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How Different Drug Delivery Methods Affect One's Ability to Quit Smoking

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Introduction

Chantix vs. NicoDerm

Varenicline (Chantix, Pfizer)
- Nonnicotine cessation aid
- Partial nicotinic receptor agonist
- Oral formulation

Transdermal Nicotine Patch (NicoDerm CQ, GlaxoSmithKline; GlaxoSmithKline)
- Nicotine is well absorbed across the skin
- Delivery to systemic circulation avoids hepatic first-pass metabolism
- Plasma nicotine levels are lower and fluctuate less than with smoking

Results

Figure 1: There is some success of cessation with Chantix in the short-term, but effectiveness is questioned in the long-term as success rates sharply drop after the 24-week period.

Figure 2: Proportions of participants abstinent at each weekly visit (prior to the prior weekly visit, intent-to-treat, with non-abstinence assumed at each missed visit).

Conclusion

Combination pharmacotherapy
- Combination NRT: Long-acting formulation (patch) + Produces relatively constant levels of nicotine
- PLUS: Short-acting formulation (pam, inhaler, nasal spray) + Allows for acute desensitization as needed for nicotine withdrawal symptoms
- Bupropion SR + Nicotine Patch

Both Chantix and NicoDerm are promising in the short-run with Chantix having a slight advantage when both drugs are directly compared. However, the most successful smoking cessation results were obtained in groups of people who are on a combined therapy of both an oral pill and a transdermal patch.