



# vGym The GaitSmart Virtual Gym

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



## My patient has completed 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 orange or red zone, which exercises would improve matters?

The answer is vGym; bringing 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 is now provided with quantitative data and informed recommendations to aid in subsequent treatment choices.

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.



Date of Birth:  
Gender:  
Region Name:

Report: 5f58cd643a098f0e97ee29a4

### Your Exercises

1. Marching
2. Single Leg Balance Left
3. Single Leg Squat Right
4. Single Leg Bent Balance Left
5. Calf Stretch Left
- 6.

GaitSmart Score™ 97.7%

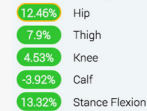
An assessment of stability & strength when walking



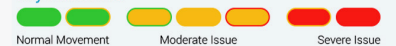
GaitSmart Quality Score™ 100.0%



GaitSmart Symmetry Score™ 86.4%



### Key to Colours



## What is the benefit to our patients?

When your patient understands their measurable gait abnormalities and the seriousness of those issues, they become more motivated to do their exercises to reduce the risk of falls.

Seeing improvements in their gait over time increases motivation and compliance 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 has already been used on a cohort of older people under the care of an NHS trust, with an average age of 80. The subjects were on the frailty spectrum and had a high fear of falling. At the end of the programme the study showed improved patient gait and a measurable reduction in both frailty and fear of falling.

An ISCF funded programme with NNUH and UEA is currently 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: [www.gaitsmart.com/about/publications](http://www.gaitsmart.com/about/publications)

“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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