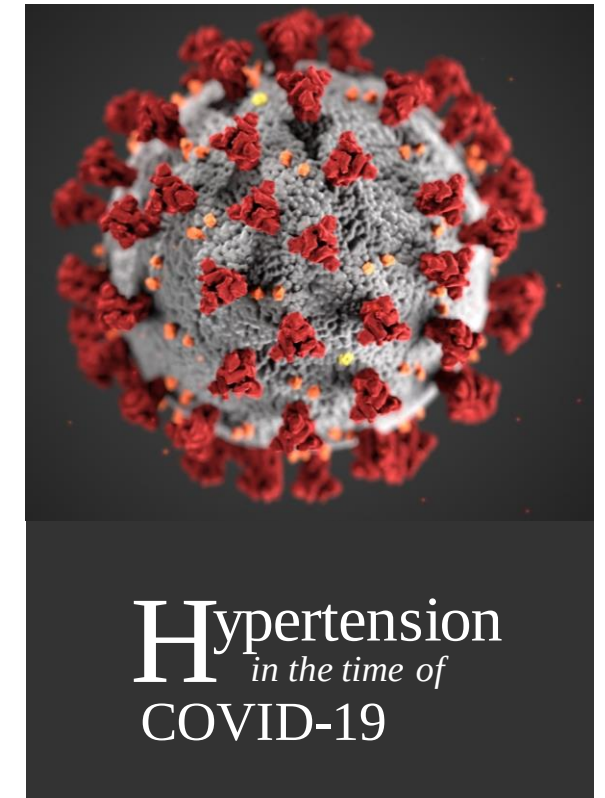


Hypertension management in the era of COVID-19

April 2020

Dr Neil Chapman
Consultant Physician, St Mary's & Hammersmith Hospitals
Clinical Lead, Peart-Rose Clinic



Outline

- COVID-19 infection, hypertension & ACE inhibitors/ARBs
- Remote BP monitoring
- Hypertension diagnosis & management
 - Algorithm
 - Lifestyle
 - Drugs
- Targets
- Monitoring

BP and COVID-19 infection

Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study

	Total (n=191)	Non-survivor (n=54)	Survivor (n=137)	p value
Demographics and clinical characteristics				
Age, years	56.0 (46.0–67.0)	69.0 (63.0–76.0)	52.0 (45.0–58.0)	<0.0001
Sex	..	..	..	0.15
Female	72 (38%)	16 (30%)	56 (41%)	..
Male	119 (62%)	38 (70%)	81 (59%)	..
Comorbidity	91 (48%)	36 (67%)	55 (40%)	0.0010
Hypertension	58 (30%)	26 (48%)	32 (23%)	0.0008
Diabetes	36 (19%)	17 (31%)	19 (14%)	0.0051
Coronary heart disease	15 (8%)	13 (24%)	2 (1%)	<0.0001
Chronic obstructive lung disease	6 (3%)	4 (7%)	2 (1%)	0.047
Carcinoma	2 (1%)	0	2 (1%)	0.37
Chronic kidney disease	2 (1%)	2 (4%)	0	0.024

Lancet 2020; 395: 1054–62

Comorbidity and its impact on 1590 patients with Covid-19 in China: A Nationwide Analysis

Features		Hazard Ratio (95%CI)		P Value
Type of comorbidities				
COPD		2.681	(1.424-5.048)	0.002
Diabetes		1.586	(1.028-2.449)	0.037
Hypertension		1.575	(1.069-2.322)	0.022
Malignant tumor		3.501	(1.604-7.643)	0.002
Number of comorbidities				
1		1.789	(1.155-2.772)	0.009
2 or more		2.592	(1.611-4.171)	<0.001
				

Composite endpoint = ICU admission, invasive ventilation or death.
Model adjusted for age & smoking status

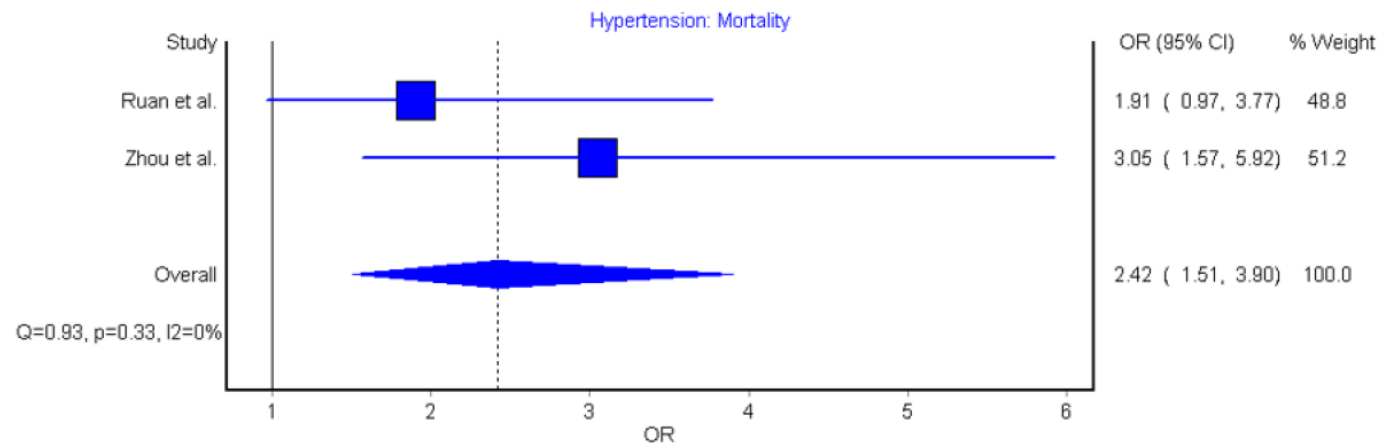
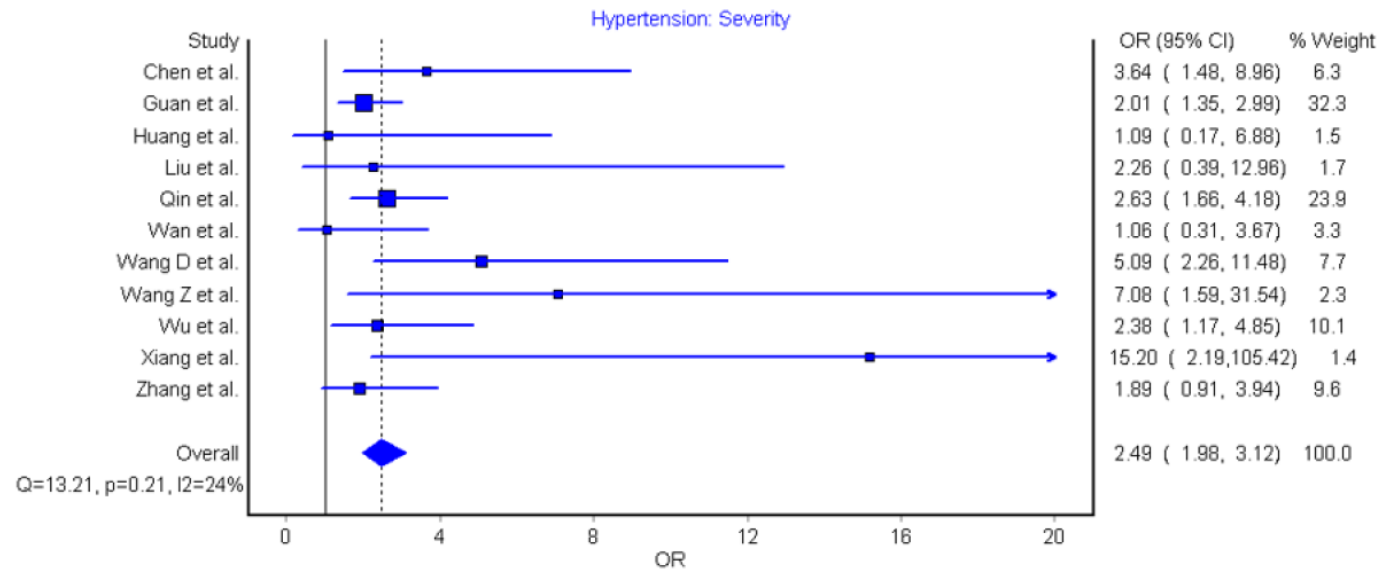
Guan W-jie et al. Eur Resp J 2020 (in press)
(<https://doi.org/10.1183/13993003.00547-2020>).

Hypertension and its severity or mortality in Coronavirus Disease 2019 (COVID-19): a pooled analysis

13 studies, 2893 patients with COVID-19

Odds ratio approx. 2.5x for both severe disease and death

Analyses suggest HT independent RF in older pts (>60 y)



Giuseppe Lippi, Johnny Wong, Brandon Michael Henry

DOI: [10.20452/pamw.15272](https://doi.org/10.20452/pamw.15272)

Published online: March 31, 2020

Polish archives of internal medicine 2020 [published Online First: 2020/04/02]

Dr Neil Chapman Hypertension COVID April 2020 (v1)

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ACE inhibitors, ARBs and COVID-19

Are patients with hypertension and diabetes mellitus at increased risk for COVID-19 infection?

The most distinctive comorbidities of 32 non-survivors from a group of 52 intensive care unit patients with novel coronavirus disease 2019 (COVID-19) in the study by

ACE2.⁵ ACE2 can also be increased by thiazolidinediones and ibuprofen. These data suggest that ACE2 expression is increased in diabetes and treatment with ACE inhibitors and ARBs increases ACE2 expression. Consequently, the increased expression of ACE2 would facilitate infection with COVID-19. We therefore hypothesise that diabetes and hypertension treatment with ACE2-stimulating drugs increases the risk of developing severe and fatal COVID-19.

We declare no competing interests.

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1 Yang X, Yu Y, Xu J, et al. Clinical outcomes of critically ill patients with SARS-CoV-2 pneumonia in



MailOnline

Medicines taken by 6.6million people with high blood pressure and diabetes could raise the risk of deadly coronavirus symptoms, scientists claim

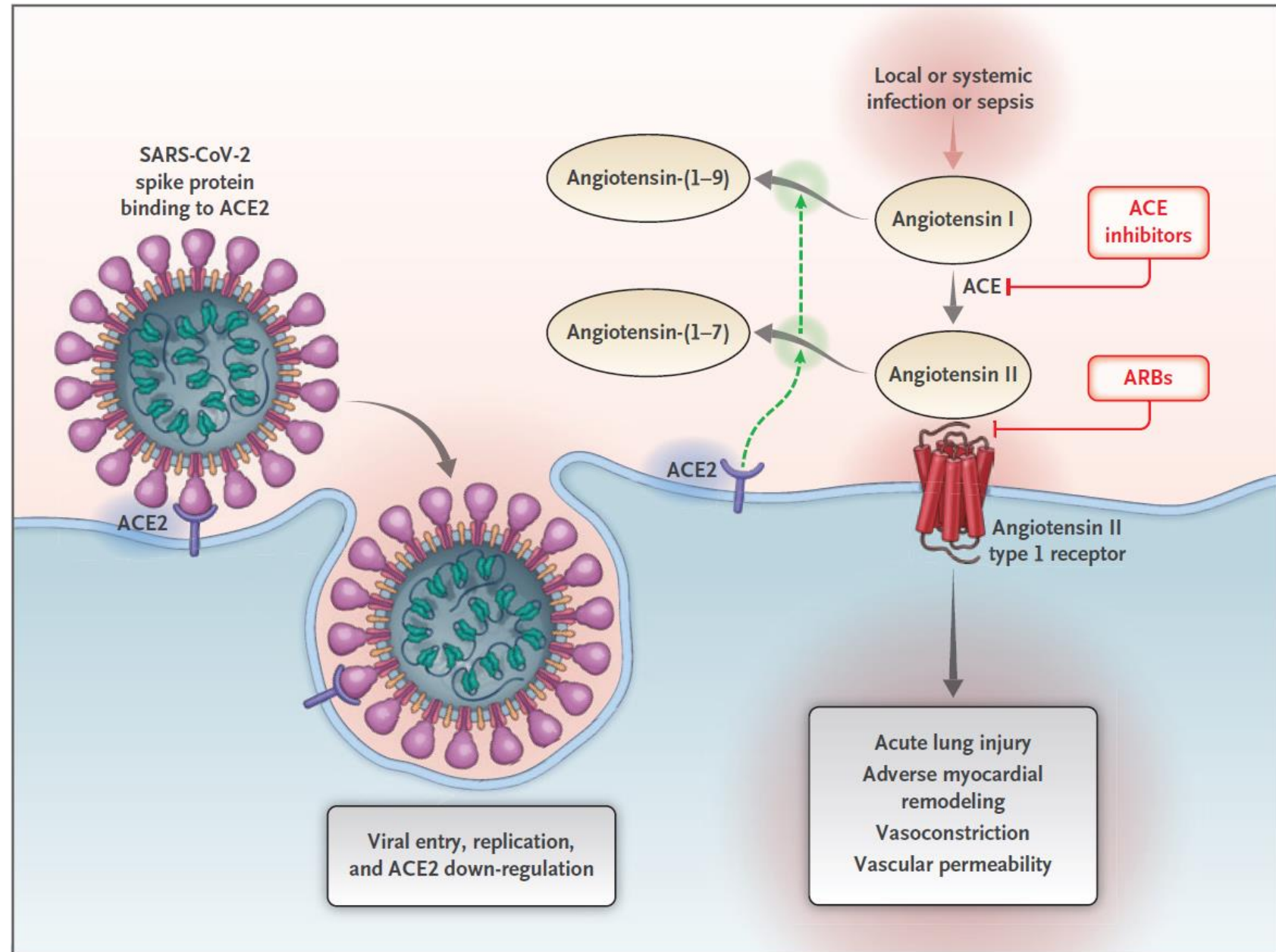
- ACE inhibitors and angiotensin receptor blockers may lead to worse illness
- Patients should not stop taking their medication unless their doctor says so
- The pills increase amounts of an enzyme the coronavirus uses to infect the body
- Experts said patients with high blood pressure or diabetes should be monitored

13th March 2020

RAS in COVID-19

Renin–Angiotensin–Aldosterone System Inhibitors in Patients with Covid-19

DOI: 10.1056/NEJMSr2005760



Hypertension, ACE inhibitors, ARBs & COVID-19

- Unlike sepsis, BP in COVID patients commonly normal/high
- Renin angiotension system (RAS) complex interaction with COVID-19
 - SARS-CoV-2 uses ACE2 receptor to enter lung cells (so risk of ↑ disease)
 - ACE2 inactivated as a result → local accumulation of angiotensin II (& lack of counter-regulatory Ang(1-7))
 - Some features of severe COVID similar to angiotensin II excess
 - Lung injury & inflammation, myocardial microinfarcts, coagulopathy
- Trials of ACE/ARB & other parts of RAS in COVID planned or underway

Don't stop ACE inhibitor or ARB treatment



BIHS Statement on ACEi/ARB and Covid19

The British and Irish Hypertension Society advises that all patients taking angiotensin converting enzyme inhibitors (ACEi) and angiotensin receptor blockers (ARB) should continue to do so during the Covid19 pandemic.

There has been speculation that drugs such as ACEi and ARB, commonly taken by patients with hypertension, heart failure and diabetes, might increase susceptibility to corona virus infection. In equal measure it has been suggested that these drugs could reduce the risk of serious lung disease following infection.

At the present time we have no evidence as to whether either of these two possibilities are true.

Patients could be put at risk by stopping these effective treatments for their current condition and, until further evidence is available, they should be encouraged to continue their current treatment.

We will make a fresh statement should any new information become available.

International Societies, with whom we are affiliated, have made similar statements:

The European Society of Cardiology:
[https://www.escardio.org/Councils/Council-on-Hypertension-\(CHT\)/News/position-statement-of-the-esc-council-on-hypertension-on-ace-inhibitors-and-ang](https://www.escardio.org/Councils/Council-on-Hypertension-(CHT)/News/position-statement-of-the-esc-council-on-hypertension-on-ace-inhibitors-and-ang)

The European Society of Hypertension:
<https://www.eshonline.org/spotlights/esh-statement-on-covid-19/>

The International Society of Hypertension:
<https://ish-world.com/news/a/A-statement-from-the-International-Society-of-Hypertension-on-COVID-19/>



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Position Statement of the ESC Council on Hypertension on ACE-Inhibitors and Angiotensin Receptor Blockers

13 Mar 2020

Based on initial reports from China, and subsequent evidence that arterial hypertension may be associated with increased risk of mortality in hospitalized COVID-19 infected subjects, hypotheses have been put forward to suggest a potential adverse effects of angiotensin converting enzyme inhibitors (ACE-i) or Angiotensin Receptor Blockers (ARBs). It has been suggested, especially on social media sites, that these commonly used drugs may increase both the risk of infection and the severity of SARS-CoV2. The concern arises from the observation that, similar to the coronavirus causing SARS, the COVID-19 virus binds to a specific enzyme called ACE2 to infect cells, and ACE2 levels are increased following treatment with ACE-i and ARBs.

Because of the social media-related amplification, patients taking these drugs for their high blood pressure and their doctors have become increasingly concerned, and, in some cases, have stopped taking their ACE-i or ARB medications.

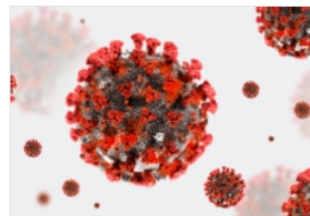
This speculation about the safety of ACE-i or ARB treatment in relation to COVID-19 does not have a sound scientific basis or evidence to support it. Indeed, there is evidence from studies in animals suggesting that these medications might be rather protective against serious lung complications in patients with COVID-19 infection, but to date there is no data in humans.

The [Council on Hypertension of the European Society of Cardiology](#) wish to highlight the lack of any evidence supporting harmful effect of ACE-i and ARB in the context of the pandemic COVID-19 outbreak.

The Council on Hypertension **strongly recommend** that physicians and patients should continue treatment with their usual anti-hypertensive therapy because there is no clinical or scientific evidence to suggest that treatment with ACEi or ARBs should be discontinued because of the Covid-19 infection.

Prof. Giovanni de Simone,

Chair, ESC Council on Hypertension



Covid-19 and Cardiology

Recent experience of ACE/ARBs & COVID-19

Association of Inpatient Use of Angiotensin Converting Enzyme Inhibitors and Angiotensin II Receptor Blockers with Mortality Among Patients With Hypertension Hospitalized With COVID-19

Conclusions: An

associated with

interpretation ne

ACEI/ARB was

DOI: 10.1161/

Treatment with ACE-inhibitors is associated with less severe disease with SARS-Covid-19 infection in a multi-site UK acute Hospital Trust

Interpretation: Although a small sample size, we do not see evidence for ACE-inhibitors increasing the s
ACE-inhibitors
beneficial effect

Pre-print (not yet p

Italian experience (unpublished):

Large data set (>6,000 cases & >32,000 controls)

No increased risk of infection with ACE inhibitors, ARBs
(or any other class of drug looked at)

Any questions?

Remote BP measurement

Remote BP measurement

- Many patient currently own a home monitor but they are often not used in any systematic way
- For these patients, particularly in the current situation, hypertension management (and diagnosis) can reasonably be based on home readings

Remote BP measurement (equipment)

- Ideally use an independently **validated upper arm** monitor
 - Avoid wrist monitors: few are validated & highly dependent on correct wrist positioning during measurement
- Use an appropriately sized cuff
 - Monitors usually sold with a standard adult cuff; often too small
 - Measure upper arm circumference & check size against range marked on cuff
 - Other cuff sizes can be bought from manufacturers or online

Buying a home BP monitor

- British & Irish Hypertension Society (BIHS) maintains the only independent list of validated BP monitors*
- <https://bihsoc.org/bp-monitors/>
- Buy from Amazon, large pharmacies

*BHF & Blood Pressure UK both direct to BIHS

BIHS ABOUT US GUIDELINES RESOURCES BP MONITORS REFERRAL CENTRES M

Homepage > BP monitors > For Home Use



Validated BP Monitors for Home Use

Filter by price
All

Manufacturer	Model	Type	Validated by
All Manufacturers	Search Model	All	All
Under £50			
> Kinetik Wellbeing	WBP1 (Derivative of Transtek TMB-1491)	Upper Arm	Independent
> A&D	UA-704	Upper Arm	Independent
> A&D	UA-705	Upper Arm	Independent
> Andon	iHealth Track KN-550BT (Derivative of Andon KD-5917)	Upper Arm	Independent
> Boots	Upper Arm BPM 56-90-420 (HEM-7115-B5) (Derivative of Omron M3-I (HEM-7051-E))	Upper Arm	Independent
> Boots	Upper Arm BPM 56-90-447 (HEM-7101) (Derivative of Omron MX3 Plus (HEM-742-E))	Upper Arm	Independent
> Braun	BP VitalScan Plus 1650	Wrist	Independent
> Citizen	CH 432B	Upper Arm	Independent
> Citizen	CH 656C	Wrist	Independent
> Health & Life	HL888HA	Upper Arm	Independent
> HoMedics	BPW 1000 (Derivative of Transtek TMB-988)	Wrist	Independent
> HoMedics	BPA 2000 (Derivative of Transtek TMB 986)	Upper Arm	Independent
> Honson	LD 578	Upper Arm	Independent

Buying a home BP monitor - caution

- Amazon search for 'BP monitor upper arm'
- Of top 18 results (1st page):
 - 3 BIHS recommended
 - 14 not listed (some are new so not yet validated, several made by manufacturers with no validations)
 - 1 wrist monitor



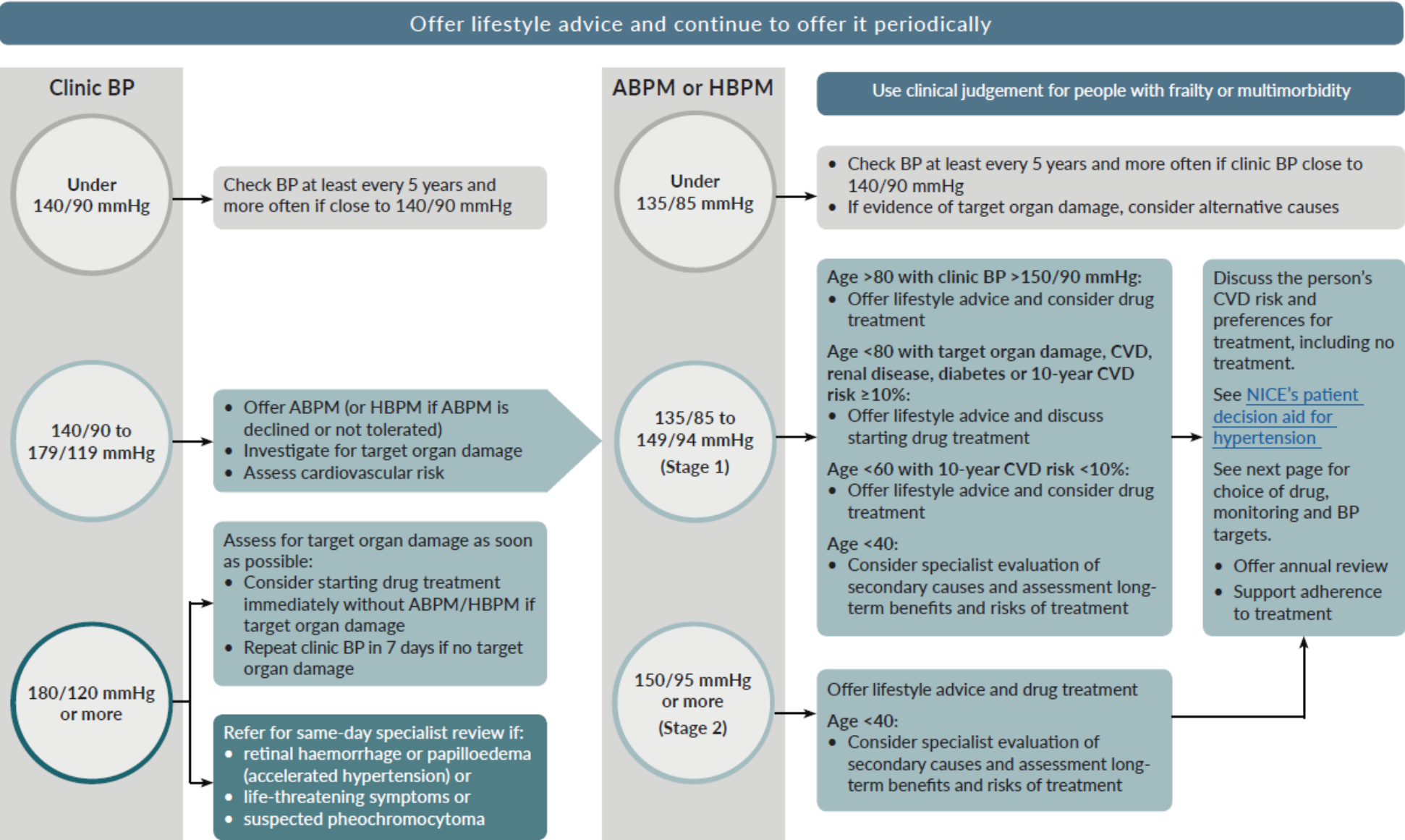
Remote BP measurement (technique)

- Patient should be seated with their back supported & feet flat on the floor and should rest for several minutes before first reading
- Record BP twice daily (ideally in the morning and evening) for at least 4, ideally 7, days
- Take at least 2 measurements on each occasion, at least 1 minute apart
- Discard measurements taken on the first day and use the average value of all remaining readings as the current BP

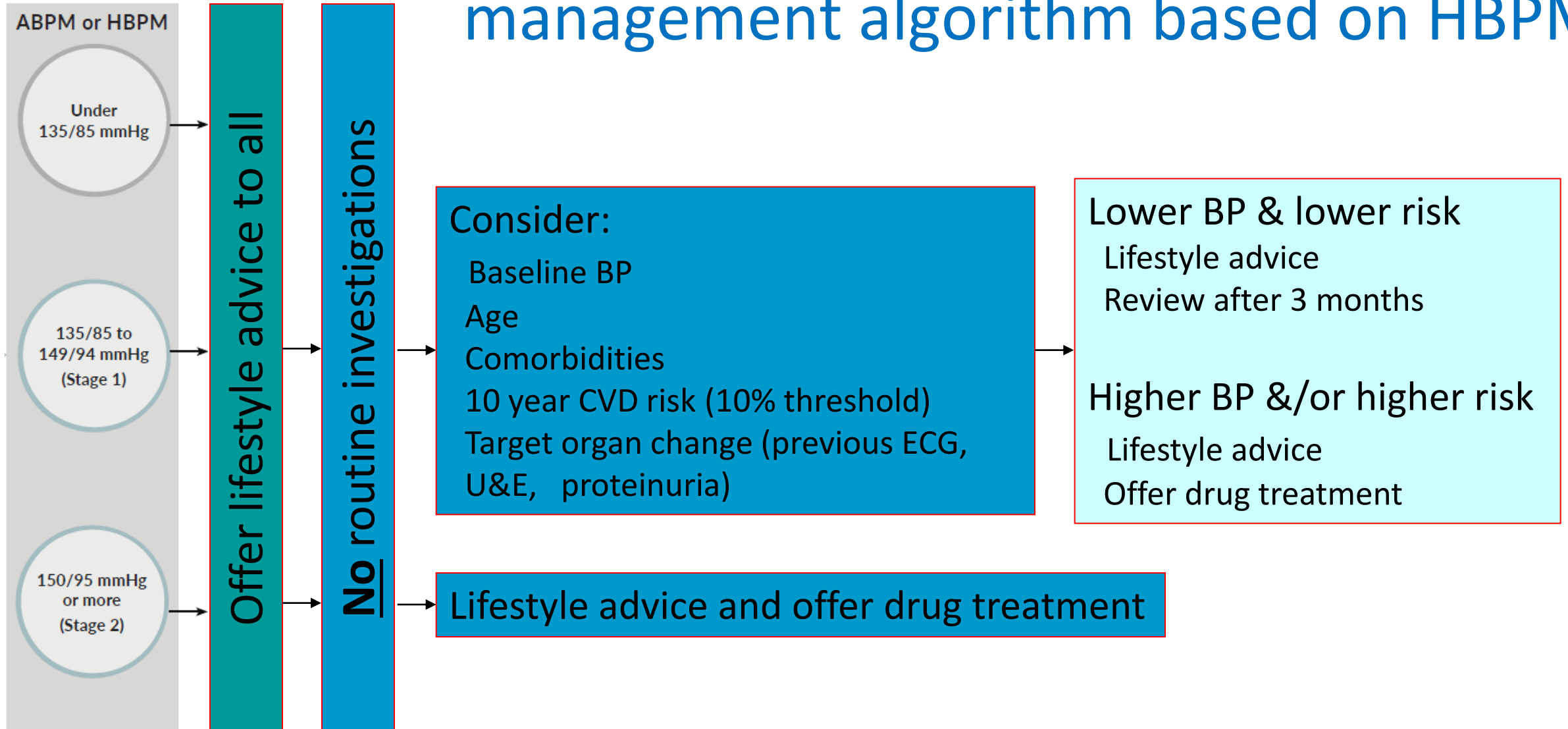
Adapted from: www.nice.org.uk/guidance/ng136

Any questions?

Hypertension diagnosis & management



Proposed hypertension diagnosis & management algorithm based on HBPM



Any questions?

RECOMMENDATION		DESCRIPTION		APPROXIMATE SYSTOLIC BP REDUCTION RANGE
DASH eating plan		Diet rich in fruits, vegetables, and low fat dairy with reduced fat intake		8-14 mm Hg
Exercise		Regular aerobic activity at least 30 minutes a day		4-9 mm Hg
Reduced dietary sodium intake		No more than 2400 mg (ideally 1600 mg) of sodium daily		2-8 mm Hg
Moderation of alcohol drinking as needed		Maximum 2 ounces ethanol/day for men; maximum 1 ounce/day for women (approximately 1 ounce is contained in a 12 oz beer, 5 oz glass of wine, or 1.5 oz shot of liquor)		2-4 mm Hg
Weight loss if warranted		Achieve/maintain body mass index of 18.5-24.9		3 mm Hg per 4-8% bodyweight reduction

Availability & access to fresh food

Social distancing/ shielding
Online classes/recommendations

↓ takeaways & restaurant meals
More convenience foods?

No pubs or restaurants
Boredom?



Depends on all of the above
Likely to ↑?

Viera et al. BMJ 2016; 355doi: <http://dx.doi.org/10.1136/bmj.i5719>

Dr Neil Chapman Hypertension COVID April 2020 (v1)

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ONE YOU - Stop Smoking

- Smoking can increase your risk of high blood pressure (NHS, 2020).
- Quitting smoking is the best thing a patient can do for their health. Even if they have smoked for years, quitting will still reduce their risk of heart and circulatory disease.
- **It's never too late for someone to quit.** Patients will notice the benefits sooner than they realise: 20 minutes after someone quits smoking, their heart rate and blood pressure return to normal (BHF, 2020)
- But how can you help your patients?
- Send an SMS to smokers in your GP practice with the following message...

Smoking has been found to be a risk factor for complications of COVID

Those who quit smoking can expect a number of health benefits. There is no better time to quit than now! Book a phone or video call with our Specialist NHS Stop Smoking Advisors at One You on 020 3434 2500

www.oneyou.rbkc.org

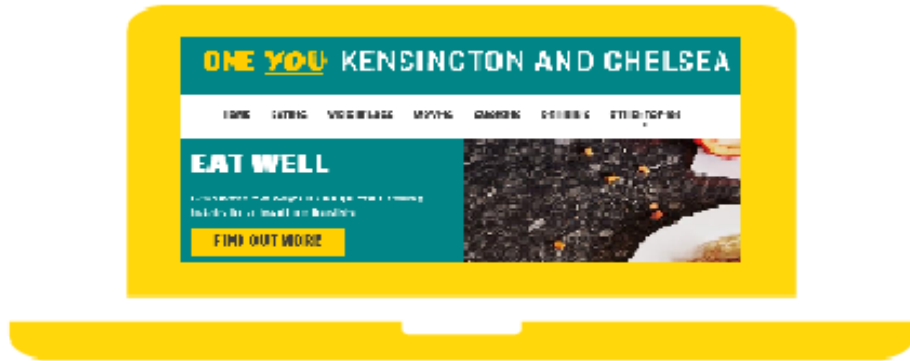
You can also refer your patients by emailing us their name, NHS number & contact number, s.smoking@nhs.net

If you would prefer a personalised text for your practice with your stop smoking advisor's phone number & nhs.net email us on Chrissie.homer@thrivetribe.org.uk

Service eligibility

- Tobacco smokers, including shisha
- Residents of Kensington and Chelsea
 - Residents of Westminster for one you Westminster
- Aged 16+

Referrals into the Service - Self referral



Visit
www.oneyou.rbkc.org.uk

Call us on 020 3434 2500



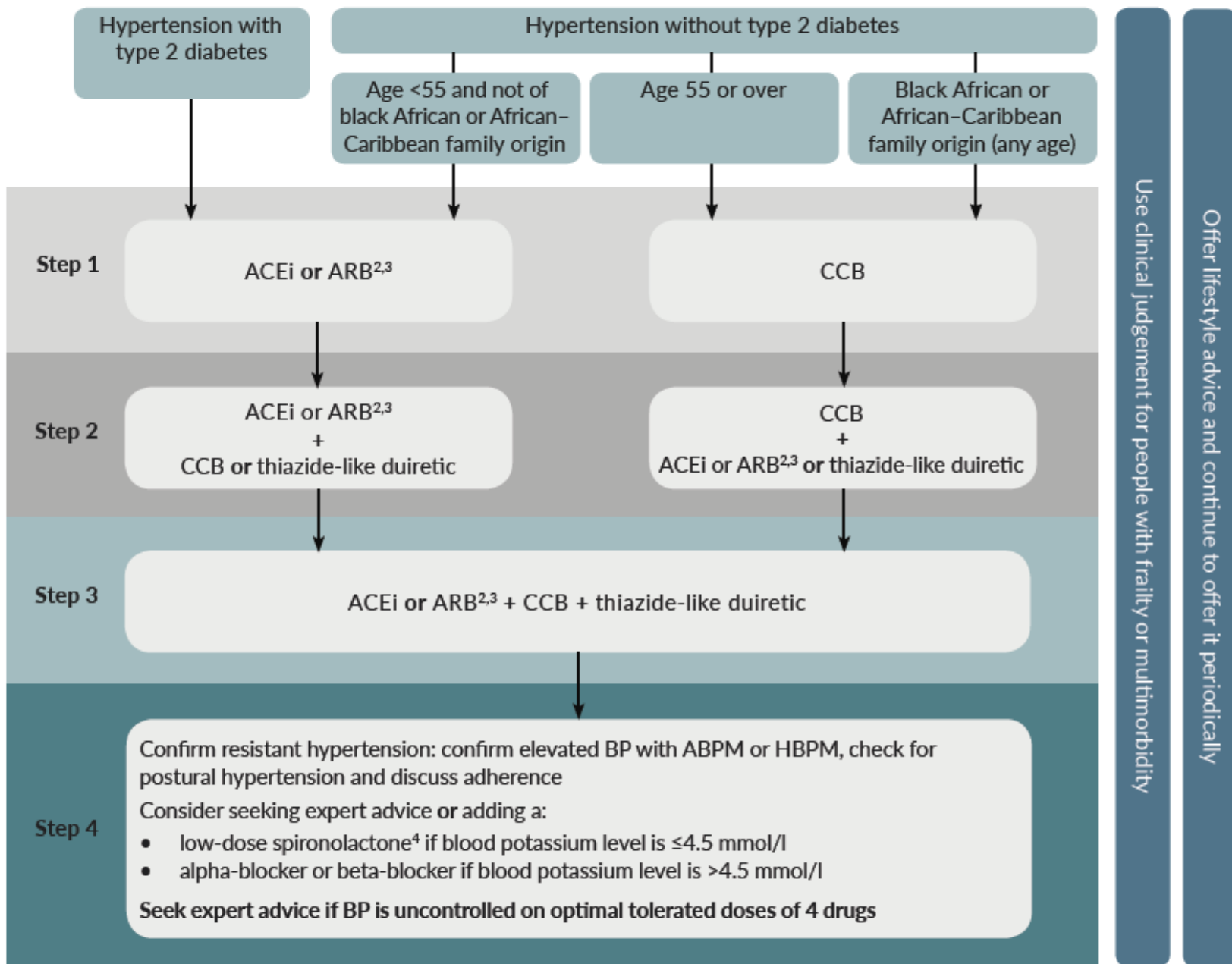
Email us at
hello@oneyoukensingtonandchelsea.org.uk

Any questions?

Drug treatment of hypertension currently

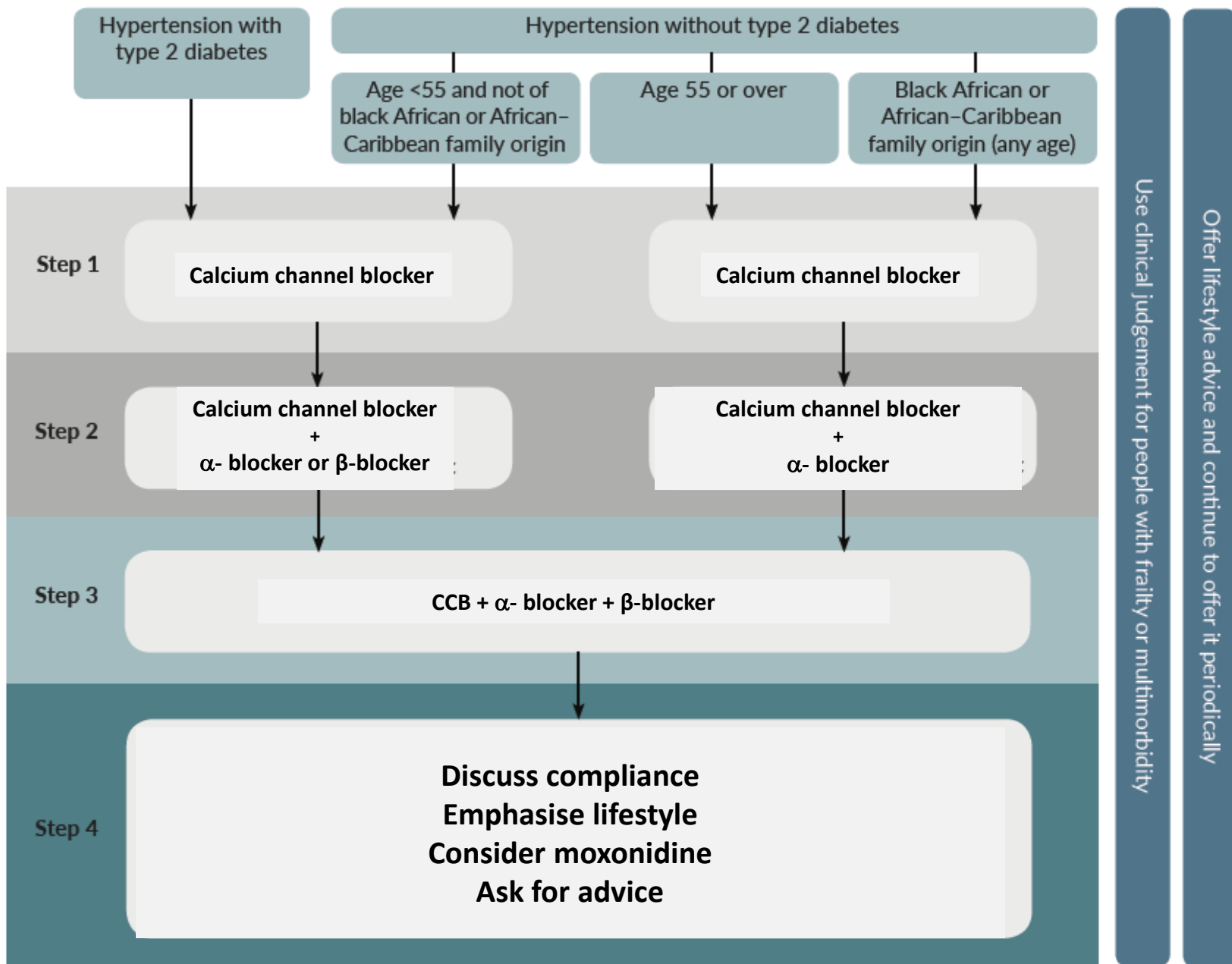
- Differences in BP lowering between drug classes are less than any drug compared with none
 - i.e. Any drug is generally better than none
- Consider avoiding drugs that need monitoring (unless no alternative)
 - i.e. ACE inhibitors/ARBs/diuretics/spironolactone
- Favour drugs that don't require blood test monitoring
 - i.e. CCBs, α -blockers, β -blockers, moxonidine

Choice of antihypertensive drug¹, monitoring treatment and BP targets



Proposed revised hypertension treatment algorithm

Choice of antihypertensive drug¹, monitoring treatment and BP targets



Proposed revised hypertension treatment algorithm

Antihypertensive drugs & doses (1)

Drug class	Dose range	Notes
CCBs (dihydropyridine) Amlodipine Felodipine Nifedipine Lacidipine Lercanidipine	 5-10 mg 2.5-10 mg 10-90 mg 2-6 mg 10-20 mg	More effective than non-DHP Oedema very dose dependent SE Try small doses if intolerant of usual starting dose Avoid capsular nifedipine; use MR/LA/XL
CCBs (non-dihydropyridine) Diltiazem Verapamil	 Up to 360 mg Up to 480 mg	Less effective than DHP CCBs Useful if oedema precludes DHP use Use long-acting preparations Avoid combination with β -blockers

Antihypertensive drugs & doses (2)

Drug class	Dose range	Notes
α-blockers Doxazosin	2-16 mg	MR version (max dose 8 mg) is less potent than IR version Don't use >1 (beware tamsulosin for BPH symptoms) Risk of postural hypotension Risk of stress/urge incontinence
β-blockers Bisoprolol	Up to 10 mg	Avoid in asthmatics Don't combine with non-DHP CCBs
Centrally-acting Moxonidine	200-600 mcg	
Other drugs Nitrates Hydralazine		Includes GTN patch

Any questions?

Sick day rules?



Medicine Sick Day Rules

When you are unwell with any of the following:

- Vomiting or diarrhoea (unless only minor)
- Fevers, sweats and shaking (unless only minor)

Then STOP taking the medicines ticked on the other side of this card by your healthcare professional

Restart when you are well (after 24-48 hours of eating and drinking normally)

If you are in any doubt, contact your pharmacist, doctor or nurse



Version 2, 2018

Medicines to stop on sick days

- ☐ **ACE inhibitors:** medicine names ending in “pril”
- ☐ **ARBs:** medicine names ending in “sartan”
- ☐ **Diuretics:** eg, furosemide, bendroflumethiazide
- ☐ **Metformin:** a medicine for diabetes
- ☐ **NSAIDs:** eg, ibuprofen, diclofenac, naproxen

Other medicines to stop taking

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Initially produced by NHS Highland

Potentially particularly important at the moment?
But ... we don't want patients to stop ACE inhibitors/ARBs

Treatment targets

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

NICE 2019 –specifically includes type 2 DM

Recommendations	Class ^a	Level ^b
It is recommended that the first objective of treatment should be to lower BP to <140/90 mmHg in all patients and, provided that the treatment is well tolerated, treated BP values should be targeted to 130/80 mmHg or lower in most patients. ^{2,8}	I	A
In patients <65 years receiving BP-lowering drugs, it is recommended that SBP should be lowered to a BP range of 120–129 mmHg in most patients. ^{c 2,215,229}	I	A
In older patients (aged ≥65 years) receiving BP-lowering drugs: • It is recommended that SBP should be targeted to a BP range of 130–139 mmHg.^{2,235,244}	I	A
• Close monitoring of adverse effects is recommended.	I	C
• These BP targets are recommended for patients at any level of CV risk and in patients with and without established CVD.^{2,8}	I	A
A DBP target of <80 mmHg should be considered for all hypertensive patients, independent of the level of risk and comorbidities. ^{226,235}	IIa	B

ESC-ESH 2018 – DM clinic BP <130/80

Special groups

Type 1 DM (NICE NG17)

Target <135/85 mmHg = <130/80 on HBPM (lower if albuminuria)

CKD (NICE CG182)

Target <140/90 mmHg = <135/85 on HBPM

If CKD + diabetes or uACR>70, target <130/80 mmHg = <125/75 on HBPM

Adjusting medication

BP above target

- Consider uptitrating or adding another drug
- Repeat home BP monitoring **after 2-4 weeks**

BP low/within target

- Consider appropriate range for patient (120-135/70-85 mmHg for most?)
- Down-titrate if well within/below target range or symptomatic low BP
- Repeat home BP monitoring **after 2-4 weeks**

Monitoring blood tests during current restrictions

		ACR categories (mg/mmol), description and range		
		A1 <3 Normal to mildly increased	A2 3–30 Moderately increased	A3 >30 Severely increased
GFR categories (ml/min/1.73 m ²), description and range	G1 ≥90 Normal and high	≤1	1	≥1
	G2 60–89 Mild reduction related to normal range for a young adult	≤1	1	≥1
	G3a 45–59 Mild–moderate reduction	1	1	2
	G3b 30–44 Moderate–severe reduction	≤2	2	≥2
	G4 15–29 Severe reduction	2	2	3
	G5 <15 Kidney failure	4	≥4	≥4

Increasing risk →

↑ Increasing risk

- Imperial heart failure SOP
 - No routine uptitration of treatment for safety reasons
 - Short-term solution (likely to need revision for medium-long term)

Pragmatically, almost all patients can wait for a few months

Chronic kidney disease in adults: assessment and management (NICE CG 182)

Compliance with antihypertensives

Estimated 50–80% of hypertensives don't take all prescribed medication



270 unopened boxes

DEPARTMENT OF CHEMICAL PATHOLOGY /SPECIAL BIOCHEMISTRY University Hospitals of Leicester Pathology Services Enquiries tel: 0116 2586556			
(For lab use only)	HIGH RISK specimen Re. ACDP Classification (Affix Sticker here)	REQUESTING LOCATION Imperial Healthcare NHS Trust Clinical Biochemistry G Block, Pathology Hammersmith Hospital Du Cane Road London W12 0HS Tel 020 3313 2113 Fax 020 3313 4627	UNIT/NHS NUMBER
Nature specimen: Urine	Private		SURNAME:
Date of collection:	Category II		FORENAME:
Time of collection:	Trial	Ward: Pearl-Rose Clinic Consultant:	Date of Birth: Sex:
		Location Code CIR07/HH	HH laboratory sample ID reference label
ALL INFORMATION ABOVE THIS LINE MUST BE COMPLETED – FAILURE TO DO SO WILL RESULT IN DELAY			

Clinical Details – Anti-hypertensive drug screen BP

LIST OF DRUGS PRESCRIBED:				
☐ Ramipril	☐ Telmisartan	☐ Felodipine	☐ Hydrochlorothiazide	☐ Bisoprolol
☐ Enalapril	☐ Spironolactone	☐ Lacidipine	☐ Doxazosin	☐ Sotalol
☐ Lisinopril	☐ Eplerenone	☐ Nifedipine	☐ Moxonidine	☐ Atenolol
☐ Perindopril	☐ Diltiazem	☐ Furosemide	☐ Aliskiren	☐ Labetolol
☐ Candesartan	☐ Verapamil	☐ Indapamide	☐ Nicorandil	☐ Propranolol
☐ Valsartan	☐ Amlodipine	☐ Bendroflumethiazide	☐ Hydralazine	☐ Olmesartan
☐ Losartan	☐ Lercanidipine	☐ Amloride	☐ Irbesartan	☐ Other...

- Local data on urine antihypertensive drug testing in resistant hypertensives (2017) suggested approximately:
 - 50% compliance
 - 25% partial compliance
 - 25% complete non-compliance

Improved under lockdown?

Any questions?

Severe hypertension during COVID

- Repeat BP readings
- Symptoms?
- Don't do fundoscopy
- Same indications for same day referral
- Start treatment with CCB

Box 3: Identifying accelerated hypertension: assessing for same day review

- Refer people for specialist assessment, carried out on the same day, if they have a clinic blood pressure of 180/120 mmHg and higher with
 - o signs of retinal haemorrhage or papilloedema (accelerated hypertension) or
 - o life threatening symptoms such as new onset confusion, chest pain, signs of heart failure, or acute kidney injury
- If a person has severe hypertension (clinic blood pressure of 180/120 mmHg or higher) but no symptoms or signs indicating same day referral, carry out investigations for target organ damage as soon as possible:
 - o If target organ damage is identified, consider starting antihypertensive drug treatment immediately, without waiting for the results of ambulatory or home blood pressure monitoring
 - o If no target organ damage is identified, repeat clinic blood pressure measurement within seven days
- Refer people for specialist assessment carried out on the same day if they have suspected pheochromocytoma (for example, labile or postural hypotension, headache, palpitations, pallor, abdominal pain, or diaphoresis)

BMJ 2019;367:l5310 doi: 10.1136/bmj.l5310

Fears that seriously ill people are avoiding A&E as numbers drop

Steep fall prompts concern that some may be afraid of getting coronavirus or burdening NHS

- **Coronavirus - latest updates**
- **See all our coronavirus coverage**



Guardian 27th March 2020



Lives at risk due to 50% drop in heart attack A&E attendances

People suffering heart attacks during the coronavirus outbreak may be putting their lives at risk by delaying seeking medical help.



<https://www.bhf.org.uk/what-we-do/news-from-the-bhf/news-archive/2020/april/drop-in-heart-attack-patients-amidst-coronavirus-outbreak>

Dr Neil Chapman Hypertension COVID April 2020 (v1)

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Symptomatic or urgent patients should still be referred/attend ED

- Good processes in ED to separate 'red' & 'green' patients
- Urgent investigations still available as appropriate

Imperial SOP for Rapid Access Chest Pain Clinics during COVID-19

Current clinics:

- All patients contacted by phone.
- No ECG required for telephone consultation
- Aim for team to discharge most patients.
- No advanced imaging to be booked.
- If stable angina – out patient ECG and community echo (exclude LV impairment and severe AS), advise GP to start medical therapy and book into consultant clinic (telephone consultation) in 3 months. Patient to be informed if symptoms become unstable to seek urgent medical attention.
- If unstable angina – discuss with Consultant

They will need support at consultant level, the team will contact a consultant at lunch-time and at the end of the day to discuss patients.

Consultants:

- Ealing / Hanwell – Dr Ravi Assomull (Buddy Dr Sukh Nijjer)
- St Charles and Maida Vale – Dr Sayan Sen (Buddy Dr Nilesh Sutaria)
- St Mary Hospital – According to consultant of the day – please see rota on line
- Charing Cross Hospital – Contact Consultant Covering the ward – rota on line
- If unable to contact the designated consultant please escalate to the consultant covering the next day, if that fails try the day after.

Conclusions

- Association between COVID-19 infection, hypertension & the RAS remains to be confirmed
- Much hypertension management can be done remotely using
 - Home BP monitoring
 - Choosing drugs which require minimal monitoring
 - Stressing lifestyle and compliance
- Symptomatic patients should still be referred/encouraged to attend ED
- **Aiming for good control of BP & other risk factors seems sensible at the moment**

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Any questions?

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