

What are the components of ENDS devices?

- Most **Electronic Nicotine Delivery System (ENDS)** devices contain the same three components – a battery, a reservoir containing a liquid solution, and a heating element or atomizer that creates an aerosol (or vapor) from the liquid.
- The exception is called Heat-Not-Burn products, which use actual tobacco instead of a liquid solution.



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Introduction to
Odds & ENDS*

Learning Objectives:

1. Describe the major components of ENDS and differentiate between products.
2. Cite the current regulatory status of ENDS.
3. Identify prevalence and patterns of use.

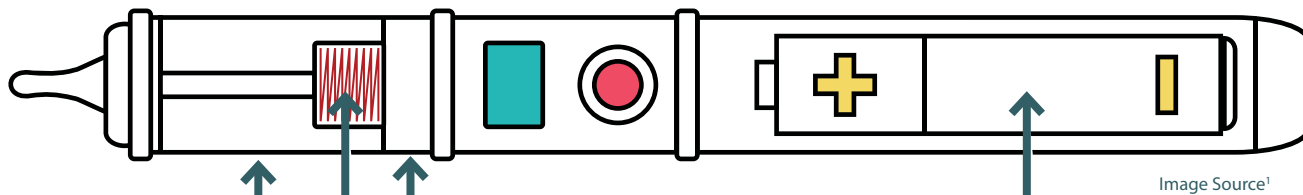


Image Source¹

THE CARTRIDGE

This holds the e-liquid (substance). It comes prefilled or refillable. It is usually combined with an atomizer as one unit.

THE ATOMIZER

It is a coil that is a heating element which helps convert e-liquid to tiny airborne droplets (aerosol).

THE SENSORS

E-cigarettes without a power button will turn on when the user inhales through it. E-cigarettes with or without a power button require sensors to turn on.

THE BATTERY

It is a rechargeable lithium ion battery, which provides enough current to heat the atomizer to 400 degrees Fahrenheit in seconds.

What are the generations of ENDS devices?

- The first generation (“cigalikes”) mimicked the shape and size of conventional cigarettes. They even had an LED light at the tip that would light up when the user took a puff.
- Second generation ENDS include larger and rechargeable batteries, the capability to increase power to the atomizer, and refillable reservoirs.
- Third generation devices allowed users even more control over aspects of vaping like flavors, nicotine concentration, and heating temperature.
- Fourth generation devices use nicotine salts (rather than freebase nicotine). These solutions can deliver higher concentrations of nicotine to the user.

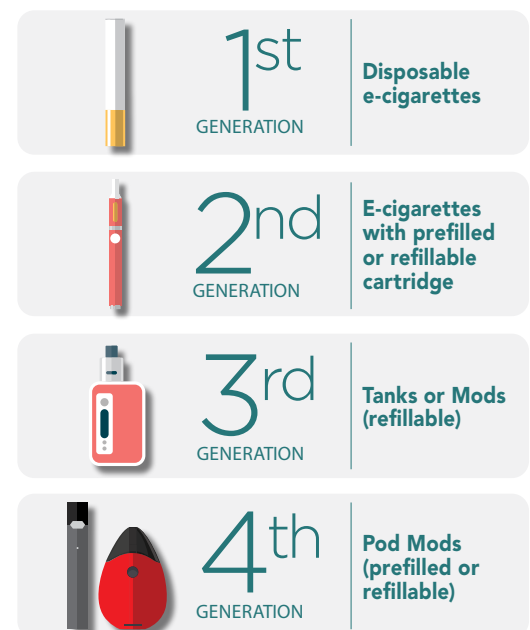


Image Source¹

1. https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/ecigarette-or-vaping-products-visual-dictionary-508.pdf

What is the current regulatory status of ENDS?

In 2016, the “deeming rule” was introduced: the FDA’s regulatory authority was extended to include all tobacco products containing nicotine, including ENDS products and parts.

- This led to prohibiting sale of ENDS products to anyone under the age of 21 and adding health warning labels.

There are a handful of ENDS that have been granted temporary authorization for marketing.

- NOTE: authorized for marketing does NOT mean that they are FDA approved or have received any sort of endorsements.
- The FDA has not approved any ENDS devices for use as smoking cessation tools.



What is the prevalence of ENDS use in the U.S.?

- U.S. youth are more likely than adults to use ENDS. A 2020 study found 5% of middle school students and 20% of high school students reported ENDS use within the last 30 days.
- 22% of 19-20 year olds reported using ENDS in the past 30 days.
- Conventional cigarettes remain the most common nicotine product used by adults. As of 2018, an estimated 4.5% of U.S. adults were current ENDS users.



References

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Episode 2
Heat-not-Burn (HnB) Products