



# Assessment and Treatment

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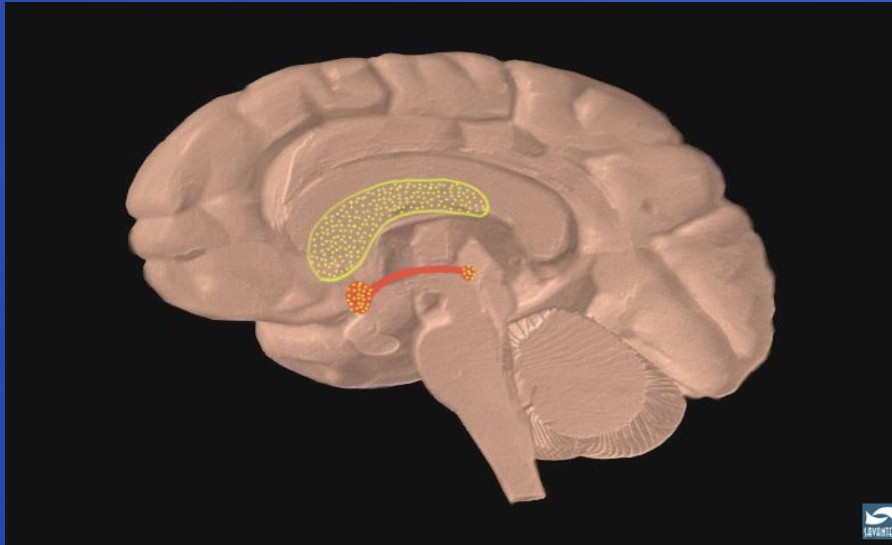
# Learning Objectives

At the end of the presentation participants will be able to

- Identify medications approved by FDA for treating tobacco dependence
- Identify tools for assessing tobacco dependence
- Apply Mayo Model of Treatment into everyday applications
- Practice skills & continue discussion of challenges among mental health consumers

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- **The cigarette is the most efficient delivery device that exists for nicotine**
    - **More efficient than intravenous delivery**

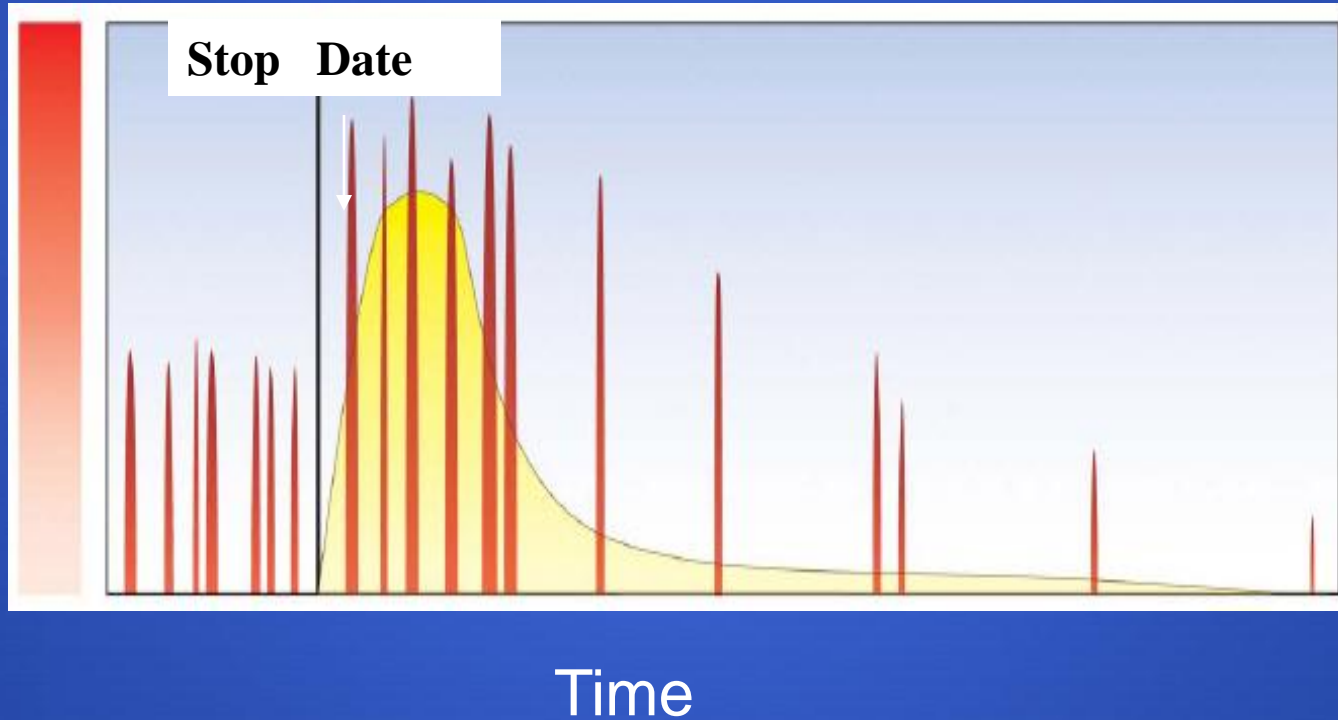
# A Brain disease





# Withdrawal & Craving

Intensity of craving and withdrawal



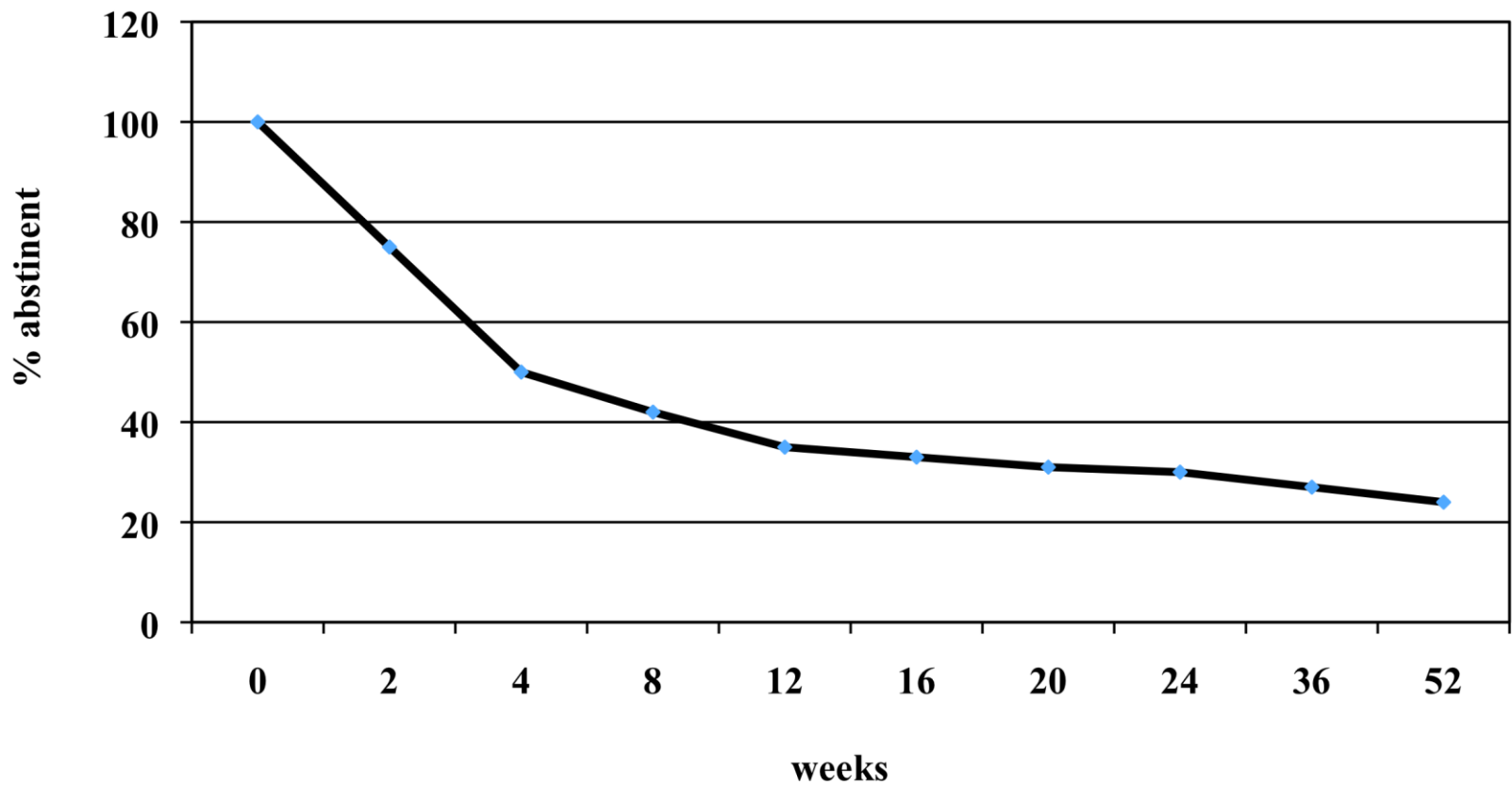
# Withdrawal

- Irritability
- Anxiety
- Poor or lower concentration
- Hunger
- Constipation
- Depression

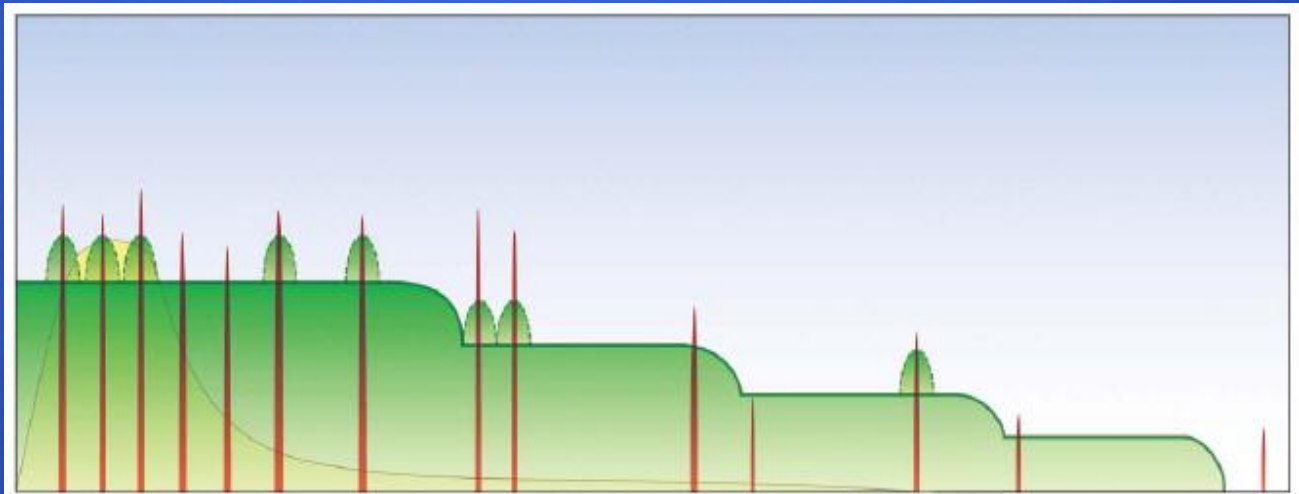
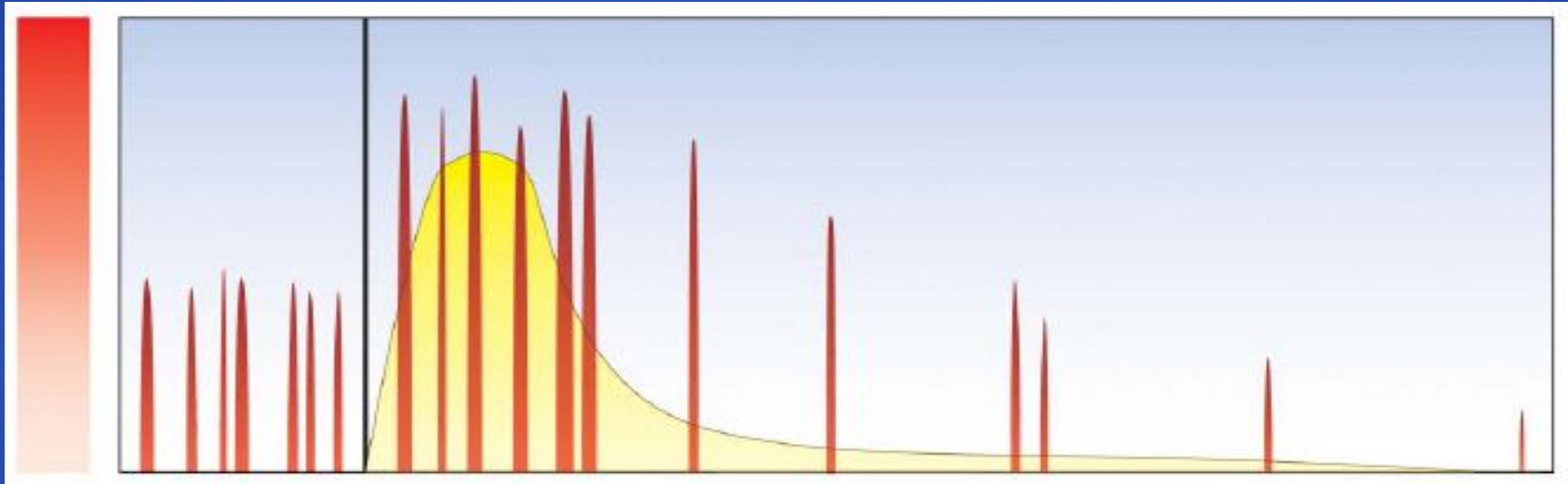
# Craving

- **Powerfully reinforced cue or trigger**
  - **Stress**
  - **Boredom**
  - **Food, coffee, getting in the car, break time**
  - **Being social**
  - **Alcohol**

# Relapse after cessation



# Medication: To manage withdrawal & urges



# Pharmacotherapy

## Give patient and provider options

### Over the counter medications



### And prescription medications



# Pharmacotherapy: A number of options

## Medication options

Your treatment specialist or other health care provider can help complete this page and discuss recommendations with you.



### Nicotine patch

Recommendations:

\_\_\_ mg, daily for \_\_\_ weeks  
 \_\_\_ mg, daily for \_\_\_ weeks  
 \_\_\_ mg, daily for \_\_\_ weeks  
 \_\_\_ mg, daily for \_\_\_ weeks  
 \_\_\_ mg, daily for \_\_\_ weeks  
 \_\_\_ mg, daily for \_\_\_ weeks

Comments:

The suggested taper schedule above can be adjusted if necessary.



### Nicotine gum

Recommendations:

2 mg  
 4 mg

Comments:



### Nicotine lozenge

Recommendations:

2 mg  
 4 mg

Comments:



### Nicotine inhaler

Recommendations:

Comments:



### Nicotine nasal spray

Recommendations:

Comments:



### Bupropion

Recommendations:

Comments:



### Varenicline

Comments:

Before using any of these medications, review appropriate use and possible side effects with your health care provider. Ask how and when to use them. If you experience side effects from your medications, check promptly with your health care provider for advice.

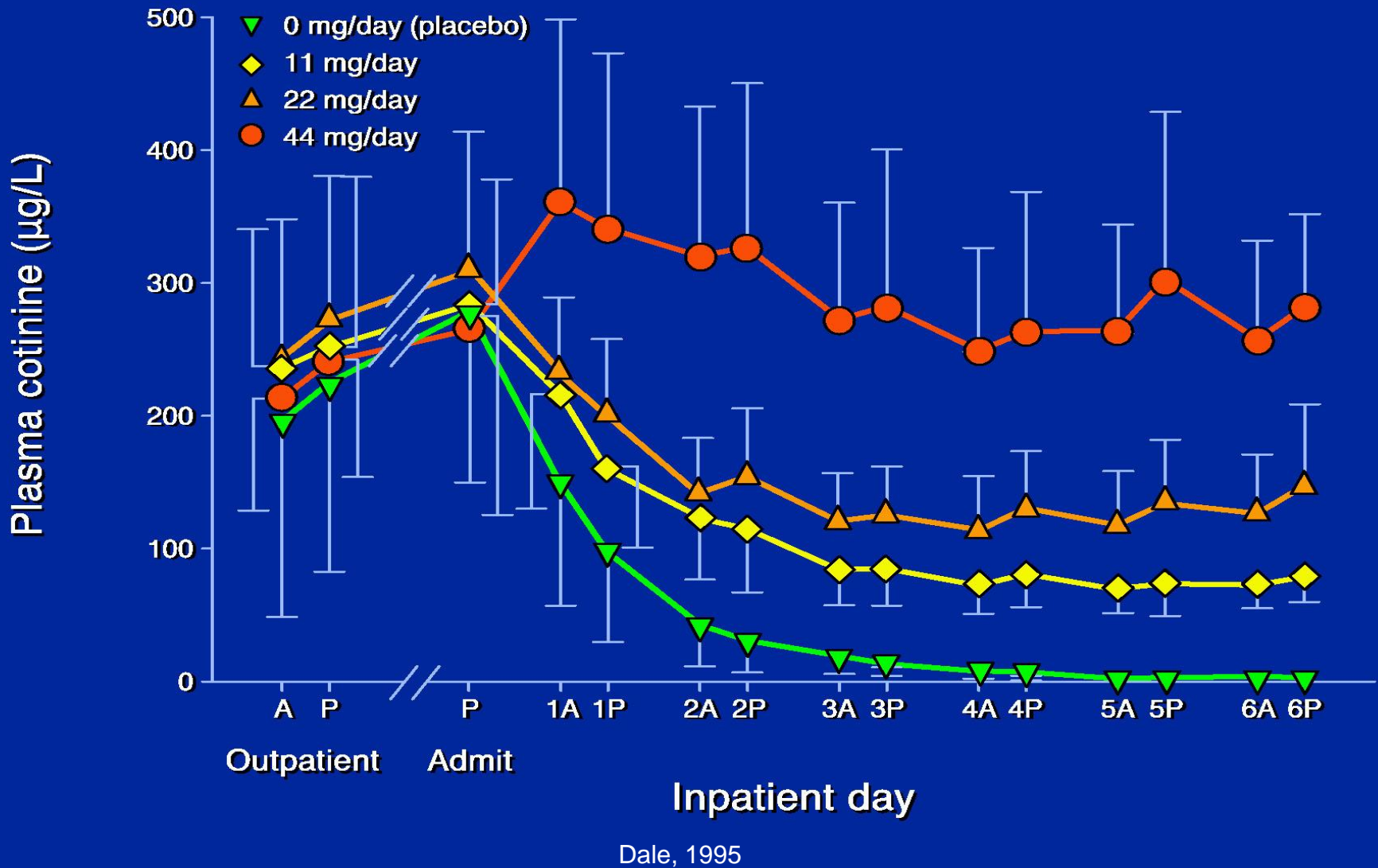
Image on page 41-02 © 2012 MFR



# Nicotine replacement therapy

- Nicotine patch
  - Provides a steady state of nicotine to manage withdrawal and reduce the intensity of craving
- Nicotine gum, lozenge, inhaler, nasal spray
  - Provides short acting dose of nicotine
  - Helps address cravings as needed

# Cotinine (nicotine metabolite) levels while using cigarettes and different dose nicotine patches



# Nicotine Patch Dose

## Based on Smoking Rate

<10 cpd	7-14 mg/d
10-20 cpd	14-21 mg/d
21-40 cpd	21-42 mg/d
>40 cpd	42+ mg/d

# Nicotine patch use

- Use appropriate dose
- Apply once daily and wear 24 hrs
- Common adverse effects: patch site reaction; nausea; vivid dreams

# Short-acting nicotine replacement

- Nicotine gum, lozenge and inhaler
  - Buccal mucosal absorption
  - Peak absorption in 15-20 min.
- Nicotine nasal spray absorbed through nasal lining
  - peak absorption in 5-10 min.
- Taken as needed for cravings and urges
  - Up to maximum dose

# Using gum and lozenge

- Gum and lozenge come in 2 and 4 mg doses
  - Absorption affected by PH



- Park to encourage absorption through the buccal mucosa

# Using the inhaler

- Place cartridge in holder
- Puff as needed
  - Hold vapor in mouth
- Lasts 20 minutes active puffing
- PH dependent





# Using nicotine nasal spray

- Spray once in each nostril while holding breath
  - direct spray toward outside nasal lining
- Wait 2 or 3 minutes before blowing nose
- May irritate at first but this should improve with continued use





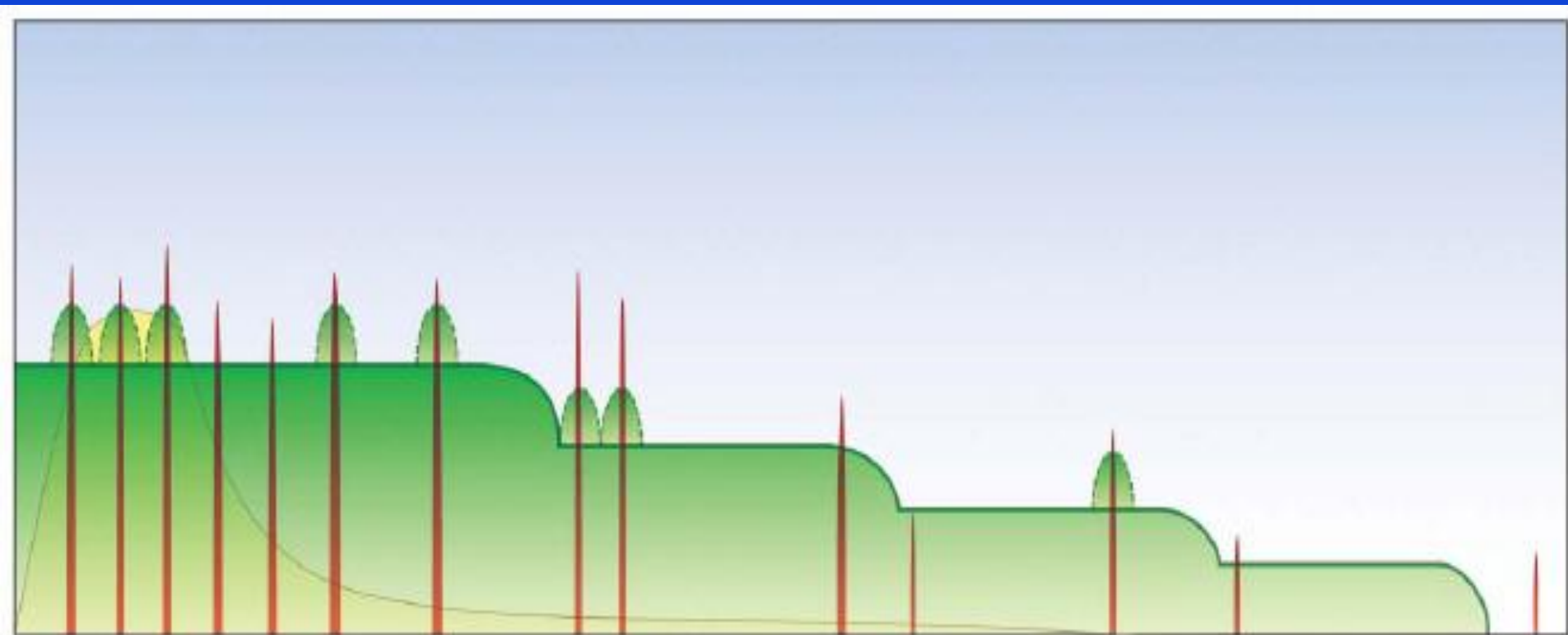
# Common side effects

- Nicotine gum and lozenge
  - Nausea, hiccups, heartburn, and sore mouth for gum
- Inhaler
  - Mouth or throat soreness or dryness
- Nasal spray
  - Watering eyes and runny nose
  - Burning in nose, irritated throat
  - Sneezing and coughing
- Risks of excess nicotine
  - nausea, rapid heart beat, cold sweats

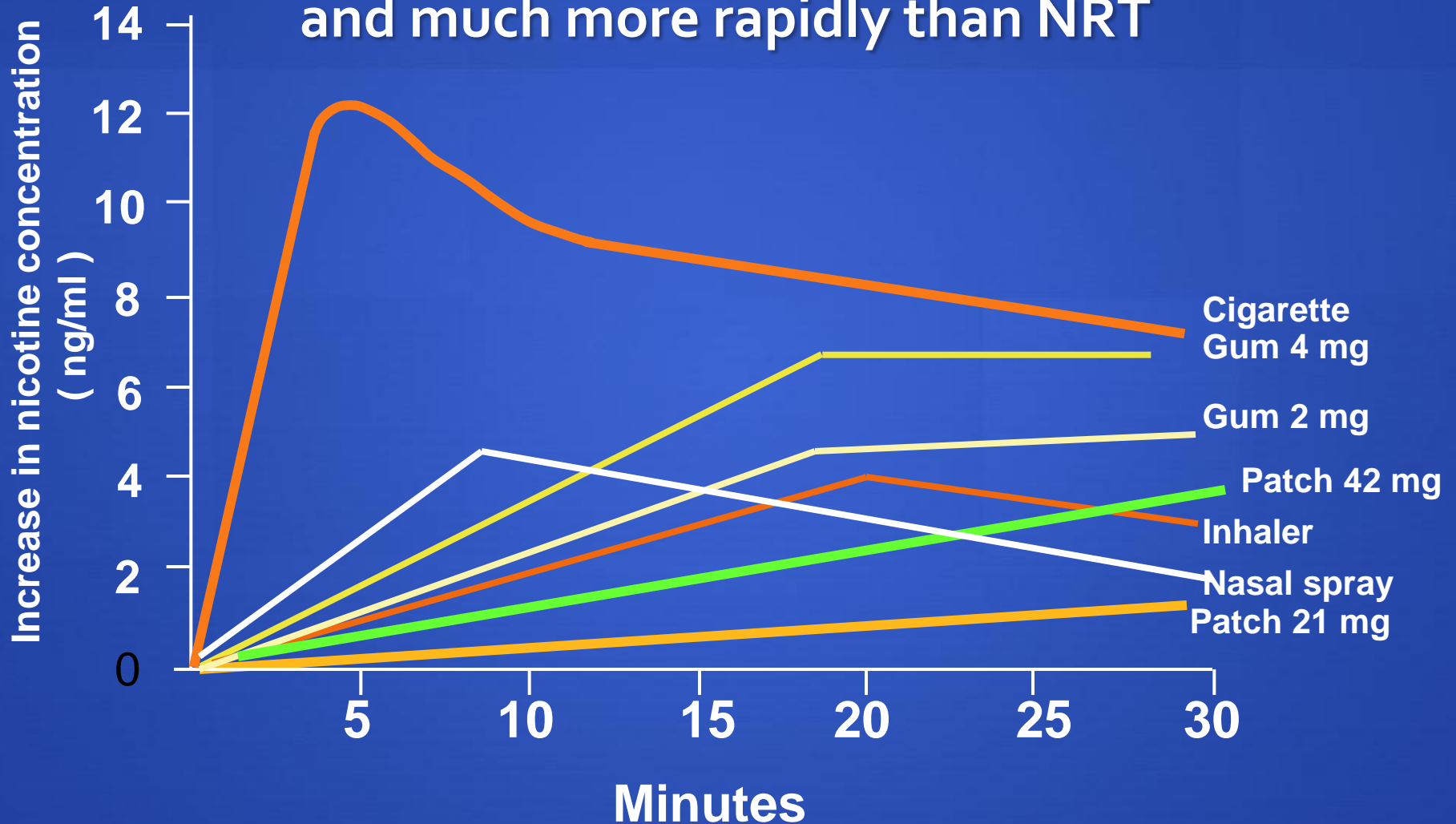
# Medication considerations

- When stopping smoking some medications may require dose adjustments
  - E.g. common anti-psychotics
- NRT in place of smoking substantially reduces the number of substances being ingested

# Combination NRT



# Smoking produces much higher nicotine levels and much more rapidly than NRT





# Bupropion SR



# Bupropion SR prescribing

- Set target quit date 1 week from start of medication
- Begin with 150 mg daily for 3 days
- Increase to 150 mg twice daily at least 8 hrs apart
- Evening dose before 6PM
- Treat for 8-52 weeks

# Side effects

- Common
  - Dry mouth, difficulty sleeping, headache, dizziness, nausea
- Less common
  - Anxiousnes, shakiness, decreased appetite, sweating, high blood pressure
- Rare
  - Skin rash, allergic reaction, seizure

# Bupropion: FDA Warning

*All patients being treated with bupropion should be observed for neuropsychiatric symptoms including changes in behavior, agitation, depressed mood, suicidal ideation, and suicidal behavior. These symptoms, as well as worsening of pre-existing psychiatric illness, have been reported in patients attempting to quit smoking while taking bupropion...*

# Bupropion/Patch Combination

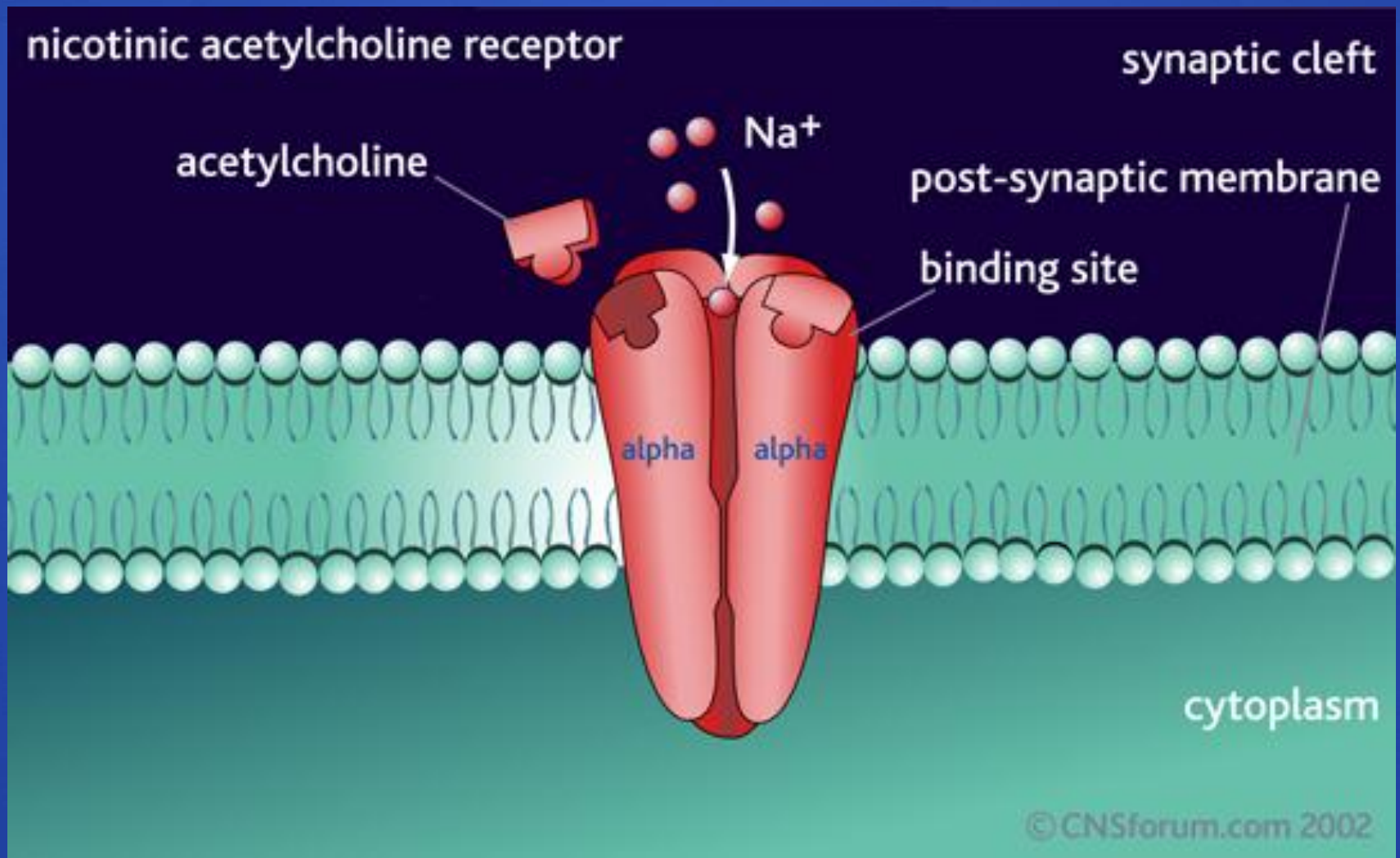
## Abstinence at 12 mos...

- Placebo 15.6%
- NP alone 16.4%
- Bupropion 30.3%
- Bupropion plus NP 35.5%

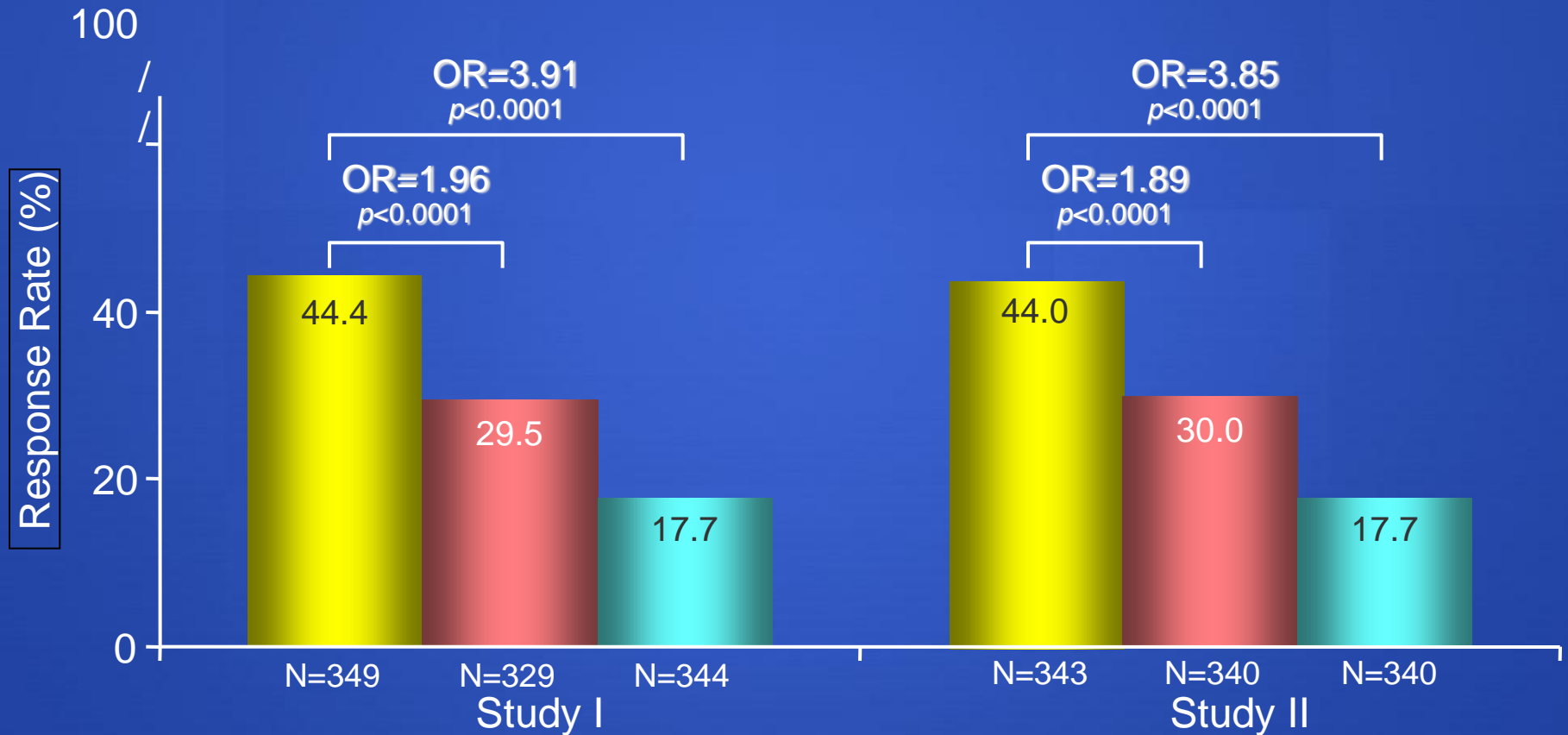
# The better paradigm

- **Treat tobacco dependence as a chronic illness**
- **Educate patients about true nature of tobacco dependence**
- **Establish systems changes to support chronic disease management**

# Varenicline



# Pivotal Trials: CO-Confirmed Continuous Abstinence Rates Wks 9–12



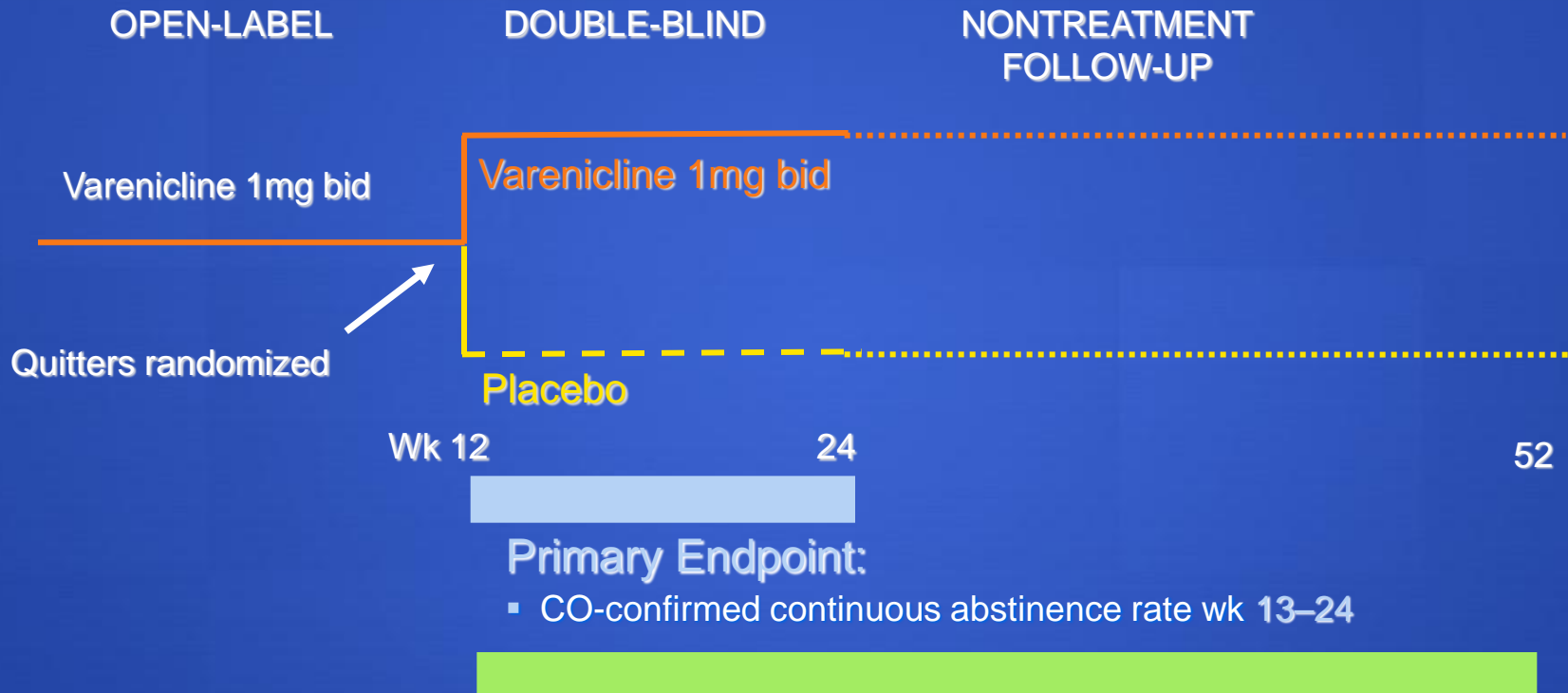
OR = odds ratio

■ Varenicline ■ Zyban ■ Placebo



# Maintenance of Abstinence: Study Design

*Tonstad et al. JAMA 2006;296:64-71*



## Subjects

- Male or female outpatient cigarette smokers
- 18-75 yr old, motivated to quit smoking
- Average of  $\geq 10$  cigarettes/day during past year

## Secondary Endpoint:

- CO-confirmed continuous abstinence rate wk 13–52

## Common Adverse Events in Clinical Trials (%)

	Varenicline	Placebo
<b>Nausea</b>	<b>35.8</b>	<b>11.2</b>
<b>Insomnia</b>	<b>22</b>	<b>12.7</b>
<b>Abnl dreams</b>	<b>14.4</b>	<b>5</b>
<b>Headache</b>	<b>16.8</b>	<b>14.3</b>
<b>Other GI</b>	<b>22.5</b>	<b>11.8</b>
<b>Discontinued</b>	<b>12</b>	<b>8.1</b>

# Varenicline: FDA Warning

*All patients being treated with Chantix should be observed for neuropsychiatric symptoms including changes in behavior, agitation, depressed mood, suicidal ideation, and suicidal behavior. These symptoms, as well as worsening of pre-existing psychiatric illness, have been reported in patients attempting to quit smoking while taking Chantix...*

# Varenicline prescribing

- Use in combination with behavioral treatment
- Start medication 1 week prior to target quit date
- Take with food
- Treat for 3 to 6 months

# Summary

- **Varenicline is efficacious for the treatment of tobacco dependence**
- **Side effects have been generally mild and well-tolerated**
- **Varenicline is as effective as other first-line treatments for tobacco dependence**
- **Until additional information is available, monitor patients for new neuropsychiatric symptoms while on therapy**