

Hypersexuality or paraphilic behavior are extremely difficult to manage. Before initiating pharmacotherapy to control unwanted sexual behaviors, the current drug regimen should be evaluated for drugs that may cause/exacerbate the behavior (eg. amphetamines/anticholinergic/antiparkinson meds). **Cognitive behavioral modification, psychotherapy & environmental changes** should be implemented **first for treatment**. **Some modification strategies include:** correct any misidentification by the patient of other residents as their spouse or lover, increase attention & appropriate activities, make certain behaviors such as disrobing more difficult, move patient to different room if location is problematic. Attempts to distract & redirect their behavior with conversation, food or other activities can be successful. **Case reports** suggest that antiandrogens, estrogens, LHRH agonists & serotonergic medications may be **useful when other methods have failed**. **Baseline labwork** may include: free androgen index & total testosterone, FSH, LH, estradiol, prolactin & progesterone. Of note - following surgical castration & hyperprolactinemia, sexual behavior declines. The aim of pharmacological treatment is to suppress sexual fantasies, to suppress sexual urges & behavior, & to reduce the risk of recidivism & further victimization. We wish to thank those who have assisted with this Q&A: Dr. L Thorpe, Dr. R Menzies & RxFiles advisors.)

Drug/Forms/Reason for use	Side effects(SE) / Comments	Young patients <sup>3,4,7</sup> Dose Cost/month	Older patients <sup>1,2,5,6</sup> Dose Cost/month
<b>SSRI's- considered possible first line</b> <b>citalopram (Celexa)</b> 20,40mg scored tabs <b>paroxetine (Paxil)</b> 10 <sup>5</sup> ,20 <sup>5</sup> , 30mg tab <b>sertraline<sup>#</sup> (Zoloft)</b> 25,50,100mg cap -better impulse control, or for possible anti-compulsion effect & to ↓ sexual desire	<b>SE:</b> Especially early in therapy: insomnia, fatigue, headache, tremor, nausea, vomiting, diarrhea, falls, decreased concentration, confusion, SIADH & rarely extrapyramidal reactions.  Titrate dose up as tolerated & <b>wait 4-6 weeks</b> for effect.  <b>Fluoxetine (Prozac)</b> frequently studied in younger patients but due to weight loss & long half life often not recommended in elderly. Also tried has been <b>clomipramine</b> ~150mg/day & <b>fluvoxamine (Luvox)</b> .	20mg po od \$29 <b>Celexa</b> 40mg po od \$29 Max:60mg/day  20mg po od \$32 <b>Paxil</b> 40mg po od \$57 Max:60mg/day  50mg po od \$32 <b>Zoloft</b> 100mg po od \$34 Max:200mg/day	10mg po od \$18 20mg po od \$29 Max:30mg/d  10mg po od \$44 (\$20 if 1/2x20mg tab) 20mg po od \$32 Max:30mg/d  50mg po od \$32 100mg po od \$34 Max:100mg/d
<b>bupirone (Buspar)</b> 5,10 <sup>5</sup> mg tab ☞ -for ? anticomulsion & ↓ deviant fantasies	<b>SE:</b> Nausea, headache, dizziness, restlessness. <b>Non-sedating &amp; non-addicting.</b> Drug interactions:fluvoxamine, grapefruit juice. NO dependency & no cross tolerance with benzodiazepines.	Onset 1week; Max effect 6 weeks.	5mg po tid \$50 Max:60-90mg/d 10mg po tid \$53
<b>Add to SSRI's if limited response:</b> <b>cyproterone<sup>##</sup> (Androcur)</b> ☞ ▼ 50 <sup>5</sup> mg tab (300mg/3ml amp ☞) -antiandrogen;possible ↓ sexual fantasies, behavior, masturbation, intercourse & impact on erections	<b>SE:</b> <b>hepatic dysfunction</b> , fatigue, <b>weight gain</b> , transient depression ~5-10%, ↓ in body hair, gynecomastia ~15% & feminization, as well as cardiovascular toxicity including <b>fluid retention</b> , <b>thromboembolism</b> , myocardial ischemia. <b>Alterations in glucose</b> and cerebrovascular accidents have occurred.  Dose to maintain testosterone concentration in a range that prevents feminization. <b>Onset</b> ~<1 month	<b>PO</b> Initial 50mg po od \$57 100mg po bid \$209 Range 50-500mg/day  <b>IM</b> Usual 200mg q2wk \$180 300-400mg qwk \$343 Range 100-600mg qwk	<b>PO</b> Initial 50mg po od \$57 100mg po od \$108  <b>IM</b> Usual 200mg q2wk \$180 300-400mg qwk \$343
<b>Monitor:</b> serum testosterone, LH,BP,weight,LFT,BG q3-6months or as needed.Consider getting <b>consent</b> before starting therapy			
<b>Add to SSRI's if limited response:</b> <b>medroxyprogesterone (Provera; Depo-Provera)</b> 2.5 <sup>5</sup> ,5 <sup>5</sup> ,10 <sup>5</sup> (100mg tab <sup>▼</sup> ); 150mg/1ml & 250mg/5ml vial -antiandrogenic; ? ↓ libido, sexual arousal, fantasies, urges & behavior	<b>Caution:</b> with depression, diabetes, or conditions which may be worsened by fluid retention <b>SE:</b> <b>weight gain</b> , lethargy, headache, decreased sperm production, hot & cold flashes, <b>hepatic dysfunction</b> , nightmares, dyspnea, loss of body hair, <b>hyperglycemia</b> , leg cramps, GI disturbances, <b>fluid retention</b> , menstrual disorders, <b>thromboembolism</b> , feminization, depression and dermatologic effects. In clinical trials the concern of an ↑ risk for breast, uterine, or ovarian cancer has not been shown. <b>Onset</b> ~<1 month	<b>PO</b> Initial 50mg po od \$64 100mg po tid \$337 Range 50-600mg/day  <b>IM</b> Usual 300mg qwk \$252 then ?↓100mg/wk maint. after wks Range: 75-700mg/wk	<b>PO</b> Initial 5mg po od \$14 100mg po od \$120  <b>IM</b> Usual 100mg q2wk \$69 150mg q2wk \$69 200mg q2wk \$131
<b>MISC:</b> <b>cimetidine (Tagamet)</b> ☞ 200 <sup>▼</sup> ,300,400,600,800 <sup>▼</sup> mg tab; 300mg/5ml liquid	Common <b>SE:</b> headache, arthralgia & nausea. Serious adverse effects of cimetidine are blood dyscrasias, hypotension, arrhythmias, CNS effects (delirium, confusion, depression), gynecomastia, renal dysfunction and hepatotoxicity. ?antiandrogen effects possible for efficacy.	300-800mg po bid \$13-23 Neurology 2000 → 14 of 20 demented ~73 yr old pts responded. The other six pts responded to adding ketoconazole 100-200mg/day or prionolactone 75mg/day; or both to cimetidine. Response time in ~1-8 weeks <sup>1</sup>	300-600mg po bid \$13-17
<b>Antipsychotics -limited usefulness</b> <b>thioridazine (Mellaril)</b> (10,25,50,100mg tab; 30mg.ml liquid) <b>risperidone (Risperdal)</b> ☞ (0.25,0.5 <sup>5</sup> ,1,2 <sup>5</sup> ,3 <sup>5</sup> ,4 <sup>5</sup> mg tab;M-TAB <sup>☞</sup> 0.5,1,2mg;1mg/ml soln)	<b>SE:</b> hypotension, sedation, anticholinergic, delirium, confusion, headache, dry mouth, constipation, weight gain, asthenia, nausea, akathisia, neuroleptic malignant syndrome, phototoxicity, parkinsonian side effects & tardive dyskinesia. Thioridazine prolongs the QTc interval in a dose related manner and may be associated with torsade de pointes type arrhythmias and sudden death, plus retinopathy occurs at large doses.	50-100mg po bid \$16-25  1mg po bid \$84 2mg po bid \$160	10-50mg po bid \$14-16  0.25mg po bid \$40 1mg po bid \$84
LHRH agonist (☞:endometriosis,fibroids & menorrhagia) <b>Leuprolide acetate (Lupron &amp; Depot)</b> ☞ ▼ 5mg/ml vial ☞; Depot: 3.75,7.5,11.25,22.5 & 30mg <b>Goserelin acetate (Zoladex &amp; LA)</b> ☞ ▼ Depot: 3.6mg & 10.8mg vial antiandrogen;?↓ exhibitionist, fantasies & urges	<b>SE:</b> hot flashes, erectile dysfunction, ↓ libido, ↓ sperm count, ↓ body hair, injection site irritation & <b>rare anaphylaxis</b> (consider first a 1mg SC Lupron test dose), <b>renal dysfunction</b> , flare reaction-a transient ↑ testosterone level when initiating treatment & possible worsening of patient's condition. -Goserelin pellet sc into anterior abdominal wall Long term risk of <b>osteoporosis</b> with these agents & others if testosterone levels are dramatically reduced for an extended period of time.	3.75/7.5mg IM q month \$357-445 11.25/22.5mg IM q3month ~\$323-360 (\$971-1100 per 3 months)  3.6mg SC q month \$441 10.8mg SC q3month ~\$360 (\$1114 per 3 months) <b>Monitor:</b> serum testosterone,LH,CBC,BUN,Scr q 6 months	

1. Neurology 2000 May 23;54(10):2024 Hypersexuality in patients with dementia: possible response to cimetidine. Wiseman SV, McAuley JW, Freidenberg GR, Freidenberg DL. 2. J Am Geriatr Soc 1999 Feb;47(2):231-4 Pharmacologic treatment of hypersexuality and paraphilias in nursing home residents. Levitsky AM, Owens NJ. 3. Can J Psychiatry 2001 Feb;46(1):26-34 The neurobiology, neuropharmacology, & pharmacological treatment of the paraphilias & compulsive sexual behaviour. Bradford JM. 4. Can J Psych 2000 Aug;45:559-563. Protocols for the use of cyproterone,medroxyprogesterone & leuprolide in the treatment of paraphilia. 5. J Gerontol Nurs1998 Apr;24(4):44-50Addressing hypersexuality in Alzheimer's dx. Kuhn DR, et al. 6. From very limited case reports 7. Clinical Handbook of Psychotropic Drugs,Bezchlibnyk-Butler 11<sup>th</sup> Ed. **# most studied SSRI for hypersexuality ## most studied antiandrogen** in terms of its effects as a treatment for sexual deviation (often in pedophiles) ☞ = ↓ dose for renal dysfx ☞ =scored ☞ =Exception Drug Status in Sask ✕ = Non-formulary in Sk BG=blood glucose BUN=blood urea nitrogen CBC=complete blood count LFT=liver function tests LH=luteinizing hormone Scr=serum creatinine SE=side effects