

Nicotine Addiction & Smoking Cessation

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**Internal Medicine Grand Rounds
May 7, 1998**

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John D. Minna, M.D.
Professor Internal Medicine and Pharmacology
Director, Hamon Center for Therapeutic Oncology Research
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Interests:

My research involves the study of molecular genetic abnormalities occurring in human cancer, particularly human lung and breast cancer and the translation of these results into the clinic. Current major interests include detecting genetic alterations in early preneoplastic lesions and using these genetic changes for early molecular diagnosis and monitoring the response to chemoprevention. In addition, I am interested in inherited genetic predisposition to cancer and currently we are trying to identify inherited predisposition to lung cancer and nicotine addiction. As Principal Investigator of our NCI SPORE (Special Program of Research Excellence) Grant in Lung Cancer I am responsible for coordinating a translational research program between UTSW and the UT M.D. Anderson Cancer Center. This involves projects and clinical trials of translational research in Lung Cancer in gene discovery, genetic epidemiology, early molecular detection, chemoprevention, and smoking cessation. As part of the SPORE we are conducting a randomized, placebo controlled trial of a new drug for smoking cessation coupled with a study of genetic epidemiology of dopamine receptor genes. I am very much interested in helping smoking cessation efforts develop at UTSW in terms of clinical trials, research, and teaching of students, housestaff and faculty.

Nicotine Addiction & Smoking Cessation

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"Tobacco drieth the brain, dimmeth the sight, vitiateth the smell, hurteth the stomach, destroyeth the concoction, disturbeth the humors and spirits, corrupteth the breath, induceth a trembling of the limbs, exsiccate the windpipe, lungs, and liver, annoyeth the milt, scorcheth the heart, and causeth the blood to be adjusted."

Tobias Verner, 1577-1660

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The Epidemic of Tobacco Use

- ~ 48 million people smoke in the USA (1/4 of the Population)
- 35% of High School Students Smoke
- Adult smokers who quit or die are replaced by children who smoke
- ~434,000 deaths per year from tobacco use (1200/day, 50/hr)
- Global tobacco-related deaths >3,000,000/ year in 1990s
- WHO projects 1/10 people now alive will die of tobacco-related disease

Cinciripini et al. JNCI 89:1852, 1997

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Smoking Related Morbidity

- Cardiovascular Disease
- Chronic Obstructive Pulmonary Disease
- Several Types of Cancer
 - Lung
 - Larynx, Oral, and other Head & Neck Cancers
 - Bladder and Renal
 - Pancreatic
 - Esophageal
 - Uterine Cervix

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Smoking Causes Cancer

- > 40 Known Carcinogens in Tobacco Smoke
- Smoking responsible for 30% of all cancer deaths
- Causes 42% of all Cancer Deaths in Men
- Causes 23% of all Cancer Deaths in Women

Cinciripini et al. JNCI 89:1852, 1997

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Smoking Related Cancer Deaths

- 89% Lung Cancer (Men)
- 90% Oral Cancer (Men)
- 77% Esophageal Cancer (Men)
- 79% Laryngeal Cancer (Men)
- 45% Kidney Cancer (Men)
- 31% Uterine Cervix Cancer Deaths
- Lung/Breast Cancer Deaths (66,000/43,900) (Women)

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Taking Action to Reduce Tobacco Use
Recommendations National Cancer Policy Board,
Institute of Medicine, NRC, 1998

- Raise Prices to Reduce Use
- Strengthen Federal Regulation
- Support State and Local Tobacco Control Efforts
- Monitor Performance in Relation to Public Health Goals
- Help Current Users Quit (AHCPR Guidelines)
- Support Research
- Facilitate International Tobacco Control

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Smoking Cessation Benefits

- Former smokers live longer than continuing smokers
- People who quite smoking before age 50 show 50% reduction in risk for all causes of death in next 16 years and by age 64 same as never smokers
- 30-50% decrease in lung cancer mortality risk for both sexes after 10 years of non-smoking

Cinciripini et al. JNCI 89:1852, 1997

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Benefits of Smoking Cessation

- Compared with nonsmokers, smokers exhibit a dose-dependent risk of dying from:
- Lung Cancer
- Pancreatic Cancer
- Head and Neck Cancer
- Renal Cancer
- Developing Bladder Cancer
- Developing Leukemia, Myeloma

Cinciripini et al. JNCI 89:1852, 1997

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People Want to Stop Smoking
(but nicotine addiction makes it very difficult to do so)

- 70% of smokers want to stop smoking completely
- 46.4% made serious quit attempt in past year
- Only 5.7% successfully abstained for 1 month
- Only 2.5% of all smokers quit permanently each year

CDC: Morbidity & Mortality Weekly Reports
45:588, 1996; 42:504, 1993

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Nicotine

- Water and lipid-soluble base pKa 8.0
- Nicotine delivered in alkaline cigar and pipe smoke and smokeless tobacco is readily absorbed across mucosal membranes of the mouth and nose
- Cigarette smoke is acidic and for effective absorption, nicotine must be inhaled in the pulmonary alveoli

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Nicotine Addiction

- Cigarettes contain 6-11 mg nicotine
- Smoker absorbs 1-3 mg irrespective of tobacco company provided nicotine-yield ratings which is sufficient to establish and sustain nicotine dependence
- Pack/day smoker absorbs 20-40 mg nicotine/day achieving concentrations of 25-35 ng/mL plasma by the afternoon
- Plasma half-life nicotine is ~ 2 hours
- Plasma half-life of primary metabolite cotinine is ~ 20 hours

Cinciripini et al. JNCI 89:1852, 1997

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Nicotine Addiction

- Nicotine rapidly distributed from bloodstream
- Binds and activates nicotinic cholinergic receptors or binding sites
- Receptor activation leads to
 - alteration of spontaneous electroencephalogram and evoked brain electrical potentials
 - alteration of local cerebral glucose metabolism
 - modulation of adrenal and pituitary hormones
 - increased heart rate
 - changes in skeletal muscle tension

Cinciripini et al. JNCI 89:1852, 1997

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Fagerstrom Test for Nicotine Dependence

How soon after you wake up do you smoke your first cigarette? (5 min, 6-30 min, 31-60 min, >60 min)

Do you find it difficult to refrain from smoking in places where it is forbidden? (Yes, No)

Which cigarette would you hate most to give up? (First one in the morning)

How many cigarettes per day do you smoke

Do you smoke more frequently during the first hours after waking than during the rest of the day? (Yes, No)

Do you smoke if you are so ill that you are in bed most of the day? (Yes, No)

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Psychophysiological Responses to Nicotine

- Produces pleasure and satisfaction in humans
- Reward leads animals and humans to press levers that lead to repeated injections of nicotine
- Nicotine may enhance vigilance, memory, and task performance independent of withdrawal relief
- Simultaneous actions on many types of neurons and effect on release of dopamine, norepinephrine, and serotonin (5-HT)
- Neurotransmitter systems may be modulated by direct or indirect effects on receptors or other cholinergically mediated actions

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Psychophysiological Responses to Nicotine

- Nicotine effect on dopamine release (nucleus accumbens) and synthesis in the mesolimbic system (motivation, reinforcement and pleasure)
- Dopamine release in the nucleus accumbens associated with
 - self-administration of nicotine, opiates, cocaine
 - brain electrical stimulation
 - anticipation of eating and sexual behavior
 - effects of rewards or incentives
 - avoidance of aversive stimuli

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Psychophysiological Responses to Nicotine

- Nicotine increases turnover of norepinephrine in hypothalamus and release in the locus coeruleus (enhanced attention to significant stimuli, reduced to irrelevant stimuli)
- Nicotine stimulates Serotonin (5-HT) release in median raphe nuclei as well as serotonergic neurons in hypothalamus and striatum (motivation, drive, depression, appetite)
- Could explain relationship of smoking and depressed mood, given favorable clinical response of patients with major depression treated with serotonin re-uptake inhibitors

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Psychophysiological Responses to Nicotine

- Increased expression of nicotine receptors with chronic use but many are desensitized or inactive
- Nicotine effects on CNS are dose dependent
- Nicotine tolerance acquired during youth, physical dependence can occur after several weeks exposure
- Nicotine dependent persons report feeling "abnormal" or "not right" when deprived of nicotine for a few hours
- Optimal performance for most smokers on behavioral and cognitive tasks requires sustained nicotine administration and adverse performance with nicotine deprivation

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Tobacco Addiction or Dependence as a Medical Disorder: Nicotine Dependence and Withdrawal

- Disorder of maladaptive and seldom spontaneously remitting tobacco use
 - Evidence of tolerance (increased use over time and absence of aversive symptoms)
 - Evidence of withdrawal
 - Persistent desire or unsuccessful effort to reduce intake
- Nicotine Withdrawal
 - Constellation of symptoms within 24 hours of tobacco abstinence (dysphoria, insomnia, irritability, anxiety, restlessness, increased appetite, decreased heart rate, difficulty concentrating)

APA: Diagnostic and Statistical Manual 4th Ed. 1994.

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Nicotine Withdrawal

- Onset within a few hours of last cigarette
- Increased tendency to smoke
- Impaired cognitive function
- Altered electrocortical function
- Peaks within a few days and then recedes over several weeks
- Most individuals who try to quit smoking relapse before syndrome subsides
- Even the continuing smoker experiences withdrawal symptoms during each day of smoking

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Nicotine Withdrawal

- Nicotine replacement does not shorten the course of the syndrome but reduces the severity of the symptoms
- Reduces the severity of the symptoms to more tolerable levels observed after 4-5 weeks of untreated abstinence
- Some withdrawal symptoms (cognitive impairment, cravings, irritability) may persist for months or more in some individuals

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Predictors of Treatment Success (Role of Depression)

- The most significant and clinically predictive reason smokers fail to quit or relapse, is negative mood (e.g., dysphoria, depression, tension, anxiety)
- Smokers with a past history of Major Depression have a decreased likelihood of quitting

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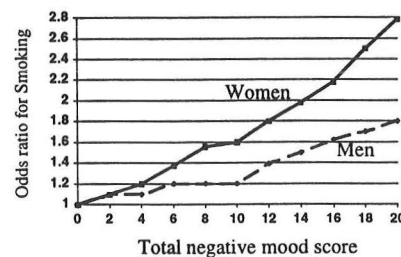
Smoking and Negative Mood States

- Smoking behavior is influenced by an individual's vulnerability to experience depressed or dysphoric mood
- Depressive mood and history of major depressive disorder are:
 - More prevalent among smokers than nonsmokers (odds ratio 2.9; range 1.7-4.9)
 - Positively related to daily cigarette consumption
 - Predictive of greater withdrawal severity including depressive symptoms
 - Associated with decreased likelihood of quitting smoking

Glassman et al. JAMA 264:1546, 1990; Anda et al. JAMA 264:1541, 1990; Kendler et al. Arch Gen Psych 50:36, 1993

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Odds Ratio for Smoking According to Negative Mood Score and Gender



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Genetic Influence on Smoking A Study of Male Twins

(3,479 Monozygotic, 3,641 Dizygotic Pairs)

Smoking Status	Monozygotic/Dizygotic Overall Rate Ratio
Never smoked	1.38 (1.25-1.54)
Former Smokers	1.59 (1.35-1.85)
Current Cigarette Smokers	1.18 (1.11-1.26)
Current Cigar/Pipe Smokers	1.60 (1.22-2.06)

Carmelli et al. NEJM 327:829, 1992.

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Estimates of Genetic Contribution to Smoking Behaviors from Twin Studies (Sweden, Finland, Australia)

Phenotype	Gender	Heritability(%)	95% Confidence
Initiation	M	52, 50, 22	(43-60,39-61,0-54)
Persistence	M	35,52,44	(10-57,29-66,11-62)
Initiation	F	43,37,79	(35-51,28-46,59-85)
Persistence	F	55,53,44	(31-66,5-67,11-62)

Heath et al Behavior Genetics 25:103, 1995

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Alleles of the Dopamine Receptors as Genetic Risk Factors for Smoking

- 5 known Dopamine Receptors
- DRD2 (11q) minor A1 and B1 alleles are more frequent in current or former smokers than never smokers
- DRD2 A1 allele has decrease in DRD2 receptor density
- Hypothesis: Subjects with A1 and B1 allele may compensate for inherent deficiency in their dopaminergic system by using nicotine and other substances known to increase dopamine levels in the brain

Comings et al. Pharmacogenetics 6:73, 1996
Noble J Natl Can Inst 90:343, 1998.

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Alleles of the Dopamine Receptors as Genetic Risk Factors for Smoking

- DRD4 gene is highly expressed in brain areas involved in emotion and reward seeking behaviors
- DRD4 L (long) allele alters receptor function and blunts intracellular response to dopamine
- Significant interaction (DRD4 genotype x Depression) was found for stimulation smoking and negative-affect reduction smoking

Lerman et al. Health Psychology 17:56, 1998

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National Patterns in the Treatment of Smokers by Physicians (145,716 adult patients visits to 3,254 physicians 1991-1995)

Event	1991	1993	1995
Identified patients' smoking status	67%	67%	60%
Smoking counseling	16%	29%	21%
Nicotine replacement therapy	0.4%	2.2%	1.3%

Thorndike et al. JAMA 279:604, 1998

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Smoking Status as a "Vital Sign"

- U.S. physicians treatment of smokers improved little in the first half of the 1990s
- Transient peak in counseling and nicotine replacement use occurred in 1993 with the patch
- Physicians' practices fell short of national health objectives and practice guidelines
- Patient visits for diagnoses not related to smoking represent important missed opportunities for intervention

Thorndike et al. JAMA 279:604, 1998

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Agency for Health Care Policy and Research (AHCPR) Guidelines

- Comprehensive review of > 300 controlled studies of empirical smoking cessation literature with meta-analysis
- Panel of experts evaluated studies and made recommendations
- 3 effective components
 - Nicotine replacement therapy (patch/gum)
 - social support (clinician provided assistance)
 - problem-solving/skill training

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Summary of Findings and Recommendations of AHCPR Expert Review Panel (1)

- Effective smoking cessation treatments are available, and every patient who smokes should be offered one or more of these treatments.
- It is essential that clinicians determine and document the tobacco use status of every patient treated in a health-care setting.
- A dose-response relationship exists between the intensity and duration of treatment and its effectiveness. In general, the more intense the intervention, the more effective it is in producing long-term abstinence from tobacco.

Fiore et al Smoking Cessation AHCPR 96-0692, 1996.

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Summary of Findings and Recommendations of AHCPR Expert Review Panel (2)

- Brief cessation treatments are effective, and at least a minimal intervention should be provided to every patient who uses tobacco.
- Three treatment elements, in particular, are effective, and one or more of these elements should be included in smoking cessation treatment.
- Effective reduction of tobacco use requires that health-care systems make institutional changes that result in systematic identification of, and intervention with, all tobacco users at every visit.

Fiore et al Smoking Cessation AHCPR 96-0692, 1996.

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Summary of Findings and Recommendations of AHCPR Expert Review Panel (Treatments)

- **Three treatment elements, in particular, are effective, and one or more of these elements should be included in smoking cessation treatment**
 - Nicotine replacement therapy (nicotine patches or gum)
 - Social support (clinician-provided encouragement and assistance)
 - Skills training/problem solving (techniques on achieving and maintaining abstinence)

Fiore et al Smoking Cessation AHCPR 96-0692, 1996.

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Smoking Cessation Self Help & Unassisted Cessation

- Easy to disseminate
- Low in cost
- Preferred by the general public
- Do not significantly enhance quit attempts
- Tailored Self-Help may help in precontemplation stage of quitting, with low perceived ability to quit, less nicotine dependent

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Smoking Cessation Self Help Works Poorly

- Only 15% of smokers report using assisted treatments
- Prospective, Multicenter study of 5,000 smokers, only 4.3% of self-quitters remain abstinent at 1 year

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Smoking Cessation Behavioral Interventions

- Person to person contact (group or individual) better than unassisted
- More time providers spend (intensity level) the higher the cessation rate
- While brief (3-10 min) works, >10 min best
- Duration of treatment (>8 weeks) and total number of treatment sessions (4-7 sessions) improved cessation rates

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Smoking Cessation Cessation Counseling

- General problem-solving/skills
 - relapse prevention
 - stress management
- Supportive care provided by clinician

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Efficacy of Smoking Cessation Treatment Interventions and Components

Intervention/Component	Ref Group	Odds Ratio	Cessation Rate (%) Estimated
Screening, advice, providers			
System in place to identify smokers	No system	2.0	6.4% (1.3-12)
Physician advice to quit	No advice	1.3	10.2% (9-12)
Multiple providers across disciplines	No provider	3.8	26% (18-33)
Intervention Format			
Self-Help	No contact	1.2	9.3% (7-11)
Individual counseling	No contact	2.2	15.1% (14-17)
Group counseling	No contact	2.2	15.3% (11-19)
Intensity level			
Minimal contact (≤3 minutes)	No contact/self help	1.2	10.7% (9-13)
Brief counseling (3-10 minutes)	No contact/self help	1.4	12.1% (10-14)
Counseling (>10 minutes)	No contact/self help	2.4	18.7% (17-21)

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Fiore et al AHCPR and DHHS #96-0692, 1996

Efficacy of Smoking Cessation Treatment Interventions and Components

Intervention/Component	Ref Group	Odds Ratio	Cessation Rate (%) Estimated
Treatment Duration			
2 to < 4 weeks	< 2 weeks	1.6	15.6% (13-18)
4 to 8 weeks	< 2 weeks	1.6	16.1% (12-20)
> 8 weeks	< 2 weeks	2.7	24% (21-27)
Treatment Frequency			
2 to 3 sessions	≤ 1 session	2.0	18.8% (16-22)
4 to 7 sessions	≤ 1 session	2.5	22.6% (20-25)
> 7 sessions	≤ 1 session	1.7	16.7% (11-22)
Treatment Content			
Intra-treatment social support	No contact	1.8	15.2% (11-19)
Problem-solving/skills training	No contact	1.6	13.7% (10-17)

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Fiore et al AHCPR and DHHS #96-0692, 1996

Scheduled Smoking as Aid to Smoking Cessation

- Smokers instructed to smoke on a fixed time schedule with gradual increasing inter cigarette intervals
- Individuals receive steady, but declining dosage of nicotine independent environmental cues to smoke
- Scheduled smoking more effective than either uncontrolled gradual reduction or cold turkey cessation
- One year abstinence rates are 32-44% compared with 28-38% for nicotine patch replacement

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Nicotine Replacement Therapy in Smoking Cessation

- Substitutes source of nicotine, lessening nicotine withdrawal symptoms
- Nicotine (polacrilex) gum (OTC, 1996)
- Transdermal nicotine patch (OTC)
- Nicotine nasal spray
- Nicotine vapor inhaler
- Effects of each improved by addition of behavioral intervention (FDA)

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Nicotine Gum

- Available in 2 and 4 mg forms
- Chewed briefly, then “parked” in the mouth
- Releases ~1/2 nicotine concentration which is then absorbed transmucosally
- Use in response to cravings in first few months
- Fixed-interval schedule (q1-2 hr) may improve effectiveness

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Nicotine Gum

- Meta-analysis found nicotine gum to be superior to both placebo and no-gum controls (Odds Ratio 1.4-1.8)
- Gum’s overall efficacy is partly dependent on effectiveness of concomitant treatment strategies (behavioral counseling)
- Effectiveness limited by compliance problems (inconvenience, lack of acceptability, bad taste)

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Transdermal Nicotine Patch (TNP)

- Nicotrol and Nicoderm brands approved OTC
- Worn for either 24 or 16 hours depending on brand
- Variety of dosing schedules available
 - (21, 14, 7 mg; 15mg; and 22 and 11 mg)
- Five meta-analyses have shown TNP effectiveness (Odds ratio 2.2-2.6)
- Effective across diverse settings and populations
- TNP ~doubles 6 to 12 month cessation rates over rate seen with placebo, regardless of the intensity of adjuvant psychosocial intervention

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Absolute Cessation Rates Observed With TNP Are Enhanced When Used in Conjunction With More Intense Psychological/Behavioral Intervention

Time Period	Psychological Intervention	
	High Intensity	Low Intensity
	Mean Cessation Rates (Range)	
End of Therapy	42% (38-45)	23% (21-25)
12 Months Post Quit	27% (27-31)	20% (17-22)

Meta-analysis Fiore et al. JAMA 271:1940, 1994

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Effect of TNP in the General Population 1993-1994 California Tobacco Survey (N = 3,281 Current and Former Smokers)

Patch Use (% of Sample)	1 Year Abstinence Rate
1993	
Patch Users (11%)	16%
Non-Patch Users (89%)	7%
1994	
Patch Users (19%)	23-29%

Pierce et al. JNCI 87:87, 1995
Orleans et al. JAMA 271:601, 1994

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Other Nicotine Delivery Systems

- Nicotine Nasal Spray (1 ng/spray)
 - Abstinence of 18% vs. 8% (Placebo) at 1 year
 - High rates of attrition
 - ENT irritation for both Nicotine and Placebo
- Nicotine Vapor Inhaler 1998 (13ng/puff)
 - Abstinence of 13% vs. 8% (Placebo) 1 year

Schneider et al. Addiction 90:1671, 1995

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Non-Nicotine Medications Not Yet of Proven Benefit

- Mecamylamine (cholinergic blocker)
- Naltrexone (opioid antagonist)
- Clonidine (α -2 adrenergic antagonist)
- Buspirone (BuSpar) (anxiolytic, 5HT_{1A} agonist)
- Moclobemide (Manerix) (reversible MAO-A inhibitor)
- Fluoxetine (Prozac) (serotonin re-uptake inhibitor)
- Dexfenfluramine (Redux) (to reduce weight gain)

Cinciripini and McClure Oncology 12: 249, 1998

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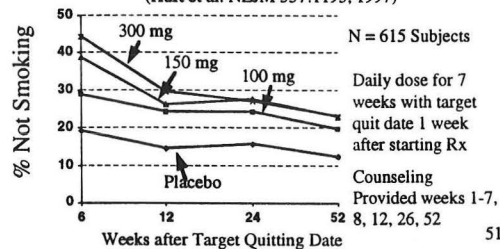
Bupropion (Zyban™) as an Approved Aid in Smoking Cessation

- Antidepressant, modest dopamine reuptake inhibitor that potentiates the effects of norepinephrine and dopamine
- Dose 150 to 300 mg/day sustained-release
- Minimal side effects profile
- 12 month quit rate of 23% vs 12% in placebo
- Brief counseling + TNP and either Bupropion (58%) or Placebo (49%) 1 month quit rate

Hurt et al. N Engl J Med 337:1195, 1997;
Glaxo Wellcome unpublished Multicenter trial

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Point-Prevalence Smoking-Cessation Rates in Randomized Trial of Bupropion vs. Placebo (Hurt et al. NEJM 337:1195, 1997)



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Side Effects of Bupropion are Minimal

- Seizure disorder as exclusion criteria but rare (0.1%)
 - Personal or family history of seizure
 - History of severe head trauma
 - Predisposition to seizures (brain tumor, stroke)
 - Anorexia nervosa, bulimia
 - Alcohol withdrawal
 - Use of cocaine or other drugs causing seizures
- Did not have sedating effect on CNS
- Insomnia and dry mouth
- Accompanied by reduced weight gain
- Should not be used with other antidepressants (drug interactions)

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Bupropion Treatment

- 150 mg qd x 3 days, then b.i.d. for 7-12 weeks or longer
- With or without nicotine replacement
- Stop smoking during second week of treatment
- Provide counseling and support service
- 10 week supply 150 mg b.i.d. = \$186 AWP

The Medical Letter 39 (Issue 1007), August 15, 1997

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Bupropion and Nicotine Replacement

(N = 893 treated for 9 weeks)

Treatment	Smoking Cessation Rates 10 Weeks
Placebo	20%
Transdermal Nicotine (21 mg qd)	32%
Bupropion (150 mg b.i.d.)	46%
Nicotine & Bupropion	51%

The Medical Letter 39 (Issue 1007), August 15, 1997

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UTSW/MD Anderson
SPORE in Lung Cancer

- Project #1: Gene Discovery
- Project #2: Genetic Predisposition Trial
- Project #3: Early Molecular Detection Trial
- Project #4: Chemoprevention Trial
- Project #5: Smoking Cessation Trial & Genetics of Nicotine Addiction

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SPORE Smoking Cessation Trial
Paul M. Cinciripini, Ph.D. PI
Assoc. Prof. M.D. Anderson Cancer Center

- Randomized, Double Blind, Placebo Controlled Trial of Venlafaxine (Serotonin and Norepinephrine reuptake inhibitor). All persons get:
- Fagerstrom Nicotine Dependence Test
- Behavioral counseling (9 weekly sessions)
- Transdermal nicotine patch (22mg/day, weeks 3-9),
- Randomized to Placebo or Venlafaxine (weeks 1-12)
- Followed for smoking abstinence for 12 months
- DNA genotyped for DRD2 A1, B1, and DRD4 alleles

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Summary of Findings on Smoking Cessation

- Self-Help interventions provide little clinical utility when used as stand-alone treatment
- Behavioral counseling and nicotine replacement therapy are the most efficacious interventions
- While frequency and duration of cessation counseling, even brief advice from physicians to quit increases abstinence rates and should be offered to all patients who smoke
- Scheduled smoking warrants further investigation

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Summary of Findings on Smoking Cessation

- Nicotine replacement therapy is clearly effective treatment that should be offered to all appropriate patients
- Success of this treatment is enhanced by adjuvant counseling and impaired by inadequate compliance
- Nicotine replacement therapy should be combined with some form of behavioral counseling
- Educate patients regarding proper usage and potential side effects of nicotine replacement therapy

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Summary of Findings on Smoking Cessation

- Bupropion (with counseling) is only non-nicotine medication with FDA approval for treatment of nicotine dependence
- Studies need to confirm benefit of combining Bupropion with nicotine replacement

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Smoking Cessation Clinics at UTSW
Pat Cook, M.D. Director
Asst. Professor Internal Medicine

- PMH 7th Floor Clinic (590-5603)
- Aston 8th Floor Clinic (648-8004)
- Patients given phone numbers by Physician and they make their own appointment
- Always offered appointment next Tuesday
- Behavioral counseling in class & brief individual q1-2 weeks then PRN
- Behavioral methods work for many other General Internal Medicine problems as well

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Taking Action to Reduce Tobacco Use
(National Cancer Policy Board IOM NRC 1998)

Raise Prices to Reduce Use

The price of tobacco products must be increased substantially
Failure to achieve targeted reductions in youth consumption should result in further
manufacturer-specific penalties

Strengthen Federal Regulation

FDA must continue to regulate tobacco products, and the U.S. Congress must strengthen and
clarify FDA's role

Support State and Local Tobacco Control Efforts

The federal government must support state and local infrastructure for tobacco control.
Congress must repeal the federal preemption of state and local regulation of advertising and
promotion

Monitor Performance in Relation to Public Health Goals

The federal government must establish a system for performance monitoring in collaboration
with other levels of government and private organizations

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Taking Action to Reduce Tobacco Use
(National Cancer Policy Board IOM NRC 1998)

Help Current Users Quit

- Effective smoking cessation interventions, as identified by the AHCPR guidelines, should be widely disseminated and incorporated into the standard of practice
- Government health programs and private insurance and health plans should cover treatment programs for tobacco dependence
- Treatment programs for tobacco dependence should be incorporated into quality of care measures, "report cards" on health plans, and public health performance monitoring
- Programs and norms outside the medical care system must also support prevention, cessation, and harm reduction

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Taking Action to Reduce Tobacco Use
(National Cancer Policy Board IOM NRC 1998)

Support Research

- Federal research agencies must increase their commitment to research on tobacco control
- The U.S. Congress and Public Health Service agencies should intensify research on tobacco-related diseases
- FDA and NIH should mount research programs to improve future regulation
- The federal government must support research to clarify the feasibility, risks, and benefits of "harm reduction" strategies

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Taking Action to Reduce Tobacco Use
(National Cancer Policy Board IOM NRC 1998)

Facilitate International Tobacco Control

- The United States must promote, participate in, and contribute funds to the building of a capacity for evaluating and monitoring international tobacco control efforts
- The United States should refrain from implementing trade policies that undermine foreign tobacco control efforts
- The United States can study and learn from effective foreign tobacco control policies

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John D. Minna, M.D. May 7, 1998

Nicotine Addiction & Smoking Cessation Bibliography

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