

Training the inner alligator

Nicotine feeds the primitive brain, so when smokers try to quit (using their frontal lobes), they are at war with themselves. New research gives us more ammunition to help smokers win the battle.

Fred Bass, MD, DSc

Some of your patients still smoke. They don't want to, but they do. That's addiction. Unlike the smokers of yore, they are likely to be hard core—to have, or have genes for, depression, schizophrenia, anxiety disorders, attention deficit, alcohol problems, and other addictions. They are also likely not to understand, nor be proud of, their addiction. They would love your support, even 2.5 minutes' worth of knowing and caring about their plight.

What do you need to know to pass on to them?

When they inhale, smokers send a huge bolus of nicotine to the mid-brain, i.e., the primitive, amphibian, alligator brain. It houses the locus ceruleus (attention), limbic system (mood), and ventral tegmental area (reward). It does not house the frontal lobes (thinking, planning, choosing, judging). Little nicotine ends up frontally. The smoker trying to stop smoking has a civil war occurring inside his or her skull: inner alligator vs frontal lobes. The trick is for smokers to work with the frontals to feed, train, and ultimately control their inner alligator.

Dr Bass is a physician-epidemiologist who trained at Case-Western Reserve, Harvard, and Johns Hopkins. He is a consultant to the Healthy Heart Society of BC, which helps to improve tobacco cessation in primary care.

Unfortunately for smokers and fortunately for the tobacco industry, Health Canada has not implemented the findings of recent clinical research in tobacco addiction treatment. Instructions for use of the nicotine patch still warn smokers not to simultaneously use other forms of nicotine, either other nicotine replacement therapy (NRT) or tobacco itself. That is regrettable, for four reasons:

- Combined NRT (patch with nicotine gum *or* lozenge *or* inhaler) used long-term has achieved the highest odds ratio of abstinence (treatment/control) of any form of stop-smoking treatment.¹
- Nicotine gum, 4 mg and 2 mg, when used by smokers who wanted to gradually reduce the amount smoked (over 8 weeks), produced odds ratios (compared to a placebo gum) of 6.0 and 1.8 respectively for continuous 6-month abstinence.²
- Pretreatment with the nicotine patch improved quit rates and showed no difference between treatment and control groups in adverse effects.³
- Dramatic increases in NRT, by adding ad lib inhaler use to the patch (which provided up to four times the amount that nicotine patch labeling would recommend), saw heavy smokers quitting at the same rate as light smokers—an unprecedented result in tobacco research. The key was allowing the smokers to tailor the nicotine dose to their own internal needs, the same as they would do

if they were smoking. The study found no adverse effects from this remarkable increase NRT provided.^{4,5}

The central theme in these studies is that for smokers who are ready to change their tobacco addiction, we ought to be making available significantly greater amounts of NRT.

The treatment of tobacco addiction appears to have reached new levels of efficacy, so you may want to review these studies and change how you help smokers. That really comes down to helping your patients train, and become happy with, their inner alligator.

References

1. Fiore MC, Jaen CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. US Dept HHS; Pub Health Service 2008:109.
2. Shiffman S, Ferguson SG, Strahs KR. Quitting by gradual smoking reduction using nicotine gum; a randomized controlled trial. *Am J Prev Med* 2009;36:96-104.
3. Fiore MC, Jaen CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. US Dept HHS; Pub Health Service 2008:123-124.
4. Sachs D. Tobacco dependence treatment; Time to change the paradigm. *Chest* 2006;129:836-839.
5. Bars MP, Banauch GI, Appel D, et al. Tobacco free with FDNY. *Chest* 2006; 129:979-987.