Relighting – extinguishing, saving, and later relighting unfinished cigarette butts is prevalent behavior with 44-73% of current smokers reporting that they relight cigarettes, 17-21% of those say they relight ‘usually’ or ‘frequently.’ Certain vulnerable populations such as racial/ethnic minorities, people of low socioeconomic status (SES), LGBT persons and those suffering from mental illness are disproportionately affected by tobacco-associated diseases and are more likely to engage in relighting behavior.

Variety of chemical and physical processes are occurring during cigarette combustion resulting with formation of complex smoke mixture. As smoke is drawn through tobacco a portion of the combusted tobacco constituents are deposited on the unheated tobacco at the proximal end of the cigarette. Extinguishing and later relighting unfinished cigarette could contribute towards substantial changes in the chemistry of the tobacco and cigarette smoke. Therefore better understanding of the exposures to tobacco smoke toxicants and carcinogens from relit cigarettes and its implications for tobacco related disease is needed.

### Results

#### Nicotine levels in the filler of original and half-smoked cigarette

#### TSNA levels in the filler of original and half-smoked cigarettes

#### Findings from analysis of left over tobacco filler of half-smoked cigarette

#### Findings from analysis of smoke of re-lit cigarette

#### Comparison of tobacco smoke profile

#### Difference in smoke nicotine levels between first and second cigarette halves

#### Difference in aldehyde levels between first and second cigarette halves

### Summary

- Overall, there was an increase in nicotine in the left over tobacco filler of half-smoked cigarette using ISO and CI smoking regimens.
- Levels of tobacco specific nitrosamines (NNN, NNK) were higher in the leftover tobacco filler of half-smoked cigarette under CI regime, on average, NNK increased by 38%.
- Similarly, levels of nicotine and nitrosamines in smoke increased in the 2nd half of the cigarette smoked under both regimens, ISO and CI.
- Generally, there was increase in aldehyde levels under both smoking regimens. On average, acetaldehyde, respiratory toxicant and carcinogen, increased in the 2nd half of the cigarette smoke by 86% and 37% for ISO and CI respectively.
- Relighting a cigarette might expose smokers to higher levels of nicotine and carcinogen than exposures from the first half of the same cigarette, potentially posing increased health risks.
- Study on tobacco smoke toxicants and carcinogens exposure in smokers engaging in relighting behavior is underway.

### References


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