



## AARS HOT TOPICS MEMBER NEWSLETTER

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## TABLE OF CONTENTS

### AARS News

<a href="#">AARS Call for Grant Applications!</a>	2
<a href="#">16th Annual AARS Networking Reception – Save the Date!</a>	2

### New Medical Research

<a href="#">Selective photothermolysis with a novel 1726 nm laser beam</a>	2
<a href="#">Red light-mediated photoredox catalysis triggers nitric oxide release</a>	3
<a href="#">A combined subcision approach</a>	3
<a href="#">A single center, prospective, randomized, blinded study</a>	4
<a href="#">Efficacy and tolerability of hydrafacial clarifying treatment</a>	4
<a href="#">Fluid platelet-rich fibrin (PRF) versus platelet-rich plasma (PRP)</a>	5
<a href="#">The prevalence, associated factors, and clinical characterization</a>	5
<a href="#">Skin dysbiosis and Cutibacterium acnes biofilm in inflammatory acne lesions</a>	6
<a href="#">Neutrophilic granulocyte-derived B-cell activating factor supports B cells</a>	6
<a href="#">Patterns of surgical recurrence in patients with hidradenitis suppurativa</a>	7
<a href="#">Bridging the gap: Optimizing skin care in acne treatment</a>	7
<a href="#">Optimizing skin care in acne treatment</a>	7
<a href="#">"Vehicles matter" in the treatment of truncal acne</a>	7
<a href="#">Antimicrobial activity of smilax china l. root extracts</a>	8
<a href="#">Acne scars: An update on management</a>	8

### Clinical Reviews

<a href="#">Energy-based devices in the treatment of acne scars in skin of color</a>	8
<a href="#">Antibiotics and antimicrobial resistance in acne</a>	9
<a href="#">Truncal acne and scarring</a>	9
<a href="#">Acne vulgaris-novel treatment options and factors affecting therapy adherence</a>	9
<a href="#">Adolescent acne vulgaris: Current and emerging treatments</a>	10
<a href="#">Chemical peels for atrophic acne scarring</a>	10
<a href="#">Current medical and surgical treatment of hidradenitis suppurativa</a>	10
<a href="#">The role of hormones in hidradenitis suppurativa</a>	10

## AARS News

### AARS Call for Grant Applications!

The AARS mission is to promote, support, develop and provide an educational forum for the exchange of information related to acne and rosacea and to fund clinical research opportunities for dermatology professionals who strive to improve the care of patients who suffer from acne and rosacea. Available research grant opportunities are listed below.

#### AARS CLINICAL RESEARCH AWARD (\$10K)

The AARS is proud to offer research grants to advance clinical science, while nurturing new and experienced investigators in the field of acne and rosacea. Dermatology residents, research fellows, and recent graduates are encouraged to apply for clinical research grants. Please refer to the application (downloadable below) for eligibility and application requirements.

[AARS Clinical Research Award Grant Application](#)

#### AARS RESEARCH SCHOLAR AWARD (\$75K)

The AARS is excited to invite investigators working at the level of Instructor through Associate Professor in the field of acne or rosacea to apply for the Research Scholar Award. The individual selected for the award must have a strong career goal within the field of dermatology generally and be dedicated to furthering knowledge concerning acne or rosacea specifically. Please refer to the application (downloadable below) for eligibility and application requirements.

[AARS Research Scholar Award Grant Application](#)

### Save the Date for the AARS Annual Networking Reception – Friday, March 17, 2023!

Our 16th Annual AARS Networking Reception in conjunction with the annual meeting of the American Academy of Dermatology (AAD) will take place on Friday, March 17, 2023 at the Vue Orleans located adjacent to the Four Seasons Hotel in New Orleans, Louisiana. Come meet the AARS Board of Directors and learn more about the AARS programs and member benefits! All members, corporate benefactors, researchers and their guests are welcome to attend!

[Register now!](#)

#### Call for AARS Volunteers in 2023

We have a variety of programs this year interacting with patients and our members that we'd love to include more dermatologists and dermatology NPs and PAs. We are launching a new case discussion virtual series, ongoing publication and interview opportunities, social media activities, and more! If you're interested, please email Stacey Moore, AARS Executive Director at [info@aarsmember.org](mailto:info@aarsmember.org) for more information.

## New Medical Research

### Selective photothermolysis with a novel 1726 nm laser beam: A safe and effective solution for acne vulgaris.

Goldberg D, Kothare A, Doucette M, et al. J Cosmet Dermatol. 2022 Dec 28. doi: 10.1111/jocd.15602. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36576854/>

Background: Selective photothermolysis on sebaceous glands is an effective method for treating acne vulgaris (AV); however, safety, efficacy, and discomfort hinder its utilization in clinical settings. Aims: The primary objective is to evaluate the safety and efficacy of a novel 1726 nm laser with contact cooling to treat AV. Methods: Seventeen

patients aged 18 to 36 were enrolled and treated in this IRB-approved, single-center, open-label study. Patients received up to three facial laser sessions up to seven weeks apart. Follow-up visits happened ten days post-session and at the 4 and 12 weeks following the final session. The investigator assessed the severity of device-related adverse events (AEs). Investigator Global Assessment (IGA) and inflammatory lesion counts (ILC) were used as metrics to evaluate acne resolution and skin condition enhancement. Patients' perspectives on satisfaction and comfort using this technology were assessed using Subject Experience Questionnaires (SEQ). Results: Safety assessment showed mild and transient AEs. All subjects tolerated anesthetics-free treatments well, with a mean treatment discomfort score of  $4.9 \pm 1.5$ . Compared to baseline, a statistically significant reduction in ILC ( $p = 0.003$ ) of 52% to 56% is achieved four to twelve weeks following treatment. Long-term follow-ups showed progressive improvement 24 months post-treatment with a 97% reduction in ILC. SEQs revealed high subject satisfaction (71%) with psychosocial improvement three months post-treatment. Conclusion: The novel 1726 nm laser appears safe and effective for treating mild-to-severe acne. Acne resolution is apparent within the first month and progresses beyond the study duration.

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**Red light-mediated photoredox catalysis triggers nitric oxide release for treatment of cutibacterium acne induced intervertebral disc degeneration.** Tao S, Shen Z, Chen J, et al. ACS Nano. 2022 Dec 27;16(12):20376-20388. doi: 10.1021/acsnano.2c06328. Epub 2022 Dec 5. <https://pubmed.ncbi.nlm.nih.gov/36469724/>

Intervertebral disc degeneration (IVDD) has been known as a highly prevalent and disabling disease, which is one of the main causes of low back pain and disability. Unfortunately, there is no effective cure to treat this formidable disease, and surgical interventions are typically applied. Herein, we report that the local administration of nitric oxide (NO)-releasing micellar nanoparticles can efficiently treat IVDD associated with Modic changes in a rat model established by infection with *Cutibacterium acnes* (*C. acnes*). By covalent incorporation of palladium(II) meso-tetraphenyltetraabenzoporphyrin photocatalyst and coumarin-based NO donors into the core of micellar nanoparticles, we demonstrate that the activation of the UV-absorbing coumarin-based NO donors can be achieved under red light irradiation via photoredox catalysis, although it remains a great challenge to implement photoredox catalysis reactions in biological conditions due to the complex microenvironments. Notably, the local delivery of NO can not only efficiently eradicate *C. acnes* pathogens but also inhibit the inflammatory response and osteoclast differentiation in the intervertebral disc tissues, exerting antibacterial, anti-inflammatory, and antiosteoclastogenesis effects. This work provides a feasible means to efficiently treat IVDD by the local administration of NO signaling molecules without resorting to a surgical approach.

**A combined subcision approach with either fractional CO2 laser (10,600 nm) or cross-linked hyaluronic acid versus subcision alone in atrophic post-acne scar treatment.** Abdelwahab AA, Omar GAB, Hamdino M. Lasers Med Sci. 2022 Dec 24;38(1):20. doi: 10.1007/s10103-022-03677-y. <https://pubmed.ncbi.nlm.nih.gov/36564573/>

Different treatment options for post-acne scars exist, but with varying clinical efficacy, side effects, and prolonged downtime. This study aims to compare the efficacy and safety of combined subcision with either fractional CO2 laser or cross-linked hyaluronic acid filler (HA) versus subcision alone in the treatment of facial atrophic post-acne scars. Forty patients with atrophic post-acne scars were subjected to subcision on both sides of the face, then were randomly divided into three groups. Group I (20 patients): subcision combined with cross-linked HA filler injection at one side of the face; group II (20 patients): subcision followed by fractional CO2 at the other side of the face; and group III (20 patients): with subcision only as a control group. Treatment sessions were every month until clinical improvement or for maximum three sessions. The treatment's efficacy was assessed by Goodman and Baron's qualitative and quantitative grading systems. The two blinded investigator scores showed significant improvement in both the filler side versus subcision ( $p$  value = 0.015), and the fractional laser side versus subcision ( $p$  value < 0.001), with no

statistically significant difference between both sides ( $p$  value = 0.171). Qualitative grading by Goodman and Baron scores showed that the percentage of patients with excellent improvement was higher in group 1 and group 2 than in group 3 with  $p$  value = 0.031; also the mean percentage of reduction in quantitative grading was higher in group 1 and group 2 than in group 3 with  $p$  value < 0.00. Either combined subcision with fractional CO<sub>2</sub> laser or with cross-linked HA filler achieved superior improvement in facial atrophic post acne scars treatment with no serious side effects in this study. However, subcision only by blunt canula also had modest improvement.

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**A single center, prospective, randomized, blinded study to evaluate the efficacy and safety of a topical tripeptide/hexapeptide anhydrous gel when used pre- and post- hybrid fractional laser for the treatment of acne scars.**

Weinstein Velez M, Prezzano J, Bell M, Widgerow A. Clin Cosmet Investig Dermatol. 2022 Dec 16;15:2763-2774. doi: 10.2147/CCID.S392459. eCollection 2022. <https://pubmed.ncbi.nlm.nih.gov/36561095/>

Background: Acne scarring remains a significant problem. Laser therapy has produced varying results with deeper ablative therapies occasionally associated with side effects including delayed healing, infection, scarring, erythema, acne, milia, edema and dyspigmentation. Objective: Can adjuvant topical therapy impact the healing process and outcome of patients treated with fractional laser for acne scarring? Methods and materials: Ten patients were randomized to receive either Regenerating Skin Nectar with TriHex Technology®- RSN or a bland moisturizer. Patients underwent two laser procedures one month apart with Hybrid Fractional Laser. The topical was applied twice daily for 2 weeks prior to the first laser procedure, and through completion of the study. Seven study visits occurred over a 90-day period. Measurements were conducted in lesional and non-lesional areas - transepidermal water loss (TEWL), erythema, photography, Goodman and Baron qualitative scale, Global Aesthetic Improvement Scale and patient questionnaires - to assess functional recovery and aesthetic outcomes in the scarred areas. One patient from each cohort consented to biopsy before the procedures and 90 days after the first procedure. Results: Reduced TEWL scores in the RSN group were evident at all time points with statistically significant reductions occurring 4 days after first and second procedures indicating more efficient fluid conservation at a critical point in the healing trajectory. Erythema index demonstrated a consistent decrease in the RSN cohort over the control from day 4 through day 90 on lesional and non-lesional skin. Acne scar assessment scores improved in the RSN cohort compared with the control at all time points. Biopsy results showed early elastin regeneration in the RSN biopsy with controlled non-hypertrophic collagen formation evident. Conclusion: The use of RSN pre- and post- laser resurfacing significantly decreased postprocedural TEWL and erythema, and increased aesthetic improvement in acne scars and patient satisfaction, when compared with bland moisturizer.

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**Efficacy and tolerability of hydrafacial clarifying treatment series in the treatment of active acne vulgaris.**

Storgard R, Mauricio-Lee J, Mauricio T, et al. J Clin Aesthet Dermatol. 2022 Dec;15(12):42-46. <https://pubmed.ncbi.nlm.nih.gov/36569524/>

Objective: This 12-week, multicenter, open-label study investigated the efficacy and tolerability of the HydraFacial Clarifying Treatment for improving skin appearance in patients who present with acne vulgaris. Methods: Twenty eligible adult patients with mild-to-moderate acne were enrolled at one of two treatment sites in the United States and were to undergo six HydraFacial Clarifying Treatments, one every two weeks for 12 weeks. Treatment occurs in three steps: cleansing and peeling; suction to extract dead skin cells, sebum, and debris; and application of blue LED light. Acne severity was graded by investigators and by patients using the Global Acne Severity Score (GASS). Results: The proportion of patients with no acne or almost clear skin ( $GASS \leq 1$ ) at baseline versus final treatment increased from 20 to 65 percent per investigator assessment ( $p=0.0027$ ), and from 5 to 55 percent per patient self-report

( $p=0.0016$ ). At final treatment, more than 80 to 100 percent of both investigators and patients agreed or strongly agreed there was an improvement in skin appearance across multiple assessment parameters. Treatments were generally well tolerated. Limitations: Due to the nature of the treatment, blinding of neither investigators nor patients was feasible. Conclusion: The results presented here suggest that a series of six HydraFacial Clarifying Treatments improves overall skin appearance in patients with active acne.

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**Fluid platelet-rich fibrin (PRF) versus platelet-rich plasma (PRP) in the treatment of atrophic acne scars: A comparative study.** Diab NAF, Ibrahim AM, Abdallah AM. Arch Dermatol Res. 2022 Dec 15. doi: 10.1007/s00403-022-02511-3. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36520210/>

Platelet-rich fibrin (PRF), a second-generation platelet concentrate, was developed for the purpose of overcoming the limitations of Platelet-rich plasma (PRP). PRF can produce a higher cumulative release of growth factors than PRP. Also, this release is slow and prolonged, making it ideal for tissue regeneration and growth stimulation. This study was conducted to evaluate the efficacy of fluid PRF either alone or combined with needling versus PRP in the treatment of atrophic acne scars. A comparative study including 30 patients with atrophic acne scars who were divided into two equal groups. Group I included 15 patients in which the left side of the face was treated with intradermal injection of PRP while the right side was treated with combined needling with PRP. Group II included 15 patients in which the left side of the face was treated with intradermal injection of fluid PRF while the right side was treated with combined needling with fluid PRF. All patients received four sessions with 3 weeks interval. The acne scars significantly improved in both sides of face in both groups. According to quartile grading scale and patient satisfaction; the therapeutic response was significantly higher in PRF group than PRP either alone or combined with needling. The combination with needling increases efficacy of PRF and PRP. Fluid PRF is highly effective, safe and simple procedure that can be used instead of PRP in the treatment of acne scars.

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**The prevalence, associated factors, and clinical characterization of malassezia folliculitis in patients clinically diagnosed with acne vulgaris.** Paichitrojjan A, Chalermchai T. Clin Cosmet Investig Dermatol. 2022 Dec 10;15:2647-2654. doi: 10.2147/CCID.S395654. eCollection 2022. <https://pubmed.ncbi.nlm.nih.gov/36531566/>

Background: The clinical presentation of Malassezia folliculitis (MF) can imitate acne vulgaris (AV), making it difficult to distinguish between the two conditions. Moreover, MF can coexist with AV in the same patient. The incidence of MF in patients clinically diagnosed with AV may be underestimated. This study aimed to determine the prevalence, associated factors, and clinical characterization of MF patients diagnosed with AV. Materials and methods: Three hundred twenty new acne patients were questioned regarding general information, including age, sex, itchy symptoms, and past treatment history with antibiotics and steroids within four weeks. Clinical presentations of AV (location and severity), dandruff, and seborrheic dermatitis were examined by a dermatologist. Cytologic studies to determine the abnormal proliferation of Malassezia yeasts were performed from pustules or, in the absence of pustules, comedo-like papules, and comedones. The smears were stained with methylene blue and evaluated under a light microscope by the researcher. Results: The prevalence of MF in patients clinically diagnosed with AV was 28.8% (95% Confidence interval: CI = 23.8% - 33.7%), which can be classified as 24.7% were AV with MF and the remaining 4.1% were MF only. This study revealed that patients diagnosed with MF were 7.38 times more likely to have itchy symptoms than patients diagnosed with AV. MF patients had 8.89 times and 9.17 times higher risk of acneiform lesions on the scalp/ hairline and upper back than those who did not have MF, respectively. Conclusion: This present study revealed a high prevalence of MF in patients clinically diagnosed with AV. Dermatologists should be aware of MF when encountering AV patients with acneiform lesions on the scalp/ hairline and upper back with



pruritus. Diagnosis based on clinical presentations alone may lead to misdiagnosis. Methylene blue staining is easy to perform and beneficial to diagnose MF.

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**Skin dysbiosis and *Cutibacterium acnes* biofilm in inflammatory acne lesions of adolescents.** Cavallo I, Sivori F, Truglio M, et al. Sci Rep. 2022 Dec 6;12(1):21104. doi: 10.1038/s41598-022-25436-3. <https://pubmed.ncbi.nlm.nih.gov/36473894/>

Acne vulgaris is a common inflammatory disorder affecting more than 80% of young adolescents. *Cutibacterium acnes* plays a role in the pathogenesis of acne lesions, although the mechanisms are poorly understood. The study aimed to explore the microbiome at different skin sites in adolescent acne and the role of biofilm production in promoting the growth and persistence of *C. acnes* isolates. Microbiota analysis showed a significantly lower alpha diversity in inflammatory lesions (LA) than in non-inflammatory (NI) lesions of acne patients and healthy subjects (HS). Differences at the species level were driven by the overabundance of *C. acnes* on LA than NI and HS. The phylotype IA1 was more represented in the skin of acne patients than in HS. Genes involved in lipids transport and metabolism, as well as potential virulence factors associated with host-tissue colonization, were detected in all IA1 strains independently from the site of isolation. Additionally, the IA1 isolates were more efficient in early adhesion and biomass production than other phylotypes showing a significant increase in antibiotic tolerance. Overall, our data indicate that the site-specific dysbiosis in LA and colonization by virulent and highly tolerant *C. acnes* phylotypes may contribute to acne development in a part of the population, despite the universal carriage of the microorganism. Moreover, new antimicrobial agents, specifically targeting biofilm-forming *C. acnes*, may represent potential treatments to modulate the skin microbiota in acne.

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**Neutrophilic granulocyte-derived B-cell activating factor supports B cells in skin lesions in hidradenitis suppurativa.** Sabat R, Šimaitė D, Gudjonsson JE, et al. J Allergy Clin Immunol. 2022 Dec 5;S0091-6749(22)01621-9. doi: 10.1016/j.jaci.2022.10.034. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36481267/>

Background: Hidradenitis suppurativa (HS) is a chronic inflammatory disease characterized by painful inflamed nodules, abscesses, and pus-draining tunnels appearing in axillary, inguinal, and perianal skin areas. HS lesions contain various types of immigrated immune cells. Objective: This study aimed to characterize mediators that support lesional B/plasma cell persistence in HS. Methods: Skin samples from several cohorts of HS patients and control cohorts were assessed by mRNA sequencing, quantitative PCR on reverse-transcribed RNA, flow cytometry, and immunohistofluorescence. Blood plasma and cultured skin biopsy samples, keratinocytes, dermal fibroblasts, neutrophilic granulocytes (neutrophils), monocytes, and B cells were analyzed. Complex systems biology approaches were used to evaluate bulk and single-cell RNA sequencing data. Results: Proportions of B/plasma cells, neutrophils, CD8+ T cells, and M0 and M1 macrophages were elevated in HS lesions compared to skin of healthy and perilesional intertriginous areas. There was an association between B/plasma cells, neutrophils, and B-cell activating factor (BAFF, aka TNFSF13B). BAFF was abundant in HS lesions, particularly in nodules and abscesses. Among the cell types present in HS lesions, myeloid cells were the main BAFF producers. Mechanistically, granulocyte colony-stimulating factor in the presence of bacterial products was the major stimulus for neutrophils' BAFF secretion. Lesional upregulation of BAFF receptors was attributed to B cells (TNFRSF13C/BAFFR and TNFRSF13B/TAC1) and plasma cells (TNFRSF17/BCMA). Characterization of the lesional BAFF pathway revealed molecules involved in migration/adhesion (eg, CXCR4, CD37, CD53, SELL), proliferation/survival (eg, BST2), activation (eg, KLF2, PRKCB), and reactive oxygen species production (eg, NCF1, CYBC1) of B/plasma cells. Conclusion: Neutrophil-derived BAFF supports B/plasma cell persistence and function in HS lesions.

**Patterns of surgical recurrence in patients with hidradenitis suppurativa.** Cuenca-Barrales C, Montero-Vilchez T, Sanchez-Diaz M, et al. *Dermatology*. 2022 Dec 5;1-7. doi: 10.1159/000527400. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36470224/>

Background: Surgery is an essential part of hidradenitis suppurativa (HS) treatment. Understanding and reducing surgical recurrence are crucial to obtaining the best results in patients' treatment. Objective: The aim of the study was to characterize surgical recurrences in a cohort of patients with HS treated with wide excision and second-intention healing. Methods: A prospective nested case-control study was conducted. A cohort of patients with HS treated with wide excision and second-intention healing was monitored for 68 weeks. The surgical procedure was classified as case (recurrence) or control (no recurrence). The type of recurrence was classified according to the elementary lesion in tunnel or abscess and inflammatory nodule (AN) recurrence. Sociodemographic and clinical data likely related to recurrence and the type of recurrence were evaluated. Results: Sixty-three patients were included, receiving a total of 82 surgical procedures. The mean age of the patients was 36.18 years, and the surgical site presented a Hurley stage II severity in 79.26% (65/82) of the interventions. Tunnel recurrence was observed in 8.5% (7/82) and AN recurrence in 15.85% (13/82) of the interventions. Obesity was associated with a higher risk of recurrence, for both tunnel and AN recurrence. Hurley III at the surgical site, a history of pilonidal sinus, and higher International Hidradenitis Suppurativa Severity Score System (IHS4) after surgery and at week 68 increased the risk of tunnel recurrence. Conclusion: We propose classifying surgical recurrence based on the elemental type of lesion. Tunnel recurrence could originate in the depth of the surgical scar and could be associated with both surgical site factors and inflammatory load. AN recurrence could originate in the borders of the surgical scar and may particularly benefit from preoperative ultrasound.

**Bridging the gap: Optimizing skin care in acne treatment.** Farberg A, Sharma D. *J Drugs Dermatol*. 2022 Dec 1;21(12):SF3509933-SF3509934. <https://pubmed.ncbi.nlm.nih.gov/36468960/>

To optimize the treatment of dermatologic diseases, one must recognize the interplay between maintaining the function of the skin barrier and utilizing topical medications which often disrupt the former.

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**Optimizing skin care in acne treatment - Evaluation of a designated cleanser and moisturizer regimen with improvement in clinical outcomes.** Rosso J. *J Drugs Dermatol*. 2022 Dec 1;21(12):SF3509935-SF35099314. <https://pubmed.ncbi.nlm.nih.gov/36468961/>

Acne vulgaris (AV) is one of the most common skin disorders encountered in outpatient dermatology practice worldwide, commonly affecting adolescents, but also pre-teens and postadolescent adults of any race, ethnicity, and skin color.

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**"Vehicles matter" in the treatment of truncal acne.** Kircik L. *J Drugs Dermatol*. 2022 Dec 1;21(12):SF3446183-SF3446184. <https://pubmed.ncbi.nlm.nih.gov/36468962/>

Among the general population and arguably among most dermatologists, the word acne calls to mind images of a teenager with papules and pustules on the face. Yet, we know that acne is not just a disease of adolescence, and it is not limited to the face.

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**Antimicrobial activity of smilax china l. root extracts against the acne-causing bacterium, cutibacterium acnes, and its active compounds.** Joo JH, Han MH, Kim JI, et al. *Molecules*. 2022 Nov 29;27(23):8331. doi: 10.3390/molecules27238331. <https://pubmed.ncbi.nlm.nih.gov/36500424/>

The root of *Smilax china* L. is used in traditional Korean medicine. We found that the *Smilax china* L. root extract has strong antimicrobial activity against two *Cutibacterium acnes* strains (KCTC 3314 and KCTC 3320). The aim of this study was to identify the beneficial properties of *Smilax china* L. extracts for their potential use as active ingredients in cosmetics for the treatment of human skin acne. The high-performance liquid chromatography (HPLC) and liquid chromatography-hybrid quadrupole time-of-flight mass spectrometry (LC/QTOF/MS) methods were used to obtain the profile of secondary metabolites from the ethyl acetate-soluble fraction of the crude extract. Agar diffusion and resazurin-based broth microdilution assays were used to evaluate antimicrobial activity and minimum inhibitory concentrations (MIC), respectively. Among the 24 metabolites, quercetin, resveratrol, and oxyresveratrol were the most potent compounds against *Cutibacterium acnes*. Minimum inhibitory concentrations of quercetin, resveratrol, and oxyresveratrol were 31.25, 125, and 250 µg/mL, respectively.

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**Acne scars: An update on management.** Jfri A, Alajmi A, Alazemi M, Ladha MA. *Skin Therapy Lett*. 2022 Nov;27(6):6-9. <https://pubmed.ncbi.nlm.nih.gov/36469561/>

Acne vulgaris is a troubling skin disease known to have both physiologic and psychological effects on patients. Acne scars, a frequent complication, can further impact patients' quality of life. Scars result from an impairment in the healing process. Acne scars can be categorized as follows: atrophic scars (including ice pick, rolling, boxcar subtypes) and trophic (including hypertrophic and keloid scars), the latter being less common. Though various treatment approaches have been suggested, there is a lack of high-quality evidence on effective, type-specific acne scar approaches. Herein, we aim to review the current evidence for treating various acne scars.

## Clinical Reviews

**Energy-based devices in the treatment of acne scars in skin of color.** Teymour S, Kania B, Lal K, Goldberg D. *J Cosmet Dermatol*. 2022 Dec 27. doi: 10.1111/jocd.15572. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36575886/>

Background: Acne scarring is disfiguring and psychologically taxing on patients. Many energy-based modalities have emerged and been studied for the treatment of acne scarring; however, there is a paucity of these studies in skin phototypes IV-VI. Objective: To review the medical literature and discuss the most significant studies regarding safety and efficacy of energy-based devices (ablative lasers, non-ablative lasers, and radiofrequency microneedling) in the treatment of ethnic skin (skin phototypes IV-VI). Methods: A literature search was conducted using the PubMed database and bibliographies of relevant articles. Results: Ablative and non-ablative lasers have proven to be effective for treatment of acne scars in ethnic skin. The risk of developing adverse effects such as post-inflammatory hyperpigmentation is contingent upon several factors including skin phototype, laser device, fluence, and more so density settings. Non-ablative fractional lasers have been considered first line for the treatment of acne scars in skin of color due to their better safety profile; however, they are less efficacious and require more treatments compared to ablative lasers. Studies regarding efficacy and safety of radiofrequency microneedling for treatment of acne scarring in skin of color are limited, but are promising. Conclusion: Ablative lasers, non-ablative lasers, and radiofrequency microneedling are all useful treatments for acne scarring in ethnic skin when appropriate settings are used. Further head-to-head studies are needed to evaluate their efficacy and safety in darker skin phototypes V-VI.

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**Antibiotics and antimicrobial resistance in acne: Epidemiological trends and clinical practice considerations.**

Dessinioti C, Katsambas A. Yale J Biol Med. 2022 Dec 22;95(4):429-443. eCollection 2022 Dec. <https://pubmed.ncbi.nlm.nih.gov/36568833/>

Antimicrobial resistance is an increasing public health problem worldwide. The interest of a focus on antimicrobial resistance in acne lies on the facts that acne vulgaris (acne) is the most common skin disease worldwide, that the bacterium *Cutibacterium acnes* (*C. acnes*, formerly *Propionibacterium acnes*) plays a key role in the pathogenesis of acne, while at the same time being part of the skin flora, and that antibiotics are commonly recommended for acne treatment. The overuse of topical and/or systemic antibiotics, the long treatment courses used for acne, and the availability of over-the-counter antibiotic preparations, have led to the worldwide emergence of resistant strains in acne patients. In this review, we discuss the epidemiological trends of antimicrobial resistance in acne, the need to avoid the perturbation of the skin microbiome caused by anti-acne antibiotics, and the clinical practice considerations related to the emergence of resistant strains in acne patients. In light of the increasing risk of antimicrobial resistance, raising concerns over the misuse of antibiotics, prescribing patterns can be a critical target for antibiotic stewardship efforts. Also, the selection of non-antibiotic therapies for acne, whenever possible, may offer significant advantages.

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**Truncal acne and scarring: A comprehensive review of current medical and cosmetic approaches to treatment and patient management.** Daniele SG, Kim SR, Grada A, et al. Am J Clin Dermatol. 2022 Dec 20. doi: 10.1007/s40257-022-00746-4. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36539678/>

Acne vulgaris is one of the most common skin disorders worldwide. It typically affects skin areas with a high density of sebaceous glands such as the face, upper arms, chest, and/or back. Historically, the majority of research efforts have focused on facial acne vulgaris, even though approximately half of patients with facial lesions demonstrate truncal involvement. Truncal acne vulgaris is challenging to treat and poses a significant psychosocial burden on patients. Despite these characteristics, studies specifically examining truncal acne vulgaris are limited, with treatment guidelines largely derived from facial protocols. Therefore, truncal acne remains an understudied clinical problem. Here, we provide a clinically focused review on the epidemiology, evaluation, and available treatment options for truncal acne vulgaris. In doing so, we highlight knowledge gaps with the goal of spurring further investigation into the management of truncal acne vulgaris.

**Acne vulgaris-novel treatment options and factors affecting therapy adherence: A narrative review.** Tobiasz A, Nowicka D, Szepietowski JC. J Clin Med. 2022 Dec 19;11(24):7535. doi: 10.3390/jcm11247535. <https://pubmed.ncbi.nlm.nih.gov/36556150/>

Acne vulgaris is an extremely common skin condition, affecting a large population of adolescents, but at the same time, remaining a quite common issue in the group of adult patients. Its complex pathogenesis includes increased sebum secretion, impaired follicular keratinization, colonization of sebaceous glands with *Cutibacterium acnes* bacteria, and the development of inflammation in pilosebaceous units. Although there are many methods of treatment available targeting the mechanisms mentioned above, a large percentage of patients remain undertreated or non-compliant with treatment. Ineffective treatment results in the formation of acne scars, which has a major impact on the well-being and quality of life of the patients. The aim of this publication was a review of available evidence on widely used and novel methods of topical and systemic treatment of acne, additionally including current literature-based analysis of factors affecting patients' compliance. The strengths and limitations of novel substances for treating acne were discussed. We conclude that an effective acne treatment remains a challenge. A better understanding of current treatment options and factors affecting patients' compliance could be a helpful tool in choosing a proper

treatment option.

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**Adolescent acne vulgaris: Current and emerging treatments.** Layton AM, Ravenscroft J. *Lancet Child Adolesc Health*. 2022 Dec 13;S2352-4642(22)00314-5. doi: 10.1016/S2352-4642(22)00314-5. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36525984/>

Acne vulgaris is one of the commonest inflammatory skin diseases seen worldwide, affecting all ethnicities and races, with a peak prevalence between age 15 years and 20 years. The burden of this condition, and the resulting clinical and psychological sequelae, is substantial. The visual appearance of acne and its sequelae, including scarring and pigment changes, frequently results in psychological and social morbidity because of concerns about appearance. As understanding of the pathophysiology has evolved, approaches to achieving the optimal outcomes with effective treatment regimens continue to emerge. In the past few years, several novel therapeutics have been developed, including new agents aimed at reducing antimicrobial resistance and products with specific actions targeting retinoid receptors and androgen receptors. This Review considers the management approaches of an adolescent with acne vulgaris and reviews treatment options from the evidence base and international expert opinion. Approaches to selecting current treatments and novel and emerging treatment regimens are discussed.

**Chemical peels for atrophic acne scarring: Evolution of peel types and methods.** Sun C, Lim D. *Australas J Dermatol*. 2022 Dec 7. doi: 10.1111/ajd.13959. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/36479667/>

Acne vulgaris is a common condition among those of adolescent age. Prolonged inflammation associated with the disease can result in substantial scarring which is detrimental to both the physical and psychological well-being of the patient. Chemical peels are a commonly used treatment modality for acne scarring that is widely available and can be administered with a low associated cost. This article aims to illustrate the current best practice and highlight new advances in chemical peeling in the treatment of acne scarring.

**Current medical and surgical treatment of hidradenitis suppurativa-a comprehensive review.** Ocker L, Abu Rached N, Seifert C, et al. *J Clin Med*. 2022 Dec 6;11(23):7240. doi: 10.3390/jcm11237240. <https://pubmed.ncbi.nlm.nih.gov/36498816/>

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease presenting with recurrent inflammatory lesions in intertriginous body regions. HS has a pronounced impact on patients' quality of life and is associated with a variety of comorbidities. Treatment of HS is often complex, requiring an individual approach with medical and surgical treatments available. However, especially in moderate-to-severe HS, there is an urgent need for new treatment approaches. In recent years, increased research has led to the identification of new potential therapeutic targets. This review aims to give a comprehensive and practical overview of current treatment options for HS. Furthermore, the clinically most advanced novel treatment approaches will be discussed.

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**The role of hormones in hidradenitis suppurativa: A systematic review.** Abu Rached N, Gambichler T, Dietrich JW, et al. *Int J Mol Sci*. 2022 Dec 3;23(23):15250. doi: 10.3390/ijms232315250. <https://pubmed.ncbi.nlm.nih.gov/36499573/>

Hidradenitis suppurativa (HS) is a chronic inflammatory disease manifesting in inverse body regions. In a systematic review, the role of hormones in HS will be presented to better understand the pathomechanisms of HS. The review is based on the PRISMA criteria. Systematic research was carried out using keywords. Subsequently, the data were analyzed based on the clinical response and other relevant information. The main focus of our systematic review was on HS manifestation, exacerbation, sex hormones, antiandrogen therapy, thyroid function, polycystic ovary syndrome,

insulin resistance, and adipokines. In HS, there appears to be a dysregulated adipokine release that is shifted towards pro-inflammatory adipokines. Insulin resistance is significantly more common in HS than in healthy patients regardless of BMI, age, and gender. Insulin resistance in HS patients leads to further cardiovascular disease. The mechanism of insulin resistance and role of adipokines should be investigated in future studies to better provide the pathomechanisms of HS. The role of androgens seems to be important in a certain subgroup of female patients. Anti-androgenic therapy can be useful and helpful in some patients. However, further studies are needed to better understand the hormonal relationship in HS.

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