

CENTENE PHARMACY AND THERAPEUTICS  
THERAPEUTIC CLASS MATRIX  
GPI Code 36: Antihypertensives  
1Q18 January – February

Review Time Frame: November 2016 – October 2017

**Background:**

Antihypertensive agents are indicated for the management of hypertension. There are several major classes of antihypertensives distinguished by their mechanism of action to lower blood pressure. The classes include:

- Angiotensin-converting enzyme (ACE) inhibitors: compete with angiotensin I (AT1) for its binding site on the ACE.
- Angiotensin II receptor antagonists: antagonize angiotensin II at the AT1 receptor subtype.
- Direct renin inhibitors: act within the renin-angiotensin system (RAS), a hormone system important in the regulation of blood pressure, electrolyte homeostasis, and vascular growth.
- Adrenergic antihypertensives: act as agonists at presynaptic alpha2-receptors in the medulla, specifically, the nucleus tractus solitarius (i.e., the depressor area of the vasomotor center of the medulla oblongata); stimulation of these receptors results in the inhibition of sympathetic outflow and tone.
- Selective aldosterone receptor antagonists: act as competitive antagonists of aldosterone at mineralocorticoid receptors; this class has been shown to antagonize both epithelial and nonepithelial aldosterone effects within the kidney, blood vessels, and heart.
- Vasodilators: cause relaxation of arteriolar smooth muscle via a direct effect.

**New Drugs:**

None identified.

**Discontinued Drugs:**

None identified.

**FDA Safety Warnings:**

None identified.

**REVIEW RECOMMENDATION**

No changes are recommended to the clinical guidance for this drug class based on the review of available clinical practice guidelines.

**References:**

1. US Food and Drug Administration. Available at: [www.fda.gov](http://www.fda.gov). Accessed November 10, 2017.
2. James PA, Oparil S, Carter BL, et al. Management of high blood pressure in adults: Report from the panel members appointed to the eighth joint national committee (JNC8). JAMA. 2014; 311(5):507-520. doi:10.1001/jama.2013.284427

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3. Mancia G, Fagard R, Narkiewicz K, et al. 2013 ESH/ESC Guidelines for the management of arterial hypertension: The task force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). *European Heart Journal*. 2013; 34:2159-2219. doi:10.1093/eurheartj/eh1151