Body System: Integumentary		
Session Topic: Acne Treatment and Procedures		
Educational Format		**Faculty Expertise Required**
Clinical Procedural Workshop (CPW)		Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience teaching hands-on procedural workshops. The majority of the education must emphasize hands-on learning, with feedback from faculty.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. Please describe your interest and plan for teaching a PBL on your proposal form.

Professional Practice Gap	**Learning Objective(s) that will close the gap and meet the need**	**Outcome Being Measured**
• Data from a recent AAFP Common Medical Procedures Needs Assessment indicate that family physicians have a need for education and training regarding effective acne treatment and procedures. • Data from a recent AAFP CME Needs Assessment survey indicates that family physicians have a statistically significant and meaningful gap in the knowledge and skill to perform aesthetic procedures/techniques, manage nail disorders, and provide optimal postoperative care for surgical procedures. • Knowledge and practice gaps exist regarding individualize acne treatment for patients by type of acne and severity (including pomade acne). • Knowledge and practice	1. Classify the severity of acne. 2. Discuss the safety and efficacy of the various classes of agents used for treating acne. 3. Explain the mechanisms of action of systemic and topical agents used to various severity of acne. 4. Describe the appropriate candidates for isotretinoin therapy, and incorporate improved protocols for the optimum use of this agent. 5. Discuss the protocols for using chemical peel as effective acne and its scar treatment. 6. Evaluate the use of microdermabrasion (with and without infusion) as an effective acne scar treatment procedure. 7. Evaluate when to use intralesional corticosteroid injections for the treatment of acne cysts and its scar. 8. Evaluate the use of acne extraction procedures. 9. Recognize the urgency of prompt treatment of acne to prevent physical and psychological scarring.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement newly acquired acne treatment and procedural skills.

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gaps exist regarding utilizing appropriate classifications for mild, moderate or severe acne. • Knowledge and practice gaps exist regarding treatment indications, esp. for medications with known potential for adverse reaction/side effects. • Physicians have knowledge gaps with regard to appropriate coding/billing for skin procedures. • The American Academy of Dermatology released new guidelines of care for the management of acne vulgaris in adolescents and adults (May 2016)		

ACGME Core Competencies Addressed (select all that apply)			
X	Medical Knowledge		Patient Care
	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
    - Visit http://www.aafp.org/journals for additional resources
    - Visit http://familydoctor.org for patient education and resources
- Provide strategies to help learners classify the severity of acne.
- Provide recommendations regarding the safety and efficacy of the various classes of agents used for treating acne.
- Provide an overview of the mechanisms of action of systemic and topical agents used to

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various severity of acne.
- Provide learners with strategies to help them identify appropriate candidates for isotretinoin therapy, and incorporate improved protocols for the optimum use of this agent.
- Provide recommendations regarding the protocols for using chemical peel as effective acne and its scar treatment.
- Provide an overview of the use of microdermabrasion (with and without infusion) as an effective acne scar treatment procedure. **Make sure to specifically compare and contrast microdermabrasion with/without infusion vs. microdermabrasion with dermalinfusion.**
- Provide learners with opportunities to evaluate when to use intralesional corticosteroid injections for the treatment of acne cysts and its scar.
- Provide learners with opportunities to evaluate the use of acne extraction procedures.
- Provide learners with strategies to help them recognize the urgency of prompt treatment of acne to prevent physical and psychological scarring.

Needs Assessments

As family physicians treat patients of all ages – from young children to the elderly – it is important to equip them with the tools to identify, diagnose and develop treatment plans for the diverse populations they see in practice. Skin problems and diseases have become a growing reason for which patients seek treatment (35 million patient visits to family physicians were for skin-related problems in 2009[1]) and as such, family physicians should be well equipped to handle some of the most common conditions, which may include everything from acne and eczema to skin cancer and aging. Membership data from recent surveys conducted by the American Academy of Family Physicians (AAFP) indicates that over 73% of family physicians provide skin procedures (e.g. biopsies), and an additional 8.6% perform cosmetic procedures in their clinical practice.[2] When asked what procedures members would most like to provide, botulinum injections was the most frequently mentioned; however, lack of training was a strong factor for not offering the procedure.[3] The 2012 AAFP CME Needs Assessment Survey indicates that family physicians in general have statistically significant and meaningful gaps in medical knowledge and skill to perform aesthetic procedures/techniques, manage nail disorders, and provide optimal postoperative care for surgical procedures.[4] Additionally, CME outcomes data for the clinical procedural workshops (CPD) for integumentary procedures from the 2012-2015 AAFP FMX (formerly Assembly) show that over 50% of learners engaging in those sessions indicated a need to pursue additional education, with several learners commenting that they had an interest in adding aesthetic skin procedures to their practice.[5-8] This suggests that family physicians require continuing medical education, in order to provide optimal care and management of integumentary procedures for their patients.

Over the course of the past decade, the demand for aesthetic skin procedures has increased nearly five-fold, and family physicians have greater opportunities to perform minimally invasive procedures as requested by patients. In fact, minimally invasive procedures have become the principal modality for addressing age-related facial changes in patients. They are, according to one source, associated with high patient satisfaction due to the minimal recovery time, few side effects and relatively good outcomes.[9] This will continue to have significant implications on family physicians' practices as the population continues to age dramatically; in 20 years, the

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proportion of the U.S. population over the age of 65 is expected to double to more than 71 million older adults, or one in every five Americans, leading to a 25% increase in health care spending.[10] While family physicians may not provide extensive in-office procedures for aesthetic purposes, they should still be prepared to address patient questions and concerns, resources on appropriate options and requests for referrals when necessary.

The AAFP Recommended Curriculum Guidelines for Family Medicine Residents indicates that family medicine residents should be able to perform the following skills related to conditions of the skin:[11]

- History and physical examination appropriate for dermatologic conditions
- Preventive skin examination
- Biopsy of skin lesions
    - Punch biopsy
    - Shave biopsy
    - Excisional biopsy
- Scraping and microscopic examination
- Injection
    - Local anesthesia
    - Steroids
- Incision and drainage
- Destruction of lesions
    - Cryosurgery
    - Electrodesiccation
    - Curettage
- Counseling for dermatologic disorders

Acne treatment and management - Acne is the most common skin disorder in the U.S., affecting 40 to 50 million Americans; nearly 85% of people have acne at some point in their lifetime. While it typically starts around puberty, it can affect adults well into their lifetime.[12] The total direct cost associated with the treatment of acne exceeded $2.2 billion in 2004, including costs for prescription and over-the counter medication.

A review of the literature suggests that while dermatologic conditions can be effectively managed in the primary care setting, more than 68% of initial evaluations are referred to a dermatologist, thereby increasing the cost of care with no improvement to overall quality.[13,14] Primary care physicians frequently lack the confidence to effectively diagnose and treat common skin conditions. In part, this is due to inadequate training in medical school, as many have no or limited requirements for a formal clinical rotation on their dermatology service.[15] Physicians often have difficulty diagnosing a generalized rash because many different conditions produce similar rashes, and a single condition can result in different rashes with varied appearances.[16] For example, mycosis fungoides (cutaneous T-cell lymphoma) mimics eczema in its early stages and is rarely diagnosed correctly at initial presentation. It is also common from patients with rosacea to receive a misdiagnosis of acne vulgaris.[17] Reevaluation and possible referral are imperative in chronic eczematous conditions that do not respond to therapy.[16,18]
Additionally, coding for common skin procedures is frequently a challenge for family physicians, and requires continuing education on appropriate skin procedure coding practices,

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including tools and resources to avoid mistakes.[19,20] In addition to physician or practice gaps in providing optimal dermatologic care in the primary care setting, patients have their own misconceptions about managing common skin conditions such as acne, rosacea and eczema. Patients with acne and rosacea are frequently confused about selecting appropriate skin care products, cosmeceutical and cosmetics; therefore, physicians should be prepared to counsel patients and offer recommendations.[21-23]

It is important for family physicians to be aware of the considerations involved in prescribing isotretinoin due to its teratogenicity. In order to be able to prescribe the medication, physicians must register with a distribution program developed by the manufacturer in conjunction with the U.S. Food and Drug Administration (FDA). The System to Manage Accutane-Related Teratogenicity (SMART) program was designed to educate patients about the potential for severe side effects and to minimize unwanted pregnancies. Because it is considered a pregnancy "category X" drug, it has strict regulations.[4] According to one source:
"Its use necessitates adequate contraception during and six weeks after therapy, as well as baseline and monthly pregnancy tests. [Further,] it is strongly recommended that patients have two negative pregnancy tests before starting isotretinoin and regular monthly pregnancy tests thereafter. Current prescribing considerations in the United States require physicians to identify on each prescription that patients have met the above qualifications and have signed a consent form."[246]
Physicians should become familiar with isotretinoin iPLEDGE REMS program, to prevent fetal exposure to isotretinoin.[17,25] Additionally, physicians should be kept up to date on currently available, FDA approved acne treatments and procedures.[17,26]

Physicians should consider the following practice recommendations:[17,27]

- Clinicians may find it helpful to use a consistent grading/classification scale (encompassing the numbers and types of acne lesions as well as disease severity, anatomic sites, and scarring) to facilitate therapeutic decisions and assess response to treatment. Currently, no universal acne grading/classifying system can be recommended.
- Routine microbiologic testing is not recommended in the evaluation and management of patients with acne
- Those who exhibit acne-like lesions suggestive of Gram-negative folliculitis may benefit from microbiologic testing
- Routine endocrinologic evaluation (e.g., for androgen excess) is not recommended for the majority of patients with acne
- Laboratory evaluation is recommended for patients who have acne and additional signs of androgen excess
- Benzoyl peroxide or combinations with erythromycin or clindamycin are effective acne treatments and are recommended as monotherapy for mild acne, or in conjunction with a topical retinoid, or systemic antibiotic therapy for moderate to severe acne
- Benzoyl peroxide is effective in the prevention of bacterial resistance and is recommended for patients on topical or systemic antibiotic therapy
- Topical antibiotics (e.g., erythromycin and clindamycin) are effective acne treatments, but are not recommended as monotherapy because of the risk of bacterial resistance

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- Topical retinoids are important in addressing the development and maintenance of acne and are recommended as monotherapy in primarily comedonal acne, or in combination with topical or oral antimicrobials in patients with mixed or primarily inflammatory acne lesions
- Using multiple topical agents that affect different aspects of acne pathogenesis can be useful. Combination therapy should be used in the majority of patients with acne
- Topical adapalene, tretinoin, and benzoyl peroxide can be safely used in the management of preadolescent acne in children
- Azelaic acid is a useful adjunctive acne treatment and is recommended in the treatment of postinflammatory dyspigmentation
- Topical dapsone 5% gel is recommended for inflammatory acne, particularly in adult females with acne
- There is limited evidence to support recommendations for sulfur, nicotinamide, resorcinol, sodium sulfacetamide, aluminum chloride, and zinc in the treatment of acne.
- Systemic antibiotics are recommended in the management of moderate and severe acne and forms of inflammatory acne that are resistant to topical treatments
- Doxycycline and minocycline are more effective than tetracycline, but neither is superior to each other
- Although oral erythromycin and azithromycin can be effective in treating acne, its use should be limited to those who cannot use the tetracyclines (i.e., pregnant women or children <8 years of age). Erythromycin use should be restricted because of its increased risk of bacterial resistance
- Use of systemic antibiotics, other than the tetracyclines and macrolides, is discouraged because there are limited data for their use in acne. Trimethoprim-sulfamethoxazole and trimethoprim use should be restricted to patients who are unable to tolerate tetracyclines or in treatment-resistant patients
- Systemic antibiotic use should be limited to the shortest possible duration. Re-evaluate at 3-4 months to minimize the development of bacterial resistance. Monotherapy with systemic antibiotics is not recommended
- Concomitant topical therapy with benzoyl peroxide or a retinoid should be used with systemic antibiotics and for maintenance after completion of systemic antibiotic therapy.
- Topical retinoids are effective in the treatment of noninflammatory and inflammatory acne.
- Oral antibiotics are effective for the treatment of moderate to severe acne.
- Benzoyl peroxide should be used in conjunction with topical and oral antibiotics to reduce the risk of bacterial resistance.
- After treatment goals are reached, oral antibiotics should be replaced with topical retinoids for maintenance therapy.
- Topical antibiotics are more effective when used in conjunction with topical retinoids.
- Combined oral contraceptives can be used to treat inflammatory and noninflammatory acne.

In May 2016, the American Academy of Dermatology (AAD) released new guidelines of care for the management of acne vulgaris.[27] Physicians should become familiar with these guidelines, and recognize how they can be incorporated into practice to improve patient care.

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These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Some patients may seek cosmetic procedures to treat acne, such as laser and light therapy, chemical peels or microdermabrasion, which family physicians can provide or offer referrals to qualified specialists for treatment.[17,28] Family physicians are also uniquely positioned to engage patients in a discussion about management of acne – particularly adolescent patients or those who may have concerns about their body image due to severe acne. They should also be prepared to help address common myths about acne, such as the idea that it is caused by poor hygiene practices or diet, or that it is just a cosmetic conditions for which there is minimal treatment.[10] Family physicians should feel comfortable initiating a discussion about acne with patients during office visits; effective physician-patient communication can serve as a tool to help patients manage their condition.

References

1. Centers for Disease Control and Prevention (CDC). National Ambulatory Medical Care Survey (NAMCS). 2009; http://www.cdc.gov/nchs/ahcd/web_tables.htm#2009. Accessed August, 2013.

2. American Academy of Family Physicians (AAFP). AAFP Member Census Results. Leawood KS: AAFP; 2012.

3. AAFP. 2010 Practice Profile I. American Academy of Family Physicians; 2011:31.

4. AAFP. 2012 CME Needs Assessment: Clinical Topics. American Academy of Family Physicians; 2012.

5. American Academy of Family Physicians (AAFP). AAFP FMX CME Outcomes Report. Leawood KS: AAFP; 2015.

6. American Academy of Family Physicians (AAFP). AAFP Assembly CME Outcomes Report. Leawood KS: AAFP; 2014.

7. American Academy of Family Physicians (AAFP). 2013 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2013.

8. American Academy of Family Physicians (AAFP). 2012 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2012.

9. Small R. Aesthetic procedures in office practice. *American family physician.* Dec 1 2009;80(11):1231-1237.

10. Centers for Disease Control and Prevention. The State of Aging and Health in America, 2007. 2007; http://www.cdc.gov/aging/pdf/saha_2007.pdf. Accessed August, 2013.

©AAFP. All rights reserved. This document contains confidential and/or proprietary information which may not be reproduced or transmitted without the express written consent of AAFP.

11. American Academy of Family Physicians (AAFP). Recommened Curriculum Guidelines for Family Medicine Residents. 2013; http://www.aafp.org/medical-school-residency/program-directors/curriculum.html. Accessed August, 2013.

12. American Academy of Dermatology (AAD). Stats and facts: Acne. 2014; http://www.aad.org/media-resources/stats-and-facts/conditions/acne. Accessed January, 2014.

13. Margolis CF, Ramundo ML. Acne management. Primary care physician or dermatologist? *Postgraduate medicine.* Dec 1987;82(8):139-146.

14. Lowell BA, Froelich CW, Federman DG, Kirsner RS. Dermatology in primary care: Prevalence and patient disposition. *Journal of the American Academy of Dermatology.* Aug 2001;45(2):250-255.

15. Davila M, Christenson LJ, Sontheimer RD. Epidemiology and outcomes of dermatology in-patient consultations in a Midwestern U.S. university hospital. *Dermatology online journal.* 2010;16(2):12.

16. Ely JW, Seabury Stone M. The generalized rash: part I. Differential diagnosis. *American family physician.* Mar 15 2010;81(6):726-734.

17. Titus S, Hodge J. Diagnosis and treatment of acne. *American family physician.* Oct 15 2012;86(8):734-740.

18. Ely JW, Seabury Stone M. The generalized rash: part II. Diagnostic approach. *American family physician.* Mar 15 2010;81(6):735-739.

19. Fox GN, McCann LA. 12 errors to avoid in coding skin procedures. *Family practice management.* Jan 2013;20(1):11-16.

20. Millette K. Don't get burned coding common skin procedures. *Family practice management.* Oct 2005;12(9):47-50.

21. Robinson N, Lorenc A, Falinski A, Banarsee R. The challenges of facilitating primary healthcare discussions on traditional, complementary and alternative medicine for childhood eczema: piloting a computerized template. *Patient education and counseling.* Dec 2012;89(3):517-524.

22. American Academy of Dermatology (AAD). Small changes in skin care routine can significantly improve skin affected by acne and rosacea 2011. http://www.aad.org/stories-and-news/news-releases/--small-changes-in-skin-care-routine-can-significantly-improve-skin-affected-by-acne-and-rosacea. Accessed September 2014.

23. Blackman JA. Are you ready to discuss complementary and alternative medicine? *Family practice management.* Jul-Aug 2007;14(7):26-30.

24. Haider A, Shaw JC. Treatment of acne vulgaris. *JAMA : the journal of the American Medical Association.* Aug 11 2004;292(6):726-735.

25. U.S. Food and Drug Administration. Isotretinoin iPLEDGE. *Approved Risk Evaluation and Mitigation Strategies (REMS)* 2015; http://www.accessdata.fda.gov/scripts/cder/rems/index.cfm?event=RemsDetails.page&REMS=24. Accessed Jan, 2016.

26. U.S. Food and Drug Administration. FDA Approved Drugs for Dermatology. *CenterWatch* 2015; https://www.centerwatch.com/drug-information/fda-approved-drugs/therapeutic-area/3/dermatology. Accessed Jan, 2016.

27. Zaenglein AL, Pathy AL, Schlosser BJ, et al. Guidelines of care for the management of acne vulgaris. *Journal of the American Academy of Dermatology.* May 2016;74(5):945-973 e933.

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28. Paulman A, Paulmans R. Skin Disorders Update. *FP EssentialsTM.* 2008;346. Accessed Jan 2016.

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