Findings from a roundtable discussion with leading dermatologists and pediatric dermatologists about acne treatment challenges, the importance of early treatment, and the potential benefits of over-the-counter treatment options. Roundtable participants included Zoe Draelos, MD; Julie Harper, MD; Peter Lio, MD; Anthony Rossi, MD; Kalyani Marathe, MD; and Adelaide A. Hebert, MD

Acne is very common among adolescents and young adults and can persist into adulthood. Most people will experience acne at some point in their lifetime—it’s estimated that more than 50 million people have acne in the US and about 85 percent of teenagers are affected by acne at some point during their teenage years. Although common, it’s important that patients know that today there are several effective therapies to treat all grades of acne from mild to severe, and that no one needs to let acne run its course. In fact, early diagnosis and treatment are essential in lowering the chances for permanent scarring and psycho-social issues, including poor self-image, depression, and anxiety.

Our understanding of the pathogenesis of acne is evolving, but it typically involves a combination of factors including follicular hyperkeratinization, microbial colonization with *Cutibacterium acnes* (*C. acnes*, formerly *Propionibacterium acnes*), excessive sebum production, and inflammatory mechanisms. Studies also suggest that neuroendocrine regulatory mechanisms, diet, genetic factors, and non-genetic factors can all play a role in acne.

The goals of acne treatment are to reduce or eliminate inflammatory and noninflammatory lesions by eradicating *C. acnes*, normalizing follicular keratinization, and preventing the formation of new lesions. Therapies should also prevent the negative consequences mentioned above such as scarring and adverse psychologic effects.

**ACNE TREATMENT GUIDELINES**

According to American Academy of Dermatology (AAD)-issued evidence-based guidelines for treatment of both adolescents and adults, recommended treatments include topical therapy, antibiotics, isotretinoin, and oral contraceptives. The guidelines emphasize the effectiveness of combination treatments in order to target different aspects of acne pathogenesis.

For the topical treatment of acne in adolescents and young adults, the guidelines recommend:

- Benzoyl peroxide (BP) alone or in combination with topical antibiotics for mild acne
- BP plus topical retinoids or a systemic antibiotic for moderate-to-severe acne
- Retinoids as monotherapy for acne that is primarily comedonal or in combination with topical or oral antimicrobials in mixed or primarily inflammatory acne
- Topical dapsone 5% gel for inflammatory acne, particularly in adult females
- Azelaic acid for post-inflammatory dyspigmentation
- To avoid bacterial resistance, topical antibiotics are not recommended as monotherapy
- The topical therapy of acne in children under the age of 12 years with FDA-approved products has expanded:
  - Benzoyl peroxide 2.5%/adapalene 1% gel – ages 9 and up
  - Tretinoin 0.05% micronized gel—ages 10 and up
- Systemic antibiotics are recommended for patients with moderate to severe inflammatory acne resistant to topical therapies but should be limited to the shortest possible duration to avoid bacterial resistance. They should be prescribed in combination with a topical retinoid and benzoyl peroxide. And continued use of topical therapies after discontinuation of systemic antibiotics is recommended for maintenance. For moderate or severe acne that does not respond to other therapy, the guidelines call for oral isotretinoin. Combined oral contraceptives containing estrogen may also be considered as alternative treatment of inflammatory acne in females, and the guidelines also support treatment with spironolactone in select female patients.
MANAGING ACNE

No matter how effective treatments are and how many are in our armamentarium, they can only work if patients know what they should be using and then actually use it. Early diagnosis and management are key, and often pediatricians are the first to see patients who are beginning to experience acne or to hear from patients or concerned parents who hope to prevent acne.

We know that acne is an inflammatory disease that has the potential to persist or to worsen and to lead to scarring or pigmentary alterations, but it is difficult to predict which patient’s acne will remain mild and whose will progress. We do not know which patients will develop post-inflammatory hyperpigmentation based on the number of acne lesions they initially present to our offices with. Even patients with only a few inflammatory acne lesions may be at risk for permanent scarring. Patients should be counseled that they do not need simply let acne run its course and that treatment is always recommended—access to safe and efficacious treatment options is available. Treatment can prevent worsening of acne and reduce the risks of long-term sequelae.°

Patients and parents should understand the risks of delaying treatment, including potential scarring, worsening disease, and negative psychosocial effects.° Clinical experience has shown that parents who experienced acne, particularly if the acne left them with scars, may be likely to support early treatment or even preventative treatment.

Barriers to access to prescription medications or potential long wait times to see a dermatologist should not delay start of treatment. Based on the expanding over-the-counter treatment market, patients can access evidence-based recommended acne therapies more easily than ever. Some physicians have noted that patients (or parents) may be resistant to a non-Rx recommendation—in other words, if they took the time to come to a doctor, they want something they can’t buy at their local drug store. Patients must be informed about the acne treatment guidelines and understand that the changing OTC landscape and improved formulations mean that the right first-line therapies often include OTC topicals.

Topical benzoyl peroxide and topical retinoids, both first-line acne treatments, are available OTC. Improved formulations allow for increased tolerability and, in turn, better treatment adherence. Access to these previous prescription-strength formulations has also led to increased control of ensuring patients get the product you want them to use. Unfortunately, many physicians and their patients have experienced barriers when it comes to accessing prescription treatments, including unknown or unexpected high drug costs, insurance coverage limitations, medication substitutions, and more. These problems can delay the start of a treatment regimen, or worse, can cause a patient to never start the treatment and lead to worsening of disease. Many patients won’t contact the office after running into problems and you may not be aware of the issue until his/her next appointment.

IMPROVING TREATMENT ADHERENCE

When recommending OTC products, particularly when speaking to teens, offering specific product recommendations can help to eliminate confusion in the drug store aisle,

### TABLE 1. TREATMENT ALGORITHM FOR MANAGEMENT OF ACNE VULGARIS ADOLESCENT AND YOUNG ADULTS: AAD ACNE TREATMENT GUIDELINES®

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Line Treatment</td>
<td>Benzoyl Peroxide (BP) or Topical Retinoid -or- Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic</td>
<td>Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic -or- Oral Antibiotic + Topical Retinoid + BP -or- Oral Antibiotic + Topical Retinoid + BP +Topical Antibiotic</td>
</tr>
<tr>
<td>Alternative Treatment</td>
<td>Add Topical Retinoid or BP (if not on already) -or- Consider Alternate Retinoid -or- Consider Topical Dapsone</td>
<td>Consider Alternate Combination Therapy -or- Consider Change in Oral Antibiotic -or- Add Combined Oral Contraceptive or Oral Spironolactone (Females) -or- Consider Oral Isotretinoin</td>
</tr>
</tbody>
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The double asterisks (**) indicate that the drug may be prescribed as a fixed combination product or as separate component. BP, Benzoyl peroxide.
which can be overwhelming. Specific recommendations also ensure that the patient is using the formulation of the product that you believe is the best treatment and the one that the patient is most likely to use properly. If a formulation is not tolerable and causes irritation or is not cosmetically elegant, non-adherence is likely.

Benzoyl peroxide is available in a range of OTC formulations from washes and foams to creams and gels in strength’s ranging from 2.5-10%. Its effectiveness is well noted, but use may be limited by concentrations that cause irritation, including dryness, erythema, and peels. BP can also cause bleaching of hair and clothing when applied. Certain formulations aim to be more tolerable, such as La Roche-Posay’s Effaclar Duo, a dual-action acne treatment with 5.5% micronized benzoyl peroxide and micro-exfoliating lipo-hydroxy acid (LHA). The BP in Effaclar Duo is micronized to a particle size smaller than the mouth of the hair follicle so there are no large clumps to irritate the skin. In study evaluating a combination regimen with topical tretinoin 0.025% cream, BPO 5.5%-LHA was as effective as BP 5%-clindamycin 1% gel for the treatment of mild-to-moderate acne. The BPO 5.5%-LHA formulation was also found to be more tolerable, demonstrating significantly less erythema at Week 2 point compared to the BPO 5%-clindamycin gel arm.

As recommended in the acne treatment guidelines and as many leading dermatologists agree, use of a retinoid in addition to a BP product is important in effectively targeting the multiple aspects of acne pathogenesis and should be a cornerstone of any acne treatment and maintenance regimen. As with BP, treatment with a retinoid is limited by tolerability issues, particularly if patients are not educated about how to best use a retinoid to avoid irritation. It is widely accepted that second-generation topical retinoids, such as adapalene, have reduced incidence of irritation compared to tretinoin. La Roche-Posay also offers a prescription-strength adapalene—Effaclar Adapalene Gel 0.1% Acne Treatment, an OTC prescription-strength retinoid acne treatment for acne in people 12 years and older. This is not a spot treatment and is meant to be applied to the entire face. Unlike some other retinoids, Effaclar Adapalene Gel 0.1% Acne Treatment is not oxidized by BP and therefore can be co-applied if the patient wishes. Patients with sensitive skin can be instructed to apply the product two to three times a week, or every other day, gradually increasing usage until they tolerate for daily use. Patients can be advised to apply a moisturizer before adapalene to help decrease potential irritation or drying of the skin and told to call the office if irritation is severe. Retinoid use should continue even after a patient’s acne improves. It should be used as maintenance therapy to help prevent future breakouts.

Counsel patients that results will not be seen overnight and that often it takes about two months to determine if a regimen is really working. If patients do not respond to treatment or have severe acne, referral to a dermatologist is important.

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GET TO KNOW LHA

Lipoxyrd acid (LHA) is a derivative of salicylic acid (SA)—which is well established for use in acne. LHA is associated with skin-renewing, keratolytic, and comedolytic properties. The chemical structure of LHA includes a longer fatty acid chain, making it a more effective keratolytic compared to SA, and resulting in slower skin penetration than for SA. Coupled with its lipophilicity, this allows LHA to have a larger reservoir effect in the stratum corneum and the pilosebaceous unit.

One consequence of the slow penetration of LHA is that it encourages exfoliation of individual comedones; this process closely resembles the natural skin exfoliation process. This exfoliation helps to remove potentially pore-clogging cellular debris and may enhance penetration of other topically applied products, like benzoyl peroxide.

LHA has a documented comedolytic effect. In controlled studies, individuals who applied LHA had greater reduction in comedones compared to those who did not. Additionally, studies show up to an 85 percent reduction in follicular plugs from Day 1 to Day 24.

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