당뇨병 환자에서의 금연

조홍준

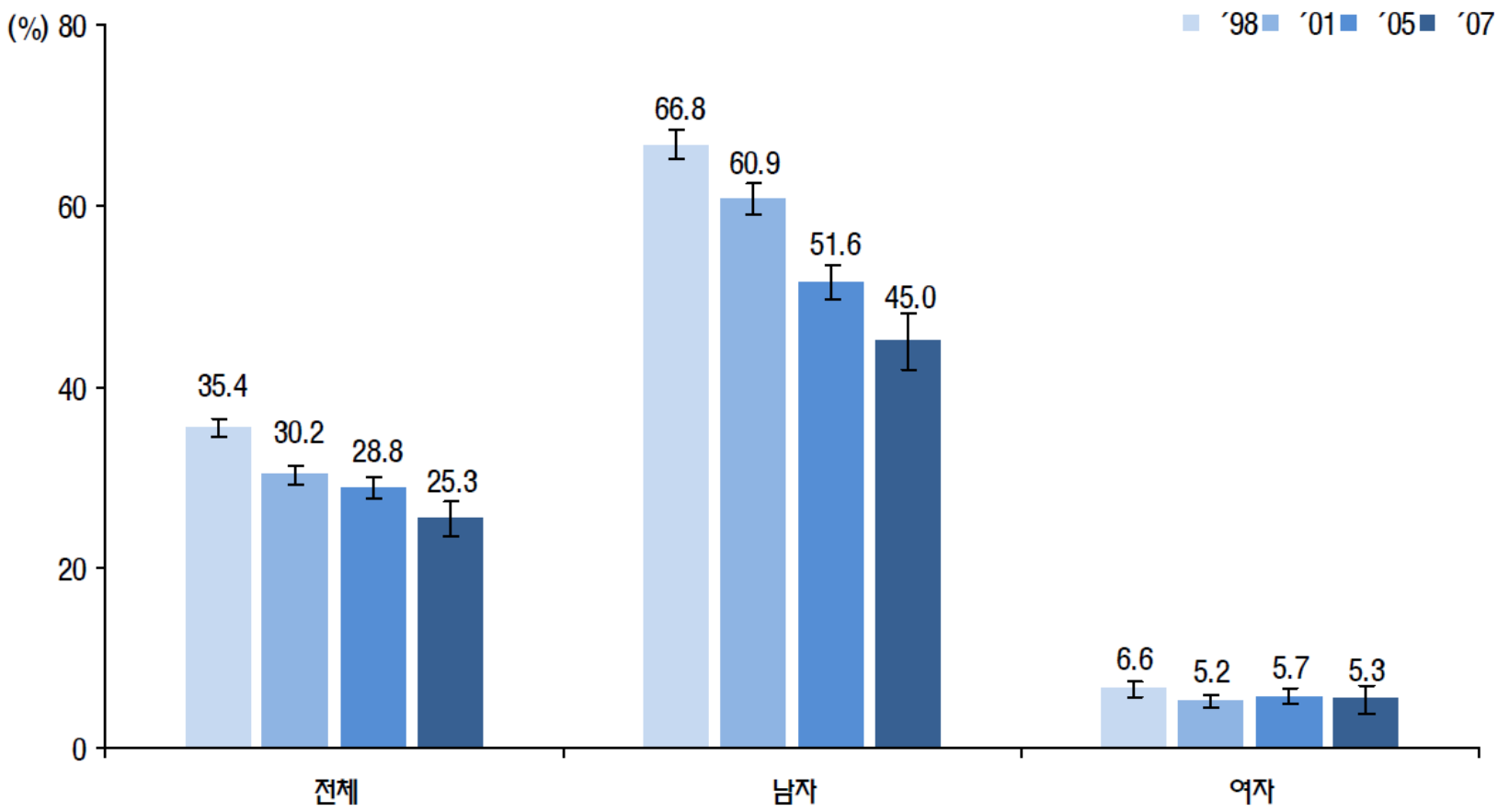
울산의대 서울아산병원 가정의학과

흡연의 건강 위해

- 흡연관련 질환으로 인한 사망(전세계)
  - **580**만 명**(2010**년**)->1,000**만 명**(2020**년**)**

- 흡연관련 질환으로 인한 사망(한국)
  - **5**만 명
  - 남자 사망의 **31%,** 여자 사망의 **6%**

흡연율 추이



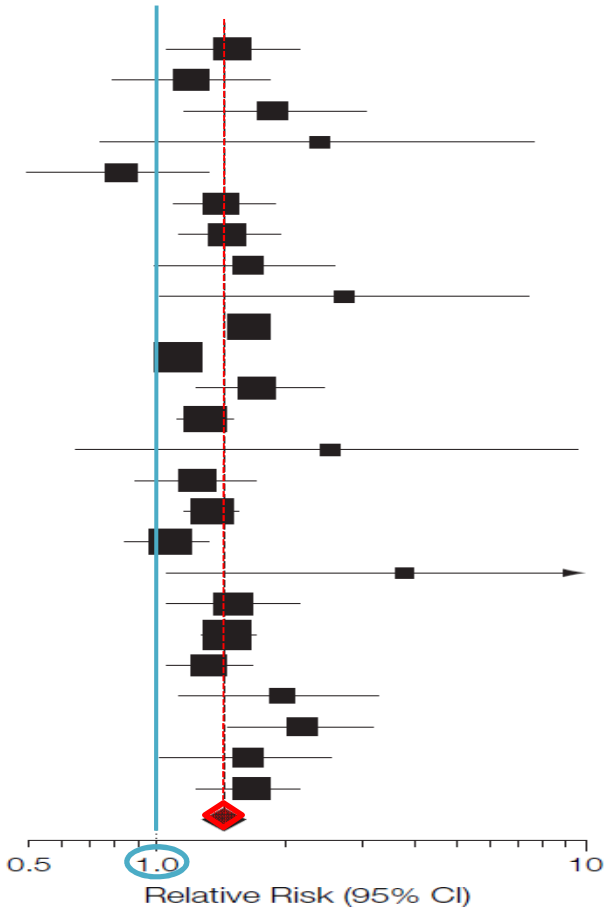
2007 국민건강통계

당뇨병과 흡연

흡연과 제2형 당뇨병 발생

Figure 2. Adjusted Relative Risks of Diabetes for Current Smokers Compared With Nonsmokers

Source	Weight, % (Random Effects Model)	Relative Risk (95% CI)
Cassano et al,[31] 1992	3.88	1.50 (1.07-2.10)
Perry et al,[32] 1995	3.16	1.20 (0.80-1.80)
Rimm et al,[33] 1995	2.59	1.88 (1.17-3.02)
Kawakami et al,[34] 1997	0.62	2.38 (0.77-7.40)
Njølstad et al,[35] 1998	2.69	0.82 (0.52-1.30)
Sugimori et al,[36] 1998	4.97	1.42 (1.10-1.83)
Uchimoto et al,[37] 1999	4.78	1.47 (1.13-1.92)
Strandberg et al,[38] 2000	2.62	1.62 (1.01-2.59)
Nakanishi et al,[39] 2000	0.84	2.74 (1.05-7.13)
Manson et al,[40] 2000	7.42	1.63 (1.50-1.77)
Will et al,[41] 2001	7.69	1.13 (1.07-1.19)
Wannamethee et al,[42] 2001	3.91	1.74 (1.25-2.43)
Hu et al,[27] 2001	6.92	1.30 (1.15-1.47)
Montgomery and Ekbom,[43] 2002	0.46	2.47 (0.66-9.30)
Sawada et al,[44] 2003	4.44	1.24 (0.93-1.66)
Sairenchi et al,[45] 2004	6.80	1.35 (1.18-1.54)
Carlsson et al,[46] 2004	5.71	1.06 (0.86-1.30)
Eliasson et al,[47] 2004	0.53	3.74 (1.08-12.91)
Lyssenko et al,[48] 2005	3.88	1.50 (1.07-2.10)
Patja et al,[49] 2005	6.85	1.46 (1.28-1.66)
Waki et al,[50] 2005	5.58	1.31 (1.06-1.62)
Tenenbaum et al,[51] 2005	2.30	1.94 (1.16-3.25)
Foy et al,[52] 2005	3.52	2.15 (1.49-3.11)
Meisinger et al,[29] 2006	2.90	1.62 (1.05-2.50)
Houston et al,[53] 2006	4.94	1.65 (1.28-2.13)
Overall ($I^2 = 75.5\%$; $P < .001$ for Q statistic)	100.00	1.44 (1.31-1.58)



JAMA 2007;298:2654-2664

흡연과 제2형 당뇨병 발생

Table 3. Stratified Analyses of Pooled Relative Risks of Diabetes for Smokers

Stratified Analysis[a]	Total No. Trials	Total No. Patients	Pooled RR (95% CI)	*P* Value Heterogeneity	*P* Value Meta-regression[b]
Patient Characteristics					
Smoker type					
Heavy (≥20 cigarettes/d)	6	154 165	1.61 (1.43-1.80)	.36	[f]
Light (<20 cigarettes/d)	6	154 165	1.29 (1.13-1.48)	.21	
Former vs never smokers	17	1.1 million	1.23 (1.14-1.33)	<.01	
Active smokers vs nonsmokers	25	1.2 million	1.44 (1.31-1.58)	<.001	

JAMA 2007;298:2654-2664

흡연과 제2형 당뇨병 발생

Table 5. Hazard ratios* and their 95% confidence intervals(CIs) from Cox proportional hazard models for the association between smoking history and DM. Seoul Cohort DM Follow-up Study, Korea, 1993-1996

Variables	Person-years	No. of Cases	Hazard ratio** (95% CI)	Hazard ratio*** (95% CI)
Total no. of cigarettes per day(ea)				
none	11,958	56	1.0	1.0
1-10	11,454	53	1.12(0.74-1.69)	1.86(0.95-3.64)
11-20	22,786	123	1.16(0.81-1.65)	1.88(1.03-3.44)
21-30	4,062	21	1.16(0.67-2.02)	2.24(1.01-5.00)
≥ 31	1,743	11	1.34(0.65-2.77)	1.43(0.41-5.04)
p for trend			0.36	0.08
Total duration of smoking(years)				
none	11,950	56	1.0	1.0
1 -10	4,430	17	0.97(0.54-1.74)	1.07(0.38-2.97)
11-20	9,155	38	0.97(0.61-1.53)	1.61(0.79-3.30)
21-30	19,352	113	1.34(0.93-1.92)	2.24(1.22-4.10)
≥ 31	6,586	35	1.02(0.62-1.69)	1.62(0.71-3.70)
p for trend			0.25	0.02
Pack-years				
none	11,958	56	1.0	1.0
1 -10	7,386	28	1.00(0.62-1.62)	1.38(0.62-3.05)
11-15	6,505	23	0.89(0.53-1.49)	1.65(0.76-3.59)
16-20	5,753	28	0.99(0.58-1.68)	2.23(1.06-4.72)
20-34	13,886	88	1.37(0.94-2.00)	2.14(1.14-4.04)
≥ 35	5,359	32	1.47(0.91-2.38)	2.24(1.02-4.90)
p for trend			0.03	0.01

* Adjusted for age, socio-economic status, education, family history of DM, alcohol drinking history, body mass index, physical activity, total fat intake, total fiber intake, and baseline blood glucose level.
** Relative risk for the whole follow-up period.
*** Relative risk for the follow-up period of '95-'96 only.

예방의학회지 1999;32:526-537

당뇨에서 흡연과 관상동맥질환

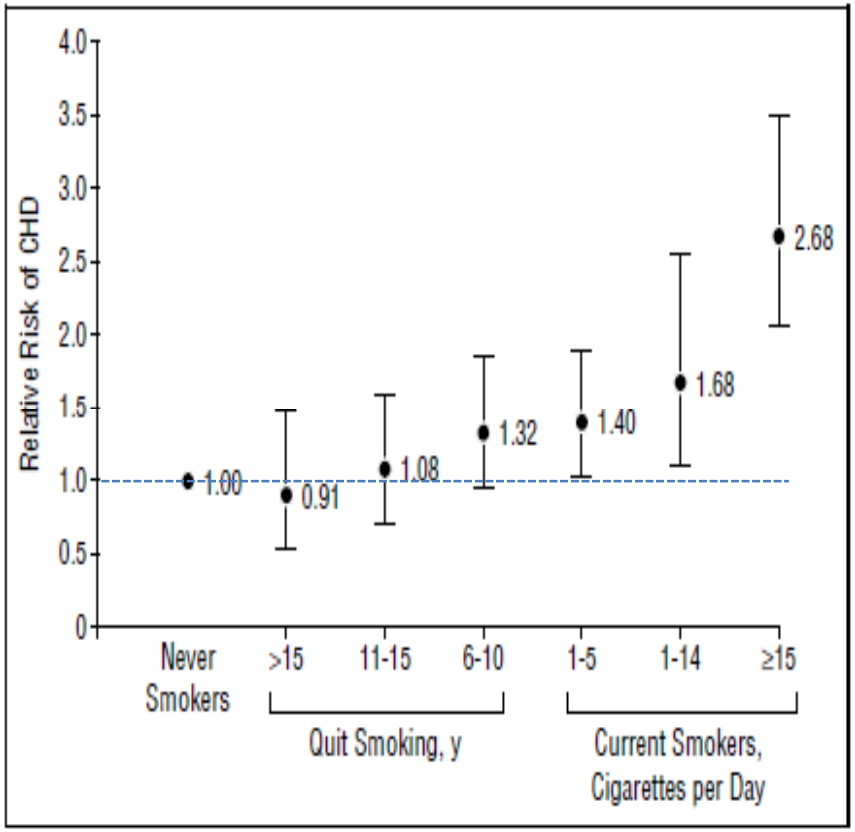


Figure 1. Multivariate-adjusted relative risk of coronary heart disease (CHD) according to smoking status and duration of quitting smoking among diabetic women. The vertical bars indicate the 95% confidence intervals.

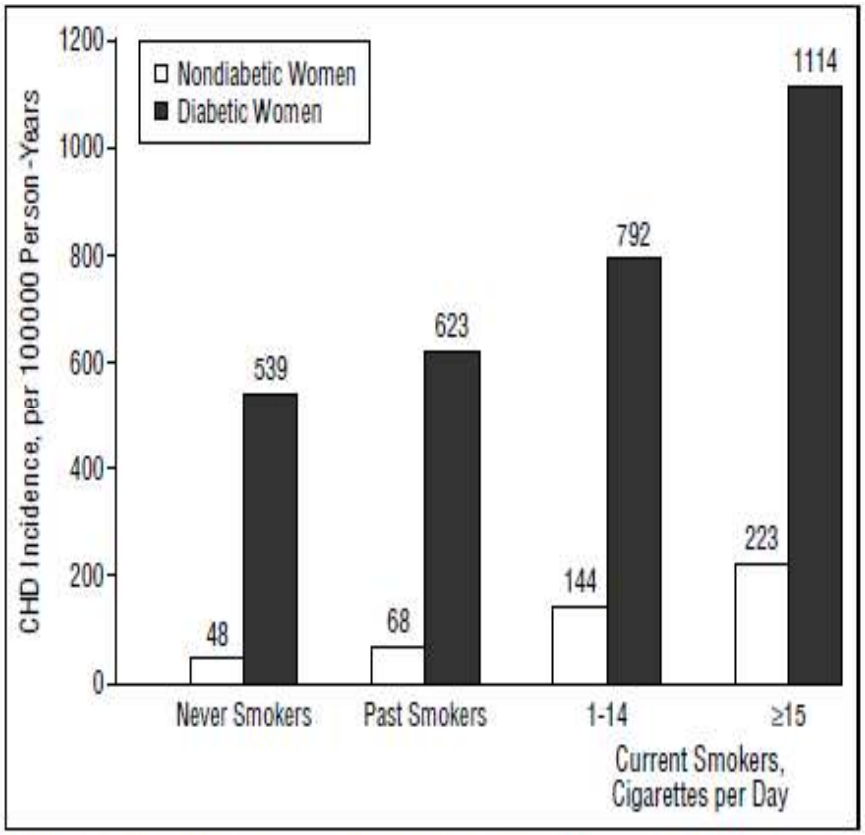


Figure 2. Age-adjusted coronary heart disease (CHD) incidence rates (per 100000 person-years) among women with and without diabetes according to smoking status.

Arch Intern Med 2002;162:273-279

당뇨에서 흡연과 뇌졸중

- **UKPDS modelling**
- **67**세 남성 당뇨 환자 **5**년 내 뇌졸중 발생 확률
  - 흡연시 **10.5%**
  - 비흡연시 **6.9%**

Stroke 2002;33:1776-1781

당뇨에서 흡연과 당뇨병콩팥병증

Table 2.—Number (Percent) of Subjects With Normal, Borderline, and Abnormal Albumin Excretion Rates (AER) in the Four Study Groups*

Group	AER		
	Normal (<7.6 μg/min)	Borderline (7.6-30.0 μg/min)	Abnormal (>30.0 μg/min)
Nonsmokers	164 (61)	61 (23)	44 (16)
Smokers	16 (30)	23 (43)	14 (27)
Ex-smokers	19 (68)	5 (18)	4 (14)
Tobacco chewers	4 (44)	0 (0)	4 (56)

*$P<.001$, χ^2 test for distribution of values for the first three groups. The tobacco chewers had inadequate numbers to include in the statistical analysis. The frequency of abnormal AER values between nonsmokers and smokers was also statistically different using Bonferroni's method for individual comparisons.

JAMA 1991;265:614-617

당뇨에서 흡연과 당뇨병콩팥병증

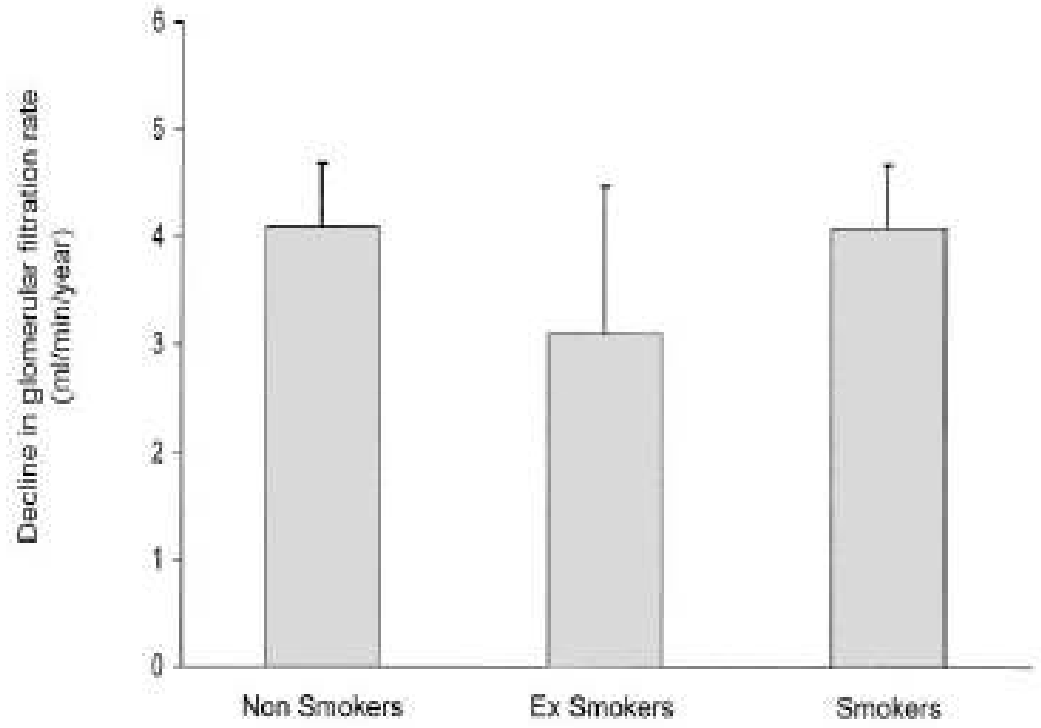


Figure 1—*Impact of smoking status on decrease in GFR in 301 type 1 diabetic patients with diabetic nephropathy, adjusted for difference in blood pressure between groups, NS (ANOVA). Error bars represent 95% CIs.*

Diabetes Care 2003;26:911-916

당뇨에서 흡연과 말초신경병증

Table 2. Frequencies (%) of diabetic neuropathy and its association with blood pressure, body mass index, weight, height and smoking

	Neuropathy no (%)	Crude relative risk (95% CI) of neuropathy	[a]Adjusted relative risk (95% CI) of neuropathy
Systolic blood pressure (mmμg)			
< 120	352 (24)	1	1
120–129	183 (27)	1.15 (0.99, 1.34)	1.00 (0.83, 1.20)
130–139	139 (33)	1.39 (1.18, 1.64)	1.10 (0.90, 1.35)
140+0	168 (41)	1.71 (1.47, 1.98)	0.99 (0.81, 1.22)
		$p < 0.001$[b]	
Diastolic blood pressure (mmμg)			
≤ 68	12 (27)	1	1
69–75	189 (23)	0.86 (0.73, 1.02)	0.97 (0.79, 1.18)
76–83	202 (28)	1.01 (0.86, 1.19)	1.06 (0.88, 1.29)
84+	236 (35)	1.29 (1.11, 1.51)	1.26 (1.04, 1.51)
		$p < 0.001$[b]	$p < 0.05$[b]
Body mass index (kg/m^2)			
< 21.50	192 (26)	1	1
21.50–23.22	188 (25)	0.96 (0.81, 1.14)	0.92 (0.75, 1.13)
23.23–25.26	205 (27)	1.03 (0.87, 1.22)	0.90 (0.74, 1.10)
25.27+	252 (34)	1.29 (1.10, 1.51)	1.04 (0.86, 1.26)
		$p < 0.001$[b]	
Weight (kg)			
≤ 59	204 (27)	1	1
60–66	196 (26)	0.98 (0.83, 1.16)	0.96 (0.79, 1.18)
67–74	194 (26)	0.95 (0.80, 1.13)	0.99 (0.81, 1.21)
75+	248 (34)	1.25 (1.07, 1.46)	1.25 (1.04, 1.51)
		$p < 0.05$[b]	$p < 0.05$[b]
Height (cm)			
≤ 162	230 (28)	1 1	
163–169	205 (27)	0.95 (0.81, 1.12)	1.05 (0.87, 1.27)
170–175	199 (29)	1.02 (0.87, 1.20)	1.21 (1.00, 1.47)
176+	208 (28)	1.00 (0.85, 1.17)	1.32 (1.09, 1.60)
			$p < 0.01$[b]
Smoking			
Non-	355 (24)	1	1
Ex-	186 (35)	1.45 (1.25, 1.68)	1.19 (1.00, 1.43)
		$p < 0.05$[c]	
Current	297 (31)	1.30 (1.14, 1.48)	1.33 (1.14, 1.56)
		$p < 0.05$[c]	$p < 0.001$[c]

[a] Adjusted for age, duration and HbA_{1c}; [b] testing for trend; [c] testing for difference to non-smoking

Diabetologia 1996;39:1377-1384

당뇨에서 흡연과 말초신경병증

Table 4. Odds Ratios for Associations between Key Risk Factors and the Incidence of Diabetic Neuropathy with the Use of Two Logistic-Regression Models.*

Variable	Odds Ratio (95% CI)	P Value
Model 1† UAER(+), retinopathy(-), CVD(-)		
Duration of diabetes (yr)	1.40 (1.21–1.63)	<0.001
Glycosylated hemoglobin (% of hemoglobin)	1.48 (1.23–1.79)	<0.001
Change in glycosylated hemoglobin (% of hemoglobin)	1.36 (1.14–1.62)	0.001
Triglycerides (mmol/liter)	1.21 (1.02–1.44)	0.03
Total cholesterol (mmol/liter)	1.15 (0.98–1.35)	0.08
Body-mass index	1.27 (1.09–1.47)	<0.001
History of smoking	1.38 (1.03–1.85)	0.03
Hypertension	1.57 (1.03–2.39)	0.03
Albumin excretion rate (μg/min)	1.01 (0.88–1.14)	0.93
Model 2‡ UAER(+), retinopathy(+), CVD(+)		
Duration of diabetes (yr)	1.25 (1.03–1.51)	0.02
Glycosylated hemoglobin (% of hemoglobin)	1.64 (1.33–2.03)	<0.001
Change in glycosylated hemoglobin (% of hemoglobin)	1.44 (1.17–1.77)	0.001
Triglycerides (mmol/liter)	1.17 (0.97–1.41)	0.10
Total cholesterol (mmol/liter)	1.11 (0.93–1.34)	0.25
Body-mass index	1.20 (1.01–1.43)	0.04
History of smoking	1.68 (1.20–2.36)	0.003
Hypertension	1.54 (0.96–2.47)	0.07
Cardiovascular disease	2.12 (1.16–3.86)	0.01
Any retinopathy	1.45 (0.98–2.13)	0.06
Albumin excretion rate (μg/min)	1.02 (0.89–1.18)	0.76

* CI denotes confidence interval. To convert values for cholesterol to milligrams per deciliter, divide by 0.02586. To convert values for triglycerides to milligrams per deciliter, divide by 0.01129.

NEJM 2005;352:341-350

당뇨에서 흡연과 망막병증
– Wisconsin Epidemiologic Study of Diabetic Retinopathy(T1DM)

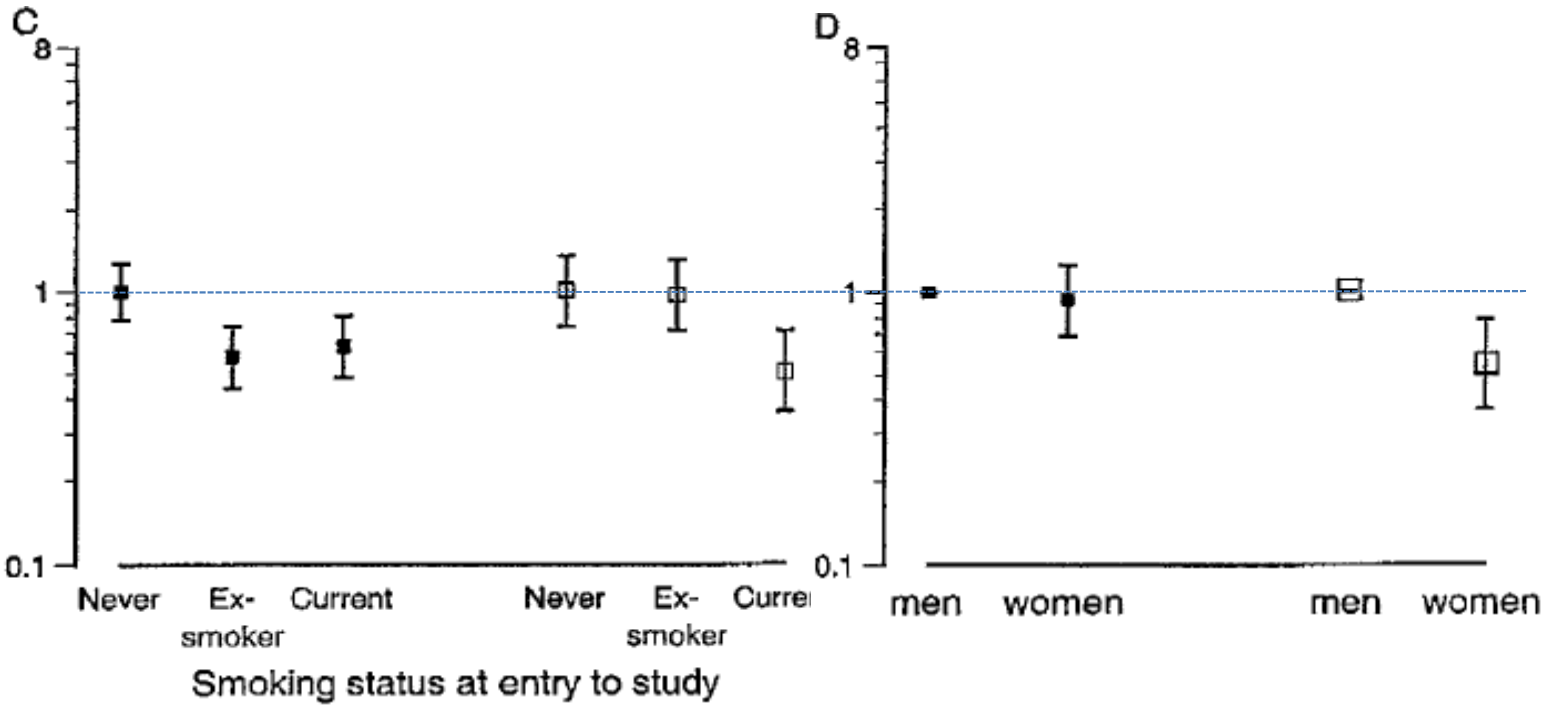
Table 3. Associations with Progression of Diabetic Retinopathy

Risk Variable	Level	Univariate			Multivariate*		
		HR	*95% CI*	P	*HR*	*95% CI*	P
Sex	Male	1.30	1.11–1.54	0.002	1.33	1.11–1.58	0.002
Age at diagnosis	10–19 y vs. <10 y	1.00	0.82–1.21	0.97			
	20–29 y vs. <10 y	0.85	0.68–1.06	0.15			
Glycosylated hemoglobin A_1	Per 1%	1.29	1.24–1.35	<0.001	1.32	1.26–1.38	<0.001
Glycosylated hemoglobin A_1 quartiles	9.5–10.5 vs. <9.5%	1.72	1.34–2.21	<0.001			
	10.6–12.0 vs. <9.5%	2.42	1.91–3.06	<0.001			
	12.1–19.5 vs. <9.5%	3.65	2.87–4.65	<0.001			
Proteinuria	Present	1.01	0.76–1.33	0.97			
Retinopathy severity	21 vs. 10	1.01	0.80–1.27	0.94			
	31–37 vs. 10	1.20	0.95–1.51	0.13			
	43–53 vs. 10	1.11	0.83–1.48	0.48			
15-level retinopathy severity	Per 2 steps	1.05	0.99–1.12	0.12	0.92	0.86–0.99	0.03
Systolic blood pressure	Per 10 mm Hg	1.05	0.99–1.11	0.14			
Diastolic blood pressure	Per 10 mm Hg	1.05	0.97–1.13	0.22			
Hypertension	Present	1.11	0.86–1.44	0.42			
Smoking history	Past vs. never	0.98	0.74–1.29	0.88			
	Current vs. never	1.23	0.99–1.54	0.07			
Education	Per 4 y	0.98	0.90–1.06	0.62			
BMI	Per 4 kg/m^2	1.08	1.00–1.17	0.04	1.16	1.07–1.26	<0.001

BMI = body mass index; CI = confidence interval; HR = hazard ratio.
*All variables included in a single model. Missing rows indicate that variable was not significant and thus not included in the final multivariate model.

Ophthalmology 2008;115:1859-1868

당뇨에서 흡연과 망막병증(UKPDS)

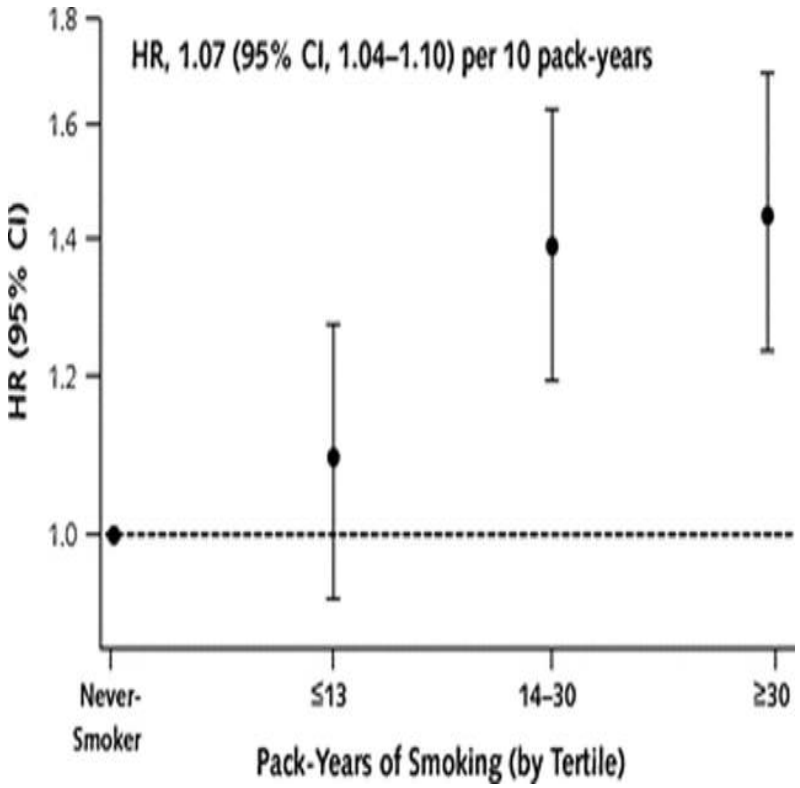


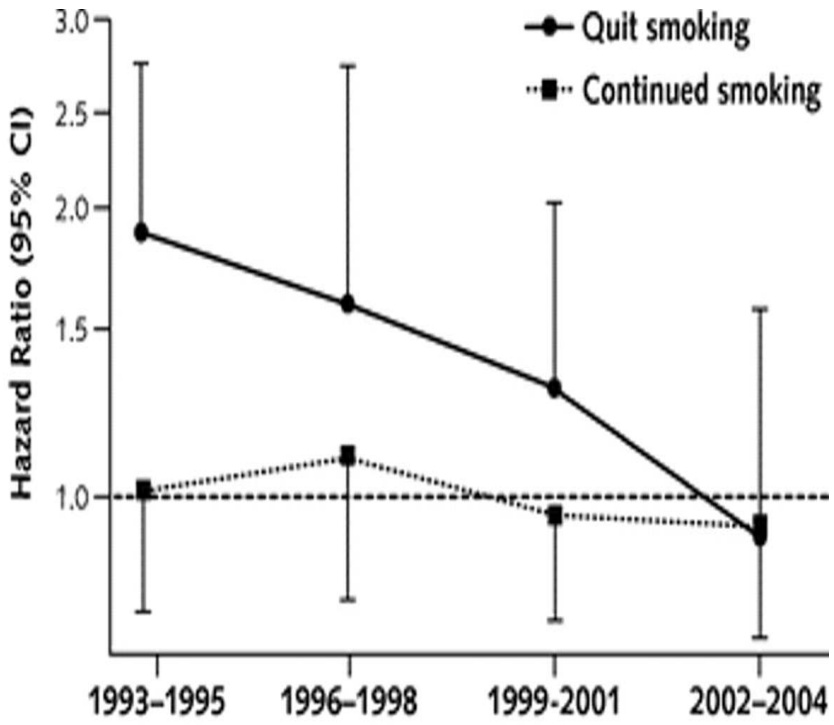
- Incidence: 0.63 [0.48-0.82]
- Progression: 0.50 [0.36-0.71]

Diabetologia 2001;44:156-163

금연과 당뇨병

금연과 당뇨 발생





Patients, *n*	Clinic	Clinic	Telephone	Telephone
At risk	10 406	10 004	9744	9256
Quit	423	395	381	359
Continued	2210	2133	2079	1987

Ann Intern Med 2010;152:10-17

금연과 당뇨 발생
-Korea Medical Insurance Corporation Study

Table 2 Relationships between smoking status and risk for developing diabetes mellitus

	Total number	Number of events (%)	Age-adjusted	Multivariate adjusted 1[b]	Multivariate adjusted 2[c]
Nonsmokers	5701	188 (3.3)	1.00	1.00	1.00
Ex-smokers	7477	272 (3.6)	1.11 (0.92–1.34)	1.14 (0.94–1.39)	1.22 (0.96–1.55)
Sustained smokers	14457	710 (4.9)	1.53 (1.04–1.08)	1.56 (1.32–1.85)	1.60 (1.29–1.97)
Smoking amount[a]					
Sustained smokers					
<10 cigarettes/day	1752	70 (4.0)	1.23 (0.93–1.63)	1.22 (0.91–1.63)	1.23 (1.86–1.77)
≥ 10 to <20 cigarettes/day	9284	435 (4.7)	1.46 (1.22–1.73)	1.49 (1.25–1.79)	1.60 (1.28–2.00)
≥ 20 cigarettes/day	3421	205 (6.0)	1.89 (1.54–2.31)	1.93 (1.57–2.38)	1.75 (1.35–2.27)
Quit smoking period[a]					
Ex-smokers					
Before 1992	4744	150 (3.2)	0.96 (0.77–1.19)	0.96 (0.77–1.20)	0.95 (0.72–1.25)
During 1992–1993	1396	49 (3.5)	1.07 (0.78–1.47)	1.18 (0.89–1.64)	1.44 (0.96–2.15)
During 1994–1995	1337	73 (5.5)	1.69 (1.28–2.23)	1.79 (1.34–2.38)	2.13 (1.51–3.00)

Data are risk ratio (95% confidence interval) unless indicated otherwise. [a]Compared with nonsmokers. [b]Adjusted for age and baseline fasting serum glucose. [c]Adjusted for age, baseline fasting serum glucose, weight change, baseline body mass index, family history of diabetes, alcohol consumption and exercise status.

Eur J Cardiovasc Prev Rehabil 2007;14:244-249

금연과 혈당조절

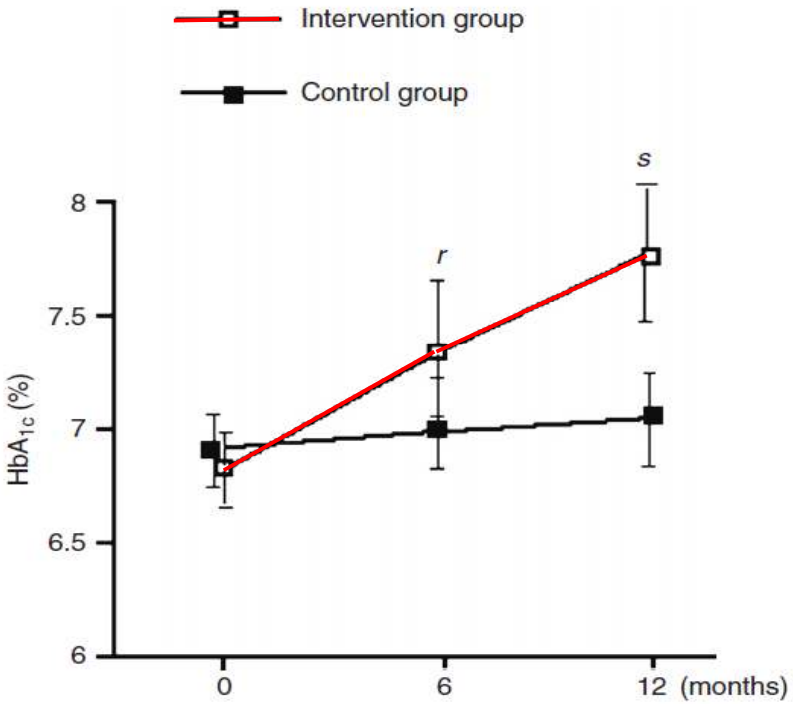


Fig. 2 Changes of HbA_{1c} levels after quitting smoking in the intervention group and the control group. Data were expressed as mean ± SEM. *r*, $p < 0.05$ vs. control group and $p < 0.005$ vs. before quitting smoking; *s*, $p < 0.001$ vs. control group and $p < 0.0005$ vs. before quitting smoking.

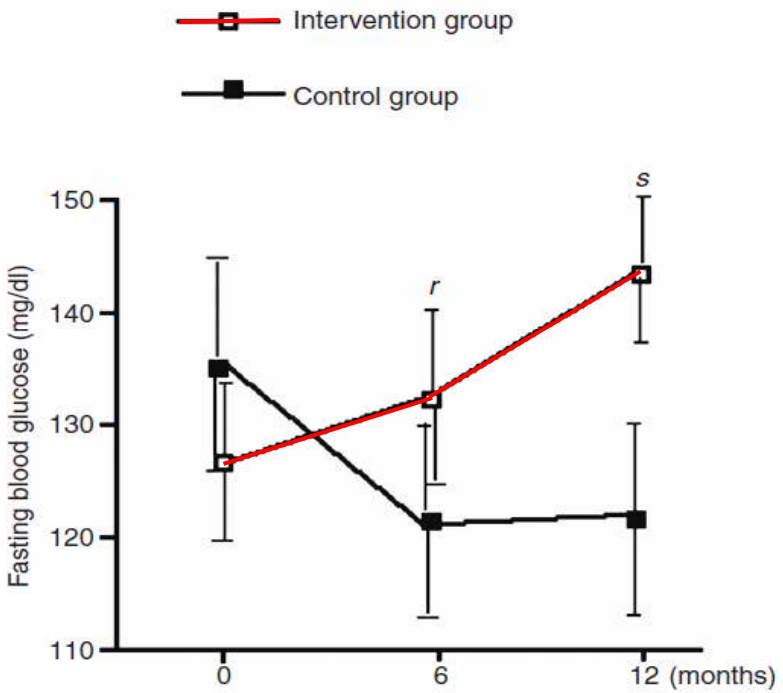


Fig. 3 Changes of fasting blood glucose levels after quitting smoking in the intervention group and the control group. Data were expressed as mean ± SEM. *r*, $p < 0.05$ vs. control group. *s*, $p < 0.05$ vs. control group and $p < 0.05$ vs. before quitting smoking.

Diabetes Obes Metab 2004;6:181-186

당뇨에서 금연과 관상동맥질환

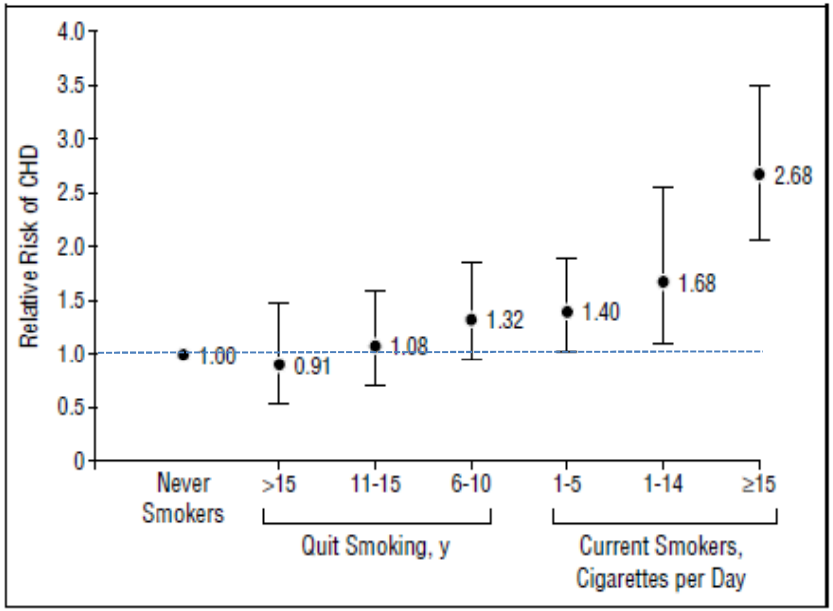


Figure 1. Multivariate-adjusted relative risk of coronary heart disease (CHD) according to smoking status and duration of quitting smoking among diabetic women. The vertical bars indicate the 95% confidence intervals.

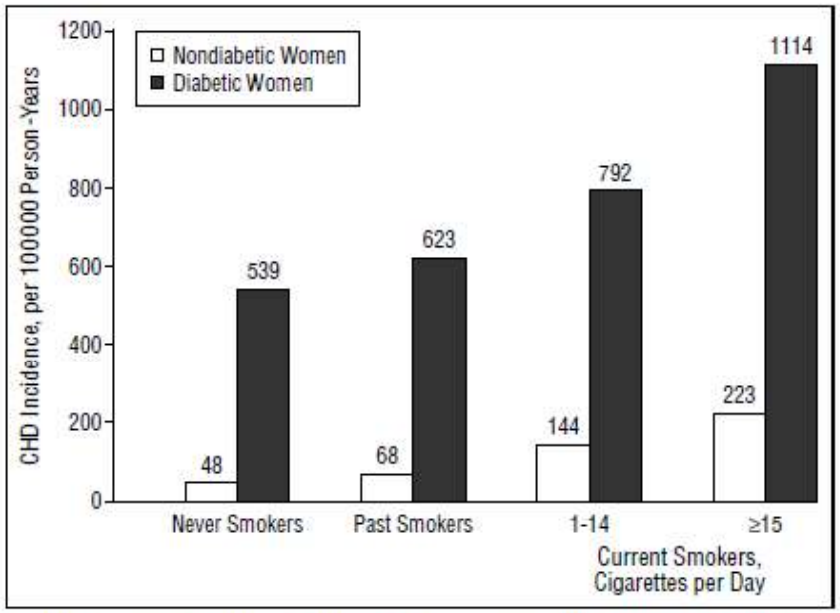


Figure 2. Age-adjusted coronary heart disease (CHD) incidence rates (per 100000 person-years) among women with and without diabetes according to smoking status.

Arch Intern Med 2002;162:273-279

당뇨환자에서의 금연

Clinical Practice Guideline

Treating Tobacco Use and Dependence: 2008 Update

Guideline Panel

Michael C. Fiore, MD, MPH
(Panel Chair)
Carlos Roberto Jaén, MD, PhD, FAAFP
(Panel Vice Chair)
Timothy B. Baker, PhD
(Senior Scientist)
William C. Bailey, MD, FACP, FCCP
Neal L. Benowitz, MD
Susan J. Curry, PhD
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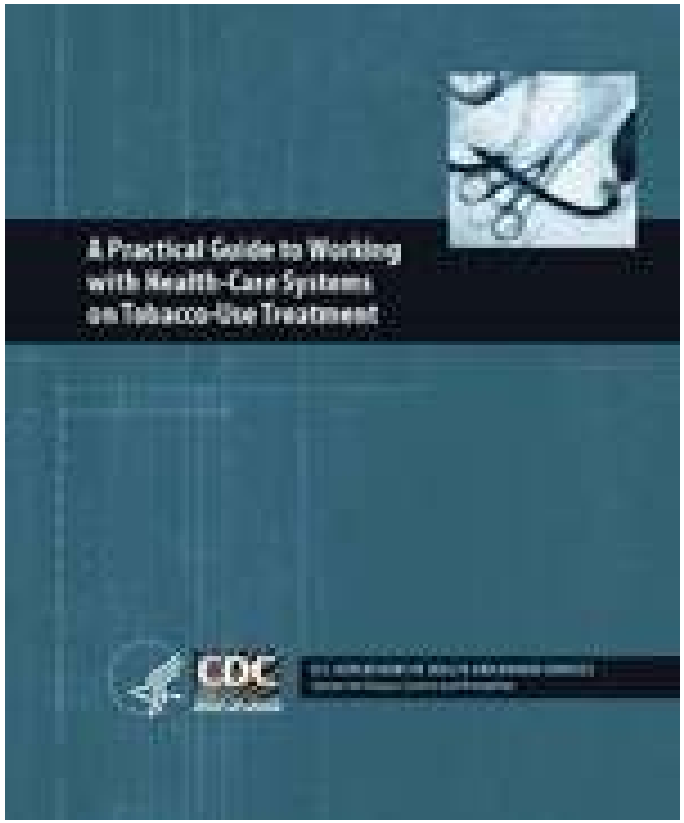
U.S. Department of Health and Human Services
Public Health Service
May 2008



흡연은 질병이다

담배의존(Tobacco Dependence)

만성질환(Chronic Disease)이다.

1) 장기간 지속되는 질병

- 중단(금연)과 재발이 흔하다.
- 단 한번이 아닌 지속적인 치료가 필요하다.

담배의존(Tobacco Dependence)

만성질환(Chronic Disease)이다.

2) 지속적인 상담과 권고가 필요

3) 효과적인 치료방법이 존재

4) 때로는 병합 약물요법이 필요

5) 전문가 의뢰가 필요한 경우가 있음

니코틴이 중독을 유발하는 '마약' 이다.

담배를 피운 후 니코틴이 뇌에 도달하는 시간

7-10 초

1) "약에 취하지"않으면서 "즐거움"을 준다.

2) 즉각적인 강화(reinforcement)를 준다.

3) 내성(Tolerance)

- 약물을 반복적으로 사용하면 효과가 감소한다

니코틴 중독

"뇌 질환(Brain Disease)"

1) 신체적 의존성**(Physical Dependence)**

2) 심리적 의존성**(Psychological Dependence)**

- 단서**(Cues)**가 신경전달물질의 분비 유발
  - ✓환경**(**음주**,** 식사 등**)**
  - ✓감정**(**스트레스**,** 우울 등**)**
- 흡연충동**(craving)**을 초래

증상이 있다

금단증상(Withdrawal Symptoms)

1)불면

2)안절부절

3)불안, 흥분, 좌절, 분노

4)집중장애

5)우울

6)식욕증가

7) 두통

8) 구강궤양

9) 메스꺼움

10) 변비

11) 설사

질병의 중증도가 다양하다

니코틴 의존도 평가 : Fagerstrom 설문지

1) 하루에 보통 몇 개비나 피우십니까?
( )

(0) 10개비 이하 (1) 11-20개비 (2) 21-30개비 (3) 31개비 이상

2) 아침에 일어나서 얼마 만에 첫 담배를 피우십니까?
( )

(3) 5분 이내 (2) 6분-30분 사이 (1) 31분-1시간 사이 (0) 1시간 이후

3) 금연구역(도서관, 극장, 병원 등)에서 담배를 참기가 어렵습니까?
( )

(1) 예 (0) 아니오

4) 하루 중 담배 맛이 가장 좋은 때는 언제입니까?
( )

(1) 아침 첫 담배 (0) 그 외의 담배

5) 오후와 저녁시간보다 오전 중에 담배를 더 자주 피우십니까? ( )

* 10 점 만점으로( ) 안의 점수를 더한다.
0-2점 : 낮음 4-6점 : 중등도로 높음 7-10점 : 매우 높음

치료가 가능하다

5 A's

1) ASK about tobacco use

2) ADVISE all users to quit

3) ASSESS willingness to make a quit attempt

4) ASSIST in quit attempt

5) ARRANGE for follow-up

ASK

Every patient

Every visit

“Vital Sign”

ASK

Strategy A1. *Ask*—Systematically identify all tobacco users at every visit

Action	Strategies for implementation
Implement an officewide system that ensures that, for *every* patient at *every* clinic visit, tobacco use status is queried and documented.[a]	Expand the vital signs to include tobacco use, or use an alternative universal identification system.[b] **VITAL SIGNS** Blood Pressure: _____ Pulse: _____ Weight: _____ Temperature: _____ Respiratory Rate: _____ Tobacco Use (circle one): Current Former Never

ADVISE

Clear

Strong

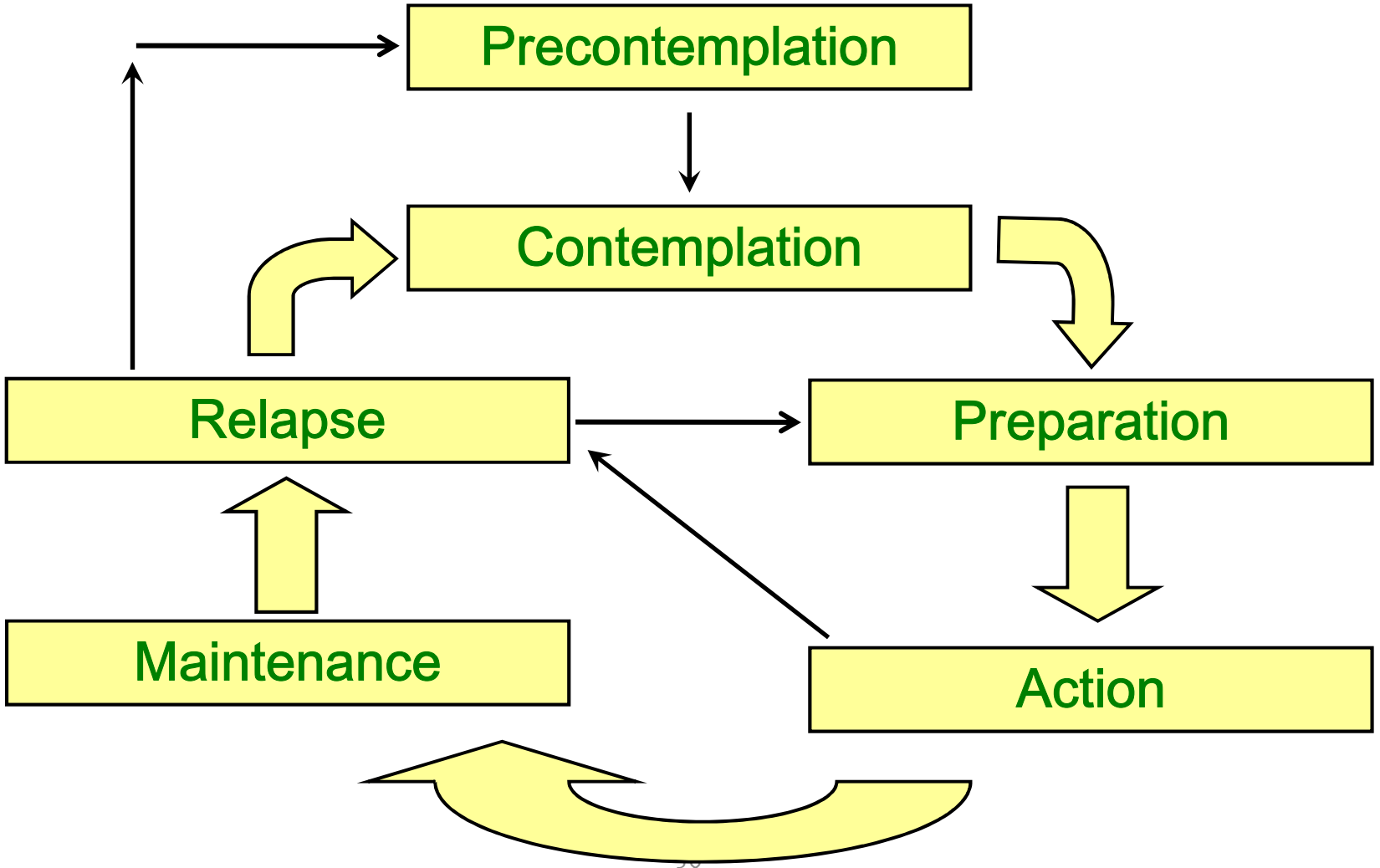
Personalized

ADVISE

Table 6.7. Meta-analysis (1996): Effectiveness of and estimated abstinence rates for advice to quit by a physician (n = 7 studies)[a]

Advice	Number of arms	Estimated odds ratio (95% C.I.)	Estimated abstinence rate (95% C.I.)
No advice to quit (reference group)	9	1.0	7.9
Physician advice to quit	10	1.3 (1.1–1.6)	10.2 (8.5–12.0)

ASSESS: Stages of Change



ASSIST

1) 금연일 정하기: 2주 이내
2) 약물요법
3) 핵심적인 권고/지지
   - 끊어야 > 줄여야
   - 경험/도전
   - 술
   - 다른 흡연자
4) 교육자료
5) 의뢰

ARRANGE follow-up

◈금연일**(quit date) 7**일 이내

◈효과/부작용 확인

◈실패하더라도 방문하도록

누구에게 약물요법이 필요한가?

1) 금연을 원하는 "모든" 흡연자 **(**특별한 경우 제외**)**

2) 특별한 경우**:**

- 의학적 금기
- 하루 **10**개비 미만 흡연자
- 임신**/**수유
- 청소년

금연약물요법은

1) 효과적이다.

2) 안전하다.

어떤 약물이 효과적인가?

1) Nicotine replacement (patch, gum, lozenge)

2) Bupropion SR (Wellbutrin®)

3) Varenicline (Champix®)

4) Clonidine

5) Nortriptyline

얼마나 효과적인가?

1) 위약의 **2-3**배

2) 대개 **1**년 금연율 **30%** 정도

어떤 약제를 어떤 경우에 사용하는가?

1) 효과

바레니클린 **≥** 부프로피온 **=** 니코틴 제재

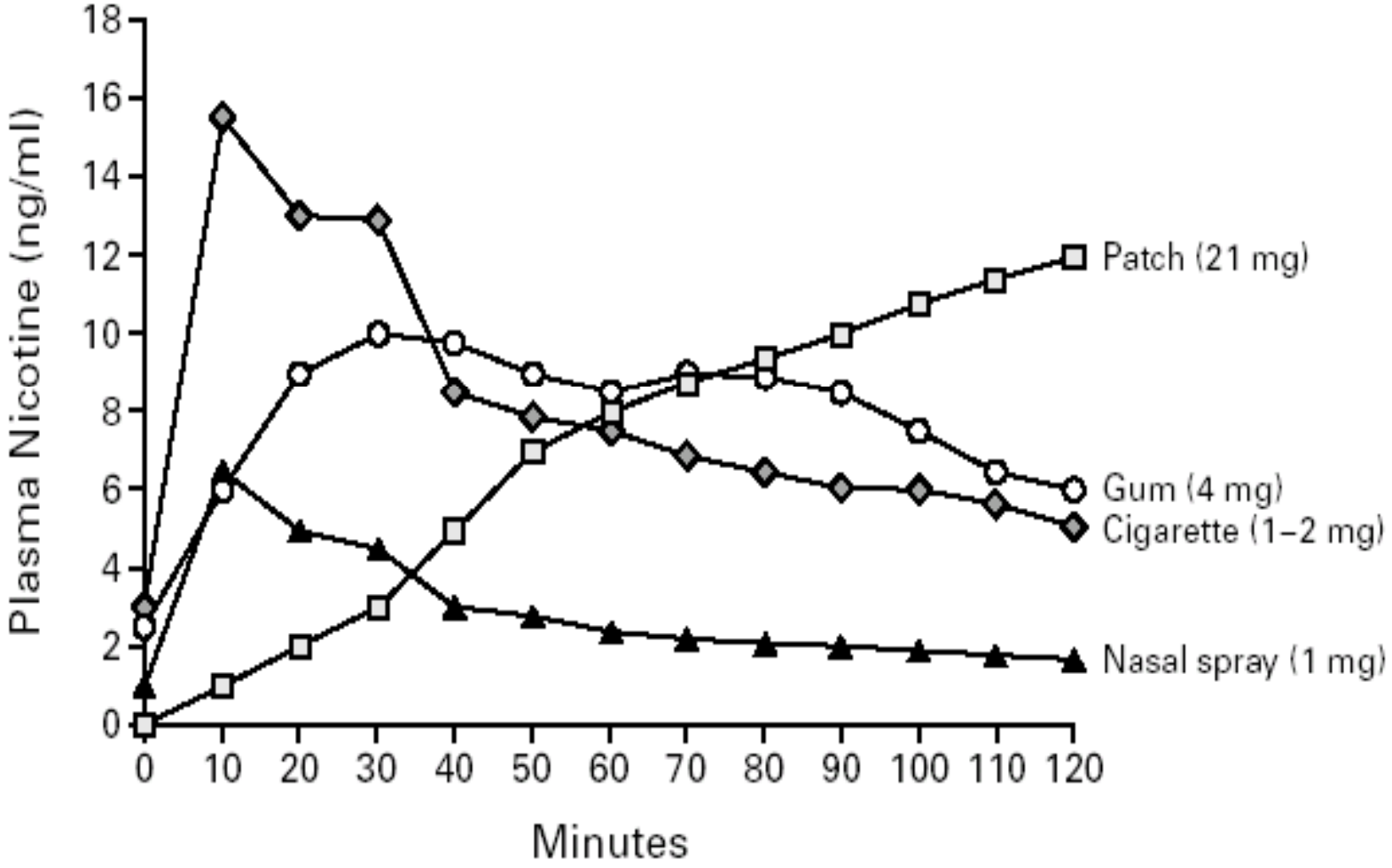
2) 전반적 선호도 **(**니코틴 제제 중**)**

패치 **>** 껌

3) 흡연충동

껌, 로젠즈

니코틴 대체요법


Plasma Nicotine (ng/ml)
18
16
14
12
10
8
6
4
2
0
0 10 20 30 40 50 60 70 80 90 100 110 120
Minutes
Patch (21 mg)
Gum (4 mg)
Cigarette (1–2 mg)
Nasal spray (1 mg)

니코틴 대체요법은 흡연보다 안전하다

1) 일산화탄소 배출이 없다.

2) **NRT**는 혈액응고에 관여하지 않는다.

3) **NRT**의 혈중 니코틴 수준은 흡연시 니코틴 수준 보다 낮다.

4) 니코틴은 암을 일으키지 않는다.

니코틴 패치

1) 니코스탑, 니코틴엘(24시간용),
니코레트(16시간용)

2) 6-8주 사용

3) 20개비 이상은 21mg(15mg)으로 시작
10-19개비는 14mg(10mg)으로 시작

4) 매일 새 패치를 새로운 부위에

니코틴 껌

1) **2mg, 4mg**

2) **12**주 사용

3) **25**개비 이상은 **4mg, 25**개비 미만은 **2mg**

4) 한 시간에 한 개씩, 하루 **24**개 이하 사용

5) 씹고 물기 **(chew and park)**

니코틴 대체제

제품	제약회사	제품종류	니코틴함량	가격
니코틴엘 (24hr)	노바티스	껌(24개/박스)	2mg	₩10000
		로젠즈(36개/박스)	1mg/2mg	₩24000
		니코틴엘 TTS 30(7매/갑)	52.5mg	₩14000
		니코틴엘 TTS 20	35.0mg	₩13000
		니코틴엘 TTS 10	17.5mg	₩12000
니코스탑 (24hr)	한독약품	니코스탑 30	57mg	₩2500/매
		니코스탑 20	38mg	₩2200/매
		니코스탑 10	19mg	₩2100/매
		트로키	1mg	
니코레트 (16hr)	한국존슨 앤존슨	패치 15(7매/박스) 패치 10 패치 5	24.9mg 16.6mg 8.3mg	₩15000
		껌(30개/박스)	2mg/4mg	₩10000


니코레트
nicorette


니코레트
nicorette


Nicotinell


니코스탑 10
니코스탑 20
니코스탑 30
붙이는 금연 보조제
니코스탑 30


100년의 사람 - 부채표
동화약품
NOVARTIS
금연 자극엔, 니코틴-엘
NICOTINELL
TTS 30
「니코틴-엘」과 함께라면 금연은 쉬워지고 행복은 가까워집니다
금연성공률을 위약에 비해 2배까지 높일 수 있습니다.[1]
하루 1장으로 효과가 24시간 지속됩니다.[2]
천연 펄프로 만들어져 있습니다.[3]
니코틴엘
광고심의필 : 946-0400
고객지원센터 080-768-0800


NICOTINELL
TTS 30

부작용

1) 니코틴 패치

- 구역, 구토, 두통, 불면, 피부자극증상

2) 니코틴 껌

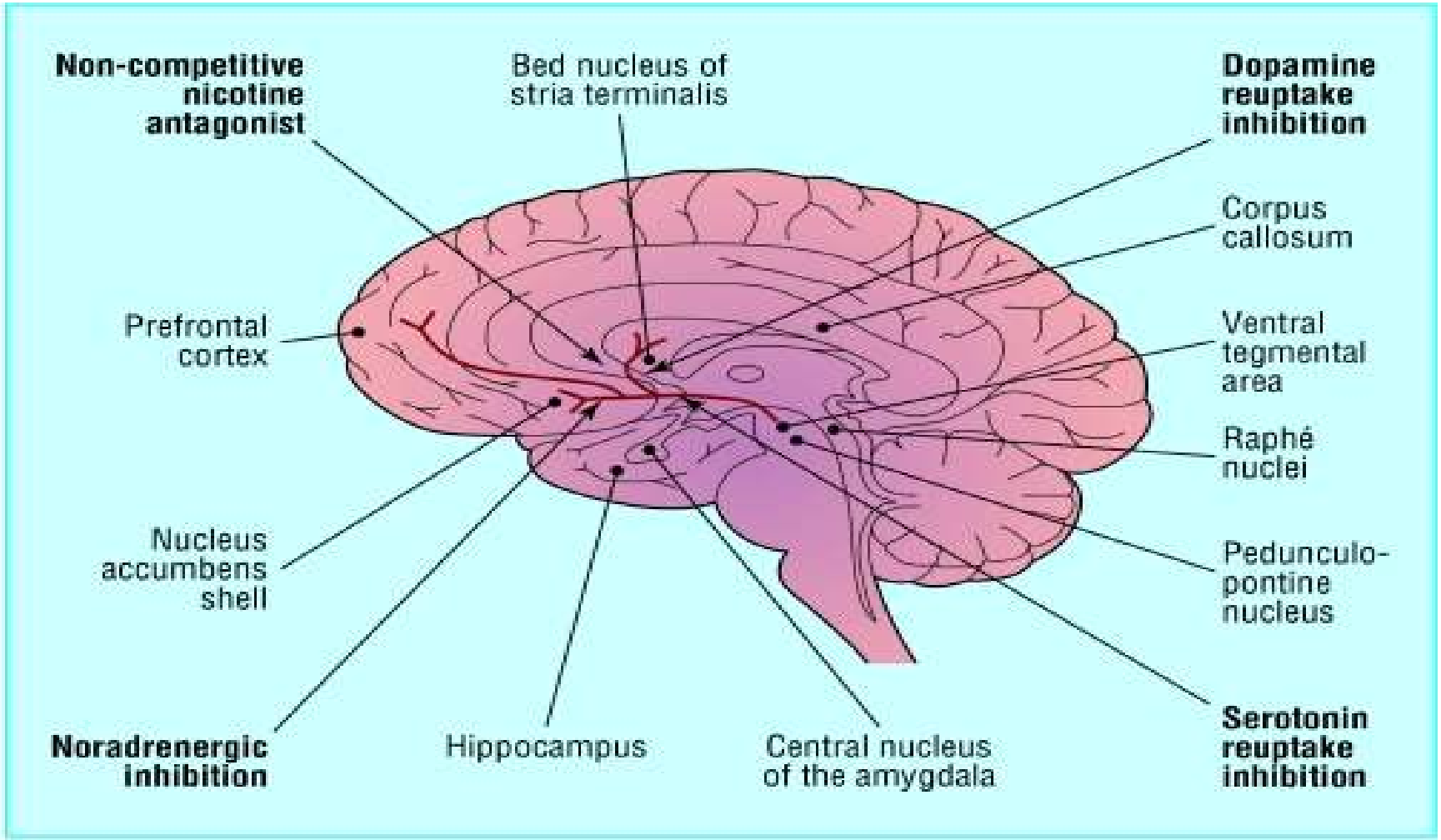
- 구역, 악관절통

금기증

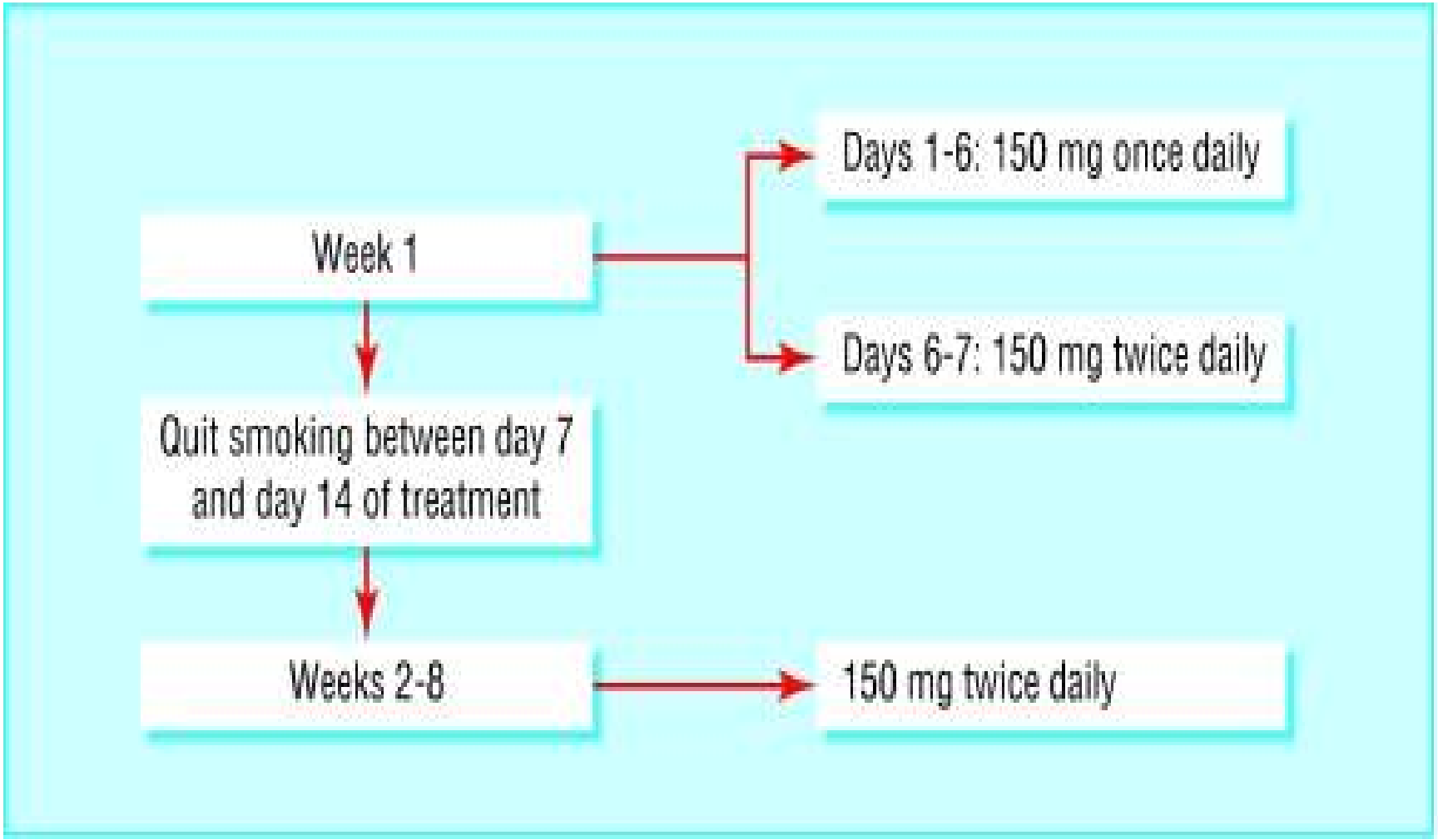
- 최근 **2**주 내 심근경색증
- 불안정협심증
- 치명적인 부정맥
- 임산부나 수유부**(D)**

BUPROPION SR

작용 기전


Non-competitive nicotine antagonist
Bed nucleus of stria terminalis
Dopamine reuptake inhibition
Corpus callosum
Prefrontal cortex
Ventral tegmental area
Raphé nuclei
Nucleus accumbens shell
Pedunculo-pontine nucleus
Noradrenergic inhibition
Hippocampus
Central nucleus of the amygdala
Serotonin reuptake inhibition

투여방법


Week 1
Days 1-6: 150 mg once daily
Days 6-7: 150 mg twice daily
Quit smoking between day 7 and day 14 of treatment
Weeks 2-8
150 mg twice daily

부작용

1) 불면증 (35%)

2) 입마름 (13%)

3) 불안 (5%)

4) 피부발진 (2%)

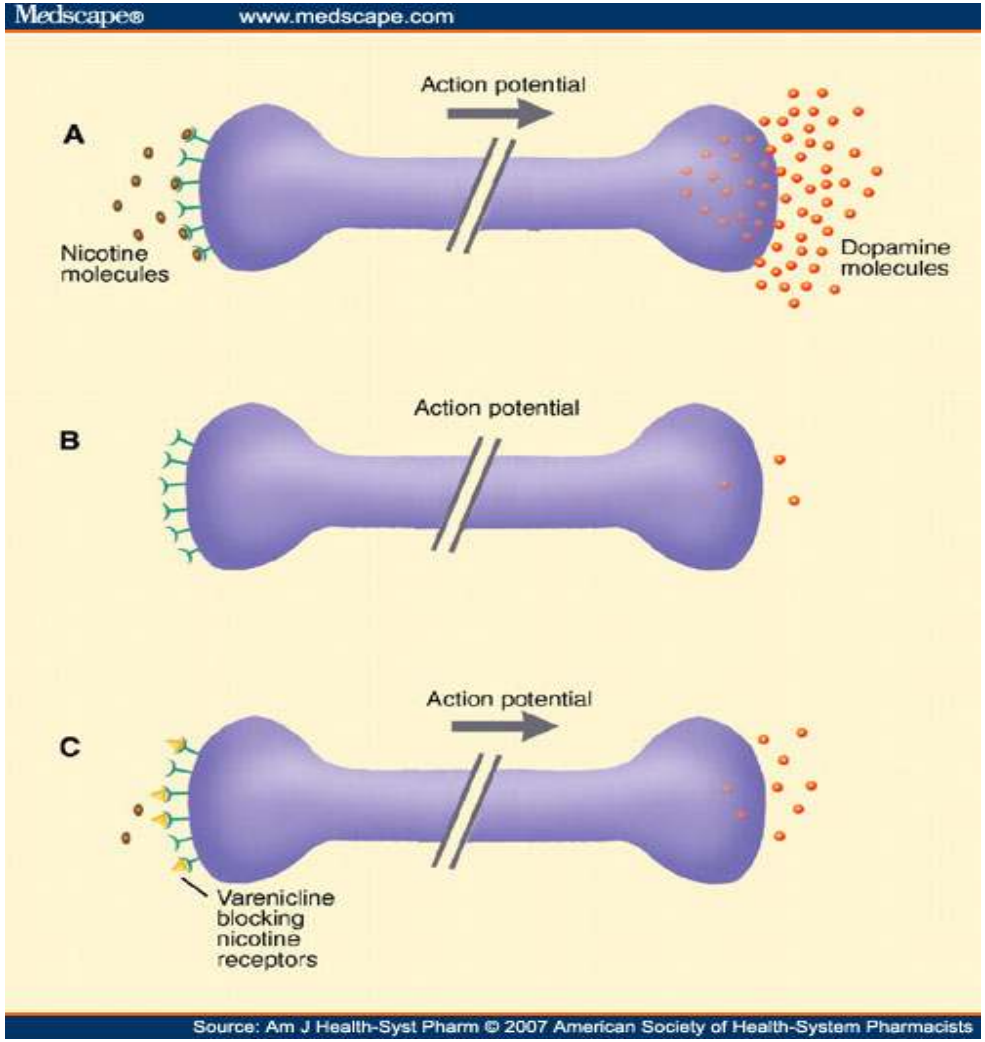
5) 경련: 1/1000

금기증

- 경련 과거력
- 심한 뇌손상 후 의식 상실 과거력
- 신경성 식욕부진
- 폭식증
- 임신부나 수유부
- **18**세 미만**(?)**

VARENICLINE

작용기전



α4β2 partial agonist & antagonist for nicotinic acetylcholine receptor

투여 방법

Days 1 – 3:	0.5 mg once daily
Days 4 – 7:	0.5 mg twice daily
Day 8 – End of treatment:	1 mg twice daily

- Quit date: day 7
- Total duration of Tx.: 12 weeks

부작용

Most frequent AEs		
Gastrointestinal disorders	245 (54.8)	132 (29.6)
Nausea	141 (31.5)	46 (10.3)
Constipation	29 (6.5)	20 (4.5)
Upper abdominal pain	24 (5.4)	15 (3.4)
Nervous system disorders	100 (22.4)	94 (21.1)
Headache	38 (8.5)	27 (6.1)
Psychiatric disorders	69 (15.4)	58 (13.0)
Insomnia	33 (7.4)	24 (5.4)
General disorders	61 (13.6)	47 (10.5)
Skin and subcutaneous tissue disorders	23 (5.1)	19 (4.3)

Pooled Asian Data, submitted

FDA Warning

Advise patients and caregivers that the patient should stop taking CHAMPIX and contact a healthcare provider immediately if agitation, hostility, depressed mood, or changes in behavior or thinking that are not typical for the patient are observed, or if the patient develops suicidal ideation or suicidal behavior.

Table 6.28. Meta-analysis (2008): Effectiveness of and abstinence rates of medications relative to the nicotine patch (n = 83 studies)[a]

Medication	Number of arms	Estimated odds ratio (95% C. I.)
Nicotine Patch (reference group)	32	1.0
Monotherapies		
Varenicline (2 mg/day)	5	1.6 (1.3–2.0)
Nicotine Nasal Spray	4	1.2 (0.9–1.6)
High-Dose Nicotine Patch (> 25 mg; standard or long-term)	4	1.2 (0.9–1.6)
Long-Term Nicotine Gum (> 14 weeks)	6	1.2 (0.8–1.7)
Varenicline (1 mg/day)	3	1.1 (0.8–1.6)
Nicotine Inhaler	6	1.1 (0.8–1.5)
Clonidine	3	1.1 (0.6–2.0)
Bupropion SR	26	1.0 (0.9–1.2)
Long-Term Nicotine Patch (> 14 weeks)	10	1.0 (0.9–1.2)
Nortriptyline	5	0.9 (0.6–1.4)
Nicotine Gum	15	0.8 (0.6–1.0)
Combination therapies		
Patch (long-term; > 14 weeks) + NRT (gum or spray)	3	1.9 (1.3–2.7)
Patch + Bupropion SR	3	1.3 (1.0–1.8)

미국 보건부 임상지침 요약
(Summary of USDHHS Guidelines)

금연진료 내용	효과(교차비)
흡연여부 확인 체계	3.1 (금연권고) 2.0 (금연)
의사의 금연권고	1.3
금연상담의 횟수와 시간이 늘어나면 금연율이 높아진다.	
- 10분 이상의 상담	2.3
- 총 금연상담시간 300 분 이상	2.8
- 8회 이상의 상담	2.3
금연교육자료제공	1.2
집단상담	1.3
개인상담	1.7
금연상담전화	1.6
약물치료+금연상담전화	1.3
약물치료+상담 > 약물단독치료 또는 상담단독치료	1.4 and 1.7
니코틴대체요법	1.5-2.3
부프로피온	2.0
바레니클린	3.1
금연진료에 대한 보험적용	2.3(금연진료이용) 1.3(금연시도) 1.6(성공적 금연)

금연콜센터 1544-9030

보건소 금연클리닉