



# Cigna Medical Coverage Policy

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

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## Hyperlink to Related Coverage Policies

[Computed Tomography for Whole-Body Screening](#)

### INSTRUCTIONS FOR USE

The following Coverage Policy applies to health benefit plans administered by Cigna companies. Coverage Policies are intended to provide guidance in interpreting certain **standard** Cigna benefit plans. 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. Proprietary information of Cigna. Copyright ©2014 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. 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 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 (2010) and Screening for Obesity in Adults (2012) refers to BMI. The American Heart Association (2013) discussed body composition testing, mentioning BMI and waist-to-hip ratio (WHR) another index of body fat distribution.

The American College of Radiology Practice Guideline for the Performance of Dual-energy X-ray Absorptiometry (2013) primarily speaks to measuring bone mineral density (BMD). One indication addresses body composition, stating that DXA may be indicated as a tool to measure regional and whole body fat and lean mass (e.g., for patients with malabsorption, cancer, or eating disorders).

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."

### Use Outside of the US

No relevant information.

### 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.

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## 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

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

CPT* Codes	Description
76499	Unlisted diagnostic radiographic procedure

## References

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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.
13. Wong WW, Hergenroeder AC, Stuff JE, Butte NF, Smith EO, Ellis KJ. Evaluating body fat in girls and female adolescents: advantages and disadvantages of dual-energy X-ray absorptiometry. *Am J Clin Nutr*. 2002 Aug;76(2):384-9.

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