



**UW PACC**

Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

**UPDATE**  
**TREATMENT OF TOBACCO USE**  
**DISORDERS**

**MARK DUNCAN MD**

**UNIVERSITY OF WASHINGTON**



# SPEAKER DISCLOSURES

- ✓ Any conflicts of interest-none

# OBJECTIVES

1. Remind everyone that tobacco kills a lot of people
2. Provide update on treatment of tobacco disorders
3. Urge everyone to offer treatment



# LATEST STATS ON CIGARETTE USE IN ADULTS IN THE US

- **Cigarette smoking is the leading cause of preventable disease (US)**
  - accounting for more than 480,000 deaths every year, or 1 of every 5 deaths.
- **Current smoking has declined**
  - 21 of every 100 adults (20.9%) in 2005
  - 15 of every 100 adults (15.1%) in 2015.

# BENEFITS OF STOPPING

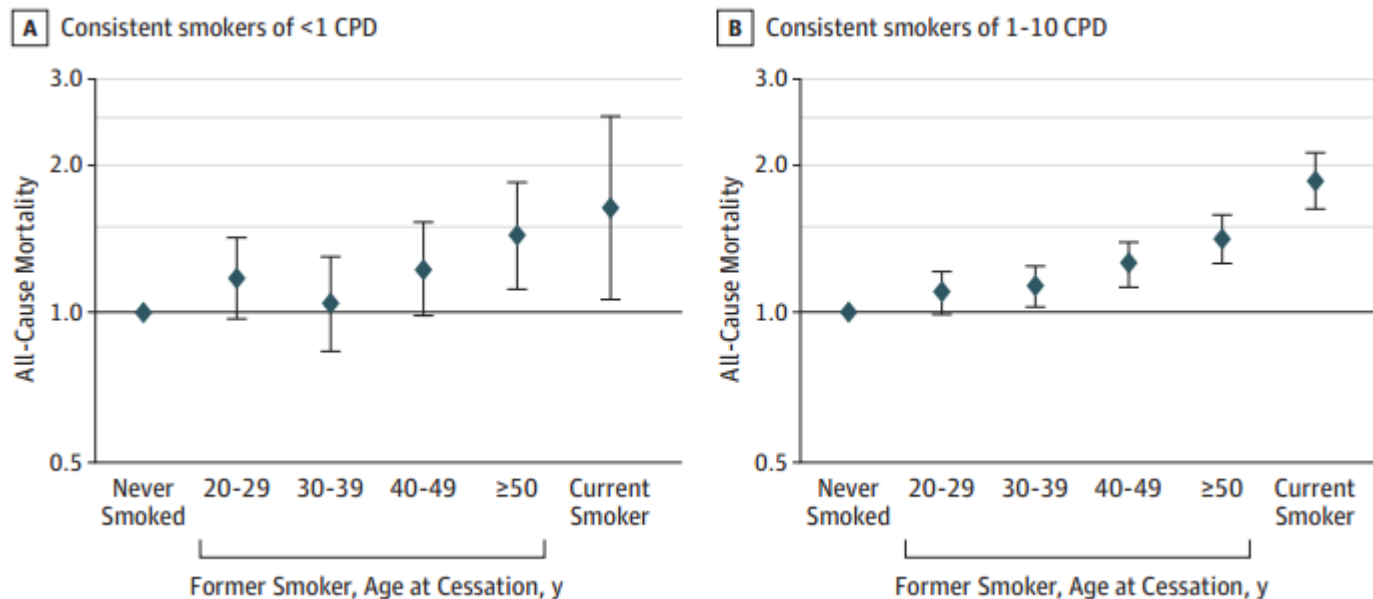
- Reduce CV risk after MI by  $> 1/3$  over 5 years
- Reduce cancer risk
- Improve lung function
- Reduce risk of infections
- Decreased risk for DMII
- Reduce risk of hip fractures
- Decrease reproductive disorders
- Etc.

## Smoking reduction vs cessation?

- Maybe helpful for heavy smokers-controversial
- Smokers often compensate

# Association of Long-term, Low-Intensity Smoking With All-Cause and Cause-Specific Mortality in the National Institutes of Health–AARP Diet and Health Study

Maki Inoue-Choi, PhD, MS; Linda M. Liao, PhD, MPH; Carolyn Reyes-Guzman, PhD, MPH; Patricia Hartge, ScD; Neil Caporaso, MD; Neal D. Freedman, PhD, MPH



- Bottom-line: No safe level of smoking

# SPECIAL POPULATIONS

- Psychiatric illness: no evidence that cessation worsens illness.
- Substance Use: no evidence cessation has a negative effect, often has positive effect.

McKelvey et al, Addictive Behaviors 2016; Apollonio et al, Cochranne 2016



# SPECIAL GROUPS

- Depressed patients
  - No evidence that bupropion is any more helpful in treating nicotine addiction in currently depressed patients
  - It may be more helpful in patients with past depression
- Schizophrenia
  - Bupropion-typically considered first-line
  - Varenicline: both safe and effective
    - Effective maintenance treatment for up to **1 year**
    - Although people are still careful
- Bipolar
  - NRT considered first line
  - Varenicline also considered
    - Effective maintenance treatment for up to **1 year**

# TREATMENT UPDATES

# THE “5 A’S” MODEL

- **Ask**
  - Frequency
  - Products
  - Previous quit attempts
  - Readiness to quit
- **Advise to quit**
  - < 5 min
  - At every encounter
  - Modest effectiveness, BUT STILL EFFECTIVE
  - Patients are satisfied
- **Assess Readiness to change**
  - “Is quitting smoking in the next 30 days something that is realistic for you.”
- **Assist**
  - Help with a quit plan (and date)
  - Provide practical problem solving
  - Manage withdrawal symptoms
  - Combined behavioral and pharmacological treatments most effective
    - Insurances are required to cover treatments

# ARRANGE FOLLOW-UP

- The week following their quit date
  - Assess med adherence and any problems
- Relapse prevention
  - Good to follow closely over first 3 months due to high rates of relapse during this time (22%)
  - Long term follow-up needed
    - 35-40% will relapse between 1-5 years
  - Pharmacotherapy for up to 18 months can be helpful
  - No evidence to support any specific behavioral interventions for relapse prevention.
    - Best bet to focus on identifying and resolving triggers
- Relapse?
  - Make another attempt
  - What worked before?
  - More intense treatment?
    - Specialty clinic



# Demonstration of the 5As

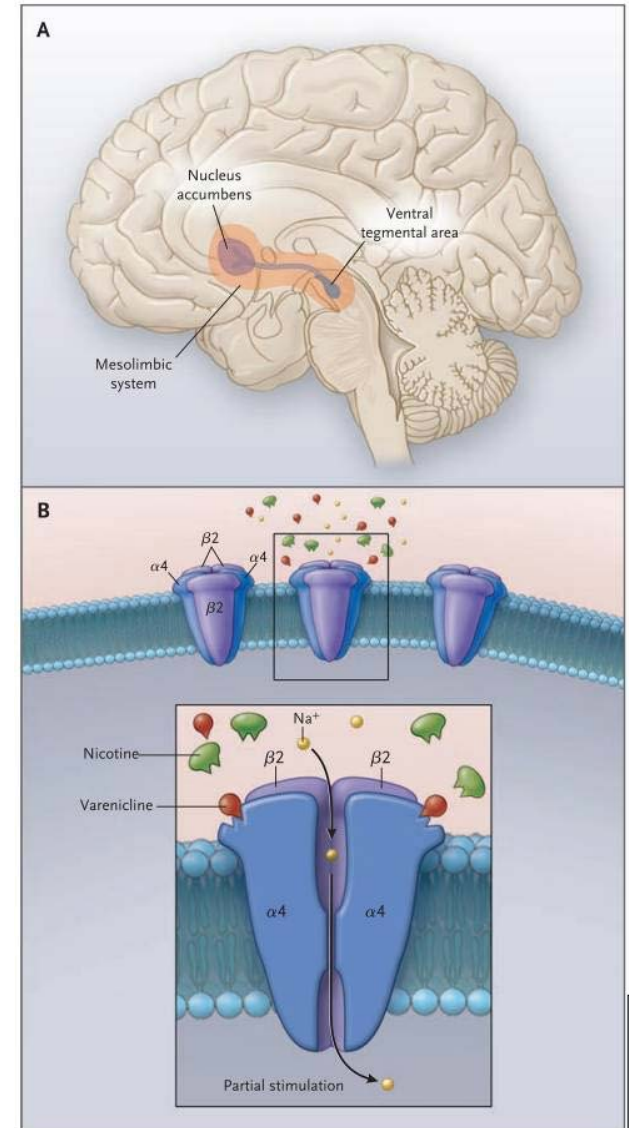
(Ask-Advise-Assess-Assist-Arrange)

# NICOTINE REPLACEMENT THERAPY

- Can increase quit rates vs placebo 2 fold
- **Combination therapy** -better then monotherapy for effectiveness
  - (RR 1.34, 95% CI 1.18 to 1.51)
  - Long-acting patch for baseline withdrawal symptoms
  - Short-acting for cravings or withdrawal symptoms prn
  - **Start on quit date**

# VARENICLINE

- **MOA: partial agonist at  $\alpha 4\beta 2$  subunit of nicotinic Ach receptor**
  - Partial stimulation leads to reduction of withdrawal
  - Binds with high affinity to subunit and blocks the nicotine from binding
- **Efficacy**
  - 2013 meta-analysis
  - RR 2.27 95% CI 2.02-2.5
- **Start 1 a week before their planned quit day**
  - Could start 4 weeks before (47 vs 21%)
- **Dose: 0.5mg x 3 days, 0.5mg bid x 4 days, and then 1mg bid for rest of 12 weeks**
  - May continue for another 12 weeks (71 vs 50%)
- **Main side effect: nausea, insomnia, abnl dreams**
- **Pharmacokinetics**
  - **Mostly through kidney, dose reduction needed in renal insufficiency**



# BUPROPION

- May act as a partial nicotine antagonist and reduces rewarding effects of cigarettes
- Administration
  - Start 7 days before quit date to achieve steady state
  - Target dose is SR 150mg bid
  - SR 150mg qday is an option for those who can't tolerate bid
  - Duration: 12 weeks, although this can be continued
    - 1 year?
      - Delayed smoking relapse vs placebo (55 vs 42%) and led to less weight gain (3.8 vs 5.6kg)
- Safety
  - Safe for smokers with stable CVD and COPD
  - Monitor for neuropsych symptoms



# COMBINATION TREATMENT: IF FAILED WITH MONOTHERAPY

- **Bupropion and NRT**
  - More effective than bupropion alone
  - Not more effective than NRT alone
- **Bupropion and Varenicline**
  - May be more effective than Varenicline alone
  - At one year the difference between combined therapy and Varenicline alone was not significant
- **NRT (patch) and Varenicline**
  - More effective than Varenicline alone at end of treatment and 6 months later
- **Combined NRT and Bupropion**
  - Non-significant trend towards higher rates of abstinence

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# e-Cigarettes

- AKA: Electronic Nicotine Delivery Systems (ENDS)
- Designed to deliver nicotine without tobacco



Good or Bad?

**NATIONAL ACADEMY OF SCIENCES**  
***PUBLIC HEALTH CONSEQUENCES OF E-  
CIGARETTES***  
**2018**

**Overall, the evidence suggests that while e-cigarettes might cause youth who use them to transition to use of combustible tobacco products, they might also increase adult cessation of combustible tobacco cigarettes.**



# e-Cigarettes: Update

- Efficacy around smoking cessation
  - Reduced cravings and withdrawal
  - RCT, New Zealand, N=657
    - 16mg nicotine e-cigg vs 0mg nicotine e-cigg vs 21mg patch
    - 6 months later cessation rates
      - 16mg e-cigg: 7.3%
      - 0mg e-cigg: 4.1%
      - 21mg patch: 5.8%
- Potential for burns
  - Device malfunction
  - Stored in pocket

Caponnetto P et al, 2013; Toy J et al, 2017