

Smoking Cessation

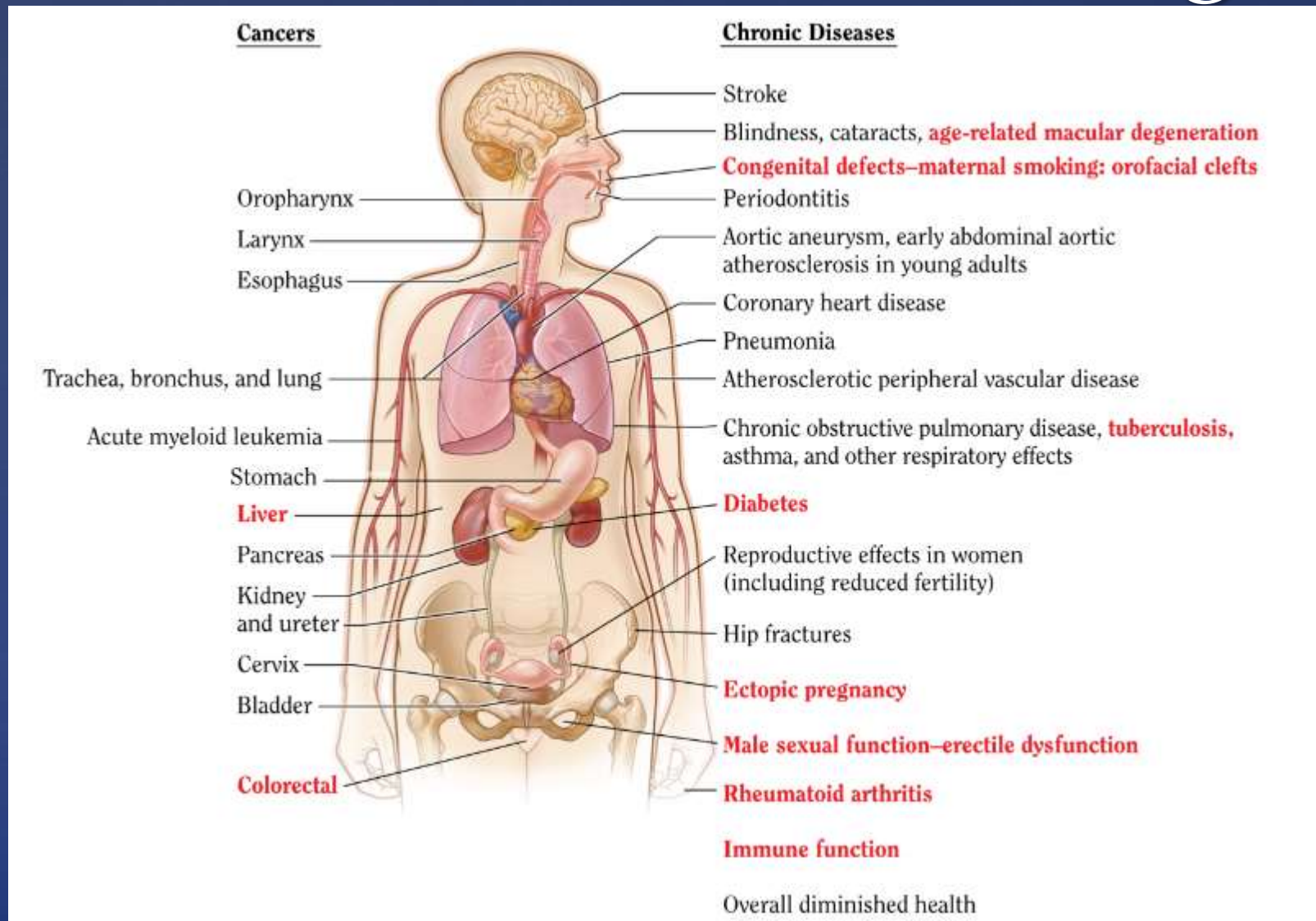
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28/3/2014

Overview

- ⌘ Understanding harms of smoking
- ⌘ Pathophysiology and basics of nicotine addiction
- ⌘ Smoking cessation
- ⌘ Non-pharmacologic methods for smoking cessation
- ⌘ Pharmacologic – NRT, antidepressants and varenicline
- ⌘ Alternative therapies
- ⌘ E-cigarettes
- ⌘ Algorithm and costs

Health effects of smoking

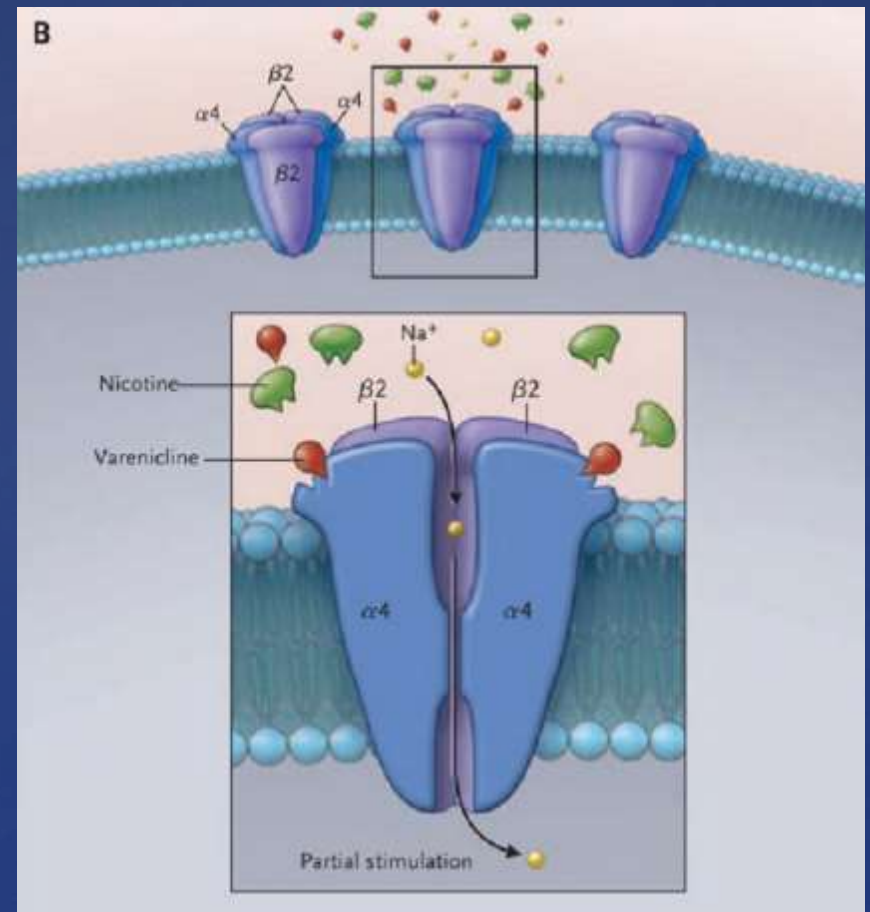
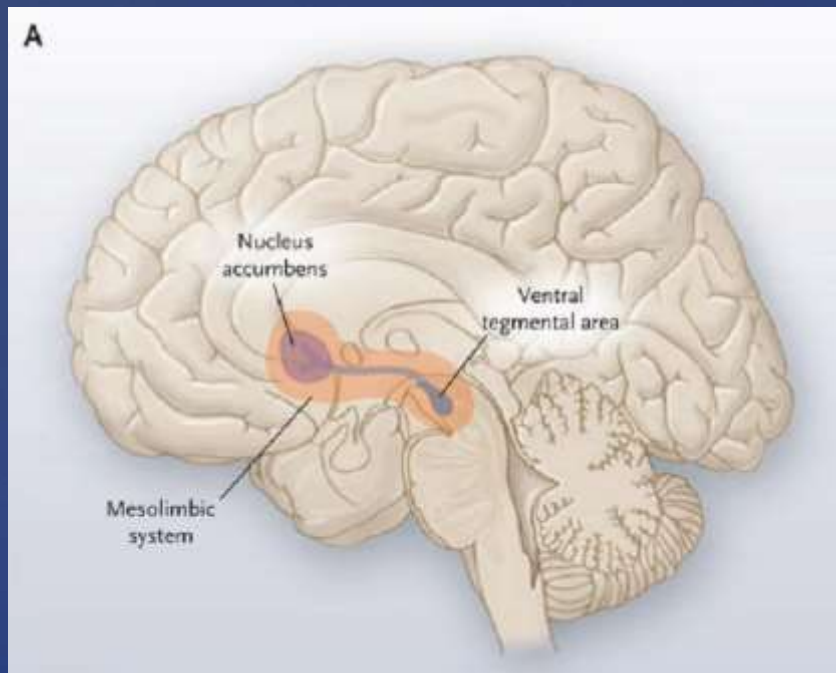


Red Recently described smoking related diseases

Pathophysiology

- ⌘ Pleasurable effects of nicotine – arousal and relief of anxiety
- ⌘ Presence of craving
- ⌘ Withdrawal effects – irritability. Anger, difficulty concentrating, restlessness, increased appetite or weight gain
- ⌘ Tobacco smoke inhalation → large surface area of pulmonary circulation → absorption and RAPID rise in nicotine levels

The principal site of nicotine action in the brain is the mesolimbic system (Panel A). Nicotine stimulates dopaminergic neurons located in the ventral tegmental area, increasing dopamine release in the nucleus accumbens. Nicotine interacts with nicotinic acetylcholine receptors, which are pentameric ion channels located in the mesolimbic system and elsewhere (Panel B). The highest-affinity nicotinic acetylcholine receptors consist of two $\alpha 4$ subunits and three $\beta 2$ subunits. Nicotine binds to and causes a conformational change in the $\alpha 4\beta 2$ nicotinic acetylcholine receptor, increasing sodium (Na^+) influx. Varenicline is a partial agonist of the $\alpha 4\beta 2$ nicotinic acetylcholine receptor that causes partial stimulation while it competitively inhibits nicotine binding.



Nicotine withdrawal

Symptom	Incidence %
Anxiety	87
Irritability, frustration, anger	87
Decreased heart rate	80
Difficulty concentrating	73
Increased appetite	73
Restlessness	71
Craving	62
Depression, dysphoria	30-75 (prior h/o depression plays a role)

Hughes JR Arch Gen Psychiatry 1986;43(3):289-94

Nicotine induced disorder: Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)

Smoking – a disease or a habit?

- ⌘ Despite knowing its harm people find it difficult to abstain – even after the diagnosis of cancer up to 83% continue to smoke. (Parsons A et al. BMJ 2010: 340; b5569)
- ⌘ Smoking is a **chronic relapsing disease** rather than a habit alone

Benefits of smoking cessation - immediate

- ⌘ Lower blood pressure
- ⌘ Improvements in smell, taste
- ⌘ Increased energy, appetite
- ⌘ Heightened immune response

Cooley ME, et al. Seminars in oncology nursing. 2008;24(1):16-26.

Benefits of smoking cessation – long term

- ⌘ Improvement in cognitive function
- ⌘ Psychological well-being, self-esteem and overall quality of life

Cooley ME, et al. Seminars in oncology nursing. 2008;24(1):16-26.

Benefits of smoking cessation – lung cancer

- ⌘ Smoking cessation at diagnosis reduces rate of synchronous/metachronous tumors. (*Gritz ER Evidence-Based Cancer Care and Prevention: Behavioral Interventions. New York, Springer, 2003, pp107–140*)
- ⌘ Increased survival time
- ⌘ Decreased post-op complications
- ⌘ Increased efficacy of chemotherapy, decreased radiotherapy complications

Tools to assess nicotine dependence

⌘ FTND

⌘ FTQ

⌘ Biochemical tests – exhaled carbon monoxide and nicotine levels in serum

Fagerstrom Test for Nicotine Dependence (FTND)

Question	Response	Score
How soon after your waking do you smoke your first cigarette?	< 5 minutes	3
	6 – 30 minutes	2
	31 – 60 minutes	1
Do you find it difficult to refrain from smoking in places where it is forbidden?	Yes	1
	No	0
Which cigarette would you hate to give up?	The first one	1
	Any other	0
How many cigarettes a day do you smoke?	10 or less	0
	11-20	1
	21-30	2
	31 or more	3
Do you smoke more frequently in the morning than in the rest of the day?	Yes	1
	No	0
Do you smoke even though you are sick in bed most of the day?	Yes	1
	No	0

Fagerstrom Test for Nicotine Dependence (FTND)

FTND Score	Category
0 – 2	Very low dependence
3 – 4	Low dependence
5	Medium dependence
6 - 7	High dependence
8 and more	Very high dependence

5 'A' s of smoking cessation

& Ask

& Assess

& Advice

& Assist

& Arrange – (follow up and relapse prevention)

5 'A' s of smoking cessation

- ⌘ Recommended by US and various national smoking cessation guidelines
- ⌘ But usefulness of each component not studied well
- ⌘ In a study done at primary level : 77% patients were offered advice, 41% were assisted and only 33% received pharmacotherapy

5 'A' s of smoking cessation

Table 4. Smokers' Use of 5-A Tobacco Treatments and Abstinence at 12-Month Follow-up*

Tobacco treatment	Abstinent at follow-up†			
	Unadjusted		Adjusted‡	
	%	<i>p</i>	OR	95% CI
Self-help materials				
Yes	11.61	0.01	0.71	0.47–1.08
No	8.05			
Classes/counseling				
Yes	16.09	<0.0001	1.82	1.16–2.86
No	7.50			
Pharmacotherapy				
Yes	13.78	<0.0001	2.23	1.56–3.20
No	6.42			
Follow-up contact				
Yes	13.49	0.06	1.17	0.66–2.05
No	8.64			

*Smokers' reported use of tobacco treatment over 12-months of follow-up

†Smokers' reports of abstinence ≥30 days at 12-month follow-up

Readiness to quit

- ⌘ Majority intend to stop smoking at some point of time (70%)
- ⌘ But only very few are ready to stop over the next month
(12%)
- ⌘ Hence interventions are likely to help only in those who are
motivated to quit

Understanding smoking cessation

Motivation	<i>1.Pre-contemplation:</i> No intention to stop, no realization that smoking is undesirable
model and	<i>2.Contemplation:</i> Awareness that smoking is undesirable, ambivalence about perspective of changing
motivation	<i>3.Preparation:</i> Readiness to stop smoking
level of the	<i>4.Action:</i> Stops smoking
patient	<i>5.Maintenance:</i> Learns strategies to prevent recidivism and maintain the gains achieved in action stage

Motivational interview (MI)

- ⌘ Helpful in resolving ambivalence related to smoking
- ⌘ Person-centered, guiding method of counseling to elicit and strengthen motivation for change
- ⌘ Principles of expressing empathy, avoiding arguments, managing resistance without confrontation, and supporting the individual's self efficacy
- ⌘ Analysis of 31 trials (9485 participants) showed an overall odds ratio comparing likelihood of abstinence in the MI vs. control of OR=1.45, 95% CI 1.14-1.83)

Physician advice for smoking cessation (Review)

Stead LF, Buitrago D, Preciado N, Sanchez G, Hartmann-Boyce J, Lancaster T

- ⌘ 42 trials, 32000 smokers
- ⌘ Trials done primarily in primary care. (others include hospitals, OPD)
- ⌘ Primary outcome – Smoking abstinence at 6 months follow-up
- ⌘ Conclusion – Small effect. But definitely effective

Physician advice for smoking cessation (Review)

Stead LF, Buitrago D, Preciado N, Sanchez G, Hartmann-Boyce J, Lancaster T





Nature of physician advice	Effect
Brief advice vs. no advice	Small effect in increasing quit rates RR 1.66 (95%CI 1.42 to 1.94)
Intensive advice vs. no advice	Higher effect RR 1.84 (95% CI 1.60 to 2.13)
Direct comparison of Intensive vs. brief advice	Marginal benefit RR 1.37 (95% CI 1.20 to 1.56).
Mortality benefit (over twenty years in a single trial)	Not noted to be significant

Physician smoking status

- ⌘ Smokers show interest in knowing practitioner smoking status
- ⌘ More likely to question the ability of never smokers in smoking cessation advices
- ⌘ Ex-smokers were preferred and were more effective in smoking cessation counseling than never and current smokers

The importance of practitioner smoking status: A survey of NHS Stop Smoking Service practitioners

Nicola Lindson-Hawley^{a,*}, Rachna Begh^a, Máirtín S. McDermott^b, Andy McEwen^{c,d}, Deborah Lycett^a

Survey item	Adjusted analyses ^a	
	OR	95% CI
Comparison of ever and former smokers		
1. Do your clients ask you about your smoking status/history?	1.70 [*] 	1.18–2.45
2. Do you disclose your smoking status/history if clients ask about it?	1.76	0.96–3.21
3. Indicate how much you agree with the following statement: If a client asks about my smoking status it reduces my confidence in advising them.	0.47 [*] 	0.30–0.74
4. Indicate how much you agree with the following statement: Ex-smokers make better stop-smoking practitioners.	2.31 [*] 	1.67–3.17
5. Do your clients ever question your ability as a practitioner based on your smoking status?	0.61 [*] 	0.44–0.85

 Statistically Significant

- ⌘ 38 studies (no significant heterogeneity)
- ⌘ Small but significant benefit of providing intense behavioral support
- ⌘ Four or more sessions of behavioral interventions along with nicotine replacement therapy
- ⌘ Behavioral support provided either in person or over phone
- ⌘ Useful adjunct to pharmacotherapy

- ⌘ 41 trials
- ⌘ Most used NRT + behavioral intervention
- ⌘ 4-8 sessions of counseling provided
- ⌘ 30 to 300 minutes session
- ⌘ GOOD EVIDENCE of benefit by using combination RR 1.82 (CI 1.66 to 2.00)



Work-place interventions in smoking cessation

- ⌘ A review of 57 studies
- ⌘ Self-help interventions and social support found to be less effective

Work-place interventions in smoking cessation

Intervention	Odds of quitting smoking
Group therapy programs	1.71 (95% 1.05 to 2.80)
Individual counseling	1.96 (95% 1.51 to 2.54)
Multiple intervention programs	1.55 (95% 1.13 to 2.13)
Pharmacotherapies	1.98 (95% 1.26 to 3.11)
Self-help materials	1.16 (95% 0.74 to 1.82)

Pharmacotherapy

Commonly used therapies

- ⌘ Nicotine replacement therapy – gum, patch, inhalers, nasal spray
- ⌘ Bupropion
- ⌘ Varenicline

Summary of 150 trials involving > 50000 participants

Intervention	Relative risk for cessation
Any intervention	1.60 (95% CI 1.53 to 1.68)
Nicotine gum 4mg vs. 2mg	1.85 (95% CI 1.36 to 2.50) favoring 4mg
Nicotine patch 16h vs. 24h	No significant difference
Nicotine patches (high vs. low doses)	Marginal benefit with high dose
Nicotine patch + rapid acting NRT (like gums) > than NRT/patch alone	1.34 (95% CI 1.18 to 1.51, 9 trials)

Type of NRT	RR	95% CI	I ²	N of studies	N of participants
Gum	1.49	1.40 to 1.60	40%	56*	10,596/ 11,985
Patch	1.64	1.52 to 1.78	19%	43	11,746/ 7,840
Inhaler/inhalator	1.90	1.36 to 2.67	0%	4	490/ 486
Intranasal spray	2.02	1.49 to 2.73	0%	4	448/ 439
Tablets/lozenges	1.95	1.61 to 2.36	24%	7*	1808/ 1597
Oral spray	2.48	1.24 to 4.94	NA	1	318/ 161
Choice of product	1.60	1.39 to 1.84	NA	5	1449/ 1349
Patch and inhaler	1.07	0.57 to 1.99	NA	1	136/ 109
Patch and lozenge	1.83	1.01 to 3.31	NA	1	267/ 41

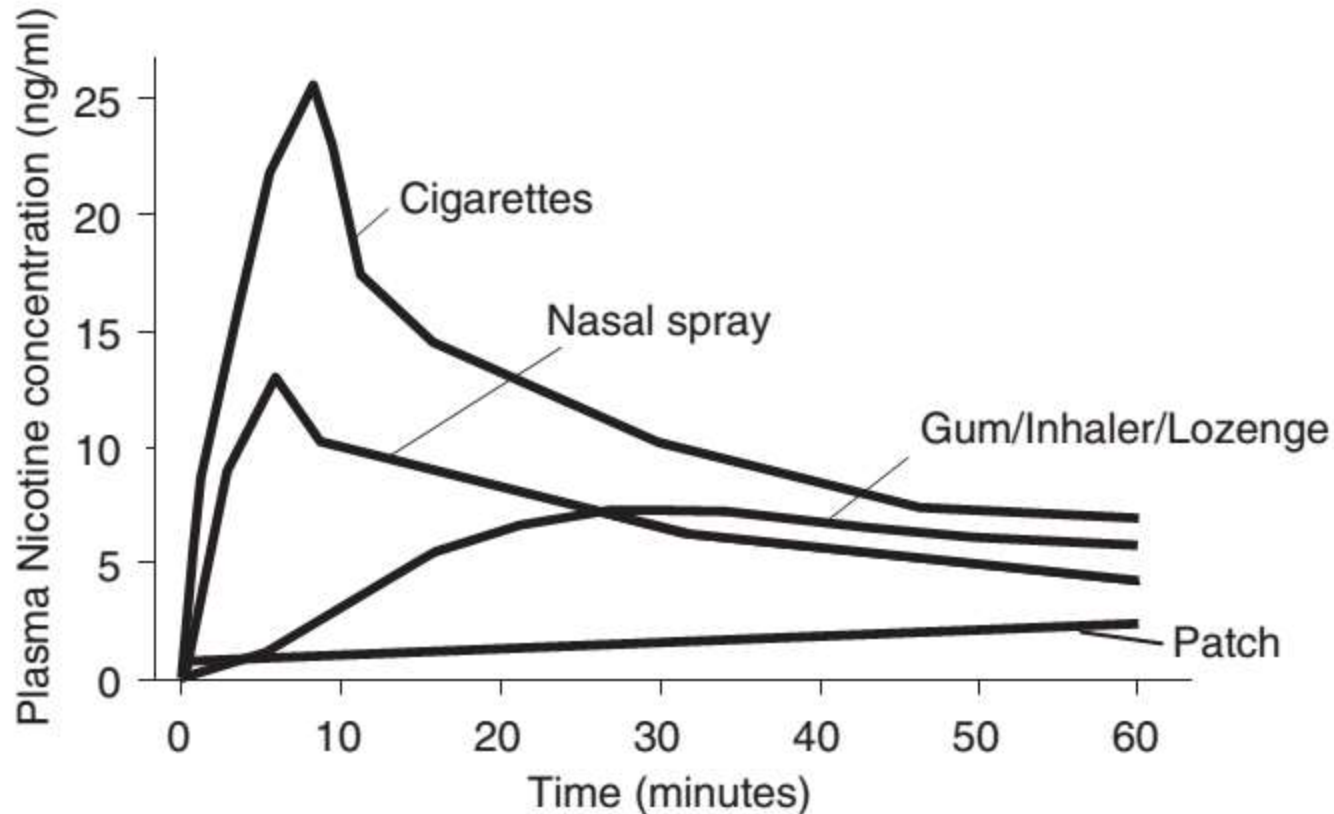


Fig. 2. Plasma (venous blood) nicotine concentration after smoking a cigarette and after using different nicotine replacement therapy formulations. Adapted from: Tobacco Advisory Group of the Royal College of Physicians 2000.

Nicotine replacement therapy

Intervention	Relative risk for cessation
NRT vs. Bupropion (5 studies)	No significant difference
NRT + Bupropion vs. bupropion	Combination more effective
NRT and heart attacks	No increased risk
Intensity of additional support along with NRT	Does not play significant role in cessation

Nicotine replacement therapy

- ⌘ Can be used over a longer period (18 months) as well as for abrupt cessation
- ⌘ NRT doubles the rate of quitting as compared to placebo
- ⌘ An additional 3% smokers are likely to quit when NRT is used than when unassisted
- ⌘ NRT is associated with significant side effects mainly nausea as compared to placebo (1 in 30 users)
- ⌘ No serious side effects

NRT - summary

- ⌘ Nicotine gum, transdermal patch, nasal spray, inhaler and sublingual tablet all increase quit rates at 5 to 12 months approximately two-fold
- ⌘ No significant difference in effectiveness of different forms of NRT in achieving cessation
- ⌘ In people smoking more than 20 cigarettes per day 4mg is more effective than 2mg gum

NRT – totally safe?

- ⌘ Smoking – through nicotine increases sympathetic activity and risk of thrombosis
- ⌘ Initial studies showed increase in heart rate (10-15/mt) and BP (5-10mmHg) as compared to placebo
- ⌘ There were few reports of increased arrhythmias, MI, and atrial fibrillation

NRT – Safety

Reference	Study design	Conclusion
Kimmel SE. J Am Coll Cardiol. 2001; 37:1297–302.	Population based case-control study on 3643 smokers	No association with first MI
Greenland S Drug Safety. 1998; 18:297–308	Meta analysis of 34 RCTs to assess CV adverse outcomes	No increase in the risk of myocardial infarction, stroke, palpitations, angina, arrhythmia, or hypertension in nicotine- versus placebo-treated patients

NRT – Safety in CV diseases

Reference	Study design	Conclusion
Arch Intern Med. 1994; 154:989–95	5 week RCT on 156 CAD patients (nicotine patch vs. placebo)	No difference in angina, arrhythmia and ST depression
Joseph AM et al. N Engl J Med. 1996; 335:1792–8	Nicotine patch vs. placebo for 10 weeks & follow-up for 14 weeks in 584 patients with CAD	Primary endpoint (death, myocardial infarction, cardiac arrest, and hospitalization due to angina, arrhythmia, or heart failure) occurred in 5.4% of patients receiving NRT and 7.9% of patients receiving placebo, non-significant difference (p=0.23)

Varenicline

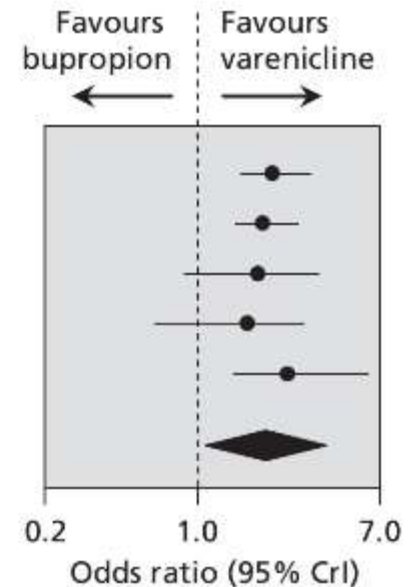
- ⌘ Champix 1 mg, 0.5 mg
- ⌘ Dosage -
- ⌘ partial neuronal $\alpha_4 \beta_2$ nicotinic receptor agonist
- ⌘ Champix 1 mg (28 tablets) – Rs. 1638/-

Varenicline vs. bupropion

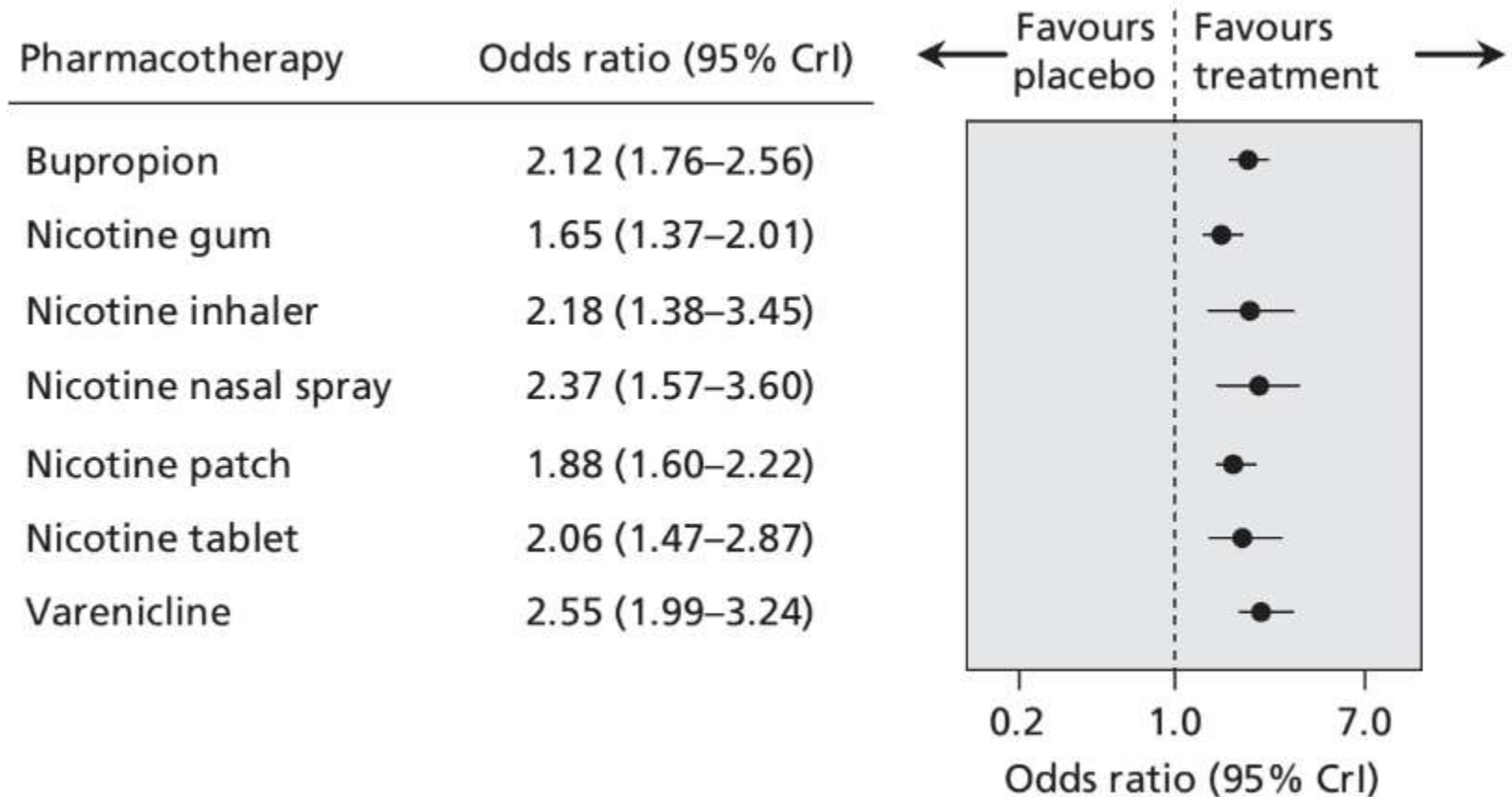
Indirect comparisons available indicate that Varenicline is superior to bupropion

Increased incidence of neuropsychiatric side effects reported with Varenicline

Study	No. who quit smoking / No. of participants		Odds ratio (95% CrI)
	Placebo	Treatment	
Gonzales et al. ²	48/344	99/352	2.33 (1.67–3.33)
Jorenby et al. ³	59/341	105/344	2.13 (1.53–2.96)
Nides et al. ⁴	6/123	10/126	2.04 (0.91–3.88)
Nides et al. ⁴	6/123	7/126	1.79 (0.65–3.21)
Nides et al. ⁴	6/123	18/125	2.73 (1.56–6.46)
Overall	113/808	239/1073	2.18 (1.09–4.08)



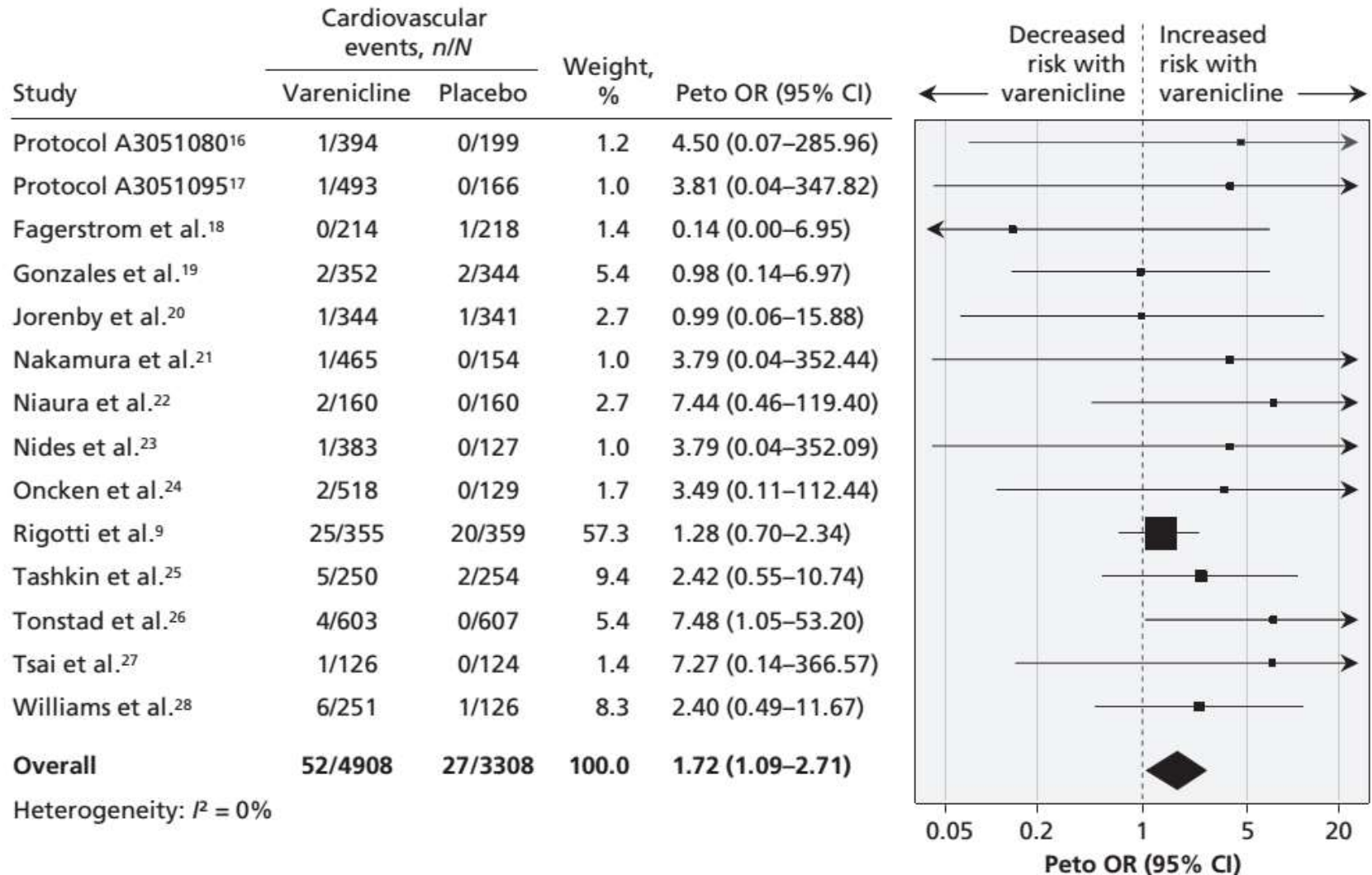
Pharmacotherapies for smoking cessation: a meta-analysis of randomized controlled trials



Varenicline – CV Safety

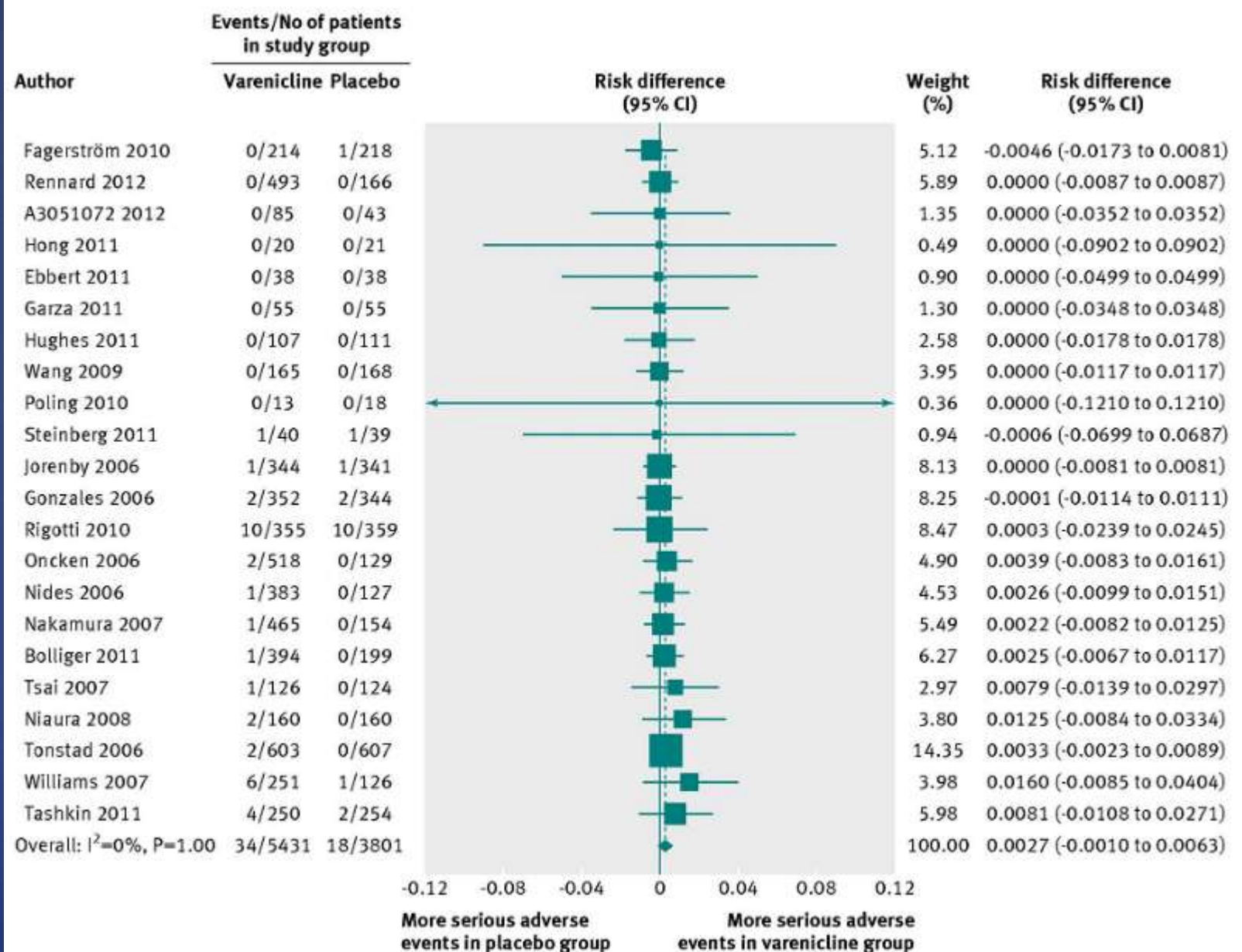
- ⌘ Based on concerns raised regarding increased CV events in Varenicline users. Meta analysis conducted on 14 RCTs
- ⌘ June 2011 – FDA issued warning about small increased risk of CV events in Varenicline users

Varenicline – CV Safety



Varenicline – CV Safety

Reference	Study design	Conclusion
Prochaska JJ et al. BMJ 2012	Meta analysis of 22 RCTs (1 on stable Cv disease, 1 on admitted CV disease 11 on past h/o CV disease 9 excluded CV diseases	Cardiovascular serious adverse events 0.63% (34/5431) in varenicline groups and 0.47% (18/3801) in placebo groups. No significant increase
Ware JH Am J of Ther. 2013 May- Jun	Patient-level Meta analysis of phase 2-4 trials RCTs to assess CV adverse outcomes Included 7002 subjects	Trend toward increased incidence of CV events. Did not reach statistical significance. Overall number of events was low and the absolute risk of CV events with varenicline was small.



Role of antidepressants

- ⌘ Basis – nicotine withdrawal leads to/ precipitates depression
- ⌘ Nicotine may have antidepressant effect thereby maintaining addiction. Replace it with antidepressant

Antidepressants studied

⌘ Bupropion

⌘ Doxepin

⌘ Fluoxetine

⌘ Imipramine

⌘ Lazabemide

⌘ Moclobemide

⌘ Nortriptyline

⌘ Paroxetine

⌘ S-Adenosyl-L-Methionine
(SAMe)

⌘ Selegiline

⌘ Sertraline

⌘ St. John's wort

⌘ Tryptophan

⌘ Venlafaxine

⌘ Zimeledine

90 trials. 65 of them on bupropion

Intervention	Relative risk for cessation
Bupropion	1.62, (95% [CI] 1.49 to 1.76)
Nortryptiline (6 trials only)	2.03, (95% CI 1.48 to 2.78)
Rate of serious adverse effects with bupropion (seizures)	Trend towards significance (but not statistically significant)
SSRI, MAO inhibitors, Venlafaxine	Not useful alone or in combination
Herbal (St John's Wort), dietary supplement (SAmE)	Not useful alone or in combination

Role of opioid antagonists

- ⌘ Effectiveness in smoking cessation- biologically plausible
- ⌘ Analysis of 8 trials comparing naltrexone vs. placebo in combination with other modalities
- ⌘ No beneficial effect either alone or as adjunct to NRT in short term or long term smoking cessation

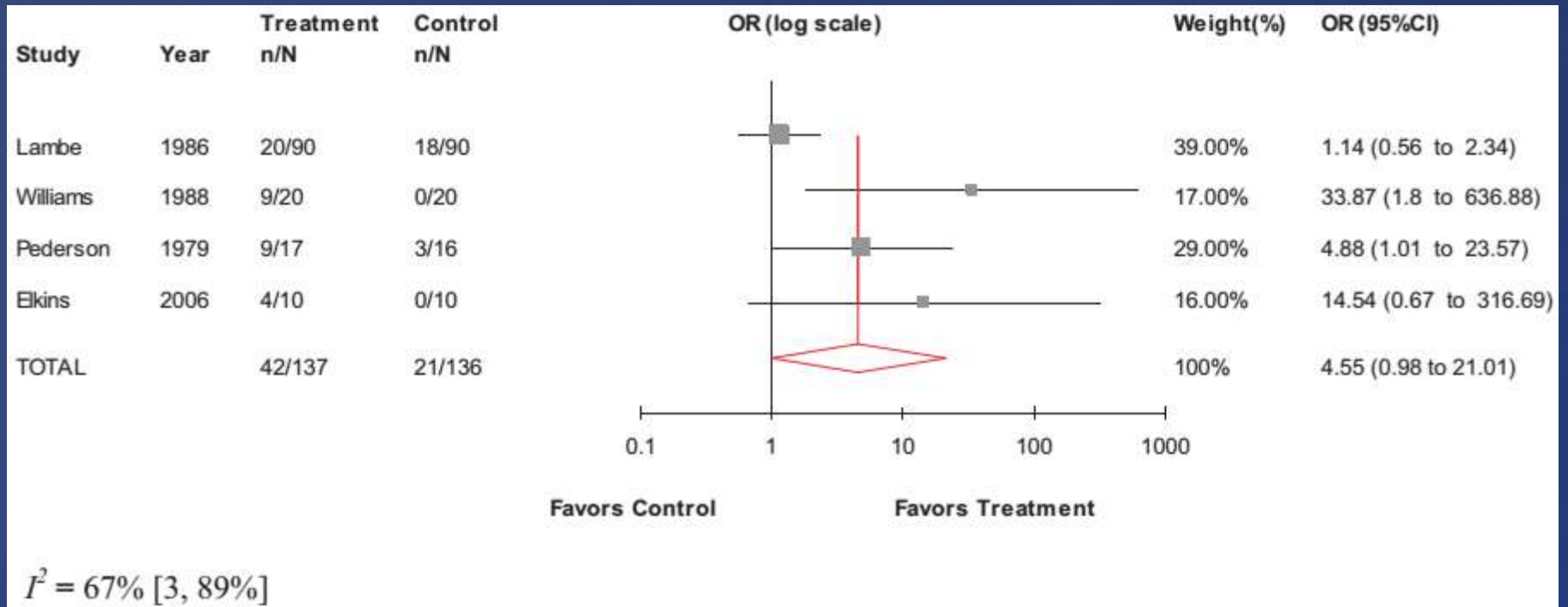
Alternative therapies

Hypnotherapy and acupuncture

Acupuncture in smoking cessation

- ⌘ A review of 38 trials
- ⌘ Acupuncture vs. no therapy – 3 trials : no clear benefit
- ⌘ Acupuncture vs. sham needle – 19 trial : in short term, acupuncture appeared better than sham needle. However no long term data to indicate effectiveness in smoking cessation
- ⌘ CONCLUSION – Acupuncture might be beneficial than placebo in short term. However inferior to nicotine replacement therapy

Hypnotherapy



Mind–body practices: An alternative, drug-free treatment for smoking cessation? A systematic review of the literature

Laura Carim-Todd ^{a,b,*}, Suzanne H. Mitchell ^{c,d}, Barry S. Oken ^{a,b,c}

14 eligible trials

Yoga and meditation based therapies are effective in assisting smoking cessation

Heterogeneous studies, weak study designs

Evidence is weak, though it supports their use

How successful are smoking cessation aids?

- ⌘ Though the odds ratio for smokers to quit are higher than placebo, with these pharmacotherapy, absolute number of smokers remaining abstinent is low
- ⌘ Even by point prevalence at 6 months and 12 months only up to 30% smokers remain abstinent
- ⌘ Even lesser proportion go into a sustained abstinence

Relapse prevention

Intervention	Effects	Remarks
Behavioral or combined behavioral-pharmacologic interventions	Not significant to prevent relapse in any sub group	Heterogeneity of studies. Most of them inadequately powered to assess minor differences
Varenicline treatment (extended)	RR 1.18 (1.03 to 1.36 CI)	Based on single trial
Bupropion	No significant effect	Based on 6 trials
Oral NRT	a. Small significant effect b. No effect	2 trials 2 trials with poor compliance in participants

E- cigarettes or ENDS

- ⌘ Electronic nicotine delivery devices (personal vaporisers)
- ⌘ Heats and vaporizes aerosol of nicotine contained in propylene glycol solution
- ⌘ Battery operated (lithium based)
- ⌘ First introduced by Herbert A. Gilbert in 1963 (patented a smokeless non-tobacco cigarette.
- ⌘ Commercialized in 2003 by Chinese pharmacist Hon link

E- cigarettes or ENDS

- ⌘ No association between use and quitting
- ⌘ False perception that they are healthier and are smoking cessation aids
- ⌘ Claimed as “smoking revolution”
- ⌘ Highly advertised, marketed and promoted

ENDS vs. Conventional Cigarettes

ENDS or E-cigarettes	Conventional cigarettes
Nicotine + propylene glycol solution	Nicotine and non-nicotine (tar like) products
Battery operated device	Lighted up with fire
Legal status varies from country to country	Similar restrictions across globe. (age restriction, restriction in public places)
Yet to be studied in detail	Harm associated with smoking well established
Highly promoted	Advertisements have been strictly regulated and demoted
A sense of safety poses high risk of addiction. Increasing addiction, particularly adolescents	A trend towards decrease in cigarette smoking (more in developed countries)

ENDS

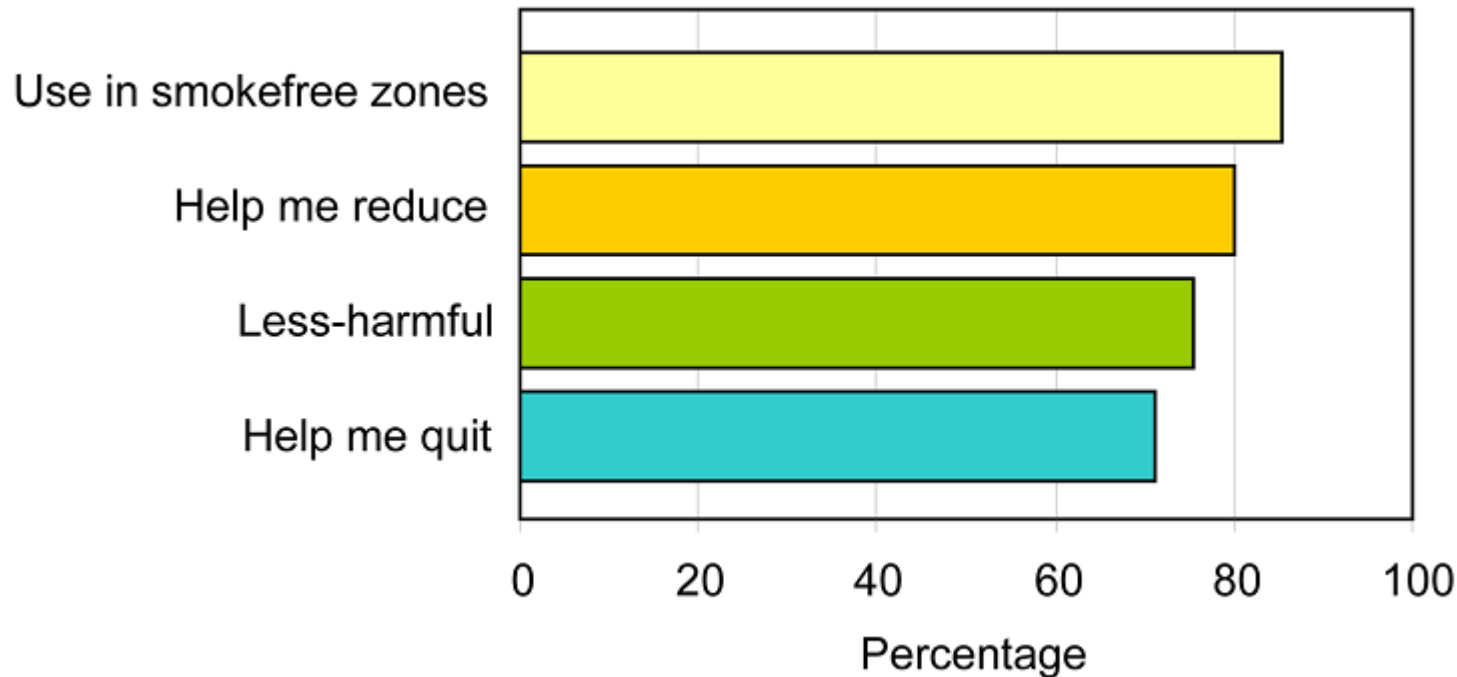
- ⌘ Increasing awareness of ENDS, since its introduction in 2003 – China
- ⌘ Four country survey (UK,US, Canada, Australia) – 46.6% smokers aware of ENDS
- ⌘ Usage significantly higher among young individuals, non-daily smokers

Prevalence of ads in various websites

	Prevalence (%)
Products	
Starter kit	98
Disposable e-cigarettes	46
Cartridges	90
Replacement parts	97
Nicotine solution/ e-liquid/e-juice	53
E-cigar	20
E-pipe	5

Advertised nicotine strengths		Advertised nicotine content (mg)
None/No/Zero	76	0
Ultralight	17	6–11
Light	32	6–18
Low	56	3–12
Medium	59	6–18
High	59	8–24
Extrahigh	29	11–36
Mild	2	11
Full-flavored	14	16–24
Regular	9	12–16
Flavors		
Tobacco	95	—
Mint	97	—
Fruit	73	—
Candy	71	—
Coffee	61	—
Alcohol	10	—
Spice	14	—
Other	34	—

Reasons for using ENDS



E- cigarettes – marketing strategies and claims

Claim	Frequency of appearance on websites	Frequency of appearance on homepage	Frequency of claim in text format	Frequency of claim in picture format	Frequency of claim in video format
Health related	95	75	86	14	39
Cessation related	64	27	56	3	19
Ability to smoke anywhere	88	58	81	17	34
Ability to circumvent smoke-free laws	71	42	70	15	20
Products do not expose others to secondhand smoke	76	37	70	9	20
Cleaner than cigarette smoking	95	59	85	15	31
Cheaper than tobacco products and/or nicotine replacement therapies	93	76	78	29	17
Environmentally friendly	44	24	36	15	7
Products offer fire-safe alternative to tobacco cigarettes	75	32	71	3	10
Increased ability to socialize	32	17	20	12	7
Increased social status	44	25	17	29	7
Increased romantic opportunities	31	22	7	22	7
Modern, technologically advanced	73	44	63	10	15

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Increased romantic opportunities	31	22	7	22	7
Modern, technologically advanced	73	44	63	10	15

E- cigarettes

- ⌘ No consistency of quality
- ⌘ Long term effects not known
- ⌘ Nicotine content varies from product to product, with each brand
- ⌘ Unsubstantiated claims of smoking superiority
- ⌘ Attempts are in place to bring them under rules and regulations that apply to tobacco products

E- cigarettes

- ⌘ Delivers only nicotine
- ⌘ May assist smoking cessation

DRAWBACKS

- ⌘ May lead to nicotine dependence in non-addicted individuals, maintenance of smoking in individuals who would have quit otherwise (if not used ENDS)
- ⌘ Banned in Australia, Canada – concerns regarding breach of indoor smoking policies and smoke free air policies

E- cigarettes - evidence

⌘ An online survey of 200 e cigarette users

(Am J of Prev Med 2011)

⌘ 31% had smoking abstinence

⌘ 2/3rd had reported reduction in number of conventional cigarettes

⌘ Quality of evidence – poor

⌘ Many contradicting evidence available

E- cigarettes - evidence

- ⌘ High level of dual use (of e-cigarettes) with conventional cigarettes
- ⌘ E-cigarettes were not associated with superior rates of quitting as compared to other NRTs
- ⌘ In adolescents, a higher odds of established smoking and lower odds of abstinence were noted, in US based study
- ⌘ Begin ENDS as “Experimenters” and run a high risk of becoming established smokers

Dutra Lm et al. JAMA pediatrics. 2014.

Bullen C, et al. Lancet. 2013;382(9905):1629-37.

Vickerman KA, et al. Nicotine & tobacco research.2013;15(10):1787-91.

Nicotine vaccines

- ⌘ Prime the immune system to recognize nicotine as foreign and to mount immune response against the drug
- ⌘ Thereby reduces amount of nicotine entering brain
- ⌘ Potential issues - difficulties achieving sufficiently high antibody titers, vaccines are generally short lived,
- ⌘ Significant inter-individual variation

Nicotine vaccines

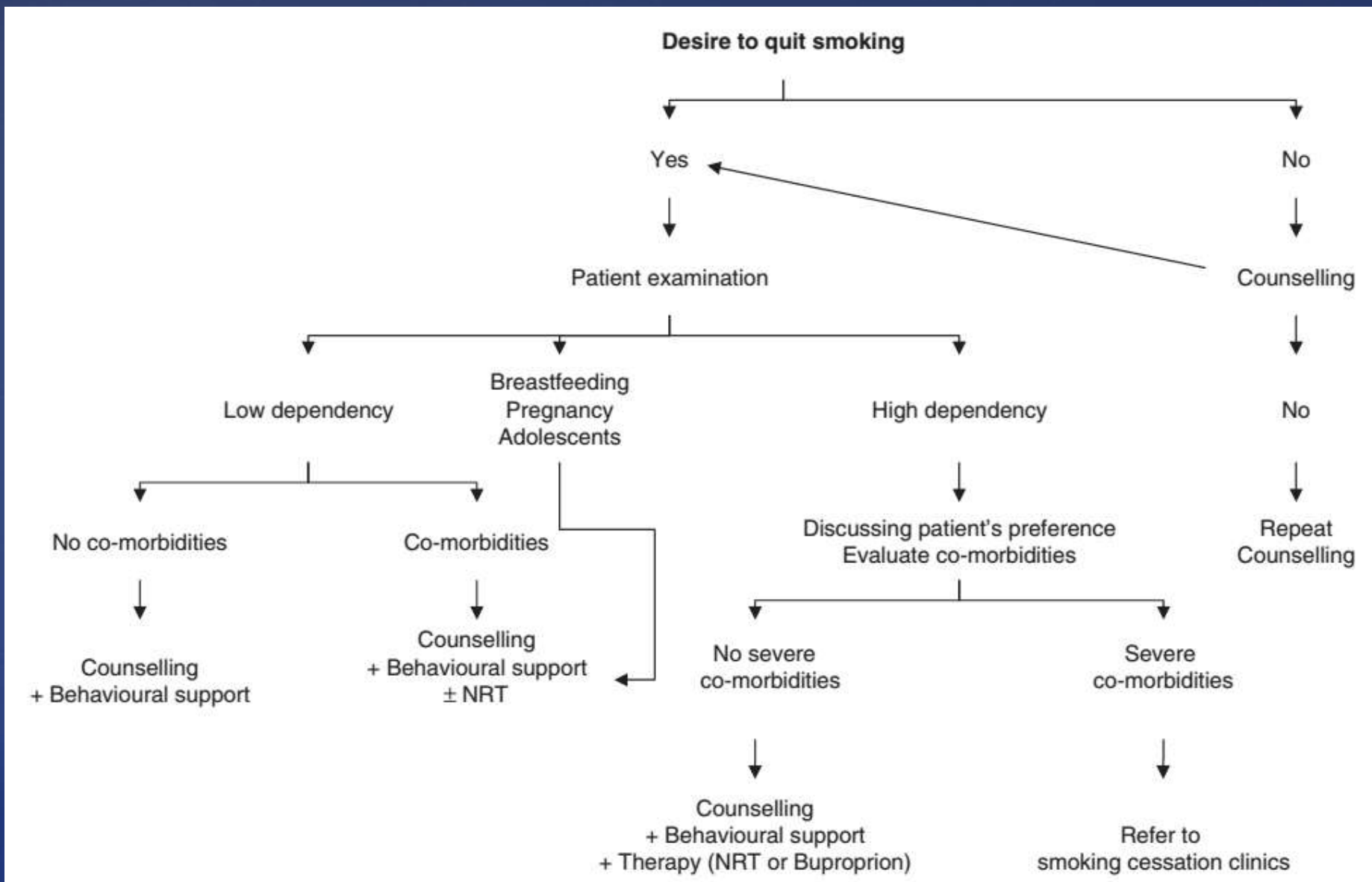
- ⌘ One of the vaccines was successful in phase II
- ⌘ Of the 63 smokers, 33% of subjects in the NicVax group had stopped smoking for at least 30 consecutive days vs. 9% in the placebo group
- ⌘ Phase III with 1000 patients was disappointing

Summary – what can we do?

- ⌘ Recognize smoking as a disease and remove the stigma associated with smoking – as a life style choice and habit
- ⌘ Emphasize that smoking is a chronic relapsing and addicting disease
- ⌘ Identify and document tobacco use (doubles the rate of clinician intervention and results in higher quit rates)

Summary

- ⌘ Motivate quitting
- ⌘ Support smokers with the 5 'A' s
- ⌘ Behavioral methods, counseling should be a part of smoking cessation in addition to pharmacotherapy
- ⌘ Electronic cigarettes may have a role when used properly – but as of now unregulated marketing and use could be counterproductive



Cost in India

Drug	Doses/package	MRP	Comments
Nicotine patch	17.5 mg x 30 35 mg x 30	Rs.2800 Rs.3200	
Nicotine gum	2 mg x 15 gums	Rs.150	Not to use > 20/d
Inhalers	Not available	Can be purchased online from pFizer	
Varenicline (CHAMPIX)	0.5 mg OD 3d 0.5 mg BD 4d 1 mg BD 12 wks	Rs.1500 (11 0.5mg tab and 14 1mg tab)	
Bupropion	150 mg	Rs.80-400	150 mg/day first 4 week f/b 300mg/d
E-cigarettes	Beginning from Rs.250		

APPROACH TO SMOKING CESSATION

Assess which step the patient is in (see next slide)

Ask about smoking habit and its pattern AT EVERY VISIT

Include smoking habit in all health records

Look for Smoking Related Diseases (SRD)

SRDs are enumerated in Surgeon general's report 2014 (refer slide 4 of the presentation)

QUITS

Takes
action to
quit

Ready to
stop

Intends to
stop soon

Realizes
smoking
harm.
But No plans
to quit

No realization
about harms
of smoking

LADDER OF SMOKING CESSATION



QUITS

Takes
action to
quit

Continue
counseling
sessions.
Look for
relapse and
withdrawal
symptoms

Ready to
stop

Nicotine
patch for
16h a day
and SOS
nicotine
gum/
spray

Intends to
stop soon

Assess
FTND.

Co-
morbid
illness

Urge to
set a quit
date

Mobile,
internet,
etc. to
motivate
quitting

Realizes
smoking
harm.
But No plans
to quit

Counsel at
every possible
opportunity

Bupropion
for 12 weeks
Or
varenicline
(if no CAD)

Social
support
And smoke
free
environment

Counsel

No realization
about harms
of smoking

PHYSICIAN ADVICE : Brief advice to stop (if time permits harms of smoking to be explained)

Counseling and monitoring nicotine withdrawal should be done at all steps

Ready to quit
(step 4 of ladder)



FTND

5 or less

>5

FOR ALL PATIENTS

Smoke-free environment

Work place support

Yoga/ meditation (if
patient prefers)

NRT
(patch/
gum/
spray)
±
Bupropion/
varenicline

NRT (patch
for basal and
SOS gum/
spray)
+
Bupropion
/
varenicline