

Smoking: low-tar safety net is disputed

by Oliver Gillie
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MORE THAN a million smokers in Britain who believe they are reducing health risks by buying low-tar cigarettes are mistaken, research suggests. Cigarettes officially classified in Britain as "low-tar" deliver much higher doses of tar and nicotine when smoked in the human hand than they do when smoked on a machine in the laboratory of the government chemist.

The low-tar cigarettes have a series of small ventilation holes around the filter to let in air and dilute the tar in the smoke. But when a smoker holds fingers or lips over the holes, the air is cut off and the cigarette delivers smoke, with an increase in nicotine of up to 20 times and in tar and carbon monoxide of up to 40 times.

Tar gives the cigarette its taste and provides most of the risk — among the 2,000 chemicals in tar some 40 are known to cause cancer. Carbon monoxide, which displaces oxygen from the blood, aggravates bronchitis and heart disease and may be the cause of mothers who smoke having small babies. Nicotine is probably the addictive factor.

Almost all the low-tar cigarettes sold in Britain, and some of the low-to-middle-tar cigarettes, have ventilated filters. In Britain about two-and-a-half million people smoke ventilated cigarettes. And as many as 40 per cent of them may block the holes with lips or fingers, according to experiments conducted by Lynn T. Kozlowski and others at the Addiction Research Foundation in Toronto, Canada.

The Toronto scientists came to their conclusions by watching smokers and by examining the butt-ends of the cigarettes they smoked. When a cigarette with ventilated filter is smoked without blocking the holes, the yellow tar stain on the end of the cigarette is in the centre with a white unstained border (see drawing). When the holes are blocked by tape, the yellow stain spreads right across the end. Partial blocking produces an intermediate stain.

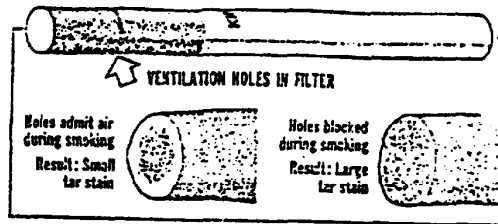
Whether or not they block the holes, smokers of low-tar cigarettes generally take larger and more frequent puffs to try to get the same satisfaction as

they would get from a higher-tar cigarette. The Toronto scientists adjusted a smoking machine to smoke in the same way as a low-tar smoker who blocks the holes and puffs more. Their results, published in the British Journal of Addiction show that under these "humanised" conditions John Player king size ultra mild produced 35 times more tar than they produced when smoked under normal machine conditions. Embassy ultra mild king size filter produced 25 times more tar under these conditions, and Silk Cut ultra mild with substitute king-size filter produced 19 times more tar.

The cigarette companies are critical of the Toronto findings. Imperial Tobacco says the dramatic increases in tar produced when the ultra-mild brands have the holes blocked do not occur with more popular cigarettes in the middle of the low-tar range. They ran their own tests last week for The Sunday Times and found that, when holes are blocked on Vanguard cigarettes, tar increases by only 20 per cent but, with Embassy No 1 extra-mild, tar increases 44 per cent and so takes it into the low-to-middle-tar category. But these tests did not fully match the style of the low-tar smoker who takes larger and more frequent puffs. If they had, the differences would have been greater.

Further doubts about the value of switching to low-tar cigarettes come from the work of Dr Michael Russell, of the Institute of Psychiatry, London, who has found that people who regularly smoke low-tar cigarettes have as much nicotine in the blood as people who smoke higher-tar brands — showing that their intake of smoke and tar must be similar. People asked to switch experimentally to low-tar cigarettes do have less nicotine in the blood but they seem to gradually learn to get more from the low-tar cigarettes, possibly by covering holes. So their nicotine level goes up over a period of three months.

The cigarette company, Gallaher, however, says that it has just completed a survey of 400 smokers which shows that it pays to switch to low-tar cigarettes although it concedes that the advantages are not so great as the government statistics suggest.



How a low-tar cigarette can become high-tar

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