

**MULTI-AGENCY ADVISORY**

**ADVISORY CONCERNING USE OF ELECTRONIC NICOTINE DELIVERY SYSTEMS (ENDS) BY INCARCERATED POPULATIONS IN TENNESSEE**

The Tennessee Department of Health, the Tennessee Department of Correction and the Tennessee Department of Safety and Homeland Security urge caution to county and city law enforcement leadership regarding sales and/or distribution of all Electronic Nicotine Delivery Systems (ENDS), popularly known as “e-cigs,” to their incarcerated populations for the following reasons:

● There is inadequate scientific information about the effects of using current electronic nicotine delivery systems to assure the public about the impact on safety and health. Coupled with the absence of state or federal regulation of manufacturing ENDS, this information should prompt consumers and policy makers to be cautious about use of the devices as well as exposure to second-hand emissions from ENDS.

● Nicotine is a highly addictive chemical which can be toxic and can affect the nervous and circulatory systems. Studies show most people who smoke want to quit, but are unable to end their nicotine addiction.

● No state or federal agency regulates the manufacturing of ENDS. Consequently, the type, quality or amount of chemicals these devices may contain is unknown. Consumers of these products and policy makers are cautioned there may be exposure to varying levels of nicotine and/or other chemicals and contaminants in these products, which may cause harm to users and to those exposed to second-hand emissions.[[1]](#endnote-1) There are recent reports of counterfeit brand name devices.

● Emissions from ENDS are not only water vapor. They may contain harmful amounts of nicotine and other chemicals such as formaldehyde, propylene glycol, acetaldehyde, acrolein and tobacco-specific nitrosamines.[[2]](#endnote-2)

● Recent studies of chemical flavorings added to ENDS devices have found some contain aldehydes, known to be respiratory irritants. Exposure to these irritants could exceed workplace safety exposure limits and damage tissues of users and possibly those exposed to second-hand emissions.[[3]](#endnote-3)

● Pregnant women should avoid using ENDS. The nicotine can impact fetal development, affecting the brain, nerves and circulatory systems. Pregnant women should know exposure to nicotine, in either regular or electronic cigarettes, may:

* cause a miscarriage.
* cause low birth weight, creating significant health challenges for their babies.
* affect the unborn baby’s blood flow, heart rate and breathing.
* contribute to sudden infant death syndrome.

● Most ENDS devices contain a small, acid-based battery which could create serious health complications if swallowed. Additionally, the chemical cartridges present opportunities for the addition of illegal substances such as cannabinoids.

● Because ENDS devices are relatively new, scientific and medical research is insufficient to definitely know the cumulative, long-term effects of their use. There is an abundance of preliminary information, however, that has generated concern in health and medical communities. The list of countries, states and organizations restricting or prohibiting their use is steadily increasing.

● The Tennessee Department of Correction has a policy for TDOC institutions (Index #: 112.11) that prohibits electronic cigarettes. This became effective Feb. 1, 2011.

● Law enforcement agencies should consult with their appropriate local legal counsel for opinions on potential liability exposure to county governments for distributing an unregulated product that may be either addictive or harmful to users and to those exposed to second-hand emissions.

● Persons complaining of health issues following exposure to ENDS emissions should receive prompt medical attention. The ENDS device should be preserved as medical evidence to determine the type and amount of chemicals it contained.

● As of April 2, 2015, 354 municipalities and three states include ENDS as products prohibited from use in smoke-free environments.[[4]](#endnote-4)

1. American Lung Association, <http://www.lung.org/stop-smoking/tobacco-control-advocacy/federal/e-cigarettes.html> [↑](#endnote-ref-1)
2. Numerous studies have found the emissions from Electronic cigarettes are not just vapor. For additional information see:

*HealthDay* News for Healthier Living, May 7, 2014, “E-Cigarette Vapor Contains Potentially Harmful Particles: Review” <http://consumer.healthday.com/mental-health-information-25/addiction-news-6/e-cig-emissions-687570.html>

Food and Drug Administration Advisory No. 2013-015/ Secondary Exposure to E-cigarette Emissions Might be Harmful to Health.

<http://www.fda.gov.ph/advisories/food/80233-fda-advisory-no-2013-015> (Advisory lists chemicals found in electronic cigarette emissions).

At least 10 chemical identified in ENDS aerosol are on California’s Proposition 65 list of carcinogens and reproductive toxins, also known as the Safe Drinking Water and Toxic Enforcement Act of 1986. These compounds that have already been identified in mainstream or second-hand ENDS aerosol include: Acetaldehyde, Benzene, Cadmium, Formaldehyde, Isoprene, Lead, Nickel, Nicotine, Nitrosonornicotine and Toluene. See: <http://www.no-smoke.org/pdf/ecigarette-secondhand-aerosol.pdf>

The World Health Organization (Oct. 13-18, 2014) submitted a report on ENDS chemicals, see:

<http://apps.who.int/gb/fctc/PDF/cop6/FCTC_COP6_10Rev1-en.pdf?ua=1> [↑](#endnote-ref-2)
3. Journal of the American Medical Association, Dec. 17, 2014, “Flavorings in Electronic Cigarettes An Unrecognized Respiratory Health Hazard” <http://jama.jamanetwork.com/article.aspx?articleID=1935097>

“Flavor chemical in electronic cigarette fluids” April 15, 2015, <http://tobaccocontrol.bmj.com/content/early/2015/03/27/tobaccocontrol-2014-052175.long> [↑](#endnote-ref-3)
4. <http://www.no-smoke.org/pdf/ecigarette-secondhand-aerosol.pdf>

For additional information on electronic nicotine delivery systems:

Dwyer JB, McQuown SC & Leslie FM. (2009). “The dynamic effects of nicotine on the developing brain”. Pharmacol

Ther, 122(2),125-139. Doi: 10.1013/j.pharthera.2009.02.003.

German Cancer Research Center. (2013). “Electronic Cigarettes- An Overview”. Red Series Tobacco Prevention and

Control, Volume 19. Heidelberg, Germany.

Goniewicz ML, Kuma T, Gawron M, Knysak J, & Kosmider L. (2012). “Nicotine levels in electronic cigarettes”.

Nicotine Tob Res. Doi: nts103 [pii] 10.1093/ntr/nts103.

Goniewicz ML, Knysa J, Gawron M, Kosmider L, Sobczak A, Kurek J…Benowitz N. (2013). “Levels of selected carcinogens and toxicants in vapour from electronic cigarettes”. Tob Control. Doi: 10.1136/tobaccocontrol-2012-

050859.

Flouris AD, Chorti MS, Poulianti KP, Jamurtas AZ, Kostikas K, Tzatzarakis MN…Koutedakis Y. (2013). “Acute impact of

active and passive electronic cigarette smoking on serum cotinine and lung function”. Inhal Toxicol, 25(2), 91 -101. Do:10.1136/tobaccocontrol-2012-050859.

Brody A, Mandelkern M, London E, Khan A, Kozman D, Costello M, Vellios E, Archie M, Bascom R & Mukhin A.

(2011). “Effect of Secondhand Smoke on Occupancy of Nicotine Acetylcholine Receptors in Brain”. Arch Gen

Psychiatry, 68(9):953-960.

Flouris, Andreas D.; Poulianiti, Konstantina P.; Chorti, Maria S.; Jamurtas, Athanasios Z.; Kouretas,
Dimitrios; Owolabi, Emmanuel O.; Tzatzarakis, Manolis N.; Tsatsakis, Aristidis M.; Koutedakis, Yiannis.
“Acute Effects of Electronic and Tobacco Cigarette Smoking on Complete Blood Count. Food and Chemical Toxicology”.
<http://dx.doi.org/10.1016/j.fct.2012.07.025>,

Vardavas CI, Anagnostopoulos N, Kougias M, Evangelopoulou V, Connolly GN, Behrakis PK. “Acute
pulmonary effects of using an e-cigarette: impact on respiratory flow resistance, impedance and exhaled nitric oxide”**.** Chest. 2011 Dec 22. <http://www.ncbi.nlm.nih.gov/pubmed/22194587>

U. S. Food and Drug Admin. FDA Warns of Health Risks Posed by E-Cigarettes (2009), available at [*www.fda.gov/downloads/ForConsumers/ConsumerUpdates/Updates/UCM173430.pdf*](http://www.fda.gov/downloads/ForConsumers/ConsumerUpdates/Updates/UCM173430.pdf)

Centers for Disease Control and Prevention (CDC). Electronic Cigarette Use Among Middle and High School Students – Unites States, 2011-2012. MMWR 2013; 62:729-30.

Center for Tobacco Control, Research and Education, Univ of California, San Francisco. [*www.tobacco.ucsfedu/10-chemicals-identified-so-far-e-cig-vapor-are-california-prop-65-list-carcinogens-and-reproductive*](http://www.tobacco.ucsfedu/10-chemicals-identified-so-far-e-cig-vapor-are-california-prop-65-list-carcinogens-and-reproductive)

Wilson LM et al. Impact of tobacco control interventions on smoking initiation, and prevalence: A systematic review. J Environ and Public Health; see: [*www.hindawi.com/journals/jeph/2012/961724/*](http://www.hindawi.com/journals/jeph/2012/961724/)*.*

King BA et al. Flavored-little-cigar and flavored-cigarette use among U. S. middle and high school students. J of Adolescent Health 2014;54:40-6.

Bullen C et al. Electronic cigarettes for smoking cessation: A randomized controlled trial. Lancet 2013; 382: 1629-37.

Centers for Disease Control and Prevention (CDC). Tobacco Product Use Among Middle and High School Student – United States, 2011 and 2012. MMWR Nov. 15, 2013 / 62(45);893-897

Centers for Disease Control and Prevention (CDC). Quitting Smoking Among Adults ---United States, 2001—2010. MMWR Nov. 11, 2011 / 60(44);153-1519 [↑](#endnote-ref-4)