

Table 1: Medications that may lead to false measures of plasma and urinary epinephrine and norepinephrine

	Clinical Applications	EPI	NE
Sympathomimetics:			
Non-selective agonists Isoproterenol (α and β)	Bradycardia, heart block (EPI agonist)	++	+
Selective agonists Phenylephrine (α 1)	Decongestant, mydriatic, neurogenic hypotension	+	+
Oxymetazoline (α 1)	Nasal decongestant	+	+
Clonidine (α 2)	Hypertension	+	+
Methyl-dopa (α 2)	Hypertension	+	+
Dobutamine (β 1)	Acute heart failure	+	+
Salbutamol (β 2)	Asthma, COPD	+	+
Salmeterol (β 2)	Asthma	+	+
Fenoterol (β 2)	Bronchodilator	+	+
Indirect-acting phenylisopropylamines Amphetamines Methamphetamine	Anorexiant, ADHD, narcolepsy	++	+
Cocaine	Local anaesthetic	+	++
Tyramine	Found in fermented foods (no clinical application)	+	+
Stimulants:			
Caffeine Nicotine (eg. tobacco) Theophylline	Asthma, COPD	++	++
Non-selective blockers:			
Phenoxybenzamine	Hypertension, maintain “chemical sympathectomy”	+	+
Selective α-blockers:			
Doxazosin	Benign prostatic hyperplasia	+	+
Terazosin	Benign prostatic hyperplasia	+	+
Prazosin	Hypertension	+	+
Selective β-blockers:			
Atenolol	Hypertension, arrhythmias	+	+
Propranolol	Hypertension, thyrotoxicosis, migraine, angina, prophylactic treatment for arrhythmias	+	+
Labetolol (can interfere directly with analytical methods)	Hypertension	+	+

Calcium channel antagonists:			
Nifedipine	Hypertension, angina	+	+
Amlodipine	Heart failure, angina	+	+
Diltiazem	Angina	+	+
Verapamil	Angina	+	+
Monoamine oxidase inhibitors:			
Phenelzine	Depression, anxiety	-	-
Tranylcypromine	Depression, anxiety, mood disorders	-	-
Selegiline	Parkinson's, major depressive disorder	-	-
Tricyclic anti-depressants:			
Imipramine	Depression, anxiety, panic disorder	-	++
Amitriptyline	Depression, in low dosages used to treat pain	-	++
Nortriptyline	Depression, neuropathic pain, ADHD, anxiety	-	++
Vasodilators:			
Hydralazine	Hypertension, heart failure (prophylactic)	-	+
Minoxidil	Hypertension, used as treatment for hair loss	-	+
Isosorbide	Angina, oesophagus spasms	-	+

Where: EPI, epinephrine; NE, norepinephrine; ADHD, attention deficit hyperactivity disorder; COPD, chronic obstructive pulmonary disorder; -, no or slight increase; +, moderate increase; ++, substantial increase.

These are just a few medications that may influence the EPI and NE plasma/ urine profile in participants/ patients.

Compiled from: Trevor et al, 2015 (11th edition); Pan et al, 2018; Ward et al, 1983; Myburgh et al, 2008; Leopold et al, 2018; Christensen et al, 2019.