Welcome to the Hospital Education Learning Programme *HELP* for Stroke.

This resource pack has been compiled by multi health professional staff at the Royal Bournemouth and Christchurch Hospital who have drawn from their experience understanding and knowledge of caring for stroke patients to provide a comprehensive guide to the diagnosis, management and care of stroke patients.
This resource pack is supported by Boehringer Ingelheim who we thank for their support and continuing commitment to the development of stroke services and patient care.

The Scottish Supplement

We feel sure that you will find the HELP resource pack provides a valuable point of reference as you encounter new aspects of stroke care and management. This Scottish Supplement has been added in recognition of some differences that exist between the aims and objectives outlined in policies and guidelines through the Scottish Executive, and those outlined through the NHS Executive for England and Wales. The Scottish Supplement aims to outline current goals for stroke care planning and service delivery, through the current guidelines and standards of patient care and means of review that apply to Scottish stroke care today.

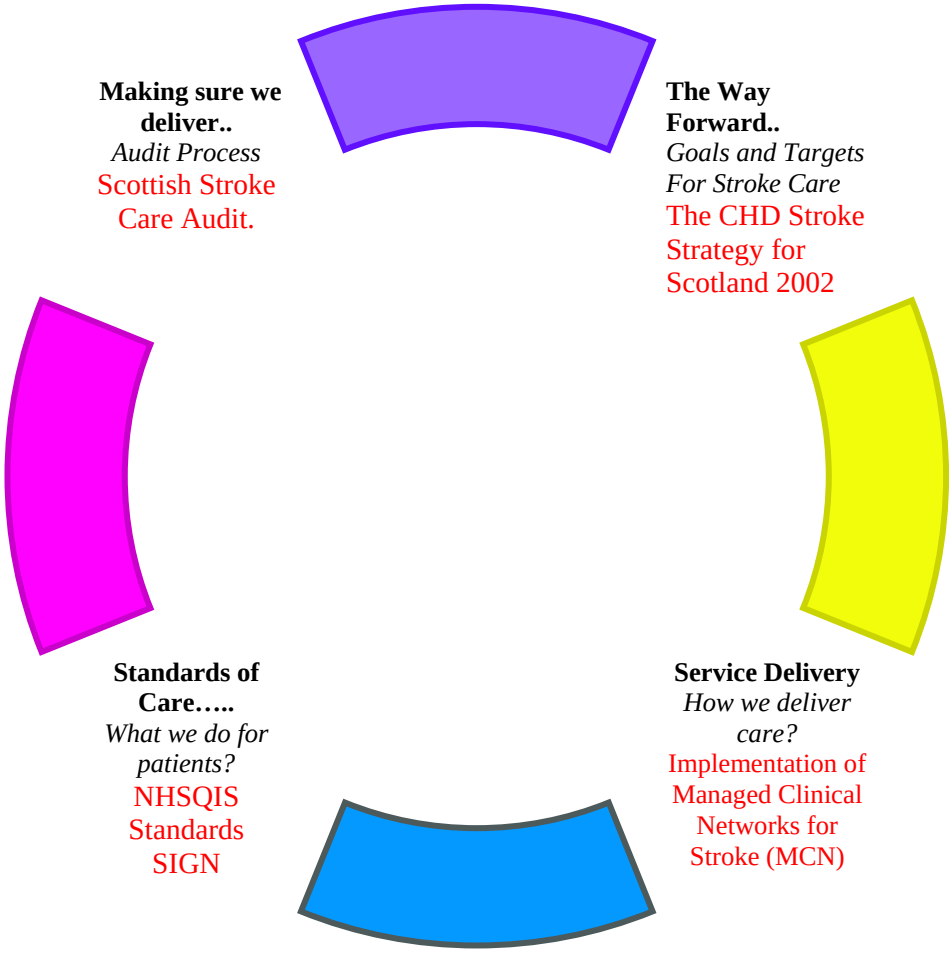
The Scottish Stroke Nurses Forum (SSNF)

The SSNF was established by stroke nurses for stroke nurses in 2001 with 150 members from throughout Scotland who are actively involved in the care of stroke patients. Further information on the SSNF, its strategy for stroke care and an application a form to become a member are available at the back of this supplement. You may also find it useful to have a look at the Scottish Stroke Nurses Forum link page and consider becoming a member The Forum offers an opportunity to share best practice, and keep yourself up to date on all that happening in stroke care in Scotland.

Stroke In Scotland

Stroke is the third commonest cause of death and the main cause of severe disability in Scotland. There are 100,000 individuals living with Stroke and its consequences with approximately 15,000 new stroke events affecting Scots every year. This accounts for 4-5% of NHS resources. (Reference SIGN 64)
Stroke represents a large burden in terms of financial resources on the NHS, social services and employers, and perhaps more importantly on personal resources such as the quality of life of patients, their families and their carers.
In an increasingly aging population the need to develop robust standards of service delivery, stroke management and rehabilitation for the Scottish community is a priority for all levels of the NHS and for all those involved in the care of stroke survivors and their families throughout their journey of care.
In the next few pages we outline the goals that have been set, the planning of service delivery, the guidelines and standards of patient care and means of review that apply to Scottish stroke care today.

Mapping Stroke Care in Scotland:



The Way Forward

The Coronary Heart Disease and Stroke Strategy for Scotland Oct 2002
The strategy was compiled by a multidisciplinary reference group of health professionals and patient representatives from across Scotland and details implementation plans and recommendations for the future. The Strategy details plans to implement the recommendations of these professionals outlined in the stroke CHD Task Force report Sept 2001;

The Strategy goals for stroke care are:

- **Rapid access to neurovascular clinics – reduction in the number of first recurrent strokes.**

- **A voice for patients and clinicians in the planning and development of services.**

- **More Stroke Units, leading to**
  - Potentially 5,000 extra patients receiving stroke unit care annually
  - 200 fewer deaths
  - 200 fewer admissions to long term care
  - 300 more patients returning home to independent living

The Strategy highlights the essential roles that the development and implementation of Managed Clinical Networks (*MCNs)* for Stroke will have in ensuring the effective delivery of patient focused stroke care through all care settings. It offers practical support through the allocation of £50,000 on a recurring basis to each health board. These funds are used to ensure each MCN has a clinical lead, project manager, adequate representation from all health professionals, stroke patients their relatives, carers and families and all care settings both primary and secondary.

Service Delivery

Managed Clinical Networks for Stroke (MCNs):

What is an MCN?

The MCN is a virtual organisation made up of all those people who play a part in the care of patients at any point along their journey of care including patients themselves. They encourage high quality services to be developed with the patient at the centre and are not constrained by the boundaries of where care is given or by whom. They aim to provide individuals with more control over their own health care and ensure a co-ordinated and equitable care experience for all patients.

MCNs are supported and advocated through many Scottish Health documents and policies:
Including:

- *Towards a Healthier Scotland*
- *Our National health, plan for action, plan for change.*
- *Partnerships for Care*

Key Objectives of the Stroke MCNs as outlined in the Strategy for Scotland are:

- Involve patients and carers.
- Set and demonstrate evidence based standards of service.
- Ensure that patients are managed in the right setting at the right time.
- Ensure that appropriate management is available to resolve issues arising in the care of individuals and the network as a whole.
- Underpin the network with an information system that supports service planning and redesign.
- Regularly report on the network performance to the public.

Since April 2004 each Health Board in Scotland has an active Stroke MCN with a Project Manager and Clinical Lead or equivalent identified.

Standards of Care

The adoption of evidence based medicine and best practice has continued to be supported in Scotland through the work of organisations including SIGN (The Scottish Intercollegiate Guidelines Network) NHS Quality Improvement Scotland NHS QIS and academic review panels such as the Cochrane review.

The Scottish Intercollegiate Guidelines Network- SIGN

SIGN Guidelines relating to Stroke

SIGN develops guidelines using a comprehensive review process. The Guidelines are derived by a systematic review of evidence and best practice involving health professionals of all disciplines who work in the management of Stroke
SIGN (Scottish Intercollegiate Guidelines Network) have compiled a number of comprehensive Guidelines regarding the evidence based management of patients who have suffered a stroke.
Further information on SIGN and copies of all guidelines are available on: www.sign.ac.uk.

SIGN 13 – Acute Management of Stroke - 1997 currently being revised.

SIGN 14 - Management of Carotid Endarterectomy – May 1997

SIGN 20 - Management of patients with identification and management of Dysphagia Nov 1997
SIGN 77 - Draft Guidance on The Management of Dysphagia (Awaiting Printing)
SIGN 64 - Management of patients with Stroke, Rehabilitation, Prevention and Management of Complications and Discharge Planning – Produced 2002

As an example of the guidance and level of expertise given through the guidelines we have outlined in Pages 33-35 the summary guidance given in SIGN 64 (2002)

NHS Quality Improvement Scotland (NHSQIS)
The purpose of NHSQIS is to improve the quality of healthcare in Scotland by setting standards, monitoring performance, and by providing NHS Scotland with advice, guidance and support on effective clinical practice and service improvement.
As outlined in the Clinical Standards for Stroke 2004

NHSQIS have collectively outlined core standards for Scottish stroke care.

- **Standard One - Organisation**

All patients with symptoms of Stroke or TIA should have access to specialist stroke services, which include a neurovascular clinic and Stroke Unit.

- **Standard Two - Management**

All patients admitted to hospital with diagnosis of stroke are managed according to a local protocol based on national Guidelines (SIGN)

- **Standard Three - Secondary Prevention.**

All patients admitted to hospital or seen at a clinic and diagnosed with Stroke or TIA have their risk factors assessed, documented and addressed in line with local protocols.

- **Standard Four - Discharge and Follow Up**

  All patients admitted to hospital with Stroke have early assessment of discharge needs and development of a discharge plan.

  Arrangements should be made for the patient to be reviewed by the specialist stroke service within 3 months of discharge. A trained health professional should provide continued contact with the stroke patient.

NHSQIS are also working with multidisciplinary care professionals to develop core competencies for stroke care. The achievement of these competencies is expected as a minimum standard for all NHS employees involved in stroke patient care. The competencies when completed will be available through the "Scottish Health on The Web" website www.SHOW.com

Making Sure we Continue to Deliver – Audit

April 2004 – Scottish Stroke Care Audit System (SSCAS)

The Scottish Stroke Care audit is a development of three audits that have been ongoing in Scotland over the past five years. This audit first stemmed from an audit of stroke patients attending acute stroke units in both Aberdeen and Edinburgh. In November 2002 the Clinical Resource and Audit Group CRAG offered funding to Professor Martin Dennis (Western General Hospital Edinburgh) to expand the audit to other sites throughout Scotland. CRAG as part of NHSQIS offered funding in April 2004 to all acute centres to join what is now known as the Scottish Stroke Care Audit.(SSCA) All hospitals who regularly admit acute stroke patients should introduce and implement the collection of the minimum defined national dataset for each patient. This is in order that the Scottish Executive may monitor local performance against national standards. The dataset has been agreed by the National Advisory Committee for Stroke (previously the Scottish Stroke Collaboration) and the Clinical Standards Board Scotland. The Audit is part centrally funded and part funded by the local Trust. It is anticipated that in time linking the audit system to primary care from all acute sites will allow information to be collated that will influence the long term management of stroke survivors. All acute stroke centres have now joined the SSCA. Each hospital may collate there own additional information in addition to the main data set all additional information is held locally.

In comparison England and Wales have a National Sentinel Audit conducted in acute settings every two-three years. The audit is conducted through the review of 50 patient case notes gathered at each clinical centre.

As an example on Pages 8-14 you will find both NHS Fife Acute Services SSCA Audit Document and NHS Lothian Inpatient and discharge Documentation Samples (SIGN 64)

Further help can be obtained from the Co-ordinating Centre from either Robin Flaig, Audit Co-ordinator or Mike M^{c}Dowall, Stroke Registers Co-ordinator.

Robin Flaig
Phone: 0131 537 3127
Email: robin.flaig@ed.ac.uk

Mike McDowall
Phone: 0131 537 2926
Email: MAMcDowall@ed.acuk

Thrombolysis & Stroke

Thrombolysis is a "clot busting" procedure well established in the treatment of MI but relatively new in the acute treatment of Stroke.

"April 2003 Alteplase was licensed in the UK for the treatment of acute ischaemic stroke within 3 hours of symptom onset.
The treatment is conditional and al patients receiving thrombolysis must be registered with the safety Implementation of Thrombolysis Study (SITS) and the license will be reviewed again in three years in light of the results held within SITS and ECASS,a study of efficacy in 800 patients treated with 3-4 hours following symptom onset. Treatment may be appropriate for small numbers of selected patients within 3 hours who do not have severe stroke, extensive signs of established infarction on CT or contraindicated with a significant increased risk of systemic or cerebral haemorrhage. Benefits to this selected group are significant 10% absolute reduction in the number who would otherwise be dead or suffer significant disability. Currently only 2-3 % of patients admitted to specialised centres receive Alteplase. Yet in the States it has been shown that if the Service is organised optimally this may be increased to 10% "

- *Prof. Gary Ford Consultant Physician Freemans Hospital. (Reference Thromboysis for Stroke – Time to Act - Stroke Matters Issue 1 Dec 2003)*

The Scottish Medicines Consortium is a multi professional group of health professionals from throughout Scotland who advice Health Boards and area Drug and Therapeutics on new licenses of medicines, or new indications for established products.
On the 8th of March 2004 SMC advised, "Alteplase is accepted for restricted use within the NHS for the treatment of acute ischaemic stroke. The use of Alteplase is confined to specialist centres with adequate resources and appropriate expertise."
Ref: Scottish Medicines Consortium - www.SHOW.com

Treatment centres must participate in a post marketing surveillance study SITSMOST (Safe Implementation of thrombolysis in stroke monitoring Study). The study is designed to determine whether Alteplase is safe and beneficial in routine clinical practice as has been shown in the clinical trial settings.

Oxford Stroke Classification
Reference (HELP) Medical Background Section page 3

Around 82% of all strokes in the West are caused by an Infarct (Ischaemic)
13 % of all strokes are caused by a Haemorrhage and 5% from other causes

You may often see or hear strokes classified in terms of TACS, LACS, PACS, or POCS. This is in reference to the Oxford Acute Stroke Classification System.
The System is based on the work undertaken as part of the Oxfordshire Community Stroke Project which sub divided strokes arbitrarily into four categories and offers a means of predicting prognosis in accordance with events location.

Total Anterior Circulation Syndrome TACS/ TACI

Represents 15% of all strokes

Large infarction of one hemisphere

Features all **THREE** of

- Unilateral motor deficit of face arm and leg
- Homonymous hemianopia
- Higher Cerebral dysfunction (for example aphasia, neglect)

Prognosis is poor Mortality Rate is around 60%

Partial Anterior Circulation Syndrome PACS/PACI

Represents 30% of all strokes

Lesser infarction of one hemisphere –

Features: any **TWO** of:

- Unliateral motor and or sensory deficit
- Ipsilateral hemianopia, or higher cerebral dysfunction.
- Higher cerebral dysfunction alone or isolated motor and or sensory deficit restricted to one limb or the face.

Prognosis is better than with TACS Mortality Rate is 16%

Posterior Circulation Syndrome POCS/POCI

Represents 20% of all strokes

Involves an infarct of the hindbrain or posterior cortex alone.

Features **ONE OR MORE** of:

- Bilateral motor sensory signs not secondary to brain- stem compression by a large supra- tentorial lesion.
- Cerebellar signs, unless accompanied by ipsilateral motor defecit (see ataxic hemiparesis) Unequivocal diplopia with or without external octular muscle palsy.
- Crossed signs for example left facial and right limb weakness
- Hemianopia alone or with any four items above.

Prognosis is similar to PACS Mortality Rate is 19%

Lacunar Syndrome LACS/LACI

Represents 20% of all strokes

Infarction of deep part of the brain- associated with hypertension and diabetes.

- Many of these strokes occur in hypertensive patients and the prognosis is quite good as the amount of tissue involved is small.

Prognosis is good. Mortality Rate is 11%

Pure Motor Syndrome PMS

Unilateral pure motor deficit

- Clearly involving two or three areas (face, arm and leg) with the whole of the limb being involved.

Pure Sensory Syndrome PSS

Unilateral purely sensory symptoms (+1- signs).

Involving at least two or three areas (face arm leg) with the whole of any limb being involved.

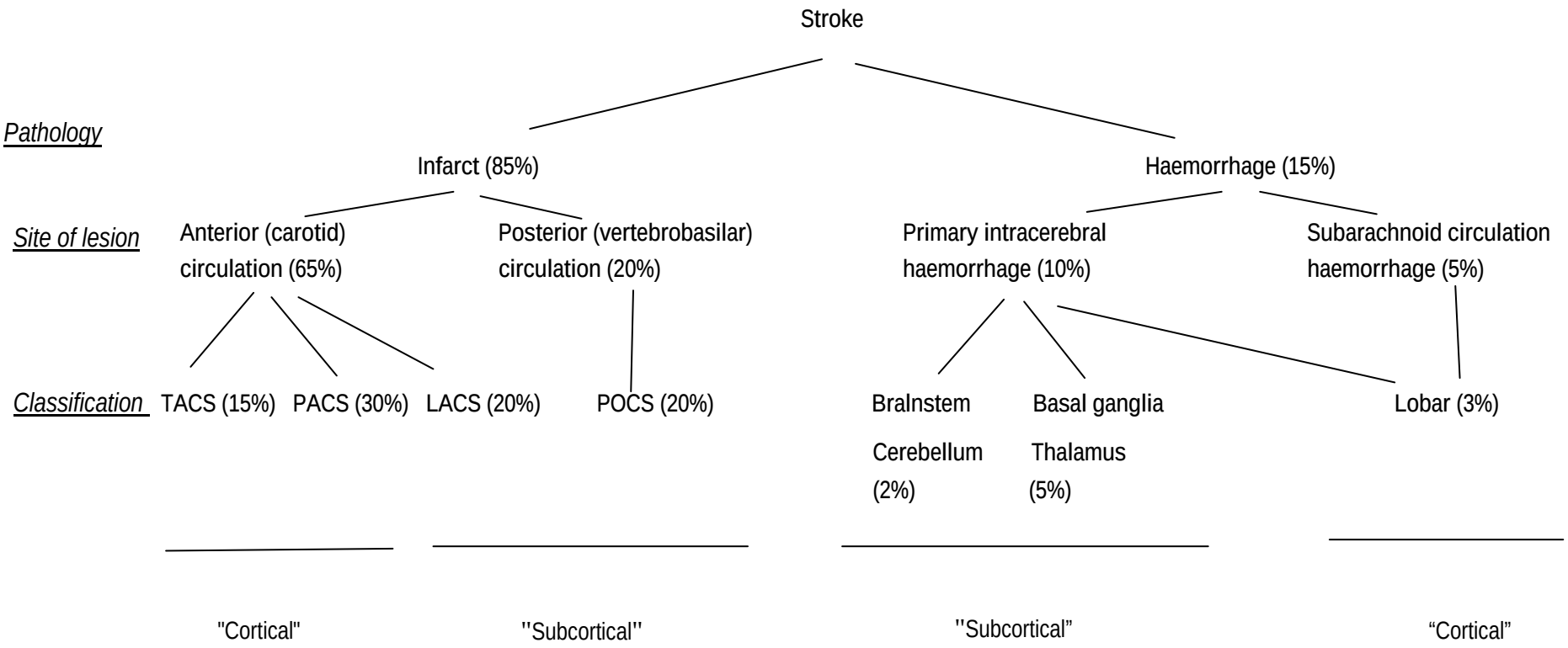
- Ataxic Hemiparesis (AH)
- Ipsilateral cerebellar ataxia
- With or without dysarthria
- In the absence of higher cerebral dysfunction or a visual field defect.

Sensory Motor Syndrome

PMS and PSS combined (i.e. unilateral motor and sensory signs and symptoms in the absence of higher cerebral dysfunction or visual field defect.)

Further Information is available through your medical library or
" Stroke:A practical Guide to Management"
Warlow C.P. et al Blackwell Science Second Edition 2001

Stroke Classification



Key: TACS -total anterior circulationl syndrome PACS - partial anterior circulation syndrome,
LACS -lacunar syndrome POCS - posterior circulation syndrome

Cortical versus subcortical definition of problems is less precise for haemorrhage

CHEST, HEART & STROKE SCOTLAND

Chest, Heart & Stroke Scotland aim to improve the quality of life for people In Scotland affected by stroke illness, through medical research, advice and information, and support in the community.

Contact:
Chest, Heart & Stroke Scotland
65, North Castle Street, Edinburgh EH2 3LT
Tel: 0131 225 6963 Fax: 0131 220 6313
Email: admin@chss.org.uk
Website: www.chss.org.uk

***Detailed below is the range of Chest, Heart & Stroke Scotland (CHSS) services**:*

Advice Line – provides confidential, independent advice on all aspects of stroke illness to people affected, their families' carers and health professionals. Phone/textphone **0845 077 6000** (local call rate) out of hours answer machine.

Information – we produce an extensive range of booklets, fact sheets, posters and videos on stroke illness, available free to people affected. Ask for our Publications List.
CHSS Website – contains information on the range of CHSS services. Visit www.chss.org.uk

Welfare – we help by providing small grants to individuals and families who, because of stroke illness, are in financial hardship. In Glasgow and Lanarkshire we also have Welfare Benefits Advisors who assist people affected by stroke illness to maximise their incomes by ensuring all statutory benefit entitlements are applied for.

Volunteer Stroke Service (VSS) – supports people who have had a stroke, particularly those left with communication problems. The VSS offers weekly support groups, including groups specifically for younger people and home visits. In some areas the VSS also has a hospital visiting service and carers' support

Stroke Groups – Community Support Network supports local volunteer led stroke groups. We can offer advice and support, and help get new groups to get started.

Stroke Nurses - the Stroke Nurses facilitate a smooth transition from hospital back into the community, for people who have had a stroke and their families. through the provision of information, advice and support.The service is currently provided in Fife, Grampian, Highland, Lanarkshire and Lothian.

Stroke Training - Stroke Training Co-ordinator's in Argyll & Clyde, Dumfries & Galloway, Fife and Lothian, plan and deliver a range of training for health and social care professionals and informal carers, to improve knowledge, skills and confidence in relation to stroke.

Useful Contacts:
We have listed the contact details of many organisations that may offer support to health professionals or patients themselves dealing with the consequences of stroke.

BASIC **Brain and Spinal Injury Charity**

The Neurocare Centre
554 Eccles New Road
Salford

M5 2AL

Tel 0161 707 6441

Help Line 0870 7500000

www.basiccharity.org.uk

Benefits Agency Helpline Tel 0800 88 22 00

British Brain and Spine Foundation

7 Winchester House
Kennington Park
Cranmer Road
London SW9 6EJ

Helpline 08088081000

British Insurance Brokers Association

BIBA House
14 Bevis Marks
London
EC3A 7NT

Tel 020 7623 9043

Carers Support Organisations

Carers National Association
91 Mitchell Street
Glasgow
G1 3LN

Tel 0141 221 9141

Fax 0141 221 9140

Carers Line 01345 573 369

Cross roads Scotland

Caring for carers
24 George Square
Glasgow
G2 1EG
Tel 0141 226 3793

Fax 0141 221 7130

Centre for Sensory Impaired People

Provide statutory range of social work services for visual and hearing impaired

17 Gullane Street
Partick
Glasgow
G11 6HA
Tel 0141 334 5530

Chest Heart and Stroke Scotland

CCHS Advice Line 0845 077 6000
Email: adviceline@chss.org.uk
Web www.chss.org.uk

Volunteer Stroke Services Contact

Tel 0141 638 9291
Email jaynemckerrow@tinyworld.co.uk

Citizens Advice Scotland: Tel 0131 667 0156

Continence Services -

Association for Continence Advice
102a Astra House
North Road
New Cross
London
SE 14 6EB
Tel 020 8692 4680
Website www.aca.uk.com

Incontact
United House
Arklow Road
London
N7 9DP
Tel 0870 770 3264
Email www.incontact.org

The Continence Foundation:

307 Hatton Square
16 Baldwin Gardens
London
EC1N 7RJ

Tel 0845 345 0165
www.continence-foundation.org.uk

Depression Alliance

35 Westminster Bridge Road
London
SE1 7JB
Tel 020 763 0557

Different Strokes

9 Cannon Harnet Court
Wolverrton Mills
Milton Keynes
MK 12 5NF

Helpline 0845 130 7172
Website: www.differentstrokes.co.uk

Disability Benefit Centre

29 Cadogan Street
Glasgow
G2 7BN
Tel 0141 249 3500

Disabled Income Group (DIG)

5 Quayside Street
Edinbrugh
EH6 6EJ
Tel 0131 555 2811

DVLADrivers Medical Unit

Longview Road
Swansea
SA99 ITU

Tel 0870 600 0301

Equipment loans -

Disabled Trust for Scotland Tel: 0141 332 3446
Motability Telephone: 01279 635 999
Motability General Helpline: 01279 635 666

Holiday Care Service
2nd Floor
Imperial Building
Victoria Road
Harley
Surrey
RH6 7PZ
Tel 0293 774535

Learning Direct Enquiries Tel 0800 100 900

Money Advice Scotland Tel 0141 572 0237

Medical Enquiries -

NHS 24 08454 242424

NHS Helpline 0900 224488

Prescription Advice Line 0845 850 0030

Royal Association for Disability (RADAR)
12 City Forum Road
London
EC1V 8AF
Tel 0207 250 3222
Email www.radar.org.uk

Scottish Driving Assessment Centre
Tel 0131 537 9192

Speakability
1 Royal Street
London
SE1 7LL
Tel 0808 808 9572
Website www.speakability.org.uk

S.P.O.D.
The Association to Aid the Sexual and Personal Relationship of people with a disability.
286 Camden Road
London
N7 OBJ
Tel 0207 607 8851
Fax 0207 700 0236

Stroke Association

CHSA House
Whitecross Street
London
EC1Y 8JJ
Tel 0845 303 310
stroke@stroke.org.uk
www.stroke.org.uk

Taking Magazines Enquiries Tel 01435 866102

Toilets for the Disabled

Nicobond (ScotlandLtd)
1 Picadilly Street
Glasgow
Tel 0141 248 5355.

SIGN 64 - Management of patients with Stroke
Rehabilitation, Prevention and Management of complications and Discharge Planning

Index
SIGN make recommendations based on the level of supporting documentation and evidence available to support that practice. It does not reflect the clinical importance of that recommendation**.**

A – At least one meta-analysis, systematic review of Randomised Control Trials and directly applicable to the target population.
or
A body of evidence consisting principally of RCT studies directly related to the target population, demonstrating overall consistency of results.

B - A body of evidence including systemic reviews of case control or cohort studies that are directly applicable to the target population and demonstrate overall consistency.

C - A body of evidence including case control and cohort studies that are directly applicable to the population and demonstrate overall consistency.

D - Evidence based on expert opinion or non-analytic sties e.g. case reports.

Summary Review

Organisation of Hospital Care

Evidence Grade	
A	Patients admitted to hospital because of acute stroke should be treated in a multidisciplinary stroke unit. Stroke outcome is significantly better when patients are treated in an organised hospital stroke unit compared to either general ward hospital care or organised care at home.

Multidisciplinary Team Membership and Roles

B	The core multidisciplinary team should consist of appropriate levels of nursing, medical, physiotherapy occupational therapy, speech and language therapy and social work staff. Members of the core team should identify problems and invite allied health care professionals to contribute to the treatment and rehabilitation of their patients as appropriate.

Multidisciplinary Team Work

B	Stroke Unit teams should contact at least one formal multidisciplinary meeting per week at which patient problems are identified, rehabilitation goals set, progress monitored and discharge in planning.
B	Patient Involvement Patients and carers should have an early active involvement in the rehabilitation process.
D	Information provision Stroke patients and their carers should be offered information about stroke and rehabilitation
A	Early Supported Discharge and Post- Discharge Early supported discharge services provided by a well resourced, co-ordinated specialist multidisciplinary team are an acceptable alternative to more prolonged hospital stroke unit care and can reduce the length of hospital stay for selected patients.
Good Practice	**Discharge Planning** The pre-discharge process should involve the patient and carers, the primary care team, social services and allied health professionals. It should take account of the domestic circumstances of the patient, or if the patient lives in residential or sheltered care, the facilities available there. A nominated key worker should be identified at this time.
Good Practice	At the time of discharge, the discharge document should be sent to al the relevant agencies and teams.
Good Practice	**Driving After Stroke** Patients with stroke who make a satisfactory recovery should be advised that they must not drive for at least one month after their stroke. Patients with residual disability at one month must inform the DVLA (particularly if there are visual field defects, motor weakness or cognitive deficits and can only resume Driving after formal Assessment.
Good Practice	Chest Heart & Stroke Scotland Advice Line 0845 077 6000

Management and Prevention Strategies

Refer to the Full SIGN 64 Guideline for specific management strategies with regards:

- Movement Impairment
- Visuospatial dysfunction
- Communication Impairment
- Cognitive Impairment
- Infection
- Continence Management
- Pain
- Falls
- Pressure Ulcer prevention
- Therapeutic Positioning
- Mood Disturbance
- Venous Thromboembolism
- Sexuality
- Ethical Dilemas.

Additional copies and information is available from the SIGN website
www.SIGN.ac.uk

Glossary of Stroke Terms

Agnosia	Generic term indicating a failure to recognise certain familiar objects although the senses are intact.
Agnosgnosia	Failure to recognise or understand one's own disability and therefore the inability to relate to it or to remember strategies for dealing with it.
Aphagia	Functional loss of swallowing mechanisms.
Aphasia	Inability to express oneself through speech and/or to comprehend the spoken work. Can apply to written language and to gestures and symbols too.
Ataxia	
CAT Scan	Computerised Axial Tomography
Cognition	Knowledge, collection and perception of incoming signals for thought Processing the organisation of functional ability.
CVA	Cerebral Vascular Accident resulting in Stroke.
DYS-	As a prefix denotes a partial loss of that ability.
Dysarthria	Difficulty in articulation eating and drinking due to weakness of the muscles of the face, mouth and throat.
Dysphagia	Impoverished swallowing mechanism.
Dysphasia	Disorder of language impaired expression and comprehension of speech and or written language gestures and symbols. Often used interchangeably with aphasia.
Dyspraxia	Disorder in functional ability; confused performance of purposeful movements even though motor power, sensation and intellect may be impaired.
Emotionalism	Inappropriate or excessive crying or laughing emotionally liability.
Hemianopia	Defective vision or blindness in half of the visual field of one or both eyes.
Hemiplegia	Deficiency of movement on side of the body.
Homonymous	Hemianopia - Hemianopia affecting the right halves or the left halves the left field of both eyes ,i.e. the side affected by the stroke.
Hypertonicity	Increased muscle tone leading to dysfunction.
MRI	Magnetic Resonance Imaging
Ipsilateral	
Neglect	
Oedema	Swelling caused by fluid in the tissues.
Perception	Understanding mental interpretation of a sensory stimulus
Peripheral	Away from the centre e.g. the limbs in relation to the trunk.
Rollator	Walking frame with wheels on the front legs for pushing instead of lifting forwards.
Shoulder Hand Syndrome	A flaccid arm and hand, sometimes painful, l showing poor circulation and often accompanied by subluxation of the shoulder joint.
Spasticity	Persistent increased muscle tone in the stereotype reflex patterns preventing normal movement.
Subluxation	Partial dislocation of a jointly usually causing pain but not always Pains is the normal consequence of damage to the soft tissue.

Thrombolysis Process by which plasminogen activator agent is infused. This thromboytic agent dissolves the thrombus within the blocked vessel and restore blood flow to an ischaemic cerebral tissue that has not been damaged irreversibly preventing further deterioration of brain tissue.

TIA Transient Ischaemic Attack, a stroke which lasts less than 24 hours with no lasting effects.

Unilateral Neglect - Lack of awareness of activity in or to the stroke side.