The updated National Clinical Guideline for Stroke for the UK and Ireland

- the essential changes in a nutshell

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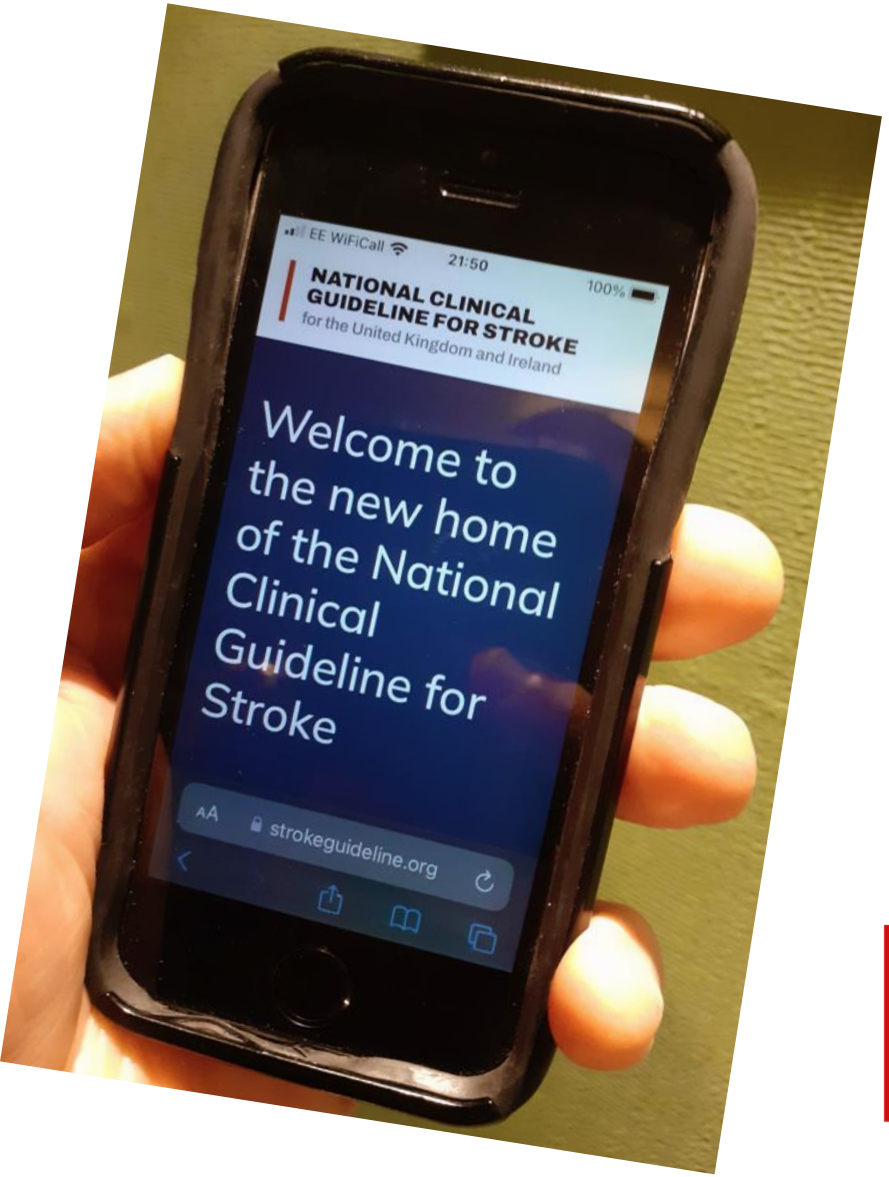
Declaration for Prof Martin James

I have the following financial interest or relationship/s to disclose with regard to the subject matter of this presentation:

- Consulting fees: **None**
- Research contracts: **NIHR HS&DR contracts re modelling of reperfusion treatments, ambulance redirection trials, mobile stroke units**
- Clinical trial steering committee: **BHF-funded trial of early anticoagulation after ischaemic stroke**
- Other: **Trustee of the Stroke Association**

Some big changes in the evidence base…



- Acute Care
- Secondary Prevention
- Rehabilitation and Recovery

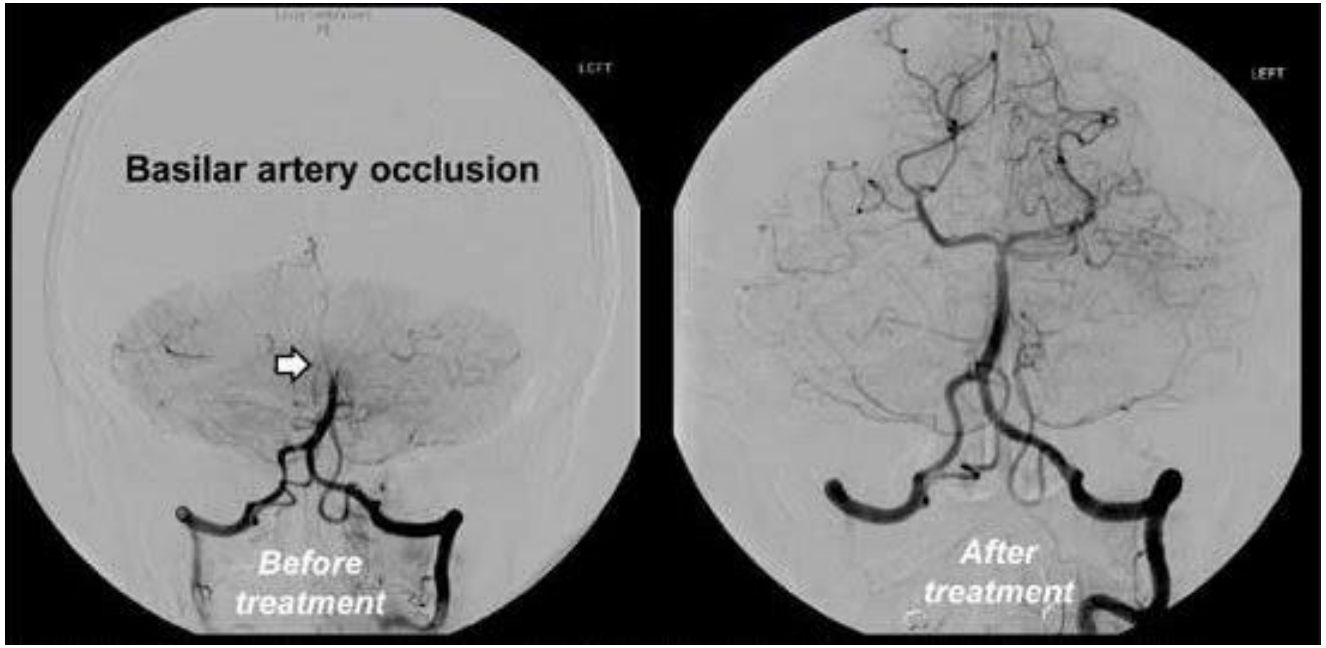
NATIONAL CLINICAL GUIDELINE FOR STROKE
for the United Kingdom and Ireland

What's New in Acute Care?

- **More people eligible for thrombolysis**
  - Up to 9 hours since last seen well
  - Wake-up stroke up to 9 hours from mid-point of sleep (so typically up to 12 midday after retiring at 11PM the previous evening and waking with stroke at 7AM)
  - Selected using perfusion imaging (CT or MR mismatch)
- **Alteplase and tenecteplase equivalent**

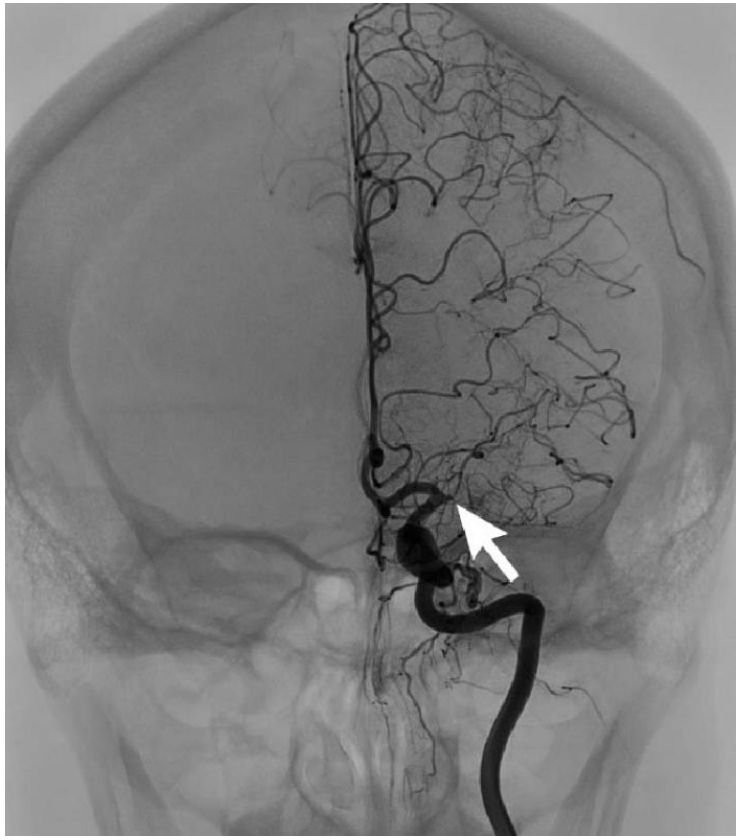
What's New in reperfusion?

- **More people eligible for thrombectomy**
  - Basilar artery/intracranial vertebral artery thrombosis within 12 hours of onset
  - Angiographically-confirmed
  - Significant neurological deficits; no established infarction on plain CT



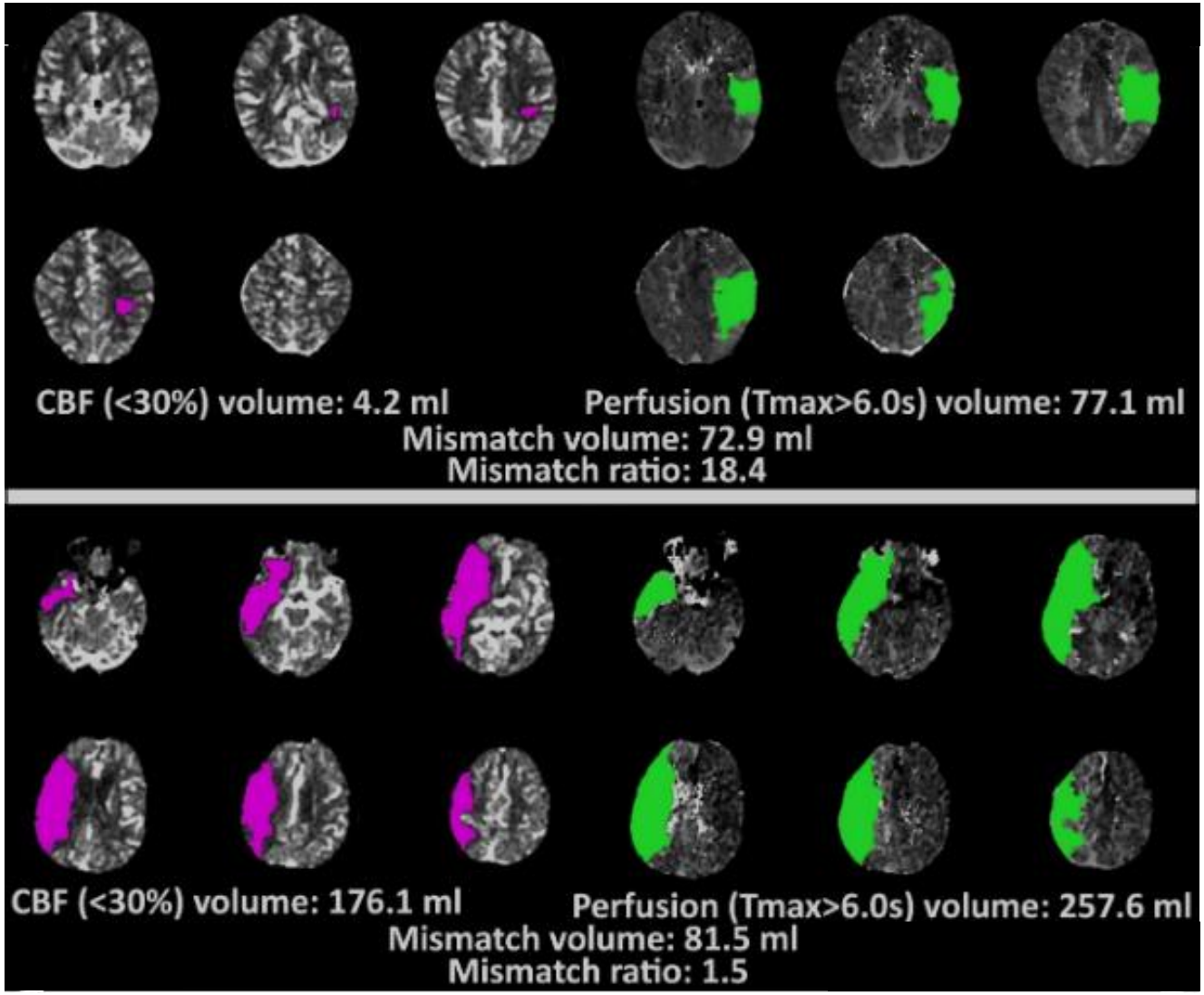
What's New in reperfusion?

- **More people eligible for thrombectomy**
  - Patients with acute anterior circulation ischaemic stroke
  - With or without exclusions from thrombolysis
  - Who were previously independent
  - With a disabling neurological deficit
  - Who can be treated within 6 hours of known onset



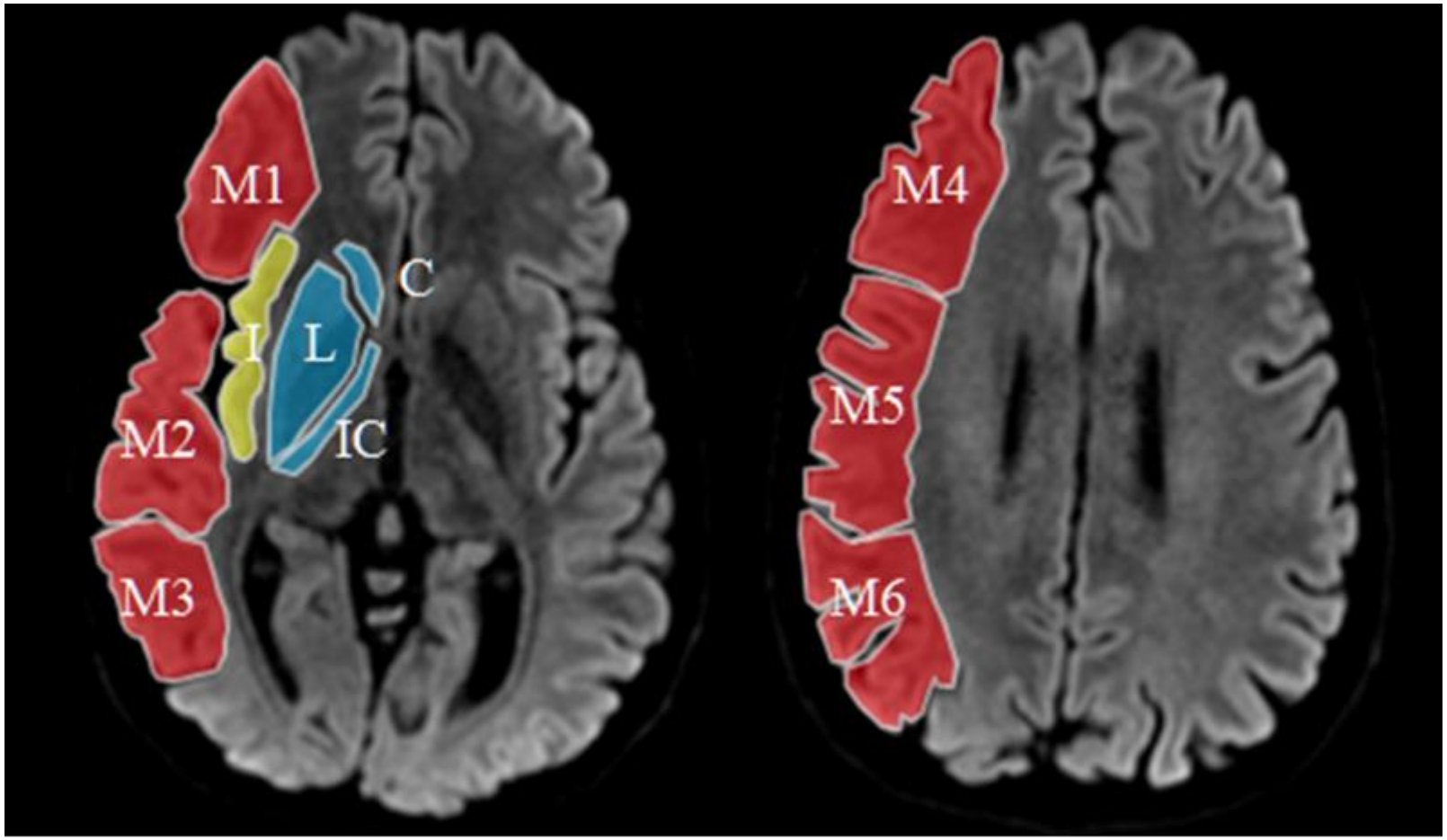
What's New in reperfusion?

CT perfusion used to identify **'potential to salvage brain tissue'**



What's New in reperfusion?

- Determining eligibility using the 'ASPECTS' Score

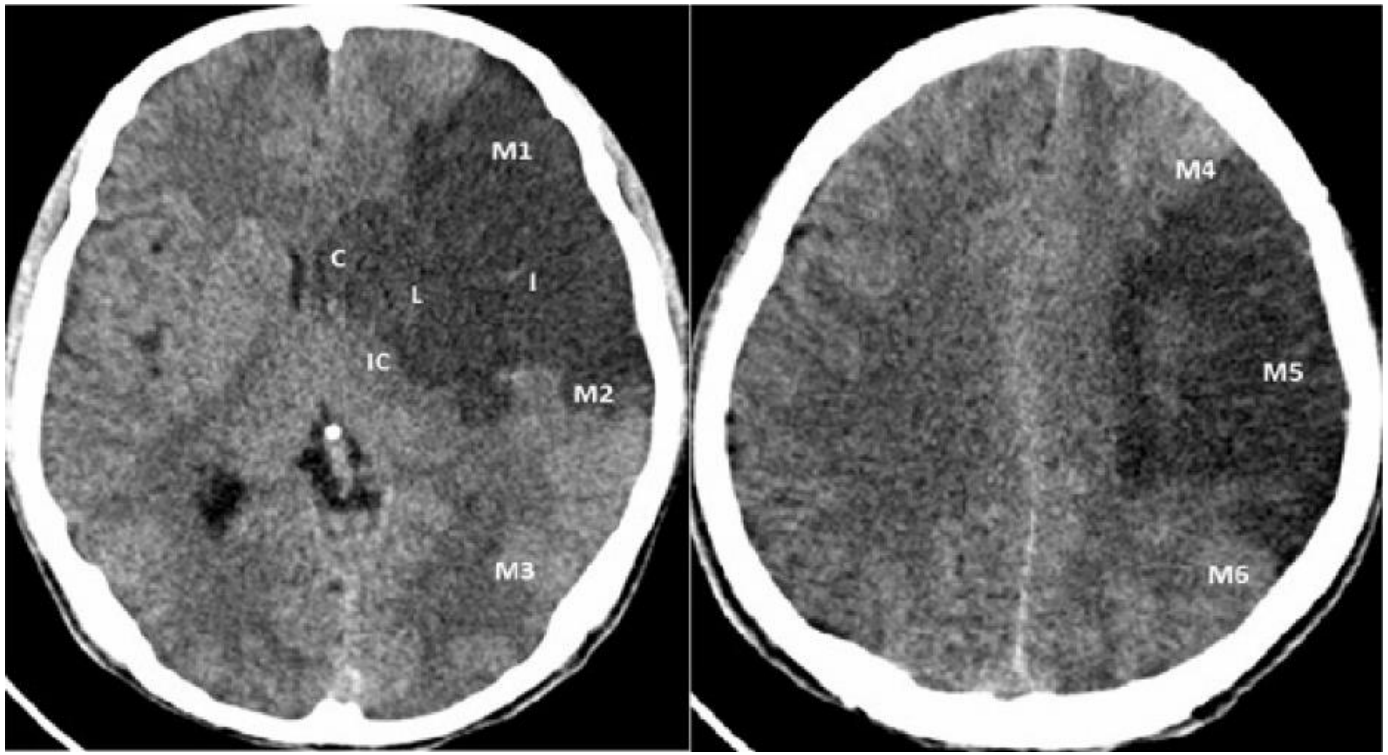


Ganglionic Level

Supra-ganglionic Level

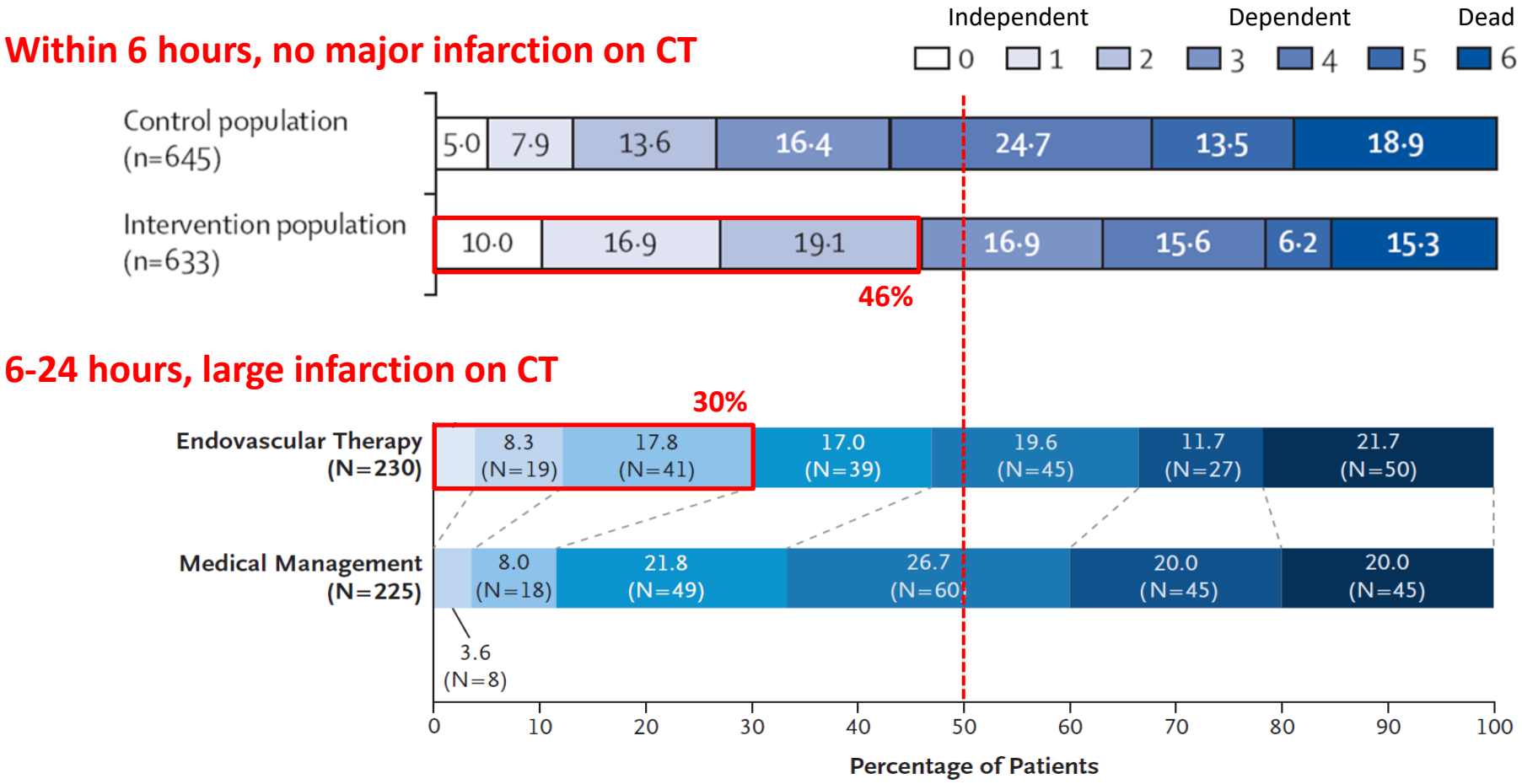
What's New in reperfusion?

- **More people eligible for thrombectomy**
  - Patients with acute anterior circulation ischaemic stroke
  - With no previous disability
  - With a disabling neurological deficit
  - Who can be treated within 6-24 hours of known onset



What's New in reperfusion?

- **More people eligible for 'late' thrombectomy**
  - but fewer patients do well overall



What's New in secondary prevention?

More intensive interventions:

- **Antiplatelets in minor stroke and TIA**
  - Clopidogrel plus aspirin for 21 days OR
  - Ticagrelor plus aspirin for 30 days
- **Lower target cholesterol**
  - Non-HDL cholesterol below 2.5 mmol/L
- **Lower target BP for IS and ICH (clinic or home BP) – *lower than NICE***
  - Clinic BP below 130/80
  - Home BP below 125/75

NATIONAL CLINICAL GUIDELINE FOR STROKE
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What's New in secondary prevention?

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- **Antipla**
  - Clopi
  - Ticag
- **Lower**
  - Non-
- **Lower**
  BP) – *A*
  - Clinic
  - Hom

1 Department of Health and Social Care, London, UK
2 Scottish Government, Edinburgh, UK
3 Department of Health, Belfast, UK
4 Welsh Government, Cardiff, UK
5 NHS England, London, UK
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Restoring and extending secondary prevention

Comprehensive response is needed, across healthcare and beyond

Christopher J M Whitty,[1] Gregor Smith,[2] Michael McBride,[3] Frank Atherton,[4] Stephen H Powis,[5] Helen Stokes-Lampard[6]

The UK, like many European countries, is currently experiencing substantial excess mortality.[1 2] The reasons for this are likely to be multifactorial, including persisting direct and indirect effects of covid-19, surges in flu and respiratory infections, significant pressures on NHS acute services, and reductions in secondary prevention as an inevitable part of the response to covid-19.[3-5] At the start of the pandemic, as services swung necessarily towards the major new threat, it was predicted that the reduction in preventive care would probably cause subsequent indirect delayed mortality, but the immediate response to the pandemic was essential.[6] Studies finding reduced take up of interventions such as antihypertensive drugs in the initial stages of the pandemic are therefore unsurprising.[3]

Considerable efforts are being made to restore secondary prevention and many other areas of medicine, but we need to go further than simply reverting to where we were in 2019. In particular, we must extend the advantages of secondary prevention to groups that missed out even before the pandemic.[7]

Evidence that secondary prevention can substantially reduce disease incidence and progression is some of

Disease prevalence is higher than average in many of these groups so the benefits of secondary prevention are likely to be even greater.[11] This will require creativity in the development and testing of various delivery models.[12] A single approach is unlikely to be successful across all groups, as shown during the rollout of covid-19 vaccines.

Initial identification of individuals at risk does not usually require a skilled healthcare professional, and directing more people into general practice for routine assessment would not be a good use of general practitioner skills or resources. The first diagnostic step could be done in many settings—for example, measuring blood pressure in workplaces or other places people go as part of their daily lives, and using existing health infrastructure such as pharmacies and optometrists. We should make it much easier and more attractive for people to come forward for assessment.

Thirdly, numerous areas of clinical practice still lack evidence based approaches to secondary prevention, including many associated with substantial morbidity or mortality such as mental health and musculoskeletal conditions. A comprehensive

What's New in secondary prevention?

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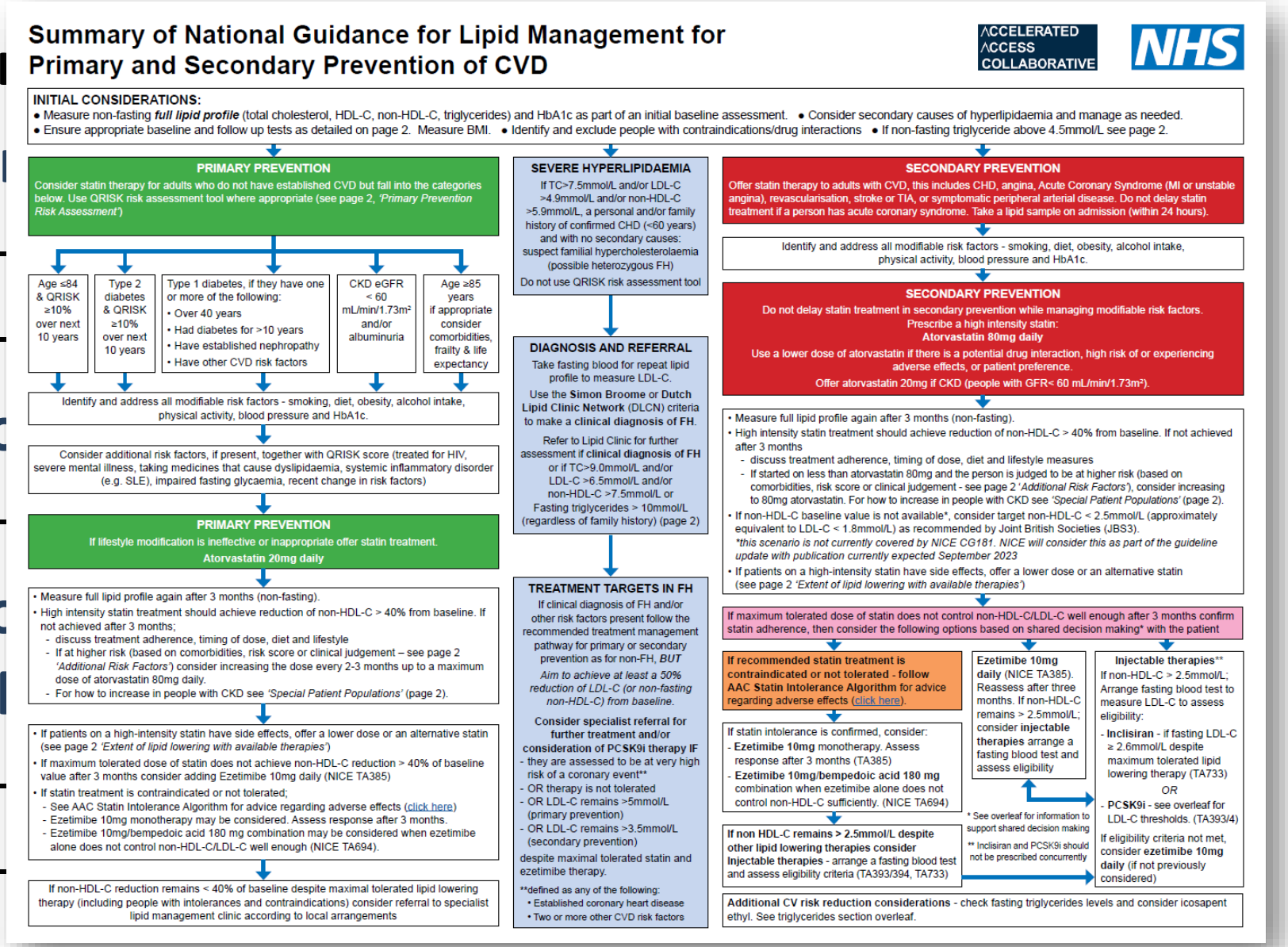

Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD

ACCELERATED ACCESS COLLABORATIVE

NHS

INITIAL CONSIDERATIONS:

• Measure non-fasting ***full lipid profile*** (total cholesterol, HDL-C, non-HDL-C, triglycerides) and HbA1c as part of an initial baseline assessment. • Consider secondary causes of hyperlipidaemia and manage as needed.
• Ensure appropriate baseline and follow up tests as detailed on page 2. Measure BMI. • Identify and exclude people with contraindications/drug interactions • If non-fasting triglyceride above 4.5mmol/L see page 2.

PRIMARY PREVENTION

Consider statin therapy for adults who do not have established CVD but fall into the categories below. Use QRISK risk assessment tool where appropriate (see page 2, *'Primary Prevention Risk Assessment'*)

- Age ≤84 & QRISK ≥10% over next 10 years
- Type 2 diabetes & QRISK ≥10% over next 10 years
- Type 1 diabetes, if they have one or more of the following:
  - Over 40 years
  - Had diabetes for >10 years
  - Have established nephropathy
  - Have other CVD risk factors
- CKD eGFR < 60 mL/min/1.73m² and/or albuminuria
- Age ≥85 years if appropriate consider comorbidities, frailty & life expectancy

Identify and address all modifiable risk factors - smoking, diet, obesity, alcohol intake, physical activity, blood pressure and HbA1c.

Consider additional risk factors, if present, together with QRISK score (treated for HIV, severe mental illness, taking medicines that cause dyslipidaemia, systemic inflammatory disorder (e.g. SLE), impaired fasting glycaemia, recent change in risk factors)

PRIMARY PREVENTION

If lifestyle modification is ineffective or inappropriate offer statin treatment.

Atorvastatin 20mg daily

- Measure full lipid profile again after 3 months (non-fasting).
- High intensity statin treatment should achieve reduction of non-HDL-C > 40% from baseline. If not achieved after 3 months;
  - discuss treatment adherence, timing of dose, diet and lifestyle
  - If at higher risk (based on comorbidities, risk score or clinical judgement – see page 2 *'Additional Risk Factors'*) consider increasing the dose every 2-3 months up to a maximum dose of atorvastatin 80mg daily.
  - For how to increase in people with CKD see *'Special Patient Populations'* (page 2).
- If patients on a high-intensity statin have side effects, offer a lower dose or an alternative statin (see page 2 *'Extent of lipid lowering with available therapies'*)
- If maximum tolerated dose of statin does not achieve non-HDL-C reduction > 40% of baseline value after 3 months consider adding Ezetimibe 10mg daily (NICE TA385)
- If statin treatment is contraindicated or not tolerated;
  - See AAC Statin Intolerance Algorithm for advice regarding adverse effects (click here)
  - Ezetimibe 10mg monotherapy may be considered. Assess response after 3 months.
  - Ezetimibe 10mg/bempedoic acid 180 mg combination may be considered when ezetimibe alone does not control non-HDL-C/LDL-C well enough (NICE TA694).

If non-HDL-C reduction remains < 40% of baseline despite maximal tolerated lipid lowering therapy (including people with intolerances and contraindications) consider referral to specialist lipid management clinic according to local arrangements

SEVERE HYPERLIPIDAEMIA

If TC>7.5mmol/L and/or LDL-C >4.9mmol/L and/or non-HDL-C >5.9mmol/L, a personal and/or family history of confirmed CHD (<60 years) and with no secondary causes: suspect familial hypercholesterolaemia (possible heterozygous FH)

Do not use QRISK risk assessment tool

DIAGNOSIS AND REFERRAL

Take fasting blood for repeat lipid profile to measure LDL-C.

Use the **Simon Broome** or **Dutch Lipid Clinic Network** (DLCN) criteria to make a **clinical diagnosis of FH**.

Refer to Lipid Clinic for further assessment if **clinical diagnosis of FH** or if TC>9.0mmol/L and/or LDL-C >6.5mmol/L and/or non-HDL-C >7.5mmol/L or Fasting triglycerides > 10mmol/L (regardless of family history) (page 2)

TREATMENT TARGETS IN FH

If clinical diagnosis of FH and/or other risk factors present follow the recommended treatment management pathway for primary or secondary prevention as for non-FH, ***BUT***

Aim to achieve at least a 50% reduction of LDL-C (or non-fasting non-HDL-C) from baseline.

Consider specialist referral for further treatment and/or consideration of PCSK9i therapy IF

- they are assessed to be at very high risk of a coronary event**
- OR therapy is not tolerated
- OR LDL-C remains >5mmol/L (primary prevention)
- OR LDL-C remains >3.5mmol/L (secondary prevention)

despite maximal tolerated statin and ezetimibe therapy.

**defined as any of the following:
• Established coronary heart disease
• Two or more other CVD risk factors

SECONDARY PREVENTION

Offer statin therapy to adults with CVD, this includes CHD, angina, Acute Coronary Syndrome (MI or unstable angina), revascularisation, stroke or TIA, or symptomatic peripheral arterial disease. Do not delay statin treatment if a person has acute coronary syndrome. Take a lipid sample on admission (within 24 hours).

Identify and address all modifiable risk factors - smoking, diet, obesity, alcohol intake, physical activity, blood pressure and HbA1c.

SECONDARY PREVENTION

Do not delay statin treatment in secondary prevention while managing modifiable risk factors.
Prescribe a high intensity statin:
Atorvastatin 80mg daily

Use a lower dose of atorvastatin if there is a potential drug interaction, high risk of or experiencing adverse effects, or patient preference.

Offer atorvastatin 20mg if CKD (people with GFR< 60 mL/min/1.73m²).

- Measure full lipid profile again after 3 months (non-fasting).
- High intensity statin treatment should achieve reduction of non-HDL-C > 40% from baseline. If not achieved after 3 months
  - discuss treatment adherence, timing of dose, diet and lifestyle measures
  - If started on less than atorvastatin 80mg and the person is judged to be at higher risk (based on comorbidities, risk score or clinical judgement - see page 2 *'Additional Risk Factors'*), consider increasing to 80mg atorvastatin. For how to increase in people with CKD see *'Special Patient Populations'* (page 2).
- If non-HDL-C baseline value is not available*, consider target non-HDL-C < 2.5mmol/L (approximately equivalent to LDL-C < 1.8mmol/L) as recommended by Joint British Societies (JBS3).
  **this scenario is not currently covered by NICE CG181. NICE will consider this as part of the guideline update with publication currently expected September 2023*
- If patients on a high-intensity statin have side effects, offer a lower dose or an alternative statin (see page 2 *'Extent of lipid lowering with available therapies'*)

If maximum tolerated dose of statin does not control non-HDL-C/LDL-C well enough after 3 months confirm statin adherence, then consider the following options based on shared decision making* with the patient

If recommended statin treatment is contraindicated or not tolerated - follow AAC Statin Intolerance Algorithm for advice regarding adverse effects (click here).

If statin intolerance is confirmed, consider:
- **Ezetimibe 10mg** monotherapy. Assess response after 3 months (TA385)
- **Ezetimibe 10mg/bempedoic acid 180 mg** combination when ezetimibe alone does not control non-HDL-C sufficiently. (NICE TA694)

If non HDL-C remains > 2.5mmol/L despite other lipid lowering therapies consider Injectable therapies - arrange a fasting blood test and assess eligibility criteria (TA393/394, TA733)

Ezetimibe 10mg daily (NICE TA385). Reassess after three months. If non-HDL-C remains > 2.5mmol/L; consider **injectable therapies** arrange a fasting blood test and assess eligibility

Injectable therapies**
If non-HDL-C > 2.5mmol/L; Arrange fasting blood test to measure LDL-C to assess eligibility:
- **Inclisiran** - if fasting LDL-C ≥ 2.6mmol/L despite maximum tolerated lipid lowering therapy (TA733)

OR

- **PCSK9i** - see overleaf for LDL-C thresholds. (TA393/4)

If eligibility criteria not met, consider **ezetimibe 10mg daily** (if not previously considered)

* See overleaf for information to support shared decision making

** Inclisiran and PCSK9i should not be prescribed concurrently

Additional CV risk reduction considerations - check fasting triglycerides levels and consider icosapent ethyl. See triglycerides section overleaf.

What's New in secondary prevention?

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  - Have established nephropathy
  - Have other CVD risk factors
- CKD eGFR < 60 mL/min/1.73m² and/or albuminuria
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• Two or more other CVD risk factors

SECONDARY PREVENTION

Offer statin therapy to adults with CVD, this includes CHD, angina, Acute Coronary Syndrome (MI or unstable angina), revascularisation, stroke or TIA, or symptomatic peripheral arterial disease. Do not delay statin treatment if a person has acute coronary syndrome. Take a lipid sample on admission (within 24 hours).

Identify and address all modifiable risk factors - smoking, diet, obesity, alcohol intake, physical activity, blood pressure and HbA1c.

SECONDARY PREVENTION

Do not delay statin treatment in secondary prevention while managing modifiable risk factors.
Prescribe a high intensity statin:
Atorvastatin 80mg daily

Use a lower dose of atorvastatin if there is a potential drug interaction, high risk of or experiencing adverse effects, or patient preference.

Offer atorvastatin 20mg if CKD (people with GFR< 60 mL/min/1.73m²).

- Measure full lipid profile again after 3 months (non-fasting).
- High intensity statin treatment should achieve reduction of non-HDL-C > 40% from baseline. If not achieved after 3 months
  - discuss treatment adherence, timing of dose, diet and lifestyle measures
  - If started on less than atorvastatin 80mg and the person is judged to be at higher risk (based on comorbidities, risk score or clinical judgement - see page 2 *'Additional Risk Factors'*), consider increasing to 80mg atorvastatin. For how to increase in people with CKD see *'Special Patient Populations'* (page 2).
- If non-HDL-C baseline value is not available*, consider target non-HDL-C < 2.5mmol/L (approximately equivalent to LDL-C < 1.8mmol/L) as recommended by Joint British Societies (JBS3).
  **this scenario is not currently covered by NICE CG181. NICE will consider this as part of the guideline update with publication currently expected September 2023*
- If patients on a high-intensity statin have side effects, offer a lower dose or an alternative statin (see page 2 *'Extent of lipid lowering with available therapies'*)

If maximum tolerated dose of statin does not control non-HDL-C/LDL-C well enough after 3 months confirm statin adherence, then consider the following options based on shared decision making* with the patient

If recommended statin treatment is contraindicated or not tolerated - follow AAC Statin Intolerance Algorithm for advice regarding adverse effects (click here).

If statin intolerance is confirmed, consider:
- **Ezetimibe 10mg** monotherapy. Assess response after 3 months (TA385)
- **Ezetimibe 10mg/bempedoic acid 180 mg** combination when ezetimibe alone does not control non-HDL-C sufficiently. (NICE TA694)

If non HDL-C remains > 2.5mmol/L despite other lipid lowering therapies consider Injectable therapies - arrange a fasting blood test and assess eligibility criteria (TA393/394, TA733)

Ezetimibe 10mg daily (NICE TA385). Reassess after three months. If non-HDL-C remains > 2.5mmol/L; consider **injectable therapies** arrange a fasting blood test and assess eligibility

Injectable therapies**
If non-HDL-C > 2.5mmol/L; Arrange fasting blood test to measure LDL-C to assess eligibility:
- **Inclisiran** - if fasting LDL-C ≥ 2.6mmol/L despite maximum tolerated lipid lowering therapy (TA733)

OR

- **PCSK9i** - see overleaf for LDL-C thresholds. (TA393/4)

If eligibility criteria not met, consider **ezetimibe 10mg daily** (if not previously considered)

* See overleaf for information to support shared decision making

** Inclisiran and PCSK9i should not be prescribed concurrently

Additional CV risk reduction considerations - check fasting triglycerides levels and consider icosapent ethyl. See triglycerides section overleaf.

What's New in rehab and recovery?

Significant advances in the evidence base for dose and intensity of rehab therapy

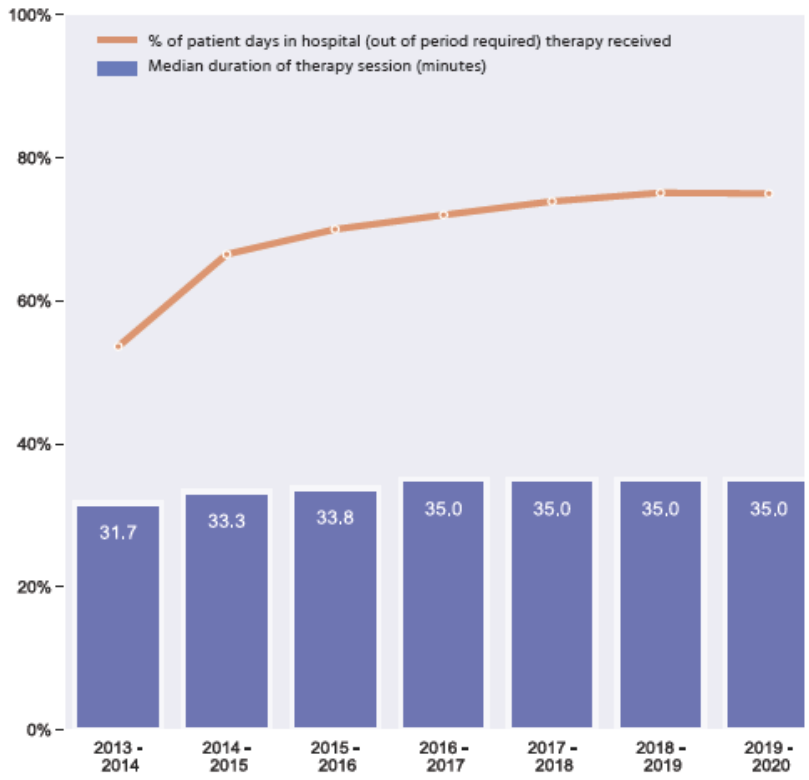
- **Motor recovery (walking, upper limb)**
  - Daily therapy for up to 3 hours/day
  - Daily activity for up to 6 hours/day
  - Repetitive task practice should be the primary approach
- **Language recovery**
  - Use of assisted technology and telerehabilitation
  - More than 20-50 hours of therapy in chronic phase

What's New in rehab and recovery?

Significant advances in the evidence base for dose and intensity of rehab therapy

Physiotherapy

In hospital



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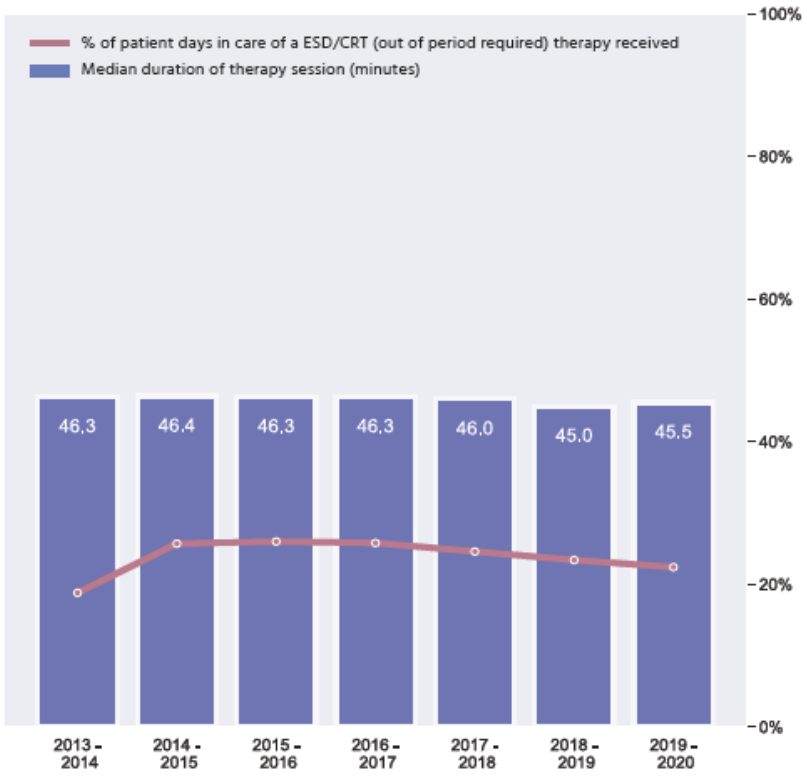
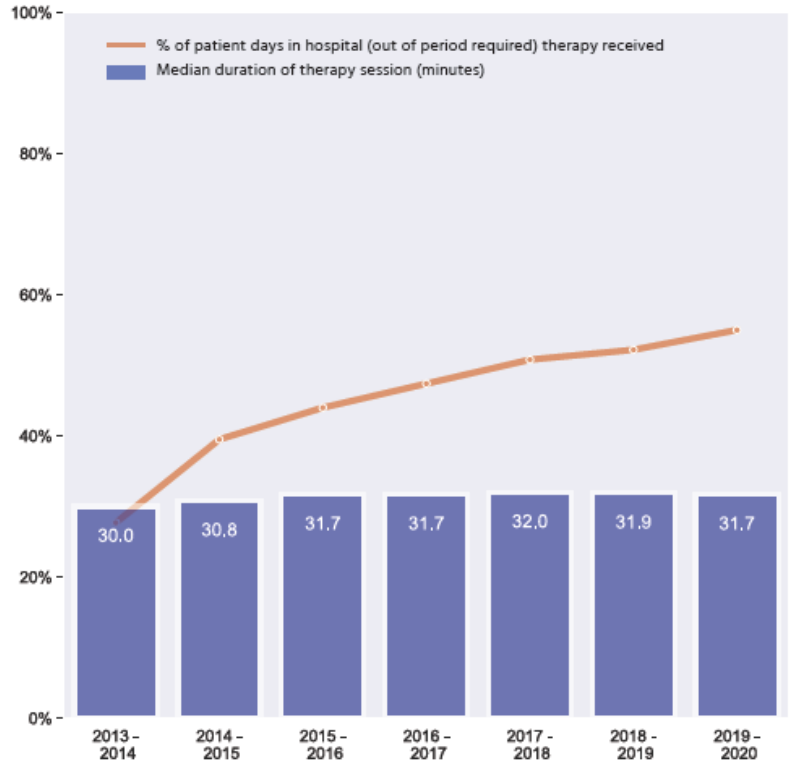


What's New in rehab and recovery?

Significant advances in the evidence base for dose and intensity of rehab therapy

Speech & Language Therapy

In hospital



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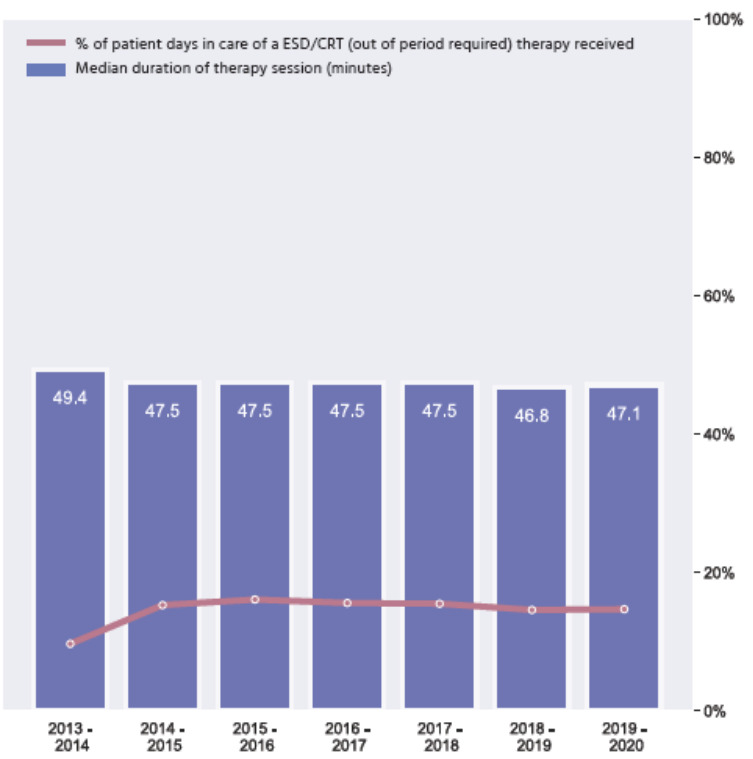

What's New in rehab and recovery?

Significant consensus statements on areas where randomised trial evidence is weak:

- **'Rehabilitation potential'**
- **Return to work**
- **Post-stroke fatigue**
- **Life after stroke**

What's New in rehab and recovery?

Significant consensus statements on areas where randomised trial evidence is weak:

-
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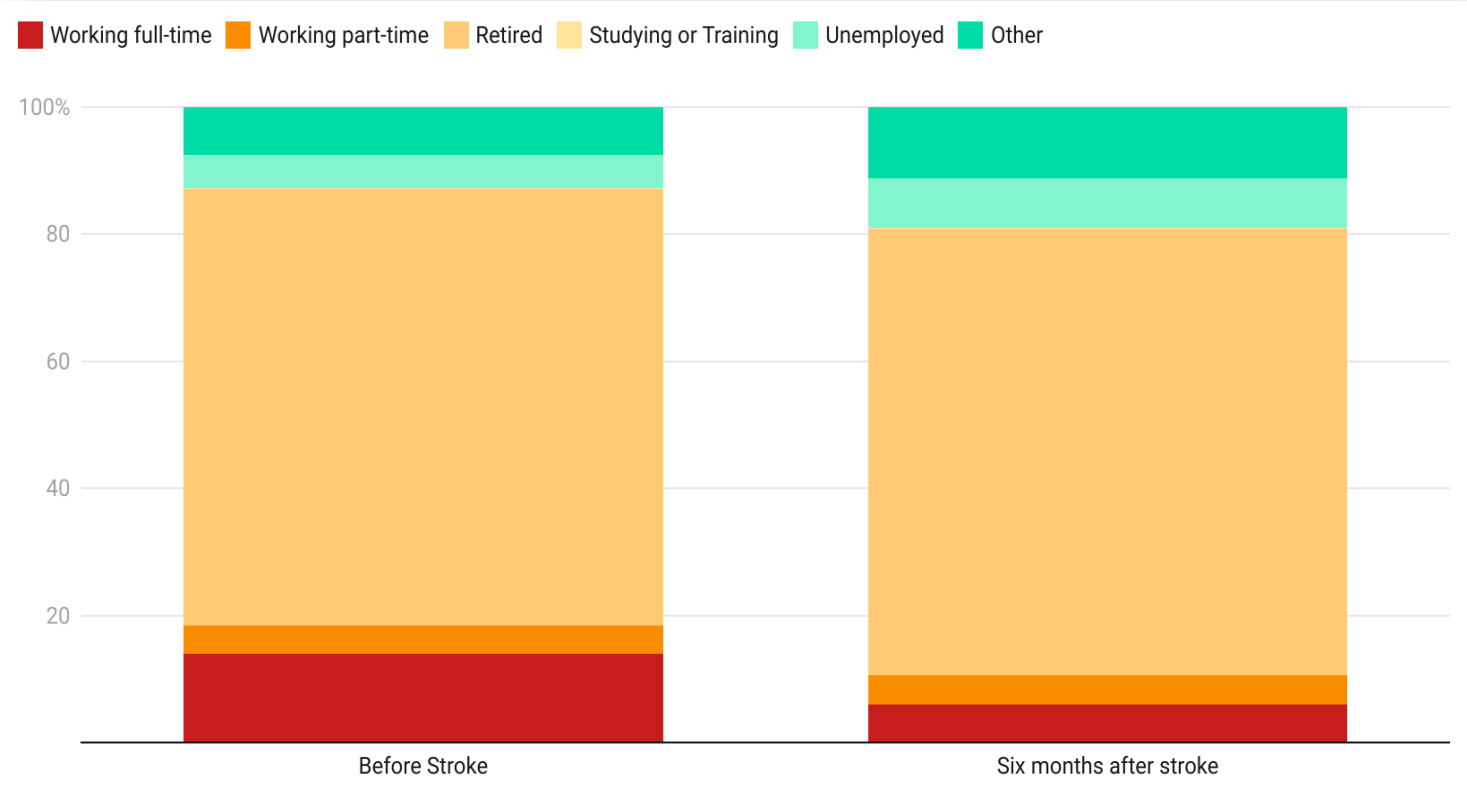

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What's New in rehab and recovery?

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Fatigue after stroke

Stroke Helpline: **0303 3033 100**
or email: **helpline@stroke.org.uk**

Stroke Association

Fatigue affects most stroke survivors, and it can have a big effect on your life. This guide looks at the causes and impact of fatigue, and suggests practical ways you can help yourself and seek support.

What is post-stroke fatigue?

Fatigue is different from normal tiredness, as it doesn't seem to get better with rest. It can happen after any type of stroke, big or small.

You can find out how to understand the triggers for your fatigue, and how to manage it. Fatigue can get better over time, and you can help to improve your recovery by getting support and trying techniques for managing

Online-only access at www.strokeguideline.org

NATIONAL CLINICAL GUIDELINE FOR STROKE
for the United Kingdom and Ireland

Search ...

National Clinical Guideline for Stroke for the UK and Ireland

The National Clinical Guideline for Stroke for the UK and Ireland provides authoritative, evidence-based practice guidance to improve the quality of care delivered to every adult who has a stroke in the United Kingdom and Ireland, regardless of age, gender, type of stroke, location, or any other feature. The guideline is intended for:

- Those providing care – nurses, doctors, allied health professionals, health and social care professionals, care staff
- Those receiving care – patients, their families, their carers
- Those commissioning, providing or sanctioning stroke services
- Anyone seeking to improve the care of people with stroke.

The guideline is an initiative of the Intercollegiate Stroke Working Party. The fifth edition of the guideline was published in 2016. The 2023 edition is a partial update of the 2016 edition and was developed in collaboration with the Scottish Intercollegiate Guidelines Network (SIGN) and the National Clinical Programme for Stroke, Ireland. The 2023 edition is endorsed by the Royal College of Physicians, SIGN and the Royal College of Physicians of Ireland.

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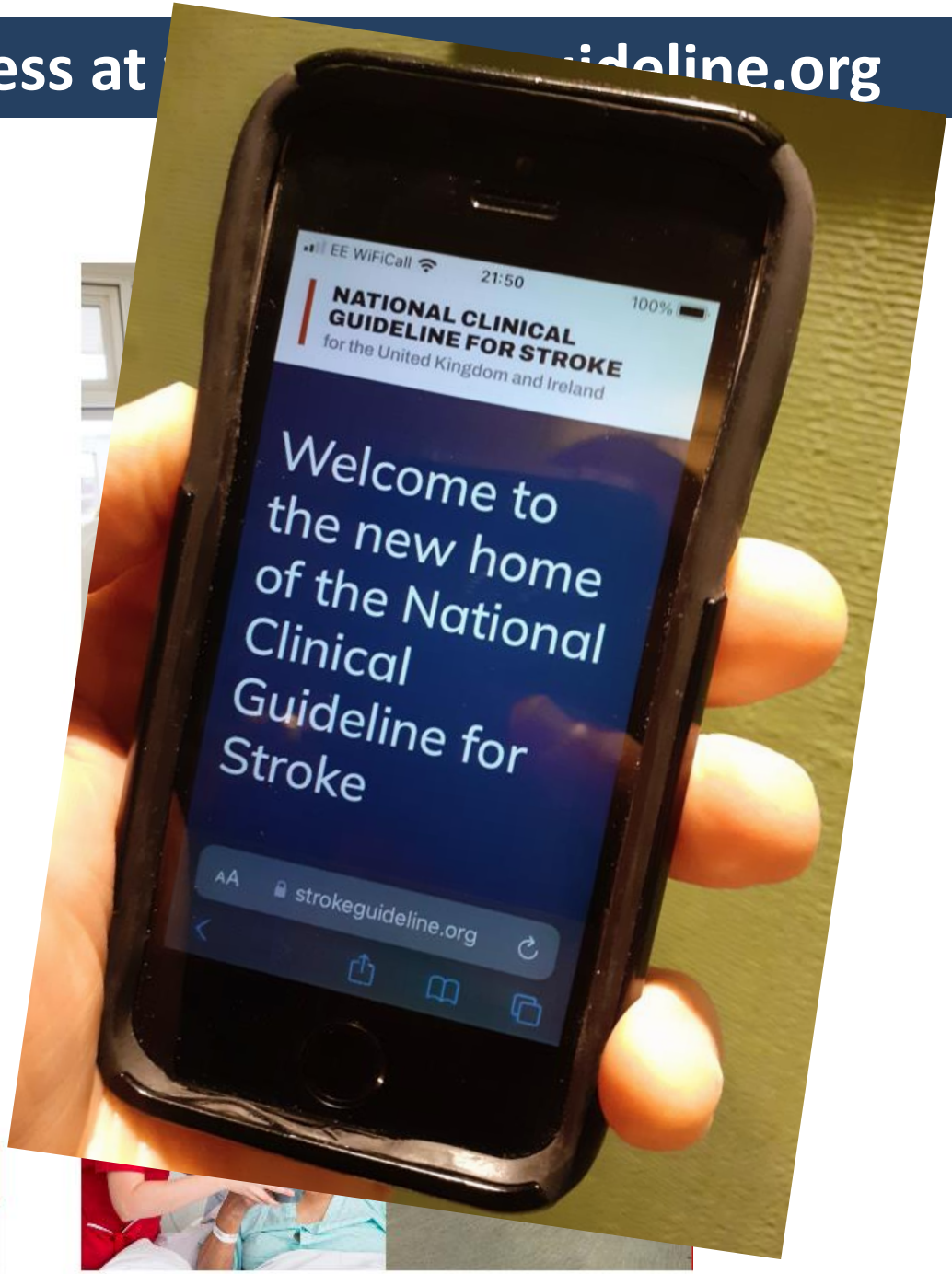

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2023 edition

Care after stroke or transient ischaemic attack

What, when, and why?

Plain language summary for people affected by stroke

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Those essential changes in a nutshell

1. **Big expansion** of eligible patient groups for **reperfusion therapy** with ‘advanced imaging’
   - Thrombolysis up to 9 hours and wake-up stroke
   - Basilar artery thrombosis up to 12 hours
   - Thrombectomy with established infarction and salvageable brain tissue up to 24 hours
2. **More aggressive** secondary prevention
3. **More intensive** rehab in hospital and at home

All available from **Tues 4th April 12:00** at **www.strokeguideline.org**