**SPN Position Statement**

**Children, Adolescents, and Families’ Exposure to E-Cigarettes, Nicotine, and Tobacco Smoke in the United States**

Original Author: Yvonne Sterling, DNSc, RN; Gina Lypaczewski, MScA, RN, CPN, Public Policy Committee; Anne Turner-Henson, PhD, DSN, RN, FAAN, Public Policy Committee, SPN Position Statement Task Force

Revised by: Natasha Gilkey, EdD, MSN, CNE, RN

*Approved by SPN Board of Directors on 2/18/2025*

*All SPN Position statements are valid for two years after the approval date.*

In the United States, tobacco smoking remains the leading cause of preventable deaths (CDC.org, 2024; Gentzke et al., 2022). Tobacco smoking has been on a steady decline for both adults and youths however, with the introduction of e-cigarettes, there has been a significant increase in tobacco use by middle and high school-aged children (CDC.org, 2024). The use of e-cigarettes under the age of 14 is associated with a higher likelihood of initiating tobacco smoking and creating another generation addicted to tobacco (Lee et al., 2021).

The primary addictive component of tobacco-related products is nicotine (liquid nicotine for e-cigarettes). Repeated nicotine exposures become associated with daily environmental cues, producing long-term changes in dopaminergic signals in the reward/reinforcement brain centers that eventually result in addiction (Jenssen, 2023). Children and adolescents are particularly susceptible to nicotine addiction. Pediatric nicotine use typically begins in adolescence, with just about half continuing well into adulthood (Mahajan, Homish, Quisenberry, 2021). Tobacco use early in life is associated with neurophysiologic dependence due to the child’s rapidly developing brain (Jenssen, 2023). The intake of nicotine, combined with rapid neural changes in adolescents, can increase the likelihood of developing physical dependence and greater difficulties with cessation (Goldberg & Gould, 2022). Due to the rapid advances in nicotine delivery products, pediatric nurses must keep abreast of new products available to youth.

There is ***no safe level*** of tobacco exposure, either through personal use, secondhand smoke, or thirdhand smoke (Jenssen et al., 2023; who.int, 2021). Tobacco smoke is a known carcinogen associated with disease and death in smokers and nonsmokers (NCCDPHP, 2024). While parents are responsible for over 90% of children’s exposure to tobacco smoke, other relatives living in the household may also contribute. Secondhand smoke exposure is considered side stream smoke, a mixture of chemicals emitted in smoke from a burning cigarette, as well as the smoke exhaled from the lungs of smokers (cdc.gov, 2024). Thirdhand smoke is the byproduct of tobacco smoke pollutants that attach and accumulate on surfaces (e.g., clothing, hands, furniture) (Jenssen, 2023). Children may have thirdhand exposure from contact surfaces, and preschool children, given their hand-to-mouth practices, may be more likely to ingest nicotine from surfaces (Francis et al., 2023). Tobacco smoke in indoor areas (e.g., homes, hotel rooms, cars, etc.) produces poor air quality due to increased levels of particulate matter (Tong et al, 2024). Adverse health outcomes linked to tobacco smoke exposure for the developing fetus include congenital malformations and preterm birth. Adverse health outcomes related to tobacco smoke and e-cigarette exposure for infants and children include sudden infant death syndrome (SIDS), cancer, childhood obesity, asthma, otitis media, pulmonary diseases, and neurocognitive problems (who.int, 2021).

Additives in cigarettes (e.g., menthol) and e-cigarettes (e.g., flavorings) make tobacco appealing (Jenssen, 2023). E-cigarettes are marketed to entice youth to buy them and falsely advertise that they are safer than cigarettes (Jenssen, 2023). Health risks associated with e-cigarettes and nicotine include the potentially toxic substances and carcinogens found in vaping liquids which may cause damage to the lungs and brain and potentially even result in death (Jenssen, 2023).

Children are at greatest risk of liquid nicotine poisoning due to their increased metabolic rate and growth and development level. Since 2011, there have been increased calls to poison control centers related to liquid nicotine. Liquid nicotine poisoning can occur through ingestion, skin contact, or inhaling too much vapor (Henstra et al., 2022). Exposure to liquid nicotine can cause seizures, bradycardia, and hypotension that may eventually be fatal. The Child Nicotine Poisoning Prevention Act of 2015 was signed into law to ensure manufacturers created child protective packaging for liquid nicotine products.

The Society of Pediatric Nurses (SPN) supports sustained implementation of proven population-based strategies as outlined by the AAP public policy statements (Jenssen 2023), a report from the Surgeon General (U.S. Department of Health and Human Services [USDHHS], 2020), Centers for Disease Control (2024), and the World Health Organization’s (WHO) (2021) report on the global tobacco epidemic.

SPN’s Position

1. Encourage and increase access to smoking cessation programs for youths and families, including mental health well-being services.
2. Advocate for social/environmental changes to reduce youth's secondhand and thirdhand

smoke exposure.

1. Support FDA and legislative efforts for continued warning advertisements on tobacco-related

product packaging.

1. Support local and state initiatives to limit tobacco product advertisement in general

population areas.

1. Encourage agencies to implement tobacco usage screening measures in care management

coordination.

1. Develop partnerships among healthcare agencies (e.g., children’s hospitals, community

hospitals), community and social service agencies, advocates, and children and their families to ensure communication of needs, the provision of resources, and service delivery to vulnerable populations of children.

References

CDC.gov (2024). *About secondhand smoke*. Retrieved from: <https://www.cdc.gov/tobacco/secondhand-smoke/index.html>

CDC.gov (2024). *Youth tobacco product use at a 25 year low, yet disparities persist*. Retrieved from:

<https://www.cdc.gov/media/releases/2024/p1017-youth-tobacco-use.html>

CDC.gov (2024). *Youth and Tobacco Smoke*. Retrieved from: https://www.cdc.gov/tobacco/php/data-statistics/youth-data-tobacco/

Child Nicotine Poisoning Prevention Act of 2015, (2015). Pub. L. No. 114-116, § 142, (2016).<https://www.congress.gov/bill/114th-congress/senate-bill/142>

Francis, D., Reddy, S., Harikrishnan, R., Krishnan, S., Chopra, S. (2023). The hidden threat of third and

Fourth-hand smoking to oral and periodontal health- A narrative review. *Journal of Oral Medicine*

*And Dental Research, 4*(2), 1-12. Doi: <https://doi.org/10.52793/JOMDR.2023.4(2)-41>

Gentzke, A.S., Wang, T.W., Cornelius, M., Park-Lee, E., Ren, C., Sawdey, M.D., Cullen, K.A., Loretan, C.

Jamal, A., Homa D. (2021). Tobacco product use and associated factors among middle and

high school students- national youth tobacco survey, United States, 2021. *MMWR Surveill*

*Summ. 71*(5), 1-29. Doi:  [10.15585/mmwr.ss7105a1](https://doi.org/10.15585/mmwr.ss7105a1)

Goldberg, L., Gould. T. (2022). Genetic influences impacting nicotine use and abuse during

Adolescence: Insights from human and rodent studies. *Brain Research Bulletin, 187*, pg. 24-38.

Doi: <https://doi.org/10.1016/j.brainresbull.2022.06.007>

Henstra, C., Dekkers, B., Olgers, T., Maaten, J., & Touw, D., (2022). Managing intoxications with nicotine-

Containing e-liquids. *Expert Opinion on Drug Metabolism & Toxicology, 18*(2), 115-121. Doi: https://doi.org/10.1080/17425255.2022.2058930

Jenssen, B., Walley, S. Boykan, R., Caldwell, & A. Camenga, D. (2023). Protecting children & adolescents

From tobacco and nicotine. Pediatrics, 151(5), e2023061804. DOI: <https://doi.org/10.1542/peds.2023-061804>

Lee, J., Kong, G., Kassas, B., & Salloum, R.G. (2021). Predictors of vaping marijuana initiation among US adolescents: Results from the population assessment of tobacco and health (PATH) study wave 3 (2015-2016) and Wave 4 (2016-2018). Drug and Alcohol Dependence, 226. <https://doi.org/10.1016/j.drugalcdep.2021.108905>

Mahajan, S., Homish, G.G., & Quisenberry, A. (2021). Multifactorial etiology of adolescent nicotine

Addiction: A review of the neurobiology of nicotine addiction and its implications for smoking

Cessation pharmacotherapy. Frontiers in Public Health, 9, 664738. Doi: <https://doi.org/10.3389/fpubh.2021.664748>

McGrath-Morrow, S.A., Gorzkowski, J., Groner, J.A., Rule, A.M., Wilson, K., Tanski, S.E.,Collaco, J.M., & Klein J.D. (2020). The effects of nicotine on development. *Pediatrics,145*(3), e20191346. doi: <https://doi.org/10.1542/peds.2019-1346>

National Center for Chronic Disease Prevention and Health Promotion. (2022, August 30). Office on smoking and health at a glance. Centers for Disease Control and Prevention. Retrieved September 6, 2022, from <https://www.cdc.gov/chronicdisease/resources/publications/aag/tobacco-use.htm>

Tong, M., Goodman, N., & Vardoulakis, S. (2024). Impact of secondhand smoke on air quality in partially

Enclosed outdoor hospitality venues: a review. *BMC Public Health, 24*, 1872. Doi: <https://doi.org/10.1186/s12889-024-19394-w>

U.S. Food and Drug Administration. (2020, September 14). FDA’s youth tobacco prevention plan. Retrieved March 10, 2022, from <https://www.fda.gov/tobacco-products/youth-and-tobacco/fdas-youth-tobacco-prevention-plan.>

World Health Organization. (2021). WHO report on the global tobacco epidemic, 2021: Addressing new and emerging products. [https://www.who.int/tobacco/global\_report/en/.](https://www.who.int/tobacco/global_report/en/)

World Health Organization. (2021). *New brief outlines devastating harms from tobacco use and exposure*

*To second-hand smoke during pregnancy and throughout childhood- report calls for protective policies.* Retrieved from: https://www.who.int/news/item/16-03-2021-new-brief-outlines-devastating-harms-from-tobacco-use-and-exposure-to-second-hand-tobacco-smoke-during-pregnancy-and-throughout-childhood