

For the Primer, visit [doi:10.1038/nrdp.2015.29](https://doi.org/10.1038/nrdp.2015.29)

➔ Acne vulgaris is a skin condition caused by chronic inflammation of the pilosebaceous unit (comprising the hair follicle, hair shaft and sebaceous gland).

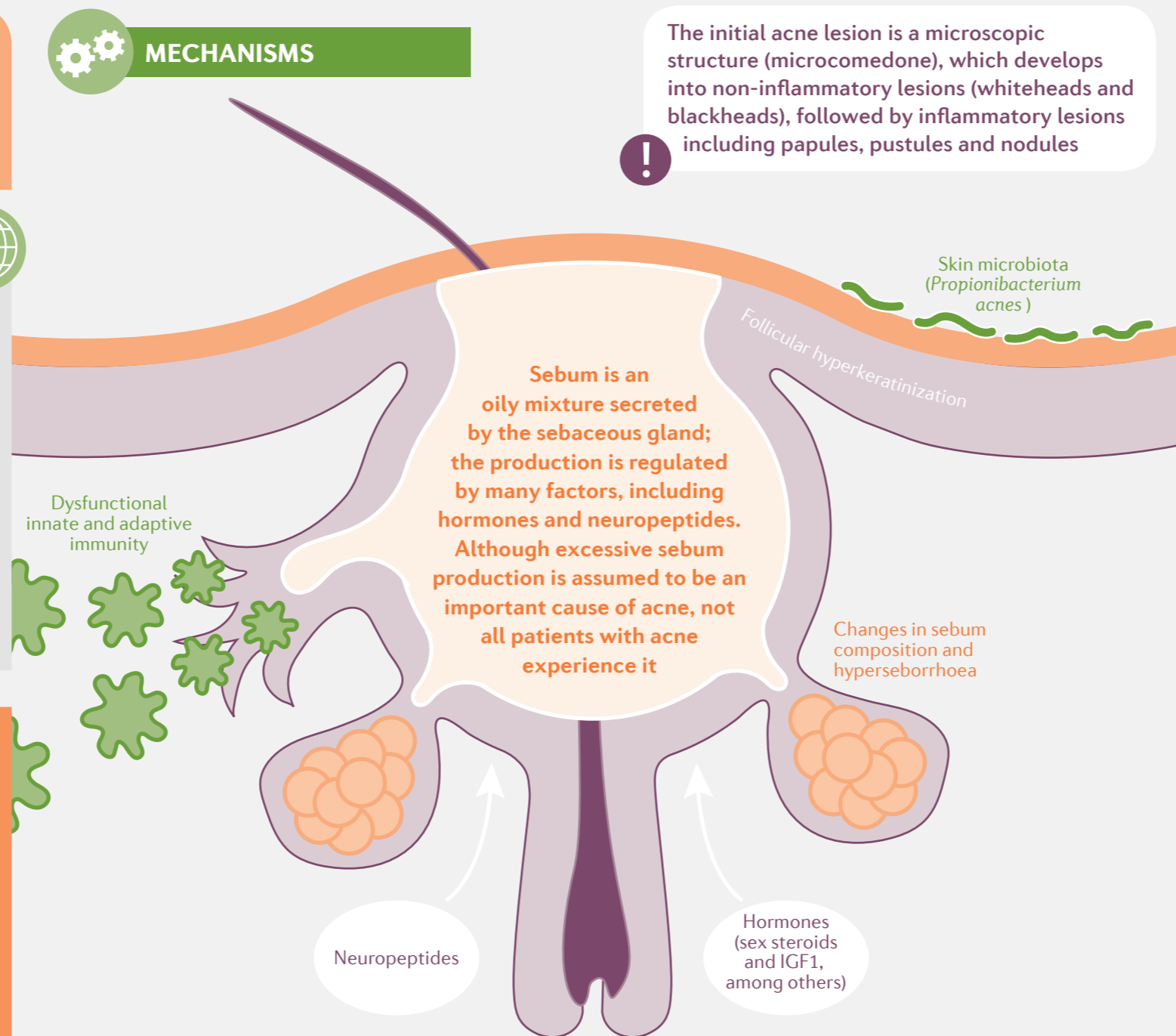
EPIDEMIOLOGY

Acne is the eighth most common disease worldwide according to the Global Burden of Disease study, with an estimated 650 million people affected. It is the most prevalent skin problem in people with coloured skin; in fair-skinned people, only actinic keratosis is more common. Most people experience acne during adolescence (95% of boys and 85% of girls), half of whom have persistence into adulthood. Acne accounts for >5 million visits to physicians each year in the United States — most of which are by adults.

QUALITY OF LIFE

Patients with acne can develop social, psychological and emotional problems, including low self-esteem, body dissatisfaction and anxiety. Depression is 2–3-times more prevalent in patients with acne than in the general population.

MECHANISMS



OUTLOOK

Although several treatments are available, treatment guidelines suffer from a lack of data to make evidence-based recommendations. The absence of a consensus grading system contributes to this lack of high-quality data, as it complicates comparisons between studies. Moreover, the need for complex combination treatment to target different aspects of disease pathophysiology leads to poor adherence, which undermines treatment success.

Acne has implications for patient quality of life, affects many people and is costly, yet the disease implications are underappreciated. To advance the understanding and treatment of acne, the scientific community first needs to acknowledge that it is an important problem

MANAGEMENT

Acne treatment requires combination therapy. Several drugs are available, including retinoids (vitamin A derivatives), anti-androgens and antimicrobials (benzoyl peroxide and antibiotics); long-term use of oral antibiotics is contraindicated to prevent microbial resistance. Oral isotretinoin is effective in most patients with acne but is associated with adverse effects, such as depression and birth defects. Microdermabrasion, chemical peeling, light therapy and other non-pharmacological approaches can be used as adjunctive therapies.

95% of patients develop scars; prevention by early and aggressive treatment remains the best option

DIAGNOSIS

Acne is diagnosed based on clinical examination — counting of the acne lesions — and is classified according to severity, lesion type and age of onset. Several grading systems are currently in use. Modern imaging methods have provided new opportunities for optimizing acne visualization.

PREVENTION

Prevention of acne depends on controlling modifiable risk factors, including underlying systemic diseases and lifestyle factors, such as dietary habits (skimmed milk intake), obesity and smoking. However, the effectiveness of lifestyle interventions remains controversial.