

SCCA PSYCHOTROPIC MEDICATION GUIDELINES: ANTIDEPRESSANTS

NAME GENERIC (TRADE)	DOSAGE	KEY CLINICAL INFORMATION
Bupropion (Wellbutrin)	Start: IR-100 mg bid X 7d then ↑ to 100 mg tid if tolerated; SR-150 mg qam X 7d then ↑ to 150 mg bid if tolerated; XL-150 mg qam X 7d, then ↑ to 300 mg qam if tolerated. Range: 300-450 mg/d.	Novel mechanism of action (similar in structure to amphetamines). FDA approved for depression and SAD (and Smoking Cessation – Zyban). May help w/ fatigue. T ½: 21 hr. Common side effects: agitation, anxiety, insomnia, dry mouth, nausea, pharyngitis, & weight loss. Contraindicated in seizure disorder because it decreases seizure threshold; stimulating; not good for tx anxiety disorders; second line TX for ADHD; ¢
Citalopram (Celexa)	Start: 10-20 mg qday (5mg if highly anxious). If tolerated increase to 20 mg qday in 7 d. Average dosage 20-40 mg. Range: 20-40 mg/d.	SSRI. FDA approved for depression. T ½: 35 hrs. Common side effects: nausea, dry mouth, somnolence. Very few and limited P450 interactions. SSRIs (esp. citalopram) may cause EKG QTc prolongation. Generally best tolerated. Excellent for treating anxiety (same dosing). Available in tablet and liquid. ¢
Desvenlafaxine (Pristiq)	Start: 50 mg qday. Doses > 50 mg/d rarely more effective or well-tolerated; consider 50 mg qod if poorly tolerated in elderly. Taper dose gradually to D/C.	SNRI. FDA approved for depression. T ½: 11 hrs Common side effects: nausea, dizziness, insomnia, hyperhidrosis, constipation, somnolence, decreased appetite, and anxiety. Monitor blood pressure on medication. Pristiq is a metabolite of Effexor and like Effexor it has a significant withdrawal syndrome. \$,
Duloxetine (Cymbalta)	Start (anxiety): 20-30 mg qday, for 7d, then titrate up to 40-60 mg qday, depending on tolerability. Start (depression): 30 mg qday for 7d, then up to 60 mg/day (qd or 30 mg bid); Maintenance: 60-120 mg PO qday	SNRI. FDA approved for depression, GAD, neuropathic pain & fibromyalgia. T ½: 12 hrs. Common side effects: nausea, dry mouth, somnolence, constipation, decreased appetite, & increased sweating. Don't prescribe to pt w/ substantial alcohol use or chronic liver disease because of potential hepatotoxicity. Monitor blood pressure on medication. Second line treatment for ADHD because of potent NE reuptake inhibition. \$,
Escitalopram (Lexapro)	Start: 5 mg qday. Increase as tolerated to 10 mg qday in 7 days. Range: 10-20 mg qday.	SSRI. FDA approved for depression and generalized anxiety D/O. T ½: 27-32 hrs. Common side effects: nausea, insomnia & somnolence. Lexapro is the active stereoisomer of Celexa and is approximately 3X more potent. Very few and limited P450 interactions. Generally one of the best tolerated of the antidepressants. Excellent for treating anxiety (same dosing). Available as tablet and liquid. ¢
Fluoxetine (Prozac)	Start: 5-10 mg qday. Increase as tolerated to 20 mg qday in 7 days. Range: 20-80mg qday.	SSRI. FDA approved for depression, OCD, panic d/o, premenstrual dysphoric d/o, & bulimia nervosa. T ½: 4-6 d. Common side effects: nausea, anorexia, general weakness, insomnia, tremor, dizziness & sweating. More activating than other SSRIs and may be problematic with highly anxious patients. Long half-life reduces withdrawal. Many drug-drug interactions (P450 2D6 inhibition), do not use with Tamoxifen. ¢
Mirtazapine (Remeron)	Start: 7.5-15 mg qhs. Increase as tolerated to 15-30 mg qhs in 7 days. Dosing range 15-60 mg qhs.	Novel mechanism of action (↑s both serotonin & norepinephrine). FDA approved for treatment of depression. T ½: 26 (females)-37 hr (males). Very few & limited P450 interactions. Common side effects: somnolence , dizziness, weight gain (by increasing gastric motility and ↑s appetite—worst in class), hyperlipidemia & dry mouth. May cause bone marrow suppression (rare). Anti-nausea effect (similar mechanism to Zofran). Use caution in patients undergoing chemotherapy because of slight risk of neutropenia (1:1,000). It can mildly increase lipids in some patients. Cleared in large part by the kidney. ¢
Paroxetine (Paxil)	Start: 10 mg qhs. Increase as tolerated to 20 mg qhs in 7 days. Range: 20-60 mg qday.	SSRI. FDA approved for depression, GAD, OCD, panic d/o, PTSD, social phobia, PMDD. T ½: 21 hr. Common side effects: sweating, general weakness, nausea, dry mouth, constipation, somnolence, dizziness, insomnia. Significant withdrawal syndrome, P450 2D6 inhibition, do not use w/ Tamoxifen.. ¢
Sertraline (Zoloft)	Start: 25 mg qday. Increase as tolerated to 50 mg qday in 7 days. Average dosage between 75-100 mg qday. Range: 50-200 mg qday.	SSRI. FDA approved for depression, OCD, panic d/o, PTSD, social phobia, & premenstrual dysphoric disorder. T ½: 5 hr. Common side effects: dry mouth, increased sweating, somnolence, insomnia, tremors, nausea & headache. Minimal clinical CYP 450 interactions. Some dopamine reuptake blockade so it can be somewhat stimulating (like Wellbutrin). ¢
Venlafaxine (Effexor)	Start: at XR 37.5-75mg qday. Increase as tolerated in one week to 75-150 mg. Range: 150-375 mg qday. Available in XR (once daily) or IR (bid) dosing.	SNRI. FDA approved for depression, GAD, panic d/o & social phobia. Useful for neuropathic pain and hot flashes. T ½: 5 hrs. Common side effects: insomnia, nervousness, hypertension, anorexia, weight loss, nausea, vomiting, dizziness, sweating, yawning, & dry mouth. Very significant withdrawal syndrome. Very little drug-drug interactions and low protein binding. Can increase BP at higher doses so blood pressure monitoring is required. Treatment for neuropathic pain at higher doses. Second line treatment for ADHD because of potent NE reuptake inhibition. ¢

po = by mouth; prn = as needed; qday = 1x/day; bid = 2x/day; tid = 3x/day; qid = 4x/day; qod = every other day; qhs = at bedtime; qac = before meals. T ½ = half-life of drug. **SSRI = Selective Serotonin Reuptake Inhibitor.** **SNRI = Serotonin Norepinephrine Reuptake Inhibitor.** **¢ = generic available.** **\$ = Not available as generic or expensive**

General Notes on Antidepressants:

(1) Suicidality. **This is a black box warning for all antidepressants.** Antidepressant medicines may increase suicidal thoughts or actions in some children, teenagers, and young adults within the first few months of treatment. Some of this increased suicidality is due to activation by the antidepressant before the improvement in mood takes place. The provider needs to inform patients of this risk and reassess the patients at each visit for the first few months.

(2) Weight Gain. All antidepressants, with the exception of bupropion, cause weight gain over the long term. This is likely because of their effect on serotonin systems in the brain (and potentially also histamine). The worst offenders are mirtazapine and paroxetine. In the short term some antidepressant can cause anorexia and weight loss. Examples of antidepressant causing short-term weight loss include fluoxetine and sertraline.

(3) Sexual Side Effects. All antidepressants with the exception of bupropion and mirtazapine (which is much lower) cause sexual side effects. The most common side effect is difficulty-achieving orgasm. Less frequently the medications causes a decrease in libido.

(4) Antidepressant Withdrawal Syndrome. Associated mostly with SSRIs and SNRIs and especially with those antidepressants with a short half-life (venlafaxine & paroxetine). Common symptoms include: dysphoric mood, irritability, agitation, dizziness, sensory disturbances (e.g., paresthesias such as electric shock sensations), anxiety, confusion, headache, lethargy, emotional lability, insomnia, and hypomania. While these events are generally self-limiting, there have been reports of serious discontinuation symptoms. These symptoms are generally prevented by slowly tapering the patient off of the antidepressant or switching the patient to a long acting (and to some degree self-tapering) antidepressant (e.g., Prozac).

(5) Abnormal Bleeding with Antidepressants. SSRIs and SNRIs, may increase the risk of bleeding events (due to platelet dysfunction). Concomitant use of aspirin, nonsteroidal anti-inflammatory drugs, warfarin, and other anticoagulants may add to this risk. Case reports and epidemiological studies (case-control and cohort design) have demonstrated an association between use of drugs that interfere with serotonin reuptake and the occurrence of gastrointestinal bleeding. Bleeding events related to SSRIs and SNRIs use have ranged from ecchymoses, hematomas, epistaxis, and petechiae to life-threatening hemorrhages. Patients should be cautioned about the risk of bleeding associated with the concomitant use of SSRIs, SNRIs and NSAIDs, aspirin, or other drugs that affect coagulation.

(6) Serotonin Syndrome. The development of a rare but potentially life-threatening serotonin syndrome may occur with SNRIs and SSRIs, particularly with concomitant use of serotonergic drugs and with drugs, which impair metabolism of serotonin (including MAOIs and Linezolid). Serotonin syndrome symptoms may include mental status changes (e.g., agitation, hallucinations, coma), autonomic instability (e.g., tachycardia, labile blood pressure, hyperthermia), neuromuscular aberrations (e.g., hyperreflexia, incoordination) and/or gastrointestinal symptoms (e.g., nausea, vomiting, diarrhea). The offending drug needs to be discontinued and the patient's needs to be supported hemodynamically (potentially requiring hospitalization medically).

(7) Hyponatremia. Hyponatremia is sometime seen with SSRIs and SNRIs. Signs and symptoms of hyponatremia include headache, difficulty concentrating, memory impairment, confusion, weakness, and unsteadiness, which may lead to falls, seizure, coma, respiratory arrest, and death.

(8) Bone marrow suppression. May occur with Tricyclic Antidepressants (TCAs) and Mirtazapine (Remeron).

(9) Other benefits. SSRIs/SNRIs can help with hot flashes. SNRIs/TCAs can help with neuropathic pain. Mirtazapine (Remeron) can help with nausea and anorexia. Sedating antidepressants, including Trazodone and Mirtazapine, can help with sleep.

Methylphenidate (or other psychostimulants) can also be used to treat depression, fatigue, apathy, poor concentration. Fast acting (usually within days).

SCCA PSYCHOTROPIC MEDICATION GUIDELINES: ANTIANXIETY AND SLEEP (HYPNOTIC) MEDICATIONS

NAME GENERIC (TRADE)	DOSAGE	KEY CLINICAL INFORMATION
Alprazolam (Xanax)	Start (anxiety): 0.25 to 0.5 mg tid. Usual max: 4 mg (divided). Start (panic d/o): 0.5 mg tid. May increase by up to 1 mg/day every 3-4 days as needed. Usual max: 5-6 mg total/day.	FDA approved for anxiety and panic disorder. Equivalent dose: 0.50 mg. Onset: intermediate (1-2 hrs). T1/2: 11 hrs (6-27). Common side effects include ataxia, impaired cognition, lethargy, respiratory depression and slurred speech. Uniquely problematic withdrawal syndrome. Try to avoid as first line treatment for anxiety due to abuse potential. ¢
Chlordiazepoxide (Librium)	Start: Mild-10 to 20 mg 3 to 4 times daily. Severe-20-25 mg 3-4X daily. Usual max: 200 mg/day.	Used to tx anxiety and alcohol withdrawal. Equivalent dose: 25 mg. Onset: intermediate (0.5-2 hrs). T1/2: 10-48 hrs (parent compound), 14-95 hrs (metabolites). Common side effects include ataxia and bradycardia, impaired cognition, sedation and respiratory depression. ¢
Clonazepam (Klonopin)	Start (anxiety): 0.25-0.5 mg bid or tid. Usual max: 3 mg qday. Can ↑ dosage at HS to help with sleep. Start (panic d/o): 0.25-0.5 mg bid or tid then ↑ as tolerated to 0.5 mg bid or tid. Usual max: 3 mg/d.	FDA approved for panic disorder and seizure disorder. Best used as scheduled dosing. Can be used for middle insomnia. Can be helpful in acute mania. Equivalent dose: 0.25 mg. Onset: intermediate (1-4 hrs). T1/2: 40-50 hours. Common side effects include excess salivation, ataxia, dizziness, sedation, impaired cognition and respiratory depression. ¢
Diazepam (Valium)	Start: 2-10 mg bid to qid with doses depending on symptoms severity. Usual max: 30-40 mg total per day. Note: the presence of liver disease will significantly lengthen half-life.	Multiple FDA indications including anxiety, seizure, and alcohol withdrawal syndrome. Equivalent dose: 5 mg. Onset: Immediate (highly lipophilic). T1/2: 20-50 hrs. Common side effects: hypotension, ataxia, sedation, impaired cognition and respiratory depression. Has many active metabolites. ¢
Lorazepam (Ativan)	Start (anxiety): 0.5-1 mg bid to tid, 2-6 mg per day in divided dosages (maintenance), Usual max: 5 mg/day. Insomnia: 1-4 mg qhs.	Multiple FDA indications including anxiety, seizure, insomnia, and alcohol withdrawal. Often used PRN. Also used for nausea. Equivalent dose: 1 mg. Onset: Intermediate (2 hr). T1/2: 12 hrs. Common side effects: dizziness, impaired cognition and respiratory depression. Note: no active metabolites so safer in liver disease. ¢
Oxazepam (Serax)	Anxiety: Start: 10 mg bid or tid for anxiety. Insomnia: Start: 15 mg at bedtime. Usual max: 60 mg/day.	FDA approved for anxiety and alcohol withdrawal. Also used for insomnia. Equivalent dose: 15 mg. Onset: Slow (3 hr to peak). T1/2: 6 hrs. Common side effects: headache, sedation, impaired cognition and respiratory depression. Note: no active metabolites so safer in liver disease. ¢
Buspirone (Buspar)	Start (anxiety): 5 mg 2 to 3X a day or 7.5 mg 2X a day; may increase the dosage by 5 mg/day every 2 to 3 days as needed (usual dose 20 to 30 mg/day (2 to 3 divided doses), usual max: 60 mg/day).	FDA approved for the treatment of generalized anxiety. Not a benzo. Some similarity to SSRIs. Very limited side effects—most prominent is dizziness. Helpful for sexual side effects of SSRIs at 15-30 mg bid. May take 4-6 weeks to become fully effective. ¢
Hydroxyzine (Vistaril)	Start: 25-50 mg 2-3X per day. Usual max: 200 mg per day.	FDA approved for anxiety. Much less risk of dependence and may be a better choice for patients with a history of substance use. Common side effects: dry mouth and headache. ¢
Prazosin (Minipress)	Start: 0.5-1 mg qhs. Increase q 3-7 d until symptoms abate. Usual max: 10 mg qhs.	Old antihypertensive used to tx nightmares and night sweats d/t PTSD. Need to warn about orthostasis particularly in AM after first dose and after each new dosage change. ¢, F
Trazodone (Desyrel)	Start (insomnia): at 25-50 mg qhs for sleep. Usual dose 50-100mg qhs. Usual max: 300 mg.	Commonly used for insomnia; informed consent necessary with men for priapism risk. Can cause orthostasis particularly in women and elderly. ¢
Eszopiclone (Lunesta)	Start: 1 – 2mg at bedtime titrated to 3mg.	Approved for long-term use. T1/2: 6 hrs. Common side effects: unpleasant taste in mouth, dry mouth, dizziness, headache, & sx of common cold. Potential for sleep-eating and sleep-driving. \$
Zolpidem (Ambien)	Start: 5 to 10 mg at bedtime. Usual max: 10 mg/day. (5mg max for elderly)	T1/2: 2.5-2.8 hrs. Best for sleep onset. Common side effects: diarrhea, nausea, dizziness, headache and visual disturbance. Potential for sleep-eating and sleep-driving. ¢ Available in longer acting form (CR \$
Zaleplon (Sonata)	Start: 5 to 10 mg at bedtime. Usual max: 20 mg/d	T1/2: 1 hr. Common side effects: dizziness & headache. Potential for sleep-eating and sleep-driving. \$
Ramelteon (Rozerem)	Start: 8mg at bedtime	Melatonin receptor agonist; Appears safe for long-term use in insomnia. May take a week of use before it becomes effective. May help prevent delirium. \$

po = by mouth; prn = as needed; qday = 1x/day; bid = 2x/day; tid = 3x/day; qid = 4x/day; qod = every other day; qhs = at bedtime; qac = before meals. T ½ = half-life of drug. ¢ = generic available. \$ = Not available as generic or expensive.

SCCA PSYCHOTROPIC MEDICATION GUIDELINES: MOOD STABILIZERS (LITHIUM, ANTICONVULSANTS)

NAME GENERIC (TRADE)	DOSAGE	KEY CLINICAL INFORMATION
Lithium	Start: 150 – 300 mg bid to tid with doses up to 1200 – 1500 mg daily and higher based on renal function and drug levels (0.5 - 1.2 meq/L) . Use lower part of the range for maintenance and higher part of range for acute episodes). Also available as extended release typically given in the same initial total daily dosages at night.	FDA approved for bipolar disorder, acute episodes and for maintenance. Black box warning: toxicity and the need to check levels . Some efficacy for treating bipolar depression. Risk of teratogenesis during first trimester of pregnancy (Ebstein's anomaly of heart— need to inform women of childbearing age of this risk). Common side effects include diarrhea, nausea, tremor, and increase frequency of urination. Sedation, weight gain (less than Depakote) and mild cognitive impairment seen. Can affect WBC and renal function. Prior to starting this med, will want to do a basic metabolic panel & TSH, check EKG in pts > 50 yrs & regularly check these labs (q 6-12 months). Need to be cautious about concurrent meds that can affect renal clearance including NSAIDs and HTN medications. Strong anti-suicidal effect of this drug. ¢
Carbamazepine (Tegretol XR)	Start: (Extended release capsules): 400 mg/day PO in 2 divided doses, may increase dosage in increments of 200 mg/day up to a usual max of 1600 mg/day as needed. Monitoring of blood levels is recommended with the usual adult therapeutic drug levels between 4 and 12 mcg/mL .	FDA approved for Bipolar I D/O, acute manic and mixed episodes. Two black box warnings: (1) Serious and sometimes fatal dermatologic reactions, including toxic epidermal necrolysis (TEN) and Stevens-Johnson syndrome (SJS). Estimated occurrence: 1 to 6 per 10,000 new users in countries w/ mainly Caucasian populations, but the risk in some Asian countries is estimated 10X higher and are associated with the presence of HLA-B*1502. Asian patients and other high-risk patients should be screened for the presence of HLA-B*1502 prior to starting Tegretol (2) Aplastic Anemia and Agranulocytosis . Although rare, complete pretreatment hematological testing should be obtained at baseline. Tegretol is also associated w/ increased risk of teratogenesis (need to inform women of childbearing age of this risk) and should be avoided in pregnancy. Common side effects include hypotension, nausea, vomiting, confusion, dizziness, somnolence, blurred vision and diplopia. Note: Tegretol has multiple drug interactions including decreasing warfarin and hormone contraceptives. \$
Valproic Acid, Divalproex Sodium (Depakote)	<u>Depakote D (delayed release)</u> , Start: 750 mg PO daily in divided doses (bid or tid); increase dose as quickly as possible to clinical effect; usual trough plasma level, 50 to 125 mcg/mL ; <u>Depakote ER (extended-release)</u> : for less aggressive titration start at 750 mg once daily (typically at HS), for more aggressive titration use 25 mg/kg/day once daily (this dosage was use in the clinical trials); increase dose as quickly as possible to clinical effect; usual trough plasma level, 85 to 125 mcg/mL . Usual max: 60 mg/kg/day.	FDA approved for bipolar disorder, acute manic or mixed episode. May have antidepressant effects at higher range of dosage. Multiple black box warnings including for hepatotoxicity, pancreatitis, and teratogenicity (need to inform women of childbearing age of this risk). Also can cause Stevens Johnson syndrome (approx. 1:5000) and thrombocytopenia. Common side effects: abdominal pain, diarrhea, indigestion, nausea, vomiting, dizziness, headache, insomnia, somnolence, tremor, and blurred vision. Weight gain and cognitive impairment is common. Platelet counts, coagulation tests and liver function tests are recommended before initiating therapy and at periodic intervals (at least q6 months). Hepatotoxicity has occurred mainly during the first 6 months when an even higher frequency of monitoring is advisable (q 2 months). \$
Lamotrigine* (Lamictal)	Start: 25 mg daily for two weeks then 50 mg daily for two weeks (may increase by 100 mg per week thereafter) with a usual max dosage of 200 – 300 mg (typically divided bid). Dosage will need to be adjusted for patients taking enzyme-inducing drugs or Depakote. Starter packs are available. Typically do not measure drug levels.	FDA approved for maintenance treatment of bipolar disorder. More efficacy in keeping patient from moving into depressed state vs. manic state. Black box warning for serious, life-threatening rashes requiring hospitalization and discontinuation of treatment (Stevens Johnson syndrome @ approx. 1: 1000 to 2000). The risk of rash may also be increased by coadministration of lamotrigine with Depakote (valproic acid) exceeding the recommended initial dose of lamotrigine, or exceeding the recommended dose escalation for lamotrigine. Nearly all cases of life-threatening rashes associated with lamotrigine have occurred within 2 to 8 weeks of treatment initiation. Lamotrigine should ordinarily be discontinued at the first sign of rash, unless the rash is clearly not drug related. Common side effects include GI upset, ataxia, dizziness, headache, and somnolence. Patients on Lamictal typically don't have weight gain, or cognitive deficits. \$

po = by mouth; prn = as needed; qday = 1x/day; bid = 2x/day; tid = 3x/day; qid = 4x/day; qod = every other day; qhs = at bedtime; qac = before meals. **¢ = generic available. \$ = Not available as generic or expensive.**

SCCA PSYCHOTROPIC MEDICATION GUIDELINES: ANTIPSYCHOTICS/MOOD STABILIZERS—1 OF 2

NAME GENERIC (TRADE)	DOSAGE	KEY CLINICAL INFORMATION
Aripiprazole (Abilify)	<u>Bipolar I disorder, manic or mixed episodes:</u> starting and target dose, 15-30 mg/day; recommended dose: 15-30 mg/day; Usual max dose: 30 mg/day. <u>Major depressive disorder, Adjunctive Tx:</u> start , 2-5 mg/day; dose adjust in up to 5 mg/day increments at intervals of 1 week or greater; recommended dose: 5-10 mg/day; Usual max: 15 mg/day <u>Schizophrenia:</u> initial , 10-15 mg/day; ↑ at 2 week intervals; rec. dose: 10-15/day; Usual max dose: 30 mg/day	FDA approved for acute and maintenance treatment of schizophrenia, for acute and maintenance treatment of manic and mixed episodes, for adjunctive treatment of major depressive disorder, and for agitation associated with schizophrenia and bipolar mania. Two black box warnings (see below, #1 and #2). T½: 75 h. Common side effects: constipation, nausea, vomiting, dizziness, somnolence, headache, restlessness, anxiety. EPS (see below) at higher dosages especially akathisia. Metabolic side effects less likely (particularly weight gain, but still possible) and monitoring is needed for metabolic side effects (see below). Long term potential of TD (see below) but decreased compared to typicals. Fewer sexual side effects because less effect on prolactin. Dosage forms: tablet, oral dissolving wafer, injectable and solution. Lowest chance for QTc prolongation. \$
Olanzapine (Zyprexa)	<u>Bipolar I disorder, acute mixed or manic episodes:</u> Start 10 to 15 mg/day PO (typically at HS because sedating), increase by 5 mg qday (or greater interval) as needed. Usual max: 20 mg/d. Maintenance dosage typically lower than used in acute episodes. <u>Schizophrenia:</u> Start 5-10 mg qday PO (typically at HS because of sedation) with goal of 10 mg per day. Generally increase at 5 mg qweekly as needed. Early on in the disease patients typically need less. Usual max dosage 20 mg qday.	FDA approved for the treatment of schizophrenia, for acute and maintenance treatment of manic and mixed episodes, and for agitation associated with schizophrenia and bipolar mania. Can decrease nausea and increase appetite. One black box warning (see below #1). T½: 30 hr. Common side effects: dry mouth, constipation, urinary retention (in elderly), sedation, dizziness. EPS lower than most. Metabolic side effects are serious (second only to Clozaril) and monitoring for metabolic side effects is critical (see below). Avoid using this medication in obese patients and patients with diabetes if at all possible. Long term potential of TD (see below) but decreased compared to typicals. Dosage forms: tablet, oral dissolving tablet (Zyprexa Zydis), and injectable (2X more potent). Can worsen liver disease—try to avoid with patients with known liver problems. \$
Quetiapine (Seroquel)	<u>Bipolar depression:</u> Day 1, 50 mg qhs; Day 2, 100 mg qhs; Day 3, 200 mg qhs; and Day 4, 300 mg qhs (Target Dose). <u>Bipolar mania:</u> Initiated in BID doses totaling 100 mg/day on Day 1 with increases of up to 100 mg/day to 400-600 mg/day (Target Dose). Typically more of the dose is given at HS. <u>MDD, Adj Tx:</u> 50 mg qhs X2 days, then 150 mg qhs mg/day; Usual max: 300 mg qhs. <u>Schizophrenia:</u> Start Day 1, 25mg BID; Day 2, 50 mg BID; Day 3, 100 mg BID and Day 4 150 mg BID; Further increases in increments of 25-50 mg BID to maximum dose of 800 mg. This titration schedule can be slowed down because of side effects, especially sedation.	FDA approval for MDD adj tx, bipolar depression, acute manic episodes associated with bipolar I disorder as either monotherapy or adjunct therapy to lithium or Depakote, maintenance treatment of bipolar I disorder as adjunct therapy to lithium or Depakote, and for the treatment of schizophrenia. Can help with sleep, anxiety. Two black box warnings (see below, #1 & #2). T½: 6 hr; Common side effects: orthostatic hypotension, constipation, dyspepsia, dizziness, dry mouth, somnolence, elevated liver enzymes, fatigue, pain, rash. EPS (see below) uncommon and Seroquel is second only to Clozaril in having the least amount of EPS. Metabolic side effects are moderate and monitoring needed for metabolic side effects (see below). Long term potential of TD probably lowest in the group (see below) and much decreased compared to typicals. Off label uses include anxiety (particularly in patients with a history of substance use at 12.5 mg to 25 mg PRN tid or qid) and insomnia. Careful consideration of risk vs. benefit is required in off label use because of long-term risk of TD and metabolic side effects. Available in a long acting form: Seroquel XR. \$
Paliperidone (Invega)	<u>Schizophrenia.</u> Start: 6 mg extended-release tablet administered in the morning with or without food. Initial dose titration is not required. Range 3-12 mg/day. Usual max: 12 mg/day.	FDA approved for the acute and maintenance treatment of schizophrenia. Invega is a metabolite of Risperdal packaged in an extended release tablet. One black box warning (see below, #1). T½: 23 h; Common side effects: tachycardia, EPS, upper abdominal pain, & dry mouth. Metabolic side effects are moderate and monitoring is needed (see below). Long term potential of TD probably the highest of the atypical antipsychotics but still decreased compared to typicals. Hyperprolactinemia is the most common in the group as are sexual side effects. Mostly cleared renally. \$
Risperidone (Risperdal)	<u>Bipolar mania.</u> Start: 2-3 mg/day (usually divided with more at HS). Titration: 1 mg daily. Target dosage (1-6 mg/day). Usual max: 6 mg/day. <u>Schizophrenia.</u> Start: 2 mg/day (usually divided with more at HS). Titration: 1-2 mg daily. Target dosage: 4-8 mg daily. Usual max: 8 mg/day.	FDA approval for schizophrenia, manic bipolar I disorder. One black box warning (see below, #1). T½: 20-30 h; Common side effects: rash, weight gain, constipation, excessive salivation, increased appetite, indigestion, nausea, dry mouth, general pain, somnolence. EPS (see below) is the worst of the group with frequent Parkinsonian side effects at the higher dosages. Metabolic side effects are moderate and monitoring is needed (see below). Long term potential of TD probably the highest of the atypical antipsychotics but still decreased compared to typicals. Hyperprolactinemia is the most common in the group as are sexual side effects. Available as tablet, oral dissolving wafer, liquid and long acting injectable, Risperdal Consta (25-50 mg q2 week—consult with psychiatrist and/or pharmacologist before starting). \$

po = by mouth; prn = as needed; qday = 1x/day; bid = 2x/day; tid = 3x/day; qid = 4x/day; qod = every other day; qhs = at bedtime; qac = before meals. T ½ = half-life of drug. **¢ = generic available. \$ = Not available as generic or expensive.**

SCCA PSYCHOTROPIC MEDICATION GUIDELINES: ANTIPSYCHOTICS/MOOD STABILIZERS—2 OF 2

NAME GENERIC (TRADE)	DOSAGE	KEY CLINICAL INFORMATION
Ziprasidone (Geodon)	<u>Bipolar I disorder, acute manic or mixed episodes</u> . Start: 60 mg bid daily with food; day 2; then adjust up to 80 mg twice daily as needed. <u>Schizophrenia</u> : Start: 60 mg ORALLY twice a day with food; may increase dosage every 2 days up to 80 mg twice a day; maintenance, 60 to 80 mg ORALLY twice a day (usual max: 80 mg bid).	FDA approved for schizophrenia and for treatment of mixed and manic episodes. One black box warning (see below, #1). T½: 7 h . Common side effects include: orthostatic hypotension, rash, constipation, indigestion, nausea, and dizziness. EPS (see below) is moderate. Metabolic side effects less likely (probably the best of the group) but will want to do usual screening (see below). Long term potential of TD (see below) but decreased compared to typicals. Available as a capsule, and injectable. NOTE: Geodon needs to be taken with food as it doubles absorption. \$
Clozapine (Clozaril)	Clozapine needs to be titrated carefully and slowly with careful monitoring of WBC. Would use published titration schedules (e.g., Micromedex) and collaborate with a psychiatrist. Typical therapeutic dosage is between 300-600 mg per day (typically mostly at night). MAX dosage: 90 mg qday. Prescriptions can only be written once CBC parameters have been shown to be within normal limits. There are strict FDA mandated rules for dosing and testing if parameters show significant change or are out of range.	FDA approval for Schizoaffective disorder - Suicidal behavior, Recurrent: Schizophrenia, Treatment-resistant; Schizophrenia - Suicidal behavior, Recurrent. Five black box warnings including (1) agranulocytosis, (2) seizures, (3) myocarditis, (4) severe orthostatic hypotension and (5) increased mortality in elderly patients with dementia-related psychosis. Because of the significant risk of agranulocytosis strict monitoring of the white count and absolute neutrophil count is mandated. The initial frequency of monitoring is weekly and with time and lack of problems can become q 4 weeks. Patient needs to be enrolled in approved monitoring program. Please consult with a pharmacist and/or psychiatrist before starting. T½: 12 hrs . Common side effects include: hypotension, tachyarrhythmia, weight gain, constipation, excessive salivation, dry mouth, dizziness, somnolence, vertigo, and headache. EPS is the best of the group. Metabolic side effects are the worst of the atypicals and monitoring of metabolic parameter is critical. Long term potential of TD (see below) is the best of the group. Clozaril is the most effective antipsychotic for the treatment of refractory patients.
Haloperidol (Haldol)	Start: 0.5 to 2 mg PO (moderate symptoms) or 3 to 5 mg (severe symptoms) PO 2 to 3 times daily. Usual max: 20 mg qday although sometimes (in chronically ill patients) given at much higher dosage.	FDA approval for schizophrenia. Often used for delirium . Appears to have the same risk of increased mortality in elderly patients with dementia-related psychosis, as do the atypicals for which it recently earned a black box warning . Also, the injectable form of Haldol has been given a warning label by the FDA for QTc prolongation. T½: 10-37 hrs . Common side effects include: hypotension, constipation, dry mouth, somnolence and blurred vision. EPS is quite significant and usually present at therapeutic doses. Often need to prescribe an anticholinergic medication to deal with Parkinsonian side effects (Benadryl 25 mg or Cogentin 1-2 mg PRN or scheduled). Metabolic side effects are not in general concerning. TD is a very significant risk (5% per year in young patients and > 25% per year in patients over the age of 65). Comes in an elixir and can be given PO, IM. Long acting (depot) form available (Haldol Decanoate). ¢

Black Box Warnings: (1) Increased risk of death related to psychosis and behavioral problems in elderly patients with dementia (1.6-1.7 fold), (2) Increased initial risk of suicidality when use adjunctively for depression (in patients less than 24), (3) Increased risk of QTc prolongation and risk of sudden death (especially in combination with other drug that are known to prolong the QTc).

Metabolic side effects. Common to all atypical antipsychotics although some worse than others. Side effects include: hyperlipidemia (first to occur is hypertriglyceridemia), hyperglycemia (can sometimes lead to frank diabetes) and weight gain. In rank order from least to most: Geodon < Abilify < Risperdal < Seroquel < Zyprexa < Clozaril. Will need to do baseline basic chem panel and fasting lipids. Recheck q 6 months.

Extrapyramidal Side Effects (EPS). Common to all antipsychotics but much worse in typicals (esp. high potency, e.g., Haldol). Symptoms include: Parkinsonian symptoms (tremor, psychomotor retardation, increase tone), akathisia (motor restlessness) and dystonia (prolonged abnormal contractions of muscle groups, greater risk with higher dose, most risk occurs in the first few days, younger male patients are more vulnerable). EPS: Haldol>Risperdal>Geodon>Abilify>Zyprexa>Seroquel>Clozaril.

Tardive Dyskinesia (TD). A syndrome of potentially irreversible, involuntary, dyskinetic movements may develop in patients treated with antipsychotic drugs. Highest risk in the elderly especially women. Overall risk increases with length of exposure and dosage. Baseline rate of TD about 1% per year. With typicals in a younger individual the rate is approx. 5% per year. With atypicals the rate is somewhere between 1 and 2%, but much lower overall.

po = by mouth; prn = as needed; qday = 1x/day; bid = 2x/day; tid = 3x/day; qid = 4x/day; qod = every other day; qhs = at bedtime; qac = before meals. T ½ = half-life of drug. **¢ = generic available. \$ = Not available as generic or expensive.**

References used: Micromedex and FDA labeling documents.