

# MEDICAL POLICY



<b>SUBJECT:</b> COMPUTERIZED MOTION DIAGNOSTIC IMAGING (CMDI)/ GAIT ANALYSIS	<b>EFFECTIVE DATE:</b> 07/02/99 <b>ARCHIVED:</b> 01/11/01 <b>EDITED DATE:</b> 11/11/05, 10/19/06, 10/18/07, 12/18/08, 11/19/09, 11/18/10, 11/17/11, 11/15/12, 11/21/13
<b>POLICY NUMBER:</b> 2.01.13 <b>CATEGORY:</b> Technology Assessment	<b>PAGE:</b> 1 OF: 2

## **POLICY STATEMENT:**

Based on our criteria and review of the peer reviewed literature, Computerized Motion Diagnostic Imaging (CMDI)/gait analysis is **investigational** for all indications.

Refer to Corporate Medical Policy #11.01.03 regarding Experimental and Investigational Services.

## **POLICY GUIDELINES:**

The Federal Employee Health Benefit Program (FEHBP/FEP) requires that procedures, devices or laboratory tests approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational and thus these procedures, devices or laboratory tests may be assessed only on the basis of their medical necessity.

## **DESCRIPTION:**

Computerized Motion Diagnostic Imaging (CMDI) or gait analysis uses video recording combined with information from sensor devices such as surface or needle electromyography or foot pressure sensing plates to record and analyze coordinated muscle function. This technology is proposed for surgical planning, primarily for cerebral palsy, and for evaluation of work related athletic and automobile accident injuries, and back pain. Spinoscopy focuses on dynamic function of the muscles of the back.

## **RATIONALE:**

A number of motion analysis systems, including the Peak Motus Motion Measurement System have received FDA 510k clearance. The Spinex International spinoscopy device received 510k clearance in 1988. The medical literature does not demonstrate the role of the technology in medical management or its impact on health incomes. Reports of single center experience suggest that gait analysis may alter decisions regarding the timing and choice of surgical interventions for children with spastic cerebral palsy, however no studies compare outcomes of surgery with and without the use of gait analysis for preoperative planning.

**CODES:**      Number      Description

*Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).

**CPT:** 96000 (E/D) Comprehensive computer-based motion analysis by videotaping and 3-D kinematics

96001 (E/I) with dynamic plantar pressure measurements during walking

96002 (E/I) Dynamic surface electromyography, during walking or other functional activities, 1–12 muscles

<b>SUBJECT:</b> COMPUTERIZED MOTION DIAGNOSTIC IMAGING (CMDI)/ GAIT ANALYSIS  <b>POLICY NUMBER:</b> 2.01.13 <b>CATEGORY:</b> Technology Assessment	<b>EFFECTIVE DATE:</b> 07/02/99 <b>ARCHIVED:</b> 01/11/01 <b>EDITED DATE:</b> 11/11/05, 10/19/06, 10/18/07, 12/18/08, 11/19/09, 11/18/10, 11/17/11, 11/15/12, 11/21/13 <b>PAGE:</b> 2 OF: 2
---	--

96003 (E/I) Dynamic fine wire electromyography, during walking or other functional activities, 1 muscle

96004 (E/I) Review and interpretation by physician or other qualified health care professional of comprehensive computer-based motion analysis, dynamic plantar pressure measurements, dynamic surface electromyography during walking or other functional activities, and dynamic fine wire electromyography, with written report

*Copyright© 2013 American Medical Association, Chicago, IL*

**HCPCS:** No code(s)

**REFERENCES:**

Baker R. Gait analysis methods in rehabilitation. *J Neuroengineering Rehab* 2006 Mar 2:4.

BlueCross BlueShield Association. Gait analysis. Medical Policy Reference Manual. Policy #2.01.03. 2013 Feb 14.

\*BlueCross BlueShield Association Technology Evaluation Center. Gait analysis for pediatric cerebral palsy. 2001 Apr;16(19).

Cimolin V, et al. Use of the Gait Deviation Index for the assessment of gastrocnemius fascia lengthening in children with cerebral palsy. *Res Dev Disabil* 2011; 32(1): 377-81.

Desloovere K, et al. Do dynamic and static clinical measurements correlate with gait analysis parameters in children with cerebral palsy? *Gait Posture* 2006;24(3):302-13.

Dobson F, et al. Gait classification in children with cerebral palsy: A systematic review. *Gait Posture* 2007;25(1):140-52.

Karol LA, et al. Gait analysis after initial nonoperative treatment for clubfeet. Intermediate term followup at age 5. *Clin Orthop Relat Res* 2009;467:1206-13.

Lofteroed B, et al. Preoperative gait analysis has a substantial effect on orthopedic decision making in children with cerebral palsy: comparison between clinical evaluation and gait analysis in 60 patients. *Acta Orthop* 2007;78(1):74-80.

Molenaers G, et al. The effects of quantitative gait assessment and botulinum toxin a on musculoskeletal surgery in children with cerebral palsy. *JBJS-Am* 2006 Jan;88(1):161-70.

Sankar WN, et al. The recurrent clubfoot: can gait analysis help us make better preoperative decisions? *Clin Orthop Relat Res* 2009;467(5):1214-22.

Wren TA, et al. Efficacy of clinical gait analysis: a systematic review. *Gait Posture* 2011; 34(2):149-53.

Wren TA, et al. Effects of preoperative gait analysis on costs and amount of surgery. *J Pediatr Orthop* 2009;29(6):558-63.

**KEY WORDS:**

Gait, Motion Analysis

---

## CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

---

Based on our review, computerized motion diagnostic imaging is not addressed in National or Regional Medicare coverage determinations or policies.