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UCLPartners Proactive Care Framework:

Hypertension – Managing High Blood Pressure and Cardiovascular Risk

Supporting Primary Care to Restore and Improve Proactive Care

- COVID-19 has placed unprecedented pressure on our health system. This brings an added risk to people with long term conditions who need ongoing proactive care to stay well and avoid deterioration. Disruption to routine care may worsen outcomes for patients, increase their COVID risk and result in exacerbations that further increase pressure on the NHS – driving demand for unscheduled care in GP practices and hospitals.

- As primary care transforms its models of care in response to the pandemic, UCLPartners has developed real world frameworks to support proactive care in long term conditions. The frameworks include pathways for remote care, support for virtual consultations and more personalised care, and optimal use of the wider primary care team, e.g., healthcare assistants (HCA), link workers and pharmacists.

- Additionally, the frameworks include a selection of appraised digital tools, training and other resources to support patient activation and self-management in the home setting.

- This work has been led by primary care clinicians and informed by patient and public feedback.

- The UCLPartners frameworks and support package will help Primary Care Networks and practices to prioritise in this challenging time and to focus resources on optimising care in patients at highest risk. It will support use of the wider workforce to deliver high quality proactive care and improved support for personalised care. And it will help release GP time in this period of unprecedented demand.

UCLPartners Proactive Care Frameworks

UCLPartners has developed a series of frameworks for local adaptation to support proactive management of long-term conditions in post-COVID primary care.

- Led by clinical team of GPs and pharmacists.
- Supported by patient and public insight.
- Working with local clinicians and training hubs to adapt and deliver.

Core principles:

1. Virtual where appropriate and face to face when needed.

2. Mobilising and supporting the wider workforce (including pharmacists, HCAs, other clinical and non-clinical staff).

3. Step change in support for self-management.

4. Digital innovation including apps for self-management and technology for remote monitoring.

CVD High Risk Conditions – Stratification and Management Overview

Healthcare Assistants/other trained staff

Gather information e.g.	Up to date bloods, BP, weight, smoking status, run risk scores: QRISK, ChadsVasc, HASBLED.
Self management e.g.	Education (condition specific, CVD risk reduction), self care (eg red flags, BP measurement, foot checks), signpost shared decision making.
Behaviour change e.g.	Brief interventions and signposting e.g. smoking, weight, diet, exercise, alcohol.

Risk Stratification & Prioritisation

- **Atrial Fibrillation**
- **Blood Pressure**
- **Cholesterol**
- **Diabetes**

Prescribing Clinician

Optimise therapy and mitigate risk
Review blood results, risk scores & symptoms.
Initiate or optimise therapy.
Check adherence and adverse effects.
Review complications and co-morbidities.
CVD risk – BP, cholesterol, pre-diabetes, smoking, obesity.

Why the Focus on Hypertension and Cardiovascular Risk

1. Hypertension is the leading risk factor causing death worldwide
2. In England, there are:
    - An estimated 3.3 million people with undetected hypertension
    - 2.2 million adults under 80 years old with diagnosed hypertension who are not achieving the BP treatment target <140/90mmHg
3. Delaying intervention for more than 6 weeks for people with hypertension leads to an increased risk of cardiovascular events
4. Lowering blood pressure and reducing cardiovascular risk (1^{o} and 2^{o} prevention) is very effective at preventing heart attacks and strokes and premature death.
5. The UCLPartners Hypertension Framework supports remote monitoring and management of hypertension, including control of blood pressure and lipid management.

Adapting the UCLPartners Frameworks for Local Use

1. The UCLP Hypertension Framework supports practices and PCNs with search and stratification tools, pathways, resources and training
    - To prioritise patients – who do we need to see now and who can we safely phase for later review?
    - To determine who has home BP monitors and support patients to buy valid monitors and submit accurate readings
    - To use the wider workforce to support patient education, self management and lifestyle change

2. The UCLP Hypertension Framework will align with and support other local interventions for hypertension, eg:
    - Virtual group consultations to teach and check BP technique
    - Provision of free or loaned BP monitors to improve access
    - Targeting implementation in to reduce health inequalities
    - Local quality improvement schemes for treatment optimisation

Stratification and Management of High Blood Pressure

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High Blood Pressure Stratification and Management

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PRIORITY ONE:
Clinic BP ≥ 180/120mmHg**

PRIORITY TWO:
- Clinic BP ≥ 160/100mmHg**
- Clinic BP ≥ 140/90mmHg** if BAME AND relevant co-morbidity/risk factor*
- No BP reading in 18 months

PRIORITY THREE:
Clinic BP ≥140/90mmHg** if under 80 years
OR Clinic BP ≥150/90mmHg** if 80 years and over

PRIORITY FOUR:

Under 80 years
Clinic BP < 140/90mmHg**

80 years and over
Clinic BP < 150/90mmHg**

Ask patient for up-to-date home BP if available: adjust priority group if needed (as above)

Review by Prescribing Clinician

Review results and CVD risk
- Investigations as needed: Renal, lipids, ACR, ECG
- If existing CVD or QRisk > 10% support behaviour change and optimise lipid lowering therapy

Review medication:
- Identify and address adherence issues – refer to practice pharmacist if additional support required
- Optimise BP medications, in line with NICE guidance

Seek specialist advise
- If BP uncontrolled on four antihypertensives and no adherence issues identified
- Multiple drug intolerances
- Hypertension in young person requiring investigation of secondary causes

Advise
- When to check BP and submit readings (e.g, monthly until controlled, then every 3 months)
- When to seek help based on BP readings

Book follow up and code

Review by HCA or other staff role

Support for self management and behaviour change
- Check BP taking technique
- Check if existing CVD or QRisk >10% and not on statin (refer to prescribing clinician)
- Share resources to help understanding of high blood pressure, CVD risk and treatment
- CVD prevention brief interventions – diet / exercise / smoking / weight / alcohol
- Signpost tools and resources

Review by HCA or other staff role

Self management and behaviour change support
- Check BP taking technique
- Share resources to help understanding of high blood pressure, CVD risk and treatment
- CVD prevention brief interventions – diet / exercise / smoking / weight / alcohol
- Signpost tools and resources

Medication:
- Check if any issues / concerns regarding medicines – refer to practice pharmacist for meds review / adherence support, if needed
- Confirm supply / delivery

Advise
- When to submit BP readings (e.g. every 3 months)
- When to seek help based on BP readings

Referral
- Refer to GP if any red flags identified
- **If existing CVD or QRIsk > 10% and no statin – refer to prescribing clinician**

Recall and code

* / ** see slide 9

High Blood Pressure Stratification and Management – Notes

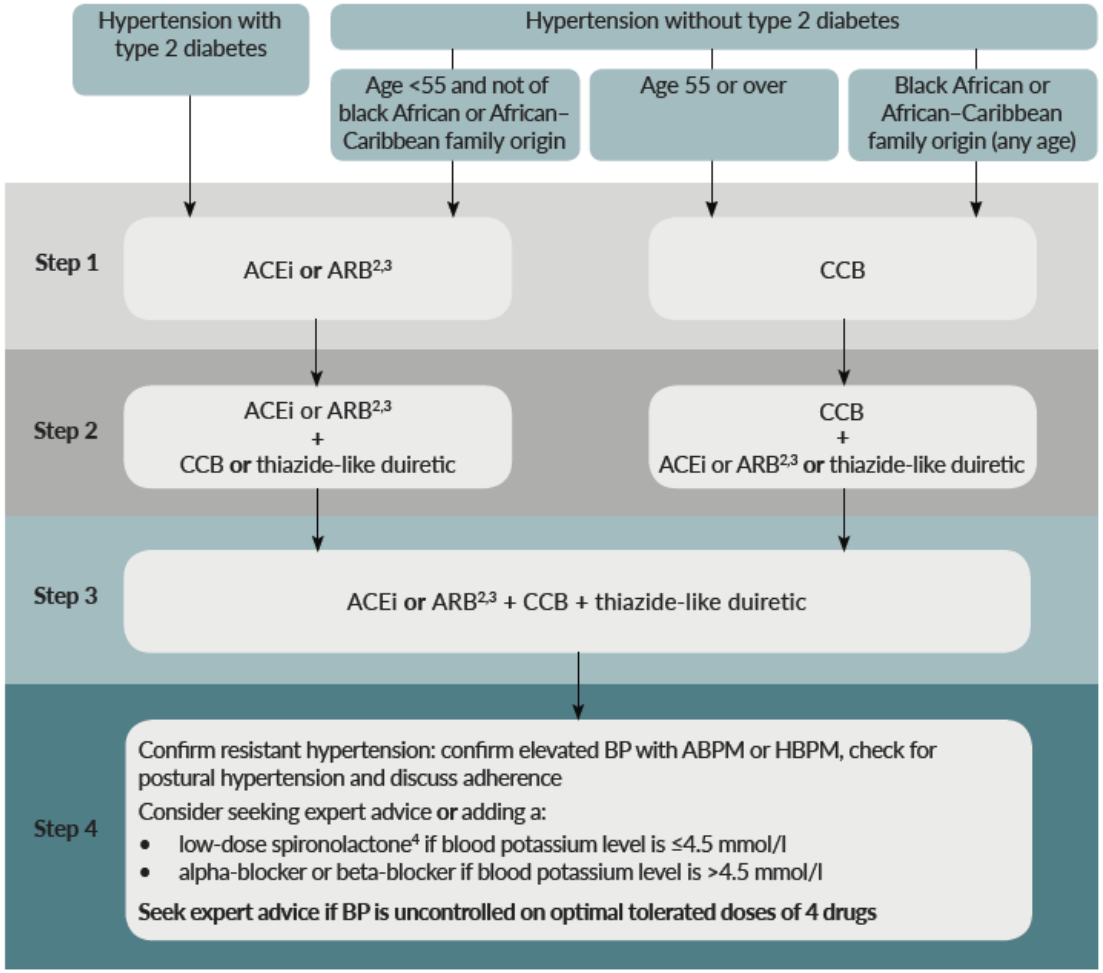
- * Co-morbidities / risk factors

- Established CVD (prior stroke/TIA, heart disease, peripheral arterial disease)
- Diabetes
- CKD 3 or more
- Obesity with BMI > 35

- **Clinic vs Home BP readings

Clinic BP reading	Equivalent Home BP
BP = 180/120mmHg	BP = 170/115mmHg
BP = 160/100mmHg	BP = 150/95mmHg
BP = 150/90mmHg	BP = 145/85mmHg
BP = 140/90mmHg	BP = 135/85mmHg

Choice of antihypertensive drug[1], monitoring treatment and BP targets



Monitoring treatment

Use clinic BP to monitor treatment.

Measure standing and sitting BP in people with:

- type 2 diabetes **or**
- symptoms of postural hypotension **or**
- aged 80 and over.

Advise people who want to self-monitor to use HBPM. Provide training and advice.

Consider ABPM or HBPM, in addition to clinic BP, for people with white-coat effect or masked hypertension.

BP targets

Reduce and maintain BP to the following targets:

Age <80 years:

- Clinic BP <140/90 mmHg
- ABPM/HBPM <135/85 mmHg

Age ≥80 years:

- Clinic BP <150/90 mmHg
- ABPM/HBPM <145/85 mmHg

Postural hypotension:

- Base target on standing BP

Frailty or multimorbidity:

- Use clinical judgement

[1] For women considering pregnancy or who are pregnant or breastfeeding, see NICE's guideline on hypertension in pregnancy. For people with chronic kidney disease, see NICE's guideline on chronic kidney disease. For people with heart failure, see NICE's guideline on chronic heart failure

[2] See MHRA drug safety updates on ACE inhibitors and angiotensin-II receptor antagonists: not for use in pregnancy, which states 'Use in women who are planning pregnancy should be avoided unless absolutely necessary, in which case the potential risks and benefits should be discussed', ACE inhibitors and angiotensin II receptor antagonists: use during breastfeeding and clarification: ACE inhibitors and angiotensin II receptor antagonists. See also NICE's guideline on hypertension in pregnancy.

[3] Consider an ARB, in preference to an ACE inhibitor in adults of African and Caribbean family origin.

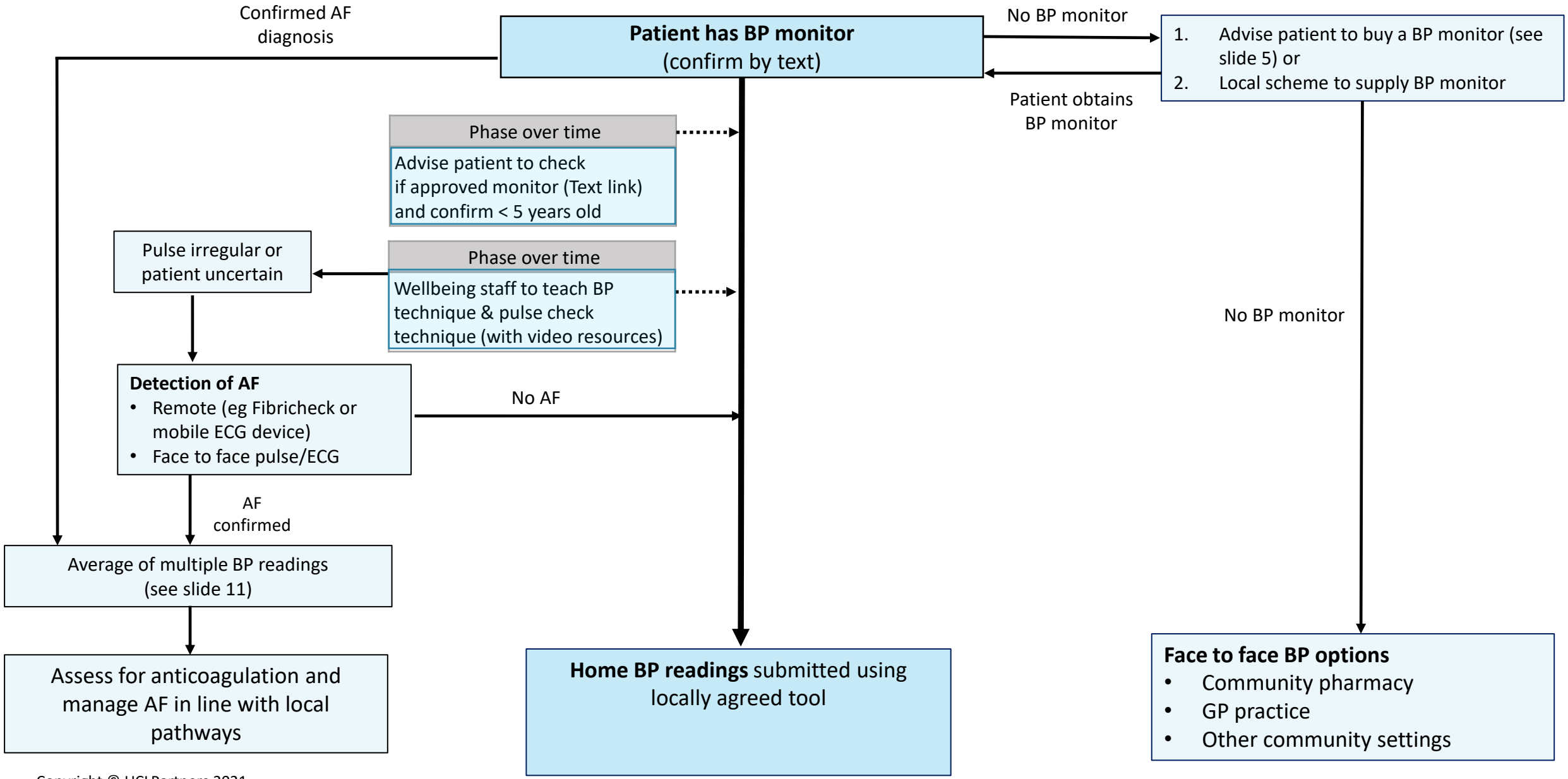
[4] At the time of publication (August 2019), not all preparations of spironolactone have a UK marketing authorisation for this indication.

Abbreviations: ABPM, ambulatory blood pressure monitoring; ACEi, ACE inhibitor; ARB, angiotensin-II receptor blocker; BP, blood pressure; CCB, calcium-channel blocker; HBPM, home blood pressure monitoring.

BIHS British and Irish Hypertension Society
Committed to preventing cardiovascular disease

This visual summary builds on and updates previous work on treatment published by the BIHS (formerly BHS)

Home Blood Pressure Monitoring Pathway



Blood Pressure Measurement in People with Atrial Fibrillation

Measuring BP in people with atrial fibrillation (NB: single readings using automated BP machines are not reliable in people with AF)

- AF detection BP monitors are not validated for assessing BP accurately in people with AF
- Options are:
  - Two BP readings taken each morning and evening over 4 days and calculate the average systolic and diastolic
  - Face to face manual BP check

Management of Broader Cardiovascular Risk in Hypertension: Detecting Atrial Fibrillation (AF)

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Detection and Management of AF in Patients with Hypertension

- Palpate pulse and if irregular or patient uncertain:
  - Assess for AF using ECG or remote devices.

- If AF is confirmed, undertake stroke and bleeding risk assessment and anticoagulate as appropriate.

- Ensure following information is followed for an accurate BP measurement:
  - Patients **without** AF:
    - Take a total of three blood pressure readings, waiting 1-2 minutes between each reading and then record the lowest of the 3 measurements.
  - Patients **with** AF:
    - Take blood pressure twice in the morning and twice in the evening for 4 consecutive days and then calculate an average of the values.

- **Please refer to UCLP AF pathway for detailed guidance:**
  https://s31836.pcdn.co/wp-content/uploads/Atrial-Fibrillation-Framework_UCLPartners-LTCs-April-2021-v2.0.pdf

Resources for Remote Diagnostics and Monitoring

Newly identified irregular heart rhythm in people with high blood pressure

- Fibricheck (needs smartphone) www.fibricheck.com/ and ask patient to monitor morning and evening for 7 days
- Utilise mobile ECG technology, if available e.g.:
  - Kardia by AliveCor (needs smartphone): www.alivecor.co.uk/kardiamobile
  - MyDiagnostick: www.mydiagnostick.com/
  - Zenicor: https://zenicor.com/

ACR - home urine testing

- Healthy.io https://healthy.io/urinalysis-products/

Management of Broader Cardiovascular Risk in Hypertension: Cholesterol

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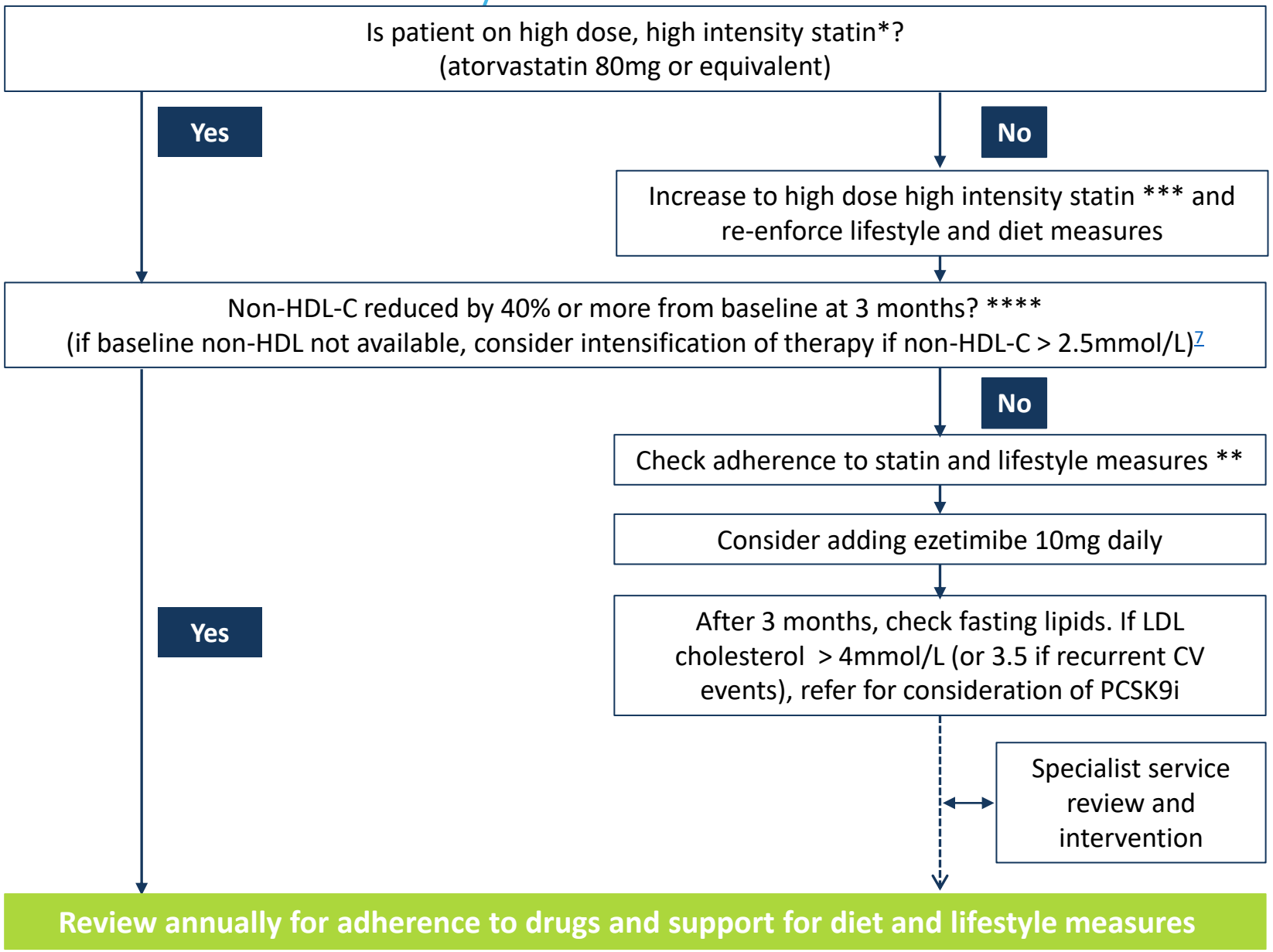
Managing High Cholesterol and Cardiovascular Risk in People with Hypertension

The following slides will help clinicians manage the broader cardiovascular risk in people with hypertension:

- **Pre-existing cardiovascular disease**
  - Optimise lifestyle
  - Use of high intensity statins at maximal appropriate dose
- **No pre-exiting cardiovascular disease**
  - Optimise lifestyle and lipid lowering therapy as primary prevention in people with:
    - QRisk >10% in ten years
    - CKD 3-5
    - Type 1 Diabetes for >10 years or over age 40
- **All patients:**
  - Responding to possible statin intolerance
  - Managing muscle symptoms and abnormal LFTs in people taking statins
- **Please refer to UCLP lipid pathway for detailed guidance:**

  https://s31836.pcdn.co/wp-content/uploads/Lipids-and-FH-Framework_UCLPartners-LTCs-April-2021-v4.1.pdf

Optimisation of Lipid Management in People with Hypertension and CVD – Secondary Prevention



Optimal High Intensity Statin for secondary prevention
(High intensity statins are substantially more effective at preventing cardiovascular events than low/medium intensity statins)

Atorvastatin	80mg
Rosuvastatin	20mg

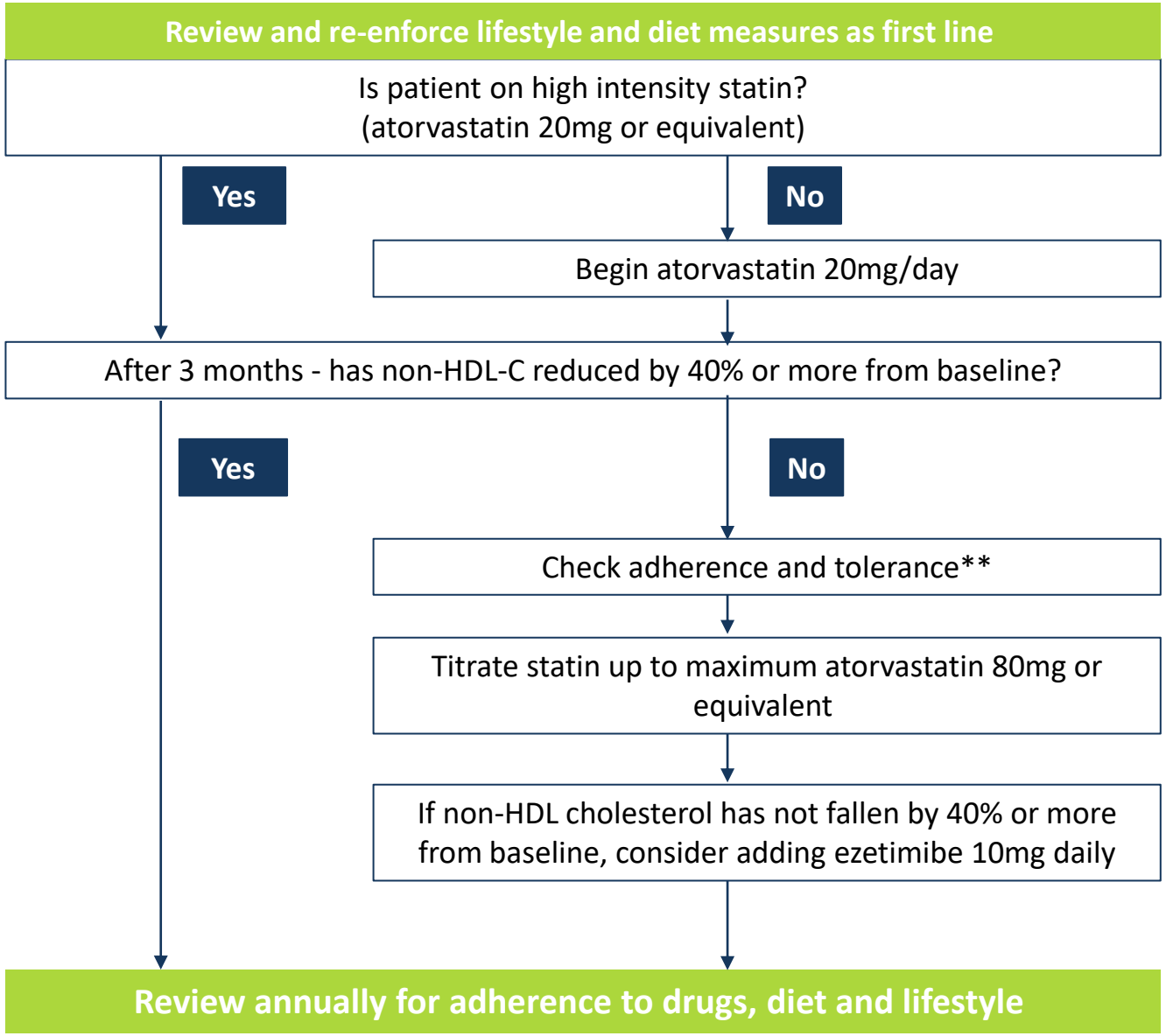
* Dose may be limited if:
- eGFR<30ml/min
- Drug interactions
- Intolerance

** If statin not tolerated, follow statin intolerance pathway and consider ezetimibe 10mg daily +/- bempedoic acid

*** See statin intensity table

**** NICE Guidance recommends a 40% reduction in non- HDL cholesterol

Optimisation of Lipid Management in People with Hypertension and High Cardiovascular Risk* – Primary Prevention



Optimal High Intensity statin for Primary Prevention (High intensity statins are substantially more effective at preventing cardiovascular events than low/medium intensity statins)	
Atorvastatin	20mg
Rosuvastatin	10mg

* High CVD risk

- QRisk >10% in ten years
- CKD 3-5
- Type 1 Diabetes for >10 years or over age 40

** If statin not tolerated, follow statin intolerance pathway and consider ezetimibe 10mg daily +/- bempedoic acid

Statin Intolerance Pathway

Important considerations

- Most adverse events attributed to statins are no more common than placebo*
- Stopping statin therapy is associated with an increased risk of major CV events. It is important not to label patients as ‘statin intolerant’ without structured assessment
- If a person is not able to tolerate a high-intensity statin, aim to treat with the maximum tolerated dose
- A statin at any dose reduces CVD risk – consider annual review for patients not taking statins to review cardiovascular risk and interventions

A structured approach to reported adverse effects of statins

1. Stop for 4-6 weeks.
2. If symptoms persist, they are unlikely to be due to statin
3. Restart and consider lower initial dose
4. If symptoms recur, consider trial with alternative statin
5. If symptoms persist, consider ezetimibe +/- bempedoic acid

*(*Collins et al systematic review, Lancet 2016)*

Resources

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For Local Decision: Options for Purchasing Home BP Machines

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Validated devices

- A list of validated devices for home use can be found at: https://giftshop.bhf.org.uk/health/blood-pressure-monitorsValidated devices for home use are accurate for up to 5 years after purchase

  (Hodgkinson JA et al. 2020 Accuracy of blood-pressure monitors owned by patients with hypertension (ACCU-RATE study): a cross-sectional, observational study in central England. BJGP 1 June 2020; bjgp20X710381. DOI: https://doi.org/10.3399/bjgp20X710381)

Considerations

- Upper arm blood pressure devices preferred
- Basic model (~£20) is suitable for most patients
- Ensure patient has the correct cuff size based on arm circumference
- Bluetooth connectivity allows automatic transfer of data into a patient held device. However few NHS services are able to interface with these data portals at this time and Bluetooth enabled devices are more expensive to purchase

Options for Transmission of Home BP Reading to GP Practice (For local decision)

Considerations:

- Patient facing end
- Integration with existing GP systems, e.g. EMIS
- Ability to flag high-risk results
- Ability to batch message patients to request home BP result

All systems highlighted are:
- GDPR compliant
- CE marked
- Currently only available in English

Comparison of providers (not exhaustive)

	Accurx	E-consult	Omron Connect	Omron HTN +	Primary Care Pathways
Does it integrate with primary care clinical systems, e.g. EMIS?	Pending(1-2months ?) but will be integrated. Need to input BP to be coded	No- a pdf is provided which is incorporated into EMIS and SystmOne. Manually input BP into notes to be coded	No - clinician has separate dashboard & log in	Yes – separate dashboard but does integrate	Yes (EMIS, system one and vision)
Cost	Accurx basic free Florey may cost additional	Free temporarily	Free (not Hypertension+)	Cost TBC- pilot at present	£200 per year for basic package
BP monitors	Patient needs own BP monitor	Patient needs own BP monitor	Bluetooth enabled but can input BP manually	Bluetooth enabled but can input BP manually	Patient needs own monitor
Ease of use for patient	Yes	Yes	Yes- but patient must download app	Yes – patient needs to download app	Simple online form
How many readings	Minimum one reading but can add additional if GP requests	Minimum of 3	Minimum of 3	Variable – clinical can adjust	Review of specific readings options given
Safety netting/ red flags	Safety message at the end of entering data via text	Patient directed to emergency care if any red flags whilst inputting answers	None – higher readings appear at top of dashboard	Alerts with readings –with owness on patient to contact Health care professional	Disclaimer alert to patient prior to completing form.

Resources for Patients

Resources on high blood pressure and how to manage it:

- British Heart Foundation hub for managing blood pressure at home so patients can feel confident checking and managing their blood pressure at home. www.bhf.org.uk/bloodpressureathome
- Stroke Association: www.stroke.org.uk/what-is-stroke/are-you-at-risk-of-stroke/high-blood-pressure

Monitoring your blood pressure at home:

- How to check your blood pressure using a blood pressure machine (video) www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/tests/blood-pressure-measuring-at-home
- How to measure your BP leaflet/poster: https://bihsoc.org/wp-content/uploads/2017/11/BP-Measurement-Poster-Automated-2017.pdf
- Step by step guide for patients on how to take BP: https://bihsoc.org/wp-content/uploads/2017/09/How_to_instructional_leaflet.pdf
- Home monitoring diary for patients: https://bihsoc.org/wp-content/uploads/2017/09/Home_blood_pressure_diary.pdf
- Validated BP monitors for home use: https://bihsoc.org/bp-monitors/for-home-use/
- How to choose a BP monitor www.bloodpressureuk.org/BloodPressureandyou/Homemonitoring/Choosingyourmonitor

How to assess pulse rhythm at home

- How to take your pulse video: www.bhf.org.uk/informationsupport/tests/checking-your-pulse
- Know Your Pulse Factsheet www.heartrhythmalliance.org/resources/view/389/pdf
- What is an Arrhythmia? http://heartrhythmalliance.org/resources/view/522/pdf

Resources for Patients

Diet
Providing information and recipes for easy ways to eat better from the 'One You' website
NHS advice on lowering cholesterol levels

Smoking cessation
NHS support, stop smoking aids, tools and practical tips

Exercise
iPrescribe app offers a tailored exercise plan by creating a 12-week exercise plan based on health information entered by the user
Getting active around the home: tips, advice and guidance on how to keep or get active in and around the home from Sport England
Dance to health: Online dance programme especially tailored to people over 55 years old

Alcohol
Heart UK alcohol guidance & NHS Drink Less guidance

Implementation Support

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Proactive Care Frameworks: Implementation & Support Package

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Implementation Support is critical to enable sustainable and consistent spread.
UCLPartners has developed a support package covering the following components:

Search and stratify

Comprehensive search tools for EMIS and SystmOne to stratify patients
- Pre-recorded webinar as to how to use the searches
- Online Q&A to troubleshoot challenges with delivery of the search tools

Workforce training and support

Training tailored to each staff grouping (e.g. HCA/ pharmacist etc) and level of experience
- **Delivery:** Protocols and scripts provided/ training on how to use these underpinned with motivational interviewing/ health coaching training to enable adult-to-adult conversations
- **Practical support**: e.g. correct inhaler technique; correct BP technique, Very Brief Advice for smoking cessation, physical activity etc
- **Digital implementation** support: how to get patients set up with appropriate digital
- **Education** sessions on conditions
- **Communities of Practice**

Digital support tools

Digital resources to support remote management and self-management in each condition
Implementation toolkits available where required, e.g. MyCOPD
Support available from UCLP's commercial and innovation team for implementation

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Thank you

For more information please contact:

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Version tracker

Version	Edition	Changes Made	Date amended	Review due
2	2.0	• Incorporated lipid management content for patients with multi-morbidity • Added lifestyle interventions for patient self-management • Added statin intensity table for reference		
3	3.0	• Added option of bempedoic acid • Amended slide on managing high cholesterol • Amended slide on managing/detecting AF	August 2021	February 2022