Body System: Integumentary

Session Topic: Cosmetic Botulinum Toxin Injections – Fundamentals

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 cosmetic botulinum toxin injections. 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 effectively and efficiently to perform aesthetic procedures/techniques, manage nail disorders, and provide optimal postoperative care for surgical procedures	1. Choose appropriate treatment areas for desired results by practicing with saline injections. 2. Compare the uses for botulinum toxin injections. 3. Assess the clinical effects of botulinum toxin on the skin. 4. Evaluate dosages for selected patients for safe and effective treatment.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement newly acquired skills to perform cosmetic botulinum toxin injections.

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 recommendations to help learners choose appropriate treatment areas for desired results by practicing with saline injections.
- Provide examples comparing the uses for botulinum toxin injections.
- Provide recommendations to help physician learners assess the clinical effects of botulinum toxin on the skin.
- Provide recommendations to help physicians learners evaluate dosages for selected patients for safe and effective treatment.

Needs Assessment

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 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. In fact, data from a recent AAFP CME Needs Assessment for Common Medical Procedures survey, indicates that family physicians have a high level of interest in receiving botulin toxin injection training.[9]

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.[10] This will continue to have significant implications on family physicians' practices as the population continues to age dramatically; in 20 years, the 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.[11] 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.

In addition to the provision of minimally invasive procedures, however, family physicians should also be aware of the proliferation of "cosmeceuticals," a term that was coined to describe topical products that may be used for cosmetic purposes but are not true medications because they have not undergone rigorous studies for safety and efficacy. Cosmeceuticals have become a growing area of interest for many patients, as the selection of many different products has increased substantially. Products are generally classified as one of seven categories: sunscreen; antioxidant; anti-inflammatory; pigment lightening; collagen repair; exfoliation; and hydration/barrier repair. Because patients have a variety of dermatologic needs based on their individual skin condition(s), personal habits and preferences, cosmeceuticals are best used as a complement to other products (often prescription) or procedures.[12]

However, family physicians should be aware of potential interactions of different products and procedures (including at-home treatments) that may be used by patients. According to the American Academy of Dermatology, improper use of certain devices, such as at-home laser removal kits, can result in scarring or hyperpigmentation in some people, and active ingredients in other products can cause an unforeseen reaction in other people. It is therefore imperative that family physicians inquire about patients' usage of skin products and procedures to ensure safety and efficacy. Family physicians should orchestrate patient care for those who request or require referral to qualified specialists for procedures not provided in a family physician's office. They should also be aware of their state's requirements for performing aesthetic procedures, which may include certain restrictions on the type of facility in which procedures are performed, training and credentialing of professionals who perform them and safety protocols. When used appropriately, botulinum toxin is safe and effective method for improving cosmetic defects that are caused by or exacerbated by muscle contraction, such as prominent glabellar rhytides.[13] However, physicians should also be familiar with released REMS for OnabotulinumtoxinA (marketed as Botox/Botox Cosmetic), AbobotulinumtoxinA (marketed as Dysport) and RimabotulinumtoxinB (marketed as Myobloc).[14] Complications associated with botulinum toxin injections include formation of antibodies (less than 1%), which can render treatments ineffective.[15] Physicians should consider the following evidence-based clinical recommendations:[15]

- Botulinum toxin serotype A is safe and effective for reduction of frown lines.
- Botulinum toxin serotype A is safe and effective for reduction of crow's feet.

- In preparation for botulinum toxin treatment, patients should be advised to discontinue aspirin and any medication or dietary supplements associated with bruising for two weeks before treatment.

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.

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.

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

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9. American Academy of Family Physicians (AAFP). CME Needs Assessment: Common Medical Procedures. *Market Research In Brief*. Leawood KS: AAFP; 2014.

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11. 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.

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14. U.S. Food and Drug Administration. Update of Safety Review of OnabotulinumtoxinA (marketed as Botox/Botox Cosmetic), AbobotulinumtoxinA (marketed as Dysport) and RimabotulinumtoxinB (marketed as Myobloc). *Drug Safety Information for Heathcare Professionals* 2013; http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/DrugSafetyInformationforHeathcareProfessionals/ucm174959.htm. Accessed Jan, 2016.

15. Small R. Botulinum toxin injection for facial wrinkles. *American family physician.* Aug 1 2014;90(3):168-175.

