

Skin Care Case Study: Acne Management

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Purpose: Outline a systematic approach to evaluating and treating acne, highlighting key assessment steps, therapeutic options, and follow-up considerations.

1. Case Overview

Element	Details
Patient	19-year-old college student
Chief Complaint	Persistent facial acne for 12 months; recent flare-up with painful nodules
Medical History	No chronic illnesses; no current medications; occasional ibuprofen for menstrual cramps
Family History	Mother had adult acne; father has oily skin
Lifestyle	Works part-time at a gym, sleeps ~6h/night, diet high in processed carbs, uses a basic foaming cleanser
Psychosocial Impact	Reports low self-esteem, avoids social events, scores 15 on PHQ-9 (mild depressive symptoms)

2. Clinical Assessment

2.1 History Taking

- Onset & Duration** – When did lesions first appear? Any seasonal variation?
- Lesion Type & Distribution** – Comedones, papules, pustules, nodules, cysts; typical locations (forehead, nose, chin, chest, back).
- Triggers** – Stress, hormonal cycles, diet, cosmetics, medications, mechanical irritation (e.g., helmets, phone screens).
- Previous Treatments** – OTC products, prescription meds, procedures; response and side effects.
- Skin-care Routine** – Cleanser, moisturizer, sunscreen, makeup, shaving practices.
- Lifestyle Factors** – Sleep, exercise, diet (high-glycemic foods, dairy), smoking, alcohol.
- Psychological Impact** – Anxiety, depression, body-image concerns.

2.2 Physical Examination

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Area	Findings
Face	Numerous open comedones on T-zone, inflammatory papules/pustules on cheeks, 2-3 tender nodules on chin.
Chest/Back	Scattered papules; no cystic lesions.
Scarring	Post-inflammatory hyperpigmentation (PIH) on cheeks; no atrophic scarring yet.
Skin Type	Oily, mildly erythematous, no active dermatitis.
Hair & Nails	Normal.
Other	No signs of systemic disease (e.g., hirsutism, virilization).

2.3 Diagnostic Tests (if indicated)

- **Hormonal panel** (free testosterone, DHEAS, LH/FSH) – consider if menstrual irregularities, rapid onset, or refractory acne.
- **CBC, fasting glucose, lipid profile** – baseline before systemic isotretinoin.
- **Pregnancy test** – mandatory before initiating any Category X medication (e.g., isotretinoin, oral tetracyclines).

3. Pathophysiology Recap (Brief)

1. **Follicular hyperkeratinization** → comedo formation.
2. **Sebum overproduction** (androgen-driven).
3. **Cutaneous *Cutibacterium acnes* proliferation** → inflammation.
4. **Inflammatory cascade** (IL-1, IL-6, TNF-α) → papules, nodules, cysts.

Understanding these pillars guides targeted therapy.

4. Treatment Algorithm

Severity First → Line Options Adjuncts / Alternatives