

Treating Acne in Adult Women

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■ Abstract

Acne can persist into adulthood or erupt de novo at any point after adolescence. Adult acne is more common in women than in men. Considerations for treating acne in adult women include childbearing potential, pregnancy, lactation, and concomitant skin conditions.

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Acne; adult women; lactation; oral contraceptives; pregnancy

Although acne most often appears in adolescence, it can continue into adulthood or can develop de novo during that stage of life. The self-reported prevalence of adult acne is

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significantly higher in women than in men, according to a survey conducted in medical center waiting areas and a campus library (N=1,013).¹ More than half (51%) of women and 43% of men reported having acne in their 20s, with percentages dropping to 26% and 12% in their 40s, and 15% and 7% in those 50 and older (women and men, respectively). An online survey found that one-third of adult women with facial acne (33.7% of 208 women aged 25-45 years) reported that the condition was diagnosed in adulthood.²

The treatment of acne in adult women is similar in many respects to that of men and younger females, although treatment choices will be influenced by a woman's childbearing potential, pregnancy, use of or desire for systemic contraception, and lactation status. Other considerations particular to adult women may include the need to address—or at least avoid—exacerbating multiple skin conditions (eg, dryness, hyperpigmentation, photoaging) along with acne. Optimally, acne therapy should be compatible with cosmetics or other facial care products.

Table 1 lists considerations for taking a history of an adult woman with acne.³⁻⁵

Topical Therapies

Topical Retinoid Therapy

These medications offer the advantage of efficacy in postinflammatory hyperpigmentation and photodamage, as well as in acne. Side effects include skin irritation.⁵

Adapalene (ADAP) 0.3% demonstrated superiority to vehicle in adult women (18-41 years old; n=117) in reducing inflammatory, noninflammatory, and total lesion counts after 12 weeks of therapy, in a post hoc analysis of data from two clinical studies.⁶

■ TABLE 1 Taking a History of an Adult Woman With Acne

- Age of first onset; history of any adolescent acne
- Other clinicians consulted for acne
- Previous acne treatments, including over-the-counter and prescription medications, facials, peels, light therapy, or microdermabrasion
- History of birth control: use of hormonal agents, including oral contraceptives; spironolactone; intrauterine or implanted devices; or injectable agents
- Signs/symptoms of androgen excess, eg, hirsutism, alopecia, irregular or missed menses, or inability to conceive a child
- Concomitant medical conditions
- Current medications
- All products used on the face and hair, including cosmetics, moisturizers, and personal hygiene products
- Expectations regarding results of therapy

Sources: Del Rosso JQ, et al³; Del Rosso JQ, et al⁴; Del Rosso JQ, et al.⁵

■ **TABLE 2** Combination Oral Contraceptives Indicated for Treatment of Acne

Drug	Acne Indication
Norgestimate 0.180, 0.215, or 0.250 mg/ethinyl estradiol 35 µg ¹³	Moderate acne vulgaris in females aged ≥15 years who have achieved menarche, have no known contraindication to oral contraceptive therapy, and desire oral contraception for birth control.
Norethindrone acetate 1 mg/ethinyl estradiol 20, 30, or 35 µg + ferrous fumarate in the hormone-free interval ¹⁴	Moderate acne vulgaris in females aged ≥15 years who have achieved menarche, have no known contraindication to oral contraceptive therapy, desire oral contraception for birth control, and are unresponsive to topical anti-acne medications. Should be used for the treatment of acne only if the patient plans to stay on it for ≥6 months.
Drospirenone 3 mg/ethinyl estradiol 20 µg ¹⁵	Moderate acne for women aged ≥14 years who have achieved menarche, have no known contraindications to oral contraceptive therapy, and desire oral contraception for birth control.

Sources: Ortho Tri-Cyclen [package insert]¹³; Estrostep Fe [package insert]¹⁴; Yaz [package insert].¹⁵

ADAP 0.1%/benzoyl peroxide (BPO) 2.5% reduced the risk of scar formation compared with vehicle in a small (N=38) study of adult men and women. Participants applied active therapy and vehicle to separate halves of the face. Scar counts remained stable with active therapy but increased by about 25% with vehicle over a 6-month treatment period. The proportion of patients rated almost clear (ie, hardly visible scars) at 6 months rose from 10% to 45% with ADAP/BPO but did not change from baseline with vehicle.⁷ A study of higher-strength ADAP (0.3%)/BPO 2.5% (N=67) also demonstrated reduction and prevention of scarring, again using intraindividual comparison. At week 24, change from baseline in scar count rose by 14.4% with vehicle and decreased by 15.5% with ADAP/BPO ($P<0.0001$). Higher proportions achieved scores of clear/almost clear on the Scar Global Assessment at week 24 with ADAP/BPO than with vehicle (32.9% vs 16.4%; $P<0.01$).⁸

Dapsone 5% / 17.5% has demonstrated efficacy in treatment of acne in adult women.^{4,9} Compared with adolescent females (n=347), a higher proportion of adult women (n=434) achieved a rating of clear or almost clear after 12 weeks of therapy with dapsone 5% applied twice daily (53.5% vs 45.3%; $P=0.022$).⁴ Regardless of age, a higher proportion of females (n=753) than males (n=700) achieved a rating of clear or almost clear after 12 weeks of therapy with dapsone 5% than with vehicle (48.6% vs 34.4%; $P=0.0003$).¹⁰

Higher proportions of females than males achieved a Global Acne Assessment Score (GAAS) of 0 or 1 after 12 weeks of therapy with once-daily dapsone 7.5% (33.9% and 24.7%, respectively) in a pooled subgroup analysis of data from two identical trials. The GAAS success rate (score 0 or 1) at week 12 for participants treated with dapsone 7.5% was significantly higher for females than males at week 12 (odds ratio, 0.80; 95% confidence interval, 0.68-0.93).⁹

Clindamycin 1.2%/BPO 3.75% gel once daily. A post hoc analysis of data from 72 adult women (aged ≥25 years) demonstrated superior efficacy of clindamycin 1.2%/BPO 3.75% compared with vehicle, with 44% of women receiving active therapy rating themselves as clear/almost clear compared with 13.5% of those using vehicle ($P=0.026$).¹¹ Another post hoc analysis reported higher efficacy among females than males treated with clindamycin 1.2%/BPO 3.75%.¹²

Combination Oral Contraceptives

Table 2 lists combination oral contraceptives (COCs) that are approved by the US Food and Drug Administration (FDA) for use in acne.¹³⁻¹⁵ COCs may be used with other topical and oral therapies for acne. Patients should be counseled that at least three monthly cycles may pass before acne lesion counts decrease appreciably. Side effects of COCs can include nausea, breast tenderness, breakthrough bleeding, and weight gain.¹⁶ Note that progestin-only contraceptives, including injectables or intrauterine devices, can cause or worsen acne.³ **Table 3** lists contraindications to COCs.¹⁷

Spirolactone

Although not FDA-approved for this use, the oral aldosterone antagonist and potassium-sparing diuretic spironolactone is accepted as an option for the treatment of acne.¹⁶ In a retrospective evaluation of data from adult women treated with low-dose (≤150 mg/day) spironolactone, treatment was deemed successful in 90% of patients for whom full data were available. Success was defined as no more than 2 superficial inflammatory lesions, no more than 5 retentional lesions (open or closed comedones), no nodules on the face, and fewer than 5 superficial inflammatory lesions on the trunk, including the neck. Median time to response was 6 months.¹⁸

In another retrospective study, 94 of 110 patients demonstrated improvement and 65 were characterized as clear after four or fewer follow-up visits. A total of 37 women were clear after the first follow-up visit, at a median of 4 weeks. Most patients (101/110) were started on spironolactone 100 mg/day.¹⁹ Reported side effects included breakthrough vaginal bleeding, lightheadedness, dizziness, low blood pressure, and breast tenderness.^{18,19}

■ **TABLE 3** Contraindications to Use of Combination Oral Contraceptives

• Pregnancy
• Smoking (any amount) and aged >35 years
• Uncontrolled hypertension
• Breastfeeding <6 months postpartum
• History <ul style="list-style-type: none"> – Breast cancer (past or current) – Ischemic heart disease – Migraine and aged >35 years – Migraine with focal symptoms – Stroke – Venous thromboembolic disease
• Hypercholesterolemia (low-density lipoprotein >160 mg/dL)
• Diabetes and aged >35 years or evidence of end organ damage
• Viral hepatitis
• Cirrhosis
• Liver tumor (benign or malignant)
• Major surgery with prolonged immobilization

Source: Frangos JE, et al.¹⁷

Spirolactone carries a warning to monitor serum potassium because of its association with hyperkalemia,²⁰ but its approved uses are in patients with heart failure, hypertension, primary hyperaldosteronism, and edema associated with cirrhosis.²⁰ A retrospective analysis of more than 13 years of data from 974 healthy young women taking spironolactone for acne revealed a hyperkalemia rate of 0.72%, equivalent to the 0.76% baseline rate for this population. Routine monitoring of serum potassium is unnecessary in otherwise healthy young women taking spironolactone for acne.²¹

Isotretinoin

Oral isotretinoin is highly teratogenic and must be prescribed with strict adherence to the federally mandated iPLEDGE risk management program (<https://www.ipledeprogram.com/>), which, among other strategies, mandates the use of two effective forms of contraception in women of childbearing potential.

One study following 96 patients given isotretinoin (0.5-1 mg/kg/dL, with a cumulative dose of 120-150 mg/kg) reported acne relapses in eight patients during the first posttreatment year and in 16 patients during the second posttreatment year.²² A systematic literature review including 20 studies found that the cumulative dose required to induce remission varied with disease severity.²³

Managing Acne During Pregnancy and Lactation

Table 4 lists therapies for acne and their FDA pregnancy risk categories.²⁴⁻²⁷ The topical agents azelaic acid, BPO, and clindamycin (known by the mnemonic “ABC”) and the systemic medications amoxicillin, cephalexin, and erythromycin (mnemonic “ACE”) can be used during pregnancy, although under the restrictions noted in **Table 4**.

TABLE 4 Acne Therapies: Pregnancy Categories

Acne Severity	Medication	Pregnancy Category	Comments
Mild/ moderate/ severe	Topicals		
	Azelaic acid	B	About 4%-8% absorption; no known fetal effects ²⁴
	Benzoyl peroxide	C	May be used on limited areas ²⁴
	Clindamycin, erythromycin	B	Minimal data; no known fetal effects ²⁴
	Dapsone	C	Limited data; use during pregnancy has not been associated with increased risk of fetal malformations ²⁵
	Glycolic acid	N	No evidence of adverse effects during pregnancy ²⁵
	Salicylic acid	C	Low risk if restricted to local areas for limited duration ²⁵
	Topical retinoids	C-X	Not recommended during pregnancy ^{24,25}
	Systemic medications		
	Amoxicillin	B	Short-term; avoid in first trimester—associated with oral clefts ^{24,25}
	Cephalexin	B	No malformations in animal studies ²⁵
	Macrolides (erythromycin is drug of choice)	B	Short-term use; avoid in first trimester; AVOID erythromycin estolate, as it is associated with hepatotoxicity in the second trimester ²⁵
	Spirolactone	D	Feminization of male fetus ²⁴
	Tetracyclines	D	Contraindicated after the 15th week of pregnancy ²⁴
Zinc	C	<75 mg/day; no increased risk of fetal abnormalities in animal and human studies ^{25,26}	
Photodynamic therapy			
Narrowband and broadband ultraviolet B light			Considered acceptable during pregnancy ²⁵
Severe/ acne fulminans	Isotretinoin	X	Teratogenic; contraindicated in females of childbearing potential unless patient is not pregnant or breastfeeding and agrees to comply with mandatory contraceptive measures (eg, concurrent use of two forms of contraception) in accordance with the System to Manage Accutane Related Teratogenicity™ (SMART™) ²⁷
	Oral glucocorticoids	C	Human studies showed an increased risk of oral cleft and a slight increase in miscarriage rates and preterm births; short-term use after first trimester ²⁴ Doses limited to <20 mg/day over a course of ≤1 month during the third trimester ²⁵

Sources: Murase JE, et al²⁴; Chien AL, et al²⁵; Dréno B, Blouin E²⁶; Isotretinoin capsules [package insert].²⁷

The Drugs and Lactation Database (LactMed) offered by the National Institutes of Health (<https://toxnet.nlm.nih.gov/newtoxnet/lactmed.htm> or LactMed@NIH) and available as a mobile phone app (LactMed) enables users to search medications for compatibility with lactation. Short-term use of oral azithromycin, clarithromycin, doxycycline, erythromycin (oral or topical), minocycline, or tetracycline is considered compatible with lactation. Oral clindamycin may cause adverse gastrointestinal (GI) effects in the breastfed infant. Topical azelaic acid, topical clindamycin, and oral spironolactone are considered acceptable for use during breastfeeding. Tetracycline may cause rash or GI effects in the infant.²⁸

Summary

Acne is not uncommon in adult women.¹ Treatment considerations specific to adult women include childbearing potential, pregnancy, lactation, the presence of other dermatologic concerns (eg, photoaging, hyperpigmentation, dryness), and the patient's desire to use acne therapies with cosmetics or other skin products. Familiarity with the options for managing medical care for women in the childbearing years and during pregnancy and lactation can enhance the clinician's capacity to address acne throughout a woman's adult years.

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