



vGym The GaitSmart Virtual Gym

A cutting-edge tool to remotely inform, update and monitor individualised patient rehabilitation plans.



My patient has had their GaitSmart Analysis. Now what?

A gait analysis generates a wealth of data. For GaitSmart, this includes:

- Knee flexion in swing
- Knee stance flexion
- Hip range of movement
- Left-right symmetry for hip and knee

The question for the patient and physiotherapist is what to do with all this data. Specifically, if some parameters show in the amber or red zone, which exercises would improve matters?

The answer is vGym, it brings the world of *expert systems* to physiotherapy

How does vGym work?

vGym enhances the GaitSmart system by providing appropriate exercises for the individual, depending on what has been discovered during their gait analysis.

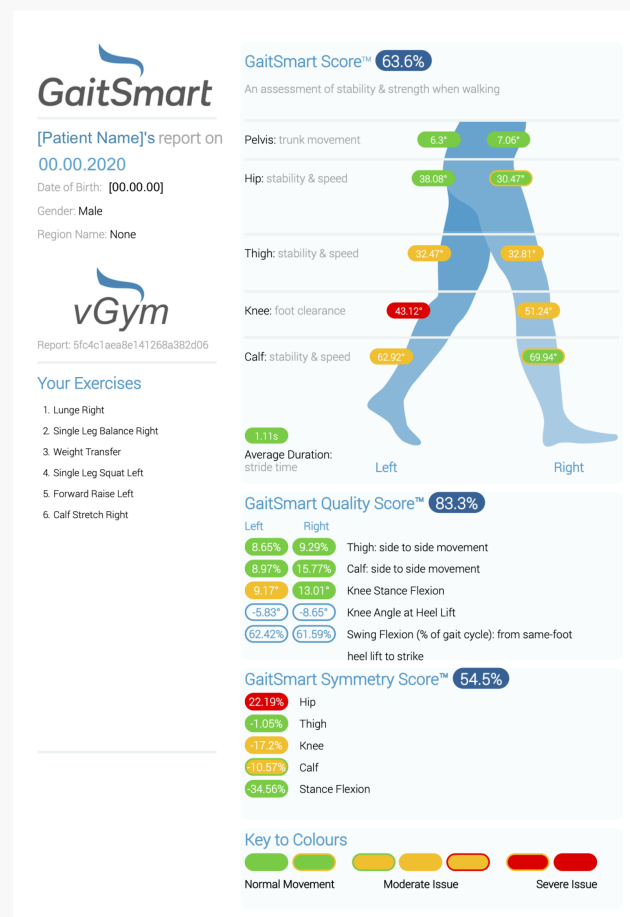
A proprietary algorithm automatically calculates the most suitable set of exercises that will address different gait weaknesses, plus it ensures that the same exercises will be prescribed for a given condition every time. The physiotherapist no longer needs to make a subjective judgment.

The technology also allows remote monitoring of a patient's progress, since the recommendations and subsequent gait measurements can be accessed for review using secure cloud-based file-sharing.

The vGym procedure

Once a trained individual has performed the GaitSmart test on a patient, the data is automatically processed securely with cloud computing and the software then produces both a report and a list of recommended exercises. This can be supplied to the patient to document the exercises that should be done on a daily basis.

Typically, a patient will undergo 4 tests - each 3 weeks apart. If the exercises are proving effective, both the patient and the physiotherapist will be able to see the progress in each report.



What is the benefit to our patients?

When patients understand their gait issues, the seriousness of those issues and how they can reduce the risk of falling, amongst other benefits, they are more motivated to do their own exercises. They can see improvements in their gait over time, increasing their motivation even further.



Why vGym?

Improves compliance

Both patient and practitioner can visualise progress in each report.

Removes subjectivity

Brings automated, objective assessment to rehabilitation recommendations.

Saves time and money

Allows remote rehabilitation programme monitoring and updates.

Improves clinical outcomes

Patients experience increased motivation due to quantified and data driven additions to assessments.

Validated in the NHS

The programme was used on a study of older people, average age 80, who were under the care of an NHS Trust. The subjects were on the frailty spectrum and had a high fear of falling. At the end of the program, their gait had improved and they had a measurable reduction in frailty and fear of falling.

An Industrial Strategy Challenge Fund (ISCF) programme with Norfolk & Norwich University Hospital (NNUH) and University of East Anglia (UEA) is underway. This case control study on hip and knee replacement patients at NNUH, will prove the clinical and economic efficacy in patient rehabilitation.

DML has an extensive gait database of musculoskeletal common conditions, collected from a variety of settings and applications in healthcare and clinical trials.

For details about GaitSmart in published clinical trials and research see our website.

"Easy to do, not painful in any way, makes you feel involved in your recovery"

"It's absolutely marvellous, everybody should know about this to get the best out of the operation and improve your mobility."

GaitSmart is trusted by many



Dynamic Metrics is a resident company of Johnson & Johnson Innovation, JLABS, a premier life science incubator program.



To see how we can make a significant difference to your healthcare outcomes please contact us today on:

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