

Drugs and Cortisol

Patients frequently ask me if taking a certain drug will affect cortisol levels, either in regarding to cortisol testing or if they want to raise or lower their cortisol. If a patient is undergoing testing for Cushing's Dr. Friedman recommends discontinuing the drug for a week before testing, especially drugs in **bold**. Although it may be a challenge, certain drugs can be used to raise (those with low cortisol) or lower (those with high cortisol) cortisol. Cortisol has a circadian rhythm, with the highest levels in the morning and low levels at night, Therefore, in general, cortisol-lowering agents should be taken at night and cortisol-raising agents should be taken in the morning.

Type of Drugs	Generic Name	Brand Name	Effect on cortisol	Comments
Cushing's Drugs	ketoconazole	Nizoral	↓	Most effective drug, should be given at night
	mifepristone	Korlym	↑	Blocks cortisol at the receptor, effective for Cushing's even though it raises cortisol
	somatostatin Analogues (octreotide, lanreotide, pasireotide)	Sandostatin, Somatuline, Signifor	↓	Lowers cortisol mildly with a high rate of diabetes
	metyrapone	Metopirone	↓	High rate of adrenal insufficiency
	etomidate	Amidate	↓	Can be given IV
	mitotane	Lysodren	↓	Destroys the adrenal gland
	Antidepressant	citalopram	Celexa	↑
sertraline		Zoloft	↑	
fluoxetine		Prozac	–	
imipramine		Tofranil	↓	
desipramine		Norpramin	↓	
trazodone		Desyrel	↓	
mirtazapine		Remeron	↓	
Antipsychotic	olanzapine	Zyprexa	↓	
	quetiapine	Seroquel	↓	
Anti-anxiety	temazepam	Restoril	↓	
	alprazolam	Xanax	↓	
	lorazepam	Ativan	↓/–	Anecdotal-lowers cortisol, literature no effect
Dopamine agents	cabergoline	Dostinex	↓	Variable effect
	bromocriptine	Parlodel	↓	Variable effect
	metoclopramide	Reglan	↑	
	methylphenidate	Ritalin	↑	Found in 1 study, but not another study
Anti-hypertensives	clonidine	Catapres	↓	
Opioids/anti-opioids	loperamide	Imodium	↓	
	morphine, methadone, codeine	various	↓	
	buprenorphine	Buprenex	↓	
	naloxone	Narcan	↑	
	naltrexone	Revia	↑	Unclear if low-dose naltrexone (LDN) has the same effect

Drugs of abuse	heroin		↓	
	cocaine		↑	
	alcohol		↑	
	Tobacco/nicotine		↑	
Hormones	progesterone	Provera, Prometrium	↓	Binds to the cortisol receptor, so Cushingoid features could occur, even though cortisol levels are decreased
	megesterol	Megace	↓	Used for weight gain
	growth hormone	various	↓	Increase breakdown of cortisol
	thyroid hormone	Synthroid, Levoxyl, Cytomel Armour, etc	↓	Increase breakdown of cortisol
	raloxifene	Evista	↓	Used for osteoporosis
	estrogens, birth control pills		–	Raises cortisol-binding protein and raises total cortisol, does not affect free cortisol
	DHEA		↓	
	desmopressin, oxytocin	DDAVP	↑	
Diabetes medications	rosiglitazone	Avandia	↓/–	Initial studies found a reduction in cortisol, not confirmed by additional studies
	pioglitazone	Actos	↓/–	
Supplements	phosphatidyl serine	Seriphos	↓	Effective at night, Seriphos and phosphatidyl serine are slightly different
	gingko bilabo		↓	
	St. John's wort		↑	
	rhodiola		↓	

Bold indicates substantial effect.

Reference: Ambrogio AG, Pecori Giraldi F, Cavagnini F. Drugs and HPA axis. Pituitary 2008; 11:219-229

For more information about Dr. Friedman's practice or to schedule an appointment, go to www.goodhormonehealth.com or email us at mail@goodhormonehealth.com.