

Corporate Medical Policy

Gait Analysis

File Name: gait_analysis
Origination: 11/1989
Last CAP Review: 9/2011
Next CAP Review: 9/2012
Last Review: 9/2011

Description of Procedure or Service

Gait analysis (GA) is the quantitative laboratory assessment of coordinated muscle function, typically requiring a dedicated facility and staff and analysis of a video recorded observation of a patient walking. Gait analysis has been proposed as an aid in surgical planning, primarily for children with cerebral palsy (CP). It is also a potential tool to help plan rehabilitative strategies for ambulatory problems related to cerebral palsy, aging, stroke, spinal cord injury, and other conditions.

Kinematics is the term used to describe movements of joints and limbs such as angular displacement of joints and angular velocities and accelerations of limb segments. The central element of kinematic assessment is some type of marker system that is used to represent anatomic landmarks, which are then visualized and quantitatively assessed during analysis of videotaped observations. Movement data are compiled by computer from cameras oriented in several planes, and the movement data are processed so that the motion of joints and limbs can be assessed in three dimensions. The range and direction of motion of a particular joint can be isolated from all the other simultaneous motions that are occurring during walking. Graphic plots of individual joint and limb motion as a function of gait phase can be generated.

Regulatory Status

In May 2003, the Peak Motus Motion Measurement System (Peak Performance Technologies) was cleared for marketing by the FDA through the 510(k) process. This system uses off-the-shelf video cameras and sensors and proprietary software to document human movement in two- or three-dimensional space. The FDA determined that this device was substantially equivalent to existing devices and is indicated for assessment and training of limb or body motion in gait analysis, pre- or post-rehabilitation evaluation, physical therapy, and similar applications.

A non-profit organization established in 1997, the Commission for Motion Laboratory Accreditation, evaluates and accredits motion laboratories within clinical facilities. A multidisciplinary team uses a set of criteria to evaluate laboratories in the areas of administration (e.g., staffing, policies, and procedures), equipment (e.g., accuracy and precision), and data management and reporting (e.g., control and clinical data sets).

******Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.***

Policy

BCBSNC will provide coverage for gait analysis when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

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Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

When Gait Analysis is covered

Comprehensive gait analysis may be considered **medically necessary** as an aid in surgical planning in patients with gait disorders associated with cerebral palsy.

When Gait Analysis is not covered

Comprehensive gait analysis is considered **investigational** for all other applications including but not limited to:

- Surgical planning for conditions other than gait disorders associated with cerebral palsy;
- Postoperative evaluation of surgical outcomes in patients with gait disorders associated with cerebral palsy;
- Rehabilitation planning and/or evaluation for all conditions.

Gait analysis that does not include a quantitative assessment of coordinated muscle function in a dedicated laboratory is considered investigational. BCBSNC does not provide coverage for investigational services or procedures.

Policy Guidelines

Comprehensive gait analysis includes a quantitative assessment of coordinated muscle function in a dedicated laboratory. There is insufficient evidence to support gait analysis that is not comprehensive.

No randomized controlled trials have been published that compare health outcomes in patients managed with and without gait analysis. However, one non-randomized study found that the overall number of surgical procedures and costs do not differ in patients with cerebral palsy who do or do not undergo gait analysis as part of surgical planning. Several studies conducted among patients with cerebral palsy and other conditions suggest that gait analysis recommendations impact treatment decisions, but the impact of these decisions on health outcomes is as yet unknown. Based on input from clinical reviewers, gait analysis, when comprehensive, may be medically necessary for planning prior to surgery in children with gait disorders associated with cerebral palsy. Due to insufficient evidence, gait analysis is considered investigational for all other indications.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable service codes: 96000, 96001, 96002, 96003, 96004

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BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

BCBSA Medical Policy Reference Manual - 12/95

MEDLINE search 1-96 through 7-97

BCBSA Medical Policy Reference Manual - 7/31/97

Cooper RA, Quatrano LA, Stanhope SJ, Cavanaugh PR, Miller F, Kerrigan DC, Esquenazi A, Harris, GF, Winters JM. Gait analysis in rehabilitation medicine: a brief report. *Am J Phys Med Rehabil.* 1999; May-Jun;78(3):278-80.

Medical Policy Advisory Group - 10/99

Specialty Matched Consultant Advisory Panel - 4/2001

Hailey D, Tomie JA. An assessment of gait analysis in the rehabilitation of children with walking difficulties. *Disabil Rehabil* 2000 Apr 15;22(6):275-80.

BCBSA Medical Policy Reference Manual, 2/15/02; 2.01.03.

BCBSA TEC Assessment, 2001

Specialty Matched Consultant Advisory Panel - 9/2002

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.03, 2/25/04

Specialty Matched Consultant Advisory Panel - 8/2004

BCBSA TEC Assessment [Electronic Version]. April 2002.

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.03, 3/7/06.

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.03, 2/11/10

Specialty Matched Consultant Advisory Panel- 10/2010

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.03, 2/10/11

Specialty Matched Consultant Advisory Panel – 9/2011

Policy Implementation/Update Information

8/88 Reviewed: Electrodynamogram™ - investigational

12/88 Evaluated: Gait Analysis Investigational

6/96 Reviewed: National Association reviewed 12/95. No changes

8/97 Reaffirmed: MEDline search. No changes.

7/99 Reformatted, Description of Procedure or Service changed, Medical Term Definitions added.

10/99 Medical Policy Advisory Group

3/01 System changes.

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- 4/01 Specialty Matched Consultant Advisory Panel review. No change in criteria.
- 3/02 Added sources to Scientific References. Added 96000-96004 to the Billing /Coding Section and System Application Guidelines.
- 10/02 Specialty Matched Consultant Advisory Panel review. No change to criteria of policy. Definition of electromyogram corrected. Hailey source corrected. Removed code S9033 from the policy.
- 4/04 Benefits Application and Billing/Coding sections updated for consistency. Individual CPT codes listed for CPT code ranges 96000-96004 under Billing/Coding section.
- 9/23/04 Specialty Matched Consultant Advisory Panel review 8/27/2004 with no changes to policy criteria. References added.
- 9/18/06 Additional information added to Description for clarity. Policy statement in When Gait Analysis Is Not Covered changed to read: Gait analysis is considered investigational for all applications, including but not limited to evaluation of patients with cerebral palsy. Information added to Policy Guidelines section to support rationale for continued investigational status. Policy number added to Key Words. References updated. Specialty Matched Consultant Advisory Panel review 8/21/06. No changes to policy coverage criteria.
- 7/28/08 Speciality Matched Consultant Advisory Panel review 6/19/08. No change to policy statement. (adn)
- 6/22/10 Policy Number(s) removed (amw)
- 12/7/10 Specialty Matched Consultant Advisory Panel review 10/2010. Policy statement added under When Covered section: Comprehensive gait analysis may be considered medically necessary as an aid in surgical planning in patients with gait disorders associated with cerebral palsy. References added. (lpr)
- 10/11/11 Added to “When Not Covered” section: postoperative evaluation of surgical outcomes in patients with gait disorders associated with cerebral palsy; surgical planning for conditions other than gait disorders associated with cerebral palsy; rehabilitation planning and/or evaluation for all conditions; and gait analysis that does not include a quantitative assessment of coordinated muscle function in a dedicated laboratory is considered investigational. Revised the Description section and policy guidelines section. Specialty Matched Consultant Advisory Panel review 9/28/2011. (lpr)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.