University Hospital X – Clinical Report

Patient and Administrative Details

[redacted] Mock Patient A

[redacted] Mock Patient A

[redacted]: GAIT-2025-0012

[redacted] **(MRN):** 456-789-012

[redacted]: 15 January 1975

[redacted] *15 January 1975*

[redacted] 123 Example Street,

Exampletown, GE 12345

[redacted] (555) 123-4567

[redacted] patient.a@example.com

[redacted]: GE-INS-2025-998877

[redacted]: **Dr. X. Y.**

[redacted] **Dr. X. Y.**

Clinical Summary

Clinical Question:

Patient with [redacted] A, a 50-year-old male, was referred for an instrumented 3D gait analysis to quantify abnormalities in walking pattern related to chronic right knee pain and reduced walking endurance. The [redacted] is GAIT-2025-0012.

The referring question from Dr. X. Y. was whether there is:

- Objectively detectable asymmetry in loading between left and right lower limbs.
- Evidence of altered hip or knee kinematics that could explain the patient's pain.

Medical History:

The patient with [redacted] of 1975 reports a gradual onset of right knee pain over the past two years, without a single traumatic event. Pain is typically provoked by prolonged walking, descending stairs, downhill walking and standing for more than 20 minutes. The patient denies locking or giving-way episodes but describes a feeling of instability when walking quickly in crowded environments.

There is no known history of neurological disease, major lower-limb fractures, or previous joint replacement surgery. Body mass index is approximately 31 kg/m², reflecting obesity class I.

The patient reports a weight gain of around 12 kg over the last five years, which coincides with a reduction in regular physical activity.

Examination Protocol:

A standardized instrumented 3D gait analysis was performed according to the routine protocol used at University Hospital X. Reflective markers were placed according to a conventional lower limb model by an experienced operator. Three-dimensional kinematics were captured using a multi-camera motion analysis system. Ground reaction forces were measured by embedded force plates positioned along the
10-meter walkway.

The patient walked barefoot at a self-selected comfortable speed. A total of six valid gait trials were recorded, each containing at least one clean foot strike per side on the force plates. No assistive devices were used. Before data collection, the patient was allowed time to familiarize himself with the environment and the procedure. Between trials, short standing breaks were offered whenever the patient reported mild discomfort in the right knee. The examination was well tolerated, and no adverse events occurred.

Clinical Interpretation:

Taken together, the spatiotemporal and kinematic findings suggest a mildly antalgic gait pattern primarily affecting the right lower limb. The prolonged stance time and double support phase on the right, along with the reduction in terminal stance knee extension, indicate a tendency to offload the painful limb during dynamically demanding parts of the gait cycle. However, the overall magnitude of deviation from normative values is small to moderate, and there is no indication of gross gait instability or major compensatory patterns such as circumduction or excessive trunk lean.

The observed alterations in knee flexion timing and amplitude may contribute to discomfort during longer walking distances but are currently unlikely to pose an immediate risk of falls. The patient's self-reported fatigue and avoidance behavior are likely influenced by both pain and deconditioning. Importantly, the patient does not report recent falls, and balance during the gait examination was adequate without the need for external support.

The present gait analysis does not replace clinical and radiological assessment but provides objective quantitative data that can be used alongside conventional examinations. The results may be useful for monitoring future changes in gait once targeted interventions have been implemented.