

# Chez qui et quand initier un traitement antihypertenseur, et pour quels objectifs?

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# 2018 ESC/ESH Guidelines for the management of arterial hypertension

*The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension*

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## Classes of recommendations

| Classes of recommendations | Definition  | Suggested wording to use                |
|----------------------------|---|---|
| <b>Class I</b>             | <b>Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.</b>                        | <b>Is recommended/<br/>Is indicated</b> |
| <b>Class II</b>            | <b>Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure.</b>         |   |
| <b><i>Class IIa</i></b>    | <b>Weight of evidence/opinion is in favour of usefulness/efficacy.</b>  | <b>Should be considered</b>             |
| <b><i>Class IIb</i></b>    | <b>Usefulness/efficacy is less well established by evidence/opinion.</b>  | <b>May be considered</b>                |
| <b>Class III</b>           | <b>Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful.</b> | <b>Is not recommendend</b>              |





## Levels of evidence

|                            |   |
|----------------------------|---|
| <b>Level of evidence A</b> | <b>Data derived from multiple randomized clinical trials or meta-analyses.</b>                      |
| <b>Level of evidence B</b> | <b>Data derived from a single randomized clinical trial or large non-randomized studies.</b>        |
| <b>Level of evidence C</b> | <b>Consensus of opinion of the experts and/or small studies, retrospective studies, registries.</b> |

# What is new and what has changed in the 2018 ESC/ESH hypertension guidelines? - 1

| Changes in recommendations   |  |
|--|--|
| 2013   | 2018   |
| <b>Diagnosis</b><br>Office BP is recommended for screening and diagnosis of hypertension.  | <b>Diagnosis</b><br>It is recommended to base the diagnosis of hypertension on: <ul style="list-style-type: none"> <li>•Repeated office BP measurements; or</li> <li>•Out-of-office BP measurement with ABPM and/or HBPM if logistically and economically feasible.</li> </ul>                         |
| <b>Treatment thresholds</b><br><b>High-normal BP (130–139/85–89 mmHg):</b><br>Unless the necessary evidence is obtained it is not recommended to initiate antihypertensive drug therapy at high-normal BP.   | <b>Treatment thresholds</b><br><b>High-normal BP (130–139/85–89 mmHg):</b><br>Drug treatment may be considered when CV risk is very high due to established CVD, especially CAD.   |
| <b>Treatment thresholds</b><br><b>Treatment of low-risk grade 1 hypertension:</b><br>Initiation of antihypertensive drug treatment should also be considered in grade 1 hypertensive patients at low to moderate risk, when BP is within this range at several repeated visits or elevated by ambulatory BP criteria, and remains within this range despite a reasonable period of time with lifestyle measures. | <b>Treatment thresholds</b><br><b>Treatment of low-risk grade 1 hypertension:</b><br>In patients with grade 1 hypertension at low–moderate risk and without evidence of HMOD, BP-lowering drug treatment is recommended if the patient remains hypertensive, after a period of lifestyle intervention. |
| <b>Treatment thresholds</b><br><b>Older patients</b><br>Antihypertensive drug treatment may be considered in the elderly (at least when younger than 80 years) when SBP is in the 140–159 mmHg range, provided that antihypertensive treatment is well tolerated.  | <b>Treatment thresholds</b><br><b>Older patients</b><br>BP-lowering drug treatment and lifestyle intervention is recommended in fit older patients (> 65 years but not > 80 years) when SBP is in the grade 1 range (140–159 mmHg), provided that treatment is well tolerated.                         |
| <b>Recommendation Grading</b>  |  |
| Grade I  | Grade IIa  |
| Grade IIb  | Grade III  |

## What is new and what has changed in the 2018 ESC/ESH hypertension guidelines? - 2

| Changes in recommendations  |  |   |   |
|---|--|---|---|
| 2013  | 2018   |   |   |
| <b>BP treatment targets</b><br>A SBP goal of < 140 mmHg is recommended.   | <b>BP treatment targets</b><br>•It is recommended that the first objective of treatment should be to lower BP to <140/90 mmHg <b>in all patients</b> and provided that the treatment is well tolerated, treated BP values should be targeted to 130/80 mmHg or lower, in most patients.<br><br>•In patients < 65 years it is recommended that SBP should be lowered to a BP range of 120 to < 130 mmHg in most patients. |   |   |
| <b>BP treatment targets in older patients (65–80 years)</b><br>A SBP target between of 140 and 150 mmHg is recommended for older patients (65–80 years).  | <b>BP treatment targets in older patients (65–80 years)</b><br>In older patients (≥ 65 years), it is recommended that SBP should be targeted to a BP range of 130 to < 140 mmHg.   |   |   |
| <b>BP treatment targets in patients aged over 80 years</b><br>A SBP target between 140 and 150 mmHg should be considered in people older than 80 years, with an initial SBP ≥ 160 mmHg, provided that they are in good physical and mental condition. | <b>BP treatment targets in patients aged over 80 years</b><br>A SBP target range of 130 to < 140 mmHg is recommended for people older than 80 years, if tolerated.   |   |   |
| <b>DBP targets</b><br>A DBP target of < 90 mmHg is always recommended, except in patients with diabetes, in whom values < 85 mmHg are recommended.  | <b>DBP targets</b><br>A DBP target of < 80 mmHg should be considered for all hypertensive patients, independent of the level of risk and comorbidities.  |   |   |
| Recommendation Grading  |  |   |   |
|  Grade I  |  Grade IIa  |  Grade IIb |  Grade III |

## New concepts

- BP measurement
- Less conservative treatment of BP in older and very old patients
- A SPC treatment strategy to improve BP control
- New target ranges for BP in treated patients
- Detecting poor adherence to drug therapy
- A key role for nurses, pharmacists in the longer-term management of hypertension

**Table 3**Blood pressure thresholds for initiating treatment<sup>a</sup> [3–11]

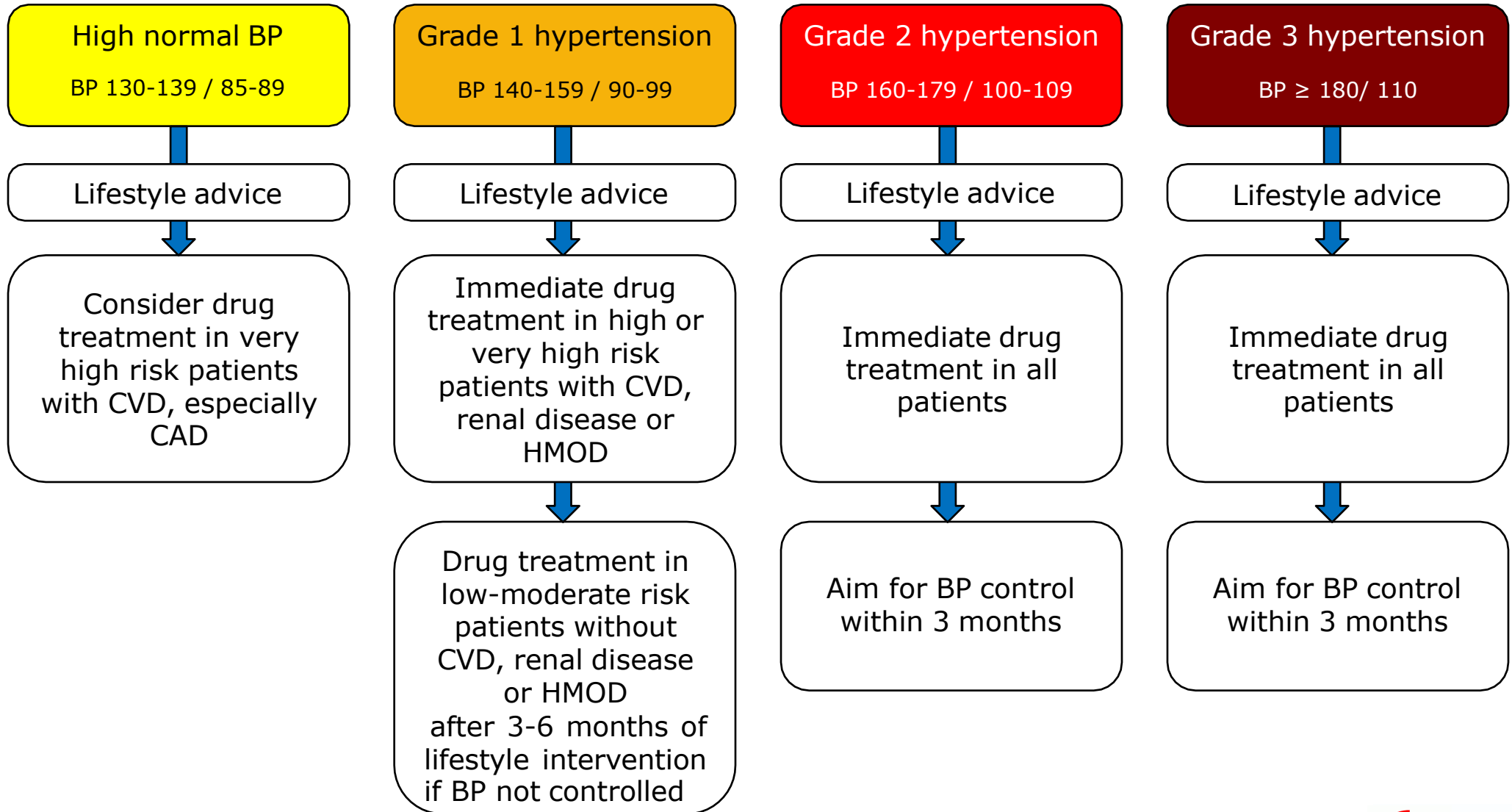
| Patient group             | Recommendation  | ASH/ISH       | AHA/ACC/CDC   | ESH/ESC                | NICE          | France | Taiwan        | CHEP                   | China         |
|---------------------------|---|---------------|---------------|------------------------|---------------|--------|---------------|------------------------|---------------|
| High normal BP, high risk | Health behaviour modifications and pharmacological treatment                              |               |               |                        |               |        | ✓             |                        |               |
| Stage 1, low risk         | Health behaviour modifications and monitoring before initiating pharmacological treatment | ✓             | ✓             | ✓                      | ✓             |        |               |                        |               |
|                           | Health behaviour modifications and pharmacological treatment                              |               |               |                        |               | ✓      | ✓             |                        | ✓             |
| Stage 1, high risk        | Health behaviour modifications and pharmacological treatment                              | ✓             | ✓             | ✓                      | ✓             | ✓      | ✓             | ✓                      | ✓             |
| Stage 2, low risk         | Health behaviour modifications and monitoring before initiating pharmacological treatment |               |               | ✓                      |               |        |               |                        |               |
|                           | Health behaviour modifications and pharmacological treatment                              | ✓             | ✓             |                        | ✓             | ✓      | ✓             | ✓                      | ✓             |
| Stage 2, high risk        | Health behaviour modifications and pharmacological treatment                              | ✓             | ✓             | ✓                      | ✓             | ✓      | ✓             | ✓                      | ✓             |
| Elderly, >80 years        | Health behaviour modifications and pharmacological treatment                              | Not specified | Not specified | ✓ (SBP ≥160 mmHg only) | Not specified | ✓      | Not specified | ✓ (SBP ≥160 mmHg only) | Not specified |

AHA/ACC/CDC American Hypertension Association/American College of Cardiology/Centers for Disease Control and Prevention, ASH/ISH American Society of Hypertension/International Society of Hypertension, CHEP Canadian hypertension education program, ESH/ESC European Society of Hypertension/European Society of Cardiology, JNC 8 Eighth Joint National Committee, NICE National Institute for Clinical Excellence (UK), SBP systolic blood pressure

<sup>a</sup>Note that this subject is not discussed in JNC 8 guidelines



## Initiation of BP-lowering treatment (lifestyle changes and medication) at different initial office BP levels



## Initiation of hypertension treatment according to office BP - 1

| Recommendations   | Class | Level |
|---|-------|-------|
| Prompt initiation of BP-lowering drug treatment is recommended in patients with grade 2 or 3 hypertension at any level of CV risk, simultaneous with the initiation of lifestyle changes. | I     | A     |

## Initiation of hypertension treatment according to office BP - 2

| Recommendations  | Class      | Level    |
|--|------------|----------|
| In patients with grade 1 hypertension:   |            |          |
| <ul style="list-style-type: none"> <li>Lifestyle interventions are recommended to determine if this will normalize BP.</li> </ul>  | <b>IIa</b> | <b>B</b> |
| <ul style="list-style-type: none"> <li>In patients with grade 1 hypertension at low-moderate risk and without evidence of HMOD, BP-lowering drug treatment is recommended if the patient remains hypertensive after a period of lifestyle intervention.</li> </ul> | <b>I</b>   | <b>A</b> |
| <ul style="list-style-type: none"> <li>In patients with grade 1 hypertension and at high-risk or with evidence of HMOD, prompt initiation of drug treatment is recommended simultaneously with lifestyle interventions.</li> </ul>                                 | <b>I</b>   | <b>A</b> |

## Initiation of hypertension treatment according to office BP - 3

| Recommendations  | Class      | Level    |
|--|------------|----------|
| In fit older patients with hypertension (even if age > 80 years), BP-lowering drug treatment and lifestyle intervention are recommended when SBP is $\geq 160$ mmHg.   | <b>I</b>   | <b>A</b> |
| BP-lowering drug treatment and lifestyle intervention are recommended in the fit older patients (> 65 years but not over 80 years) when SBP is in the grade 1 range (140–159 mmHg), provided that treatment is well tolerated. | <b>I</b>   | <b>A</b> |
| Antihypertensive treatment may also be considered in frail older patients if tolerated.  | <b>IIb</b> | <b>B</b> |
| Withdrawal of BP-lowering drug treatment on the basis of age, even when patients attain an age of $\geq 80$ years, is not recommended, provided that treatment is well tolerated.  | <b>III</b> | <b>A</b> |

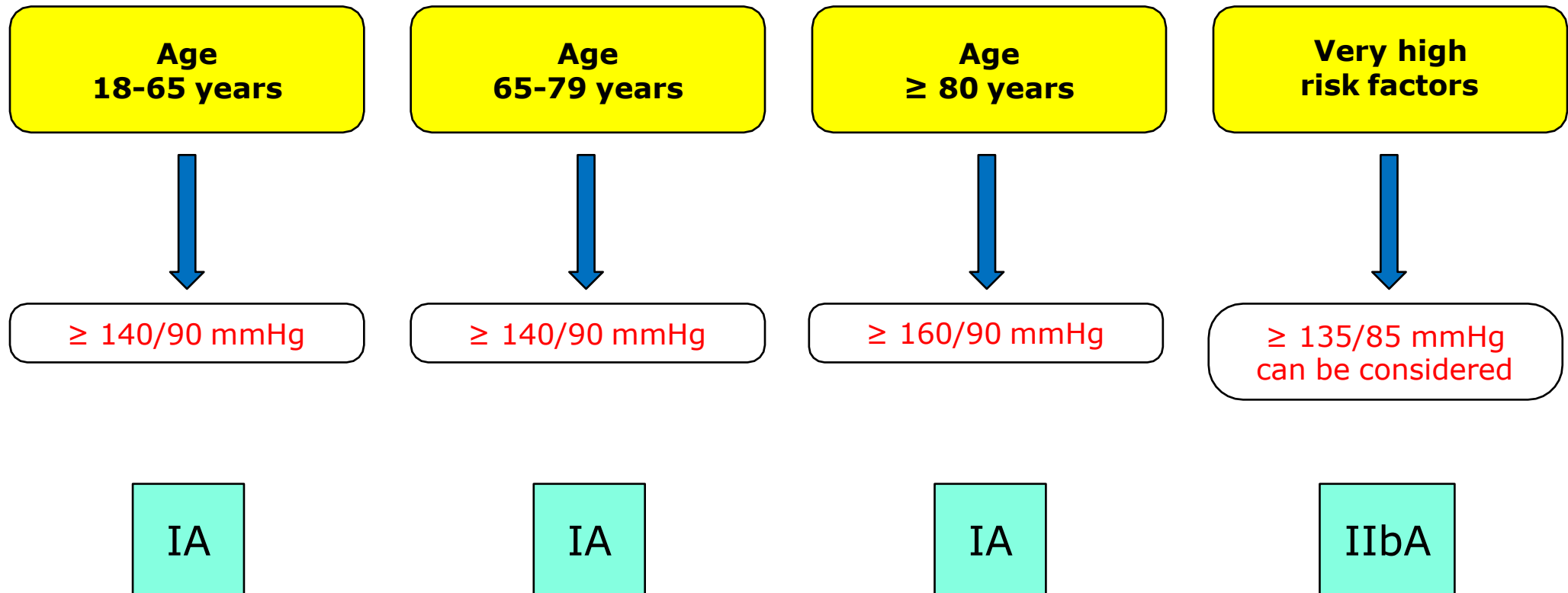
## Initiation of hypertension treatment according to office BP - 4

| Recommendations   | Class      | Level    |
|---|------------|----------|
| In patients with high-normal BP (130–139/85–89 mmHg):   |            |          |
| <ul style="list-style-type: none"> <li>Lifestyle changes are recommended.</li> </ul>  | <b>I</b>   | <b>A</b> |
| <ul style="list-style-type: none"> <li>Drug treatment may be considered when their CV is very high due to established CVD, especially CAD.</li> </ul> | <b>IIb</b> | <b>A</b> |

## Summary of office BP thresholds for treatment

| Age group                                    | Office SBP treatment threshold (mmHg) |            |       |       |              | Office DBP treatment threshold (mmHg) |
|--|---------------------------------------|------------|-------|-------|--------------|---------------------------------------|
|  | Hypertension                          | + Diabetes | + CKD | + CAD | + Stroke/TIA |                                       |
| 18–65 years                                  | ≥ 140                                 | ≥ 140      | ≥ 140 | ≥ 140 | ≥ 140        | ≥ 90                                  |
| 65–79 years                                  | ≥ 140                                 | ≥ 140      | ≥ 140 | ≥ 140 | ≥ 140        | ≥ 90                                  |
| ≥ 80 years                                   | ≥ 160                                 | ≥ 160      | ≥ 160 | ≥ 160 | ≥ 160        | ≥ 90                                  |
| <b>Office DBP treatment threshold (mmHg)</b> | ≥ 90                                  | ≥ 90       | ≥ 90  | ≥ 90  | ≥ 90         |                                       |

# Summary of office BP thresholds for treatment



## Office BP treatment targets in hypertensive patients - 1

| Recommendations  | Class | Level |
|--|-------|-------|
| 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. | I     | A     |



## Office BP treatment targets in hypertensive patients - 2

| Recommendations  | Class | Level |
|--|-------|-------|
| 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. | I     | A     |

## Office BP treatment targets in hypertensive patients - 3

| Recommendations   | Class    | Level    |
|---|----------|----------|
| In older patients (aged $\geq 65$ years) receiving BP-lowering drugs:   |          |          |
| <ul style="list-style-type: none"> <li>It is recommended that SBP should be targeted to a BP range of 130-139 mmHg.</li> </ul>  | <b>I</b> | <b>A</b> |
| <ul style="list-style-type: none"> <li>Close monitoring of adverse effects is recommended.</li> </ul>   | <b>I</b> | <b>C</b> |
| <ul style="list-style-type: none"> <li>These BP targets are recommended for patients at any level of CV risk and in patients with and without established CVD.</li> </ul> | <b>I</b> | <b>A</b> |

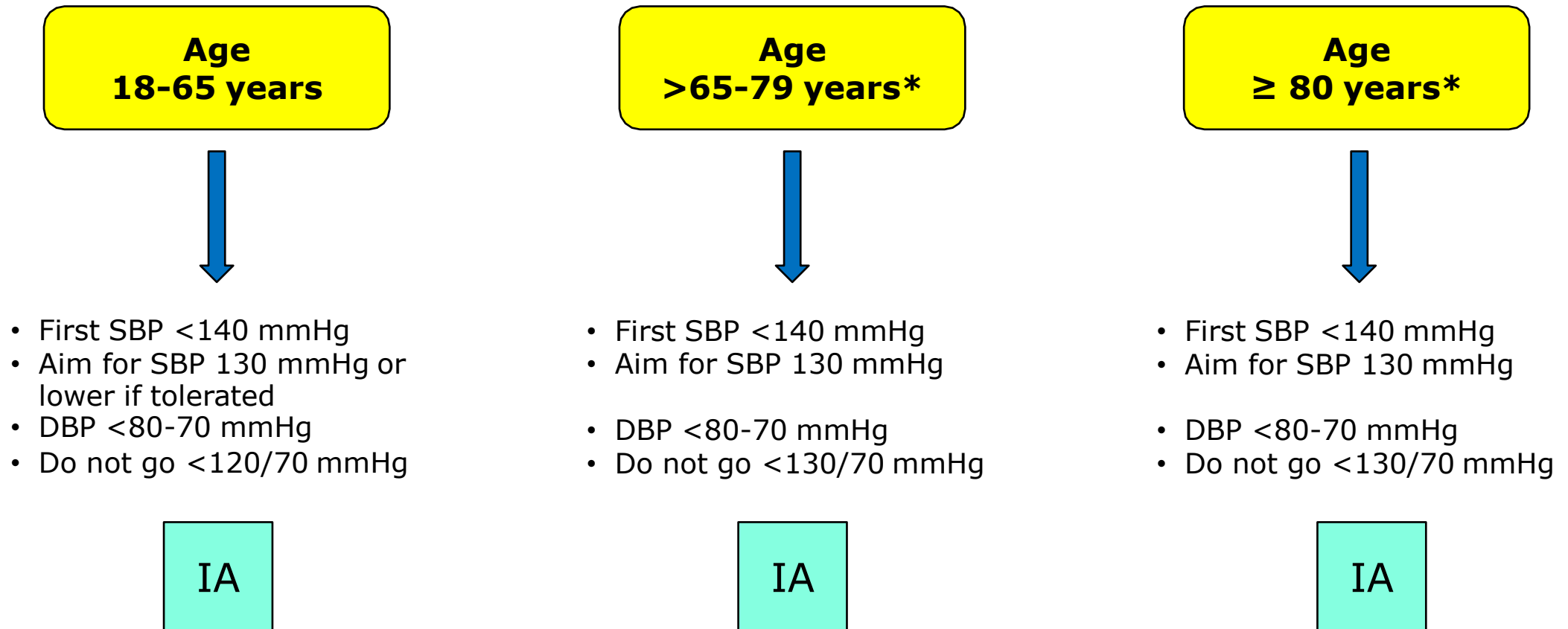
## Office BP treatment targets in hypertensive patients - 4

| Recommendations   | Class      | Level    |
|---|------------|----------|
| A DBP target of < 80 mmHg should be considered for all hypertensive patients, independent of the level of risk and comorbidities. | <b>IIa</b> | <b>B</b> |

## Office BP treatment target range

| Age group                                       | Office SBP treatment target ranges (mmHg)                                   |   |   |   |   | Office DBP treatment target range (mmHg) |
|---|---|---|---|---|---|--|
|   | Hypertension  | + Diabetes  | + CKD   | + CAD   | + Stroke/TIA  |  |
| 18–65 years                                     | <b>Target to 130</b><br><i>or lower if tolerated</i><br><b>Not &lt; 120</b> | <b>Target to 130</b><br><i>or lower if tolerated</i><br><b>Not &lt; 120</b> | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i> | <b>Target to 130</b><br><i>or lower if tolerated</i><br><b>Not &lt; 120</b> | <b>Target to 130</b><br><i>or lower if tolerated</i><br><b>Not &lt; 120</b> | 70-79                                    |
| 65–79 years                                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i> | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | 70-79                                    |
| ≥ 80 years                                      | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i> | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | <b>Target to &lt; 140 to 130</b><br><i>if tolerated</i>                     | 70-79                                    |
| <b>Office DBP treatment target range (mmHg)</b> | 70-79   | 70-79   | 70-79   | 70-79   | 70-79   |  |

## Office BP treatment target range



\* Consider frailty/independence/tolerability of treatment

# Gaps in evidence - 1

## Gaps in the evidence and need for further studies

What is the optimal population-screening programme for detecting hypertension?

What is the optimal method to measure BP in patients with AF?

What is the incremental benefit for CV-risk prediction of the addition of out-of-office BP (HBPM and ABPM) to office BP measurement?

What is the incremental benefit, over the SCORE system, of measures of HMOD in reclassifying CV risk of patients with hypertension?

What are the appropriate BP thresholds and targets for drug treatment in younger hypertensive patients?

What are the optimal BP treatment targets according to HBPM and ABPM?

What are the outcome benefits associated with antihypertensive treatment in patients with resistant hypertension?

What are the benefits of BP treatment for patients with BP in the high-normal range?

What baseline level of CV risk predicts treatment benefit?

More data on the benefits of BP treatment in the very elderly and the influence of frailty

Outcome-based comparison between office BP- and out-of-office BP-guided treatment

Outcome-based comparison between treatments guided by BP control and by HMOD reductions, especially in younger patients

## Gaps in evidence - 2

### Gaps in the evidence and need for further studies

More outcome studies of the optimal SBP-treatment target for patients at different levels of baseline CV risk and with different comorbidities, including diabetes and CKD

More outcome studies of the optimal DBP treatment target

Impact of single pill versus multiple drug treatment strategies on adherence to treatment, BP control, and clinical outcomes

Outcome-based comparison between treatment strategies based on initial monotherapy versus initial combination therapy

What is the optimal salt intake to reduce CV and mortality risk?

What are the long-term outcome benefits resulting from the recommended lifestyle changes?

Outcome-based comparison between treatments based on thiazide versus thiazide-like diuretics

Incremental value of central versus peripheral BP in risk estimation and risk reduction by treatment

Outcome-based comparison of BP treatment with classical versus vasodilator beta-blockers

Optimal BP treatment targets in specific clinical conditions (e.g. diabetes, CKD, post-stroke)

Protective effect of antihypertensive treatment in patients with cognitive dysfunction or dementia

Role of antihypertensive treatment in white-coat hypertension

Role of antihypertensive treatment in masked hypertension

Optimal treatment of hypertension in different ethnic groups

## Key messages 7-20

- 7. When to consider drug treatment of hypertension.**
- 8. Special considerations in frail and older patients.**
- 9. How low should SBP be lowered?**
- 10. BP targets in old and very old patient.**
- 11. BP targets in patients with diabetes and/or CKD.**
- 12. How low should DBP be lowered?**
- 13. The need to do better on BP control.**
- 14. Start treatment in most patients with two drugs, not one.**
- 15. A single pill strategy to treat hypertension.**
- 16. A simplified drug-treatment algorithm.**
- 17. Hypertension in women and in pregnancy.**
- 18. Is there a role for device-based therapy for the treatment of hypertension?**
- 19. Managing CV disease risk in hypertensive patients, beyond BP – statins.**
- 20. Managing CV disease risk in hypertensive patients, beyond BP – antiplatelet therapy.**



## To do, and not to do, messages from the guidelines - 2

| Recommendations   | Class      | Level    |
|---|------------|----------|
| <b>Office BP thresholds for the initiation of drug treatment for hypertension</b>   |            |          |
| Prompt initiation of BP-lowering drug treatment is recommended in patients with grade 2 or 3 hypertension at any level of CV risk, simultaneous with the initiation of lifestyle changes.   | <b>I</b>   | <b>A</b> |
| In patients with grade 1 hypertension:  |            |          |
| <ul style="list-style-type: none"> <li>Lifestyle interventions are recommended to determine if this will normalize BP.</li> </ul>   | <b>I</b>   | <b>B</b> |
| <ul style="list-style-type: none"> <li>In patients with grade 1 hypertension at low–moderate risk, and without evidence of HMOD, BP-lowering drug treatment is recommended if the patient remains hypertensive after a period of lifestyle intervention.</li> </ul> | <b>I</b>   | <b>A</b> |
| <ul style="list-style-type: none"> <li>In patients with grade 1 hypertension and at high risk or with evidence of HMOD, prompt initiation of drug treatment is recommended simultaneously with lifestyle interventions.</li> </ul>                                  | <b>I</b>   | <b>A</b> |
| In fit older patients with hypertension (even if age > 80 years), BP-lowering drug treatment and lifestyle intervention are recommended when SBP is $\geq 160$ mmHg.  | <b>I</b>   | <b>A</b> |
| BP-lowering drug treatment and lifestyle intervention are recommended in fit older patients (> 65 years but not > 80 years) when SBP is in the grade 1 range (140–159 mmHg), provided that treatment is well tolerated.   | <b>I</b>   | <b>A</b> |
| In patients with high-normal BP (130–139/85–89 mmHg), lifestyle changes are recommended.  | <b>I</b>   | <b>A</b> |
| Withdrawal of BP-lowering drug treatment on the basis of age, even when patients attain an age of $\geq 80$ years, is not recommended, provided that treatment is well tolerated.   | <b>III</b> | <b>A</b> |

## To do, and not to do, messages from the guidelines - 3

| Recommendations  | Class    | Level    |
|--|----------|----------|
| <b>Office BP treatment targets</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. | <b>I</b> | <b>A</b> |
| In patients < 65 years receiving BP-lowering drugs, it is recommended that SBP should be lowered to a BP range of 120 to < 130 mmHg in most patients. <sup>d</sup>   | <b>I</b> | <b>A</b> |
| In older patients (aged ≥ 65 years) receiving BP-lowering drugs, it is recommended that SBP should be targeted to a BP range of 130 to < 140 mmHg.   | <b>I</b> | <b>A</b> |