

Benefits of Smoking Cessation or Harm Reduction by Vaping



By Kedist Tedla — September 19, 2016



While nicotine is the addictive substance in cigarettes, it is the long term exposure to inhaled smoke - and its toxic constituents - that adversely impact the lungs.

One such harmful mechanism is inflammation of the airways, which progressively damages and ultimately impairs lung function. Nowadays, there are several ways one can give up the harmful toxicants of cigarette smoke while minimizing nicotine cravings. Nicotine replacement is available in gums, patches, sprays, and electronically vaporized liquids. Proponents say that the latter, which they call electronic nicotine delivery systems (ENDS), may be particularly more appealing, and therefore more beneficial in reducing cigarettes, because of their ability to simulate the mechanics of cigarettes.

But what exactly happens to the lungs when someone stops smoking and starts vaping? [A new study](#) ^[1] in *Clinical Science* (August 2016) tries to answer that question. The authors sought to evaluate the impact of smoking cessation on lung function and smoking related symptoms, using electronic cigarettes.

The participants' lung function (spirometry indices) as well as reported symptoms (coughing/phlegm, wheezing, chest pressure, and shortness of breath) were recorded at baseline and subsequent visits. The follow-up period was 1 year. At the end of the study period, the authors stratified the final participants into three groups based on their final smoking status:

- Quitters: completely abstained from smoking
- Reducers: cut back their daily cigarettes
- Failures: were unable to do either

When spirometry data was analyzed across the 3 groups, large airway function (FEV₁, FVC, FEV₁/FVC) was not impacted by smoking abstinence or reduction. What was seen, however, was significant improvement in small, peripheral airway function (FEF_{25-75%}) in those who completely quit smoking. This improvement was from 85.7±15.6% at baseline to 100.8±14.6% at 1 year, as a percentage what is predicted to be normal.

The most common symptoms reported by participants were cough/phlegm (43%), and shortness of breath (34.8%). At the end of the study period, there was progressive improvement, and eventually, complete resolution of these symptoms not only in the “quitter” but also the “reducer” group. This benefit was not realized by the “failure” group.

The study results suggest that completely abstaining from combustible cigarettes may benefit even healthy smokers reverse some subtle lung changes. In those struggling to quit smoking, even reducing exposure to daily cigarette smoke can have a measurable impact on quality of life.

Citation: Fabio Cibella, Davide Campagna, Pasquale Caponnetto, Maria Domenica Amaradio, Massimo Caruso, Cristina Russo, Donald W Cockcroft, Riccardo Polosa, Lung function and respiratory symptoms in a randomized smoking cessation trial of electronic cigarettes, Clinical Science Aug 19, 2016, DOI: [10.1042/CS20160268](https://doi.org/10.1042/CS20160268) [1]

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