

**Supplemental Table 1. Medications used for Autonomic Nervous System Modulation: Mechanisms of Action**

Medication	Receptors	Mechanism of Action
<b>Sympathetic Nervous System Stimulation</b>		
Nitroprusside*	N/A	<i>Reflex stimulation:</i> increase in SNS activity to heart in response to nitric oxide-induced decrease in BP by nitroprusside
<b>Sympathetic Nervous System Blockade</b>		
Atenolol	$\beta$ 1-AR	Beta 1-selective (cardioselective) adrenergic receptor blocker. Acts on $\beta$ 1 receptors found in the SA node.
Clonidine*	$\alpha$ -AR	<i>Central:</i> stimulates $\alpha$ -ARs in the brain stem to reduce SNS outflow and increase PNS stimulation from the central nervous system
Metoprolol	$\beta$ 1-AR	Beta 1-selective (cardioselective) adrenergic receptor blocker. Acts on $\beta$ 1 receptors found in the SA node.
Prazosin	$\alpha$ -AR	Blocks $\alpha$ -ARs
Propranolol	$\beta$ 1-AR; $\beta$ 2-AR	Blocks cardiac $\beta$ 1 receptors and vascular $\beta$ 2 peripheral adrenergic receptors
<b>Parasympathetic Nervous System Stimulation</b>		
Atropine (low dose)	M2	<i>Central:</i> activation of PNS via M2 muscarinic receptors by blockade of presynaptic inhibitory muscarinic receptors of central vagal nuclei
Clonidine	$\alpha$ -AR	<i>Central:</i> stimulates $\alpha$ -AR in the brain stem to reduce SNS outflow and increase PNS stimulation from the central nervous system

Phenylephrine*	$\alpha$ -AR	<i>Reflex stimulation</i> : increase in PNS activity to heart in response to increase in BP by phenylephrine
Scopolamine	M2	<i>Central</i> : Similar to atropine, low doses through to exert central PNS stimulating effects. Higher doses: Competitive inhibitor at M2 muscarinic receptor sites of the PNS
<b>Parasympathetic Nervous System Blockade</b>		
Atropine	M2	PNS blockade by block of muscarinic M2 receptors to SA node. At higher doses, central effects masked by peripheral PNS activity
Hexamethonium*	N	Nicotinic receptor antagonist that does not cross the blood brain barrier and is a prototype ganglionic blocker. Nicotinic receptors function within CNS and neuromuscular junction).
Methylatropine	M2	Exclusive peripheral antagonist of cardiac muscarinic M2 receptors found mainly in the SA node. Longer effect versus atropine.
Oxybutynin	M	Competitive acetylcholine antagonist at postganglionic muscarinic receptors
Tolterodine	M	Competitive acetylcholine antagonist at postganglionic muscarinic receptors

Abbreviations-  $\alpha$ : alpha; AR: adrenergic receptor;  $\beta$ : beta; M: muscarinic acetylcholine receptor; N: nicotinic acetylcholine receptor; SA: sinoatrial. *Reflex stimulation*: Defined as a blood pressure-mediated pharmacologic modulation of autonomic nervous system activity. For example, if the blood pressure is decreased, this is sensed by pressure-sensing baroreceptors in the aortic arch that communicate to the brain to increase sinus node/cardiac sympathetic modulation to increase the heart rate and maintain cardiac output. \*  $\alpha$ -AR,  $\beta$ -AR and muscarinic receptor stimulants and blockade synthesized in

manuscript text. See **Supplemental Table 4** for HRV responses from reflex stimulation and central-based pharmacologic approaches.