

Tobacco and Nicotine Products: The Times They Are A'Changing



Course Author(s): Nevin Zablotzky, DMD

CE Credits: 1 hour

Intended Audience: Dentists, Dental Hygienists, Dental Assistants, Office Managers, Dental Students, Dental Hygiene Students, Dental Assistant Students

Date Course Online: 02/07/2019

Last Revision Date: N/A

Course Expiration Date: 02/08/2022

Cost: Free

Method: Self-instructional

AGD Subject Code(s): 158

Online Course: www.dentalcare.ca/en-ca/professional-education/ce-courses/ce606

Disclaimers:

- P&G is providing these resource materials to dental professionals. We do not own this content nor are we responsible for any material herein.
- Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

Conflict of Interest Disclosure Statement

- The author reports no conflicts of interest associated with this course.

Introduction – Tobacco & Nicotine Products

The use of tobacco and its byproducts stems back to over 5,000 B.C. Over time, we have found that these products are highly addictive and cause numerous serious health problems to those who use them. Given the devastation that tobacco use has caused, the tobacco industry has been forced since the 1960s and 70s to try to find ways to get the consumers of their products to switch to those that are less harmful. There have been many iterations of tobacco harm reduction over the years, with the latest being e-cigarettes and now heat not burn products. This course will help provide the needed knowledge to help understand how we got to the present dilemma we face as a society with these products and where we may be going to undo the damage done.

Course Contents

- Overview
- Learning Objectives
- Video: Tobacco and Nicotine Products
- Course Test
- References
- About the Author

Overview

Despite the best efforts of public health policy and the care provided by healthcare professionals, the number of tobacco related deaths in the United States has remained constant at approximately 480,000 individuals per year. In addition to the physical devastation tobacco products have caused, the annual financial costs in treating tobacco related illnesses still equals \$170 billion dollars. As new "harm reduction products" have been introduced to the public, there has been a continued debate as to their safety as well as their efficacy as tobacco cessation aids. This course will try to provide an overview of this subject and allow practitioners to better understand the products their patients are using and their impact on their oral and systemic health.

Learning Objectives

Upon completion of this course, the dental professional should be able to:

- Discuss how tobacco and nicotine products have evolved over the years.
- Identify the types of nicotine that are used in these products.
- List the different types of nicotine found in tobacco and nicotine products.
- Explain how tobacco and nicotine products effect the body.
- Understand the concept of tobacco harm reduction and be able to identify the latest tobacco harm reduction products.
- Assess how effective these products are as nicotine cessation aids and if they are truly safe.

Video: Tobacco and Nicotine Products



[Click on image to view video online.](#)

Course Test Preview

To receive Continuing Education credit for this course, you must complete the online test. Please go to: www.dentalcare.ca/en-ca/professional-education/ce-courses/ce606/test

1. **What percentage of American's over the age of 21 smoked cigarettes in 1955?**
 - A. 10.6%
 - B. 20.6%
 - C. 52.6%
 - D. 80.6%
2. **The percentage of American's over the age of 21 smoking cigarettes in 2019 is ____.**
 - A. 10%
 - B. 15%
 - C. 25%
 - D. 30%
3. **The use of cigarettes is associated with ____.**
 - A. cleft lip and palate
 - B. good oral health
 - C. periodontal disease
 - D. oral cancer
 - E. A, C and D
4. **How many Americans live with a smoking-related illness?**
 - A. 3 million
 - B. 10 million
 - C. 16 million
 - D. 50 million
5. **Cigar smoking exposes its users to cancer-causing chemicals effecting the ____.**
 - A. lips
 - B. tongue
 - C. throat
 - D. pancreas
 - E. A, B and C
6. **There are 3,000 chemicals and 28 carcinogens in smokeless tobacco including ____.**
 - A. arsenic
 - B. vinegar
 - C. chlorine
 - D. vitamin A
 - E. ascorbic acid
7. **The use of nicotine containing products is addictive and ____.**
 - A. has no effect on the brain
 - B. effects the central nervous and endocrine systems
 - C. has adverse effects on the brain and gestation through adulthood
 - D. B and C

8. **Juul e-cigarettes' nicotine _____.**
A. speed of "hit" mimics the absorption of cigarettes illness
B. is absorbed in 10 minutes
C. is absorbed in one hour
D. is not harmful
E. is much weaker than cigarettes
9. **The following is true about healthcare professionals treating young users of e-cigarettes for their nicotine addiction.**
A. They have little experience in working with nicotine addicted children.
B. Nicotine addiction is difficult to treat in any age group.
C. Children cannot get addicted to nicotine.
D. A and B
10. **Tobacco harm reduction products such as Iqos _____.**
A. heat tobacco to 350 degrees Fahrenheit
B. combust tobacco
C. have been proven to be totally safe in their use
D. have been proven to be effective nicotine cessation aids
E. have no nicotine content
11. **In the 1960s Philip Morris scientists added what to the nicotine molecule creating "free based" nicotine?**
A. Ammonia
B. THC
C. Thorazine
D. Carbonic acid
12. **There are presently how many flavors available in e-cigarettes?**
A. 500
B. 1,000
C. 5,000
D. 15,000
13. **EVALI (E-cigarette and Vaping Associated Lung Injury) has been associated with some individuals using e-cigarettes and _____.**
A. is linked to vitamin E acetate
B. chewing tobacco
C. is not a major concern at this time
D. is seen in only adults
14. **Some EVALI symptoms may include _____.**
A. shortness of breath
B. night sweats
C. amnesia
D. a mimicking of the flu
E. A, B and D
15. **The American Lung Association in 2019 states that at this time _____.**
A. the FDA has found e-cigarettes to be safe
B. the FDA has yet to find e-cigarettes to be effective in helping smokers to quit
C. they have not felt that e-cigarettes were a problem
D. they have felt that research is adequate at this time on E-cigarettes

References

1. Haenszel W, Green D. National Clearinghouse for Smoking and Health. (60,62,64).
2. CDC. 2013, 2018, 2019.
3. US Surgeon General's Report. 2004, 2014, 2016.
4. Li Z, Liu J, Ye R, et al. Maternal passive smoking and risk of cleft lip with or without cleft palate. *Epidemiology*. 2010;21(2):240–242. doi:10.1097/EDE.0b013e3181c9f941.
5. Jia ZL, Shi B, Chen CH, et al. Maternal malnutrition, environmental exposure during pregnancy and the risk of non-syndromic orofacial clefts. *Oral Dis*. 2011;17(6):584–589. doi:10.1111/j.1601-0825.2011.01810.x.
6. Zhang B, Jiao X, Mao L, et al. Cigarette smoke exposure before pregnancy and the associated risk of having a child with orofacial clefts in China: a case-control study. *Plast Reconstr Surg*. 2011;127(3):61e–62e. doi:10.1097/PRS.0b013e31820632c2.
7. Strietzel FP, Reichart PA, Kale A, et al. Smoking interferes with the prognosis of dental implant treatment: a systematic review and meta-analysis. *J Clin Periodontol*. 2007;34(6):523–544. doi:10.1111/j.1600-051X.2007.01083.x.
8. Hinode D, Tanabe S, Yokoyama M, et al. Influence of smoking on osseointegrated implant failure: a meta-analysis. *Clin Oral Implants Res*. 2006;17(4):473–478. doi:10.1111/j.1600-0501.2005.01244.x.
9. Baig MR, Rajan M. Effects of smoking on the outcome of implant treatment: a literature review. *Indian J Dent Res*. 2007;18(4):190–195. doi:10.4103/0970-9290.35831.
10. NIH. National Cancer Institute. Cigar Smoking and Cancer. Accessed January 31, 2020.
11. Gately I. Tobacco: a cultural history of how an exotic plant seduced civilization. New York, NY. Grove Press. 2002.
12. Campaign for Tobacco-Free Kids. Accessed January 31, 2020.
13. CDC. Smoking & Tobacco Use. National Youth Tobacco Survey (NYTS). Accessed January 31, 2020.
14. Christensen J. Smokeless tobacco company can advertise snus as less risky than cigarettes, FDA says. CNN. 2019 Oct 22. Accessed January 31, 2020.
15. Lee EM, Malson JL, Moolchan ET, et al. Quantitative comparisons between a nicotine delivery device (Eclipse) and conventional cigarette smoking. *Nicotine Tob Res*. 2004;6(1):95–102. doi:10.1080/14622200310001656911.
16. Zeller M. Search for a Safe Cigarette. NOVA. PBS Airdate: October 21, 2001. Accessed January 31, 2020.
17. Tavernise S. E-Cigarettes Are Targeted at Youths, Report Says. New York Times. 2014 Apr 24. Accessed January 31, 2020.
18. Kuehn B. Youth e-Cigarette Use. *JAMA*. 2019;321(2):138. doi:10.1001/jama.2018.20655.
19. Wise L. Death of First Child from Liquid Nicotine. McClatchy Washington Bureau. 2015 Jan 13.
20. Brooks M. Vaping-Related Injuries Surge; 'Consider Not Using' e-Cigs: CDC. Medscape. 2019 Sep 6. Accessed January 31, 2020.
21. American College of Cardiology. E-Cigarettes Linked to Heart Attacks, Coronary Artery Disease and Depression. 2019 Mar 07. Accessed January 31, 2020.
22. Ducharme J. The FDA is Investigating a Possible Link between Vaping and Seizures. Time. 2019 Apr 03. Accessed January 31, 2020.
23. Raymond BH, Collette-Merrill K, Harrison RG, Jarvis S, Rasmussen RJ. The Nicotine Content of a Sample of E-cigarette Liquid Manufactured in the United States. *J Addict Med*. 2018;12(2):127–131. doi:10.1097/ADM.0000000000000376.
24. Zhang G, Wang Z, Zhang K, et al. Safety Assessment of Electronic Cigarettes and Their Relationship with Cardiovascular Disease. *Int J Environ Res Public Health*. 2018;15(1):75. Published 2018 Jan 5. doi:10.3390/ijerph15010075.
25. Eaton DL, Kwan LY, Stratton K, editors. Public Health Consequences of E-Cigarettes. National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on the Review of the Health Effects of Electronic Nicotine Delivery Systems. Washington (DC): National Academies Press (US); 2018 Jan.

26. Vapes. The Real Cost. US Department of Health and Human Services. Accessed January 31, 2020.
27. Financial Times. 2019 Oct.
28. CDC. Smoking & Tobacco Use. Quick Facts on the Risks of E-cigarettes for Kids, Teens, and Young Adults. 2020 Jan 03. Accessed January 31, 2020.
29. Truth Initiative. E-cigarettes: Facts, stats and regulations. 2019 Nov 11. Accessed January 31, 2020.
30. Mastroianni B. What Is IQOS, and How Is It Different from Vaping or Smoking? Healthline. 2019 Oct 11. Accessed January 31, 2020.

Additional Resources

- No Additional Resources Available.

About the Author

Nevin Zablotsky, DMD



Dr. Zablotsky received his dental and postgraduate degree in periodontology from the Tufts School of Dental Medicine. He has lectured throughout the US and internationally on tobacco related issues and has lectured, and continues to lecture for the American Dental Association. He recently authored a chapter on tobacco and oral health, and tobacco cessation in the periodontal textbook, "Non-Surgical Control of Periodontal Diseases." He received the Vermont Advocate of the Year award from the American Cancer Society and the lifetime achievement award for the Vermont Special Olympics, and was the past president of the

Vermont Periodontal Society.

Email: nev1248@aol.com