Statistical Analysis Plan

Standing Practice In Rehabilitation Early after Stroke (SPIRES)

A randomised controlled feasibility trial to investigate the effects of a functional standing frame programme versus usual physiotherapy to improve function and quality of life and reduce neuromuscular impairment in people with severe sub-acute stroke

Contents

1 Administrative Information

Title of Trial	Standing Practice In Rehabilitation Early after Stroke (SPIRES) A randomised controlled feasibility trial to investigate the effects of a functional standing frame programme versus usual physiotherapy in people with severe sub-acute stroke on function, quality of life and neuromuscular impairment
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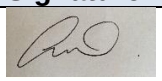
	Name	Signature	Date
Statistical Analysis Plan Authored by:	Chief Investigator: Angie Logan Faculty of Health and Human Sciences School of Health Professions Peninsula Allied Health Centre Plymouth University Derriford Rd Plymouth PL6 8BH United Kingdom		24/10/2018
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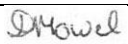
Approved by:	Independent Statistician Denise Howel Biostatistics Research Group Institute of Health & Society Newcastle University Baddiley-Clark Building Richardson Road Newcastle upon Tyne NE2 4AX United Kingdom		22/10/2018

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2 Abbreviations

AE	Adverse Event
ADL	Activities of Daily Living
BI	Barthel Index Activities of Daily Living
EQ-5D-5L	European Quality of Life-5 Dimensions
mRS	Modified Rankin Scale
NIHSS	National Institutes of Health Stroke Scale
PHQ-9	Patient Health Questionnaire-9
RCT	Randomised Controlled Trial
SPIRES	Standing Practice In Rehabilitation Early after Stroke
SADQ-10	Stroke Aphasia Depression Questionnaire-10
SAE	Serious Adverse Event
SAQOL-39	Stroke & Aphasia Quality of Life Scale-39
SAP	Statistical Analysis Plan
SRU	Stroke Rehabilitation Unit
TMG	Trial Management Group
TSC	Trial Steering Committee
VAS	Visual Analogue Scale

3 Introduction

Background and rationale for the trial

The full background and rationale for the trial can be found in the SPIRES study protocol (Logan *et al.*, 2018). In summary, SPIRES is a randomised controlled feasibility trial to determine whether a functional standing frame programme (a novel combination of prolonged standing and task-specific strength training of sit to stand) is feasible for people with severe stroke.

Purpose of statistical analysis plan

The trial protocol includes an outline of the statistical methods to be employed in the analysis of the trial data. The purpose of the Statistical Analysis Plan (SAP) is to provide full details of the planned statistical methods to be used in the primary report of the trial results. However, it is worth noting that, SPIRES is a feasibility trial, therefore formal statistical analysis and hypothesis testing is not appropriate and thus will not be undertaken.

Trial objectives and outcome measures

The aim of this feasibility trial is to obtain the necessary data and operational experience to determine the future planning of an intended definitive multi-centre RCT. The RCT compares a three-week functional standing frame programme with usual physiotherapy to determine effectiveness of improving function, quality of life and minimising secondary neuromuscular impairments in people who have had a severe stroke as part of their inpatient sub-acute rehabilitation. Potential primary and secondary outcome measures for a future definitive RCT are detailed in Section 7 (Analysis). The following trial outcomes, categorised into feasibility indicators for process, resource, management, and safety parameters (Table 1), will be measured during trial:

Process

Eligibility criteria: The suitability and feasibility of eligibility criteria will be determined by reviewing reasons for exclusion documented in the Approach/Screening Log and Screening and Post-Screening Case Report Forms and reviewing characteristics of recruited participants as documented in the Screening and Post-Screening Case Report Forms.

Ability to consent: The ability of patients to consent will be measured by percentage and calculated by dividing the number of patients who provided informed consent by the number of consultee declarations and multiply by 100. Additionally, reported incidence of cognitive and communication impairments will be measured from the Screening and Post-Screening and Assessor Case Report Forms.

Consent rate: The consent rate will be measured by percentage and calculated by dividing the number of individuals who consented to participate in the trial, by the number who met the inclusion criteria and multiply by 100. This will provide a percentage of participants who consented from the number of admissions at each site and all SRUs combined. Reasons why eligible individuals were not interested in participating will be recorded by the PI/recruiting therapist in the approach/screening logs.

Recruitment rate: The recruitment rate will be measured by percentage calculated by dividing the number of participants who met the inclusion criteria, by the number of participants recruited per month and multiply by 100. This information will be recorded in the study log at each site.

Willingness/ability of physiotherapists to recruit: The willingness or ability of physiotherapists to recruit will be measured by percentage and calculated by subtracting the number of patients screened and approached from the number of admissions and dividing by the number of participants screened documented on the Approach/Screening Log and multiplying by 100.

Willingness of participants to be randomised: The willingness of patients to be randomised will be measured by percentage and calculated by the recruitment rate, and percentage of patients who did not want to enrol in the trial, as documented on the Approach/Screening Logs.

Retention rate: The retention rate is indication of acceptability will be measured by percentage and calculated by dividing the number of participants, who completed data collection at post-intervention, 15, 29 and 55 weeks follow-up by the number of participants who completed data collection at baseline, multiplied by 100.
NB: *The published protocol states follow-up visits will be undertaken at 3, 6 and 12-months post-randomisation. However, once follow-up assessments had commenced it was identified that these visits were 3, 6 and 12 months plus three weeks (to allow for the intervention period) post-randomisation.* However, the same conditions/time periods were applied to all participants.

Acceptability of the intervention: Acceptability of the intervention amongst participants, relatives and physiotherapists will be measured in four ways at three different time points (i.e. pre-, during and post-intervention): 1) recruitment rate; 2) percentage of withdrawals (the inverse of retention rate); 3) adherence; 4) qualitative data collected via semi-structured interviews with participants, their relatives and physiotherapists and a focus group with physiotherapists.

Determining usual physiotherapy: Usual physiotherapy management for people who have had a severe stroke receiving inpatient early sub-acute stroke rehabilitation will be captured by the Control Group Case Report Forms.

Sample size estimates: Data from this feasibility trial, in particular standard deviations of the potential outcome measures, together with existing literature, will help to inform power calculations for subsequent trials.

Primary outcome: Data from this feasibility trial will determine which primary outcome measure will be used for a subsequent main trial. This will be concluded with a combination of outcomes: acceptability of the outcome measures (to participants, relatives and physiotherapists), the completeness of the outcome measure, lack of floor/ceiling effects, likely ability to detect change, indicative sample size calculation and emerging evidence.

End point: Data from this feasibility trial will determine the primary end point of a subsequent main trial.

Resource

Burden: Burden is defined as “the perceived amount of effort that is required to participate in the intervention” (Sekhon, Cartwright & Francis, 2017 p.7) and will be measured for both participants and physiotherapists. Participant burden will be measured in four ways: 1) by percentage and calculated by dividing the number of eligible participants not wanting to participate in the intervention or control group sessions divided by the total number of eligible participants multiplied by 100; 2) physical and psychological effort using the brief interview

assessment at the end of each intervention session; 3) semi-structured interviews; 4) withdrawals. Physiotherapist burden will be measured in three ways: 1) willingness/ability to recruit; 2) semi-structured interviews and focus group with physiotherapists; 3) field notes from Chief Investigator's blinded assessments.

Cost effectiveness: Estimates of resource use and related costs for the delivery of SPIRES will be measured through semi-structured interviews exploring time required for preparation for functional standing programme session.

Management

Participant adherence: Adherence of the functional standing frame programme will be measured by tracking 1) total number of sessions attended; 2) total number of minutes standing; 3) total number of sit to stand repetitions; 4) reasons for non-completion of sessions; 5) enjoyment; 6) effort; 7) fatigue; 8) aches and pains, as documented by treating physiotherapists in the Case Report Form (Table 2).

Acceptability of outcome measures: The feasibility of the proposed outcome measures will be measured by proportion of primary and secondary outcome measures completed, and ability to detect change in this patient group with severe mobility impairment.

Fidelity: Intervention fidelity, defined as adherent delivery of the intervention, will be evaluated using a trial-specific SPIRES checklist that outlined all components of the functional standing frame programme intervention, and usual physiotherapy control group to be completed by an independent observer (e.g., physiotherapist checked blood pressure, demonstrated, ensure foot sensors in situ and positioned safely, position participant in frame etc.).

Orthostatic Hypotension Protocol: In this trial, OH is assessed in sitting because participants with severe stroke are unable to move from lying into standing in one manoeuvre. It is anticipated that some participants may have OH in standing that did not have OH in sitting. We will assess the number of incomplete sessions for those diagnosed with OH either in sitting (as part of the assessment for minimisation process) or during the participants' initial stand. Additionally, the type (pharmacological or non-pharmacological) and rationale for OH interventions will be captured including the feasibility and acceptability of abdominal binder in people with contraindications, e.g. percutaneous endoscopic gastrostomy.

Safety

Safety will be assessed by comparing the number and nature of serious adverse events (SAEs) and adverse events (AEs) in the intervention group with those in the control group (Tables 3 and 4).

The AE risks of taking part in this trial have been assessed to be low (Logan *et al.*, 2017). Adverse events such as chest infections and urinary tract infections, which are common in people with stroke, will not be monitored and not required to be recorded for any participants. Treating physiotherapists will, however, be asked to record musculoskeletal aches and pains, falls (both before, during and after the physiotherapy sessions) and worsening neurological symptoms from the initial physiotherapy assessment.

Serious Adverse Events (classified below) will be recorded and each site will notify Peninsula Clinical Trials Unit. Peninsula Clinical Trials Unit will routinely notify the Chief Investigator (CI) by email of all reported SAEs as they occur and will report organ system listings of all SAEs to the TSC and Sponsor on a quarterly basis.

Serious adverse events are classified as:

- results in death
- is life threatening
- requires hospitalisation or prolongation of existing hospitalisation
- results in persistent or significant disability or incapacity
- consists of a congenital anomaly or birth defect
- or is considered by the investigator to be an important medical event

All adverse and serious adverse events will be cross tabulated by treatment group and assessed for clinical relevance to inform the design and conduct of a full trial. The relatedness of AEs and SAEs to the intervention group will also be presented (Table 5).

Measures of adherence

In line with the objectives of this feasibility trial, it is important to understand adherence levels within the functional standing frame programme. As such, completion of the three-week intervention with a minimum of five and maximum of seven sessions per week will be reported (Table 2). In addition, physiotherapists are advised to implement 30 minutes of prolonged standing, 8-12 repetitions of sit to stand, and 15 minutes of usual physiotherapy for each session. In both cases (duration of standing and repetitions of sit to stand) adherence will be reported in the form of the total number and percentage of non-adherers.

4 Trial methods

Trial design

A pragmatic multi-centre feasibility randomised controlled trial with blinded assessment in patients who have had a severe stroke.

The recruitment target is fifty patients with confirmed diagnosis of new or recurrent stroke, classified as severe (using either the mRS or the NIHSS). Participants will be recruited from three healthcare sites (four Stroke Rehabilitation Units) in Cornwall and Devon. Participants will be randomised on a 1:1 basis to either the control group, where they received usual physiotherapy, or to the intervention group where they will receive the functional standing frame programme for three weeks during their inpatient stay in sub-acute Stroke Rehabilitation Units.

Participants will be assessed at baseline, post-intervention (3 weeks post-randomisation) (+/-1 week), and 15-, 29- and 55-weeks post-randomisation (+/- 1 week).

Randomisation and Allocation Concealment

Randomisation will be conducted by means of a central, secure, password-protected web-based system created and managed by Peninsula Clinical Trials Unit in conjunction with the trial statistician. Randomisation will be performed using a minimisation algorithm to balance groups in terms of the minimisation variables (fatigue and orthostatic hypotension (OH)):

1. fatigue (4-10 Visual Analogue Scale score Vs. no/minimal fatigue (0-3 Visual Analogue Scale score)

2. OH (hypotension Vs. no hypotension)

Exact details of the setup of the minimisation algorithm will be confirmed between the trial statistician and the PenCTU programming team only. Minimisation characteristics in allocated groups is show in Table 6.

Blinding

Due to the nature of the intervention, it will not be possible to blind the trial participants or treating physiotherapists. However, assessors are blinded, and participants asked not to reveal their treatment allocation during assessments.

The success of blinding in this trial will be assessed by asking blinded assessors to guess the trial group assignment and comparing these responses to what would be expected by chance (Table 7).

Sample Size

One of the key purposes of a feasibility trial is to inform sample size calculations for a full-scale trial. As such, the mean, SD and range at each follow-up at 15, 29 and 55 weeks for each outcome measure will be calculated. Then, accounting for the uncertainty in these standard deviations as appropriate, well-informed sample size calculations can be obtained. Indicative sample sizes will be calculated conservatively for each of the primary outcomes. Furthermore, recruitment, retention and dropout rates will be calculated and presented to suitably account for this in the determination of the sample size for the full-scale trial. It is anticipated that in any future main trial, the primary outcome would be of a continuous nature and analysis of covariance (ANCOVA) would be used for the primary analysis.

Sample size calculation

As a feasibility trial, a formal sample size calculation based on considerations of power is not appropriate; this trial is not powered to detect between-group clinically meaningful differences in a primary outcome. One of the aims of this trial is to provide robust estimates of the likely rates of recruitment and follow-up, as well as provide estimates of the variability of the proposed primary and secondary outcomes to inform sample size calculations for the planned definitive trial. There is no consensus on the recommended number of participants required for a feasibility trial, with published “rules of thumb” ranging from 20 to 70 or more participants, when the planned primary outcome is of a continuous nature. A recent paper recommended a feasibility trial sample size should recruit 25 participants per allocated group, if the planned definitive trial will have a two-arm parallel group design, a continuous primary outcome and have 90% power and two-sided 5% significance level, to detect a “small” standardised effect size (Whitehead *et al.*, 2016). Therefore, this feasibility trial aims to recruit 50 participants in total.

Participants will be recruited from four different Stroke Rehabilitation Units (three healthcare sites), providing access to 67 beds. The planned recruitment period will be 52 weeks and over this period, across the three sites, it is anticipated that approximately 130 potential participants would be approached and estimated that around 50% of eligible participants would consent to participate.

Given the nature of the trial, with measures being collected at baseline, post-intervention (three weeks post-randomisation), and 15-, 29- and 55-weeks post-randomisation (± one week), with time required for travelling between sites and qualitative interviews, logistically

it was estimated that the maximal recruitment rate is five to six participants per month.

A target sample size of 50 participants allowed the follow-up rate to be estimated to within ±15%. The follow-up rate is estimated to be 70%, which would provide follow-up outcome data on a minimum of 35 participants across both allocated groups and three sites.

Statistical interim analysis

There is no planned interim analysis for this trial. If, for any reason, the TSC requests an interim analysis of the data, the trial statistician will undertake such work, to retain the blinding of the Chief Investigator.

Criteria for progression to full trial

Progression to a full trial will be supported based on the following criteria:

	Criteria	Scenario 1	Scenario 2	Scenario 3
1	% of recruitment target achieved (50 participants)	≥70%	51-69%	≤50%
2	Target figure = 75% of the percentage of participants randomised to the intervention group who participated in at least three sessions per week of the functional standing frame programme. This includes an estimated dropout rate of 25% due to mortality (Brønnum-Hansen *et al.*, 2001; Fang *et al.*, 2012)	≥70% of the target figure	51-69% of the target figure	≤50% of the target figure
3	Target figure = 60% of the percentage of participants randomised who completed their 29- and 55-weeks post-randomisation follow-up assessment. This includes an estimated 40% drop out rate due to mortality (Brønnum-Hansen *et al.*, 2001; Fang *et al.*, 2012).	≥70% of the target figure	51-69% of the target figure	≤50% of the target figure
	Proposed action	Proceed to submitting plan to funder for full trial	Discuss with TSC and funder about progression and resources needed to achieve target	No progression to plan a full trial in the current design

If any one of these criteria meets scenario 3 the trial would not progress in its current design.

Timing of final analysis

Statistical analysis will be undertaken once the final group of participants have completed the final assessment at 55 weeks post-randomisation and the database is locked.

Timing of outcome assessments

All proposed outcome measures will be collected at baseline, post-intervention at 3 weeks post-randomisation (+/-1 week), and 15-, 29- and 55-weeks post-randomisation (+/- 1 week). The percentage of assessments completed within +/- 1 week will be recorded. If these targets are being missed, it may be necessary to consider widening this time frame to allow inclusion of data from more patients (Table 8).

5 Statistical Principles

Statistical Significance Levels

As a feasibility trial, there will be no hypothesis testing undertaken.

Adherence to treatment

Participants may not complete their allocated treatment because of medical issues such as fatigue, deterioration of health or further strokes, or participants may simply decide that they no longer want to continue with the intervention. The likelihood of this occurring could be increased due to the acute nature of the stroke as well as the severity and complexity of their impairments from their severe stroke. In this scenario, the number and proportions of participants categorised as non-adherers will be summarised for each group separately and overall, alongside the details of the deviation, but there will be no formal statistical testing undertaken. The analysis will be completed on an intention to treat basis.

Adherence to allocated treatment

The number of sessions completed and reasons for non-adherence will be recorded in both the control and intervention group. In addition, in the intervention group the number of minutes standing per week and the number of sit to stand repetitions completed each week will be recorded (Table 2).

This data will be presented by site according to stroke severity (moderately severe or very severe as classified by the modified Rankin Scale) to allow an assessment of adherence with stroke severity, and measure of association with adherence computed if appropriate to do so for the data in hand (Table 9). Data will also be explored graphically (Figure 1) to look at the relationship between adherence and three key factors: orthostatic hypotension, fatigue and proposed primary outcome measures. Existing literature does not provide any clear guidance of what the number of sessions or number of minutes to have an effect centrally or peripherally, therefore, understanding what the minimum amount for adherence is necessary

Analysis Populations

The principal analysis on the primary and secondary outcome measures (in the form of summary statistics, not formal analysis) will be undertaken on both an Intention To Treat (ITT) and Per Protocol (PP) basis. The feasibility of this intervention for people with severe stroke is unknown, and physical disability, fatigue, cognitive and communication impairments may affect their ability to adhere to the protocol. Therefore, both ITT and PP analysis is recommended to enable readers to interpret the results (Schulz, Altman & Moher, 2010). An ITT analysis will analyse participants according to their random allocation, regardless of adherence to the protocol or lack of participation or completion if allocated to the intervention group. ITT is generally accepted to be the gold standard approach as it provides a conservative estimate of the intervention effect as it would likely be seen in practice. In

addition, a PP analysis will provide an estimate where only those participants who strictly adhered to the protocol will be analysed. This will be defined as completion of a minimum of five sessions per week, 30 minutes of standing, 15 minutes of usual physiotherapy and eight sit to stand repetitions for the intervention group, and completion of a minimum of five sessions per week of 45 minutes of usual physiotherapy. The definition of per protocol analysis will be based on a definition of adherence determined following assessment of the data (see "Adherence" above).

In the case of a patient being randomised in error, with a later discovery that they were in fact ineligible, a decision will be made by the Trial Management Group as to whether they should be removed from the trial completely or retained on an ITT basis.

Data Sources and Data Quality

The data from this trial will come from information entered onto Case Report Forms (CRFs) completed by treating therapists (for the intervention and control groups during the three-week intervention period) and blinded assessors at baseline, post-intervention at 3 weeks (+/-1 week) post randomisation, and 15-, 29- and 55-weeks post-randomisation (+/- 1 week).

6 Trial population

Data from the screening process through to the completion of the trial will be recorded and presented following The Consolidated Standards of Reporting Trials (CONSORT) (Eldridge *et al.*, 2016) guidelines for pilot and feasibility trials (see Figure 1).

Inclusion and exclusion criteria

The trial population will be people who:

1) Have a new (first/recurrent) clinical diagnosis of stroke, cerebral haemorrhage or infarct confirmed by consultant or CT scan leading to admission to the Stroke Rehabilitation Unit
2) Are aged ≥18 years
3) Are graded as mRS 4 or 5 and/or NIHSS≥16 (severe or very severe stroke and unable to stand without support/mechanical aid and assistance of two people)
4) Are able to give informed consent or assent received from a consultee (see recruitment section)
5) Are conscious and responsive to verbal commands.

People meeting any of the following criteria will be excluded from participating in the trial:

1) Systolic blood pressure ≤100mmHg or ≥220mmHg at rest lying or sitting
2) Oxygen saturation ≤87% with or without supplementary oxygen (e.g. severe acute/chronic cardiorespiratory disease)
3) Resting heart rate of ≤40 or ≥110 beats per minute (e.g. cardiovascular instability)
4) Temperature ≥38.5 degrees centigrade or ≤35 degrees centigrade
5) Orthopaedic impairments which prevent full weight bearing in standing

6) Malnutrition Universal Screening Tool score of ≥2, or deemed to be not meeting nutritional demands for therapeutic interventions by dietician
7) Documented clinical decision for receiving end of life care
8) Unstable coronary or other medical condition that is judged by the PI/CI or clinical team to impose a medical risk to the patient by involvement in the trial
9) Assessed functionally by specialist clinicians as being a risk to themselves or others due to their inability to follow non-verbal prompts or are behaving erratically
10) Immobile and not weight bearing pre-stroke
11) Additional neurological deficits unrelated to the current or past stroke (e.g. peripheral neuropathy or Multiple Sclerosis), because these impairments are not related to the condition of interest)
12) Weight of 115kg or more, this is the weight limit on the standing frames
13) Being discharged out of county, e.g. admitted during holiday/visit to Cornwall or Devon because they would be unable to participate in follow-up assessments
14) If people are registered in another trial the CI will be contacted to ensure there is no contamination between trials
15) Non-English speaking.

Participants who discontinue, withdraw or are lost to follow-up

It is possible that participants will withdraw consent part way through the trial, or their treatment may be discontinued due to medical reasons. Participants who withdraw or discontinue will be categorised into one of the following:

- Continue to consent for follow-up and data collection
- Consent to use pre-collected data only
- No further follow-up of data collection

Reasons for withdrawal or loss to follow up will be summarised in the CONSORT diagram where possible, at each stage of the process (withdrawal prior to randomisation, patients who did not receive their allocated treatment, non-completion of treatment, lost to follow-up).

Participants who withdraw from the trial, or whose treatment is discontinued on medical grounds, will not be replaced although their available data will be used unless they have specifically requested for it to be removed from the database. The extent of discontinuation, withdrawal and loss to follow up will be used to inform the design of the fully powered subsequent trial, predominantly to ensure a sufficiently powered trial after drop-out.

Baseline characteristics and demographics

Baseline characteristics, collected prior to randomisation, will be cross-tabulated according to allocated treatment group to informally check for balance between groups and provide an exploratory overview of the data (Table 10). Collected baseline data will include:

- demographic information including gender, age, weight, marital status, place of residence, living arrangements, employment status and pre-admission level of mobility
- Medical and surgical conditions including previous strokes
- Mobility status at time of consent (equipment and whether assistance is required)
- Diagnostic data including severity of stroke, classification of stroke/lesion location
- Days since stroke admitted to Stroke Rehabilitation Unit and commencing the intervention or control group
- Prevalence of aphasia, orthostatic hypotension and fatigue.

7 Analysis

Completeness of proposed outcome measures

A key measure of interest is the completeness of the data, for both proposed primary and secondary outcomes. The total number of missing data and corresponding proportions will be presented for each outcome at each time point. In addition, for the potential primary outcomes, a breakdown of data completeness by individual measure/aspect will be presented where possible (Table 11).

Definitions of proposed outcomes

Outcomes are presented in the order in which they will be summarised and collected at five time points: baseline, post 3-week intervention, 15 weeks post-randomisation, 29 weeks post-randomisation and 55 weeks post-randomisation.

Proposed primary outcome measures

The primary outcome measures proposed for the main trial are function-based (Table 12). The Barthel Index (BI) (Mahoney & Barthel, 1965) is frequently used in stroke clinical trials, although was not designed specifically for clinical trials or the stroke population. The BI rates a person's degree of independence performing functional selfcare (feeding, grooming, bathing etc.) and mobility activities (transferring in/out of bed/chair, walking etc.). A major limitation of the BI is its floor effect (Quinn, Langhorne & Stott, 2011) and as a result has limited ability to detect change at extremes of ability, making it less discriminating in severe stroke (Schepers *et al.*, 2006).

This feasibility trial provides the opportunity to investigate whether an alternative functional outcome measure is more sensitive and responsive to change in people with severe stroke and can be used in both inpatient and community settings for both the acute and chronic stages of stroke. Therefore, the Edmans Activities of Daily Living Index for Stroke Patients (Edmans & Webster, 1997) will also be used. This measure covers all the categories included in the BI, however, the degree of independence is more detailed than dependent/independent for each item assessed. It was developed specifically for people with stroke, both as an inpatient in the sub-acute phase as well as in the community setting in the chronic phase. Collecting both these outcomes will

enable investigation of the clinical utility and responsiveness of two functional outcome measures, which will help determine which measure is most appropriate for any follow-on main trial.

Both the BI and the Edmans Activities of Daily Living Index for Stroke Patients will be self-report. However, given the prevalence of communication and cognitive impairments, participants may be unable to report this information or may have reduced insight into their actual versus perceived abilities. In such cases, where it is not possible to obtain all the outcome measurement data from the participant, the researcher will obtain by proxy data from the treating physiotherapist during inpatient admission or next of kin/carer, once discharged from hospital. The proportions completed by the participants and proxy will be summarised (Table 12).

Proposed secondary outcome measures

The secondary outcome measures proposed for the main trial will capture the multiple aspects of secondary neuromuscular, physiological and psychological complications observed post-stroke that may impede functional recovery and can change rapidly within the first two to three months' post-stroke (Table 14).

Knee muscle strength using hand held dynamometer (Hyun *et al.*, 2015; Riddle *et al.*, 1989)

Length of hip flexors, hamstrings and ankle plantar flexors using manual universal goniometer (Berryman & Brandy, 2010)[9]

Muscle tone in hip adductors, hamstrings and ankle using Modified Ashworth Scale (Ghotbi *et al.*, 2009)

Control of trunk using Trunk Control Test (Duarte *et al.*, 2009; Verheyden *et al.*, 2006)

Mood using Patient Health Questionnaire (PHQ-9) (Williams *et al.*, 2005) for participants who have nil or mild to moderate aphasia, or Stroke Aphasia Depression Questionnaire-10 (SADQ-10) for participants who have severe aphasia (Sutcliffe & Lincoln, 1998)

Health related quality of life using Stroke and Aphasia Quality of Life Scale-39 (Hilari *et al.*, 2003) and the EQ-5D 5L (Herdman *et al.*, 2011)

Fatigue using a Visual Analogue Scale to enable people with aphasia to also rate their level of fatigue (Kersten, Küçükdeveci & Tennant, 2012)

Responsiveness of the outcome measures will also be examined to inform selection of the primary outcome, and to refine the number of secondary outcomes (Tables 15 and 16). Responsiveness is defined as the ability of an outcome measure to detect changes over time in the construct to be measured (Mokkink *et al.*, 2010) and will be utilised with caution as the trial is not sufficiently powered to draw reliable conclusions from hypothesis testing. However, it will provide data to gain a better understanding of which outcomes may be of interest to further explore in a fully powered trial, in particular, to identify the most appropriate choice of primary outcome.

Analysis methods

As this is a feasibility trial, it is not suitably powered to be able to support or justify any conclusions regarding treatment effectiveness and efficacy realised from hypothesis testing

(Whitehead *et al.*, 2016), and indeed is not the purpose of the trial. As such, the analysis of the results of this trial will not involve formal statistical testing, but rather will be descriptive summarising each group separately and the differences between allocated groups. Percentages and numbers will be used for categorical data and mean (along with 95% confidence interval), standard deviation and range used if data is approximately normally distributed, or median, inter-quartile range and range if data is highly skewed). This will help to inform the details of a fully powered SPIRES RCT.

Missing Data

In the event a participant is not available for the collection of outcome measures, additional visits will be organised to try to capture the missing measures. However, some loss to follow-up is expected over 12 months, given the severity of stroke. The proportion of participants missing each outcome will be summarised for each allocated group and at each time point, with reasons for missing outcomes documented wherever possible. The main analysis of the primary outcome uses Barthel Index and Edmans Activity of Daily Living Index for Stroke which could be missing for several reasons:

1. Participant opts out of trial before follow-up data collection
2. Participant or proxy refuses to participate in collection of measures
3. Participant moves out of the trial geographical area before follow-up data collection
4. Participant is medically unwell or receiving end of life care
5. Participant dies and is withdrawn from the trial.

There is no a priori reason to assume that participants who are lost to follow-up are missing not at random. Therefore, for the primary analysis, no imputation of missing data will be undertaken, and this primary outcome analysis will be based on the complete case/observed outcomes dataset

Other missing data

As above, any missing secondary or demographic data will be noted for consideration in the design of a subsequent full-scale trial.

Statistical Software

The statistical analyses will be undertaken using Statistical Package for the Social Sciences (SPSS) (IBM Corporation, Released 2016) version 24 or higher.

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Figure 1: CONSORT Flow Diagram of participants through SPIRES

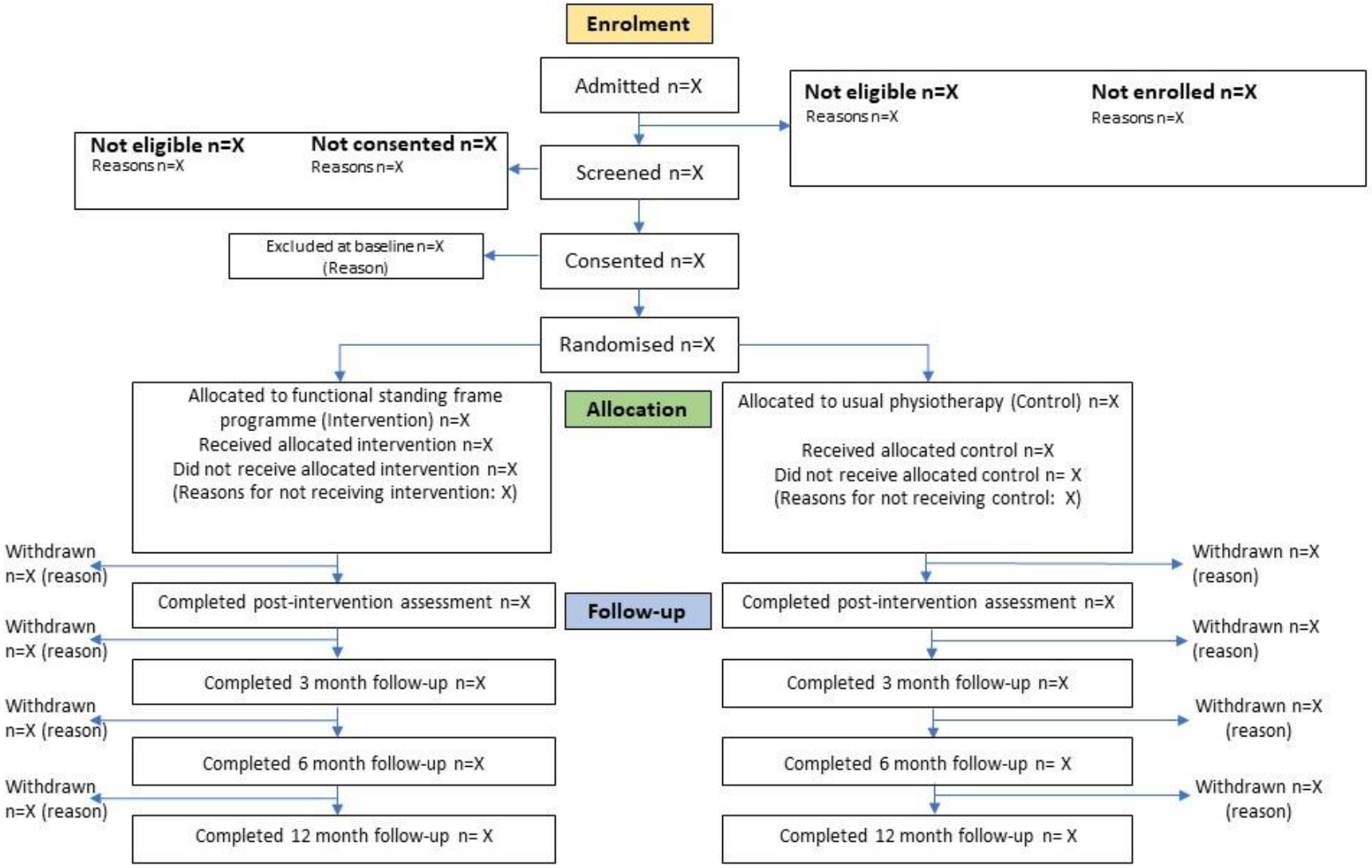

Table 1: Feasibility Objectives

Feasibility Indicator	Outcome Measures	Parameter for Success	Results	Feasible (Y/N)	Suggested Modification
Process Recruitment rate Retention rate Ability to consent Consent rate Eligibility criteria Willingness of physiotherapists to recruit Willingness of patients to be randomised Acceptability of the intervention Determining usual physiotherapy	 % of participants recruited/time % of participants completed T1, T2, T3, T4, T5 % of participants consenting % of consultee declarations % of admissions screened & eligible % of admissions screened & approached % of participants who refuse to enrol in the trial % of withdrawals Frequency specific physiotherapy interventions are implemented	 ≥ 70% of 50 participants over 13 months Complete T2, T3, T4, T5 ≥80% ≥50% of admissions screened & ≥75% of eligible participants approached ≤10% of participants approached ≤10% of participants approached ≤20% of participants approached 0% functional standing frame programme (e.g. ≥5 sessions per week, ≥8 repetitions of sit to stand and standing for 30 minutes)	Calculations shown in Section 3, Trial Objectives		
Resources Burden Cost effectiveness	 % of participants refusing physiotherapy sessions and follow-up assessments n= duration (minutes) of functional standing frame programme session	 ≤20% of participants recruited			
Management Fidelity Participant adherence Orthostatic hypotension protocol	 Observe intervention and control group sessions n= sessions per week n= minutes in standing n= sit to stand repetitions Yes; n= No for enjoyment Score out of 10 for effort Score out of 10 for fatigue % incident of orthostatic hypotension % of incomplete sessions due to orthostatic hypotension (OH)	 ≥3 out of the four Stroke Rehab Units ≥5 sessions per week or ≥15 sessions over 3-weeks. ≥50% unable to undertake the functional standing frame programme ≥50% of participants with OH unable to undertake the functional standing frame programme			
Safety Intervention Data collection	 n= AE & SAE n= AE & SAE	 0% AE*; 0% SAE* 0% AE*; 0% SAE*			

* unexpected and related specifically to the functional standing frame intervention. Baseline (T1), post 3-week intervention (T2), 15 weeks post-randomisation (T3), 29 weeks post-randomisation (T4) and 55 weeks post-randomisation (T5).

Table 2: Adherence to allocated treatment

Adherence Measure		
	n (%) per participant	
Number of sessions attended out of 21	**Intervention Group**	**Control Group**
21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0		
Number of minutes in standing (target is 30 minutes) for intervention group	**n (%) per participant**	
>30 30 25 20 15 10 5 0		
Number of minutes in usual physiotherapy (target is 15 minutes) for intervention group	**n (%) per participant**	
>15 15 14 13 12 11 10 9 8 7 6 5 4		

3 2 1 0		
Number of repetitions of sit to stand (target is 8-12) for intervention group	**n (%) and median (IQR) per participant**	
>12 12 11 10 9 8 7 6 5 4 3 2 1 0		
Complete Adherence (minimum 5 sessions per week, 30 minutes using the standing frame and 15 minutes of usual physiotherapy and 8 sit to stand repetitions) for intervention group	**n (%)**	
Yes No		
Reasons for non-adherence	**Mean number of sessions not completed per participant (not mutually exclusive)**	
	Intervention Group	**Control Group**
Fatigue Sepsis Participant declined Infectious condition Musculoskeletal injury Skin damage (e.g. injury or pressure damage) Orthostatic hypotension Staff shortage Early discharge from Stroke Rehab Unit Withdrawn (e.g. patient/relative or physio decision) Died Other		
Duration of inpatient stay (days)	**n (%)**	
	Intervention Group	Control Group
Over 21 21 20 19 18 17 16 15 14		

13 12 11 10 9 8 7 6 5 4 3 2 1		
Enjoyment	**Yes (enjoyed)**	**No (did not enjoy)**
Effort	**n (%) per participant**	
None (0) Mild (1-3) Moderate (4-6) Severe (7-9) Unbearable (10)		
Fatigue	**n (%) per participant**	
Not at all (0) A little tired (1-3) Tired (4-6) Really tired (7-9) So tired I can't do anything (10)		
Aches and pains	**n (%) per participant**	
None (0) Mild (1-3) Moderate (4-6) Severe (7-9) Worst pain possible (10)		

Table 3: Serious Adverse Events

Outcome	Functional Standing Frame Programme		Usual Physiotherapy	
	Count and % of SAEs (Calculated by number of SAEs divided by total number of participants)	**Count and % of participants with SAEs** (Calculated by number of people with SAEs divided by total number of participants)	**Count and % of SAEs** (Calculated by number of SAEs divided by total number of participants)	**Count and % of participants with SAEs** (Calculated by number of people with SAEs divided by total number of participants)
Respiratory, thoracic and mediastinal disorders				
Renal and urinary disorders				
Nervous system disorders				
Skin and subcutaneous tissue disorders				
Gastrointestinal disorders				
Blood and the lymphatic system disorders				
Orthostatic hypotension				
Fall				
Injury, poisoning and procedural complications				
Cardiac disorders				
Musculoskeletal and connective tissue disorders				
Metabolism and nutrition disorders				
Ear and labyrinth disorders				
Hepatobiliary disorders				
Congenital and familial and genetic disorders				
General disorders and admin site conditions				
Surgical and medical procedures				
End of life care				
Died				

Table 4: Adverse events

Outcome	Functional Standing Frame Programme		Usual Physiotherapy	
	Count and % of AEs (Calculated by number of AEs divided by the total number of participants)	**Count of participants with AEs and %** (Calculated by number of people with AEs divided by total number of participants)	**Count and % of AEs** (Calculated by number of AEs divided by total number of participants)	**Count and % of participants with AEs** (Calculated by number of people with AEs divided by total number of participants)
Respiratory, thoracic and mediastinal disorders				
Renal and urinary disorders				
Nervous system disorders				
Skin and subcutaneous tissue disorders				
Gastrointestinal disorders				
Blood and the lymphatic system disorders				
Orthostatic hypotension				
Fall				
Injury, poisoning and procedural complications				
Cardiac disorders				
Musculoskeletal and connective tissue disorders				
Metabolism and nutrition disorders				
Ear and labyrinth disorders				
Hepatobiliary disorders				
Congenital and familial and genetic disorders				
General disorders and admin site conditions				
Surgical and medical procedures				
End of life care				
Died				

Table 5: Relatedness of AEs and SAEs to the functional standing frame programme

	Adverse Events		Serious Adverse Events	
	Related	Unrelated	Related	Unrelated
Moderately severe stroke (mRS 4)	%	%	%	%
Very severe stroke (mRS 5)	%	%	%	%

Table 6: Minimisation Characteristics in Allocated Groups

Characteristic	Intervention Group (n=X)	Control Group (n=X)
Fatigue	% with a score 0-3 (no or minimal fatigue) or 4-10 (fatigue)	% with a score 0-3 (no or minimal fatigue) or 4-10 (fatigue)
Orthostatic Hypotension	% with orthostatic hypotension	% with orthostatic hypotension

Table 7: The extent to which the assessor remained blinded

Follow-up Time point post-randomisation	Number of assessments completed	Number (%) of instances the blinded assessor believes they have been unblinded	Number (%) of instances the blinded assessor correctly guessed group allocation
3 weeks			
15 weeks			
29 weeks			
55 weeks			

Table 8: Timing of outcome assessments

Completion status	Baseline (n) (T1)	Post-intervention (T2) (n)	15 weeks follow-up (T3) (n)	29 weeks follow-up (T4) (n)	55 weeks follow-up T5) (n)
Completed within 7 days of consent or ± 7 days from the follow-up visit date as per database(Logan *et al.*, 2018)	%	%	%	%	%
Completed within +/- 8-14 days of consent or ± 7 days from the follow-up visit date as per database (Logan *et al.*, 2018)	%	%	%	%%	%
Not completed	%	%	%	%	%

Table 9: Adherence by site for functional standing frame programme

	Stroke severity	Site 01	Site 02	Site 03	Site 04
Number of sessions completed	mRs 4				
	mRS 5				
Number of minutes in standing	mRs 4				
	mRS 5				
Number of sit to stand repetitions	mRs 4				
	mRS 5				

Figure 2: Relationship between adherence, orthostatic hypotension, fatigue and proposed primary outcome measures (Illustrative plot to be inserted)

Table 10: Baseline and Demographic Data

	Functional standing frame programme (n=)	Usual Physiotherapy (n=)	All (n=)
Age, Mean (SD) [range]			
Gender (%)			
Male			
Female			
Weight in kg, mean (SD) [range]			
Marital Status (%)			
Single			
Married or in a civil partnership			
Separated			
Divorced			
Widowed			
Place of Residence (%)			
Lives at home			
Lives in residential Care			
Other			
Living Arrangements (%)			
Alone			
Spouse/Partner			
Parent(s)			
Children under 18			
Children over 18			
Other family			
Non-family			
Employment Status (%)			
In employment or self-employed			
Retired			
Housework			
Student			
Unemployed			
Other			
Pre-admission modified Rankin Scale, %			
0 (no symptoms)			
1 (no significant disability)			
2 (slight disability)			
3 (moderate disability)			
4 (moderately severe disability)			
5 (severe disability)			
6 (Dead)			
Pre-admission mobility status (%)			
Walking without an aid			
Walking with an aid			
Walking with physical assistance			
Mechanical aid with assistance			
Medical and surgical conditions (%)			

Osteoarthritis – has/had this condition			
Osteoarthritis – ongoing at study entry			
Joint replacement – has/had this condition			
Joint replacement – ongoing at trial entry			
Osteoporosis – has/had this condition			
Osteoporosis – ongoing at trial entry			
Coronary heart disease/Hypertension/Hypotension – has/had this condition			
Coronary heart disease/Hypertension/Hypotension – ongoing at trial entry			
COPD/Asthma – has/had this condition			
COPD/Asthma – ongoing at trial entry			
Diabetes – has/had this condition			
Diabetes – ongoing at trial entry			
Depression/anxiety – has/had this condition			
Depression/anxiety – ongoing at trial entry			
TIA – has/had this condition			
TIA – ongoing at trial entry			
Epilepsy/seizure – has/had this condition			
Epilepsy/seizure – ongoing at trial entry			
Neurological condition – has/had this condition			
Neurological condition – ongoing at trial entry			
Other – ongoing at trial entry			
Has Previous strokes (%)			
For those with previous stroke, median (IQR) number of strokes			
Current mobility status (%)			
Hoist			
Transfer board			
Handling belt			
Electronic standing aid			
Mechanical standing aid			
Other			
How many people required?			
Stroke Severity (%)			
NIHSS			
0 (no stroke symptoms)			
1-4 (minor stroke)			

5-15 (moderate stroke)			
16-20 (moderate to severe stroke)			
21-42 (severe stroke)			
mRS			
0 (no symptoms)			
1 (no significant disability)			
2 (slight disability)			
3 (moderate disability)			
4 (moderately severe disability)			
5 (severe disability)			
6 (dead)			
Stroke Classification (%)			
TACS			
PACS			
POCS			
LACS			
Lesion Location (%)			
Cortical			
Middle cerebral artery			
Frontal			
Sub-cortical			
Thalamus			
Basal ganglia			
Midbrain			
Pons			
Medulla			
Cerebellum			
Brain stem			
Parietal			
Temporal			
Occipital			
Stroke sub-type (%)			
Lacunar			
Anterior cerebral artery			
Posterior cerebral artery			
Basilar artery			
Cerebellar artery			
Carotid artery			
Other (e.g. carotid dissection or undetermined)			
Days since stroke admitted to Stroke Rehabilitation Unit, median (IQR)			
Days since stroke informed consent received, median (IQR)			
Prevalence of aphasia (%)			
Prevalence of orthostatic hypotension (%)			
Prevalence of fatigue (%)			
0 (no fatigue) 1-3 (a little tired) 4-6 (tired)			

7-9 (really tired) 10 (too tired to do anything)			

Table 11: Summary of Missing Data

Outcome Variable	Completeness of Outcome Measure (n) %	Reason for Missing Data (n) % over all timepoints				
		Declined	Aphasia	Cognitive	Unwell	Died
Barthel Index *Feeding* *Bathing/Grooming/Dressing* *Bladder/Bowels/Toilet use* *Mobility/Transfers/Stairs*						
Edmans Activities of Daily Living Index for Stroke *Washing/Grooming/Dressing* *Meal Times* *Basic Mobility* *Advanced Mobility* *Bed Mobility* *Kitchen Activities* *Housework Activities* *Associated problems:* *Language* *Perceptual* *Sensory* *Dyspraxia* *Reasoning* *Memory* *Depression* *Anxiety* *Urinary continence* *Faecal continence*						
PHQ-9 *Participant has aphasia* *Little interest or pleasure in things* *Feeling down, depressed, hopeless* *Trouble falling asleep or sleeping too much* *Feeling tired or little energy* *Poor appetite or over eating* *Feeling bad about self* *Trouble concentrating on things* *Moving and speaking slowly* *Thoughts of being better off dead/hurting self* *Level of difficulty*						
SAD-Q10 *Weeping spells* *Restless disturbed nights* *Avoid eye contact* *Burst into tears* *Suffer from aches and pain* *Get angry* *Participate in social activities* *Gets restless and fidgety* *Sits without doing anything* *Occupied during the day*						

SAQoL-39 *Preparing food* *Getting dressed* *Taking a bath* *Walking* *Keeping balance when bending* *Climbing stairs* *Walking without stopping to rest* *Standing* *Getting out of a chair* *Doing daily housework* *Finished jobs you started* *Writing or typing* *Putting on socks* *Doing buttons* *Doing a zip* *Opening a jar* *Speaking* *Speaking clearly to use phone* *Getting people o understand you* *Finding word you wanted to say* *Getting people to understand when repeat self* *Write things down to remember them* *Hard to make decisions* *Feel irritable* *Feel personality changed* *Feel discouraged about future* *No interest in people or activities* *Feel withdrawn from people* *Have little confidence in self* *Feel tired most of time* *Stop and rest often during day* *Tired to do what you wanted to* *Feel you were burden to family* *Language interfered with family life* *Gou out less often* *Do hobbies and recreational less often* *See friends less often* *Physical condition interfered with social life* *Language problems interfered with social life* *Physical Score* *Communication Score* *Psychosocial Score* *Energy Score* *Mean Score*							
EQ-5D-5L *Mobility*							

Self-care *Usual Activities* *Pain & discomfort* *Anxiety & depression* *Health state Score*							
Muscle strength *Quadriceps* *Trial 1 left* *Trial 1 right* *Trial 2 left* *Trial 2 right* *Trial 3 left* *Trial 3 right*							
Joint Range of Movement *Hip flexion angle* *Left* *Right* *Popliteal angle* *Left* *Right* *Ankle plantar flexion* *Left* *Right* *Ankle dorsal flexion* *Left* *Right*							
Modified Ashworth Scale *Hip adductors* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle flexion* *Left* *Right* *Ankle extension* *Left* *Right*							
Trunk Control Test *Rolling to weak side* *Rolling to strong side* *Balance in sitting position* *Sitting up for lying down* Total score							

Declined = “declined to answer”; aphasia = “unable to answer due to aphasia”; Cognitive = “unable to answer due to cognitive impairment”; Unwell = “unable to answer due to medically unwell”; Died = “Participant died and subsequently withdrawn from the trial”.

Table 12: Proposed Primary Outcome Data

		Time point

Outcome variable	Treatment Arm	Baseline (n=xx)	3 (+/-1) weeks (n=xx)	15 weeks (+/-1 week) (n=xx)	29 weeks (+/-1 week) (n=xx)	55 weeks (+/-1 week) (n=xx)
Barthel Index Mean (SD)[range]	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
	Usual Physiotherapy	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Edmans Activities of Daily Living Index for Stroke Mean (SD)[range]	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
	Usual Physiotherapy	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)

Table 13: Patient and/or Proxy Responses for Potential Primary Outcome Data

Outcome Measure	Time point									
	Baseline (n=xx)		**3 (+/-1) weeks (n=xx)**		**15 weeks (+/-1 week) (n=xx)**		**29 weeks (+/-1 week) (n=xx)**		**55 weeks (+/-1 week) (n=xx)**	
	Patient	*Proxy*	*Patient*	*Proxy*	*Patient*	*Proxy*	*Patient*	*Proxy*	*Patient*	*Proxy*
Barthel Index	%	%	%	%	%	%	%	%	%	%
Edmans Activities of Daily Living Index for Stroke	%	%	%	%	%	%	%	%	%	%

Table 14: Proposed Secondary Outcomes

Outcome variable	Treatment Arm	Time point				
		Baseline (n=xx)	3 weeks (+/-1) (n=xx)	15 weeks (+/-1 week) (n=xx)	29 weeks (+/-1 week) (n=xx)	55 weeks (+/-1 week) (n=xx)
Muscle length using manual goniometry, Median (IQR) *Hip flexor* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle plantar flexors* *Left* *Right* *Ankle dorsiflexors* *Left* *Right*	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Hip flexors *Left* *Right* *Hamstrings* *Left* *Right* *Ankle plantar flexors* *Left* *Right* *Ankle dorsiflexors* *Left* *Right*	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Knee muscle strength measured in Newtons (Maximum score of three trials), Median (IQR)	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)

Knee muscle strength measured in Newtons (Maximum score of three trials), Median (IQR)	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Modified Ashworth Scale Score, Median (IQR) *Hip adductors* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle flexion* *Left* *Right* *Ankle extension* *Left* *Right*	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Modified Ashworth Scale Score, Median (IQR) *Hip adductors* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle flexion* *Left* *Right* *Ankle extension* *Left* *Right*	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Trunk Control Test, Median (IQR) Roll to weak side	*Functional Standing*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)

Roll to strong side Balance in sitting Sit up from lying down	*Frame Programme*					
Trunk Control Test, Median (IQR) Roll to weak side Roll to strong side Balance in sitting Sit up from lying down	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Patient Health Questionnaire 9 (PHQ-9), Median (IQR)	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Patient Health Questionnaire 9 (PHQ-9), Median (IQR)	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Stroke Aphasia Depression Questionnaire (SAD-Q10), Median (IQR)	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Stroke Aphasia Depression Questionnaire (SAD-Q10), Median (IQR)	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Stroke and Aphasia Quality of Life Scale (SAQOL39), Median (IQR) Physical Psychosocial Communication	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
Stroke and Aphasia Quality of Life Scale (SAQOL39), Median (IQR) Physical Psychosocial Communication	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)
European Quality of Life-5 Dimensions (EQ-5D 5L), Median (IQR) *0 (no problems)* *1 (slight problems)*	*Functional Standing Frame Programme*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)

2 (moderate problems) *3 (severe problems)* *4 (extreme problems/unable)* *Health score (0=worst, 100=best)*						
European Quality of Life-5 Dimensions (EQ-5D 5L), Median (IQR) *0 (no problems)* *1 (slight problems)* *2 (moderate problems)* *3 (severe problems)* *4 (extreme problems/unable)* *Health score (0=worst, 100=best*	*Usual Physiotherapy*	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)	Xx(xx)

Table 15: Percentage change in Proposed Primary Outcome Data from baseline

Outcome variable	Treatment Arm	Time point			
		3 (+/-1) weeks (n=X)	15 weeks (+/-1 week) (n=X)	29 weeks (+/-1 week) (n=X)	55 weeks (+/-1 week) (n=X)
Barthel Index % change	Functional Standing Frame Programme	X(SD)	X(SD)	X(SD)	X(SD)
	Usual Physiotherapy	X(SD)	X(SD)	X(SD)	X(SD)
Edmans Activities of Daily Living Index for Stroke % change	Functional Standing Frame Programme	X(SD)	X(SD)	X(SD)	X(SD)
	Usual Physiotherapy	X(SD)	X(SD)	X(SD)	X(SD)

Table 16 Percentage change in Proposed Secondary Outcome Data from baseline

Outcome variable	Treatment Arm	Time point			
		3 weeks (+/-1) (n=X)	15 weeks (+/-1 week) (n=X)	29 weeks (+/-1 week) (n=X)	55 weeks (+/-1 week) (n=X)
Muscle length using manual goniometry % change *Hip flexor* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle plantar flexors* *Left* *Right* *Ankle dorsiflexors* *Left* *Right*	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)
Hip flexors *Left* *Right* *Hamstrings* *Left* *Right* *Ankle plantar flexors* *Left* *Right* *Ankle dorsiflexors* *Left* *Right*	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
Knee muscle strength measured in Newtons (Maximum score of three trials) *% change*	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)

Knee muscle strength measured in Newtons (Maximum score of three trials) *% change*	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
Modified Ashworth Scale Score *% change* *Hip adductors* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle flexion* *Left* *Right* *Ankle extension* *Left* *Right*	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)
Modified Ashworth Scale Score *% change* *Hip adductors* *Left* *Right* *Hamstrings* *Left* *Right* *Ankle flexion* *Left* *Right* *Ankle extension* *Left* *Right*	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
Trunk Control Test *% change* Roll to weak side Roll to strong side Balance in sitting	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)

Sit up from lying down					
Trunk Control Test *% change* Roll to weak side Roll to strong side Balance in sitting Sit up from lying down	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
Patient Health Questionnaire 9 (PHQ-9) *% change*	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)
Patient Health Questionnaire 9 (PHQ-9) *% change*	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
Stroke Aphasia Depression Questionnaire (SAD-Q10) *% change*	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)
Stroke Aphasia Depression Questionnaire (SAD-Q10) *% change*	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
Stroke and Aphasia Quality of Life Scale (SAQOL39) *% change* Physical Psychosocial Communication	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)
Stroke and Aphasia Quality of Life Scale (SAQOL39) *% change* Physical Psychosocial Communication	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)
European Quality of Life-5 Dimensions (EQ-5D 5L) *% change* *0 (no problems)* *1 (slight problems)* *2 (moderate problems)* *3 (severe problems)* *4 (extreme problems/unable)*	*Functional Standing Frame Programme*	X(SD)	X(SD)	X(SD)	X(SD)

Health score (0=worst, 100=best)					
European Quality of Life-5 Dimensions (EQ-5D 5L) *% change* *0 (no problems)* *1 (slight problems)* *2 (moderate problems)* *3 (severe problems)* *4 (extreme problems/unable)* *Health score (0=worst, 100=best*	*Usual Physiotherapy*	X(SD)	X(SD)	X(SD)	X(SD)