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Dear provider of pharmaceutical services,

As you may know, in the management of hypertension, lowering and/or maintaining blood pressure (BP) within target level is of great importance because several studies has shown the negative outcomes from pressures that remain elevated above the target level. The American Heart Association (AHA) has updated its guidelines on the detection and management of resistant hypertension (RH). The following communication summarizes important information regarding this topic.

RESISTANT BLOOD PRESSURE AFFECTS 12% TO 15% OF PEOPLE CURRENTLY BEING TREATED FOR HIGH BLOOD PRESSURE. [1]

Definition of resistant hypertension: [1, 2, 3]

- Blood pressure (BP) elevated above the goal in a patient despite the concurrent use of 3 antihypertensive drug classes, commonly including a long-acting calcium channel blocker, a blocker of the renin-angiotensin system (angiotensin-converting enzyme inhibitor or angiotensin receptor blocker), and a diuretic; OR
- BP that achieves target values on ≥4 antihypertensive medications.

Resistant hypertension is more often found among African-Americans, men, older adults and, people who are obese, or those who have diabetes, peripheral artery disease, obstructive sleep apnea or other conditions. [1]

THRESHOLD FOR HIGH BLOOD PRESSURE: 130/80 mmHg [4]

Diagnosis highlights: [1, 2]

- Patients are diagnosed with RH when they meet the criteria that defines RH (mentioned above).
- Diagnosis requires assurance of antihypertensive medication adherence and exclusion of the "white-coat effect".
- Once antihypertensive medication adherence is confirmed and "white-coat effect" is excluded, evaluation includes:
  - Identification of contributing lifestyle issues
  - Detection of drugs interfering with antihypertensive medication effectiveness
  - Screening for secondary hypertension
  - Assessment of target organ damage

50 % to 80 % of people who should be taking blood pressure lowering medications don't take them correctly. [1]

Over-the-counter (OTC) non-steroidal anti-inflammatory drugs (NSAIDs), including ibuprofen, aspirin, naproxen and some prescription medications, such as oral contraceptives may also raise blood pressure.[1]

Management highlights: [1, 2]

- Maximization of lifestyle interventions
  - DASH-style diet
  - Achieving or maintaining healthy body weight
  - Get enough physical activity

The DASH diet emphasizes eating fruit, vegetables, whole-grains, low-fat dairy products, poultry and fish while limiting red meat and foods high in added sugars and salt. [1, 2]

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- Use of long-acting thiazide-like diuretics (e.g. chlorthalidone or indapamide)
- Addition of a mineralocorticoid receptor antagonist (e.g. spironolactone or eplerenone)
- If BP remains elevated, stepwise addition of antihypertensive drugs with complementary mechanisms of action to lower BP.
- If BP remains uncontrolled, referral to a hypertension specialist.

Healthcare providers have a variety of medication regimens to help their patients. By definition, the patient will already be taking 3 different classes of antihypertensive drugs (e.g. a calcium channel blocker, an angiotensin converting enzyme inhibitor, an angiotensin receptor blocker, and/or a diuretic. [1, 2]

Major changes and new recommendations: [1, 2, 3]

- Recognition that sleep deprivation contributes to lack of blood pressure control.
  - Recommendation: Sleep patterns should be assessed in patients with RH, as poor sleep duration and quality can trigger the sympathetic and renin-angiotensin systems, interfering with BP control.
- Recognition of importance of lifestyle changes.
  - Recommendation: Lifestyle changes (sodium intake, weight loss, exercise, and sleep duration) should be emphasized as part of first-line management of RH.
- Use of long-acting thiazide-like diuretics.
  - Recommendation: Consider switching from hydrochlorothiazide to chlorthalidone or indapamide in patients whose hypertension persists despite optimal lifestyle and treatment with a 3-drug regimen.

For more information and details regarding AHA recommendations for resistant hypertension, please refer to the full guideline, which is available at: https://www.ahajournals.org/doi/10.1161/HYP.0000000000000084.

Medical literature is dynamic and is continuously changing as new scientific knowledge is developed. We exhort the frequent revision of treatment guidelines to assure that our recommendations are consistent with the most actualized information.

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Regards,

Pharmacy Department

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