

Lung Tumours in C57 bl Mice Exposed to a Mixture
of Air and Smoke

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Mice have often been exposed to cigarette smoke collected continuously in large chambers: in these the hygroscopic smoke droplets increase in size, coalesce and, we believe, become too large to reach the lungs.

We shall describe, and demonstrate in a film, a machine which produces fresh smoke which is diluted in a ratio of 1 to 40 with air and given to mice within three seconds of production.

The only drawback of our technique is that some material from the smoke is lost on the way before it reaches the mouse's nose because of the distance from the source.

The experimental procedures and the results up to date can be summarised as follows :-

Nicotine was detected in the lungs of mice exposed to the smoke. The mice showed diffuse body tremors after exposure to the smoke:air mixture from 12 cigarettes given in 10 - 12 minutes. The tremors do not occur if the smoke is filtered through glass fibre filters, which pass only the gaseous components.

Three to five per cent lung tumours were observed in groups of 200 mice exposed to these smoke:air mixtures. No statistical difference was obtained in mice exposed to smoke from naturally fermented, or flue-cured tobacco. No tumour was observed in control mice. Unexpectedly, however, the same percentage of tumours was observed in mice infected with influenza virus.

Tumours occur rather late in life. They are malignant and serially-transplantable.

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