ClinicalPhysio

Webinar Handbook
Exercise and activity after Stroke

Contents

Course Presenter

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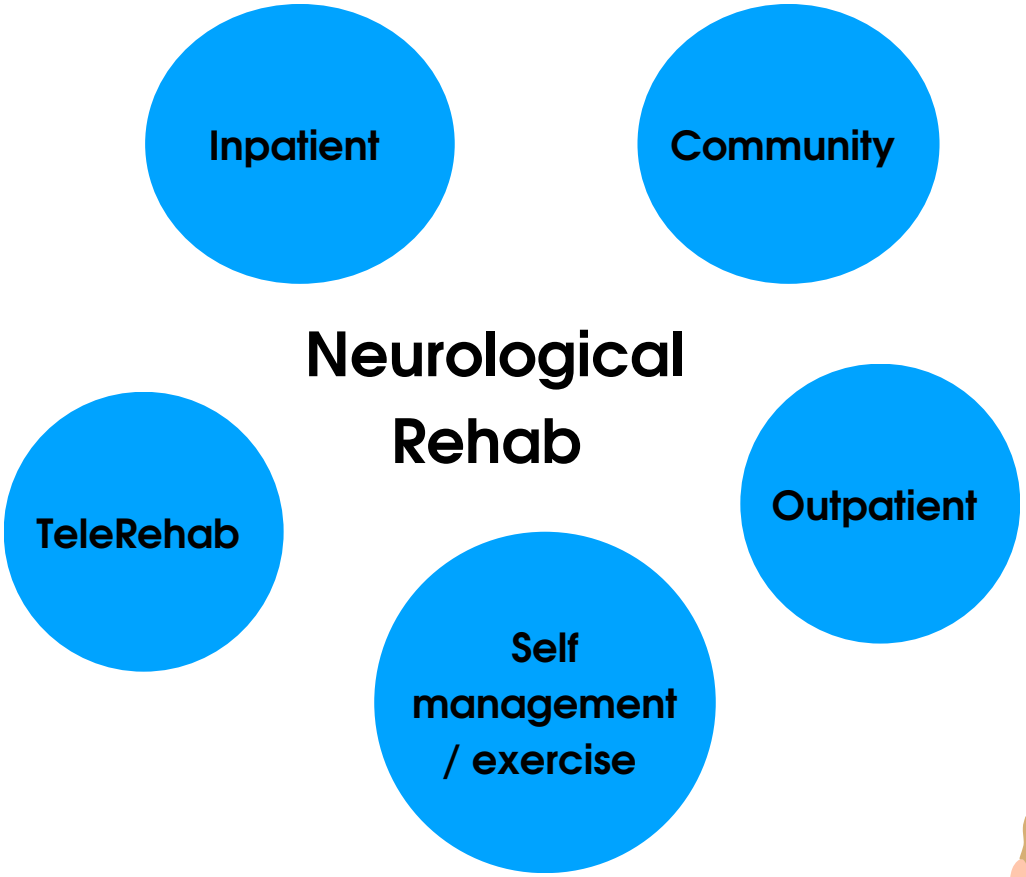
Introduction

Incidence of Stroke

- 100,000 people have strokes each year
- There are 1.3 million stroke survivors in the UK
- Improved walking function is goal most commonly stated after stroke
- Post neurological rehabilitation
    - 20% limited walking function
    - 30% walk with assistance or devices
    - 50% regain independent walking (Jorgensen APMR).

- In 30–50% of all stroke survivors, the affected arm is still severely impaired 6 months after stroke

Neurological Rehab



A framework for Stroke Recovery

National Clinical Guidelines for Stroke 2023

- People with motor recovery goals undergoing rehabilitation should receive a minimum of 3 hours of MDT therapy a day.
- People should be supported to remain active for up to 6 hours a day (including therapist delivered therapy).
- The most effective therapy for promoting motor recovery after stroke is based on exercise and practice of functional tasks augmented as necessary by technological and priming techniques.

Neurological Rehab

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Neurological Rehab

A framework for Stroke Recovery

National Clinical Guidelines for Stroke 2023

- People with stroke should be considered to have the **potential to benefit from rehabilitation at any point** after their stroke.

- People with stroke who are able to walk should be **offered access to equipment to enable intensive walking training** such as treadmills or electromechanical gait trainers.

- Stroke services should consider building links with voluntary sector and recreational fitness facilities such as gyms or leisure centres to enable community-dwelling people with stroke to access treadmills and other relevant fitness equipment. (2023)

Dose *vs.* Intensity

Intensive training is required to exploit full potential of recovery

- Increased dose -> associated with better recovery
- Unclear whether therapy needs to be more intense

- SSNAP 2021: 11.9% of patients received >45 mins PT 7 days a week.
- 72% of time patients spent with non-therapeutic activities

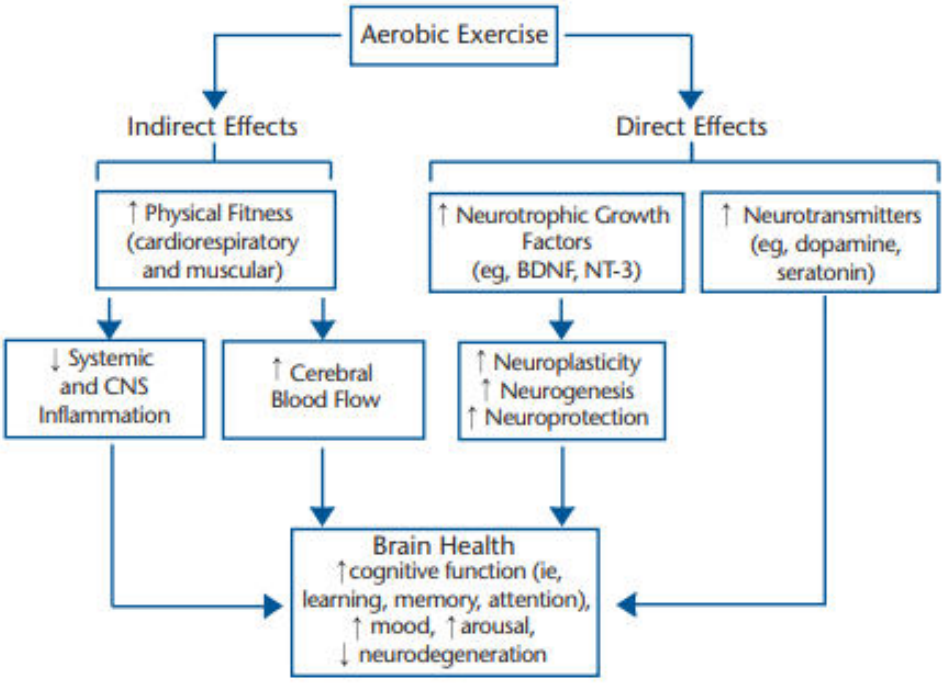
Self-Management / exercise

"If exercise could be purchased in a pill, it would be the single most widely prescribed and beneficial medicine in the nation"

Robert H Butler

Benefits of Exercise

- Bone density
- Reduces risk of non-communicable disease
- Strength
- Sleep and fatigue
- Increases energy expenditure
- Cognitive function
- Bladder and bowel function
- Mood and confidence
- Social interaction and reduces isolation



Self-Management / exercise

Barriers to Exercise

Physical Barriers

- Pain
- Fatigue
- Depression
- Strength

Environmental Barriers

- Lack of transportation
- Lack of accessible equipment
- Cost

Knowledge Barriers

- Fear of injury
- How to exercise with a new condition

Considerations in Neurological Conditions

- Fatigue
- Impairments
- Medication

National Guidelines

Cardiovascular

- **150 minutes** of **moderate** intensity activity a week **or**
- **75 minutes** of **vigorous** intensity **activity a week**

Strength

- Train the major muscle groups **twice per week**

Reduce time spent sitting or lying down and break up long periods of not moving with some activity

Stroke Guidelines

Cardiovascular

- 40-70% heart rate reserve or 50-80% of maximal heart rate
- **3-7d/week**, **20-60 minute** sessions.

Strength

- **1-3 sets of 10-15 reps** involving major muscle groups
- **2-3 d/week**

Flexibility

- **2-3d/week** before/ after strength training
- Hold stretches **10-30 seconds**

Neuromuscular

- **2-3 d/week** - consider completing on the same day as strength

Stroke Guidelines

Cardiovascular

Body's efficiency in taking in and distributing oxygen to muscles and organs during prolonged exercise

Very light (Under 57% of MHR)

Engaged in very gentle activity, your ability to talk is not hindered

Light (57% to 63% of MHR)

You will be able to carry on a full conversation in this zone, although you may be breathing a little heavier than usual.

Moderate (64% to 76% of MHR)

You will be breathing heavier but will still be able to speak in short sentences. You get the same health benefits and fat-burning benefits as the light heart zone.

Vigorous (77% to 95% of MHR)

You will be breathing very hard and able only to speak in short phrases. Aiming for 20 to 60 minutes in this zone is believed to give the best fitness training benefits.

Strengthening

Progressive resistance training

- Shorten rest between sets
- Increase time under tension
- Weight increase reps / set same
- Increase reps/ sets

Stroke Guidelines

Neural Considerations

What factors are important?

- Timing
- Load
- Reps/ Sets
- Exercise selection
- Speed of movement
- Rest
- Underlying strength

Increasing Compliance

- Patient centred
- Fun !!!
- Linked to Goals
- Achievable but challenging
- Meaningful
- Utilise technology
- Education
- Work with friends and families

Stroke Guidelines

Cardiovascular Exercise Examples

Electromechanical-assisted gait trainers

Assisted cycling

Cardiovascular/ gym groups

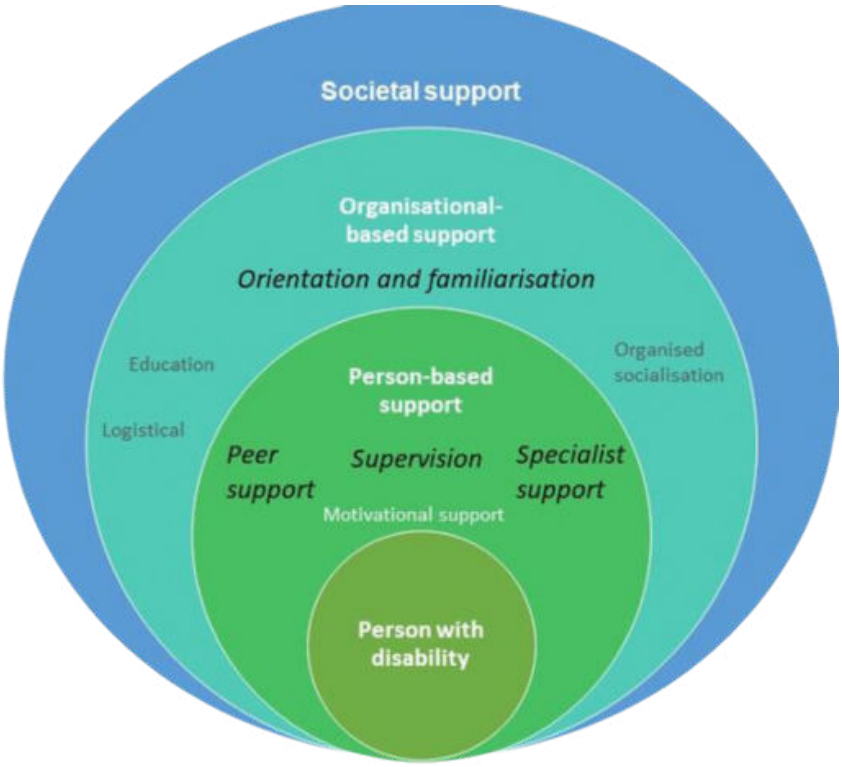
Strengthening Exercise Examples

Electrical stimulation

Weights

Anti gravity/ gravity assisted devices

Social Support Initiatives



- Gyms can be an intimidating space for people with disability, who describe fears of **'standing out', self-consciousness** and **'not-belonging'.**

- Most people with disability do not participate in the recommended amounts of activity and many are unable to access physical recreation opportunities available within their communities

- People with disability who **are** physically active report increased social interactions, feel socially connected and have a **greater sense of independence and confidence.**

- The availability of social support, together with positive social connectedness, and a suitable physical environment are essential to being physically active for people with disability.

Social Support Initiatives

Get active in the community

activity alliance
disability inclusion sport

LEGS
LOCAL EXERCISE GROUPS FOR STROKE & NEURO CONDITIONS

Ability Bow

BETTER A charitable social enterprise

EVERYONE ACTIVE'S GP EXERCISE REFERRAL SCHEME

everyone ACTIVE

INCLUSIVE UK MEMBERSHIP

Get active at home

YouTube GB

Utilise Technology

App's

- Pedometer
- REPS
- Active10
- Physitrack

Gamification / Robotics

- Gripease
- NMES
- Tyrostation
- Therabike

TeleRehab

Key Learning Points

- Physical activity engagement is low after stroke.
- Exercise training is effective but capactiy and opportunity is limited.
- New physical activity routines need to be developed post stroke.
- Behaviour change and self-efficacy.
- Partnership and group intervention is beneficial for active living.

Exercise is Medicine

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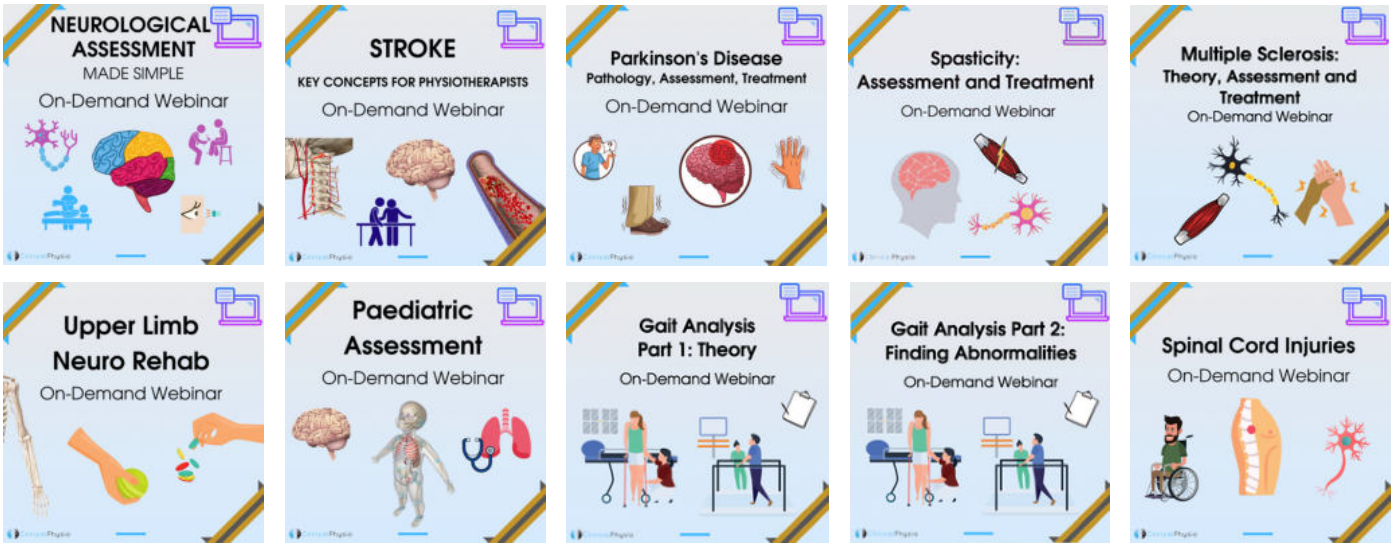

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