



## Appendix B: Medications that May Alter Testosterone Levels in Men and Women

Note: Does not represent an exhaustive list.

Medications that May Alter Testosterone Levels in Men <sup>1,2</sup>		
Increase serum testosterone levels	Decrease serum testosterone levels	
<ul style="list-style-type: none"> <li>• <b>Bicalutamide</b></li> <li>• <b>cimetidine</b></li> <li>• <b>finasteride</b></li> <li>• <b>leuprolide</b></li> <li>• <b>phenytoin</b></li> <li>• <b>rifampin</b></li> <li>• <b>tamoxifen</b></li> <li>• <b>valproic acid</b></li> </ul>	<ul style="list-style-type: none"> <li>• anabolic steroids</li> <li>• carbamazepine</li> <li>• corticosteroids</li> <li>• cyclophosphamide</li> <li>• cyproterone</li> <li>• digoxin</li> <li>• estrogens</li> <li>• goserelin</li> <li>• ketoconazole</li> </ul>	<ul style="list-style-type: none"> <li>• leuprolide</li> <li>• nilutamide</li> <li>• opioids*, including opioid agonist treatment</li> <li>• spironolactone</li> <li>• tetracycline</li> <li>• thioridazine</li> <li>• verapamil</li> </ul>
<p>* <i>Studies indicate opioid-induced testosterone deficiency is likely linked to long term therapy with opioids.<sup>3</sup> Consistent with the evidence, the recommendations from the 2018 Endocrine Society Guideline suggest to only test those who are receiving long-term opioids rather than short-term.<sup>4</sup></i></p>		

### Medications that May Increase Testosterone Levels in Women<sup>1,2</sup>

- **barbiturates**
- **clomiphene**
- **estrogens**
- **valproic acid**

### References

1. Wilson DD. McGraw-Hill's manual of laboratory & diagnostic tests. New York: McGraw-Hill Medical; 2008. 666 p.
2. Young DS. Effects of drugs on clinical laboratory tests. 3rd ed. Washington: AACC Press; 1990.
3. O'Rourke TK, Wosnitzer MS. Opioid-Induced Androgen Deficiency (OPIAD): Diagnosis, Management, and Literature Review. Curr Urol Rep [Internet]. 2016 Oct [cited 2018 Apr 24];17(10). Available from: <http://link.springer.com/10.1007/s11934-016-0634-y>
4. Bhasin S, Brito JP, Cunningham GR, Hayes FJ, Hodis HN, Matsumoto AM, et al. Testosterone Therapy in Men With Hypogonadism: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab [Internet]. 2018 Mar 17 [cited 2018 Mar 22]; Available from: <https://academic.oup.com/jcem/advance-article/doi/10.1210/jc.2018-00229/4939465>