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ARU Cambridge
East Road
CB1 1PT
www.aru.ac.uk

Dear Potential Participant,

Re: Invitation to Participate in the ReHabGame Study

You are being invited to take part in a research study evaluating ReHabGame, a *markerless, game-based rehabilitation system* designed to help people with arm and shoulder problems improve their movement, reduce pain, and enhance daily function.

Before you decide, please take time to read this information carefully. You may wish to discuss it with friends, relatives, or your healthcare team.

What is the purpose of this study?

ReHabGame turns standard rehabilitation exercises into interactive games using a motion-capture camera (Kinect v2) and custom software.

We are comparing two rehabilitation approaches in two groups of participants:

- Neurological group: people with stroke, multiple sclerosis, or brain injury.
- Musculoskeletal (MSK) group: people with shoulder conditions such as rotator cuff repair, frozen shoulder, or shoulder arthroplasty.

Within each group, participants will be randomly assigned (by chance) to receive either:

1. Usual physiotherapy only, or
2. Combined ReHabGame and physiotherapy.

Our aim is to understand whether combining ReHabGame with usual care can further improve recovery, engagement, and safety.

Why have you been invited?

You have been identified by your therapist as someone who meets the study's eligibility criteria, which include:

- Age 18 years or older
- Having a relevant neurological or shoulder condition
- Being able to understand the study information and provide consent

Only clinicians directly involved in your usual care (for example, your physiotherapist or rehabilitation consultant) have reviewed your medical notes or clinic schedule to determine whether you might be eligible. Research staff have no access to your medical records before you decide whether to take part.

What will participation involve?

If you decide to take part, you will be invited to:

- **Screening and Consent (Week 0):** Your therapist will confirm your eligibility. The research team will then discuss the study with you and obtain written consent.

- **Baseline Assessment:** A short questionnaire and tests to measure your arm or shoulder function.
- **Intervention Period (Weeks 1–8):**
 - ReHabGame sessions: 30–45 minutes, twice weekly (if applicable)
 - Physiotherapy sessions: 30–45 minutes, twice weekly (if applicable)
 - You'll receive a brief PDF summary of each session for your records.
- **Mid-point check (Week 4):** Short surveys and repeat of your main test.
- **End-of-programme assessment (Week 8):** Repeat tests, feedback interview.
- **Follow-up (Week 12):** Final survey and optional short test to see if improvements are maintained.

All sessions are supervised by trained clinicians or research staff. You can stop or withdraw at any time without giving a reason, and this will not affect your usual care.

What are the potential risks and benefits?

Risks: You may experience mild muscle soreness, fatigue, or brief discomfort in your arm or shoulder. All sessions will be supervised, with rest breaks and safety measures in place.

Benefits: You may find the game more engaging than traditional exercises and could experience improvements in movement or pain. Even if you do not directly benefit, your participation will contribute valuable knowledge to improve rehabilitation for others.

Confidentiality and Data Protection

Your privacy and confidentiality are protected in line with UK GDPR and Data Protection Act (2018).

- Only authorised research staff will handle your data.
- Your personal details will be replaced with a study ID and stored securely.
- Only your usual care clinicians have legitimate access to your medical notes before consent.
- Your GP will be informed of your participation once consent is given.

What happens next?

If you are interested in taking part, please contact: ss48@aru.ac.uk

You may also contact the Data Protection Officer at dpo@aru.ac.uk if you have any questions about data handling.

We will arrange a convenient time to discuss the study in more detail and obtain your written consent before any study activities begin.

Yours sincerely,
 Dr Shabnam Sadeghi Esfahlani
 Principal Investigator, ReHabGame Study
 Anglia Ruskin University
ss48@aru.ac.uk