



# Carlat Psychiatry Practice Boosters

## Fourth Edition (2023)

### Study Guide

#### Learning Objectives

Describe the clinical practice implications of some of the current findings in the literature regarding the following topics:

1. Substance use
2. Child and adolescent psychiatry
3. Geriatric psychiatry
4. Managing adverse effects of treatments
5. Mood disorders
6. Post-traumatic stress disorder

#### Substance Use

1. In a network meta-analysis of six head-to-head randomized controlled trials (RCTs) comparing antipsychotics for methamphetamine psychosis (MAP), what was concluded about antipsychotics (LO #1)?
  - a. Aripiprazole was superior to olanzapine and risperidone
  - b. Quetiapine and risperidone were superior to olanzapine and aripiprazole
  - c. Quetiapine and olanzapine were superior to aripiprazole and risperidone
  - d. Haloperidol and risperidone were superior to olanzapine and quetiapine
2. How did gabapentin compare to placebo for drinking outcomes in a 2020 study of patients with alcohol use disorder (AUD) and a self-reported history of alcohol withdrawal syndrome (AWS) (LO #1)?
  - a. The percentage of heavy drinking days was similar between gabapentin and placebo
  - b. More gabapentin-treated patients achieved abstinence and had no heavy drinking days compared to placebo
  - c. Only patients with histories of less severe AWS had significantly better drinking outcomes with gabapentin compared to placebo
  - d. There were no significant differences between gabapentin and placebo for any drinking outcome

3. According to a 2021 systematic review and meta-analysis of gambling problems, what was the effect size of internet-based treatment programs for gambling symptoms (LO #1)?
  - a. Minimal (0–0.2)
  - b. Small (0.2–0.5)
  - c. Moderate (0.5–0.8)
  - d. No significant effect
  
4. According to a systematic review and meta-analysis, manualized Alcoholics Anonymous (AA)/twelve-step facilitation (TSF) for alcohol use disorder (AUD) produced higher rates of continuous abstinence at 12 months compared to other clinical interventions (LO #1).
  - a. True
  - b. False
  
5. In a 2021 study of medications for alcohol use disorder (AUD), what was concluded about the efficacy of various treatments for hospitalizations due to AUD (LO #1)?
  - a. Naltrexone plus either disulfiram or acamprosate was associated with the greatest reduction in rates of hospitalization
  - b. Naltrexone monotherapy was associated with the greatest reduction in rates of hospitalization
  - c. Acamprosate monotherapy was associated with the greatest reduction in rates of hospitalization
  - d. Disulfiram monotherapy was associated with the greatest reduction in rates of hospitalization
  
6. In a 2021 study of methamphetamine use disorder, combination naltrexone-buprenorphine was significantly more effective than placebo in terms of treatment response, with a number needed to treat (NNT) of 9 (LO #1).
  - a. True
  - b. False
  
7. A 2022 systematic review and meta-analysis of patients with opioid use disorder (OUD) concluded that opioid agonist treatment (OAT), specifically methadone and buprenorphine, was associated with significantly decreased risks of all-cause mortality, suicide, and unintentional drug overdoses (LO #1).
  - a. True
  - b. False

8. A 2021 retrospective cohort study investigated liver transplant (LT) outcomes for patients with fewer than 180 days of alcohol abstinence (early LT) versus greater than 180 days (standard LT). What was concluded (LO #1)?
  - a. One- and three-year survival rates were higher in the standard LT group
  - b. One- and three-year survival rates were higher in the early LT group
  - c. One-year survival rates were higher in the standard LT group, but three-year survival rates were higher in the early LT group
  - d. One- and three-year survival rates were similar between groups
  
9. In a study of psychiatric patients, how did smoking cessation outcomes differ for sustained care (SC, defined as a pre-discharge motivational interviewing session, nicotine patches on discharge, post-discharge phone-, text-, or internet-based cessation counseling, and post-discharge automated interactive calls or texts) versus treatment as usual (TAU, defined as nicotine replacement therapy and smoking cessation information) at six months post-discharge (LO #1)?
  - a. SC was associated with greater rates of abstinence and smoking cessation treatment use
  - b. TAU was associated with greater rates of abstinence and smoking cessation treatment use
  - c. SC was associated with greater rates of smoking cessation treatment use but did not differ from TAU in rates of abstinence
  - d. Rates of smoking cessation treatment use and abstinence were similar between SC and TAU
  
10. According to a study of incarcerated individuals with opioid use disorder (OUD), compared to sublingual buprenorphine/naloxone (SL-BUP), what effect did subcutaneous injected extended-release buprenorphine (XR-BUP; Sublocade) have on clinical outcomes at eight weeks post-release (LO #1)?
  - a. XR-BUP and SL-BUP had similar durations of treatment adherence
  - b. XR-BUP was associated with greater rates of opioid overdose
  - c. XR-BUP was associated with a two-fold increase in treatment retention
  - d. XR-BUP was associated with fewer opioid-free urine drug screens
  
11. For patients with opioid use disorder (OUD), which factors are predictive of a greater likelihood for successful initiation of buprenorphine-naloxone (BUP) compared to long-acting injectable naltrexone (XR-NTX) (LO #1)?
  - a. Presence of chronic pain
  - b. Having no preference for BUP
  - c. Being homeless
  - d. Being on probation/parole

## Child and Adolescent Psychiatry

12. A 2021 systematic review and meta-analysis revealed that the prevalence of ADHD is higher in Black Americans compared to that of the general population, and that in juvenile offenders, Black youth were less likely to be diagnosed with ADHD (LO #2).
- True
  - False
13. What was concluded in a 2019 case-control study of children with ADHD (LO #2)?
- ADHD treatment significantly reduced the risk of conviction and incarceration for females but only reduced the risk of conviction for males, compared to unmedicated periods
  - ADHD treatment significantly reduced the risk of conviction and incarceration for males but only reduced the risk of conviction for females, compared to unmedicated periods
  - ADHD treatment significantly increased the risk of conviction and incarceration for males but only increased the risk of conviction for females, compared to unmedicated periods
  - ADHD treatment significantly increased the risk of conviction and incarceration for females but only increased the risk of conviction for males, compared to unmedicated periods
14. In a 2021 trial of antipsychotics for youths with a history of being physically assaultive, how did the investigated antipsychotics rank for preventing violence (LO #2)? [1 = most efficacious; 3 = least efficacious]
- 1) olanzapine; 2) haloperidol; 3) clozapine
  - 1) olanzapine; 2) clozapine; 3) haloperidol
  - 1) clozapine; 2) olanzapine; 3) haloperidol
  - 1) clozapine; 2) haloperidol; 3) olanzapine
15. A 2020 study investigating psychiatric outcomes associated with age of initiating gender-affirming medical care (GAMC) in transgender youth found that starting GAMC after age 15 was associated with higher rates of depression, self-harm, suicide attempts, and psychiatric medication use compared to those who initiated treatment before age 15 (LO #2).
- True
  - False
16. According to a recent study in adolescents and transitional-age youth, what was the effect of electroconvulsive therapy (ECT) on depressive symptoms and cognition after 10 ECT treatments (LO #2)?
- ECT was not associated with depressive symptom improvement or clinically meaningful changes in cognition
  - ECT was associated with depressive symptom improvement but no clinically meaningful changes in cognition

- c. ECT was associated with depressive symptom improvement and clinically meaningful worsening of cognition
  - d. ECT was not associated with depressive symptom improvement but resulted in clinically meaningful worsening of cognition
17. Compared to midazolam, what effect did a single ketamine infusion have on depressive symptoms in a small trial of adolescents with major depressive disorder (MDD) (LO #2)?
- a. Ketamine significantly reduced depressive symptoms with a greater effect size than midazolam
  - b. Midazolam significantly reduced depressive symptoms with a greater effect size than ketamine
  - c. Ketamine and midazolam produced similar effects at day 14
  - d. Neither ketamine nor midazolam had a significant effect at day 14
18. Based on a systematic review of child and adolescent eating disorder studies, 2020 practice guidelines for anorexia nervosa and bulimia nervosa recommend family-based interventions and providing treatment in less restrictive environments (LO #2).
- a. True
  - b. False
19. According to a 2021 study of pediatric acute-onset neuropsychiatric syndrome (PANS), intravenous immunoglobulin (IVIG) had what effect on Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS) and Clinical Global Impressions Scale (CGI-S) scores at eight weeks (LO #2)?
- a. Neither CY-BOCS nor CGI-S scores significantly improved
  - b. CY-BOCS scores significantly improved but CGI-S scores did not
  - c. CGI-S scores significantly improved but CY-BOCS scores did not
  - d. Both CY-BOCS and CGI-S scores significantly improved
20. According to a 2022 study of youth with avoidant/restrictive food intake disorder (ARFID), how effective were SSRIs, with or without hydroxyzine, for weight gain and psychiatric symptoms (LO #2)?
- a. SSRIs had no effect on weight gain but improved depressive symptoms
  - b. SSRIs + hydroxyzine were associated with weight gain and depressive symptom reduction, while SSRIs alone had no positive effect
  - c. SSRIs improved weight gain but had no effect on fear of eating
  - d. SSRIs + hydroxyzine were associated with weight gain and reductions in anxiety, depression, and fear of eating

21. According to a systematic review and meta-analysis of adjunctive vitamin D for youths with ADHD, adjunctive vitamin D significantly improved parent-rated ADHD symptom severity (LO #2).
- True
  - False
22. According to a 2020 systematic review and meta-analysis of medications for pediatric patients, which were concluded to have the best-in-class side effect profiles (LO #2)? [AD = antidepressant; AP = antipsychotic; ADHD-M = ADHD medication; MS = mood stabilizer]
- AD: venlafaxine; AP: olanzapine; ADHD-M: atomoxetine; MS: valproate
  - AD: escitalopram & fluoxetine; AP: lurasidone; ADHD-M: methylphenidate; MS: lithium
  - AD: sertraline; AP: asenapine; ADHD-M: lisdexamfetamine; MS: lithium
  - AD: venlafaxine; AP: aripiprazole; ADHD-M: guanfacine; MS: valproate

### Geriatric Psychiatry

23. In a 2021 study of patients with possible or probable Alzheimer's dementia with significant agitation, what was the efficacy of mirtazapine versus placebo for agitation and secondary outcomes (LO #3)?
- Mirtazapine significantly improved agitation and reduced caregiver burden
  - Mirtazapine significantly improved agitation and increased caregiver burden
  - Mirtazapine did not improve agitation and increased caregiver burden
  - Mirtazapine did not improve agitation and reduced caregiver burden
24. In a 2021 study, researchers found that sleeping less than six hours during the span of ages 50,60, and 70 was associated with a 30% increased risk of dementia compared to sleeping seven hours per night (LO #3).
- True
  - False
25. According to a 2022 study of patients with moderate bilateral hearing loss, what effect did hearing aids have on depression scores compared to the control group of follow-up appointments (LO #3)?
- Hearing aids significantly improved depression scores
  - Hearing aids improved depression scores, but the effect was not significant
  - Hearing aids significantly worsened depression scores
  - Hearing aids worsened depression scores, but the effect was not significant

26. In a 2021 longitudinal study of participants ages 50 years and older, what was concluded about depression and levels of vitamin B<sub>12</sub> and folate over four years of follow-up (LO #3)?
- Deficient B<sub>12</sub> and folate were associated with increased likelihood of depression
  - Only deficient B<sub>12</sub> was associated with increased likelihood of depression
  - Only deficient folate was associated with increased likelihood of depression
  - Neither deficient B<sub>12</sub> nor folate were associated with increased likelihood of depression
27. In a 2020 study involving patients who were hospitalized for the first time for a mood disorder, how did rates of dementia differ between those who were started on a benzodiazepine or z-hypnotic versus those who were not (LO #3)?
- Z-hypnotics, but not benzodiazepines, were associated with increased rates of dementia
  - Benzodiazepines, but not z-hypnotics, were associated with increased rates of dementia
  - Both z-hypnotics and benzodiazepines were associated with increased rates of dementia
  - Neither z-hypnotics nor benzodiazepines were associated with increased rates of dementia
28. According to a study involving patients with a history of intracerebral hemorrhage (ICH) and post-stroke depression, what was concluded about ICH recurrence and depressive symptom improvement in those who were treated with an SSRI versus those who weren't (LO #3)?
- SSRIs were not associated with increased rates of ICH recurrence or depressive symptom improvement
  - SSRIs were associated with increased rates of ICH recurrence and depressive symptom improvement
  - SSRIs improved depressive symptoms only for patients at high risk for a recurrent stroke
  - SSRIs improved depressive symptoms only at higher doses compared to lower doses

### **Managing Adverse Effects of Treatments**

29. Based on findings from a 2021 study of adults under age 65 with schizophrenia or schizoaffective disorder, what was the relationship between anticholinergic burden and cognition (LO #4)?
- Higher anticholinergic burden was associated with significantly worse cognition for those with schizoaffective disorder but not schizophrenia
  - Higher anticholinergic burden was associated with significantly worse cognition for those with schizophrenia but not schizoaffective disorder
  - Higher anticholinergic burden was associated with significantly worse cognition for both those with schizophrenia and those with schizoaffective disorder
  - There was no association between anticholinergic burden and cognition scores

30. Compared to adjunctive placebo, what was concluded about adjunctive citalopram in mood stabilizer therapy for patients with bipolar I or II depression (LO #4)?
- Citalopram significantly improved depression and manic symptoms at week six
  - Citalopram significantly improved depression and manic symptoms at one year follow-up
  - Citalopram significantly increased rates of hypomanic episodes at one year follow-up
  - Citalopram showed no significant benefits for depressive or manic symptoms and worsened manic symptoms in those with a history of rapid cycling
31. According to a dose-response meta-analysis, which antipsychotics for schizophrenia and schizoaffective disorder exhibit dose-response curves that plateau, implying no extra benefit with further dose escalations (LO #4)?
- Clozapine, lurasidone, and olanzapine
  - Aripiprazole, haloperidol, and lurasidone
  - Brexpiprazole, cariprazine, and quetiapine
  - Brexpiprazole, clozapine, and risperidone
32. In a study of adults (older than 65 years) without heart disease, patients taking which medication class were more likely to meet criteria for clinically significant depression compared to other antihypertensive classes (LO #4)?
- Calcium channel blockers
  - Angiotensin-converting enzyme inhibitors
  - Angiotensin receptor blockers
  - Beta-blockers
33. According to a recent meta-analysis, duloxetine, vortioxetine, levomilnacipran, venlafaxine, and desvenlafaxine are the five antidepressants most likely to induce which side effect (LO #4)?
- Abdominal pain
  - Nausea/vomiting
  - Increased appetite
  - Diarrhea



34. Compared to unexposed women, what was concluded about lithium use for mood disorders during pregnancy (LO #4)?
- Lithium use at any time during pregnancy was associated with higher rates of congenital but not cardiac anomalies
  - Lithium use at any time during pregnancy was associated with higher rates of cardiac but not other congenital anomalies
  - Lithium use at any time during pregnancy was associated with higher rates of both cardiac and other congenital anomalies
  - Lithium use at any time during pregnancy was associated with higher rates of neither cardiac nor other congenital anomalies
35. A 2020 trial involving patients with schizophrenia found that those randomized to combination olanzapine/samidorphan gained significantly less weight than those randomized to olanzapine alone at week 24 (LO #4).
- True
  - False
36. Compared with olive-oil placebo, what effect did adding omega-3s (3:1 EPA:DHA) to antipsychotic therapy have on metabolic outcomes in patients with schizophrenia (LO #4)?
- Rate of metabolic syndrome significantly decreased in the treatment group at week 26
  - Rate of metabolic syndrome significantly increased in the placebo group at week eight
  - The placebo group showed significant reductions in blood glucose versus the treatment group
  - The treatment group had significantly reduced rate of metabolic syndrome but increased total cholesterol levels compared to placebo
37. According to a recent study of antipsychotic polypharmacy versus monotherapy in schizophrenia, which combination of antipsychotics was associated with the lowest risk of psychiatric rehospitalization (LO #4)?
- Risperidone and quetiapine
  - Cariprazine and haloperidol
  - Olanzapine and lurasidone
  - Aripiprazole and clozapine

38. In a study involving male patients with treatment-resistant schizophrenia and hyperprolactinemia receiving antipsychotic therapy, how did add-on vitamin B<sub>6</sub> compare to low-dose aripiprazole for reducing prolactin levels (LO #4)?
- Neither was associated with a statistically significant reduction of prolactin until week 16
  - Vitamin B<sub>6</sub> continued to reduce prolactin levels through week 16, but the efficacy of aripiprazole plateaued at week 8
  - Neither was associated with a statistically significant reduction of prolactin until week 8
  - Aripiprazole continued to reduce prolactin levels through week 16, but the efficacy of vitamin B<sub>6</sub> plateaued at week 8

### **Mood Disorders**

39. A 2019 study involved patients with psychotic depression who achieved and maintained remission for eight weeks with olanzapine + sertraline. They were randomized to either continue olanzapine or switch from olanzapine to placebo and monitored for 36 weeks. Relapse was defined as experiencing either mood or psychotic symptoms. What was concluded about relapse rates between the groups (LO #5)?
- 55% of patients in the sertraline + olanzapine group relapsed versus 92% in the sertraline + placebo group
  - 20% of patients in the sertraline + olanzapine group relapsed versus 55% in the sertraline + placebo group
  - 5% of patients in the sertraline + olanzapine group relapsed versus 20% in the sertraline + placebo group
  - Rates of relapse were comparable between groups
40. According to a recent study of patients with major depressive disorder, how did nonresponders to either 12 weeks of cognitive behavioral therapy (CBT) or medication (escitalopram or duloxetine) differ in terms of suicidality (LO #5)?
- CBT nonresponders had increased suicidal ideation, while medication nonresponders had decreased suicidal ideation
  - CBT nonresponders had decreased suicidal ideation, while medication nonresponders had increased suicidal ideation
  - Both CBT and medication nonresponders had decreased suicidal ideation
  - Both CBT and medication nonresponders had increased suicidal ideation
41. According to a recent systematic review and meta-analysis of aripiprazole for antidepressant augmentation in treatment-resistant depression, what aripiprazole dose range had the optimal balance of efficacy and tolerability (LO #5)?
- 1–2 mg
  - 2–5 mg
  - 5–10 mg
  - 10–15 mg

42. After three weeks, brexpiprazole did not separate from placebo on the primary outcome of mean change in Young Mania Rating Scale (YMRS) total score in two randomized controlled trials (RCTs) of acute bipolar I mania (LO #5).
- True
  - False
43. A retrospective study of cancer patients who purchased an antidepressant prescription over the four-year study period found that antidepressant-adherent patients lived no longer than minimally adherent or non-adherent patients (LO #5).
- True
  - False
44. In a pooled data analysis of patients with moderate to severe major depression who were already receiving treatment (antidepressants, antipsychotics, and/or benzodiazepines), how did response and remissions compare between add-on minocycline and placebo (LO #5)?
- The minocycline group was two times more likely to achieve response (Hamilton Rating Scale for Depression [HAMD] reduction of 50% or more) but had equal likelihood of achieving remission (HAMD less than 7) compared to placebo
  - The minocycline group was four times more likely to achieve both response and remission compared to placebo
  - Response and remission rates were comparable between minocycline and placebo
  - The minocycline group was two times more likely to achieve remission but had equal likelihood of achieving response compared to placebo
45. According to a trial of lumateperone for bipolar I and II depression, what was the effect size of lumateperone for depressive symptom severity compared to placebo (LO #5)?
- Weak (0–0.19)
  - Small (0.20–0.49)
  - Medium (0.50–0.79)
  - Large ( $\geq 0.80$ )
46. According to a dose-response meta-analysis of antidepressants (SSRIs, venlafaxine, and mirtazapine) for major depression, what dose range was associated with the best balance of efficacy, tolerability, and acceptability (LO #5)?
- Low to medium doses (equivalent to 20–40 mg of fluoxetine)
  - Medium to high doses (equivalent to 40–80 mg of fluoxetine)
  - Higher doses (equivalent to  $>80$  mg of fluoxetine)
  - There was no discernable dose range with the best balance

47. Compared to placebo, what effects did oral zuranolone have for women with postpartum depression (LO #5)?
- Zuranolone significantly increased depression scores by day 15
  - Zuranolone significantly reduced depression scores by day three with an effect size of 0.53, which was maintained through day 45
  - Zuranolone significantly reduced depression scores by day 25 with an effect size of 0.24, which significantly diminished to baseline scores at day 45
  - Zuranolone did not separate from placebo
48. In a 2021 study of moderate post-stroke depression, researchers found that 10 sessions of a higher-dose repetitive transcranial magnetic stimulation (rTMS) protocol (3,000 pulses at 10 Hz per session) significantly reduced depression severity compared to sham treatment but was associated with significant adverse effects (LO #5).
- True
  - False

## PTSD

49. In a study of veterans with combat-related PTSD, compared to placebo (inactivated negative ion generator), what was the effect size of morning bright light treatment on the Clinician Assessed PTSD Scale (CAPS) and Clinician Global Impressions Scale (CGI) after four weeks of treatment (LO #6)?
- Weak (0–0.19)
  - Small (0.20–0.49)
  - Medium (0.50–0.79)
  - Large ( $\geq 0.80$ )
50. In two separate randomized controlled trials involving veterans with combat-related PTSD, what was concluded about mirtazapine monotherapy (study 1) and riluzole augmentation of SSRI or SNRI therapy (study 2) on the studies' primary outcome of PTSD symptom change compared to placebo (LO #6)?
- Both mirtazapine and riluzole were positive on the primary outcome
  - Only mirtazapine was positive on the primary outcome
  - Only riluzole was positive on the primary outcome
  - Both mirtazapine and riluzole were negative on the primary outcome