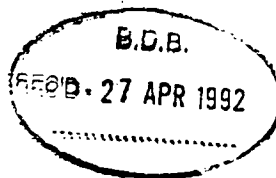


Note To: Barry Bramley

Mr Burgess



Transdermal Nicotine

I have read through the papers circulated by Roy Salter and at the risk of information overload, I have provided some comments that may be of assistance in your decision making process.

Background

It is generally accepted that cigarette smoking is motivated by psychological, physiological and pharmacological factors. All the available evidence strongly suggests that nicotine is implicated in eliciting the latter two smoking related responses.

Many studies have been made to understand the specific role of nicotine in the smoking process in order to assign a causal relationship between nicotine and smoking-like effects. Despite considerable research effort this has never been definitively demonstrated, although a number of plausible working hypotheses have emerged. In my opinion cigarette smoking is unique in the manner in which it delivers nicotine to the smoker and without going into scientific detail can be summarised as follows:

- (i) During smoking, nicotine is for all practical purposes totally absorbed during each inhalation. This occurs within 1-3 seconds even on shallow inhalation and is largely responsible for the impact sensation;
- (ii) The mode of absorption during smoking leads to a high concentration bolus dose of nicotine rapidly transferring via the shortest practical route to the brain (CNS);
- (iii) Virtually instantaneous, high arterial blood concentrations of nicotine following smoke inhalation cannot be achieved by other routes of application. Measurement of venous blood plasma samples is a poor approximation of the true events occurring during smoking.

Conclusions

- (i) I do not believe nicotine 'patches' per se will substitute for cigarette smoking.
- (ii) I am not convinced that the 'Stowic Patch' will be any more successful long-term than other patches/gums/nasal sprays as an aid to giving-up smoking.
- (iii) Conducting psychological trials with volunteers using nicotine patches will reconfirm what we already know about the psycho-pharmacological properties of nicotine.
- (iv) The presence of nicotine in non-cigarette based products in the marketplace could provide independent endorsement for this compound. (However, the converse is also true, any adverse effects of these products could focus attention on nicotine.)
- (v) There may be a case for use of non-cigarette nicotine based products if sufficient evidence can be mounted in support of the broader positive effects of nicotine.

In summary, I largely agree with the German view but arrive at this position from a somewhat different scientific rationale.

Graham Read

G. A. Read
14th April 1992

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