MAT TRAINING
PROVIDERS' CLINICAL SUPPORT SYSTEM
For Medication Assisted Treatment

Pharmacotherapeutic Treatment of Nicotine and Alcohol Dependence

Kathleen T. Brady, MD, PhD
Distinguished University Professor
Medical University of South Carolina

Kathleen T. Brady MD, PhD, Disclosures

Kathleen T. Brady, MD, PhD has no financial relationships with an ACCME defined commercial interest.

The contents of this activity may include discussion of off label or investigative drug uses. The faculty is aware that is their responsibility to disclose this information.

Planning Committee, Disclosures

AAAP aims to provide educational information that is balanced, independent, objective and free of bias and based on evidence. In order to resolve any identified Conflicts of Interest, disclosure information from all planners, faculty and anyone in the position to control content is provided during the planning process to ensure resolution of any identified conflicts. This disclosure information is listed below:

> The following developers and planning committee members have reported that they have no commercial relationships relevant to the content of this module to disclose: PCSSMAT lead contributors Frances Levin, MD; Adam Bisaga, MD; AAAP CME/CPD Committee Members Dean Krahn, MD, Kevin Sevarino, MD, PhD, Tim Fong, MD, Tom Kosten, MD, Joji Suzuki, MD; and AAAP Staff Kathryn Cates-Wessel, Miriam Giles and Blair-Victoria Dutra Dutra.
>
> Frances Levin, MD is a consultant for GW Pharmaceuticals and receives study medication from US Worldmed. This planning committee for this activity has determined that Dr. Levin's disclosure information poses no bias or conflict to this presentation.

All faculty have been advised that any recommendations involving clinical medicine must be based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the care of patients. All scientific research referred to, reported, or used in the presentation must conform to the generally accepted standards of experimental design, data collection, and analysis. Speakers must inform the learners if their presentation will include discussion of unlabeled/investigational use of commercial products.

Accreditation Statement

The American Academy of Addiction Psychiatry (AAAP) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Designation Statement

- The American Academy of Addiction Psychiatry designates this enduring material for a maximum of (one) 1 *AMA PRA Category 1 Credit*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.
  - Date of Release March 16, 2015
  - Date of Expiration March 16, 2018

System Requirements

- In order to complete this online module you will need Adobe Reader. To install for free click the link below:
  - http://get.adobe.com/reader/

Target Audience

- The overarching goal of PCSS-MAT is to make available the most effective medication-assisted treatments to serve patients in a variety of settings, including primary care, psychiatric care, and pain management settings.

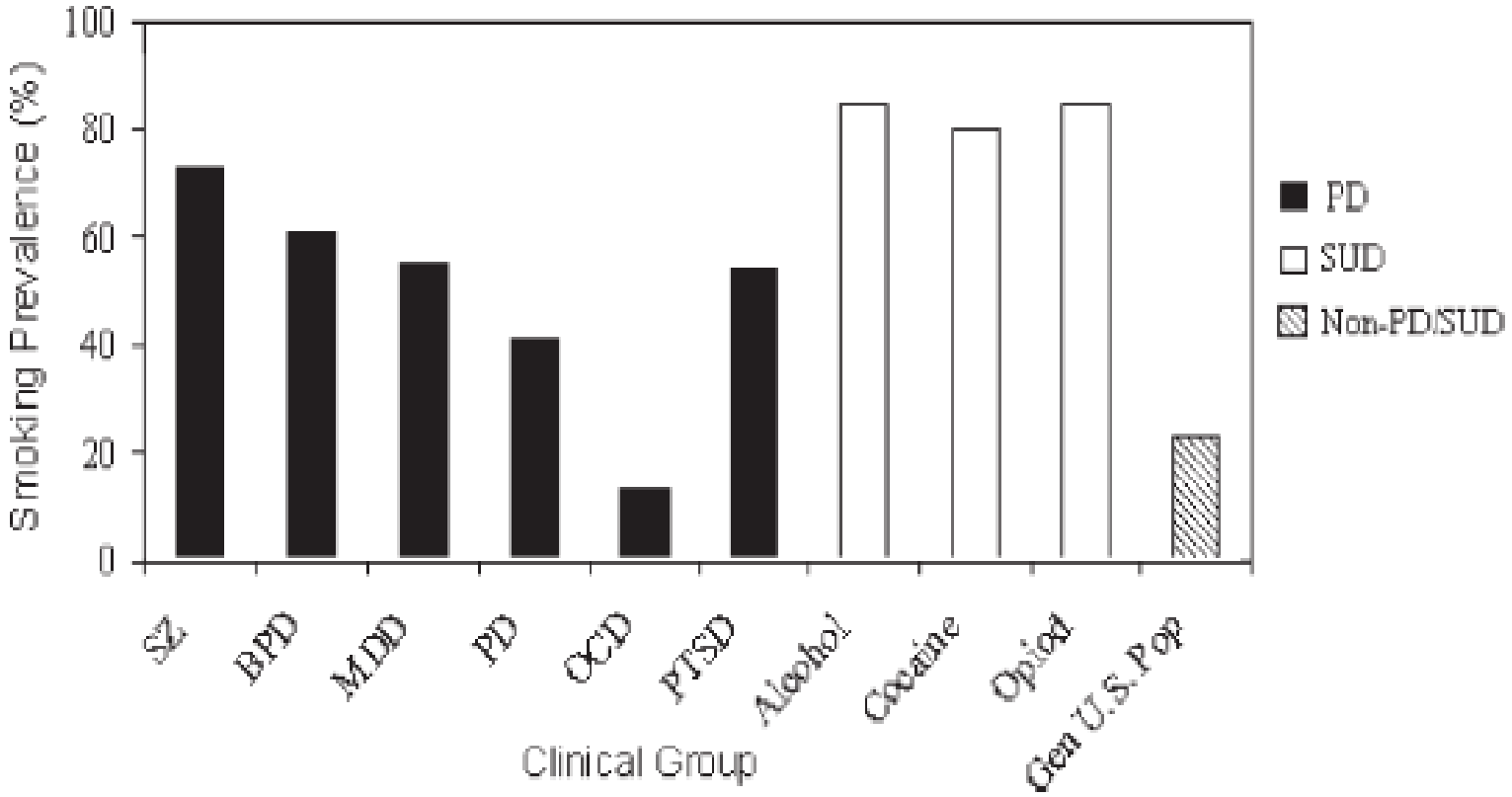
Educational Objectives

- At the conclusion of this activity participants should be able to:
  - Discuss pharmacotherapeutic treatment options for nicotine dependence
  - Discuss pharmacotherapeutic treatment options for alcohol dependence

Outline

- Overview of treatment guidelines for nicotine dependence
- Review of specific medication options with prescribing information
- Overview of FDA-approved medications for the treatment of alcohol dependence
- Agents under investigation in the treatment of alcohol dependence
- Pharmacogenetics and the treatment of alcohol dependence

Smoking and Psychiatric Illness



Kalman, 2005: Comorbidity of smoking in patients with psychiatric and substance abuse disorders.

Pre-mature Death

- About half of all smokers will die from the effects of smoking[1]
- On average, smokers die **10 to 14 years** earlier than non-smokers[1,2]
- The probability of dying in middle age increases threefold in smokers vs. non-smokers.[1]
- However, quitting at age 50 halves the mortality risk and quitting at 30 almost completely eliminates it.[1]

1. Doll et al., 2006
2. MMWR, April 2002

Clinical Practice Guideline Treating Tobacco Use and Dependence: 2008 Update

- Chronic disease requiring multiple interventions and quit attempts.
- Consistent ID smokers & current smoking status
- Use effective medication unless contraindicated NRT, Bupropion SR and Varenicline
- Both Counseling & med effective - combo more effective - use together.
- Telephone quit lines effective - ↑ access & use
- Use motivational therapy in smokers unwilling to make quit attempt - can ↑ future attempts

Fiore et al., 2008

“5 A’s” Model

1. Ask about tobacco use.
2. Advise to quit.
3. Assess willingness to quit.
4. Assist in quit attempt.
5. Arrange follow-up.

Meds vs. Counseling

- Combination of medication and counseling together is more effective than either alone
- Adding counseling to medication increases quit rates
- Two or more counseling sessions improve quit rates
- Adding meds to counseling also improves outcomes

Nicotine Replacement Therapy

- Appropriate first-line medication
  - Nicotine gum (OTC) – low compliance
  - Nicotine inhaler (prescription) lowest compliance
  - Nicotine lozenge (OTC)
  - Nicotine nasal spray (prescription)
  - Nicotine patch (OTC) – highest compliance
- Efficacy: Increase success 1.5-2 fold compared to placebo, equally efficacious

NRT

Drug Interactions

- Smoking increases the metabolism of some other drugs and after successful smoking cessation drug levels may increase
  - Methadone and buprenorphine
  - Antipsychotic medications
  - Antidepressants
  - Some heart medications

NRT General Precautions

- Common Adverse effects: Headache, dizziness, sleep disturbances, vivid dreams, nausea, vomiting, indigestion, local irritation at administration site.

- Rare: Irregular heart rhythms, rapid heart beat, palpitations, chest pain, BP changes.
  - Increased blood insulin levels & insulin resistance
  - Dizziness, lightheadedness, insomnia, & irritability 1-25%

- Contraindications: Hypersensitivity to nicotine Cardiovascular Disease
  - NRT not independent risk factor
  - Use with caution 1st 2 wks after a heart attack, heart rhythm irregularities, & chest pain

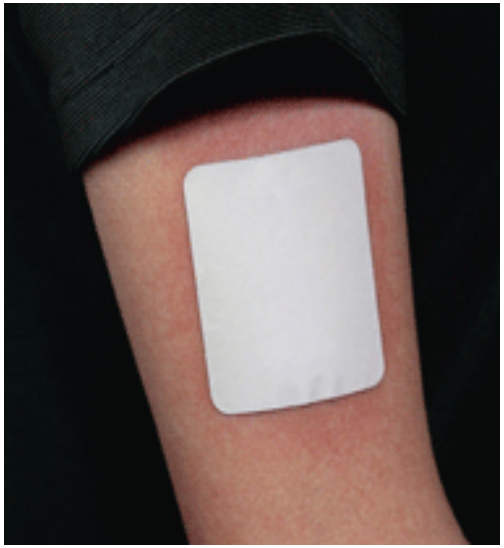
Nicotine Patch

- 7mg/24h, 14mg/24h, 21mg/24h or
  5mg/16h, 10mg/16h, 15mg/15/h

- Peak concentration: 6-12h with initial lag 1-2h

- Smoking > 10 cigarettes/d
  - Weeks 1-6 use one 21mg patch per day
  - Weeks 7-8 use one 14mg patch per day
  - Weeks 9-10 use one 7mg patch per day

- Smoking < 10 cigarettes/d
  - Weeks 1-6 use one 14mg patch per day
  - Weeks 7-8 use one 7 mg patch per day



Nicotine Patch

- Cost
  - Nicotine patch 21mg/24h, 14mg/24h, & 7mg/24h for 14 patches $27.99 ($ from drugstore.com)
- Administration Notes
  - If have vivid dreams/sleep disturbances, remove at bedtime and reapply in the morning
  - If crave cigarettes on awakening wear for 24 h
- Additional side effects
  - Mild skin irritation, usually delayed
  - Moderate irritation in 36%
  - Severe reaction requiring discontinuation in 12%

Nicotine Gum

- Dosage
  - Smokers <25 cigarettes a day use 2 mg gum
  - Smokers >25 cigarettes a day use 4 mg gum

- Use 1 piece every 1-2 hours for the 6 wks, then 1 pc. every 2-4 hours wks 7-9, then 1 pc. every 4-8 hours wks 10-12
- No more than 24 pieces in 24 hours
- Fixed schedule maybe more helpful than using ad lib

Nicotine Gum

- Peak nicotine concentration 15-30 min
- Specific Adverse effects with gum- mechanical (sore jaw) & pharmacological (throat irritation, burning in mouth)
- Instructions: chew & “park” between cheek and gum for long periods
  - Avoid eating/drinking before, during, & after use.
  - Absorption ↓ by acidic environment (juice, soda, coffee)
- FDA Category C
- Cost: 4 mg box of 170 pieces $49.99*

* Prices from drugstore.com

Nicotine Lozenge

- 2 mg / 4 mg
- Heavy smokers (>25 cig/day) or 1st cigarette within 30 min of waking
- Light smokers (< 25 cig/day) use 2 mg
- Instructions
  - Weeks 1-6: 1 lozenge every 1-2 hours
  - Weeks 7-9: 1 lozenge every 2-4 hours
  - Weeks 10-12: 1 lozenge every 4-8 hours
- Maximum 5 lozenges/6h or 20 loz/24h

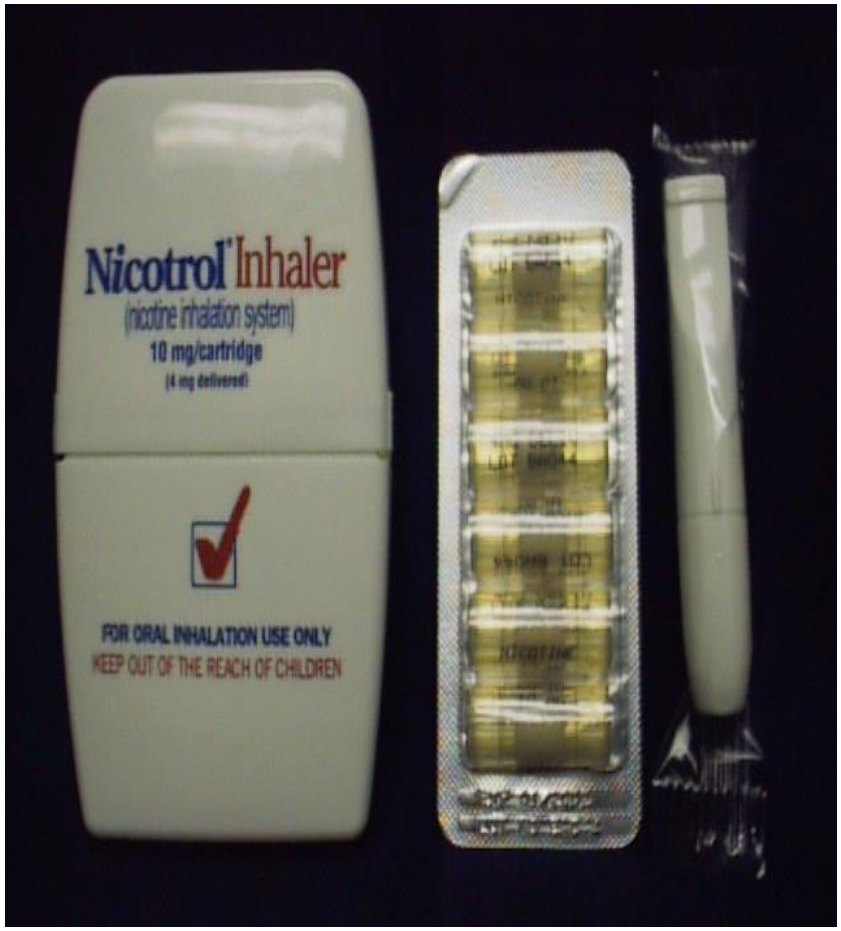
Nicotine Lozenges

- Additional side effects: mild mucosal irritation, on 4 mg also increased h/a & coughing
- Avoid acidic beverages 15 min before and during use
- High dose lozenges may be more efficacious in highly dependent smokers
- Cost: Both 4mg & 2mg for box of 72 pieces $37.59

Comes in flavors!

www.drugstore.com

Nicotine Inhaler



Nicotine Inhaler

- 10 mg/cartridge delivers 4 mg of nicotine
- Peaks 15-20 min
- Nicotine vapor absorbed through mucosa
- Each cartridge provides about 20 minutes of active puffing
  - 80 deep draws or 300 shallow puffs
  - Therapeutic effect best by frequent continuous puffing for 20 minutes.
  - Ten puffs on inhaler = one puff of cigarette

Nicotine Inhaler

- Usual Dose: 6-16 cartridges/day
  - Weeks 1-12, use 6-16 cartridges/day
  - Weeks 13-14 gradual taper
  - No optimal taper recommended
  - Max 16 cartridges/day

- Additional contraindication: hypersensitivity to menthol

Nicotine Inhaler

- Additional Side effects: cough, throat irritation, rhinitis, bronchitis, relapse of asthma
- Acidic beverages interfere with absorption. Water only for 15 min before or during use
- May be particularly helpful for smokers with <20 cig/d and high behavioral dependence
- Cost: Inhaler and168 cartridges $189.76*

*rxzone.us

Nicotine Nasal Spray

- Nicotine content: 10 mg/mL
- Peak concentration: 4-15 minutes
- Venous concentration 2-12 ng/mL
- Most closely approximates the time course of plasma nicotine levels from smoking than other forms of NRT

Nicotine Nasal Spray

- Dosage: One dose = 2 sprays (1 in each nostril)
  - 0.5 mg/spray or 1 mg/per dose
  - Weeks 1-8: 1-2 doses/h with at least 8 doses/d
  - Weeks 9-14: gradual taper
- Maximum dose: 5 doses/h or 40 doses/d
- Additional side effects: coughing, nasal irritation, exacerbation of asthma, transient changes in sense of smell & taste
- Higher abuse potential
- 10ml of spray 35.45*

*Langston Info Services

Choice of NRT

- Equally efficacious
- Patch: GI, nasal & mouth irritation eliminated
- Patch: steady blood levels
- Spray most closely mimics smoking plasma nicotine levels
- Inhaler may assist with behavioral aspects

Bupropion SR

- Precautions
  - Situations with increased risk of seizures.
  - Bipolar Disorder - Increased risk of manic/mixed episode with antidepressant treatment alone
  - Hepatic impairment
  - Renal impairment

- Seizure risk: on 300 mg/d incidence of 0.1%
  - In depression - predisposing factors were alcohol with possible alcohol abuse, history of head trauma

Dunner 1998. JCP

Bupropion SR (Zyban, Wellbutrin SR)

- Appropriate first line treatment
- Action:
  - Weak inhibitor of norepinephrine reuptake
  - Weak inhibitor of dopamine reuptake
  - Noncompetitive inhibitor of NAch receptors
- Doubles odds of quitting
- Nearly 20 RCT relatively less withdrawal symptoms and craving compared to placebo
- Weight gain less during active treatment.

Bupropion SR

- Dosage
  - 150 mg for 3 days then
  - 150 mg twice a day at least 8h apart.
  - Start treatment 1 week before quit date.
  - Continue treatment 7-12 weeks.
  - In presence of severe hepatic cirrhosis reduce dose to max of 150 mg every other day.
- If no progress by 7th week unlikely pt will quit.

Bupropion SR

- Side Effects
  - 300 mg/d 8-12% discontinuation rates due to side effects
  - Most common tremor, rash, h/a, hives
  - Insomnia & dry mouth more likely than placebo

- Cost
  - Bupropion SR 150 mg # 60 $75.99 (generic)

Varenicline (Chantix)

- Appropriate first line treatment
- Action: nicotine partial agonist
  - Mimics nicotine → moderate & sustained dopamine release
  - Blocks subsequent nicotine dopamine release
- Triples odds of quitting compared to placebo
- Precautions
  - Significant renal disease or on dialysis - reduce dose
  - May experience impaired driving ability or operate heavy equipment

Varenicline

- FDA Category C

- FDA Warning February 2008
  - Depressed mood, agitation, behavioral changes, suicidal ideation, & suicide reported during smoking cessation attempts with varenicline. Patients should tell providers about psychiatric history and clinicians should monitor for changes in mood / behavior.

Treatment Comparison

DRUG	Estimated Abstinence Rate
Varenicline (Chantix) (2mg/day)	**33.2**
Varenicline (1mg/day)	**25.4**
Nicotine nasal spray	**26.7**
Nicotine patch (6-14 wks)	**23.4**
High dose nicotine patch (>24mg)	**26.5**
Long-term nicotine patch (>14wks)	**23.7**
Nicotine gum (6-14 wks)	**19.0**
Long-term nicotine gum (>14 wks)	**26.1**
Nicotine inhaler	**24.8**
Bupropion (Zyban)	**24.2**

Fiore 2008

Electronic Cigarettes (e-cig)

- Battery-powered Vaporizer
- Delivers Nicotine
- Risk vs. Benefit Uncertain
  - ? initiate smoking
  - ? useful in cessation

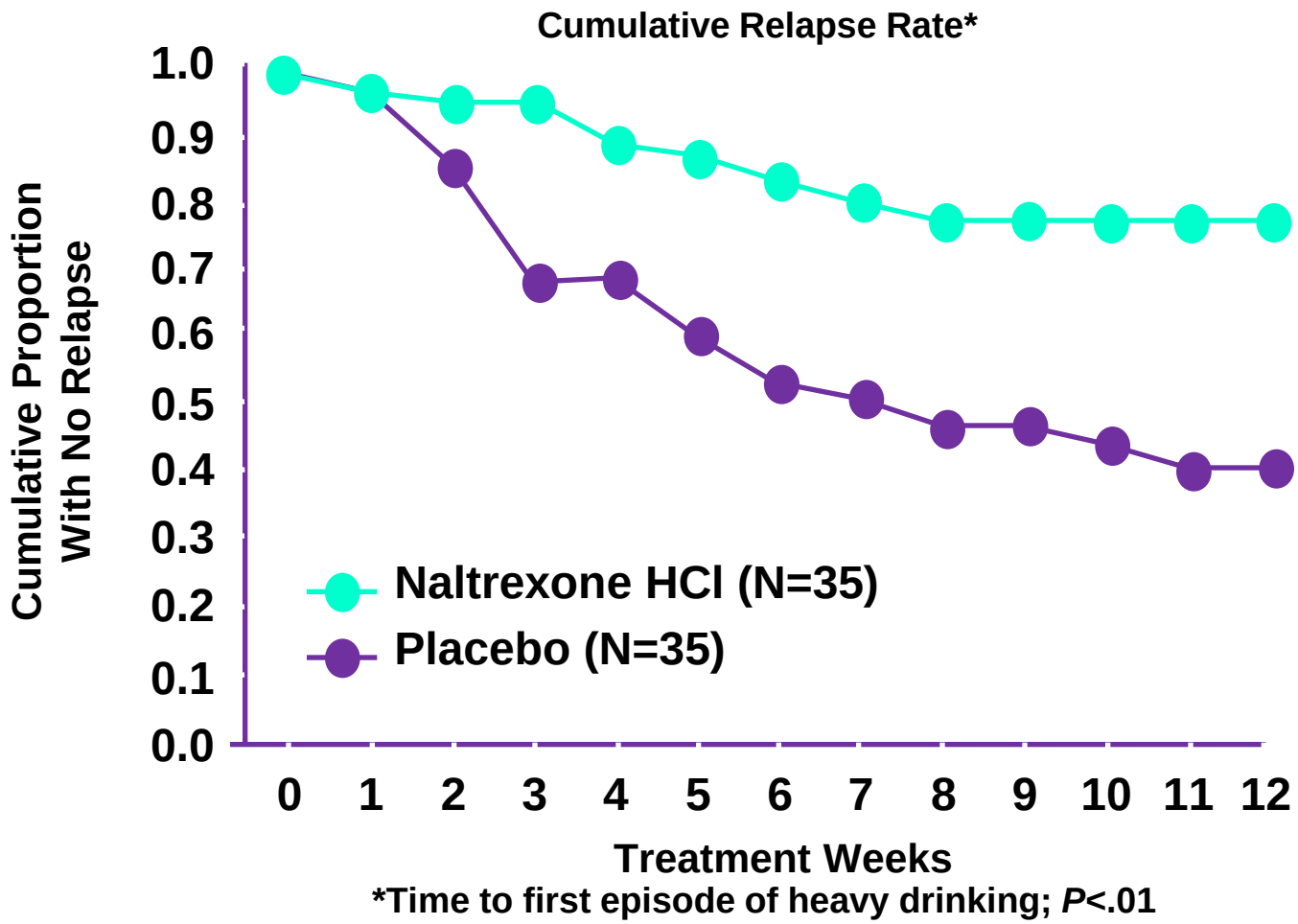
FDA-Approved Medications for Alcohol Dependence

Medication	Target
disulfiram (Antabuse®)	Aldehyde dehydrogenase 1949
naltrexone (Revia®, Depade®)	Opioid receptor 1994
acamprosate (Campral®)	Glutamate receptor 2004
Extended-release naltrexone (Vivitrol®)	Opioid receptor 2006

Medications Tested in Alcohol Dependence

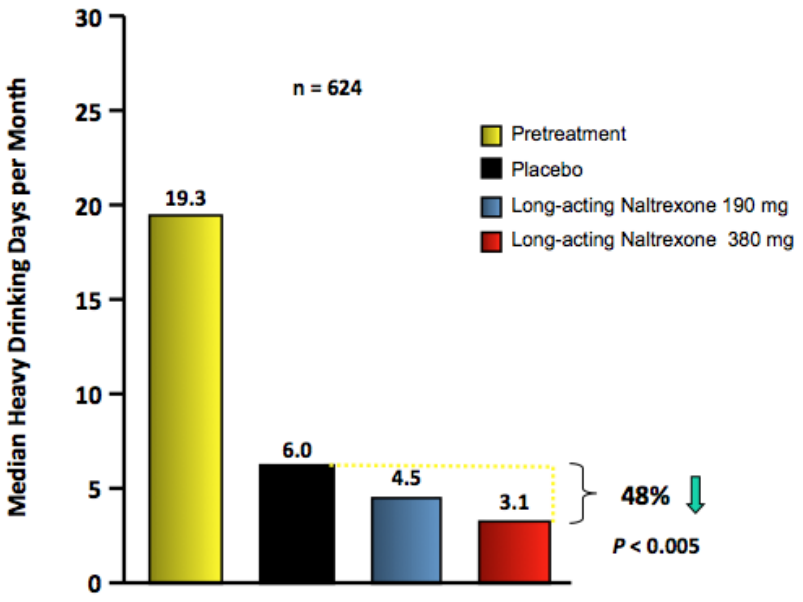
- Aversive agents (disulfiram)
- Serotonin reuptake inhibitors (fluoxetine, sertraline, citalopram)
- Serotonergic agents (ondansetron)
- Opiate antagonists (naltrexone, nalmefene)
- Acamprosate
- Anticonvulsants (topiramate, divalproex)
- Antipsychotics (quetiapine, olanzapine)

Naltrexone in the Treatment of Alcohol Dependence: Primary Outcome



Volpicelli JR, et al. *Arch Gen Psychiatry.* 1992;49:876-880.

Long-acting IM Naltrexone



Heavy drinking defined as ≥ 5 drinks/day for men; ≥ 4 drinks/day for women; naltrexone 380 mg vs. placebo, *P=.03*; naltrexone 190 mg vs. placebo, *P=.07*

- **Primary Efficacy Measure, Event Rate Of Heavy Drinking:**
  - 380 mg group significantly better than placebo ($p < 0.03$)
  - ~48% reduction in median heavy drinking days
    - Baseline 19.3, Placebo 6.0, 380 mg 3.1
  - Benefits observed in both actively drinking and abstinent patients
- **Significant AEs**
  - Mild to moderate nausea (33%), fatigue (20%), decreased appetite
- **Well Tolerated / Favorable Liver Enzyme Profile**
- **AE Drop-outs**
  - 14% (380 mg ND), 7% (190 mg ND), 7% (placebo); *P*=0.01
- **Injection Site Pain**
  - 380 mg vs. placebo (12% vs. 9%, respectively; *P*=0.04)

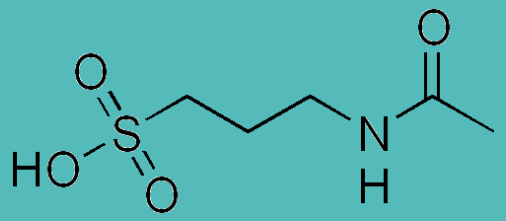
Garbutt JC et al., *JAMA.* 2005; 293:1617-1625

Project COMBINE

- 1,383 Recently abstinent alcoholics
- Naltrexone, acamprosate or combination
- Medical management, behavioral intervention or combination
- Naltrexone group had significant decrease in drinking outcomes
- No effect of acamprosate alone or in combination with naltrexone

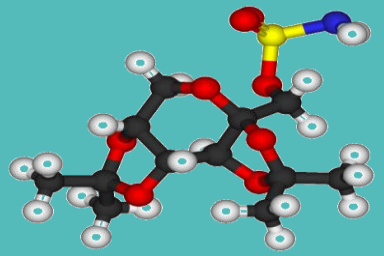
Anton et al., JAMA, 2006

Acamprosate



- Acamprosate is #1 selling alcohol medication in U.S.
- Acamprosate is not being actively marketed by Forest Pharmaceuticals in U.S.
- Recent meta-analysis of 22 acamprosate trials totaling 6,11 subjects (Mason and Lehert, *Alcohol Clin Exp Res* 36:497-508, 2012):
  - A significant effect across various treatment endpoints
  - Men and women respond equally to acamprosate

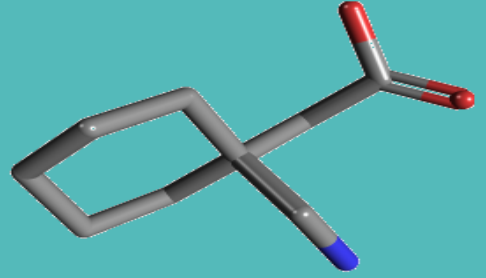
Topiramate



- Targets: GABA, glutamate AMPA and kainate, L-type Ca channels, Na channels
- Approved for treating seizures and migraine
- 17-site trial with 371 alcohol dependent patients: efficacious in improving treatment outcome
- Side-effects: paresthesia, taste perversion, anorexia, difficulty with concentration

Johnson et al., JAMA 298:1641-1651, 2007

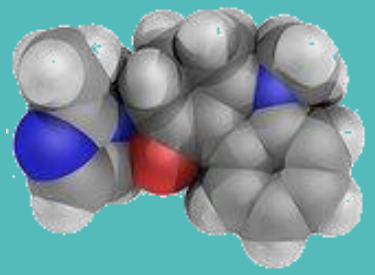
Gabapentin



- Targets: GABA, glutamate
- Approved for treating seizures, pain
- Three independent, single-site studies demonstrate efficacy in improving drinking outcome in alcohol dependent subjects

Mason et al., Addict Biol 14(1):73-83, 2009
Furieri & Nakamura-Palacios, J Clin Psychiatry 68(11):1691-1700, 2007
Karam-Hage & Brower, Am J Psychiatry 157(1):151, 2000

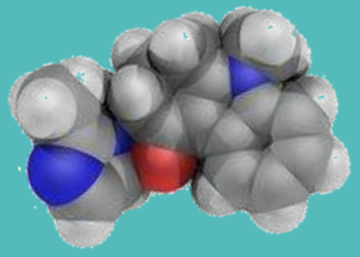
Ondansetron

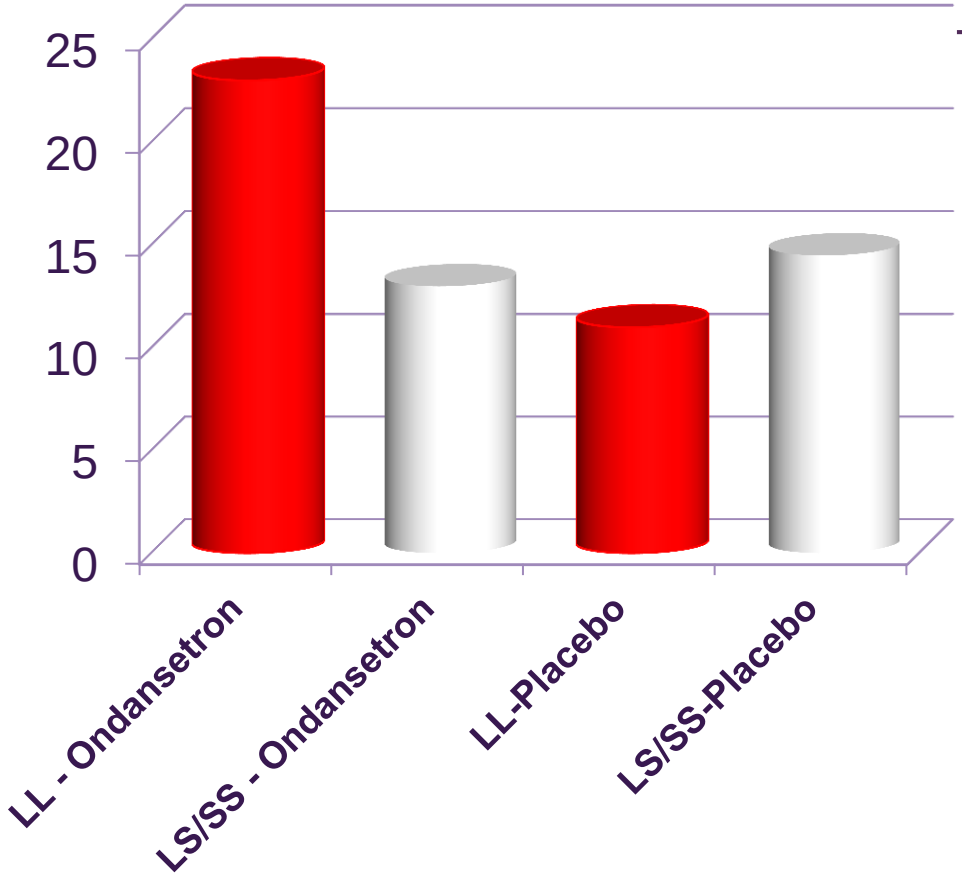


- Target: 5-HT_3 antagonist
- Approved for treating nausea and vomiting
- Single-site trial with 283 alcohol dependent patients: efficacious in improving treatment outcome with specific genotype
- Side-effects: Fatigue
- FDA Alert: Risk of developing prolongation of the QT interval
- Dosing: 8-24 mg/day for nausea versus .33 mg/day for alcohol

Johnson et al., Am J Psychiatry 168:265-275, 2011

Ondansetron



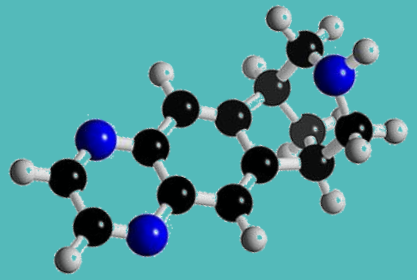


Two genetic variants of serotonin transporter gene

- 5-regulatory region with long form (L) that possesses 44 additional base pairs versus the short (S) form (LL versus LS/SS)
- Rs 1042173 (TT versus TG/GG) in the 3-untranslated region

Johnson et al., Am J Psychiatry 168:265-275, 2011

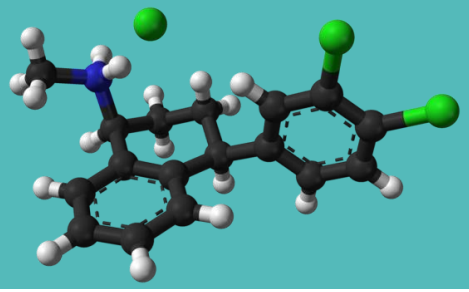
Varenicline



- Targets: nicotinic α4β2
- Approved for nicotine dependence
- Reduced drinking in human lab study and small clinical trial
- Results of a multi-site clinical trial of 200 alcohol-dependent smokers and nonsmokers pending

McKee et al., *Biol Psychiatry* 66:185-190, 2009
Mitchell et al., *Psychopharmacol* online, 2012

Antidepressants (SSRIs)



Depressed Alcoholics

- Antidepressants work well to reduce depression in depressed alcoholics. Impact on drinking is mixed

- SSRI (sertraline) in combination with naltrexone was most effective in improving drinking outcome in depressed alcoholics

Pettinati et al., *Am J Psychiatry* 167:668-675, 2010

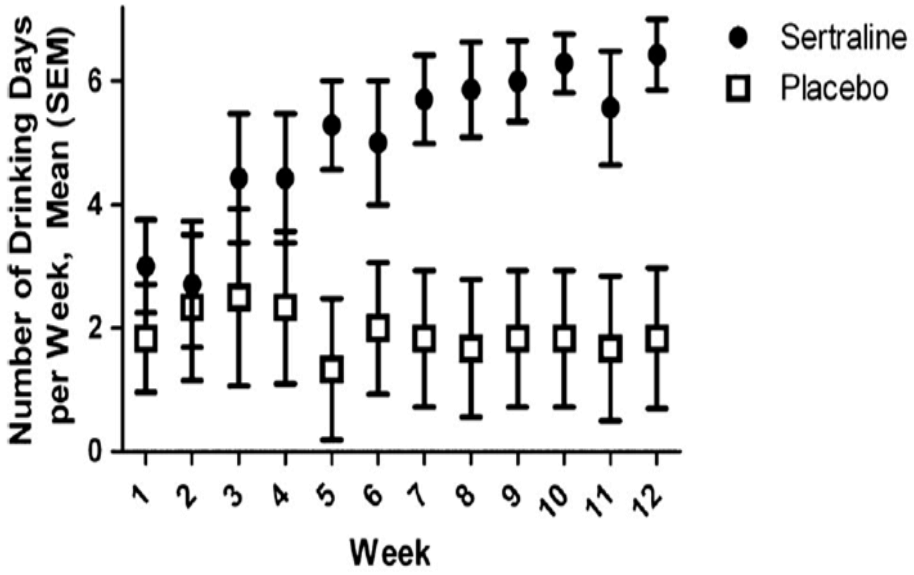
Sertraline and Alcohol

Prospective trial in 134 alcohol-dependent subjects
- Early onset vs. late onset
- LL vs. LS/SS variants of the serotonin transporter gene

Treatment effect varied by onset of alcoholism and genotype

Results
- All LS/SS subjects (early and late onset) experienced no response to sertraline (75% of population)
- LL subjects with early onset had increased consumption with sertraline

L'L' Early Onset



Krantzler et al., 2011

Kranzler et al., *J Clin Psychopharmacol* 31:22-30, 2011

Positive Genetic Influences in Alcohol Pharmacotherapy

Medication	Genetic Variant	Outcome Moderated	Notable Studies
Topiramate	*GRIK1* (rs2832407)	Heavy drinking days (%); side effects	Kranzler et al., 2014 (2); Ray et al., 2009 (4)
Naltrexone	*OPRM1* (Asn40Asp), (rs1799971), DRD4 VNTR	Heavy drinking days (%); abstinence rates; relapse to heavy drinking	Anton et al., 2008 (12); Kim et al., 2009 (13); Oslin et al., 2003 (14); Tidey et al., 2008 (15)
Ondansetron	LL/LS/SS (5-HTTLPR) (rs1042173), *SLC6A4* (5-HTTLPR)	Drinks per drinking day; days abstinent (%)	Johnson et al., 2011 (9)
Sertraline	5-HTTLPR triallelic *SLC6A4*	Heavy drinking days (%); drinking days (%)	Kranzler et al., 2011 (8)
Acamprosate	*GATA4* (rs1327367)	Relapse	Kiefer et al., 2011 (10)
Disulfiram	*DBH* (rs161115)	Adverse events	Mutschler et al., 2012 (11)

S.L. Batki and D. L. Pennington Editorial
Am J Psychiatry 171:4, April 2014

Conclusions

- Across two decades, solid advances in medications development
- Many exciting possibilities

References

- Anton RF, O'Malley SS, Ciraulo DA, Cisler RA, Couper D, Donovan DM, et al. Combined pharmacotherapies and behavioral interventions for alcohol dependence: the COMBINE study: a randomized controlled trial. JAMA. 2006;295(17):2003-17. doi: 10.1001/jama.295.17.2003. PubMed PMID: 16670409.

- Batki SL, Pennington DL. Toward personalized medicine in the pharmacotherapy of alcohol use disorder: targeting patient genes and patient goals. Am J Psychiatry. 2014;171(4):391-4. doi: 10.1176/appi.ajp.2014.14010061. PubMed PMID: 24687193.

- Dunner DL, Zisook S, Billow AA, Batey SR, Johnston JA, Ascher JA. A prospective safety surveillance study for bupropion sustained-release in the treatment of depression. J Clin Psychiatry. 1998;59(7):366-73. PubMed PMID: 9714265.

References (cont.)

- Fiore M, Jaen C, Baker T, Bailey WC, Benowitz NL, Curry SJ, et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service; May 2008.
- Furieri FA, Nakamura-Palacios EM. Gabapentin reduces alcohol consumption and craving: a randomized, double-blind, placebo-controlled trial. J Clin Psychiatry. 2007;68(11):1691-1700.
- Garbutt JC, Kranzler HR, O'Malley SS. Vivitrex Study Group. Efficacy and tolerability of long-acting injectable naltrexone for alcohol dependence: a randomized controlled trial. JAMA. 2005;293:1617-1625.
- Johnson BA, Rosenthal N, Capece JA, Wiegand F, Mao L, Beyers K, et al. Topiramate for treating alcohol dependence: a randomized controlled trial. JAMA. 2007;298(14):1641-51. doi: 10.1001/jama.298.14.1641. PubMed PMID: 17925516.
- Kalman D, Morissette SB, George TP. Co-morbidity of smoking in patients with psychiatric and substance use disorders. Am J Addict. 2005;14(2):106-23. doi: 10.1080/10550490590924728. PubMed PMID: 16019961; PubMed Central PMCID: PMC1199553.
- Karam-Hage M, Brower KJ. Am J Psychiatry. 2000;157(1):151.
- Kranzler HR, Armeli S, Tennen H, Covault J, Feinn R, Arias AJ, et al. A double-blind, randomized trial of sertraline for alcohol dependence: moderation by age of onset [corrected] and 5-hydroxytryptamine transporter-linked promoter region genotype. J Clin Psychopharmacol. 2011;31(1):22-30. doi: 10.1097/JCP.0b013e31820465fa. PubMed PMID: 21192139; PubMed Central PMCID: PMC3130300.

References (cont.)

- Litten RZ, Egli M, Heilig M, Cui C, Fertig JB, Ryan ML, et al. Medications development to treat alcohol dependence: a vision for the next decade. Addict Biol. 2012;17(3):513-27. doi: 10.1111/j.1369-1600.2012.00454.x. PubMed PMID: 22458728; PubMed Central PMCID: PMC3484365.

- Mason BJ, Quello S, Goodell V, Shadan F, Kyle M, Begovic A. Gabapentin treatment for alcohol dependence: a randomized clinical trial. JAMA Intern Med. 2014;174(1):70-77.

- Pettinati HM, Oslin DW, Kampman KM, Dundon WD, Xie H, Gallis TL, et al. A double-blind, placebo-controlled trial combining sertraline and naltrexone for treating co-occurring depression and alcohol dependence. Am J Psychiatry. 2010;167(6):668-75. doi: 10.1176/appi.ajp.2009.08060852. PubMed PMID: 20231324; PubMed Central PMCID: PMC3121313.

- Silagy C, Lancaster T., Stead L, Mant D, Fowler G. Nicotine replacement therapy for smoking cessation. Cochrane Database of Systematic Reviews 2004, Issue 3. Art. No.: CD000146. DOI: 10.1002/14651858.CD000146.pur2.

- Volpicelli JR, Alterman AI, Hayashida M, O'Brien CP. Naltrexone in the treatment of alcohol dependence. Arch Gen Psychiatry. 1992;49(11):876-80. PubMed PMID: 1345133.

PCSS-MAT Mentoring Program

- PCSS-MAT Mentor Program is designed to offer general information to clinicians about evidence-based clinical practices in prescribing medications for opioid addiction.
- PCSS-MAT Mentors comprise a national network of trained providers with expertise in **medication-assisted treatment, addictions** and **clinical education**.
- Our 3-tiered mentoring approach allows every mentor/mentee relationship to be unique and catered to the specific needs of both parties.
- The mentoring program is available, at no cost to providers.

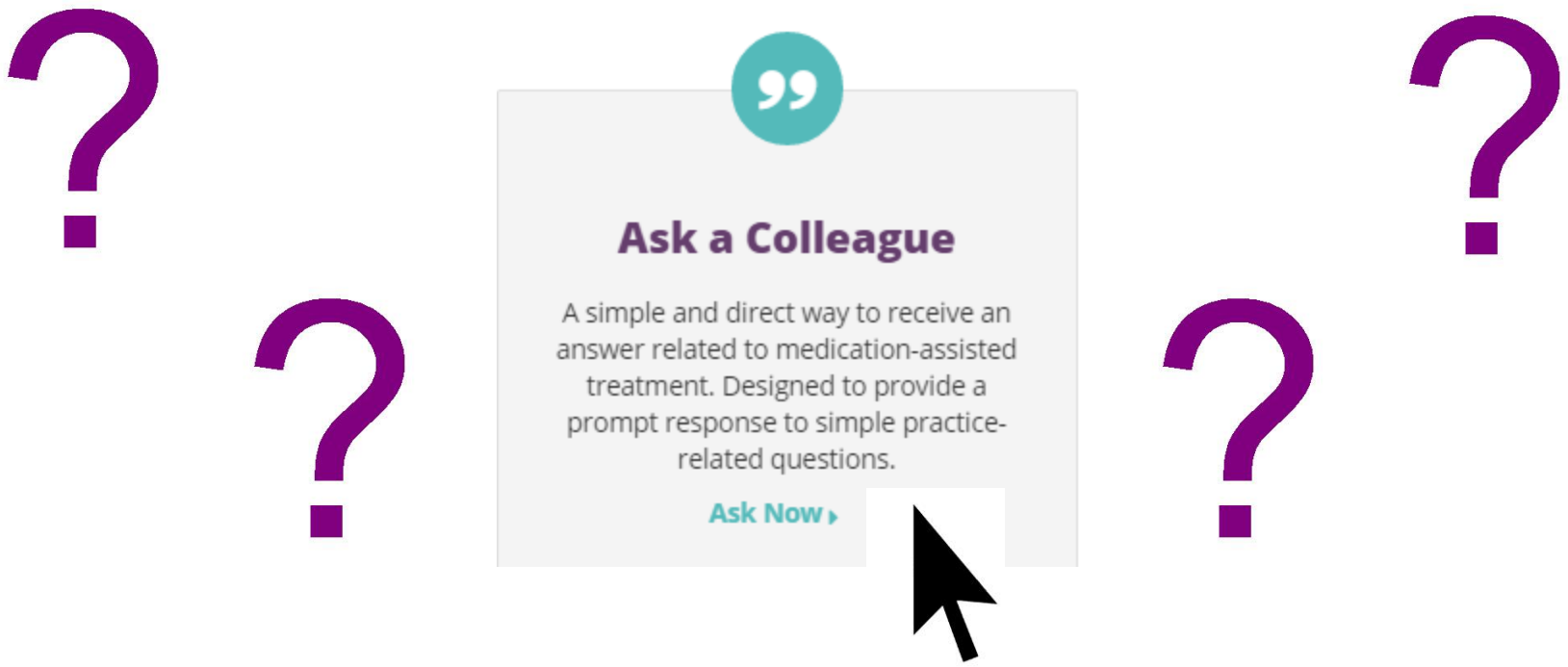
For more information on requesting or becoming a mentor visit:

pcssmat.org/mentoring

PCSS MAT TRAINING
PROVIDERS' CLINICAL SUPPORT SYSTEM
For Medication Assisted Treatment

PCSS-MAT Listserv

Have a clinical question? Please click the box below!



MAT TRAINING

PROVIDERS' CLINICAL SUPPORT SYSTEM
For Medication Assisted Treatment

PCSSMAT is a collaborative effort led by American Academy of Addiction Psychiatry (AAAP) in partnership with: American Osteopathic Academy of Addiction Medicine (AOAAM), American Psychiatric Association (APA) and American Society of Addiction Medicine (ASAM).

For More Information: **www.pcssmat.org**

Twitter: @PCSSProjects

Funding for this initiative was made possible (in part) by Providers' Clinical Support System for Medication Assisted Treatment (5U79TI024697) from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Please Click the Link Below to Access the Post Test for this Online Module

Click here to take the Module Post Test

Upon completion of the Post Test:

- If you pass the Post Test with a grade of 80% or higher, you will be instructed to click a link which will bring you to the Online Module Evaluation Survey. Upon completion of the Online Module Evaluation Survey, you will receive a CME Credit Certificate or Certificate of Completion via email.

- If you received a grade of 79% or lower on the Post Test, you will be instructed to review the Online Module once more and retake the Post Test. You will then be instructed to click a link which will bring you to the Online Module Evaluation Survey. Upon completion of the Online Module Evaluation Survey, you will receive a CME Credit Certificate or Certificate of Completion via email.

- After successfully passing, you will receive an email detailing correct answers, explanations and references for each question of the Post Test.