Objective and effective

GAIT ANALYSIS
GAIT ANALYSIS – AN OBJECTIVE METHOD FOR THE ANALYSIS OF HUMAN WALKING

Instrumented gait analysis is an objective method to assess and study human gait. Gait analysis has been found to be an efficient clinical tool used in the diagnostics and treatment of pathological gait [1]. It provides an objective and quantifiable assessment before and after treatments that aim to improve a patient’s gait ability [2].

The biomechanical and neurological aspects of human gait are still not fully understood, therefore gait research is another important area where instrumented gait analysis is used.

Qualisys offers solutions tailored to be used routinely as a clinical tool, as well as solutions for gait research.

THE QUALISYS MOTION CAPTURE SYSTEM

Our motion capture cameras are the core of our line of products, developed and produced in Sweden for more than 25 years. Combined with specialized software modules, the system offers a complete gait solution that can be used for clinical investigations and research studies, from data capture to analysis and report as well as rehabilitation and recovery assessments.

FEATURES

- Scalable solution from 8 to 12+ cameras
- Work flow optimized for seamless preparation, recording and gait report generation
- Synchronized recording of 3D data, video, ground reaction forces and EMG
- Supports overlay of video and force/marker data
- Solutions for research and clinical purposes
- Ready-to-use reports in Microsoft Word and HTML (browser)
- Several biomechanical models implemented
- Highly adaptable for research users

Visit [www.qualisys.com/integrations](http://www.qualisys.com/integrations) for all compatible external hardware
Video overlay helps visualizing the position and direction of the ground reaction force vector.

**GAIT ANALYSIS WORK FLOW**

Whether you are working a standard work flow or custom project the Qualisys Gait Modules guide the user through all steps from preparation to data processing. Alternatively, research users can easily define their own marker sets and protocols.

**BIOMECHANICAL MODEL**

In a gait lab, it is critical to maintain repeatable procedures while being flexible enough to cater the needs of all your clients. This is why our software works seamlessly with Visual3D by C-Motion, a software being used in hundreds of biomechanics labs worldwide.

**MONITORING CLIENTS**

Gait analysis is used in diagnosis and for pre-/post treatment assessments in conditions such as cerebral palsy, stroke, traumatic injuries, spina bifida and Parkinson’s disease.

**INTEGRATIONS**

Force and EMG data can be recorded and processed together with the motion capture data, and all results can be included within a single report. For compatible external hardware see qualisys.com/integrations.

Contact Qualisys or your local distributor for planning advice for your lab.
REPORT AND FEEDBACK
All PAF Gait Modules come with comprehensive reports. As a research user, you may opt to set up a custom report for your project. Reports include joint angles, moments and power as well as other gait parameters such as speed, stride length, cadence and timing information. Alternatively, you can set up the system to provide visual biofeedback in real-time.

AVAILABLE SOLUTIONS
Qualisys offers gait solutions for research and clinical users. If you are measuring on patients for the purpose of diagnosis, treatment assessments, or monitoring, the PAF Clinical Gait Module is the right choice. If you are a research user, the other modules presented below are most suitable.

<table>
<thead>
<tr>
<th>Area</th>
<th>PAF module</th>
<th>Class 1m CE marking</th>
<th>Compatible external hardware</th>
<th>Included markersets</th>
<th>Processing</th>
<th>Report</th>
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<tr>
<td>Clinical</td>
<td>Clinical Gait Module</td>
<td>Yes</td>
<td>Selected hardware only</td>
<td>CAST, IOR, Conventional Gait</td>
<td>Visual3D</td>
<td>HTML, Word</td>
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<tr>
<td>Research</td>
<td>Gait Module</td>
<td>No</td>
<td>Any hardware¹</td>
<td>CAST, IOR, Conventional Gait</td>
<td>Visual3D</td>
<td>Word (research report)</td>
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<td></td>
<td>PAF open license</td>
<td>No</td>
<td>Any hardware¹</td>
<td>User-defined</td>
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</tbody>
</table>

¹ Any hardware compatible with our cameras & QTM

REFERENCES


FURTHER INFORMATION
Clinical gait:
www.qualisys.com/applications/clinical-gait/

Gait research:
www.qualisys.com/applications/gait-rehab/