**Algorithm 4: Pharmacological treatment for non-fertility indications**

**Off label prescribing:** COCPs, metformin and other pharmacological treatments are generally off label in PCOS, as pharmaceutical companies have not applied for approval in PCOS. However, off label use is predominantly evidence-based and is allowed in many countries. Where it is allowed, health professionals should inform women and discuss the evidence, possible concerns and side effects of treatment.

**In those with a clear PCOS diagnosis or in adolescents at risk of PCOS (with symptoms)**

**Education + lifestyle + first line pharmacological therapy for hyperandrogenism and irregular cycles**

- **COCP First line**
  - Use lowest effective estrogen dose (20-30 micrograms ethinyl oestradiol or equivalent)
  - Consider natural estrogen preparations balancing efficacy, metabolic risk profile, side effects, cost and availability
  - Follow WHO COCP general population guidelines for relative and absolute contraindications and risks
  - 35 micrograms ethinyl oestradiol plus cyproterone acetate not first line in PCOS due to increased adverse effects
  - Hirsutism requires COCP and additional cosmetic therapy for at least 6 months
  - Consider additional PCOS related risk factors such as high BMI, hyperlipidemia and hypertension

**Second line pharmacological therapies**

- **COCP + lifestyle + metformin**
  - No COCP preparation is superior in PCOS.
  - Should be considered in women with PCOS for management of metabolic features, where COCP + lifestyle does not achieve goals.
  - Could be considered in adolescents with PCOS and BMI ≥ 25kg/m² where COCP and lifestyle changes do not achieve desired goals.
  - Most beneficial in high metabolic risk groups including those with diabetes risk factors, impaired glucose tolerance or high-risk ethnic groups.

- **COCP + anti-androgens**
  - Evidence in PCOS relatively limited.
  - Anti-androgens must be used with contraception to prevent male fetal virilisation.
  - Can be considered after 6/12 cosmetic treatment + COCP if they fail to reach hirsutism goals.
  - Can be considered with androgenic alopecia.

- **Metformin + lifestyle**
  - With lifestyle, in adults should be considered for weight, hormonal and metabolic outcomes and could be considered in adolescents.
  - Most useful with BMI ≥ 25kg/m² and in high risk ethnic groups.
  - Side-effects, including GI effects, are dose related and self-limiting.
  - Consider starting low dose, with 500mg increments 1-2 weekly.
  - Metformin appears safe long-term. Ongoing monitoring required and has been associated with low vitamin B12.

**Anti-obesity medications can be considered with lifestyle as per general population guidelines, considering cost, contraindications, side effects, availability and regulatory status and avoiding pregnancy when on therapy.**

**Note:** Other contraceptives don’t suppress hepatic SHBG production with limited efficacy for hyperandrogenism

For more information on PCOS, see the [International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018](available at: www.monash.edu/medicine/sphpm/mchri/pcos

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