

# Skin Therapy Letter<sup>®</sup>

Volume 2 • Number 3 • September 2006

Clinical Evidence. Practical Advice.

Editor-in-Chief: Dr Stuart Maddin

**Dr. Stuart Maddin, MD, FRCPC**

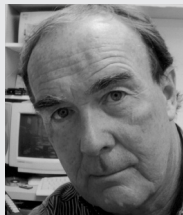
EDITOR-IN-CHIEF

Dr. Stuart Maddin, Chairman of SkinCareGuide, is one of North America's leading dermatologists, and is the author of numerous dermatologic journal articles, monographs and textbooks. In addition to providing consultative input to a number of pharmaceutical and biotech companies, he is the director of the clinical trials unit at the Division of Dermatology, University of British Columbia. Dr. Maddin has also acted in an advisory capacity to a number of drug regulatory agencies, such as the Health Protection Branch (Ottawa), the AAD-FDA Liaison Committee, and WHO (Geneva). He is the founder of the Dermatology Update symposia, now in its 21<sup>st</sup> year. As well, he is Past President of the Canadian Dermatology Association and served as Secretary-General of the International Committee of Dermatology — International League of Dermatological Societies.

**Dr. Des Dwyer, MD, CCFP**

FAMILY PRACTICE ADVISOR

Dr. Dwyer practices in Vancouver, B.C. He also has contributed his time teaching at the University of British Columbia as a Clinical Assistant Professor.



## The Treatment of Cystic Acne

M. G. Davis, MD, FRCPC

Department of Medicine, University of Toronto, Toronto, Canada

### The Disease

Cystic acne is characterized by the formation of cysts enclosing a mixture of keratin and sebum in varying proportions. It is the most severe of the four main types of acne, which are comedonal, papular, pustular, and cystic. A patient with cystic acne usually has more than one type of lesion (polymorphous morphology) and these lesions vary in degree and severity. Conglobate acne is a severe cystic acne with nodules and suppurative lesions, and if associated with systemic symptoms is called acne fulminans.

Adolescents are especially affected by severe acne. Cystic acne may result in low self-esteem, restriction of daily activity, and could lead to clinical depression. That is why it is important to treat cystic acne aggressively when starting therapy. The goal of treatment is not only to improve the patient's appearance, but to reduce the risk of permanent scarring.

### The Cause

Acne begins with microcomedone formation. This can progress, depending on the amount of inflammation, into papular, pustular, and cystic lesions. Intrinsic factors, such as adolescence, genetic predisposition, and hormonal changes (either normal or disease-related) may cause or aggravate the problem. Extrinsic factors, such as drugs, hormones, and other environmental factors (extremes of humidity, working conditions, cosmetics, sunscreens, etc.) may also play a role in the aggravation of this disorder and therefore should be considered in the course of treatment.

### Patient History

A detailed history is important since the avoidance or removal of causative factors is imperative for successful treatment. The following factors should be considered:

#### *Age and Sex*

- Adolescent patients may not require any further investigation.
- In adults, look for cofactors that may aggravate the acne.
- For female patients, menstrual history is important, especially regarding the regularity or absence of periods. Clues for polycystic ovarian syndrome (PCOS) must be sought.

## Patient History (continued)

### *Environmental Factors*

- Patients who spend a lot of time swimming may be harder to treat.
- Occlusive sports clothing (e.g., helmets or other body padding) may aggravate the acne.
- Cosmetic use

### *Complete Drug History or History of Chemical Exposure*

- Hormones, such as androgens or contraceptives, as well as systemic steroids
- Antiepileptic drugs (e.g., phenytoin (Dilantin®), as well as iodides, bromides, or chlorinated hydrocarbons)

### *Clinical Appearance*

- The morphology of the lesion (i.e., comedones, cysts, scars, and pits)
- Look for other signs of androgen stimulation, especially in females, such as hirsutism, alopecia, oily hair, and oily complexion.
- The distribution of the acne may help determine whether clothing or equipment is a factor.

### *Laboratory Investigation*

With the suspicion of androgen excess, check:

- Dehydroepiandrosterone sulphate (DHEAS)
- Free and total testosterone
- Luteinizing hormone (LH)
- Follicle stimulating hormone (FSH)
- Androstenedione

## The Treatment

- *Extrinsic Factors:* These causative factors must be removed or avoided to achieve successful treatment.
- *Topical Therapy:* While topical agents (i.e., benzoyl peroxides, topical antibiotics, and topical retinoids) will not penetrate deeply enough to affect change, they may still play a role in treatment, especially when there is a polymorphous morphology. Because topical antibiotics alone are frequently associated with the development of resistance, combinations of topical antibiotics and benzoyl peroxides are recommended.
- *Systemic Therapy:* Systemic therapy is necessary for clinical improvement because topical agents do not penetrate deeply enough to affect change. The three primary groups of drugs used to treat cystic acne are systemic antibiotics, systemic hormonal or antiandrogen therapy, and systemic retinoids.

## Systemic Antibiotic Treatment

For years antibiotics were the most common treatment for cystic acne. Unfortunately, because of their overuse, there is a higher degree of resistance to these drugs and a lower degree of effectiveness. By suppressing the population of *Propionibacterium acnes*, they reduce the inflammatory factors that cause the formation of papules, pustules, and cysts. Two main groups of antibiotics are used: tetracyclines and erythromycins.

### *Dose*

With regard to tetracycline or its derivatives doxycycline or minocycline, proper dosing is imperative. In most adults or fully grown teens, the proper dose should be:

- Tetracycline – 250mg, one b.i.d.
- Doxycycline – 100mg, one daily or one b.i.d.
- Minocycline – 100mg, one b.i.d.

For patients under 50kg, the dose may be lower, but if too low, it is ineffective.

Patients require treatment for 6 months–1 year or until natural remission occurs. It is also important not to reduce it from the initial full dose. (Many physicians will start tetracycline at the proper dose of 1000mg/day and will decrease to 500mg/day by the 3rd or 4th week.) The full dose should be maintained until there is complete clearing and then the drug may be stopped after clearing has been maintained for at least 1 month. It can then be restarted for flares.

## Systemic Antibiotic Treatment (continued)

### *Side-Effects*

Potential side-effects include photosensitivity and interactions with other drugs, such as oral contraceptives. Check for liver function periodically and advise female patients to avoid pregnancy. Erythromycins may be as effective as tetracyclines but cause no photosensitivity. They do cause more gastrointestinal upset, which may severely limit their usefulness.

## Systemic Hormonal Therapy Treatment (for Women)

- Hormonal therapy can be used whether or not hormonal abnormalities have been demonstrated. The progestational antiandrogen-containing contraceptives, i.e., 2mg cyproterone acetate and 0.35µg ethinyl estradiol (Diane-35<sup>®</sup>), or 3.0mg drospirenone and 0.030mg ethinyl estradiol (Yasmin<sup>®</sup>) work best. The side-effect profile is similar to other OCPs.
- Spironolactone (Aldactone<sup>®</sup>), at a dose of 100mg daily, works well as an antiandrogen, but must be used in combination with oral contraceptives in women of childbearing age.

Side-effects for Spironolactone are rare but may include menstrual irregularities, breast tenderness, dizziness, and fatigue. Hypokalemia is extremely rare in patients who are not taking concurrent diuretics.

## Systemic Retinoids (Isotretinoin) Treatment

Isotretinoin (Accutane<sup>®</sup>) is the gold standard for treating cystic acne and the only drug that may produce a prolonged remission. Retinoids have been available for over 20 years in Canada and have a remarkable safety profile if guidelines are strictly followed and patients are monitored properly. Unfortunately, this is a drug that many family practitioners may be reluctant to prescribe, but a familiarity with the side-effects and monitoring schedules make it as simple to use as other systemic agents.

### *Dose*

- Dosing is proportional to the patient's weight (usually 1mg/kg of body weight per day) for generally 20 weeks.
- The ideal **total** dose is 120–150mg/kg.
- For patients with severe cystic acne, it is better to start at half the normal dose for 2–3 weeks and increase to the full dose over a 2–4 week period.
- The majority of patients will respond well to one course, but approximately 15%–20% will require a second course.

### *Side-Effects*

- Serious side-effects are rare. Common side-effects, such as dry skin and eczema, are controllable with emollients or corticosteroid creams. Cheilitis may be treated with lip balms.
- Teratogenic. In Canada there is a pregnancy prevention program that must be followed just before, during, and after therapy with this drug.
  - For female patients, it is imperative to get a negative pregnancy test before starting treatment, and then have monthly tests while taking the medication, and again 1 month after stopping.
- Liver function and lipids must be checked monthly.

### *Communication*

- It is important to sit with patients and review the information booklets in detail and then obtain written consent.
- The pregnancy prevention program must be fully discussed.

# Mild Acne: Treating & Diagnosing the First Pimple

G. S. Storwick, MD, BSc, MSc, FRCPC

Faculty of Medicine, University of Calgary, Calgary, Canada

## Acne Vulgaris

Almost everyone at some point in his or her life will be troubled with mild acne. It can be related to athletic activities, travel, cosmetics, or hormonal changes. The peak incidence of acne occurs during adolescence, affecting approximately 85% of young people 12–24 years of age. However, adult onset acne is common and the first lesions can appear in the 20s or 30s. Even seniors can be troubled with it on occasion. It can be transient, recurrent, or persistent. Fortunately many good treatments are available. When seeing patients for other reasons, do not hesitate to address their acne, because they are often reluctant to bring it up themselves and are very grateful when offered treatment.

It is a multifactorial disorder of the pilosebaceous units located on the face, chest, and back. For some patients it is mildly annoying, for others it can be very distressing, causing a poor self image, withdrawal and even depression and suicidal ideation.

## Mild Acne

Mild acne has the following features:

- No scarring however subtle
  - However, remember that some people with even mild inflammatory acne can develop scars; if scars do develop, the acne should be reclassified.
- Mild papular, pustular and/or comedonal
- Regional, i.e., on the forehead, nose, chin, back
- New onset and of short duration
- Cyclical, i.e., related to menstrual periods

## Approach to Therapy

Treatment can be directed toward abnormal follicular keratinization (with retinoids), sebaceous gland activity (using oral contraceptives), or bacterial *Propionibacterium acnes* (*P. acnes*) activity (with oral and topical antibiotics). It is important to begin treatment as early as possible in order to prevent mild acne from becoming worse and causing scarring.

## Treatments

### *Cleansers and Washes*

Cleansers are always a good place to start. Have patients use them in the shower, leave on for a few minutes and wash off. Washes tend to be more drying, which is sometimes better for occlusion-induced acne on backs.

- Benzoyl peroxide (BP) washes
- Salicylic washes
- Antibacterial washes

### *Topicals*

- Topicals essentially prevent new lesions of acne, so they need to be applied to the whole acne-prone area.
- Establish proper expectations about when to expect to see improvement. Improvement is likely to be approximately 25% per month.

### *Benzoyl Peroxide Lotions*

- Lower-strength preparations are available over-the-counter (OTC) in most areas.
- There is no evidence to suggest that higher concentrations work better than the low concentrations of benzoyl peroxide.

## Treatments (continued)

- BP is available as an inexpensive OTC or prescription product. OTC is generally less costly than prescription.
- A contact dermatitis can develop in a small minority of patients.
- Care must be taken because BP can bleach clothing and towels.

### *Antibiotics*

- Should be used for short-term or intermittent use to minimize antibiotic resistance.
- Good for inflammatory and pustular acne. Not to be used for purely comedonal acne.

### *Retinoids*

- e.g., tretinoin, tazarotene, adapalene. Especially for comedonal acne.
- Mechanism of action involves normalizing follicular keratinization.
- Aid in the expulsion of existing comedones and prevent the formation of new ones.
- Can be difficult to use, because they are irritating, though some topical formulations are less irritating than others.
  - Creams are generally better tolerated than gels.
- Start with intermittent use and apply sparingly at night. Applying a small quantity on an unwashed face may reduce irritation. Apply a bland emollient over top of the retinoid to minimize irritation.
- Short-contact application, e.g., for a couple of minutes initially, can be helpful for those with sensitive skin or a history of eczema.
- It is possible that the retinoid receptors in the skin are fully engaged only after 1 hour of contact; so for some patients this means that overnight application may be unnecessary.

### *Combination Therapy*

Topical combination agents are more effective than either agent alone, maximizing therapeutic potential. They are more convenient to use, and some do not require compounding. Available combination agents include:

- a cleanser plus a topical agent
- a topical agent plus an oral contraceptive for acne that is unresponsive to topical treatment
- an antibiotic and a topical BP or retinoid
  - reduce the potential for antibiotic resistance.
  - care must be taken because BP can bleach clothing and towels.
  - useful for both comedonal and inflammatory acne.
  - minimize the risk of developing antibiotic resistance.

### *Oral contraceptives (OCs)*

- OCs may be a good way of controlling mild unresponsive acne in women.
- Use in combination with topical therapy.
- Maximum effectiveness seen at 3–6 months. Excellent choice for women who need birth control and have mild acne.
- Estrogen effects include decreasing adrenal and ovarian androgens and increasing sex hormone binding globulin, which decreases free testosterone.
  - Some OCs contain cyproterone acetate, a potent antiandrogenic progestin, which blocks androgen activity at the pilosebaceous unit.
  - Suitable as long as there are no contraindications.
  - If patient is responsive, it can be continued as long as required.
- Spironolactone 100–200mg daily is also an option for adult females.

## Compliance

With a little patience and compliance your patients should be able to gain control of their acne. When mild acne is persistent, or extremely upsetting to the patient, consider more aggressive therapy.

# Diagnosis and Treatment of Lip Conditions for Family Practitioners

P. Kenny, MB, BCh, FRCPC

Department of Dermatology, University of British Columbia, Vancouver, Canada

## Definition

Skin conditions are commonly found on the lips. Surrounding skin and mucosal surfaces may be involved, and hair problems may be present. Lesions can be single or multiple. Conditions can be localized or diffuse, with other features found upon physical examination that help to make a diagnosis. To patients, these conditions are not trivial, and for physicians they remain a challenge, though effective therapies are emerging.

## Benign and Malignant Tumors

Benign and malignant tumors are usually easy to recognize:

- Vascular lesions. Mostly pyogenic granulomas. Can be treated with cryotherapy, electrodesiccation, or excision.
- Venous lakes are common in the older population. Can sometimes be confused with melanoma.
- Multiple small vascular lesions are seen in hereditary hemorrhagic telangiectasia (Rendu-Osler-Weber disease). May have frequent nose bleeds. Similar changes are with primary biliary cirrhosis.
- A solitary brown, flat lesion that insidiously appears can raise the question of melanoma. However, if it is symmetrical in shape and uniform in color, it is probably benign, i.e., labial melanosis (labial freckle), found in fair-skinned individuals. If in doubt, do a biopsy.
- Malignant tumors, especially squamous cell carcinomas (SCC), require prompt surgery; there is a higher metastatic rate for SCC on the lip.

## Precancerous Lesions

Actinic keratoses. These lesions have rough, scaly surfaces and a history of intermittent sloughing and reforming. Therapy includes:

- Cryotherapy, photodynamic therapy (PDT), topical fluorouracil 5% cream (Efudex®)
- Imiquimod 5% cream (Aldara®)

Actinic cheilitis is often chronic and presents with grey-white scales mostly on the lower lip that can become erosive. The loss of the vermilion border is common. This lesion is seen among older males with a history of extensive sun exposure. SCC develops in a significant percentage of patients. Surgical removal of the lower lip is common treatment, but ongoing lower-lip tightness postsurgery can be distressing. Effective therapies include:

- Cryotherapy, topical fluorouracil 5% cream b.i.d. or t.i.d. for 15 days
- Imiquimod three times/week for 4–6 weeks

## Inflammatory Lesions

Perioral dermatitis is a reaction on the skin surrounding the mouth that causes papules, papulovesicles, and pustules without comedones. It can affect children, but most commonly is seen in adult females. Its etiology includes atopic diathesis, reactions to cosmetic products, and use of fluorinated topical corticosteroids, including inhaled agents. Therapy involves:

- Discontinuing corticosteroids
- Metronidazole 0.75% cream (MetroCream®) or 1% cream (Noritate®) q.d. or b.i.d.
- Tetracycline or erythromycin 250mg q.i.d. for 4–6 weeks

Herpes labialis is a recurrent and painful condition that can be treated by oral therapy. A recent one-day oral therapy may prove effective: valacyclovir (Valtrex®) 2000mg po every 12 hours for 24 hours. Topical prescription therapies include penciclovir cream 1%(Denavir®) and acyclovir cream/ointment (Zovirax®).

## Diffuse Scaling

Cheilitis, or diffuse scaling of the lips, is caused by atopic dermatitis, contact dermatitis, and drug reactions. Atopic lip involvement responds to frequent emollient use and low-potency topical corticosteroids. Contact dermatitis can be allergic or irritant in type, and caused by lip gloss, dental hygiene products, or metal objects held by the lips. An under-appreciated cause is the habit of lip licking, which can be difficult to stop. Oral isotretinoin (Accutane®) for acne can cause persistent, dry, scaly lips.

## Systemic Diseases

- Discoid lupus erythematosus. Lesions are scaly papules, reddened with telangiectasias that may show whitish scars. Lesions respond to intralesional triamcinolone.
- Erythema multiforme presents with erosive lesions on the lips, mucosal surfaces, palms, soles, and other sites. Patients are ill and very uncomfortable. A common trigger for this condition is a herpes simplex infection; it is important to rule out this condition when making the diagnosis. Other causes are drug reactions and other infections. Treat the underlying cause with oral corticosteroids.
- Sarcoidosis causes granulomatous lesions to appear.
- Peutz-Jeghers syndrome causes multiple brown-pigmented macules on the lips, which can indicate intestinal polyposis.

## Hair Problems

Hirsutism is a condition of excessive hair that can occur on the skin of the lips. A new, convenient therapy for upper lip hair is topical eflornithine 13.9% cream (Vaniqa®) b.i.d. every 8 hours, with a response in 1–2 months. Eflornithine 13.9% cream inhibits ornithine decarboxylase and retards hair growth.

## Summary of Diagnoses

A simple approach to diagnosis can be based on the features of lesions and hair problems:

Single Lesion	Additional Features	Think About
Red	Bleeds easily	Pyogenic granuloma
	Scaling/ telangiectasias	Discoid lupus
Grouped vesicles	Crusting	Herpes labialis
Purple	Smooth surface	Venous lake
Brown	Scale/ white streaks	Lichen planus
	Smooth surface	Labial melanosis (freckles)
Golden	Crusting	Impetigo
Grey-white	Scale/ rough surface	Actinic keratosis
Nodule/ tumor	Verrucous-like	Squamous cell carcinoma
	Pearly	Basal cell carcinoma
Flesh color	Uneven surface	Wart
Fissure	Macerated scale	Angular stomatitis
Multiple Lesions	Additional Features	Think About
Red	History of nose bleeds	Rendu-Osler-Weber disease (hereditary hemorrhagic telangiectasia)
	Liver disease	Primary biliary cirrhosis
Brown	Intestinal polyps	Peutz-Jeghers syndrome
Blisters/erosions	Acutely ill	Erythema multiforme
Grey-white	Marked sun damage	Actinic cheilitis
Yellow-white		Fordyce spots
Papulovesicles/ pustules	Scale	Perioral dermatitis
Diffuse Lesions	Additional Features	Think About
Swelling	Acute/short-lived urticaria elsewhere	Angioedema
	Chronic, persistent	Granulomatous cheilitis
Scaling		Atopic dermatitis Lip licking Isotretinoin

SIGN UP FOR YOUR FREE SUBSCRIPTION

# Skin Therapy Letter<sup>®</sup>

Family Practice Edition

Editor-in-Chief: Dr Stuart Maddin

Go online to [www.SkinPharmacies.ca](http://www.SkinPharmacies.ca) and sign up today!

Go online to read this new dermatology publication for Family Practitioners:

- Peer reviewed articles
- Patient counseling advice
- Current treatment information

**To get more information, Canadian medical professionals and consumers can access all of our sites from [www.SkinCareGuide.ca](http://www.SkinCareGuide.ca) or go directly to:**

*Patient sites:*

<a href="http://AcneGuide.ca">AcneGuide.ca</a>	<a href="http://BotoxFacts.ca">BotoxFacts.ca</a>	<a href="http://ColdSores.ca">ColdSores.ca</a>	<a href="http://DermatologyCare.ca">DermatologyCare.ca</a>
<a href="http://EczemaGuide.ca">EczemaGuide.ca</a>	<a href="http://FungalGuide.ca">FungalGuide.ca</a>	<a href="http://HerpesGuide.ca">HerpesGuide.ca</a>	<a href="http://Lice.ca">Lice.ca</a>
<a href="http://MildCleanser.ca">MildCleanser.ca</a>	<a href="http://MohsSurgery.ca">MohsSurgery.ca</a>	<a href="http://PsoriasisGuide.ca">PsoriasisGuide.ca</a>	<a href="http://PsoriaticArthritisGuide.ca">PsoriaticArthritisGuide.ca</a>
<a href="http://RosaceaGuide.ca">RosaceaGuide.ca</a>	<a href="http://SkinCancerGuide.ca">SkinCancerGuide.ca</a>	<a href="http://Sweating.ca">Sweating.ca</a>	<a href="http://UnwantedFacialHair.ca">UnwantedFacialHair.ca</a>

*Medical professional sites:*

<a href="http://SkinPharmacies.ca">SkinPharmacies.ca</a>	<a href="http://SkinTherapyLetter.ca">SkinTherapyLetter.ca</a>	<a href="http://Dermatologists.ca">Dermatologists.ca</a>
--	--	--

**We would love to hear from you!**

**Please email us with your comments and topic suggestions to  
[skintherapyletter@skincareguide.com](mailto:skintherapyletter@skincareguide.com)**

*The following companies have provided an unrestricted educational grant  
for the distribution of our 2006 publications:*

*Allergan, Inc.*

*Barrier Therapeutics*

*Berlex Canada Inc.*

*Dermik, the dermatology division of sanofi-aventis Canada Inc.*

*Galderma Canada Inc.*

*GlaxoSmithKline Consumer Healthcare Canada*

*Hoffmann-La Roche, Inc.*

*LEO Pharma Inc.*

*Procter & Gamble*

*Stiefel Laboratories*

Copyright 2006 by SkinCareGuide.com Ltd. Skin Therapy Letter<sup>®</sup> – Family Practice Edition is published quarterly by SkinCareGuide.com Ltd, 1107-750 West Pender, Vancouver, British Columbia, Canada, V6C 2T8. All rights reserved. Reproduction in whole or in part by any process is strictly forbidden without prior consent of the publisher in writing. While every effort is made to see that no inaccurate or misleading data, opinions or statements appear in the Skin Therapy Letter<sup>®</sup> – Family Practice Edition, the Publishers, and Editorial Board wish to make it clear that the data and opinions appearing in the articles herein are the responsibility of the contributor. Accordingly, the Publishers, the Editorial Committee and their respective employees, officers, and agents accept no liability whatsoever for the consequences of any such inaccurate or misleading data, opinion, or statement. While every effort is made to ensure that drug doses and other quantities are presented accurately, readers are advised that new methods and techniques involving drug usage, and described herein, should be followed only in conjunction with the drug manufacturer's own published literature.