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American Acne and Rosacea Society
201 Claremont Avenue • Montclair, NJ 07042
(888) 744-DERM (3376) • info@aarsmember.org
www.acneandrosacea.org



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Industry News

Kristin Chenoweth kicks off rosacea treatment awareness campaign. May 25, 2017. Healio Dermatology News.

<http://www.healio.com/dermatology/dermatitis/news/online/%7B4dc5747f-6511-44f7-9f98-f387663c9d12%7D/kristin-chenoweth-kicks-off-rosacea-treatment-awareness-campaign>

Actress and singer Kristin Chenoweth helped kick off a campaign for Rhofade Cream 1% for treating persistent facial erythema associated with rosacea, according to a news release from Allergan. Chenoweth, who has rosacea, will help raise awareness of rosacea and Rhofade Cream 1% (oxymetazone chloride), which is available by prescription and indicated for topical treatment of persistent facial erythema associated with rosacea in adults, according to the release. “Persistent facial redness from rosacea is something I’ve struggled with every day for years,” Chenoweth stated in the release. “Recently, my dermatologist ... gave me Rhofade cream, a treatment I use once a day, every day that helps reduce my redness all-day, through 12 hours. “I’m thrilled to partner with Allergan to raise awareness for the persistent facial redness people with rosacea may deal with and Rhofade cream. I hope my experience can make a difference for other sufferers who dealt with this challenging condition every day.” Once-daily application of Rhofade cream was shown to reduce persistent facial erythema associated with rosacea through 12 hours on day 29 in two clinical trials, with results seen in 12% to 18% of people using Rhofade cream compared with 5% to 9% of participants using vehicle cream, according to the release. Application site dermatitis, worsening inflammatory lesions of rosacea, and pruritus, erythema and pain at the application site were adverse events reported. Reference: www.allergan.com

Madenco Biosciences announces cosmeceuticals for treating acne scars, laser effects. May 18, 2017. Healio Dermatology News.

<http://www.healio.com/dermatology/cosmeceuticals/news/online/%7B6adc4116-ce5c-420e-ac77-d965fe95e6e4%7D/madenco-biosciences-announces-cosmeceuticals-for-treating-acne-scars-laser-effects>

Madenco Biosciences, a subsidiary of Quest PharmaTech, announced it has created a new line of cosmeceuticals targeting applications by dermatologist and medi-spas. The SP-DERM line, based on Madenco’s proprietary SP-Technology platform, topically delivers molecules known as protein transduction-domain or cell penetrating peptides/proteins. The new products target recovery after intensive laser treatments, prolonging the effects of cosmetic procedures and minimizing the appearance of acne scars, according to a news release. Patients with acne scars who were treated with SP-DERM Acne demonstrated both physician-assessed and patient-assessed improvements after 4 and 8 weeks of treatment in a preliminary pilot study, per the release. “The result of this pilot study with SP-DERM Acne is encouraging and warrants further controlled clinical study,” Jaggi Rao, MD, FRCP, an Edmonton, Alberta, dermatologist and cosmetic surgeon who provided guidance in the development of the new products, stated in the release. “If proven, SP-DERM Acne could offer a unique effective therapeutic solution to millions of acne sufferers.” “SP-DERM will fill a much-needed market niche as there is no current standard for post-procedural treatment or for acne scar treatment in dermatology clinics,” Madi Madiyalakan, PhD, CEO of Madenco/Quest, stated in the release. “With over \$12 billion spent annually on cosmetic procedures in the U.S., there is a huge market potential for products like SP-Derm.” Reference: www.questpharmatech.com, www.madencobio.com

New Medical News

Generic, twice-daily minocycline versus branded, extended-release minocycline for acne: A retrospective comparison of treatment escalation. Gupta P, Shin T, Sopkovich J, et al. *J Am Acad Dermatol.* 2017 Jun;76(6):1195-1197. doi: 10.1016/j.jaad.2017.01.013. [http://www.jaad.org/article/S0190-9622\(17\)30024-5/abstract](http://www.jaad.org/article/S0190-9622(17)30024-5/abstract)

Minocycline, the most frequently prescribed oral antibiotic for acne treatment,¹ is available in an extended-release (ERM), once-daily branded formulation and a twice-daily generic formulation (GM).² The branded formulation might allow for improved patient adherence due to its dosing. Patient adherence to medication can lead to improved outcomes in resolution of acne.^{3, 4} However, head-to-head studies comparing ERM to GM have not been published. Our study objective is two-fold: to compare real world treatment failure, defined as progression to isotretinoin,⁵ among the ERM and GM formulations, and to compare administrative burden (patient phone calls, pharmacy messages) between these 2 formulations. While ERM might be more convenient for patients, it did not appear to offer a significant clinical advantage over GM, at least as measured by rates of treatment escalation. ERM also showed potential for increased office administrative burden. Prospective studies should be conducted to confirm whether patient convenience, adherence, and most importantly acne outcomes are truly improved using ERM instead of GM.

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Alcohol intake and risk of rosacea in US women. Li S, Cho E, Drucker AM, Qureshi AA, Li WQ. *J Am Acad Dermatol.* 2017 Jun;76(6):1061-1067.e2. doi: 10.1016/j.jaad.2017.02.040. Epub 2017 Apr 20. [http://www.jaad.org/article/S0190-9622\(17\)30292-X/fulltext](http://www.jaad.org/article/S0190-9622(17)30292-X/fulltext)

BACKGROUND: The epidemiologic association between alcohol and rosacea is unclear and inconsistent based on the previous cross-sectional or case-control studies. **OBJECTIVE:** We conducted a cohort study to determine the association between alcohol intake and the risk of rosacea in women. **METHODS:** A total of 82,737 women were included from the Nurses' Health Study II (1991-2005). Information on alcohol intake was collected every 4 years during follow-up. Information on history of clinician-diagnosed rosacea and year of diagnosis was collected in 2005. **RESULTS:** Over 14 years of follow-up, we identified 4945 cases of rosacea. Compared with never drinkers, increased alcohol intake was associated with a significantly increased risk of rosacea (Ptrend <.0001). The multivariate-adjusted hazard ratios (HRs) and confidence intervals (CIs) were 1.12 (95% CI 1.05-1.20) for alcohol intake of 1-4 g/day and 1.53 (1.26-1.84) for ≥30 g/day. The associations remained consistent across categories of smoking status. Further examination of types of alcoholic beverage consumed revealed that white wine (Ptrend <.0001) and liquor intake (Ptrend = .0006) were significantly associated with a higher risk of rosacea. **LIMITATIONS:** This was an epidemiologic study without examination into etiologic mechanisms. **CONCLUSIONS:** Alcohol intake was significantly associated with an increased risk of rosacea in women.

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Combined Fractional Treatment of Acne Scars Involving Non-ablative 1,550-nm Erbium-glass Laser and Micro-needling Radiofrequency: A 16-week Prospective, Randomized Split-face Study. Kwon HH, Park HY, Choi SC, Bae Y, et al. *Acta Derm Venereol.* 2017 May 17. doi: 10.2340/00015555-2701. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/28512669>

An optimized therapeutic regimen involving a non-ablative fractionated laser or radiofrequency therapy for acne scars has not yet been established. To evaluate whether the combination of a non-ablative fractional laser (NAF) and fractional micro-needling radiofrequency (FMR) has clinical advantages for the treatment of atrophic acne scars compared with NAF alone, a 16-week prospective, randomized split-face study was performed. Each facial side of a patient was treated with 3 sessions of either NAF with FMR or NAF alone, with a 4-week interval between each session. Although both sides demonstrated significant decreases in the échelle d'évaluation clinique des cicatrices d'acné (ECCA) score, the facial side treated using the combination regimen demonstrated greater improvement in ECCA score regarding degree and onset time than the NAF-treated side. Histopathological and immunohistochemical results confirmed the clinical findings. This study demonstrated that a combination regimen involving NAF and FMR could be a viable option with satisfactory efficacy.

Cigarette smoking and risk of incident rosacea in women. Li S, Cho E, Drucker AM, Qureshi AA, Li WQ. *Am J Epidemiol.* 2017 May 3. doi: 10.1093/aje/kwx054. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/28472217>

The relationship between smoking and rosacea is poorly understood; we aimed to conduct the first cohort study to determine the association between smoking and risk of incident rosacea. We included 95,809 women from Nurses' Health Study II (1991-2005). Information on smoking was collected biennially during follow-up. Information on history of clinician-diagnosed rosacea and year of diagnosis was collected in 2005. We used Cox proportional hazard models to estimate age and multivariable-adjusted hazard ratios (HRs) and 95% confidence intervals (CI) for the association between different measures of smoking and risk of rosacea. During the follow-up, we identified 5,462 incident cases of rosacea. Compared with never smokers, we observed an increased risk of rosacea associated with past smoking (multivariable-adjusted HR = 1.09, 95% CI: 1.03, 1.16) but a decreased risk of rosacea associated with current smoking (HR = 0.65, 95% CI: 0.58, 0.72). We further found that increasing pack-years of smoking was associated with an elevated risk of rosacea among past smokers (P for trend = 0.003), and was associated with a decreased risk of rosacea among current smokers (P for trend < 0.0001). The risk of rosacea was significantly increased within 3-9 years since smoking cessation, and the significant association persisted among past smokers who had quit for over 30 years.

Clinical assessment of rosacea severity: oriental score vs. quantitative assessment method with imaging and biomedical tools. Kim J, Ahn JW, Ha S, et al. *Skin Res Technol.* 2017 May;23(2):186-193. doi: 10.1111/srt.12318. Epub 2016 Aug 12. <https://www.ncbi.nlm.nih.gov/pubmed/27514310>

BACKGROUND: Rosacea is a common chronic inflammatory disorder affecting facial skin. Currently, no accurate and objective method is available for assessing the severity of rosacea. Most studies use the National Rosacea Society Standard (NRSS) grading method, which lacks objectivity and yields varying results. **METHODS:** Eighteen patients with rosacea were included. Clinical severity was assessed on the basis of the NRSS grade, Investigators' Global Assessment, Patients' Global Assessment, and Dermatology Quality of Life Index. A skin color analysis

system was used to measure the facial area showing erythema, and biophysical parameters of facial skin (transepidermal water loss and skin surface hydration) were examined. To find statistical significant in classification severity of the rosacea, statistical analysis was performed with all parameters. RESULTS: A significant correlation ($P < 0.05$) was found between the NRSS grade, facial area showing erythema, and biophysical parameters. The latter two factors differed significantly among patients with rosacea of different levels of severity (mild, moderate, severe; $P < 0.05$). CONCLUSION: Color imaging systems can be useful and reliable for evaluating the severity of rosacea, in addition to biophysical parameter assessment. The combination of these two analytical methods enabled objective and quantitative evaluation of the severity of rosacea.

Antibacterial Activity of Ethanolic Extract of Cinnamon Bark, Honey, and Their Combination Effects against Acne-Causing Bacteria. Julianti E, Rajah KK, Fidrianny I. Sci Pharm. 2017 Apr 11;85(2). pii: E19. doi: 10.3390/scipharm85020019. <http://www.mdpi.com/2218-0532/85/2/19>

Propionibacterium acnes and Staphylococcus epidermidis are the major skin bacteria that cause the formation of acne. The present study was conducted to investigate antibacterial activity of ethanolic extract of cinnamon bark, honey, and their combination against acne bacteria. The antibacterial activity of extract of cinnamon bark and honey were investigated against P. acnes and S. epidermidis using disc diffusion. Minimum inhibitory concentrations (MICs) and minimum bactericidal concentrations (MBCs) were attained using Clinical and Laboratory Standard Institute (CLSI) methods. The interaction between cinnamon bark extract and honey was determined using a checkerboards method. The results showed that the MICs of cinnamon bark extract and honey against P. acnes were 256 µg/mL and 50% v/v, respectively, while those against S. epidermidis were 1024 µg/mL and 50% v/v, respectively. The MBC of cinnamon bark extract against P. acnes and S. epidermidis were more than 2048 µg/mL, whereas the MBC for honey against P. acnes and S. epidermidis were 100%. The combination of cinnamon bark extract and honey against P. acnes and S. epidermidis showed additive activity with a fractional inhibitory concentration index (FICI) value of 0.625. Therefore, the combination of cinnamon bark extract and honey has potential activity against acne-causing bacteria.

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Effects of isotretinoin on the olfactory function in patients with acne. Kartal D, Yaşar M, Kartal L, et al. An Bras Dermatol. 2017 Mar-Apr;92(2):191-195. doi: 10.1590/abd1806-4841.20175483. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0365-05962017000200191&lng=en&nrm=iso&tlng=en

Background: Isotretinoin is a synthetic analog of vitamin A. Recent studies support a role for retinoic acid in the recovery of olfactory function following injury in mice. Objective: This study aimed at determining the effect of isotretinoin on olfactory function in patients who have acne and are otherwise healthy. Methods: Forty-five patients (aged 25-40 years) with acne were included in the study. All patients underwent a rhinological examination. Olfactory function was assessed by the Sniffin' Sticks Test. The test was assessed at baseline and in the third month of isotretinoin treatment. Results: Isotretinoin improved the performance of patients in the olfactory test. The SST score increased from 8.7 ± 1.09 to 9.5 ± 1.19 ($p < 0.001$), prevalence of hyposmia decreased from 40% to 24% and normosmia increased from 60% to 75% ($p = 0.059$). The percentage of patients whose olfactory function was categorized as "good" increased from 6% to 21.3%. This increase was statistically significant ($p < 0.05$). Study limitations: Absence of a control group is one of the limitations of this study. Also, we did not evaluate patients with

smell test after stopping isotretinoin treatment. Conclusion: We examined the effect of systemic isotretinoin on olfactory function. It can be concluded from the present investigation that isotretinoin therapy improves the sense of smell.

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A Multifactorial Comparison of Ternary Combinations of Essential Oils in Topical Preparations to Current Antibiotic Prescription Therapies for the Control of Acne Vulgaris-Associated Bacteria. Owen L, Grootveld M, Arroo R, et al. *Phytother Res.* 2017 Mar;31(3):410-417. doi: 10.1002/ptr.5762. Epub 2017 Jan 26. <https://www.ncbi.nlm.nih.gov/pubmed/28124400>

Acne vulgaris, a chronic condition associated with overgrowth of *Propionibacterium acnes* and *Staphylococcus epidermidis*, is commonly treated with antibiotics. However, the emergence of antibiotic resistance has resulted in a need for alternative therapies. The aim of this study is to develop a topical preparation incorporating essential oils (EOs) for use against acne-associated bacteria and assess its efficacy against prescription therapies Dalacin T and Stiemycin. Antimicrobial screening of rosewood, clove bud and litsea EOs was conducted before interactions between binary and ternary combinations were determined against *P. acnes* and *S. epidermidis* (type and clinical isolates) using minimum inhibitory concentrations and fractional inhibitory concentrations. The EOs were characterised by both gas chromatography-mass spectrometry and nuclear magnetic resonance. A combination of 0.53 mg/mL litsea, 0.11 mg/mL rosewood and 0.11 mg/mL clove bud was formulated into herbal distillates and compared with Dalacin T and Stiemycin against antibiotic sensitive and resistant isolates (erythromycin). The distillate with EO had synergistic activity against *P. acnes* (7log₁₀ reduction) and indifferent activity against *S. epidermidis* (6log₁₀ reduction); antimicrobial activity was either significantly ($p \leq 0.05$) more antimicrobial or equivalent to that of Dalacin T and Stiemycin. This formulation may serve as a valuable alternative for the control of acne vulgaris-associated bacteria.

Evolution of some indicators of systemic immunity in patients with acne while using laser therapy. Dashko M, Syzon O, Voznyak I. *Wiad Lek.* 2017;70(2):196-199. <https://www.ncbi.nlm.nih.gov/pubmed/28511158>

INTRODUCTION: One of the important problems in modern dermatology is to improve treatment efficiency of acne being a common cause for cicatricial skin changes, loss of performance capability and social activity and negatively affects the psycho-emotional state of patients and their quality of life. The topicality of the disease is due to the high degree of its proliferation, chronic and recurrent course, and resistance to existing therapies. Reducing the effectiveness of skin diseases treatment, including that of acne, at present, is associated with developing resistance to drugs, which causes the use of non-drug methods in dermatology nowadays, including low-intensity laser therapy. **Objective -** to determine evolution of the systemic immunity indices in patients with acne with different degrees of severity in the course of a standard and comprehensive treatment by laser therapy. **MATERIALS AND METHODS:** We observed 77 patients with acne aged 18-25 years; 32 of them received standard therapy, other 45 patients were additionally prescribed combined (superficial venous and external) laser therapy. We determined the indices of all patients' systemic immunity using well-known techniques. **RESULTS:** It has been established, that using laser therapy in comprehensive treatment of patients with acne promotes the normalization or a tendency to normalization of the systemic immunity and phagocytosis with significant difference between the indices of the individuals who received a standard therapy alone.

Etiopathogenesis of rosacea: a prospective study with a three-year follow-up. Agnoletti AF, DE Col E, Parodi A, et al. *G Ital Dermatol Venereol.* 2016 Feb 18. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/26889725>

AIM: To assess the role of *Demodex folliculorum* (DF), *Helicobacter pylori* (HP) small intestinal bacterial overgrowth (SIBO) in rosacea development and maintenance. **METHODS:** A case-control study including 60 patients with rosacea and 40 healthy controls was performed. All the patients underwent standardised skin surface biopsy to investigate DF, Urea breath test for HP and lactulose breath test and glucose breath test for SIBO. Etiological therapy was started in the following order: acaricidal treatment, antibiotics for SIBO and HP. These exams were repeated after 3 years. Statistical analysis was performed. **RESULTS:** As regards the 88 patients who completed the entire follow-up, DF positivity was found in the 47.7%, SIBO in the 25.0% and HP in the 21.6%. SIBO significantly prevailed in papulopustular rosacea, while HP in erythrosis. At the 6-month follow up, the 61% of patients were in remission. After 3 years the 18% dropped out, the remaining patients repeated all the investigations. The majority of patients were still in remission and negative for HP while only 5 were positive for DF and 4 for SIBO. **CONCLUSION:** SIBO was the most relevant factor in papulopustular rosacea. Its treatment was crucial in improvement and in maintaining the clinical remission.

Clinical Reviews

Rosacea is associated with *Helicobacter pylori*: a systematic review and meta-analysis. Jørgensen AR, Egeberg A, Gideonsson R, et al. *J Eur Acad Dermatol Venereol.* 2017 May 23. doi: 10.1111/jdv.14352. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/28543746>

BACKGROUND: Rosacea is a common skin disease characterized by facial erythema, telangiectasia, papules, and pustules. *Helicobacter pylori* infection has been suggested to play a role in the etiopathogenesis of rosacea. **OBJECTIVE:** Systematically review and meta-analyse the relationship between rosacea and infection with *Helicobacter pylori*. **METHODS:** A literature search was performed using PubMed, EMBASE, and Web of Science. Data extraction and analyses were performed on descriptive data. Study quality was assessed using the Newcastle-Ottawa Scale. Random effects models with DerSimonian-Laird methods were utilized to estimate pooled odds ratios (ORs), with 95% confidence intervals (95% CIs). Heterogeneity of results was assessed using I^2 statistics. **RESULTS:** A total of 454 articles were identified and 42 full text articles were chosen for further review. 14 studies were included in the quantitative meta-analysis, comprising a total of 928 rosacea patients and 1,527 controls. The overall association between *Helicobacter pylori* infection and rosacea was non-significant (OR 1.68, 95% CI 1.00-2.84, $p=0.052$), but analysis restricted to C-urea-breath test showed a significant association (OR 3.12, 95% CI 1.92-5.07, $p<0.0001$). Effect of eradication treatment on rosacea symptoms was assessed in seven studies, but without significant effect (RR 1.28, 95% CI 0.98-1.67, $p=0.069$). **CONCLUSION:** This meta-analysis found weak associations between rosacea and *Helicobacter pylori* infection as well as an effect of *Helicobacter pylori* therapy on rosacea symptoms, albeit that these did not reach statistical significance. Whether a pathogenic link between the two conditions exists, or whether *Helicobacter pylori* infection represents a proxy for other factors remains unknown.

Updating the diagnosis, classification and assessment of rosacea by effacement of subtypes: reply from author. Tan J. *Br J Dermatol.* 2017 May 19. doi: 10.1111/bjd.15669. [Epub ahead of print] <http://onlinelibrary.wiley.com/doi/10.1111/bjd.15669/abstract>

The National Rosacea Society Expert Committee (NRSCOR) 2002 publication indicated that the definition and classification system then proposed was based on scientific knowledge, that it was provisional, and that it would be refined with increasing knowledge.¹ A move from subtyping towards a phenotype approach was proposed by the American Acne and Rosacea Society (AARS)² and ROSCO presents the first international effort to advance the diagnosis and classification of rosacea.

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Efficacy and Adverse Events of Oral Isotretinoin for Acne: A Systematic Review. Vallerand IA, Lewinson RT, Farris MS, et al. *Br J Dermatol.* 2017 May 19. doi: 10.1111/bjd.15668. [Epub ahead of print] <http://onlinelibrary.wiley.com/doi/10.1111/bjd.15668/abstract;jsessionid=39BF98159D971C85FCCD43021D10DDF0.f03t01>

Despite many years of clinical use of isotretinoin, a comprehensive review of evidence for isotretinoin therapy in acne patients is lacking. We searched MEDLINE, EMBASE, Cochrane Central, relevant webpages and bibliographies for randomized controlled trials for acne evaluating isotretinoin vs control (placebo or other therapy). Data were extracted and summarized descriptively. Eleven trials were identified (total n=760 patients randomized), containing mostly males. Mean treatment ages ranged from 18 to 47.9 years and participants generally had moderate-severe acne. Across all trials, isotretinoin therapy reduced acne lesion counts by a clinically relevant amount, and always by a greater amount than control, which were either placebo (n=2 studies), oral antibiotics (n=7 studies), or other control (n=2 studies). Across trials with an overall low risk of bias, 2/3 demonstrated statistically significant differences between isotretinoin and control. The frequency of adverse events was twice as high with isotretinoin (n=751 events) compared to control (n=388 events). More than half of all adverse events were dermatologic and related to dryness. Adverse events from isotretinoin causing participant withdrawal from trials (n=12 patients) included Stevens-Johnson Syndrome, cheilitis, xerosis, acne flare, photophobia, elevated liver enzymes, decreased appetite, headaches and depressed mood. This review suggests that isotretinoin is effective in reducing acne lesion counts, but adverse events are common.

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Edible Plants and Their Influence on the Gut Microbiome and Acne. Clark AK, Haas KN, Sivamani RK. *Int J Mol Sci.* 2017 May 17;18(5). pii: E1070. doi: 10.3390/ijms18051070. <http://www.mdpi.com/1422-0067/18/5/1070>

Acne vulgaris affects most people at some point in their lives. Due to unclear etiology, likely with multiple factors, targeted and low-risk treatments have yet to be developed. In this review, we explore the multiple causes of acne and how plant-based foods and supplements can control these. The proposed causative factors include insulin resistance, sex hormone imbalances, inflammation and microbial dysbiosis. There is an emerging body of work on the human gut microbiome and how it mediates feedback between the foods we eat and our bodies. The gut microbiome is also an important mediator of inflammation in the gut and systemically. A low-glycemic load diet, one rich in plant fibers and low in processed foods, has been linked to an improvement in acne, possibly through gut changes or attenuation of insulin levels. Though there is much interest in the human microbiome, there is much

more unknown, especially along the gut-skin axis. Collectively, the evidence suggests that approaches such as plant-based foods and supplements may be a viable alternative to the current first line standard of care for moderate acne, which typically includes antibiotics. Though patient compliance with major dietary changes is likely much lower than with medications, it is a treatment avenue that warrants further study and development.

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Laboratory tests in patients treated with isotretinoin: occurrence of liver and muscle abnormalities and failure of AST and ALT to predict liver abnormality. Webster GF, Webster TG, Grimes LR. *Dermatol Online J.* 2017 May 15;23(5). pii: 13030/qt7rv7j80p. <https://www.ncbi.nlm.nih.gov/pubmed/28537864>

Current laboratory monitoring may not be optimal. A retrospective chart review was performed on the laboratory results of 246 patients who were treated with isotretinoin for acne over a 9-year period. Tests obtained were CBC, lipid panel, AST, ALT, CK, GGT, and C-reactive protein. Thirty-five patients had an elevated AST and 35 of these had an elevated CK; 32 had an elevated ALT and 11 of these had an elevated CK. Thirteen patients had an elevated GGT; in 5 this was the only abnormality, whereas 8 had a GGT elevation accompanied by an elevated AST or ALT. Two had an elevated GGT and an elevated CK with normal AST and ALT. Fifty-two patients had a single episode of elevated CK, of which 22 were female. However, 57 had multiple CK elevations and only one was female. Thirty-five patients had CK elevations <2 times normal; 38 had levels between 2 and 3 times normal, 18 had levels between 3 and 4 times normal, and 18 had levels greater than 4 times normal. We suggest that ALT and AST are not useful for monitoring isotretinoin therapy and that GGT and CK may be of greater value in managing patients.

Cost-effectiveness analysis of using dermatologists versus pediatricians to treat mild to moderate acne. Davis SA, Himmler S, Feldman SR. *Dermatol Online J.* 2017 May 15;23(5). pii: 13030/qt0p516268. <https://www.ncbi.nlm.nih.gov/pubmed/28537857>

OBJECTIVE: To assess the cost-effectiveness from the payer perspective of using dermatologists versus pediatricians to treat acne in adolescents ages 10-18. **METHODS:** A Markov model was constructed to explore outcomes over a 2-year period from the US private payer perspective. Patients ages 10-18 with acne entered the model under the "dermatologist" and "pediatrician" conditions. In each 3-month cycle, each modeled patient received topical retinoids, benzoyl peroxide (BP), antibiotics, or no treatment, and could progress to an acne-free state or remain in an acne state. **RESULTS:** The average patient spent 42.3% of the time in acne-free states under the dermatologist condition and 28.0% of the time in acne-free states under the pediatrician condition. The cohort of 1000 patients experienced 1900 total quality-adjusted life years (QALYs) at a cost of \$2.33 million in the dermatologist condition and 1883 total QALYs at a cost of \$1.62 million in the pediatrician condition, yielding an ICER of \$40,000/QALY. Most sensitivity analyses confirmed the base case results. **CONCLUSION:** Dermatologist treatment appears cost-effective related to producing additional QALYs at a cost of less than \$100,000 per QALY gained. Health plans should consider creating incentives to direct enrollees to dermatologists for acne treatment.

Sex- and Age-Adjusted Population Analysis of Prevalence Estimates for Hidradenitis Suppurativa in the United States. Garg A, Kirby JS, Lavian J, Lin G, Strunk A. *JAMA Dermatol* 2017 May 10;[EPub Ahead of Print]. <http://jamanetwork.com/journals/jamadermatology/fullarticle/2626146>

Importance: The true prevalence of hidradenitis suppurativa (HS) is unknown. Objective: To establish standardized overall and group-specific prevalence estimates for HS in the United States. Design, Setting, and Participants: This retrospective analysis included a demographically heterogeneous population-based sample of more than 48 million unique patients across all US census regions. As of October 27, 2016, a total of 47 690 patients with HS were identified using electronic health record data. Main Outcomes and Measures: Standardized overall point prevalence for HS and sex-, age-, and race-specific prevalence estimates of HS in the general US population. Results: Of the 47 690 patients with HS (26.2% men and 73.8% women), the overall HS prevalence in the US population sample was 0.10%, or 98 per 100 000 persons (95% CI, 97-99 per 100 000 persons). The adjusted prevalence in women was 137 per 100 000 (95% CI, 136-139 per 100 000), more than twice that of men (58 per 100 000; 95% CI, 57-59 per 100 000; $P < .001$). The prevalence of HS was highest among patients aged 30 to 39 years (172 per 100 000; 95% CI, 169-275 per 100 000) compared with all other age groups (range, 15-150 per 100 000; $P < .001$). Adjusted HS prevalences among African American (296 per 100 000; 95% CI, 291-300 per 100 000) and biracial (218 per 100 000; 95% CI, 202-235 per 100 000) patients were more than 3-fold and 2-fold greater, respectively, than that among white patients (95 per 100 000; 95% CI, 94-96 per 100 000; $P < .001$). Conclusions and Relevance: Hidradenitis suppurativa is an uncommon, but not rare, disease in the United States that disproportionately affects female patients, young adults, and African American and biracial patients.

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A Retrospective Study of Multiple Sequential Light and Laser Sources to Activate Aminolevulinic Acid in the Treatment of Acne Vulgaris. Friedmann DP, Goldman MP, Fabi SG, Guiha I. *Skinmed*. 2017 Apr 1;15(2):105-111. eCollection 2017. <https://www.ncbi.nlm.nih.gov/pubmed/28528603>

Reports of the sequential use of multiple light and laser sources for topical 5-aminolevulinic acid (ALA) activation in photodynamic therapy (PDT) of inflammatory acne vulgaris are lacking. The authors sought to retrospectively compare field-directed ALA-PDT with blue light only, blue light + pulsed dye laser (PDL), blue light + intense pulsed light (IPL), blue light + PDL + IPL, or blue light + red light + PDL + IPL for inflammatory acne of the face or upper trunk. Results showed a trend toward greater patient-reported improvement with comparable tolerability using multiple, sequential light sources in ALA-PDT for acne vulgaris, albeit not statistically significant. The addition of red light, however, did not improve outcomes. The disparate numbers of patients between treatment arms and high potential for recall bias limit this single-center retrospective study.

Efficacy and safety of superficial chemical peeling in treatment of active acne vulgaris. Al-Talib H, Al-Khateeb A, Hameed A, Murugaiah C. *An Bras Dermatol*. 2017 Mar-Apr;92(2):212-216. doi: 10.1590/abd1806-4841.20175273. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0365-05962017000200212&lng=en&nrm=iso&tlng=en

Acne vulgaris is an extremely common condition affecting the pilosebaceous unit of the skin and characterized by presence of comedones, papules, pustules, nodules, cysts, which might result in permanent scars. Acne vulgaris commonly involve adolescents and young age groups. Active acne vulgaris is usually associated with several

complications like hyper or hypopigmentation, scar formation and skin disfigurement. Previous studies have targeted the efficiency and safety of local and systemic agents in the treatment of active acne vulgaris. Superficial chemical peeling is a skin-wounding procedure which might cause some potentially undesirable adverse events. This study was conducted to review the efficacy and safety of superficial chemical peeling in the treatment of active acne vulgaris. It is a structured review of an earlier seven articles meeting the inclusion and exclusion criteria. The clinical assessments were based on pretreatment and post-treatment comparisons and the role of superficial chemical peeling in reduction of papules, pustules and comedones in active acne vulgaris. This study showed that almost all patients tolerated well the chemical peeling procedures despite a mild discomfort, burning, irritation and erythema have been reported; also the incidence of major adverse events was very low and easily manageable. In conclusion, chemical peeling with glycolic acid is a well-tolerated and safe treatment modality in active acne vulgaris while salicylic acid peels is a more convenient for treatment of darker skin patients and it showed significant and earlier improvement than glycolic acid.

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Patient Counseling/Communication

Major gaps in understanding and treatment of hidradenitis suppurativa. Hoffman LK, Ghias MH, Garg A, et al. *Semin Cutan Med Surg.* 2017 Jun;36(2):86-92. doi: 10.12788/j.sder.2017.024. <https://www.ncbi.nlm.nih.gov/pubmed/28538750>

Hidradenitis suppurativa (HS) is a complex dermatological disease characterized by recurrent painful nodules and suppuration in areas such as the axilla and groin. The disease is poorly understood and treatment is not satisfactory. In October 2016, the Canadian and United States Hidradenitis Suppurativa Foundations organized the inaugural Symposium on Hidradenitis Suppurativa Advances (SHSA) in Toronto, Canada. This meeting brought together experts from Canada, the United States, and Europe to discuss the latest advances in HS. After this important event, we considered that it would be helpful to outline current HS knowledge and to identify important gaps in treatment and research in order to move forward more efficiently. This paper briefly summarizes current knowledge in key areas including epidemiology, clinical presentation and morphological classification, natural history and prognosis, genotype-phenotype correlations, clinico-pathological correlation, pathogenesis, optimal treatment and outcome measures. General and initial suggestions for addressing these gaps are presented.

Debunking Acne Myths: Should Patients With Oily Skin Use a Moisturizer? Publish date: May 16, 2017. MDEdge.com. http://www.mdedge.com/cutis/article/138359/acne/debunking-acne-myths-should-patients-oily-skin-use-moisturizer?channel=171&utm_source=Clin_CUT_sf-acne_051817&utm_medium=email&utm_content=Should%20acne%20patients%20with%20oily%20skin%20use%20a%20moisturizer?%20Debunking%20this%20myth

Myth: Moisturizers Make Acne Worse in Patients With Oily Skin. Excessive sebum production can lead to oily skin that appears greasy and shiny, which contributes to the development of acne on the face. Acne patients with oily skin may be deterred from using moisturizers out of fear that their condition will worsen, yet therapeutic moisturizers have been shown to maintain hydration and overall integrity of the stratum corneum. Acne patients can use

noncomedogenic moisturizers to prevent and alleviate skin irritation and soothe the skin by slowing the evaporation of water. Many moisturizers on the market claim to be suitable for acne treatment and may independently contribute to improving the signs and symptoms of acne. It is important for dermatologists to direct patients with oily skin to oil-free moisturizers containing ingredients such as dimethicone, which is known to reduce transepidermal water loss without a greasy feel and contains both occlusive and emollient properties. Dimethicone is suitable for use in patients with acne and sensitive skin and is noncomedogenic and hypoallergenic. Many oil-free moisturizers also contain certain metals and botanical extracts, such as aloe vera and witch hazel, that are known to have anti-inflammatory and skin-soothing properties. Some liquid face cleansers also moisturize, which may be all that is needed in patients with oily skin.

Rosacea patients seeking advice: Qualitative analysis of patients' posts on a rosacea support forum. Alinia H, Moradi Tuchayi S, Farhangian ME, et al. *J Dermatolog Treat.* 2016;27(2):99-102. doi: 10.3109/09546634.2015.1133881. <http://www.tandfonline.com/doi/full/10.3109/09546634.2015.1133881>

BACKGROUND: Social media have become outlets for patients to voice opinions and ask questions. Since suffering from rosacea is an isolating experience and the disease is poorly understood, patients use social media to expand their knowledge about the condition. **OBJECTIVE:** To understand rosacea patients' online health information seeking habits to obtain a better insight of their educational needs. **METHODS:** Ten percent of posts in online rosacea forum composed of 3350 members and 27 051 posts, discussing patient viewpoints and concern, selected by stratified random sampling. Three hundred and nine queries were directly categorized to patients "seeking advice" by two investigators and qualitatively analyzed. **RESULTS:** Patients primarily sought advice about treatments (n = 155, 50.1%), triggers (n = 53, 17.1%), diet (n = 48, 15.5%), skin care (n = 37, 11.9%) and special presentations of the disease (n = 22, 7.1%). Questions frequently pertained to adverse effects, efficacy and target of therapy (78, 49, 30 posts, respectively). **CONCLUSION:** Proactively providing reliable resources and comprehensive explanations on treatments, triggers, diet and skin care could be helpful in reducing patients' confusion about rosacea and enhancing rosacea patient-physician relationships.

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