**IDIOPATHIC HIRSUTISM**

- Consider any drug-related causes
- Initiate lifestyle modifications (weight loss)
- Consider cosmetic procedure options*

**Seeking fertility**
- Delay drug treatment until delivery

**Not seeking fertility**

**Mild hirsutism**

1. **Topical eflornithine** (8 week trial)  
   (monotherapy or as an adjunct to any hair removal technique)
2. **OCP containing:**  
   - Cyproterone  
   - Drospirenone  
   - Neutral progestin (desogestrel, norgestimate)

**Moderate to severe hirsutism**

**OCP containing:**  
- Cyproterone  
- Drospirenone  
- Neutral progestin (desogestral, norgestimate)  
**PLUS antiandrogen**
- Spironolactone  
- Finasteride or cyproterone

**Contraindication to OCP**

**Antiandrogen** (with secure contraception):  
- Spironolactone  
- Finasteride  
- Cyproterone acetate  
- Flutamide  
  *seldom used due to hepatotoxicity*

**Unsatisfactory result (@6-12 months)**

- Add oral agent to topical eflornithine (for facial hair only)
- Add spironolactone, finasteride or cyproterone to OCP

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***Drug-related hirsutism – possible causes:**  
aripiprazole, bupropion, carbamazepine, clonazepam, corticosteroids, cyclosporine, dantrolene, estrogens, eszopiclone, fluoxetine, interferon alfa, isotretinoin, lamotrigine, leuprolide, olanzapine, paroxetine, pregabalin, progestins, selengilene, tacrolimus, testosterone, trazodone, venlafaxine, zonisamide

***Cosmetic Procedures are a cornerstone of care.**
Examples include medical laser surgery, shaving, plucking, bleaching, waxing, chemical treatment, electrolysis and intense pulsed light.

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5. www.RxFiles.ca; 5) www.hirsutism.com;
<table>
<thead>
<tr>
<th>Class / Ingredient</th>
<th>Mechanism of Action</th>
<th>Place in therapy</th>
<th>Efficacy</th>
<th>Contra-indication</th>
<th>Major Adverse Effects</th>
<th>Dose / Cost (30 days)</th>
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<tbody>
<tr>
<td><strong>Efflornithine 13.9% cream</strong></td>
<td>Irreversible inhibitor of ornithine decarboxylase (critical to cell growth &amp; differentiation within hair follicle) Slows rate of growth of terminal and vellus hairs</td>
<td>As monotherapy, for mild cases of facial hirsutism or as adjunct with other therapies (complements anti-androgen/laser/IPL which work on terminal hairs) Considered 1st line in post-menopausal women</td>
<td>Improvement noted at 8+ weeks; effect reverses 8 wks after discontinuation. As monotherapy, successful treatment ~30% (slows rate of hair growth) Improves time to effect with laser therapy (up to 95% successful treatment)</td>
<td>Pregnancy, BF</td>
<td>Rash, burning/tingling, erythema Potential systemic toxicity with widespread application</td>
<td>Topical, twice daily (~8 hrs apart) $70 (30g tube) Upper lip: may last 3-5 mo Lower face: may last 4-6 wks</td>
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<td><strong>EE + drosperinone</strong></td>
<td>Suppress ovarian androgen synthesis (suppress LH secretion) Estrogen ↑SHBG, thus ↓free testosterone</td>
<td>Generalized hirsutism, for women not seeking fertility. All OCPs may help due to estrogen’s effect on SHBG See RxFiles chart for other low androgen OCP options Considered 1st line option</td>
<td>Improvement noted at 3 months; maximum effect at 9-12 months</td>
<td>Breast cancer Smoking (especially if age &gt; 35 yr) Cardiovascular disease Uncontrolled HTN</td>
<td>Irregular vaginal bleeding Risk of VTE, though rare, ↑ with age &amp; possibly choice of OCP o Baseline: ~ 5/10,000 o OCP: ~8-9/10,000 (up to 14/10,000) o Possible ↑ risk with YASMIN, YAZ</td>
<td>1 tablet daily (brand specific) $17-23 Option: Extended dosing regimens (bi- or tri- cycling of active OCPs)</td>
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<td><strong>EE + cyproterone acetate</strong></td>
<td>See above</td>
<td>Mild hirsutism, severe acne</td>
<td>Superior to metformin, flutamide Combination of spironolactone + OCP superior to OCP alone, flutamide18,19</td>
<td>Lack of contraception Pregnancy, BF Liver or renal failure</td>
<td>Irregular menstrual bleeding unless OCP co-administered, breast tenderness, ↓libido, hypotension, hyperkalemia (? check K+ in 3-7d); (risk of pseudohermaphroditism in ⊕ fetus if used in pregnancy)</td>
<td>Initial: 25mg po BID x1wk 50-100mg po BID $17-25 (100mg tab) $54-100 (25mg tab)</td>
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<td><strong>Finasteride PROSCAR (Propecia)</strong></td>
<td>Inhibits type II 5α-reductase which metabolizes testosterone to DHT (in follicle)</td>
<td>Moderate-severe hirsutism Considered 2nd line anti-androgen</td>
<td>No difference in efficacy between 2 mg and 100 mg doses Subjectively improves hirsutism and provides a ‘good clinical response’ in 60-80% of patients Similar efficacy to spironolactone, finasteride, GnRH analogs; less effective than flutamide22</td>
<td>Lack of contraception Pregnancy, BF</td>
<td>Hepatitis/liver failure Fluid retention/edema HTN Irregular menstrual bleeding unless OCP co-administered Decreased libido</td>
<td>25-100mg daily (Day 1-10 or 5-15 of cycle) $9-33 (50mg tab)</td>
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<td><strong>Flutamide EUFLEX</strong></td>
<td>Non-steroidal competitive inhibitor of androgen receptor binding</td>
<td>Severe hirsutism Considered 3rd line anti-androgen (due to risk for hepatotoxicity21)</td>
<td>No difference in efficacy between 125 mg and 375 mg</td>
<td>Lack of contraception Pregnancy, BF</td>
<td>Hepatotoxicity Breast tenderness, menstrual irregularities</td>
<td>250mg po daily $52 (250mg tab)</td>
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<td>Prednisone (Glucocorticoid)</td>
<td>Suppresses adrenal function</td>
<td>Classic &amp; Nonclassic congenital adrenal hyperplasia (NCAH)</td>
<td>• Less effective compared to OCPs or anti-androgens¹</td>
<td>Uncontrolled diabetes, Obesity</td>
<td>Changes typical of Cushing syndrome (wt gain, bone loss), adrenal atrophy</td>
<td>5-7.5mg po daily $8 (5mg tab)</td>
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<td>Ketoconazole NIZORAL</td>
<td>Adrenal enzyme inhibitor</td>
<td>For patients with Cushing’s syndrome while waiting definitive therapy</td>
<td>• Similar efficacy to CPA 2-5mg²</td>
<td>Hepatic dysfunction Pregnancy, BF</td>
<td>Gynecomastia, dry skin, hepatotoxicity, adrenocortical suppression</td>
<td>200mg po daily $69 (200mg tab)</td>
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<td>Leuprolide acetate depot (GNRH analog) LUPRON DEPOT</td>
<td>Potent inhibitor of ovarian steroidogenesis by suppressing LH &amp; FSH</td>
<td>Severe hyperandrogenism of ovarian origin that does not respond to other drugs</td>
<td>• Similar efficacy to CPA 2-5mg, but more adverse effects³⁵</td>
<td>Pregnancy, BF Osteoporosis</td>
<td>Osteoporosis Reversible induced menopause</td>
<td>3.75-7.5mg monthly IM, with 25-50ug transdermal estradiol $445-$545 + $24-30</td>
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<td>Metformin GLUCOPHAGE</td>
<td>Improves insulin sensitivity</td>
<td>Used in polycystic ovary syndrome (PCOS). Not effective for idiopathic hirsutism</td>
<td>• Small benefit compared to placebo²³</td>
<td>Improved compared to OC or anti-androgen therapy for idiopathic hirsutism</td>
<td>Renal failure</td>
<td>Gastrointestinal upset (minimize by starting low dose 250mg daily, then titrate)</td>
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