

Contents

Chair Introduction

CHSS launch
new TALK
with me APP: **Page 2**

Journal Club
Spasticity: **Page 3**

Acute
Neurological
Deterioration
Post Stroke: **Pages
4-6**

NRS
Stroke
Research
Network
Update: **Pages
7- 11**

Scottish
Stroke Care
Audit Update: **Page12**

Save the
Date- UK
Stroke Forum
Conference: **Page13**

Guess the
number of
FAST Lollies
Quiz: **Page13**



A word from our Chair

The Scottish Stroke Nurses Forum was founded in 2001 and we currently have almost 600 members. This is our 16th SSNF Conference and I would like to say a huge thank-you to all of the committee but especially to Trish Elder-Gracie who helped pull this day together. Thanks also to our partners CHSS, and the Scottish Research Network and to all of our sponsors without whom we could not continue to run our conference. It is fair to say that it has been another challenging year for Stroke with difficulty recruiting staff, increasing workloads but despite this we continue to see small improvements in the delivery of the Stroke Bundle and the care that stroke patients are receiving. The SSNF will continue to work with our partners in the Scottish Stroke Care Audit and with the Scottish Government to meet the Stroke Improvement Plan.

The SSNF Committee has seen a number of changes and we are currently looking for representation from NHS Fife and NHS Lanarkshire. We have seen Joanne Graham and Katrina McCormick move into roles in CHSS and have said goodbye to Craig Forman, Debbie Heaney and Margaret Somerville. Freeing up time to attend the SSNF Committee meetings and finding the time to complete all of the work that is generated has also been challenging and I would like to thank all of the committee for their dedication and hard work that continues to make the SSNF work and flourish.

The SSNF Work-plan (2017-2022) continues to grow and we are currently working on a number of projects including recommendations for post stroke physiological monitoring, the role of the nurse in stroke thrombectomy, a career framework for stroke nursing and you can view the work-plan on our website www.ssnf.org.uk

Stroke thrombectomy has been making headlines in the last 12 months and the Thrombectomy Working Group are working hard and have submitted recommendations for the service to the Scottish Government. The SSNF 2019 conference Spotlight on Stroke has two excellent speakers sharing their knowledge of stroke thrombectomy, Professor David Williams from the Beaumont Hospital in Dublin and Jennifer Corns from St George's Hospital in London and we hope that this will give our members insight into what it takes to get thrombectomy right.

We have already started work on the nurses role within stroke thrombectomy, explored the pathways and roles from other areas and the SSNF is working with Katrina Brennan (Stroke Improvement Lead) to develop an education package. Read our Autumn 2019 Newsletter for more information on this.

The SSNF continues to have representation on the National Advisory Committee, the Cross Party Working Group for CHD and Stroke, SSCA, National Planning (Horizon), the UK Stroke Forum and The National Stroke Nursing Forum. It is important that the voice of Scottish Stroke Nursing is included, that our opinions and the values we hold are listened to and upheld.

As Chairperson I have also represented the SSNF on a joint project with the other 3 home nations stroke forums and the Royal College of Nursing and we are developing a Careers Pathway for Stroke Nursing based around the four pillars of learning. Work is progressing and we would hope to update you on this at the SSNF conference in 2020. A number of members have recently attended the National Planning Horizon Scan Workshops which are looking ahead to the next 10 years of stroke. This is an exciting project for the SSNF to be involved with and will without a doubt shape our future work. We will update you on this in the Spring 2020 newsletter.

Our work will continue for 2019/2020 and we hope that you will join us in promoting and further developing the role of the stroke nursing and work with us to continue to raise our profile.



Talk with me
Chest Heart & Stroke Scotland

Our new **Talk with me app** is for people who have had a stroke and have **aphasia**.

If you have aphasia you may find it difficult to speak, understand speech, read or write.

Talk with me uses **symbols and pictures to help with conversation** and basic communication.

Download the **Talk with me app free**

GET IT ON Google Play | Download on the App Store

NO LIFE HALF LIVED

Scottish Charity no SC038762 | Funded by Scottish Government

The Talk with me app from Chest Heart & Stroke Scotland is for people who have had a stroke resulting in Aphasia. Talk with me uses symbols, images and photographs to help with conversation and basic communication. It is free to download.

Talk with me is based on existing Chest Heart & Stroke Scotland conversation support booklet which is widely used within NHS Scotland, Scottish Ambulance Service, families, carers for people with Aphasia after stroke and Chest Heart & Stroke Scotland rehabilitation and peer support services for over 10 years. The new app has been developed with Chest Heart & Stroke Scotland in partnership with Lawlor Technologies and funded by Scottish Government with an Adult Community Care Grant.

Journal Club

For this edition we have decided to look at Spasticity after stroke. To set the scene the term **Spasticity** refers to an abnormal increase in muscle tone or stiffness of muscle which may interfere with movement, speech or be associated with pain or discomfort*. Two articles have been chosen Watkins et al (2002)¹ who investigated the prevalence of spasticity post stroke and its relationship to functional ability. And Rosales & Chua-Yap (2008)² who carried out an evidence based systematic review looking at managing spasticity through Botulinum Toxin treatment.

**Definition taken from national institute of neurological disorders and stroke (NINDS) available @ www.ninds.nih.gov*

Watkins et al (2002) looked at the prevalence of spasticity in stroke survivors at 12 months.

Background Cohort (group) of 106 patients in Liverpool all initially admitted to hospital with stroke diagnosis but who were subsequently living in community settings at 12 month time point were included in the study. The two measures used to assess spasticity were the Modified Ashworth scale (MAS) to assess muscle tone in elbow joints and the Tone Assessment Scale (TAS) in other limb joints. Functional ability was assessed using modified Barthel Index.

Results of this study showed spasticity (increased muscle tone) in 27% of patients using MAS and 36% using TAS. Combined results from both assessment scales showed a 38% prevalence of spasticity. Those with spasticity had a lower Barthel Index score at 12 months. Indicating higher dependency and care needs.

Recommendations from the authors include assessing all limbs using both the MAS & TAS scales. The study also highlighted that the prevalence of spasticity in this cohort was lower than previous research estimates.

Rosales & Chua Yap (2008) carried out an evidence based systematic review of the literature relating to the efficacy and safety of botulinum toxin – A (BoNTA). They reviewed all Randomised: by chance alone, placebo controlled: one group receive active treatment (botox) dose and control group do not receive any active treatment (no botox) in their dose. All trials were double blinded: both researcher & patient are unaware if they are receiving the active treatment or not.

Background Botulinum Toxin A therapy for post stroke spasticity is suggested as an effective anti-spasticity drug. This article explores outcomes in relation to 4 main themes:

¹Reducing spasticity based on mean change in Modified Ashworth Scale (MAS) in upper and lower limb from baseline. ²Reducing spasticity based on the % of patients having =1 or higher point move in MAS. ³Improving either patients or carers Global Assessment Scale (GAS) score. ⁴ Total adverse events of Botox Therapy. All treatment measures were taken at between 4-6 weeks after application of BoNTA.

Results Significant clinical improvements noted across:

^{1&2} Moved > 1 point on MAS. ³Improved GAS for patients or carers. ⁴ And no statistical difference in adverse event noted between the BoNTA & placebo groups.

Rosales & Chua Yap concluded BoNTA improves muscle tone in upper and lower limb spasticity following stroke. Global assessment of improvement was noted by the patients or carers following BoNTA injection. BoNTA is considered a safe and therapeutic intervention.

References:

Watkins. C. L., Leathley. M. J., Gregson. M. J., Moore. A. P., Smith. T. L., Sharma. A. K. (2002). Prevalence of spasticity post stroke. *Clinical Rehabilitation*. 16 (5), Pg. 515-522.

Rosales. R. L., & Chua-Yap. A. S. (2008) Evidence based systematic review of the efficacy and safety of botulinum toxin-A therapy in post-stroke spasticity. *Journal of Neural Transmission*. 115(4), Pg. 617-623.

Scottish Stroke Nurse Forum Newsletter

Acute Neurological Deterioration Post Stroke

Acute neurological deterioration post stroke

Neurological deterioration is a well-recognised post stroke complication affecting up to one third of ischaemic stroke patients and is associated with increased mortality and poor outcome (Seners et al 2015; Seigler and Martin-Schild 2011; Thanvi et al 2008). This article seeks to review the literature in relation to acute neurological deterioration post stroke and discuss the importance of the nursing role in prevention, identification and management of at-risk and affected patients.

Definition

Neurological deterioration is largely discussed in relation to ischaemic stroke and is defined as either early (END) or late in order to differentiate between onset time and probable cause (Cuadrado-Godia 2015). However the definition of END itself is highly variable. Generally considered as the clinical worsening or recurrence of stroke within the first 24-72 hours, END is usually related to the pathophysiology of stroke (Seigler and Martin Schild 2011). Conversely, late ND is likely due to systemic causes such as infection, metabolic disturbance or extra-cerebral vascular problems (Cuadrado-Godia 2015). It is worth noting that END is significantly less prevalent in ischemic stroke patients who receive thrombolysis therapy- 11-13.8% (Hansen et al 2018).

In terms of assessment tools and scoring, END is again defined variably. The NIHSS is the most commonly used assessment tool of stroke severity (Marsh et al 2016). Kwan and Hand (2006) found that an acute increase of 2 or more on the NIHSS was associated with increased death and disability. However this conservative definition may lead to unnecessary investigation of patients whose neurology is merely "fluctuating". Fluctuation in alertness and function is common in the acute stroke period and represents a challenge for nurses attempting to identify meaningful neurological deterioration (Boling and Keinath 2018). Seners and Baron (2018) suggest that an increase in NIHSS of 4 or more is a useful definition to detect true END.

Predictors

There is now considerable evidence for predictors of END in stroke patients. These may be used to inform patient management in order to prevent further neurological damage or facilitate early intervention as required (Cuadrado-Godia 2015).

Initial stroke severity (as defined using the NIHSS) can reliably be used to predict risk of END- that is patients with severe strokes (NIHSS score > 12) are more likely to experience END. Similarly, patients presenting with malignant cerebral oedema, symptomatic intracranial haemorrhage, post stroke seizures or early recurrent stroke are at higher risk (Seners and Baron 2018). These patients are perhaps "obviously" those whom we, as stroke nurses, would identify as being at increased risk of deterioration and poor outcomes. We may therefore be more likely to monitor these patients closely to be able to quickly identify change.

However there are other, less overt, predictors of END to which stroke care professionals should be alert. Seners et al (2014) found thrombolysis patients with hyperglycaemia were more likely to experience significant neurological deterioration in the acute stroke phase. Bhatia et al (2015) demonstrated that dehydration (specifically a BUN/ creatinine ratio >15 on admission) put patients at a six times increased risk of END. Stroke patients are at risk of dehydration for many reasons (decreased conscious level, impaired swallow, motor problems) and dehydration has previously been linked to higher mortality and worse functional outcome (Rowat et al 2012). Kanumaru et al (2016) add that stroke patients with renal impairment on admission, indicated by the presence of albuminuria, are more likely to develop END. Whilst hypotension in the acute stroke period has not thus far been associated with neurological deterioration, there is recognition that any fall in cerebral perfusion pressure has potential to result in poor cerebral perfusion and the loss or extension of penumbra. There is therefore need for further investigation of hypotension as a potential contributing factor to END (Seners et al 2018). Hypertension during acute stroke has long been linked to poor outcomes including neurological deterioration (Appleton et al 2016).

Management

Management of END will depend almost entirely on cause which necessitates that stroke nurses be vigilant and recognise the above predictors as part of acute stroke care.

Frequent and consistent neurological and physiological monitoring of at-risk stroke patients is essential to the early identification of neurological change (Rocco et al 2007; Summers et al 2009). The Royal College of Physicians (2016) recommends that the following parameters be monitored “closely” for acute stroke patients- conscious level, blood glucose, blood pressure, oxygen saturation, hydration and nutrition, temperature, cardiac rhythm and rate. The guidance also recommends that stroke units embed protocols to maintain physiological homeostasis in acute stroke patients. However, there is no detail given on how frequently assessment should take place or which tools (for example to assess conscious level) should be used. The NICE (2019) guidance for acute stroke management provides no recommendation on type, frequency or tools for the monitoring of acute stroke patients. The American Heart/ Stroke Association guideline (Powers et al 2018) highlights the importance of “close monitoring for neurological worsening” in acute stroke patients but again, provides no detailed recommendation for practice.

The NIHSS is used in most studies to assess extent of neurological deterioration and Summers et al (2009) recommend nurses use an abbreviated NIHSS for routine neurological assessment post thrombolysis. However Marsh et al (2016) have since shown that the NIHSS has limited utility for regular bedside assessment of neurological status. Although the use of the Glasgow Coma Scale to assess the conscious level of stroke patients may be complicated by language disorder, it has long been recognised as being a valuable predictor of stroke prognosis (Weir et al 2003) and is perhaps more user friendly for routine bedside assessment than the NIHSS. AVPU is undoubtedly simpler still than GCS in terms of nursing administration, but only differentiates four levels of consciousness and thus may be less sensitive to neurological change than NIHSS or GCS. Although there is various dated evidence that compares assessment of consciousness using GCS and AVPU (McNarry and Bateman 2004; Kelly et al 2004), none of these is concerned with the assessment of stroke patients. This then is perhaps why there is no specific guidance available on best practice assessment tool for detecting neurological deterioration post stroke.

In relation to the prevention of dehydration as a predictor of END, the Royal College of Physicians (2016) state that there is little trial evidence regarding the management of hydration post stroke. However the guideline does emphasise that acute stroke patients should have their hydration assessed within four hours of arrival at hospital and regularly thereafter to maintain optimal hydration. Recognising the need for hydration management is crucial in order to initiate treatment. The Scottish Stroke Care Standard (NHS QIS 2016) in relation to swallow screening already ensures that nurses are mindful of the need for prompt recognition of swallow impairment as a potential threat to adequate nutrition and hydration post stroke. Additionally, nurses working with stroke patients can easily monitor albuminuria as a predictor of END and should consider implementing testing as part of routine admission (Kanumaru et al 2016).

Suwanwela et al (2017) have since published some, limited evidence that administration 0.9% NaCl post ischemic stroke may be associated with reduced incidence of neurological deterioration. It is notable that the sample for this study was limited to patients with NIHSS less than 18 on admission with no contraindications. Findings are therefore not necessarily generalisable to those patients with more severe strokes (NIHSS>18) who are actually most at risk of developing END.

With regard to hyperglycaemia as a predictor for END, the Royal College of Physicians (2016) guideline recommends maintaining a blood glucose concentration between 5 and 15 mmol/litre in acute stroke patients. This is an update to previous NICE (2008) guidance which recommended a tighter 4-11 mmol/litre control. This change is based on evidence that, unlike in myocardial infarction, tight control of blood glucose does not improve outcomes for stroke patients (Gray et al 2007). As detailed in the above discussion on monitoring, blood glucose should be monitored “closely” in the acute stroke period (Royal College of Physicians 2016). Appleton et al (2016) discuss the extensive evidence in relation to the management of blood pressure in acute stroke. They conclude that whilst there is good evidence for the rapid lowering of blood pressure post intracerebral haemorrhage, the evidence for acute blood pressure management after ischemic stroke is less clear. The NICE (2019) guidance reflects this conclusion. Rapid blood pressure lowering should be offered to patients with ICH who present within 6 hours and have a systolic BP between 150-220 mmHg. Treatment should achieve a target systolic BP of 130-140 mmHg within one hour and this should be maintained for at least a week post stroke. In ischemic stroke, anti-hypertensive treatment should not routinely be offered and is recommended only where there is evidence of hypertensive emergency (for example hypertensive encephalopathy) or where the patient requires blood pressure reduction for administration of IV thrombolysis (target 185/110 mmHg or lower).

Conclusion

Following this review of acute neurological deterioration post stroke and discussion of predictors and management, it is clear that current acute stroke care as dictated by the Scottish Stroke Standards and current national guidelines does much to identify and manage patients at risk of neurological deterioration. However it is apparent that there exists opportunity for further investigation and improved consistency in nursing practice in particular with regards monitoring procedures for acute stroke patients. In recognition of this finding, the SSNF committee is currently conducting a scoping exercise into monitoring practices of stroke units around the UK and initial findings demonstrate huge variability in practice with little evidence base. It is hoped that this work may inform future development of a best practice statement in relation to physiological and neurological monitoring for acute stroke. Watch this space!

Article by Abbi Tracey, Lecturer in Adult Nursing @University of the Highlands and Islands

Email: abbi.tracey@uhi.ac.uk

References

- Appleton JP, Sprigg N Bath PM (2016) Blood pressure management in acute stroke. *Stroke and Vascular Neurology*. 1:e000020
- Bhatia K, Mohanty S, Tripathy BK et al (2015) Predictors of early neurological deterioration in patients with acute ischemic stroke with special reference to blood urea nitrogen (BUN)/ creatinine ratio and urine specific gravity. *Indian Journal of Medical Research* 141: 299-307
- Boling B, Keinath K (2018) Acute Ischemic Stroke. *AACN Advanced Critical Care* 29(2): 152-62
- Cuadrado-Godia E (2015) Early neurological deterioration, easy methods to detect it. *Indian Journal of Medical Research* 141: 266-68
- Gray CS, Hildreth AJ, Sandercock PA et al (2007) Glucose-potassium-insulin infusions in the management of post stroke hyperglycaemia: the UK Glucose Insulin in Stroke Trial [GIST-UK]16. *Lancet Neurology* 6: 397-406
- Hansen CK, Christensen A, Havesteen I Ovesen C (2018) Prevalence of early neurological deterioration after IV- thrombolysis in acute ischaemic stroke patients- A hospital-based cohort study. *Clinical Neurology and Neurosurgery* 171:58-62
- Kanumaru T, Suda S, Muraga K et al (2016) Albuminuria predicts early neurological deterioration in patients with acute ischemic stroke. *Journal of the Neurological Sciences* 372: 417-20
- Kelly CA, Upex A, Bateman DR (2004) Comparison of consciousness level assessment in the poisoned patient using the alert/ verbal/ painful/ unresponsive scale and the Glasgow Coma Scale. *Annals of Emergency Medicine* 44(2):108-13.
- Kwan J, Hand P, (2006) Early neurological deterioration in acute stroke: clinical characteristics and impact on outcome. *QJM* 99: 625–33.
- Marsh EB, Lawrence E, Gottesman RF, Llinas RH (2016) The NIH Stroke Scale Has Limited Utility in Accurate Daily Monitoring of Neurologic Status. *The Neurohospitalist* 6(3) 97-101
- McNarry AF, Bateman DR (2004) Simple bedside assessment of consciousness: comparison of two simple assessment scales with the Glasgow Coma scale. *Anaesthesia* 59: 34-7
- NICE (2019) NG128: *Stroke and transient ischaemic attack in over 16s: diagnosis and initial management*. NICE. Available: <https://www.nice.org.uk/guidance/ng128> [accessed: 30/08/19]
- NICE (2008) NG128: *Stroke and transient ischaemic attack in over 16s: diagnosis and initial management*. NICE. Available: <https://www.nice.org.uk/guidance/ng128> [accessed: 30/08/19]
- NHS Quality Improvement Scotland (2016) The Scottish Stroke Care Standards. NHSQIS. Available: <https://www.strokeaudit.scot.nhs.uk/Quality/Scottish-Stroke-Care-Standards-April-2016.pdf> [accessed 30/08/19]
- Power WJ, Rabinstein AA, Ackersen T et al (2018) 2018 Guidelines for the Early Management of Patients With Acute Ischemic Stroke. A Guideline for Healthcare Professionals from the American Heart Association/ American Stroke Association. *Stroke* 49: e46-e99
- Rocco A, Pasquini M, Cecconi E, Sirimarco G et al (2007) Monitoring After the Acute Stage of Stroke. A Prospective Study. *Stroke* 38: 1225-28
- Rowat A, Graham C, Dennis M (2012) Dehydration in hospital-admitted stroke patients: Detection frequency, and association. *Stroke* 43: 857-9
- Royal College of Physicians (2016) *National clinical guideline for stroke (5th ed)*. Royal College of Physicians. London
- Seners P, Turc G, Oppenheim C, Baron J (2015) Incidence, causes and predictors of neurological deterioration occurring within 24 hours following acute ischaemic stroke: a systematic review with pathophysiological implications. *Journal of Neurology, Neurosurgery and Psychiatry* 86: 87-94
- Seners P and Baron J (2018) Revisiting 'progressive stroke': incidence, predictors, pathophysiology, and management of unexplained early neurological deterioration following acute ischemic stroke. *Journal of Neurology* 265(1): 216-25
- Seners P, Turc G, Tisserand M, Legrand L, Labeyrie MA, Calvet D et al (2014) Unexplained early neurological deterioration after intravenous thrombolysis: incidence, predictors, and associated factors. *Stroke* 45(7):2004–2009
- S Siegler JE, Martin-Schild S (2011) Early neurological deterioration (END) after stroke: the END depends on the definition. *International Journal of Stroke* 6(3):211–212
- Summers D, Leonard A, Wentworth D et al (2009) Comprehensive Overview of Nursing and Interdisciplinary Care of the Acute Ischemic Stroke Patient. A Scientific Statement from the American Heart Association. *Stroke* 40: 2911-44
- Suwanwela NC, Chutinet A, Mayotarn S et al (2017) A randomized controlled study of intravenous fluid in ischemic stroke. *Clinical Neurology and Neurosurgery* 161: 98-103
- Thanvi B, Treadwell S, Robinson T (2008) Early neurological deterioration in acute ischaemic stroke: predictors, mechanisms and management. *Postgraduate Medical Journal* 84: 412-417
- Weir CJ, Bradford APJ, Lees KR (2003) The prognostic value of the components of the Glasgow Coma Scale following acute stroke. *QJM* 96(1): 67-74



NRS Stroke Research Network Update 2019/2020

In 2018-2019, a total of 1246 participants were enrolled into trials aiming to improve care and outcomes for people in stroke in Scotland. This again represents a strong performance from across our stroke research network. In particular, results from the FOCUS trial, the RESTART trial and the RATULs trial were presented and published in the Lancet. Scotland was instrumental in the success of all of these studies and the results will stimulate further research and help stroke physicians with providing the highest level of care.

A number of important trials are ongoing including the PRECIOUS study which is exploring whether interventions to prevent infection are effective after stroke and trials of new devices for arm weakness and of new blood thinning drugs will soon begin.

Furthermore, the results of a trial of a new nerve stimulation technique which is being tried in Scotland in partnership with the US company MicroTransponder will be available in early 2020. Across the Scottish Stroke Research Network there are 21 trials currently enrolling.

STUDY UPDATES

First bites of the APPLE

Assessing Post-stroke Psychology Longitudinal Evaluation - the APPLE Study'

Friday 1st February was a significant date for me, it was the day we closed recruitment to my Assessing Post-stroke Psychology Longitudinal Evaluation (APPLE) study. APPLE was my first multi-centre project and coordinating the study has been a steep learning curve.

APPLE was different to many previous stroke studies. We were inclusive in our recruitment and actively encouraged the participation of people living with physical, communication or memory problems. We designed the assessments in partnership with stroke survivors and practicing clinicians to ensure that the study was relevant and acceptable. To maximise the potential of the project, we embedded various sub studies.

All of these factors have improved the study, but they weren't easy! I was fortunate to have great support from the NRS Stroke Research Network; the Stroke Association and Chief Scientist Office (who funded the work through a program grant) and from the three PhD students supported by the project (Bogna, Emma and Martin). Of course, I can't forget the help I received from all the participating sites. It truly was a team effort.

Thankfully the effort paid off, at last count we have 523 participants recruited. We are continuing to follow-up the APPLE participants and the full project won't finish till late 2020. However, the first scientific papers from APPLE are under review by journals and the learning from setting up and running APPLE has helped new studies such as the Stroke Association funded R4VaD. Many of the participants have stated that they want to be included in new studies – so helping with APPLE can't have been too bad.

Thank you again to all the teams and watch this space for more results from the APPLE study. Dr Terry Quinn. Joint Stroke Association and CSO Senior Clinical Lecturer and Honorary Consultant. URL: <https://www.gla.ac.uk/researchinstitutes/icams/staff/terryquinn/>
Email: terry.quinn@glasgow.ac.uk



The APPLE study team (left to right): Emma Elliott; Bogna Drozdowska; Terry Quinn; an actual apple; Martin Taylor-Rowan.

Brain Rhythms in Altered Vision After Stroke - Part 2 (BRAVAS-2)

Good vision is strongly linked to specific types of rhythmic electrical activity produced within the brain, such as the alpha rhythm. The aim of BRAVAS-2 is to find out how these important brain rhythms change and become disrupted in people with visual and attention problems after stroke.

BRAVAS-2 is being carried out by Dr Gemma Learmonth from the Institute of Neuroscience & Psychology, University of Glasgow, and is currently recruiting participants across NHS Greater Glasgow & Clyde and NHS Lanarkshire. We aim to recruit a total of 60 participants with a confirmed stroke on one side of the brain, and who have signs of hemianopia and/or inattention. Participants are invited to attend the Queen Elizabeth University Hospital for 2 sessions, no more than a week apart.

The first visit involves a full test of their visual fields, attention, language, memory and executive function. In the second session we will record the electrical activity being produced within the brain using small recording electrodes fixed within a cap (a method called electroencephalography or EEG—pictured right). During this EEG recording we will present objects on a computer screen within their good and bad areas of vision to see how their brain responds.

In a recent pilot study (BRAVAS-1, funded by the Chief Scientist Office) we tested whether we could record good-quality EEGs in a small group of participants with visual/attention problems after stroke. We found that the signals recorded were indeed of high-quality and participants were able to manage all of the tests that we presented. We aim to use the information gathered in BRAVAS-1 and BRAVAS-2 to develop an intervention trial in the next stage of the BRAVAS series. Ultimately, we hope to change the disrupted brain rhythms back to within normal limits, to bring about improved vision and attention after stroke.



Dr Gemma Learmonth - displaying the EEG signal – each line is the output from a single electrode on the scalp.



Electroencephalography— Small recording electrodes fixed within a cap

BRAVAS-2 is funded by The Wellcome Trust and is recruiting until 31st Dec 2020. For more information/referrals please contact Gemma.Learmonth@glasgow.ac.uk



Patients frequently present with minor neurological symptoms where a diagnosis of transient ischaemic attack (TIA) or minor stroke is difficult to make. For these patients, clinicians are uncertain whether they should: (a) reassure most patients that their symptoms are benign; (b) treat most patients with antiplatelet or other vascular prevention; or (c) stratify stroke risk further using clinical features or brain imaging.

Dr Will Whiteley who is leading the study points out that “These patients are important. Misdiagnosis is not infrequent and leads to harm from preventable recurrent stroke and costs to health systems from extra care and legal liabilities. With the ETNA study we are exploring the benefits and harms of urgent MRI scanning for this group of patients.”

Collaboration is a key aspect of this study. The ETNA team and the Edinburgh Stroke Research Group are working alongside our clinical and research colleagues in both the Edinburgh Imaging Facility and the Emergency Department to deliver the study.

All ETNA participants will receive an MRI scan. We hope to establish the feasibility and methods for a larger study of diagnostic utility of MR brain imaging and estimate the effects of MRI on clinician decision making.

The study will be utilising the state-of-art facilities and specialist staff at the Edinburgh Imaging hubs in the Royal Infirmary of Edinburgh (RIE) and Western General Hospital (WGH).

The study has been funded by the Chief Scientist Office and is aiming to recruit 270 participants over 18 months. Recruitment began in August and 126 participants have been enrolled already!



*Stroke Research Nurse Team (L-R)
Pat Taylor, Allan MacRaid, Seona Burgess*

RATULS – Robot Assisted Training for the Upper Limb after Stroke is the largest trial to date to determine if robotic upper limb therapy improves upper limb function after stroke. It's an NIHR multicenter randomized control trial with a parallel cost-analysis and process evaluation that recruited 770 stroke survivors from 1 week to 5 years post stroke from four UK study sites between 2014-2018. Participants either received 1) robotic upper limb therapy using the InMotion Robotic Gym System plus usual NHS care, 2) functional-based upper limb therapy plus usual NHS care or 3) NHS care alone. The Stroke Research Team in the Queen Elizabeth University Hospital recruited 222 participants to it and the main results will be revealed for the first time at ESOC in May this year. Loss of hand and arm function affects up to 85% of people who have a stroke. Hopefully the study finding will be able to help some of them.



*Left to right; Research Nurse Elizabeth Colquhoun,
Research Physiotherapist Jen Alexander, Chief Investigator
Professor Jesse Dawson and Trial Manager Pamela MacKenzie*

SUSHI - Saeboglove therapy for severe Upper limb disability and Severe Hand Impairment after stroke.

Difficulty opening the hand after stroke is thought to be the most common motor impairment experienced. A Saeboglove is an upper limb rehabilitation aid that provides variable hand opening assistance and could improve therapy participation and recovery in those who struggle to open their hand enough to participate in active rehabilitation. SUSHI is a multicenter randomized control trial that will determine if stroke survivors with hand opening difficulty, severe upper limb disability and severe hand impairment recruited during their stroke inpatient stay have better functional recovery when they receive NHS care alone or NHS care plus 6-weeks of self-directed functional-based upper limb therapy using a Saeboglove. It is funded by Chest Heart and Stroke Scotland. Participants will be recruited from Greater Glasgow and Clyde, and Lanarkshire and should start around August this year.



PATIENT CARER PUBLIC INVOLVMENT

In the NRS Stroke Research Network we recognise the importance of involving people living with stroke in research. Over the last few years, we have supported a number of initiatives to encourage user input into research. One of our most successful schemes has been the creation of the Glasgow Stroke Research User Group.



The Group brings together stroke researchers and people who have experience of stroke. We offer opportunities to learn more about the research that is happening in Scotland and to get involved. Members of the Group have already helped researchers by sharing their opinions on research studies and suggesting ideas for future studies. We think the Group has been a great success, and we aren't the only ones – the group was awarded a prize by University of Glasgow for involving the public in research.

Last year we ran workshops to look at the best ways to get stroke survivors and their caregivers involved in research. The Group gave us lots of opinions and comments to work with. Some key messages were:

- People living with stroke want to share their experiences – getting involved in research is a way to be heard and help others.
- Being part of the group is about more than research, the Group gives an opportunity to meet other people with experience of stroke.
- Stroke survivors can contribute to every stage of research, they should not just be added when a project is finished.
- Even if people don't want to get hand-on with research, they still want to be kept informed about stroke research.

To share these messages and to say thank you, we held an April meeting of the Group in the Central Hotel, Glasgow. Dr Terry Quinn spoke about the success of the Group and what we have learned from listening to the members. We made sure there was lots of time for meeting other people, both researchers and stroke survivors. Feedback from the event has been really positive and many people asked if there were any projects they could get involved with.

If you are interested in helping with research there are lots of projects that are looking for input from people like you. For more information contact:

Karen McBurnie kmcburnie@nhs.net

Stroke Research Network

Room 17

4th Floor Walton Annex

Glasgow Royal Infirmary

G4 0SF

Telephone 0141 211 4874 (leave a message) / 07999 535085

SSCA NATIONAL MEETING

It was nice to see some of you in Aberdeen last week, both in person and over the airwaves, and hope you all enjoyed the day. Thanks to everyone who presented a poster at the event and congratulations to Christine Cartner and the team in NHS Dumfries & Galloway on winning the poster competition. Presentations from the day will be available on the Scottish Stroke Care Audit website soon. Certificates for all participants will be sent out in due course.

MONTHLY REPORT CHANGES

Many of you will have noticed that there have been a few changes to the monthly reports over the last few months. It was decided that it would be more suitable to report patients that are getting Carotid Interventions against the health board that referred the patient for the treatment. This is so that health boards can be assured that their patients are receiving the treatment within the correct timeframe, something which they were unable to do in the past. So for example, if a patient is referred from the Western Isles to NHS Highland they will be reported within the Western Isles. It has also lead to all Carotid Interventions being reported against the Health Board, so this means the individual sites will show 0.

We have also changed the way we report on the Thrombolysis times. we now report this against the first arriving hospital. This means we will be able to include those areas that then have a large transfer time, and this will make the reports more accurate.

Annual Report

The annual report was published in July and has generated a large amount of interest, being picked up by regional and national media outlets, the report is available here: <https://www.strokeaudit.scot.nhs.uk/index.html>

SSCA update submitted by Neil Muir
National Clinical Audit Coordinator
NHS National Services Scotland

Registration is now open for the
14TH Annual UK Stroke Forum Conference 3rd-5th December 2019

@ The International Centre, Telford.

The UK Stroke Forum is the UK's largest multidisciplinary conference for stroke care professionals and this years conference includes:

Vision along the pathway.

Inflammation and stroke: from bench to bedside.

Emergency response and pre-hospital.

A rush of blood to the head: an update on intracerebral haemorrhage.

Selection and management of hyper acute recanalization therapy:
time to wake up!

Sensory impairments, their effect and treatment.

Spasticity management.

Management and screening of atrial fibrillation.

Frailty.

Cognition- from assessment to management.

Caring for carers.

Reading more into aphasia.

Engagement in valued activities (occupations) after stroke.

Register before 14 September to access an exclusive early bird discount rate.

Guess the Number of FAST Lollies in the Bucket!

On your table you will find paper to write down your guess along with your name & the Health board you work in.

Pop it in the box and the nearest correct guess/s will be given a small prize before the conference finishes.



If you would like to have an article considered or if you have something you think would be of interest for the next Newsletter please contact: linda.campbell8@nhs.net or your local committee member.