Number 0325

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Hyperlink to Related Coverage Policies

INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), 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 supercedes** 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. Proprietary information of CIGNA. Copyright ©2011 CIGNA

Coverage Policy

CIGNA does not cover whole body dual x-ray absorptiometry (DXA) for body composition testing, because it is considered experimental, investigational, or unproven.

General Background

Body composition measurement tools measure the presence of water, minerals, protein, and fat in the body. These measurement tools have been proposed as a method to evaluate patients' nutrition, growth and disease. 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. Methods of measuring body composition that have been proposed include:

- anthropometry (i.e., measuring skinfold thickness[SKF])
- circumference measures, including waist-to-hip ratio (WHR)
- hydrostatic weighing
- bioelectrical impedance analysis (BIA)
- air displacement plethysmography (ADP)
- computed tomography (CT)
- magnetic resonance imaging (MRI)

- whole body dual-energy x-ray absorptiometry (DEXA or DXA)

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 is purported to be the clinical method of choice for assessing body composition by its supporters because of its 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.

Literature Review

There is insufficient evidence to support the use of whole body DXA for the purpose of determining body composition. The current published, peer-reviewed scientific literature does not establish the accuracy of whole body DXA when used to measure body composition and the impact this testing may have on meaningful clinical outcomes has not been demonstrated. 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. Well-designed studies evaluating the diagnostic accuracy and clinical utility of this testing are lacking (Ball, et al., 2004; Williams, et al., 2006; Uszko-Lencer, et al., 2006; Ritz, et al., 2007; Pineau, et al., 2007).

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 Screening for Obesity in Children and Adolescents (updated 2010) and Screening for Obesity in Adults (2003) refers to BMI.

The American College of Radiology Practice Guideline for the Performance of Dual-energy X-ray Absorptiometry (revised 2008) primarily speaks to measuring bone mineral density (BMD). One indication addresses body composition, stating that DXA may be indicated as a tool to measure total body fat and lean tissue composition as part of a comprehensive disability evaluation in the elderly or for other individuals, including those with malabsorption or eating disorders and high performance athletes.

The American Academy of Pediatrics Policy Statement “Active Healthy Living: Prevention of Childhood Obesity Through Increased Physical Activity” (2006, reaffirmed 2010) states “direct measures of body composition, such as underwater weighing, MRI, CT, and dual-energy radiograph absorptiometry, provide an estimate of total body fat mass. These techniques, however, are used mainly in tertiary care centers for research purposes.” The American Academy of Pediatrics Committee on Nutrition, in their policy statement on the prevention of pediatric overweight and obesity, discusses the use of annual BMI tracking and does not mention any other body composition testing (Krebs, 2003, reaffirmed 2007).

Summary

Evidence in the published peer-reviewed scientific literature evaluating the use of whole body dual x-ray absorptiometry (DXA) for the assessment of body composition measurement is lacking. Additional data are needed through well-designed studies to establish the role of this testing in clinical practice and determine if whole body DXA for body composition leads to improved meaningful health outcomes.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Experimental/Investigational/Unproven/Not Covered:

CPT* Codes	Description
76499 [†]	Unlisted diagnostic radiographic procedure

†Note: Experimental/Investigational/Unproven/Not Covered when used to report whole body dual x-ray absorptiometry (DXA) for body composition testing.

ICD-9-CM Diagnosis Codes	Description
	All codes

***Current Procedural Terminology (CPT®) © 2010 American Medical Association: Chicago, IL.**

References

1. American College of Radiology Practice Guideline for the Performance of Dual-energy X-ray Absorptiometry (DXA). Revised 2008. Accessed February 2011. Available at URL address: http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/dx/musc/dxa.aspx
2. American Heart Association. Body Composition Tests. Accessed February 2011. Available at URL address: <http://www.americanheart.org/presenter.jhtml?identifier=4489>
3. Andreoli A, Scalzo G, Masala S, Tarantino U, Guglielmi G. Body composition assessment by dual-energy X-ray absorptiometry (DXA). *Radiol Med*. 2009 Mar;114(2):286-300. Epub 2009 Mar 5.
4. Ball SD, Altena TS. Comparison of the BOD POD and dual energy x-ray absorptiometry in men. *Physiol Meas*. 2004;25(3):671-678.
5. GE Healthcare. Bone Densitometry, Total Body & Body Composition. Accessed February 2011. Available at URL address: <http://www.gehealthcare.com/euen/bone-densitometry/products/applications/bodycomposition/index.html>
6. Krebs NF, Jacobson MS; American Academy of Pediatrics Committee on Nutrition. Prevention of pediatric overweight and obesity. *Pediatrics*. 2003 Aug;112(2):424-30. Reaffirmed 2007. Accessed February 2011. Available at URL address: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;112/2/424>
7. Pineau JC, Guihard-Costa AM, Bocquet M. Validation of ultrasound techniques applied to body fat measurement. A comparison between ultrasound techniques, air displacement plethysmography and bioelectrical impedance vs. dual-energy X-ray absorptiometry. *Ann Nutr Metab*. 2007;51(5):421-7. Epub 2007 Nov 20.
8. Ritz P, Sallé A, Audran M, Rohmer V. Comparison of different methods to assess body composition of weight loss in obese and diabetic patients. *Diabetes Res Clin Pract*. 2007 Sep;77(3):405-11.
9. Slosman DO, Casez JP, Pichard C, Rochat T, Fery F, Rizzoli R, et al. Assessment of whole-body composition with dual-energy x-ray absorptiometry. *Radiology*. 1992 Nov;185(2):593-8.
10. U.S. Preventive Services Task Force (USPSTF). Recommendations. Accessed February 2011. Available at URL address: <http://www.uspreventiveservicestaskforce.org/recommendations.htm>
11. Uszko-Lencer NH, Bothmer F, van Pol PE, Schols AM. Measuring body composition in chronic heart failure: A comparison of methods. *Eur J Heart Fail*. 2006 Mar;8(2):208-214. Epub 2005 Sep 26.
12. Williams JE, Wells JC, Wilson CM, Haroun D, Lucas A, Fewtrell MS. Evaluation of Lunar Prodigy dual-energy X-ray absorptiometry for assessing body composition in healthy persons and patients by comparison with the criterion 4-component model. *Am J Clin Nutr*. 2006 May;83(5):1047-54.

Policy History

Pre-Merger Organizations	Last Review Date	Policy Number	Title
CIGNA HealthCare	3/15/2008	0325	Whole Body Dual X-Ray Absorptiometry (DXA)

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