

# The Unbearable Lightness of “Light” Cigarettes

## A Comparison of Smoke Yields in Six Varieties of Canadian “Light” Cigarettes

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### ABSTRACT

**Background:** Labelling cigarettes as “light” or “mild” is claimed to be one of the biggest marketing scams in Canadian history. Arguably, such labelling implies that these varieties of cigarettes are less harmful than “regular” cigarettes. In Canada, a food product can be labelled “light” if there is a 25% reduction from the “reference food” and if the constituent being reduced is clearly identified (e.g., light in fat). Cigarette labelling does not comply with these regulations, however. To examine whether or not some tobacco constituents meet the 25% reduction criterion, we compared yields of 41 toxic and/or carcinogenic smoke constituents in six varieties of “light” cigarettes to the yields of “regular” cigarettes. We selected cigarettes from the two most popular Canadian brands, Du Maurier and Players.

**Methods:** Using a set of data provided by Imperial Tobacco Canada and made available to the public by the Government of British Columbia, we compared yields measured under a laboratory protocol (modified ISO) that was designed to provide a more rigorous evaluation of the differences between varieties of cigarettes and a more accurate assessment of smokers’ potential smoke intake than the traditional protocol (standard ISO).

**Findings:** For all six varieties of “light” cigarettes, the yields of nicotine were higher by an average of 5% (range: 1% to 13%). The 25% reduction criterion was not met for any variety of “light” cigarettes concerning yields of tar. For all cigarettes tested, yields of tar were reduced on average by only 16% (range: 5% to 22%). For carbon monoxide (CO), only Player’s Smooth Light had an over 25% reduction (30%) compared with Player’s Regular. Conversely, yield of CO was 24% higher for Du Maurier Lights compared with Du Maurier Regular. As for the other smoke constituents, the majority (75%) were not reduced by 25% or more in “light” cigarettes, and a sizeable proportion of yields (e.g., acrylonitrile, benzene, chromium, m+p cresol, mercury, nickel, toluene) were larger in these varieties of cigarettes. Only yields of formaldehyde, crotonaldehyde, 1-aminonaphthalene, and proprionaldehyde were systematically reduced in all varieties of “light” cigarettes.

**Conclusion:** The six varieties of “light” cigarettes examined in this study do not differ substantially from “regular” cigarettes in terms of smoke yields. We argue that the modified ISO protocol should be implemented for a more valid comparison of potential smoke yields in all varieties of cigarettes and that labelling based on this protocol should be promoted.

**MeSH terms:** Tobacco; smoking; organic chemicals; product labelling; legislation; light cigarettes

*La traduction du résumé se trouve à la fin de l'article.*

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Convincing evidence has established tobacco smoking as the most important single cause of health problems and mortality in humans.<sup>1</sup> As these problems began to draw public attention, new marketing strategies were developed by the tobacco industry to reassure their customers about the “safety” of their products.<sup>2,3</sup> A key strategy was the fabrication and promotion of different varieties of “light” or “mild” cigarettes claimed to deliver lower amounts of tar and nicotine. Intensely promoted in Canada in the 1970s,<sup>4</sup> these cigarettes rapidly gained popularity. In 2002, 61% of Canadian smokers consumed “light” or “mild” cigarettes.<sup>5</sup> Many people believe that “light” cigarettes are safer than regular cigarettes.<sup>6-9</sup> A 2000 survey indicated that 20% of Canadian smokers of “light” or “mild” cigarettes and 30% of those who smoke extra/ultra “light” cigarettes thought that these varieties of cigarettes were less harmful.<sup>10</sup> Furthermore, many smokers may consume this variety of cigarettes as a step towards quitting.<sup>11</sup>

In Canada, yields of tar, nicotine, and other smoke constituents have been assessed since 1991 using specific laboratory parameters known as the International Organization for Standardization (ISO) method. This method is also widely applied around the world.<sup>12</sup> A similar protocol, the Federal Trade Commission (FTC) standard method, is currently used in the United States. Both methods, which were designed to some extent by the tobacco industry,<sup>13</sup> have been highly criticized because they underestimate smokers’ actual smoke intake, and therefore mislead the public to believe that “light” cigarettes provide a potential health benefit. Much of the discrepancy between ISO/FTC measured yields and smokers’ intake is due to an ingenious device: ventilated filters. Nowadays, 91% of Canadian cigarettes have some type of ventilated filter,<sup>9</sup> that is, tiny holes on their surface that increase air intake during smoking and reduce the smoke/air ratio, at least when measured in the laboratory with the standard ISO/FTC protocol. Under these conditions, the largest ventilation holes can dilute tobacco smoke with air up to 83%.<sup>14</sup> In real-life conditions, however, this does not appear to be the case. Approximately 40% of smokers are not aware of the presence of ventilation holes or do not know that blocking them increases smoke intake.<sup>8</sup> In

fact, whether consciously or unconsciously, approximately one out of two smokers blocks these holes at least partially with his/her fingers, lips, saliva, or lipstick.<sup>15,16</sup>

Many researchers have argued that ventilated filters in conjunction with the standard ISO/FTC protocol are a strategy to create the illusion that some cigarettes are lighter and safer than others.<sup>2,17</sup> Claims have been made that alterations in filter design and the misleading ISO/FTC method are in fact responsible for the apparent reduction (more than 60%) in machine-based tar value since 1955.<sup>18,19</sup> With the wide range of filter ventilation levels on the one hand and the high variability in vent blocking by smokers on the other, the standard FTC/ISO protocol clearly does not provide a fair assessment of tar, nicotine and other substances that can be inhaled from a cigarette. It also hampers any valid comparison between "light" and "regular" cigarettes.

Contrary to alcohol and food products, tobacco labelling is not regulated in Canada. However, the Canadian Food Inspection Agency (CFIA) has set guidelines for the use of the words "light" or "lite" concerning various food constituents. According to the CFIA,<sup>20</sup> these terms can only be used when there is at least a 25% reduction from the "reference food" and when additional information is "grouped with or clearly linked to the most prominent 'light/lite' claim" (e.g., 25% less fat). Do Canadian "light" cigarettes invariably yield less toxic constituents than regular cigarettes, and if so, is it reduced by at least 25%? If this is the case for any given constituent, then should labelling cigarettes as "light in [this constituent]" be permitted, as it is with food products? Based on the standard ISO/FTC protocol and the attestations of tobacco manufacturers, most varieties of "light" cigarettes may indeed satisfy the 25% criterion, at least concerning yields of tar. However, would this categorization hold if ventilation holes were controlled experimentally? Moreover, what about reductions in other toxic and carcinogenic smoke constituents such as formaldehyde, hydrogen cyanide, and mercury?

In 1998, the Government of British Columbia required tobacco companies to disclose the levels of 44 toxic smoke constituents in their "light" and regular ciga-

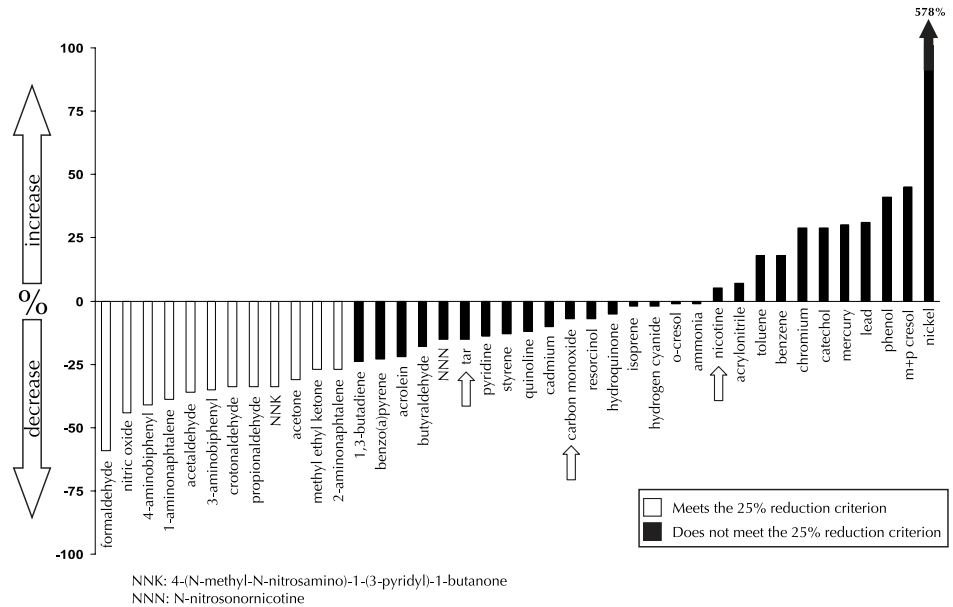


Figure 1. Player's Light: Differences from "Regular" cigarettes

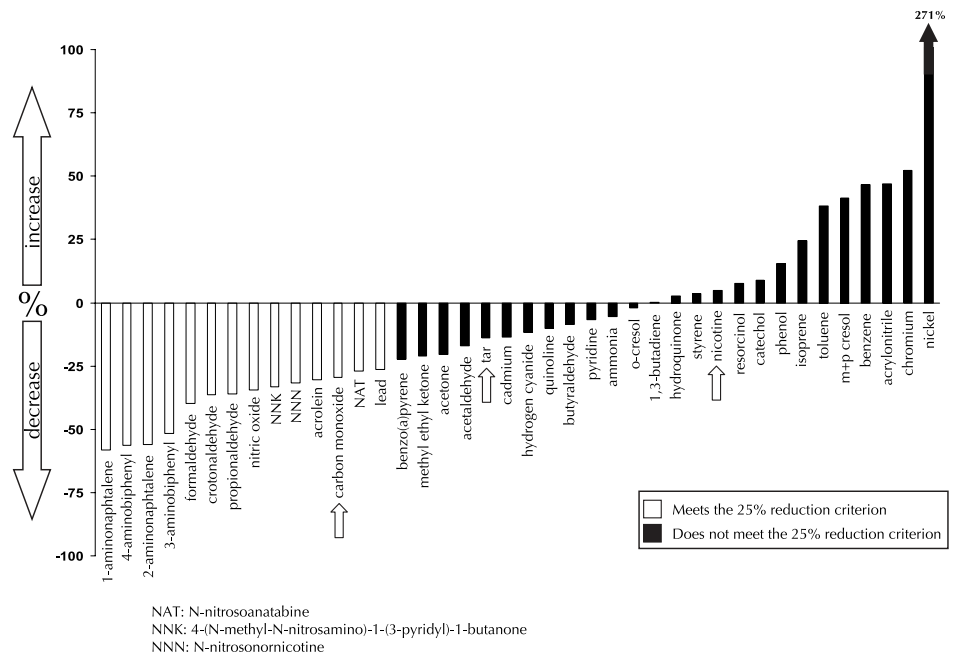


Figure 2. Player's Light Smooth: Differences from "Regular" cigarettes

rettes based on a modified ISO protocol. Compared to standard ISO protocol, this method not only provides a more accurate assessment of smokers' actual smoke intake by increasing puff volume (from 35 to 56 ml) and decreasing puff interval (from 60 to 26 seconds), but – and this is what is particularly important for the present analysis – it also allows valid comparisons between cigarette varieties by blocking all ventilation holes (this is achieved by taping the tipping paper, which covers the filter and joins the filter to the tobacco rod).

Puff duration remains the same at two seconds. To our knowledge, there has been no published report comparing "light" and "regular" cigarettes for tobacco smoke constituents other than tar, nicotine and carbon monoxide (CO) under this modified ISO protocol. Our main objective was to identify constituents showing a 25% (or more) reduction in "light" cigarettes compared to "regular" cigarettes. We were also interested in determining whether some yields were larger in "light" cigarettes. For these comparisons, we selected the two most popular

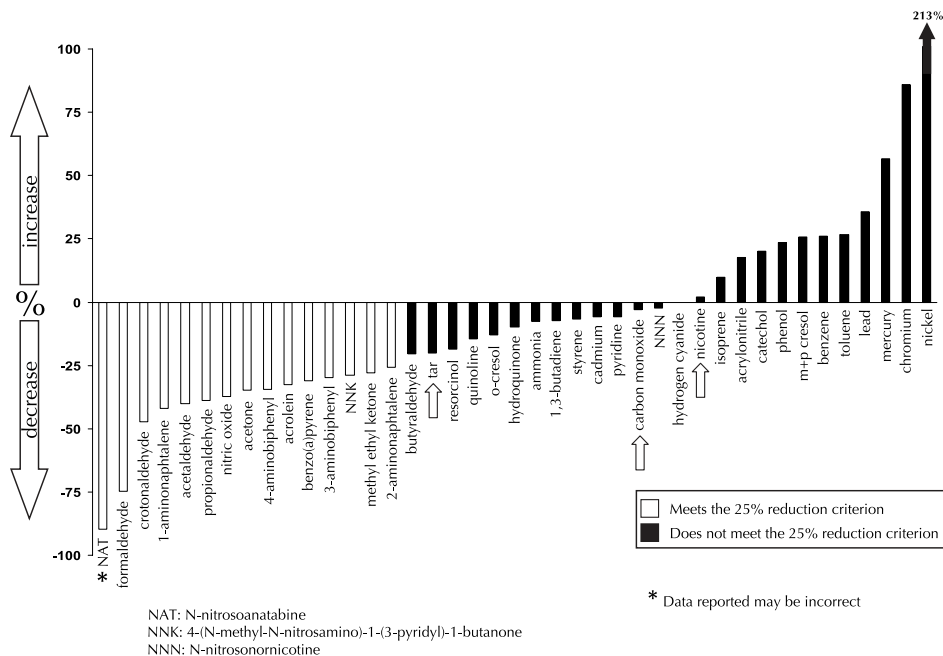


Figure 3. Player's Extra Light: Differences from "Regular" cigarettes

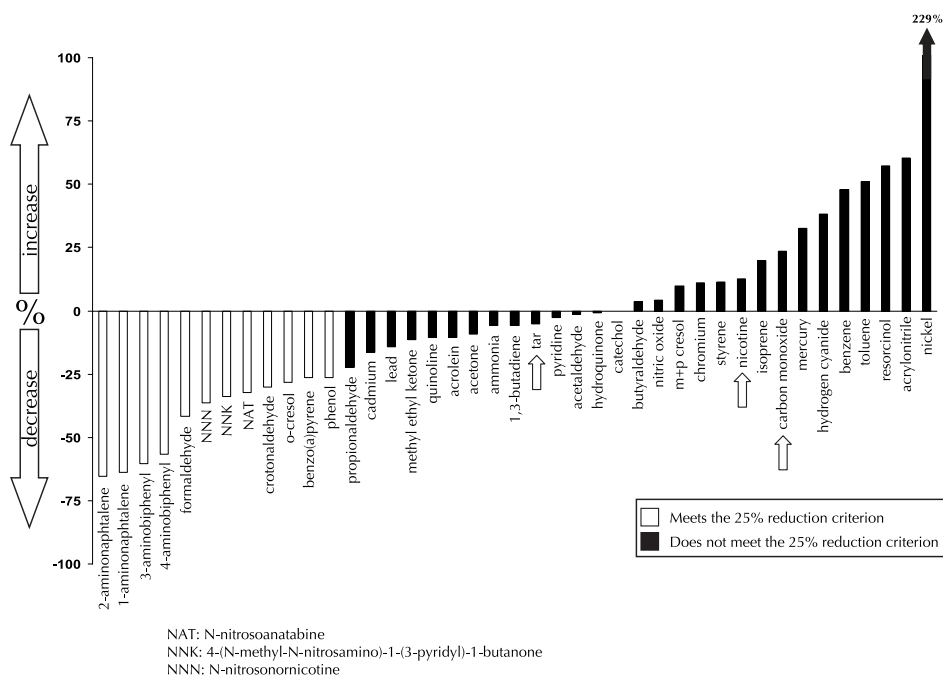


Figure 4. Du Maurier Light: Differences from "Regular" cigarettes

Canadian brands, Player's and Du Maurier, which represented nearly 60% of the Canadian market share in 2003.<sup>21</sup>

**METHODS**

Raw data were provided by Imperial Tobacco Canada as requested by British Columbia's Tobacco Testing and Disclosure Regulation<sup>22</sup> and made available by the Government of British Columbia.<sup>23</sup> Levels of tar, nicotine and CO were deter-

mined with 20 observations, whereas levels of all other smoke constituents were obtained using 7 samples. All varieties of cigarettes had identical length, had "regular" filters, and were in the same price category. Player's comprised one "regular" or "full flavour" variety of cigarettes (officially labelled "Filter") and three varieties of "light" (*Light*, *Light Smooth*, *Extra Light*). Du Maurier included one "regular" variety (Du Maurier) and three "light" varieties (*Light*, *Extra Light*, *Ultra Light*). Yields of

"light" cigarettes of each brand were compared with yields of "regular" cigarettes of the same brand, and percent increase or decrease was calculated (yield of "light" minus yield of "regular" divided by yield of "regular").

Although the tobacco companies were required to disclose the levels of 44 toxic smoke constituents, some data were reported to be "not quantifiable" or "below detection limit". This was the case for arsenic and selenium for all varieties of both brands. In addition, yields of N-nitrosoanabasine (NAB) were missing for most varieties of cigarettes and therefore could not be considered. The yield of N-nitrosoanatabine (NAT) was also missing for *Player's Light*. Moreover, the level of NAT specified for *Player's Extra Light* may be incorrect because a value of 15.8 ng/cigarette was reported whereas the average for all other varieties of cigarettes, "regulars" and "lights" combined, was 132 ng/cigarette. Finally, a yield of mercury was not reported for *Player's Light Smooth*.

**RESULTS**

Figures 1 to 6 depict yields that were reduced by at least 25% and those that were not for each variety of "light" cigarettes compared to "regular" cigarettes. For all six varieties of "light" cigarettes, the yields of nicotine were *higher* by an average of 5% (range: 1% to 13%). As for yields of tar, the 25% reduction criterion was not met for any variety of "light" cigarettes. For all cigarettes tested, yields of tar were reduced on average by only 16% (range: 5% to 22%). Only *Player's Smooth Light* had an over 25% reduction (30%) in CO compared with *Player's Regular*. Conversely, yield of CO was 24% higher for *Du Maurier Lights* compared with *Du Maurier Regular*.

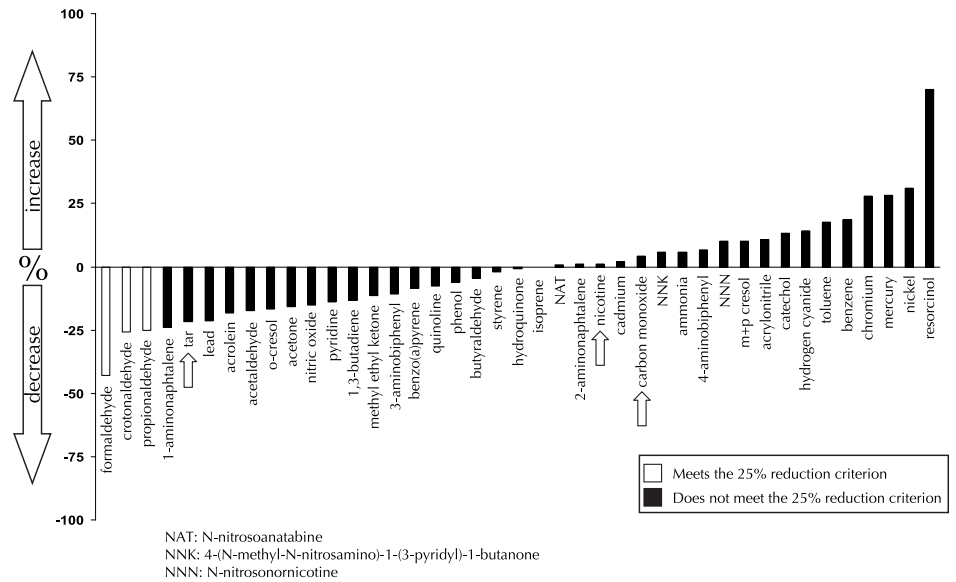
Yields of nickel were *increased* in all varieties of *Lights* by an average of 230% (range: 31% to 578%). Higher yields of chromium (40%, range: 11% to 86%), mercury (34%, range: 22% to 57%), m+p cresol (26%, range: 10% to 45%), acrylonitrile (24%, range: 4% to 60%), benzene (28%, range: 12% to 48%), and toluene (27%, range: 12% to 51%) were also reported in *Lights*. The only yields that were systematically reduced in all varieties of "light" cigarettes were formaldehyde

(48%, range: 29% to 75%), crotonaldehyde (33%, range: 26% to 47%), 1-aminonaphthalene (42%, range: 24% to 64%), and propionaldehyde (30%, range: 22% to 39%).

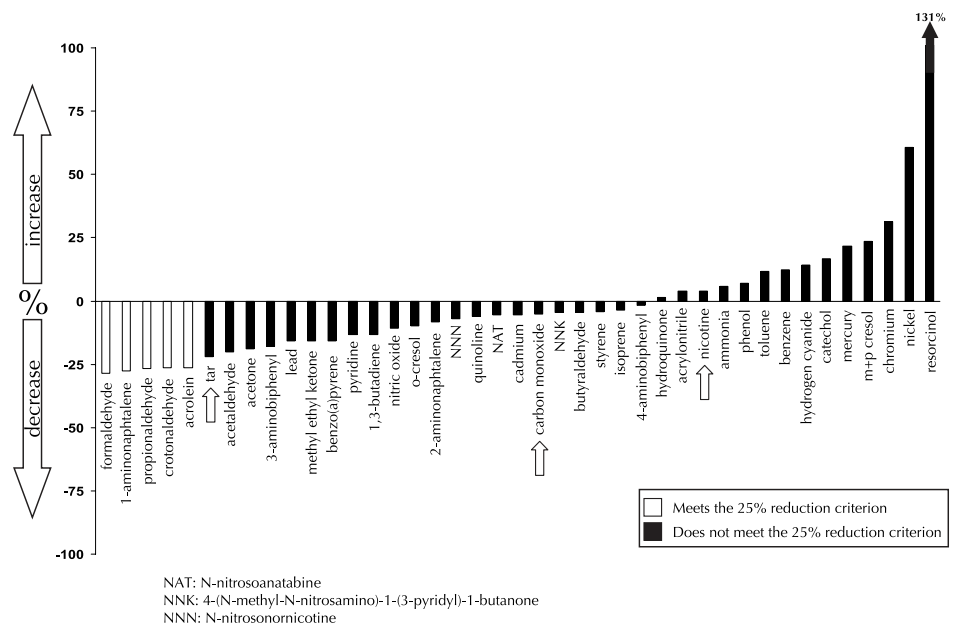
**CONCLUSION**

The present analysis showed no evidence that the different varieties of "light" cigarettes examined here differed substantially from "regular" cigarettes in terms of smoke constituents. Thus we substantiate previous studies investigating the effects of vent blocking on yields of tar, nicotine and CO.<sup>24-26</sup> In fact, tar was never reduced by 25% or more, and nicotine yields tended to be slightly higher. The only substantial reduction was for CO (30%), and for only one variety of "light" cigarettes. In addition, only one out of four of all other reported yields was reduced by 25% or more in "light" cigarettes compared to "regular" or "full flavour" cigarettes. The lack of sizeable differences between "light" and "regular" cigarettes in laboratory conditions more similar to human smoking behaviour may explain why there has been no reduction in the overall disease burden caused by tobacco smoking since the early marketing of light cigarettes and the subsequent consumer shift from regular to light cigarettes.<sup>27,28</sup>

Despite anti-tobacco lobbying efforts to uncover the tobacco industry's deceptive marketing strategies, the belief that light cigarettes are safer remains.<sup>3,29</sup> Enhanced educational tactics and public health policies are necessary to promote the correct notion that toxic exposure from cigarette smoke intake will only be reduced by reducing cigarette consumption, not by smoking "light" cigarettes. There is no evidence that a 25% or a 50% reduction in tar, CO or other toxic constituents has a significant impact on health. Ranking each smoke constituent in terms of harmfulness would be a fallacious task seeing as the effects of only a few of the many constituents have been assessed.<sup>1</sup> It also would provide only an incomplete estimate since differences in smoking behaviour and predisposition to tobacco-related diseases are decisive factors in determining a constituent's harmfulness. In addition, reducing one or many toxic constituents may actually lead to other toxic constituents being increased.<sup>30</sup>



**Figure 5.** Du Maurier Extra Light: Differences from "Regular" cigarettes



**Figure 6.** Du Maurier Ultra Light: Differences from "Regular" cigarettes

Every consumer has the right to know what he/she can ingest from smoking different varieties of cigarettes. The term "light" may only be used to describe foods that have been significantly reduced in fat, calories, or any specified attribute. The same clarification should be used for tobacco products. The use of the terms "extra" and "ultra" also should be regulated. In the present report, both *Du Maurier Extra Light* and *Du Maurier Ultra Light* had fewer reduced yields compared to *Du Maurier Light*. In Canada, poultry meat can be labelled "lean" if it contains no more than 10% fat, which, according to

the Canadian Food Inspection Agency, represents "a level consistent with recommended healthy patterns". It can be labelled "extra lean" if there is a 25% reduction in fat compared to lean meat (rule 6.1.11.1).<sup>20</sup> A similar principle could be used for labelling "light" cigarettes as "extra" or "ultra", although it would be somewhat difficult to determine levels of smoke constituents that are consistent with recommended healthy patterns! The American Food and Drug Administration is more severe, insisting on a minimum of 50% reduction in fat, sodium, or calories for a food to be labelled as "light".<sup>31</sup> If the

50% criterion under the modified ISO conditions were adopted to regulate cigarette labelling, it would be impossible to claim that some varieties of "light" cigarettes (i.e., *Du Maurier Extra Light* and *Ultra Light*) are "light". As for the other varieties, only a few constituents would have the privilege to be labelled "light".

In 2001, the former Minister of Health, Alan Rock, called for proscribing the labelling of tobacco products as "light" or "mild", but the ban has not yet been enforced.<sup>32</sup> "Light" cigarettes are still available because the tobacco industry has been fighting this ruling on the ground that it would confuse their customers! A compromise would give permission to use the label "light" only when a given constituent shows a reduction of at least 25% from "regular" cigarettes under modified ISO conditions. For example, *Du Maurier Extra Light* could be specified as "light in formaldehyde", "light in crotonaldehyde", and "light in propionaldehyde". We believe that this kind of regulation in labelling would provide more accurate information about chemical constituents in tobacco. It might also be more effective in reducing smoking than prohibiting the use of the terms "light" and "mild", and even perhaps more successful than allowing the tobacco industry to work out another labelling or packaging scheme (such as using specific colours to denote "light" or "mild").

In conclusion, the standard ISO/FTC protocol is clearly inadequate in providing an unbiased assessment of the chemical make-up of cigarettes as it underestimates smokers' actual smoke intake. Accordingly, a modified testing procedure that includes thorough blocking of the ventilation holes would be the only justifiable way to compare different cigarette brands or varieties. British Columbia's Tobacco Testing and Disclosure Regulation was the first ruling to provide the public with a more realistic comparative assessment of several toxic smoke constituents. All analyses based on this data set, however, are entirely dependent on the accuracy of the data provided by the tobacco companies. In addition, we compared only six varieties of "light" cigarettes. It would be interesting to know whether other varieties of "light" cigarettes fare better in terms of the 25% reduction criterion. Importantly, to improve data

accuracy and impartiality, official assessment of smoke constituents should be conducted by independent agencies, not by the tobacco manufacturers. Finally, as argued by Bates and his colleagues,<sup>33</sup> an international directive should be issued that requires the tobacco industry to disclose yields of all known toxic and carcinogenic tobacco smoke constituents on all cigarette packages.

## REFERENCES

- Stratton K, Shetty P, Wallace R, Bondurant S. *Clearing the Smoke: The Science Base for Tobacco Harm Reduction*. Washington, DC: Institute of Medicine, 2001.
- Pollay RW, Dewhirst T. The dark side of marketing seemingly "Light" cigarettes: Successful images and failed fact. *Tobacco Control* 2002;11(Suppl 1):i18-31.
- Shopland DR. Historical perspective: The low tar lie. *Tobacco Control* 2001;10 (Suppl 1):i1-3.
- Pollay RW, Dewhirst T. Marketing cigarettes with low machine-measured yields. In: Risks Associated with Smoking Cigarettes with Low Machine-measured Yields of Tar and Nicotine. Smoking and Tobacco Control Monograph No. 13. Bethesda, MD: Department of Health and Human Services, National Cancer Institute, NIH Publication No. 02-5074, 2001;199-235.
- Health Canada. Canadian Tobacco Use Monitoring Survey, Annual, February-December 2002.
- Ashley MJ, Cohen J, Ferrence R. 'Light' and 'mild' cigarettes: Who smokes them? Are they being misled? *Can J Public Health* 2001;92(6):407-11.
- Canadian Council for Tobacco Control. Putting an End to Deception: Proceedings of the International Expert Panel on Cigarette Descriptors. A Report to the Canadian Minister of Health from the Ministerial Advisory Council on Tobacco Control, 2002.
- Kozlowski LT, Goldberg ME, Yost BA, White EL, Sweeney CT, Pillitteri JL. Smokers are unaware of the filter vents now on most cigarettes: Results of a national survey. *Tobacco Control* 1996;5(4):265-70.
- Kozlowski LT, Mehta NY, Sweeney CT, Schwartz SS, Vogler GP, Jarvis MJ, West RJ. Filter ventilation and nicotine content of tobacco in cigarettes from Canada, the United Kingdom, and the United States. *Tobacco Control* 1998;7(4):369-75.
- Shiffman S, Pillitteri JL, Burton SL, Rohay JM, Gitchell JG. Smokers' beliefs about "Light" and "Ultra Light" cigarettes. *Tobacco Control* 2001;10(Suppl 1):i17-23.
- Health Canada. Smoking in Canada: Perception, Attitudes, and Beliefs. Canadian Tobacco Use Monitoring Survey, Annual, February-December 2000.
- Baker RR. Whose standard is it, anyway? *Tobacco Control* 2001;10(4):394.
- Bialous SA, Yach D. Whose standard is it, anyway? How the tobacco industry determines the International Organization for Standardization (ISO) standards for tobacco and tobacco products. *Tobacco Control* 2001;10(2):96-104.
- Kozlowski LT, O'Connor RJ, Sweeney CT. Cigarette design. In: Risks Associated with Smoking Cigarettes with Low Machine-measured Yields of Tar and Nicotine. Smoking and Tobacco Control Monograph No. 13. Bethesda, MD: Department of Health and Human Services, National Cancer Institute, NIH Publication No. 02-5074, 2001;13-38.
- Kozlowski LT, Pillitteri JL, Sweeney CT. Misuse of "light" cigarettes by means of vent blocking. *J Subst Abuse* 1994;6(3):333-36.
- Sweeney CT, Kozlowski LT, Parsa P. Effect of filter vent blocking on carbon monoxide exposure from selected lower tar cigarette brands. *Pharmacol Biochem Behav* 1999;63(1):167-73.
- Kozlowski LT, O'Connor RJ. Cigarette filter ventilation is a defective design because of misleading taste, bigger puffs, and blocked vents. *Tobacco Control* 2002;11(Suppl 1):140-50.
- Hoffmann D, Djordjevic MV, Brunnemann KD. Changes in cigarette design and composition over time and how they influence the yields of smoke constituents. In: The FTC Cigarette Test Method for Determining Tar, Nicotine & Carbon Monoxide Yields of U.S. Cigarettes. Report of the NCI Expert Committee. Smoking and Tobacco Control Monograph No.7. Bethesda, MD: Department of Health and Human Services, National Cancer Institute, NIH Publication No. 96-4028, 1996;15-37.
- Kozlowski LT, Henningfield JE, Brigham J. *Cigarettes, Nicotine, and Health: A Behavioral Approach*. Thousand Oaks, CA: Sage Publications, 2000.
- Canadian Food Inspection Agency. Guide to food labelling and advertising. February, 2004. URL <http://www.inspection.gc.ca> (Accessed February 8, 2004).
- Physicians for a Smoke-free Canada. Cigarette brands sold in Canada, 2003. November, 2004. URL: <http://www.smoke-free.ca/factsheets/pdf/brands.pdf> (Accessed November 17, 2004).
- Government of British Columbia. Tobacco Sales Act, Tobacco Testing and Disclosure Regulation. June, 2003. URL: [http://www.qp.gov.bc.ca/statreg/reg/T/TobaccoSales\\_1282\\_98.htm](http://www.qp.gov.bc.ca/statreg/reg/T/TobaccoSales_1282_98.htm) (Accessed July 17, 2003).
- Government of British Columbia. What is in cigarettes? July, 2003. URL: <http://www.healthplanning.gov.bc.ca/ttdr/index.html> (Accessed July 17, 2003).
- Guerin MR. Sensitivity of the Federal Trade Commission test method to analytical parameters. In: The FTC Cigarette Test Method for Determining Tar, Nicotine & Carbon Monoxide Yields of U.S. Cigarettes. Report of the NCI Expert Committee. Smoking and Tobacco Control Monograph No.7. Bethesda, MD: Department of Health and Human Services, National Cancer Institute, NIH Publication No. 96-4028, 1996;135-50.
- Kozlowski LT, Frecker FC, Khouw V, Pope MS. The misuse of "less-hazardous" cigarettes and its detection: Hole-blocking of ventilated filters. *Am J Public Health* 1980;70(11):1202-3.
- Rickert WS, Robinson JC, Young JC, Collishaw NE, Bray DF. A comparison of the yields of tar, nicotine, and carbon monoxide of 36 brands of Canadian cigarettes tested under three conditions. *Prev Med* 1983;12(5):682-94.
- Burns DM, Major JM, Shanks TG, Thun MJ, Samet JM. Smoking lower yield cigarettes and disease risks. In: Risks Associated with Smoking Cigarettes with Low Machine-measured Yields of Tar and Nicotine. Smoking and Tobacco Control Monograph No. 13. Bethesda, MD: Department of Health and Human Services, National Cancer Institute, NIH Publication No. 02-5074, 2001;65-158.
- Thun MJ, Burns DM. Health impact of "reduced yield" cigarettes: A critical assessment of the epidemiological evidence. *Tobacco Control* 2001;10(Suppl 1):i4-11.
- Etter JF, Kozlowski LT, Perneger TV. What smokers believe about light and ultralight cigarettes. *Prev Med* 2003;36(1):92-98.
- Warner KE. Reducing harm to smokers: Methods, their effectiveness, and the role policy. In: Rabin RL, Sugarman SD (Eds.), *Regulating*

*Tobacco*. New York, NY: Oxford University Press, 2001;111-42.

31. U.S. Food and Drug Administration. Center for food safety and applied nutrition. A food labeling guide. October, 2004. <http://www.cfsan.fda.gov/~dms/flg-6a.html> (Accessed October 8, 2004).
32. Physicians for a Smoke-Free Canada. Whatever happened to the ban on "light" and "mild"? Report to members. June, 2004. [http://www.smoke-free.ca/pdf\\_1/spring2004.pdf](http://www.smoke-free.ca/pdf_1/spring2004.pdf) (Accessed June 4, 2004).
33. Bates C, McNeill A, Jarvis MJ, Gray N. The future of tobacco product regulation and labelling in Europe: Implications for the forthcoming European Union directive. *Tobacco Control* 1999;8(2):225-35.

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## RÉSUMÉ

**Contexte :** L'utilisation de descriptifs comme « légères » ou « douces » sur les emballages de cigarettes serait l'une des plus grandes fumisteries de l'histoire du marketing au Canada. En effet, cet étiquetage donne à penser que ces variétés de cigarettes sont moins nocives pour la santé que les cigarettes « ordinaires ». Au Canada, un aliment peut être étiqueté comme étant « allégé » si on mentionne ce qui est réduit (p. ex., « allégé en matières grasses ») et si le produit est allégé d'au moins 25 % par rapport à l'aliment de référence. Ces règles ne sont cependant pas employées pour l'étiquetage des cigarettes. Afin de déterminer si certaines substances présentes dans la fumée de tabac sont réduites d'au moins 25 % dans les cigarettes « légères », nous avons comparé les niveaux d'émission de 41 constituants toxiques et/ou carcinogènes de six variétés de cigarettes « légères » avec les niveaux d'émission des cigarettes « ordinaires ». Pour ces comparaisons, nous avons choisi les deux marques canadiennes les plus populaires : Du Maurier et Player's.

**Méthode :** Nous avons utilisé les données fournies par Imperial Tobacco Canada rendues publiques par le gouvernement de la Colombie-Britannique. Nous avons examiné les émissions des différents constituants, obtenues au moyen d'un protocole de laboratoire (norme ISO modifiée) qui, comparativement à la méthode classique (norme ISO standard), permet une évaluation plus juste de la quantité de fumée potentiellement inhalée par le fumeur.

**Résultats :** Les niveaux d'émission de nicotine sont plus élevés de 5 % en moyenne (entre 1 % et 13 %) dans les cigarettes « légères » que dans les cigarettes « ordinaires ». En ce qui concerne les niveaux d'émission de goudron, la réduction moyenne pour les différentes variétés de cigarettes « légères » est de 16 % seulement (entre 5 % et 22 %), et n'atteint en aucun cas le seuil de 25 %. Pour ce qui est des niveaux d'émission de monoxyde de carbone (CO), les cigarettes Player's Légères Veloutées affichent une baisse de plus de 25 % (30 %), mais les cigarettes Du Maurier Légères ont quant à elles un taux d'émission de CO de 24 % supérieur à celui des Du Maurier Régulières. Quant aux autres constituants toxiques de la fumée de tabac, la plupart (75 %) des niveaux d'émission relevés pour les cigarettes « légères » n'atteignent pas le seuil de réduction de 25 %. De plus, les niveaux d'émission de plusieurs constituants (acrylonitrile, benzène, chromium, m+p crésol, mercure, nickel, toluène) sont substantiellement plus élevés dans les cigarettes « légères ». Seules les émissions de formaldéhyde, de crotonaldéhyde, de 1-aminonaphtalène et de propionaldéhyde sont systématiquement réduites dans ces variétés de cigarettes.

**Conclusion :** Les cigarettes « légères » examinées dans la présente étude diffèrent peu des cigarettes « ordinaires ». À notre avis, il faudrait mettre en œuvre le protocole ISO modifié afin de fournir une comparaison plus juste des émissions toxiques des différentes variétés de cigarettes. Enfin, nous pensons que l'étiquetage devrait refléter les résultats comparatifs obtenus au moyen de ce protocole.

## May is Speech and Hearing Awareness Month

Many of us take our hearing and ability to speak for granted. Whether we are talking with a group of friends, playing a sport or listening to the radio, our ability to communicate is vital in our everyday activities. For 1 in 10 Canadians, however, speech, language or hearing problems are a daily challenge. These communication disorders significantly affect the work, school and social aspects of the lives of tens of thousands of Canadians, of all ages.

The Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) and its 4,800 members across the country are working together throughout the month of May to raise public awareness concerning the professions and the many issues surrounding speech, language and hearing disorders. Speech-Language Pathologists and Audiologists are highly trained professionals who work daily with Canadians of all ages to help them deal with many different types of communication disorders.

For more information on the CASLPA and their activities, please visit [www.caslpa.ca](http://www.caslpa.ca)