Medscape
EDUCATION GLOBAL

# How Do I Manage a Patient With Hypertension, Diabetes, and Chronic Kidney Disease?

## FACULTY

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# Case Study
## *Hypertension, T2D, and CKD*

**Claudette, 62 y old**
BMI 34 kg/m$^2$
Ex-smoker

| | |
|---|---|
| **Hypertension** | ▪ Office BP 152/76 mm Hg<br>▪ Home BP 148/72 mm Hg |
| **T2D** | ▪ HbA1c 6.2% |
| **CKD** | ▪ Serum creatinine 1.7 mg/dL<br>▪ eGFR 41 mL/min/1.73m$^2$<br>▪ Proteinuria 500 mg/24 h |

T2D, type 2 diabetes.

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T2D, type 2 diabetes.

### Drug history

- Losartan 50 mg/d
- Furosemide 40 mg twice a day
- Amlodipine 5 mg (bedtime)
- Rosuvastatin 40 mg (bedtime)
- Metformin 500 mg twice a day

# What Do the Guidelines Say?


- 2023 ESH Guidelines for the Management of Arterial Hypertension
- Endorsed by the European Renal Association and International Society of Hypertension

Mancia G, et al. J Hypertens. 2023. doi:10.1097/HJH.0000000000003480 [Epub ahead of print].

# CV Risk According to Hypertension Grade/Stage
## *Claudette — Hypertension, T2D, and CKD*

| Hypertension Disease Staging | Other Risk Factors, HMOD, CVD or CKD | BP (mmHg) grading | | | |
|---|---|---|---|---|---|
| | | High-Normal SBP 130 to 139 DBP 85 to 89 | Grade 1 SBP 140 to 159 DBP 90 to 99 | Grade 2 SBP 160 to 179 DBP 100 to 109 | Grade 3 SBP ≥ 180 DBP ≥ 110 |
| Stage 1 | No other risk factors | Low risk | Low risk | Moderate risk | High risk |
| | 1 or 2 risk factors | Low risk | Moderate risk | Moderate to high risk | High risk |
| | ≥3 risk factors | Low to moderate risk | Moderate to high risk | High risk | High risk |
| Stage 2 | HMOD, CKD grade 3, or diabetes mellitus | Moderate to high risk | High risk | High risk | Very high risk |
| Stage 3 | Established CVD or CKD grade ≥ 4 | Very high risk | Very high risk | Very high risk | Very high risk |

| | < 50 y | 60-to 69 y | ≥ 70 y |
|---|---|---|---|
| | < 2.5% | < 5% | < 7.5% |
| | 2.5 to < 7.5% | 5 to < 10% | 7.5 to < 15% |
| | ≥ 7.5% | ≥ 10% | ≥ 15% |

Complementary risk estimation in Stage 1 with SCORE2/SCOR2-OP

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# Treatment Strategies in Patients With CKD
## *Blood Pressure Targets*

**2023 ESH Guidelines for the Management of Arterial Hypertension**

| | COR | LOE |
|---|---|---|
| BP should be monitored at all CKD stages<br>**HTN is the most important risk factor for ESKD** | I | A |
| **Immediate** lifestyle interventions and drug treatment if office **BP ≥ 140/90** mm Hg | I | C |
| Primary goal **< 140/90** mm Hg | I | A |
| If tolerated **< 130/80** mm Hg | II | B |
| **NOT < 120/70** mm Hg | III | C |

COR, class of recommendation; ESKD, end-stage kidney disease; HTN, hypertension; LOE, level of evidence.

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# Treatment Strategies in Patients With CKD
## *Drug Choices*

### 2023 ESH Guidelines for the Management of Arterial Hypertension

| | COR | LOE |
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| **ACE inhibitor *or* ARB at maximum-tolerated doses** in moderate (UACR 30-300 mg/g) or severe albuminuria (>300 mg/g) | I | A |

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| **Resistant hypertension** is very frequent<br>Combination treatment **almost always recommended** | I | B |
| **SGLT2 inhibitors** recommended for diabetic and nondiabetic CKD if eGFR ≥ 20 mL/min/1.73 $m^2$ | I | A |
| **Nonsteroidal MRA finerenone** in T2D with albuminuria if eGFR ≥ 25 mL/min/1.73 $m^2$ and potassium < 5 mmol/L | I | A |

MRA, mineralocorticoid receptor antagonist; SGLT2, sodium-glucose cotransporter 2.

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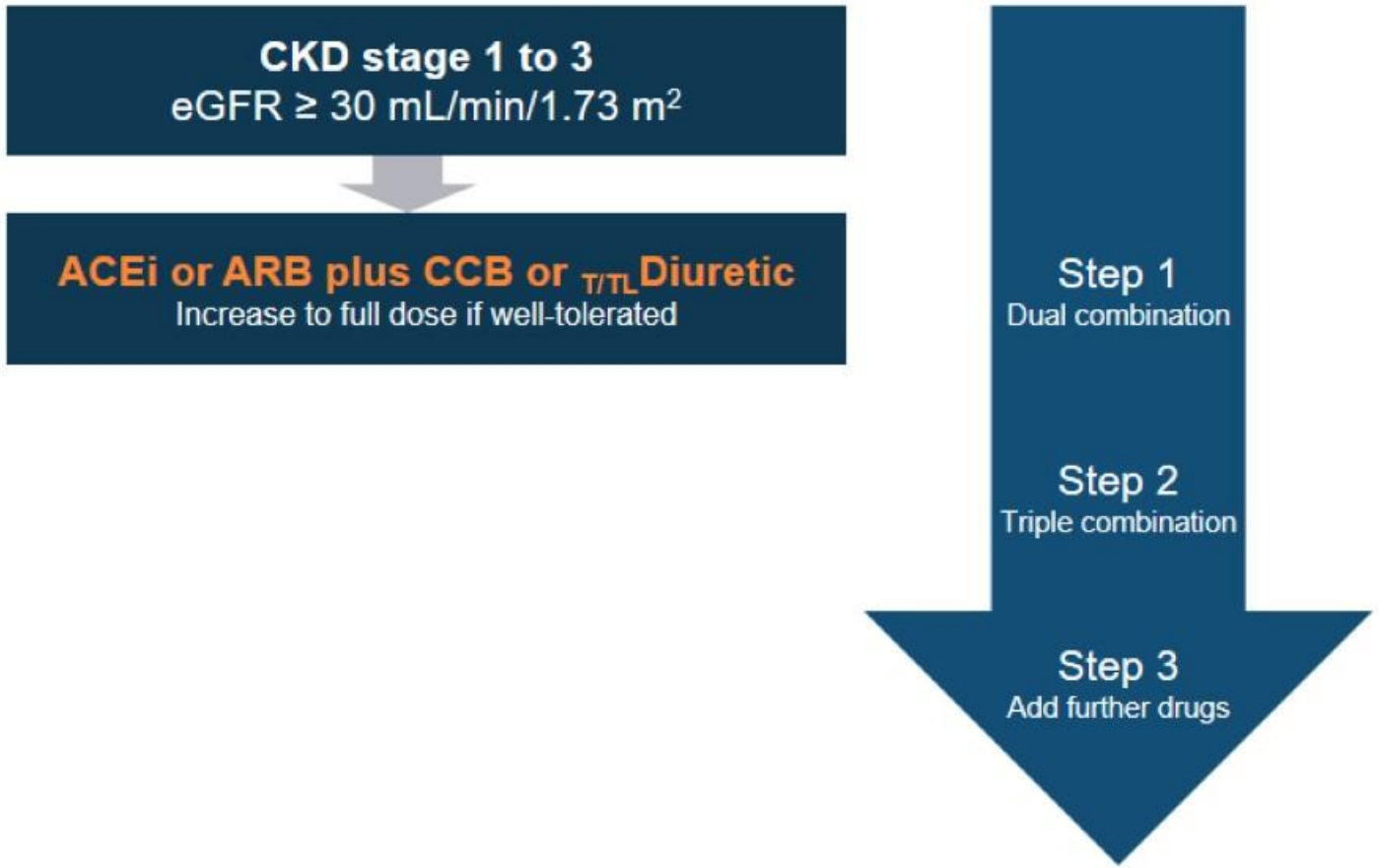
# Patient Case
## *Issues*

**Claudette, 62 y old**
BMI 34 kg/m$^2$
Ex-smoker

- BP control inadequate
- RAS blocker in suboptimal dose
- Diuretic inadequate
- No SGLT2 inhibitor
- Multiple medications, complex regimen: long-term adherence?
- Exposure to high/preventable CVD risk

# BP-Lowering in Hypertension and CKD
## *ESH 2023 Guidelines*

### BP-Lowering in Patients With Hypertension and Chronic Kidney Disease

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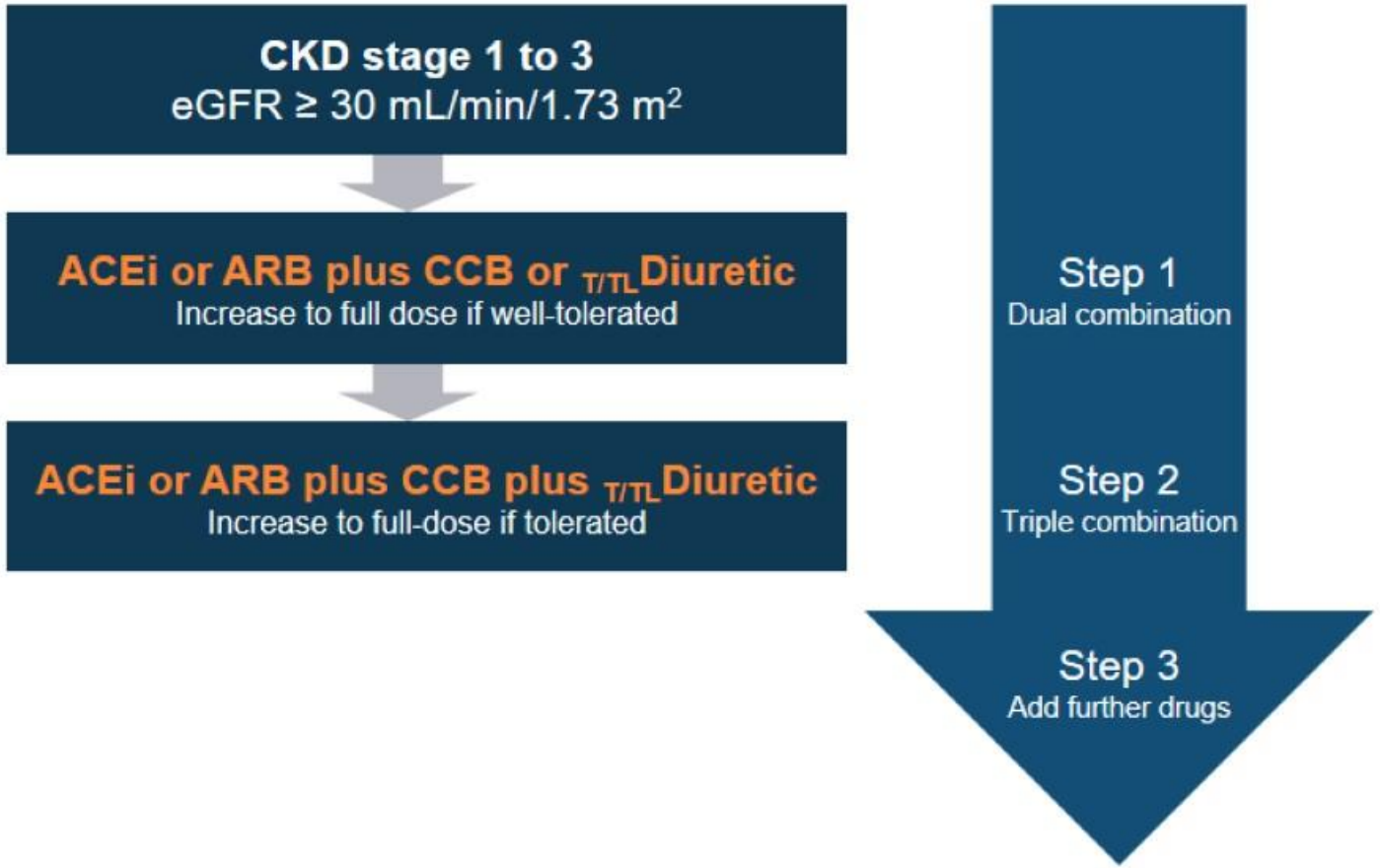


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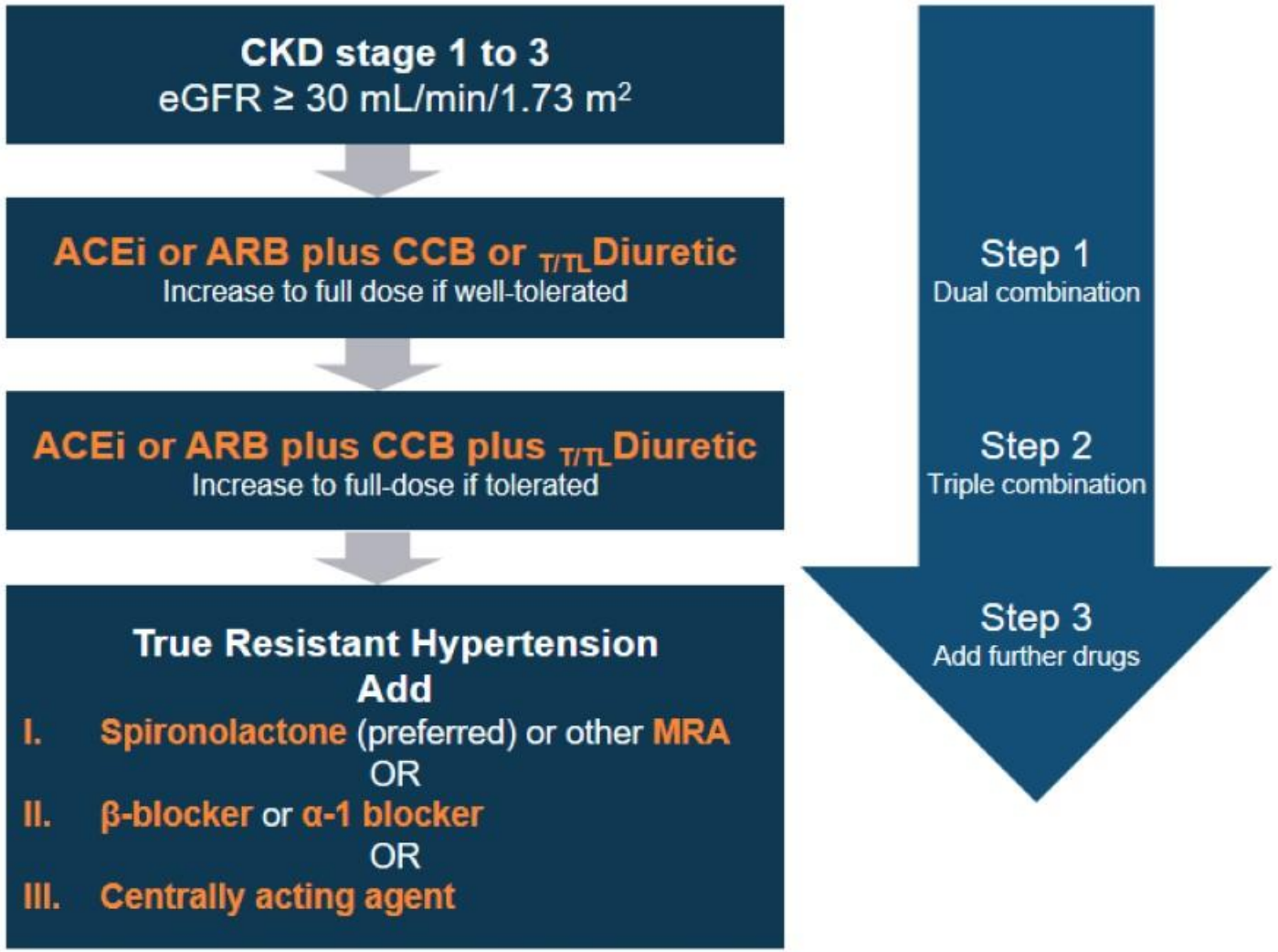


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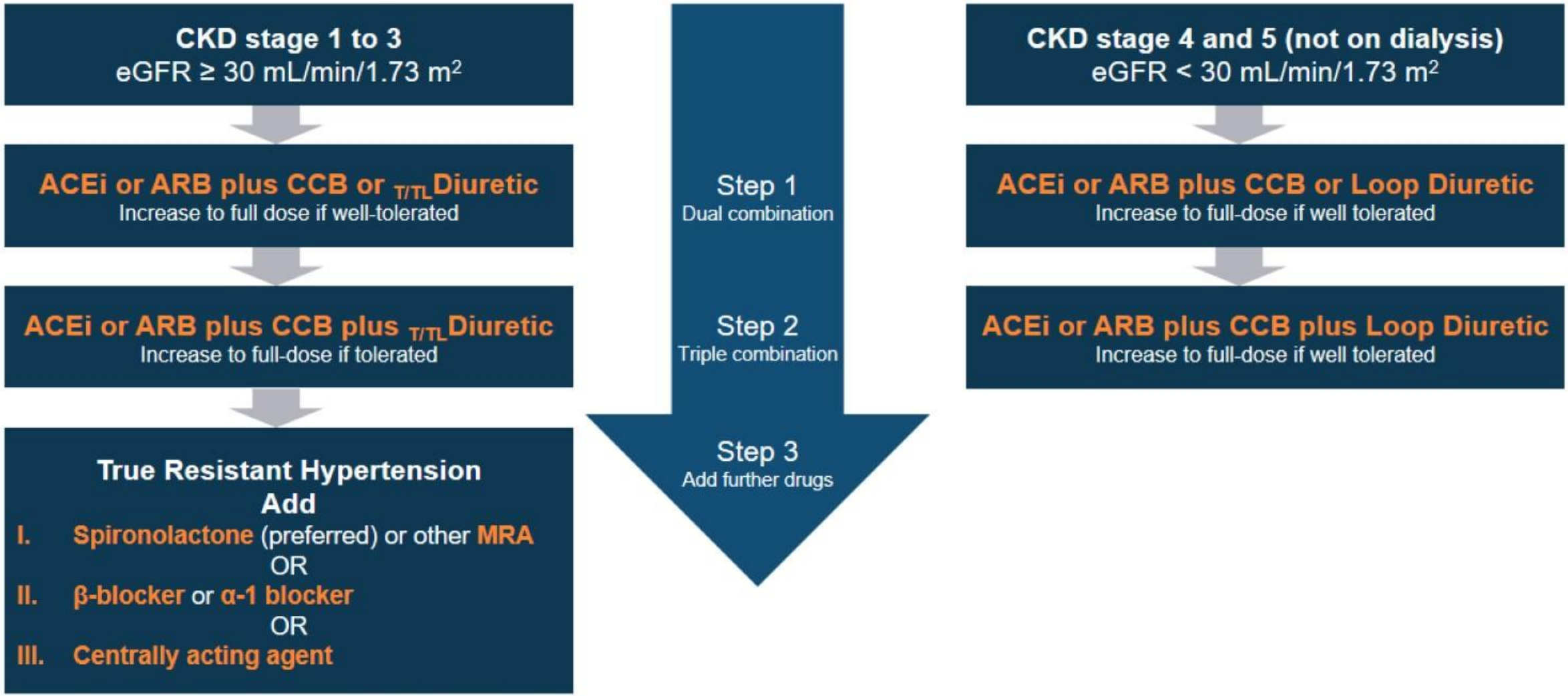


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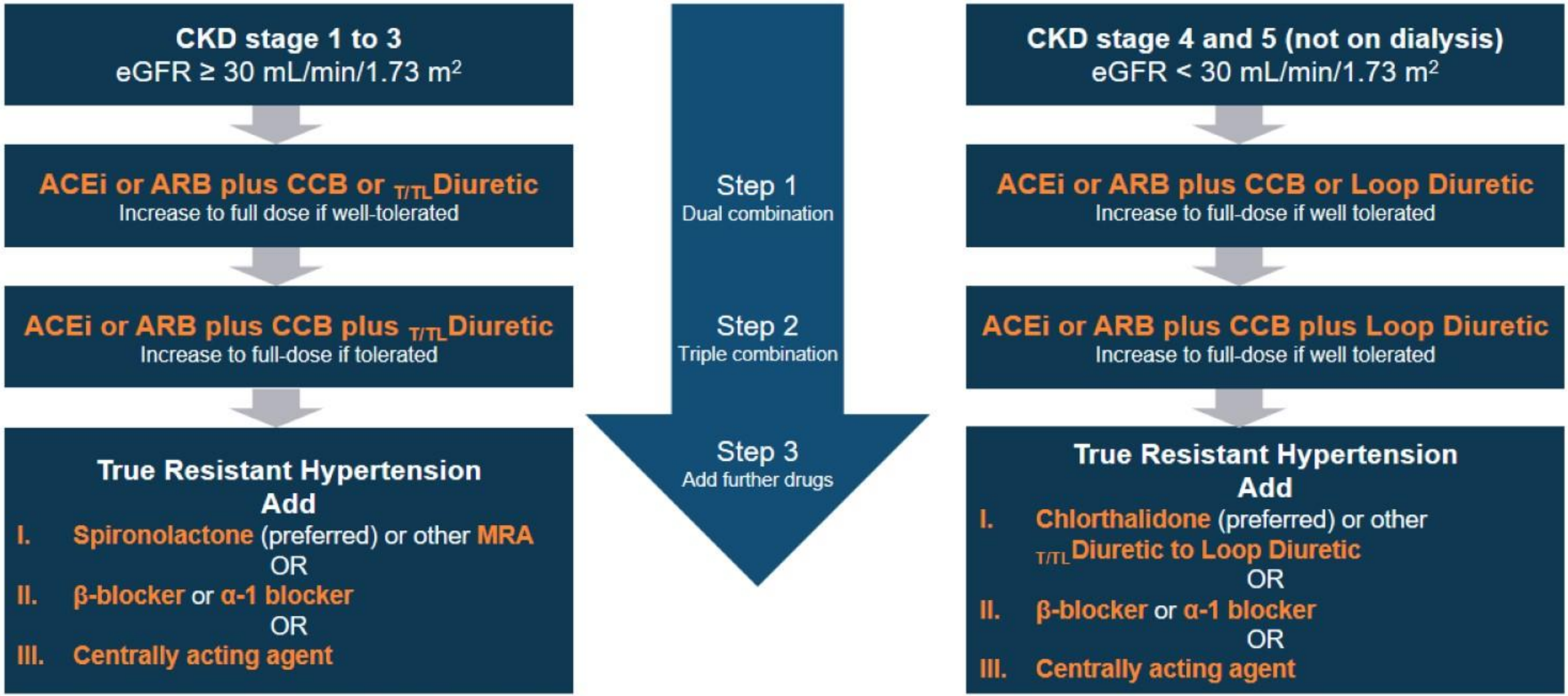


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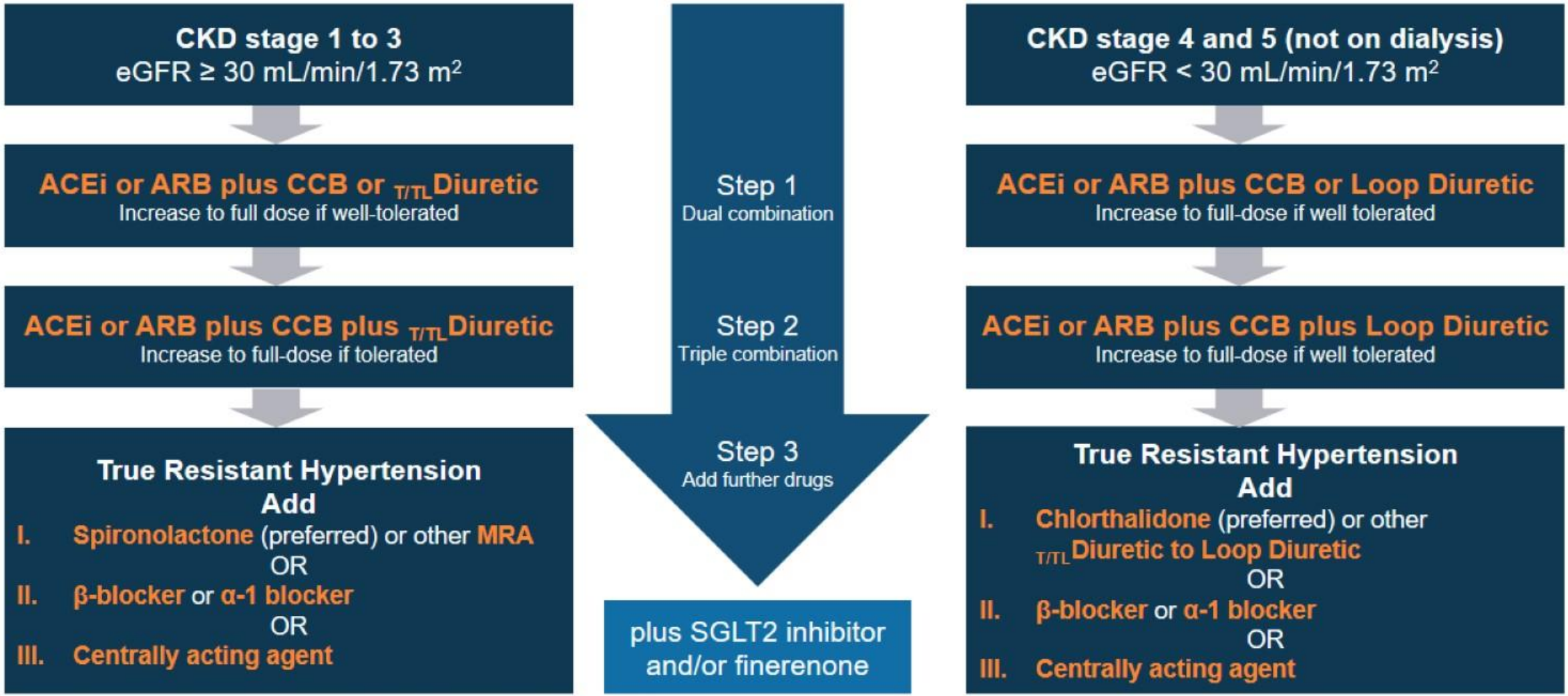


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# Elevated BP and CV Morbidity/Mortality in Individuals Eligible for Dual BP-Lowering Therapy

**Presented at ESH 2023**

- CPRD, HES, and ONS **databases** in England
- **1,426,079 patients**
- 15-y period **(2005-2019)**

**Adults with hypertension qualifying for dual BP-lowering therapy** (2018 ESC/ESH)

Primary endpoint: **Composite of nonfatal MI/stroke, HHF, CV death**

ASCVD, atherosclerotic cardiovascular disease; CPRD, Clinical Practice Research Datalink; HES, Hospital Episode Statistics; HHF, hospitalization for heart failure; MI, myocardial infarction; ONS, Office for National Statistics.

Coca A, et al. J Hypertens. 2023;41(suppl 3):e29-e30.

# Event Rates in Individuals Eligible for Dual BP-Lowering Therapy
## *Database Study*

**Presented at ESH 2023**

- **BP-lowering monotherapy** most common (43%-57%)
- 15-y event rates **27%**
  - All-cause death 33%
- ASCVD increased ~ 2.5-fold
- Diabetes ~ 1.5-fold

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- 15-y event rates **27%**
  - All-cause death 33%
- ASCVD increased ~ 2.5-fold
- Diabetes ~ 1.5-fold

- Patients with HTN **qualifying for dual BP-lowering therapy** at **high CV risk**
  - Particularly persons with ASCVD or diabetes
- **Opportunity for risk reduction** via timely initiation of dual BP therapy

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# What Do the 2023 Guidelines Recommend for Our Patient?

**Claudette, 62 y old**
BMI 34 kg/m$^2$
Ex-smoker

- Incomplete BP control
- Moderate dose of RAS blocker
- Inadequate diuretic
- No SGLT2 inhibitor
- Multiple medications/complex regimen
- Exposure to preventable CVD risk

Intensify BP-lowering treatment for optimal control

- Titrate RAS blocker to full dose
- Substitute furosemide with a thiazide
- Add SGLT2 inhibitor

Simplify regimen (SPC) to maximize adherence

Evaluate 24-h ambulatory BP

RAS, renin-angiotensin system.
Expert opinion.

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