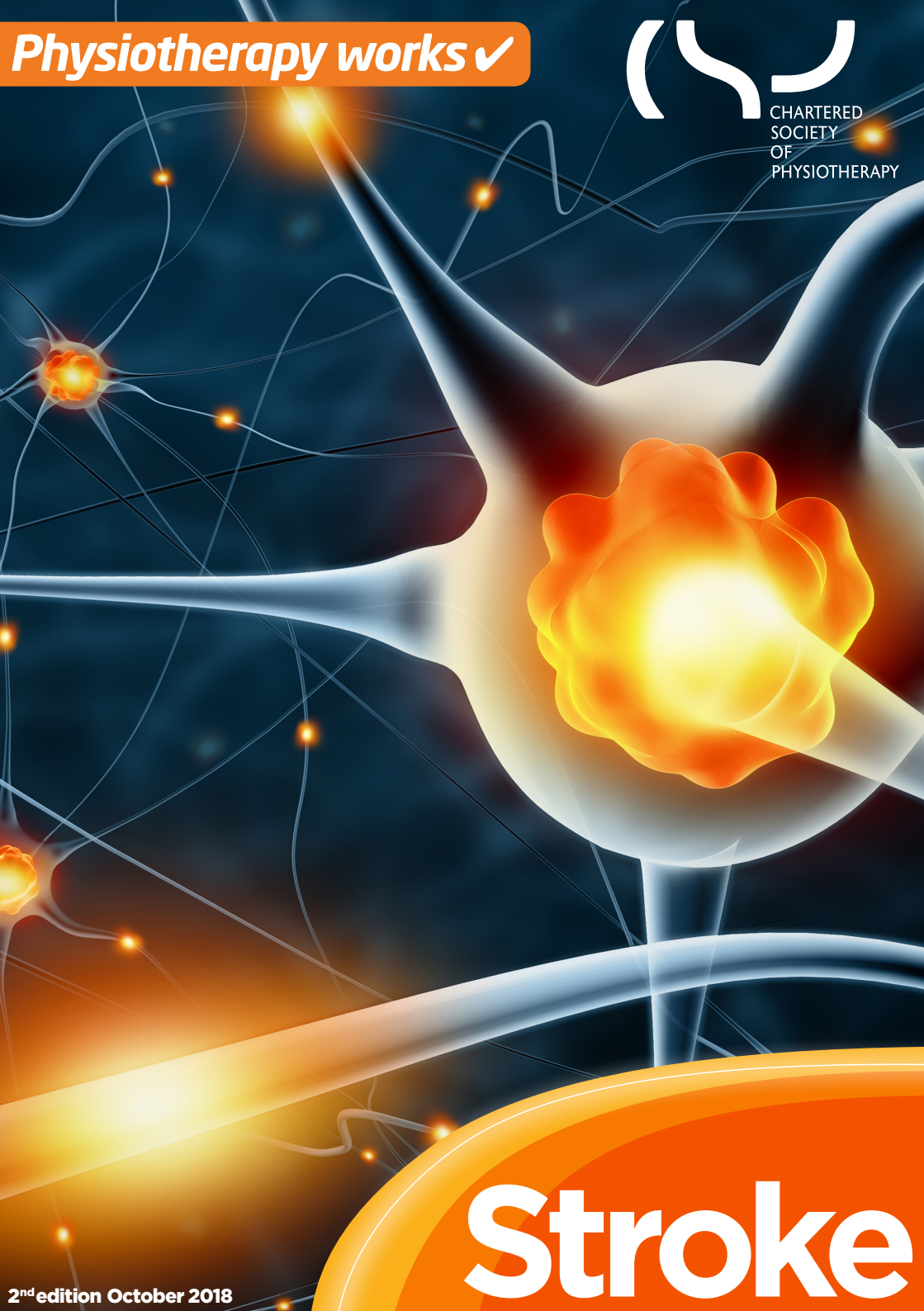


**Physiotherapy works ✓**



CHARTERED  
SOCIETY  
OF  
PHYSIOTHERAPY



# Stroke

2<sup>nd</sup> edition October 2018



# Stroke

**P**hysiotherapy enables people to relearn lost abilities, regain independence and reduce the risk of further strokes.

Physiotherapy improves recovery of function and mobility after stroke<sup>(1)</sup>. NICE recommends a minimum of 45 minutes of physiotherapy five days a week as part of a seven day specialist stroke rehabilitation service<sup>(2, 3)</sup>. High intensity therapy is needed to relearn lost abilities<sup>(4)</sup>. Rehabilitation should continue for as long as the person is showing measurable benefit from treatment and has achieved their agreed goals<sup>(2, 3)</sup>. Access to community rehabilitation services should be flexible to support longer term needs.

## Early physiotherapy helps people relearn vital abilities

From 24 hours after a stroke, physiotherapists begin rehabilitation in short frequent spells, focused on getting out of bed, standing and walking<sup>(2, 6, 7)</sup>. This repetitive task training helps people regain movement and relearn everyday activities<sup>(8)</sup>. Physiotherapists use assistive equipment to enhance stroke rehabilitation. Robot-assisted devices support people to walk independently while treadmill training improves walking speed and endurance<sup>(9, 10)</sup>. Virtual reality training may be beneficial alongside usual care but should not replace conventional therapy approaches<sup>(11)</sup>.

## Fact

**Currently 20% of stroke survivors do not receive the recommended amount of physiotherapy<sup>(26)</sup>, two thirds leave hospital with a disability and 45% feel abandoned after leaving hospital<sup>(5)</sup>.**

## Early Support Discharge (ESD)

Physiotherapy delivered by seven day services in ESD teams enables people to regain independence and reduces their length of stay in hospital<sup>(2, 3, 15)</sup>.

### ESD for people who are able to transfer independently or with a carer:

- **Saves** the NHS approximately £1600 over five years per extra patient receiving ESD<sup>(12)</sup>
- **Reduces** hospital length of stay by five days<sup>(13)</sup>
- **Reduces** long term dependency<sup>(13)</sup>
- **Reduces** admission to institutional care<sup>(13)</sup>
- **Improves** service satisfaction<sup>(14)</sup>
- **Improves** mental health scores of carers<sup>(14)</sup>.

## Longer term rehabilitation and reducing the risk of further strokes

Community physiotherapy teams support stroke survivors to achieve longer term rehabilitation goals including reintegration back into the local community and return to work. Most people who have a stroke already have other long term conditions<sup>(16)</sup>. This makes long term management complex. Flexible pathways which include easy access back into physiotherapy are required to help people manage all aspects of their long term conditions<sup>(17)</sup>.

Physiotherapy teams help stroke survivors incorporate the physical activity recommendations into their daily routine to reduce the risk of another stroke by up to 35%<sup>(18)</sup>. Physiotherapists can provide circuit training, involving intensive repetition of everyday activities, to help people walk further, faster, with more independence and confidence<sup>(19)</sup>. Integrating endurance and strength training into rehabilitation reduces disability<sup>(20)</sup>. Core stability and exercises incorporating balance, weight-shifting and gait improve balance after stroke<sup>(21, 22)</sup>.

## Size of the problem and cost of ill health

### In the UK:

- Every year **more than 100,000 people** have a stroke; or one person has a stroke every five minutes<sup>(5)</sup>
- The average cost of stroke to the NHS per patient is **£13,500 in the first year and £18,000 over 5 years**<sup>(12)</sup>
- By 2035 rate of first time strokes will have increased by **59%** and the number of stroke survivors will rise by **123%**<sup>(5)</sup>
- **One in four stroke survivors** will experience another stroke within five years<sup>(5)</sup>.



## Patient Story - Terence Goode

*“On the last day of March I suffered a stroke, this left me speechless and paralysed on my right side. Surviving a stroke is the easy bit. Adjusting to the many changes it can bring is where the hard work begins”.*

*“The physiotherapy sessions were intensive and as hard as they needed to be. During my first session I called out “I want Walk”. I surprised myself by blurting out my demands but ever accommodating they had me on my feet within a short period of time. I left the unit walking on my own with a walking stick”.*

*“I know it’s a long road ahead but with the start I’ve been given by the rehab unit, their encouragement along the way, I aim to achieve my goals”.*

Courtesy of Holywell Neurological Rehabilitation Unit, Hertfordshire Community NHS Trust.

People of working age are two to three times more likely to be unemployed eight years after their stroke<sup>(5)</sup>. Around one in four strokes occur in people of working age, however people of working age are two to three times more likely to be unemployed after their stroke and commissioning of vocational rehabilitation services is variable<sup>(5, 15)</sup>. Patient reported barriers include difficulty accessing rehabilitation services and limited capacity of rehabilitation teams to support people to return to work<sup>(23)</sup>.

### The physiotherapy offer: what does good look like?

## Providing Outcome

<b>Coordinated care</b> in specialist inpatient units	<b>More people alive,</b> independent and living at home one year after stroke <sup>(24)</sup>
<b>Continuity of care</b> in ESD or community stroke services	<b>Reduced length of stay</b> in hospital and £1600 saved per extra patient receiving ESD <sup>(13, 25)</sup>
<b>Community physiotherapy</b> to enable physical activity	<b>Reduced risk of stroke</b> by up to 35% <sup>(18)</sup>
<b>The same level of care</b> as the top 5 CCGs in England	<b>£51 million</b> and over 600 lives saved <sup>(15)</sup>

## Sherwood Forest Hospitals ESD Team

### The Early Supported Discharge Team in Sherwood Forest Hospitals NHS Foundation Trust

enables patients to receive early, specialist stroke care within their home environment. Coordinated rehabilitation is delivered by the multidisciplinary team with access to a consultant and psychology input. The team have knowledgeable rehabilitation support workers trained in all disciplines to ensure that patients receive intensive input.

As well as providing monthly data to the Sentinel Stroke National Audit Programme, the team are the first in the East Midlands to provide additional data fields.

This allows the team to promptly analyse changes in patients' ability to perform everyday activities, the achievement of rehabilitation goals and the completion of mood and cognitive screening. This data is discussed routinely in multidisciplinary meetings and is also shared at divisional meetings to allow immediate learning and inform service delivery.

After noticing inconsistency in outcome measure scores between leaving inpatient care and starting with ESD, meaning patients appeared to have deteriorated, both teams worked together to improve this. Teaching sessions and guidance were developed to assist decision making and scoring consistency as well as regular communication between teams. Outcome measures are routinely compared, allowing real time examples and feedback which staff can learn from. The teams regularly review the data to evaluate the impact of changes made and adapt accordingly.

### Together they have:

- **Reduced variation** in outcome measure scores by **22%**
- **Improved transition of care** and collaboration between inpatient and ESD services.





CHARTERED  
SOCIETY  
OF  
PHYSIOTHERAPY

14 Bedford Row  
London WC1R 4ED  
Tel: 020 7306 6666

Email: [enquiries@csp.org.uk](mailto:enquiries@csp.org.uk)  
Website: [www.csp.org.uk](http://www.csp.org.uk)



## Acknowledgments

Thanks to Association of Chartered Physiotherapists in Neurology (ACPIN), Terence Goode, Krishna Gundapudi (Lead Physiotherapist, Holywell Unit, Hertfordshire Community NHS Trust) and Katie Summers (Early Supported Discharge Team Lead, Sherwood Forest Hospitals NHS Foundation Trust).

## References

- Pollock A, Baer G, Campbell P, et al. Physical rehabilitation approaches for the recovery of function and mobility following stroke. *Cochrane Database of Systematic Reviews*. 2014(4). URL: <https://bit.ly/2QoXDFJ>
- Intercollegiate Stroke Working Party. National clinical guideline for stroke, 5th Edition. London: Royal College of Physicians. 2016. URL: <https://bit.ly/2ac6zMJ>
- National Institute for Health and Care Excellence. Stroke rehabilitation in adults. CG162. London: National Institute for Health and Care Excellence; 2013. URL: <https://bit.ly/2RcCXLt>
- Veerbeek JM, van Wegen E, van Peppen R, et al. What is the evidence for Physical Therapy PostStroke? A systematic Review and Meta-Analysis. *PLoS ONE*. 2011;9(2):e87987. URL: <https://bit.ly/2OH2OUJ>
- Stroke Association. State of the Nation: Stroke Statistics February 2018. London: Stroke Association; 2018. URL: <https://bit.ly/2wwFuR2>
- Langhorne P, Wu O, Rodgers H, et al. A Very Early Rehabilitation Trial after stroke (AVERT): a Phase III, multicentre, randomised controlled trial. *Health Technology Assessment (Winchester, England)*. 2017;21(54):1-120. URL: <https://bit.ly/2NqJ8gz>
- Bernhardt J, Thuy MNT, Collier JM, et al. Very early versus delayed mobilisation after stroke. *Cochrane Database of Systematic Reviews*. 2009(1). URL: <https://bit.ly/2xQbWfr>
- French B, Thomas LH, Coupe J, et al. Repetitive task training for improving functional ability after stroke. *The Cochrane Database Of Systematic Reviews*. 2016;11:CD006073. URL: <https://bit.ly/2P3aFbp>
- Mehrholtz J, Thomas S, Werner C, et al. Electromechanical-assisted training for walking after stroke. *Cochrane Database of Systematic Reviews*. 2017(5). URL: <https://bit.ly/2zHXh7u>
- Mehrholtz J, Thomas S, Elsner B. Treadmill training and body weight support for walking after stroke. *Cochrane Database of Systematic Reviews*. 2017(5). URL: <https://bit.ly/2xOINUJ>
- Laver KE, Lange B, George S, et al. Virtual reality for stroke rehabilitation. *Cochrane Database of Systematic Reviews*. 2017(11). URL: <https://bit.ly/2xQXepb>
- Royal College of Physicians. Sentinel Stroke National Audit Programme. Cost and Cost-Effectiveness Analysis. London: Royal College of Physicians. 2016. URL: <https://bit.ly/2xNxAAB>
- Langhorne P. Early supported discharge services for people with acute stroke. *Cochrane Database of Systematic Reviews*. 2017(7). URL: <https://bit.ly/2xMdaIE>
- Fisher RJ, Cobley CS, Potgieter J, et al. Is Stroke Early Supported Discharge still effective in practice? A prospective comparative study. *Clinical Rehabilitation*. 2016;30(3):268-76. URL: <https://bit.ly/2OoEpXc>
- National Health Service Right Care. Right Care Pathway: Stroke. London: National Health Service England (n.d). URL: <https://bit.ly/2iAwan5>
- Gallacher KJ, Batty GD, McLean G, et al. Stroke, multimorbidity and polypharmacy in a nationally representative sample of 1,424,378 patients in Scotland: implications for treatment burden. *BMC Medicine*. 2014;12:151. URL: <https://bit.ly/2Qo0Wzf>
- Fisher RJ, Walker MF, Golton J, et al. The implementation of evidence-based rehabilitation services for stroke survivors living in the community: the results of a Delphi consensus process. *Clinical Rehabilitation*. 2013;27(8):741-9. URL: <https://bit.ly/2NUn459>
- Department of Health. Start active, stay active: a report on physical activity for health from the four home countries. London: Chief Medical Officers; 2011. URL: <https://bit.ly/2rspcnf>
- English C, Hillier SL, Lynch EA. Circuit class therapy for improving mobility after stroke. *The Cochrane Database Of Systematic Reviews*. 2017;6:CD007513. URL: <https://bit.ly/2xPzIbw>
- Saunders DH, Sanderson M, Hayes S, et al. Physical fitness training for stroke patients. *The Cochrane Database Of Systematic Reviews*. 2016;3:CD003316. URL: <https://bit.ly/2NXIYFN>
- van Duijnhoven HJ, Heeren A, Peters MA, et al. Effects of Exercise Therapy on Balance Capacity in Chronic Stroke: Systematic Review and Meta-Analysis. *Stroke*. 2016;47(10):2603-10. URL: <https://bit.ly/2OobbU5>
- Cabanas-Valdés R, Cuchi GU, Bagur-Calafat C. Trunk training exercises approaches for improving trunk performance and functional sitting balance in patients with stroke: a systematic review. *NeuroRehabilitation*. 2013;33(4):575-92. URL: <https://bit.ly/2DLEAU>
- Brannigan C, Galvin R, Walsh ME, et al. Barriers and facilitators associated with return to work after stroke: a qualitative meta-synthesis. *Disability & Rehabilitation*. 2017;39(3):211-22. URL: <https://bit.ly/2Qmi5Ce>
- Stroke Unit Trialists Collaboration. Organised inpatient (stroke unit) care for stroke. *Cochrane Database of Systematic Reviews*. 2013(9). URL: <https://bit.ly/2y3pcwx>
- National Institute for Health Research. Roads to recovery: organisation and quality of stroke services. London: National Institute for Health Research; 2017. URL: <https://bit.ly/2zHZP5v>
- Sentinel Stroke National Audit Programme. Rising to the challenge: The 4th SNNAP Annual Report London: Royal College of Physicians. 2017. URL: <https://bit.ly/2RdOQvE>