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**Preventing further strokes checklist**

A number of factors significantly increase the chances of having another stroke - 80% of strokes are avoidable through effective primary and secondary prevention. This checklist should be used by primary and community healthcare professionals for patients by two weeks post discharge from hospital after a stroke to help assess and act on risk. Guidance on the clinical management of stroke prevention is in appendix 1 is applicable in reducing risk after a Transient Ischaemic Attack.

1. **Assessment information**

Assessor name: Click here to enter text.

Date (ideally 2 weeks from discharge): Click here to enter text.

Patient name: Click here to enter text.

NHS number: Click here to enter text.

Date of birth: Click here to enter text.

1. **Medical history and current medication**

The medical history of the patient and their current medications will be included in the discharge letter from the stroke unit. The following key information should be considered at the two week (or before) assessment post stroke:

* Date of and type stroke
* Blood pressure at discharge from hospital
* Diagnosed with Atrial Fibrillation? If not, has cardiac monitoring been booked?
* Carotid Doppler required and booked?
* HbA1C
* Total cholesterol
* Kidney function
* Smoking status
* Pre stroke alcohol intake (units/week)
* 6 week hospital clinic appointment booked?
* Medicines: anti-platelets; anticoagulants; antihypertensive agents; statins
* Any medicine compliance issues

1. **Today’s secondary prevention check:**

Blood pressure: Click here to enter text.

Pulse check (1 minute manual check): *Regular/Irregular*

Height/Weight/BMI: Click here to enter text.

Malnutrition Universal Screening Tool (MUST) score: Click here to enter text.

Driving advice provided: *Yes/No*

***Ask the patient***

Before your stroke, did you smoke? *Yes/No* If yes, do you want to stop smoking? Click here to enter text.

Before your stroke, did you exercise or keep active regularly? *Yes/No*

Before your stroke, did you eat a balanced diet? *Yes/No*

Before your stroke, did you drink alcohol? *Yes/No* If yes, how much do you drink and how often? Click here to enter text.

Do you have any new problems remembering things or concentrating? *Yes/No*

Do you often feel sad or depressed? *Yes/No*

Do you often feel anxious or tense? *Yes/No*

Do you laugh or cry more since the stroke? *Yes/No*

***Next steps***

Use the checklist to ensure:

* Patient has been prescribed medication based on the guidelines and is able to access them appropriately
* Any further investigations (e.g. AF detection) are completed or requested
* Patient has had lifestyle advice reinforced and signposted appropriately
* Dietary concerns have been addressed and signposted where appropriate
* Mood concerns have been addressed and signposted where appropriate
* Patient will be reviewed regularly by practice nurse in liaison with the relevant community rehabilitation team if appropriate

**Appendix 1. Guidance on secondary prevention of stroke**

The [RCP National Clinical Guideline for Stroke](https://www.rcplondon.ac.uk/guidelines-policy/stroke-guidelines) makes recommendations on the prevention of stroke with [specific guidance for primary care](https://www.strokeaudit.org/SupportFiles/Documents/Guidelines/Profession-Specific-Guides/9-Primary-Care.aspx). A person who has a stroke or Transient Ischaemic Attack (TIA) has a substantial risk of further events; 26% within 5 years and 39% within 10 years. The risk of a vascular event after stroke or TIA may be 25% in the first 3 months and risks should be identified by clinicians and reduced as soon as possible.

Stroke units commence secondary prevention before discharging patients (chapter 3 of the guideline), but it is vital that management of clinical risk is continued by community and primary care clinicians. Key risk factors for another cardiovascular event are diet and lifestyle issues including smoking, alcohol and exercise and are relevant in the primary prevention of stroke.

**Blood pressure (BP)**

BP is the most treatable risk factor associated with primary and secondary stroke prevention and the principal factor in haemorrhages, also accounting for 50% of ischaemic strokes. The guidelines recommend:

* People with stroke or TIA should have their blood pressure checked, and treatment should be initiated and/or increased as tolerated to consistently achieve a clinic systolic blood pressure below 130 mmHg, except for people with severe bilateral carotid artery stenosis, for whom a systolic blood pressure target of 140–150 mmHg is appropriate.
* For people with stroke or TIA aged 55 or over, or of African or Caribbean origin at any age, antihypertensive treatment should be initiated with a long-acting dihydropyridine calciumchannel blocker or a thiazide-like diuretic. If target blood pressure is not achieved, an angiotensin converting enzyme inhibitor or angiotensin II receptor blocker should be added.
* For people with stroke or TIA not of African or Caribbean origin and younger than 55 years, antihypertensive treatment should be initiated with an angiotensin converting enzyme inhibitor or an angiotensin II receptor blocker.

**Atrial Fibrillation (AF)**

Previous drugs of choice have been vitamin K antagonists such as warfarin, however, Direct Oral Anti Coagulants (DOACs) offer practical advantages and the guideline recommends:

* For people with ischaemic stroke or TIA and paroxysmal, persistent or permanent AF (AF: valvular or non-valvular) or atrial flutter, anticoagulation should be the standard treatment.
* Anticoagulation:
  + should not be given until brain imaging has excluded haemorrhage
  + should not be commenced in people with uncontrolled hypertension
  + for people with disabling ischaemic stroke should be deferred until at least 14 days from onset - aspirin 300 mg daily should be used in the meantime
  + for people with non-disabling ischaemic stroke should be deferred for an interval at the discretion of the prescriber, but no later than 14 days from the onset
  + should be commenced immediately after a TIA once brain imaging has excluded haemorrhage, using an agent with a rapid onset (e.g. low molecular weight heparin or a direct thrombin or factor Xa inhibitor - the latter confined to people with non-valvular AF).
* Anticoagulation for people with TIA or stroke should be with: − adjusted-dose warfarin (target INR 2.5, range 2.0 to 3.0) with a target time in the therapeutic range of greater than 72%; or − a direct thrombin or factor Xa inhibitor (for people with non-valvular AF).
* For people with cardioembolic stroke for whom treatment with anticoagulation is considered inappropriate:
  + antiplatelet treatment should not be used as an alternative for people with absolute contraindications to anticoagulation (e.g. undiagnosed bleeding)
  + measures should be taken to reduce bleeding risk, using a tool such as HAS-BLED to identify modifiable risk factors. If after intervention for relevant risk factors the bleeding risk is considered too high for anticoagulation, antiplatelet treatment should not be used as an alternative
  + consider a left atrial appendage occlusion device as an alternative.

The guideline recommends in relation to the detection of AF:

* People with ischaemic stroke or TIA who would be eligible for secondary prevention treatment for AF (anticoagulation or left atrial appendage device closure) should undergo a period of prolonged (at least 12 hours) cardiac monitoring.
* People with ischaemic stroke or TIA who would be eligible for secondary prevention treatment for AF and in whom no other cause of stroke has been found should be considered for more prolonged ECG monitoring (24 hours or longer), particularly if they have a pattern of cerebral ischaemia on brain imaging suggestive of cardioembolism.

**Anti-platelet therapy**

This is of the most important interventions in reducing the risk of cardio vascular events; the guideline recommends:

* For long-term vascular prevention in people with ischaemic stroke or TIA without paroxysmal or permanent AF:
  + clopidogrel 75mg daily should be the standard antithrombotic treatment
  + aspirin 75 mg daily with modified-release dipyridamole 200 mg twice daily should be used for those who are unable to tolerate clopidogrel
  + aspirin 75mg daily should be used if both clopidogrel and modified-release dipyridamole are contraindicated or not tolerated
  + modified-release dipyridamole 200 mg twice daily should be used if both clopidogrel and aspirin are contraindicated or not tolerated.
  + The combination of aspirin and clopidogrel is not recommended unless there is another indication e.g. acute coronary syndrome, recent coronary stent.

**Carotid arterial stenosis**

The guideline recommends people with non-disabling carotid artery territory stroke or TIA should be considered for carotid revascularisation, and if they agree they should have carotid imaging performed urgently to assess the degree of stenosis.

**Lipid modification**

Evidence shows clear benefit in lowering of lipids with statins to reduce the primary and secondary risk of cardiovascular events, including stroke. The guideline recommends that people with ischaemic stroke or TIA should be:

* Offered treatment with a statin drug unless contraindicated. Treatment should:
  + begin with a high intensity statin such as atorvastatin 20-80mg daily
  + be with an alternative statin at the maximum tolerated dose if a high intensity statin is unsuitable or not tolerated
  + aim for a greater than 40% reduction in non-HDL cholesterol. If this is not achieved within 3 months, the prescriber should: − discuss adherence and timing of dose; − optimise dietary and lifestyle measures; − consider increasing to a higher dose if this was not prescribed from the outset

**Lifestyle**

Effective interventions require changes in behaviour such as smoking, exercise, diet and alcohol consumption and clinicians should provide information, advice and support to help people make sustained changes in their lifestyle, which should include support for nutritional needs such as swallowing difficulties. An online directory of local life after stroke services including lifestyle is available [here](http://gmsodn.org.uk/voluntary-services-directory/). The guideline recommends that People with stroke or TIA should be advised to:

* Eat an optimum diet that includes:
  + five or more portions of fruit and vegetables per day from a variety of sources#
  + two portions of oily fish per week (salmon, trout, herring, pilchards, sardines, fresh tuna).
* Reduce their salt intake by:
  + not adding salt to food at the table
  + using little or no salt in cooking
  + avoiding high-salt foods, e.g. processed meat such as ham and salami, cheese, stock cubes, pre-prepared soups and savoury snacks such as crisps and salted nuts.
* Limit their intake to 14 units a week, spread over at least three days
* Aim to achieve 150 minutes or more of moderate intensity physical activity per week in bouts of 10 minutes or more (e.g. 30 minutes on at least 5 days per week). They should also engage in muscle strengthening activities at least twice per week.
* Stop smoking immediately. Smoking cessation should be promoted in an individualised prevention plan using interventions which may include pharmacotherapy, psychosocial support and referral to NHS Stop Smoking Services

**Mood and cognition**

The emotional and psychological impacts of having a stroke are significant and many stroke survivors experience depression, anxiety, distress and emotional lability. Mood disturbance can hinder recovery and emotional wellbeing should be assessed and supported accordingly. Referral (including carers) to a suitable voluntary sector organisation for peer and other support is advisable. More information on services available locally is [here](http://gmsodn.org.uk/voluntary-services-directory/). The guideline recommends:

* People with or at risk of depression or anxiety after stroke should be offered brief psychological interventions such as motivational interviewing or problem-solving therapy (adapted if necessary for use with people with aphasia or cognitive problems) before considering antidepressant medication.
* People with mild or moderate symptoms of psychological distress, depression or anxiety after stroke should be given information, support and advice and considered for one or more of the following interventions:
  + increased social interaction
  + increased exercise
  + other psychosocial interventions such as psychosocial education groups.

**Other considerations**

In most cases, patients will be discharged from hospital into the care of a specialist community rehabilitation team who will liaise with primary care to ensure the ongoing needs of the patient are met, often performing a structured review at 6 months. Good communication and relationships between community and primary care teams during this period is strongly encouraged.

A review of medication and compliance is strongly advised at the two week assessment following discharge from hospital. The patient’s ability to comply with medicines may be impaired after a stroke, as there may be difficulties with areas such as memory or swallowing. Care should be taken to ensure the patient (and if appropriate those accompanying them) fully understand their medicines regimen and are able to comply as needed.

Driving of cars and motor cycles is prohibited after a stroke or TIA for at least to a month (up to a year for larger vehicles), until signed off by a doctor. Advice should be given accordingly; more information can be found [here](https://www.stroke.org.uk/what-stroke/life-after-stroke/driving).

More information on stroke services can be found at www.gmsodn.org.uk