



**Title** Kinematic Gait Analysis

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**Reference** [www.has-sante.fr/portail/display.jsp?id=c\\_576204](http://www.has-sante.fr/portail/display.jsp?id=c_576204)

## Aim

To assess the expected benefit of kinematic gait analysis.

## Conclusions and results

The assessment was performed to advise the French National Health Insurance (NHI) on inclusion of the technique on the list of reimbursed procedures. It was requested by UNCAM (French National Union of Health Insurance Funds) and SOFMER (*Société française de médecine physique et de réadaptation*, French society of physical medicine and rehabilitation). HAS examined the indications, efficacy, and safety of the technique and its contribution to the care strategy.

- Kinematic gait analysis is the only dynamic method for analyzing kinematic gait variables. It is a second-line procedure used as an adjunct to clinical examination. It assesses the trajectories of multiple joints, their movement, their angles, and the way in which they change over time, as well as linear and angular velocities and accelerations.
- Several clinical assessment studies have established the expected benefits of the technique. Kinematic analysis of the movements of the pelvis, hips, knees, and ankles in individuals suffering from gait disorders caused by neurological, orthopedic or rheumatologic factors, or by malformation provides valuable data on gait that can be used:
  - to help select treatment (surgery, aids, drugs, rehabilitation program)
  - to assess treatment efficacy and adjust the treatment if necessary.

No complications are associated with the technique. The examination must, however, be conducted under safe conditions.

## Methods

HAS' method for assessing the expected clinical benefit of medical or surgical procedures is based on a critical appraisal of published scientific data and on the expert opinion of a multidisciplinary working group of health-care professionals. Several databases (MEDLINE, the Cochrane Library, National Guideline Clearinghouse, HTA Database) were searched (January 1995 to February 2007). Studies assessing a) the technical performance of the equipment (reproducibility and reliability studies, studies comparing systems of analysis) and b) the expected benefits in terms of treatment efficacy and performance were selected for analysis. The results of this analysis were reviewed by the working group (specialists in physical medicine and rehabilitation, neurology, sports medicine and sports traumatology, and orthopedic surgery).