

CCHCS/DHCS Care Guide: Schizophrenia

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
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GOALS

- Minimize frequency and severity of psychotic episodes
- Encourage medication adherence
- Manage medication side effects
- Monitor as clinically appropriate

ALERTS

- Suicidal ideation or gestures
- Abnormal movements
- Delusions
- Neuroleptic Malignant Syndrome
- Danger to self or others

DIAGNOSTIC CRITERIA/EVALUATION (PER DSM V)

1. Rule out delirium or other medical illnesses mimicking schizophrenia (see page 5), medications or drugs of abuse causing psychosis (see page 6), other mental illness causes of psychosis, e.g., Bipolar Mania or Depression, Major Depression, PTSD, borderline personality disorder (see page 4).
 - Ideas in patients (even odd ideas) that we disagree with can be learned and are therefore not necessarily signs of schizophrenia.
 - Schizophrenia is a world-wide phenomenon that can occur in cultures with widely differing ideas.
2. Diagnosis is made based on the following: (Criteria A and B must be met)
 - A. Two of the following symptoms/signs must be present over much of at least one month (unless treated), with a significant impact on social or occupational functioning, over at least a 6-month period of time: Delusions, Hallucinations, Disorganized Speech, Negative symptoms (social withdrawal, poverty of thought, etc.), severely disorganized or catatonic behavior.
 - B. At least one of the symptoms/signs should be Delusions, Hallucinations, or Disorganized Speech.

TREATMENT OPTIONS

MEDICATIONS Antipsychotic medications are usually necessary and helpful	<ul style="list-style-type: none"> • Informed consent for psychotropic medication required (unless California Penal Code section 2602, order is in effect for involuntary psychotropic medication) • Clinical situation directs medication selection • Long-acting injectables and clozapine are quite effective but frequently underused <p><u>Oral Neuroleptic Medications in CDCR</u></p> <ul style="list-style-type: none"> • First Line: risperidone, olanzapine, ziprasidone, haloperidol, fluphenazine, loxapine, perphenazine, trifluoperazine, thiothixene, chlorpromazine • Second Line: aripiprazole, iloperidone, lurasidone, quetiapine, paliperidone, pimozide, clozapine (often 3rd line but can be second line) should be considered in refractory cases See the CCHCS/DHCS Clozapine Care Guide. <p><u>Injectable Neuroleptic Medications in CDCR</u></p> <ul style="list-style-type: none"> • First Line Short-Acting Emergency IM: haloperidol, ziprasidone, chlorpromazine, olanzapine • First Line Long-Acting Maintenance: haloperidol decanoate, fluphenazine decanoate, risperidone • Second Line Long-Acting Maintenance: aripiprazole, paliperidone palmitate
PSYCHOSOCIAL INTERVENTIONS	Group therapy and individual therapy (these are important but often underemphasized) Brief and frequent supportive interventions and education are highly beneficial.

MONITORING (see page 6 for complete schedule of recommended monitoring)

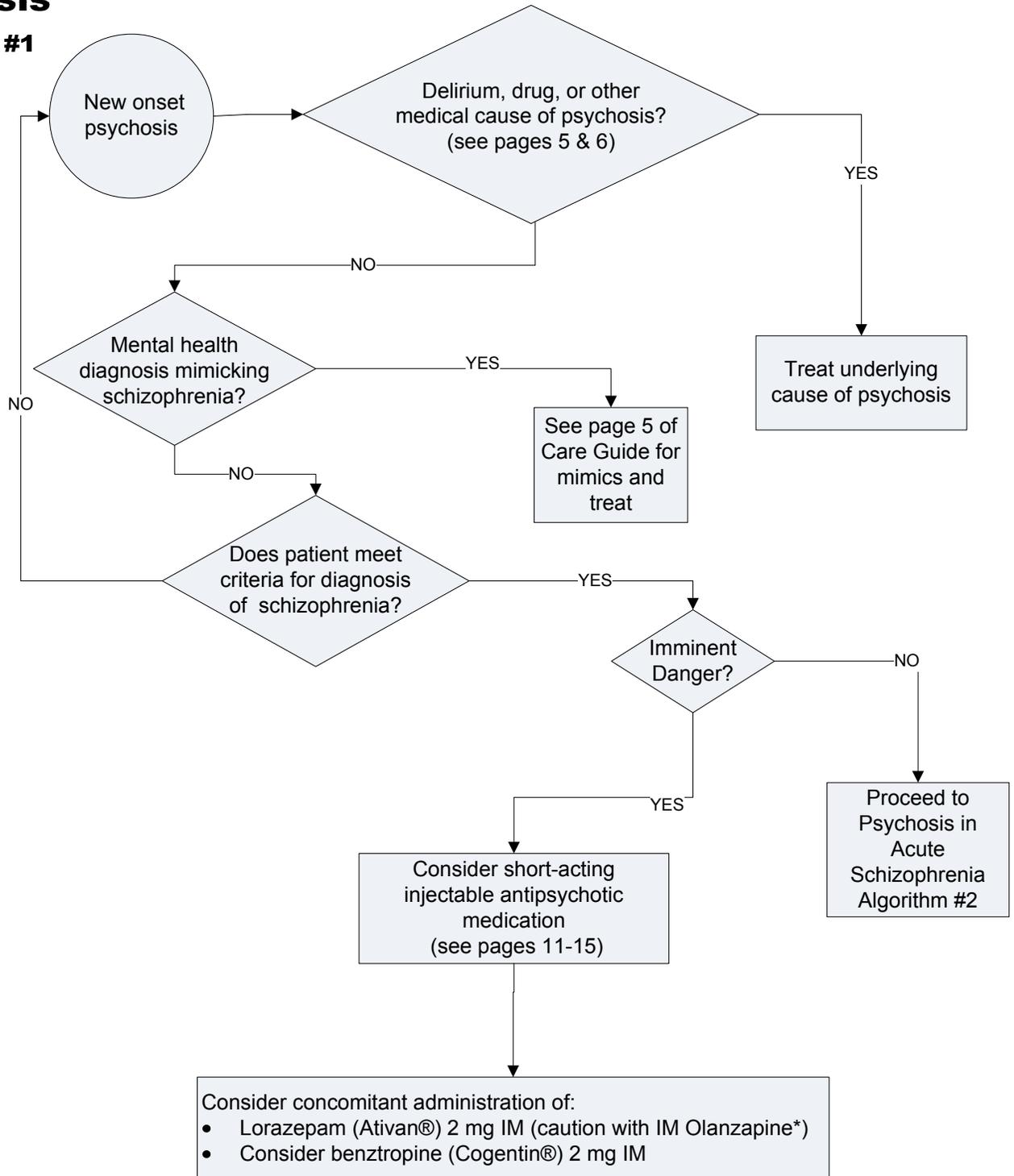
- Every visit:**
- 1) Assess symptom relief (it may be necessary to obtain information from multiple sources to adequately assess a patient's actual response and side-effects)
 - 2) Adverse effects: based on objective assessment over time, not solely on patient self-report
 - Extrapyramidal symptoms (EPS), Akathisia (AK), Neuroleptic Malignant Syndrome (NMS), and Tardive Dyskinesia (TD)
 - Metabolic effects: weight gain, BP, thyroid dysfunction (esp. with phenothiazines)
 - Constipation
 - Cardiac effects
 - 3) Reinforce pregnancy avoidance
 - 4) Use the Mental Health Registry* to assist with monitoring
- As indicated on page 6:**
- PE: height, weight, BP, Abnormal Involuntary Movement Scale (AIMS) at baseline, 3 months, and 12 months or annually.
- Laboratory: CBC, CMP, glucose/HgbA1c, lipids, thyroid function, pregnancy test (page 6)
- EKG: (see page 6)

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*To access Mental Health Registry →QM LifeLine→QM Portal in external links→Patient Registries→Mental Health Registry (also named Psychotropic Medication Monitoring Registry)

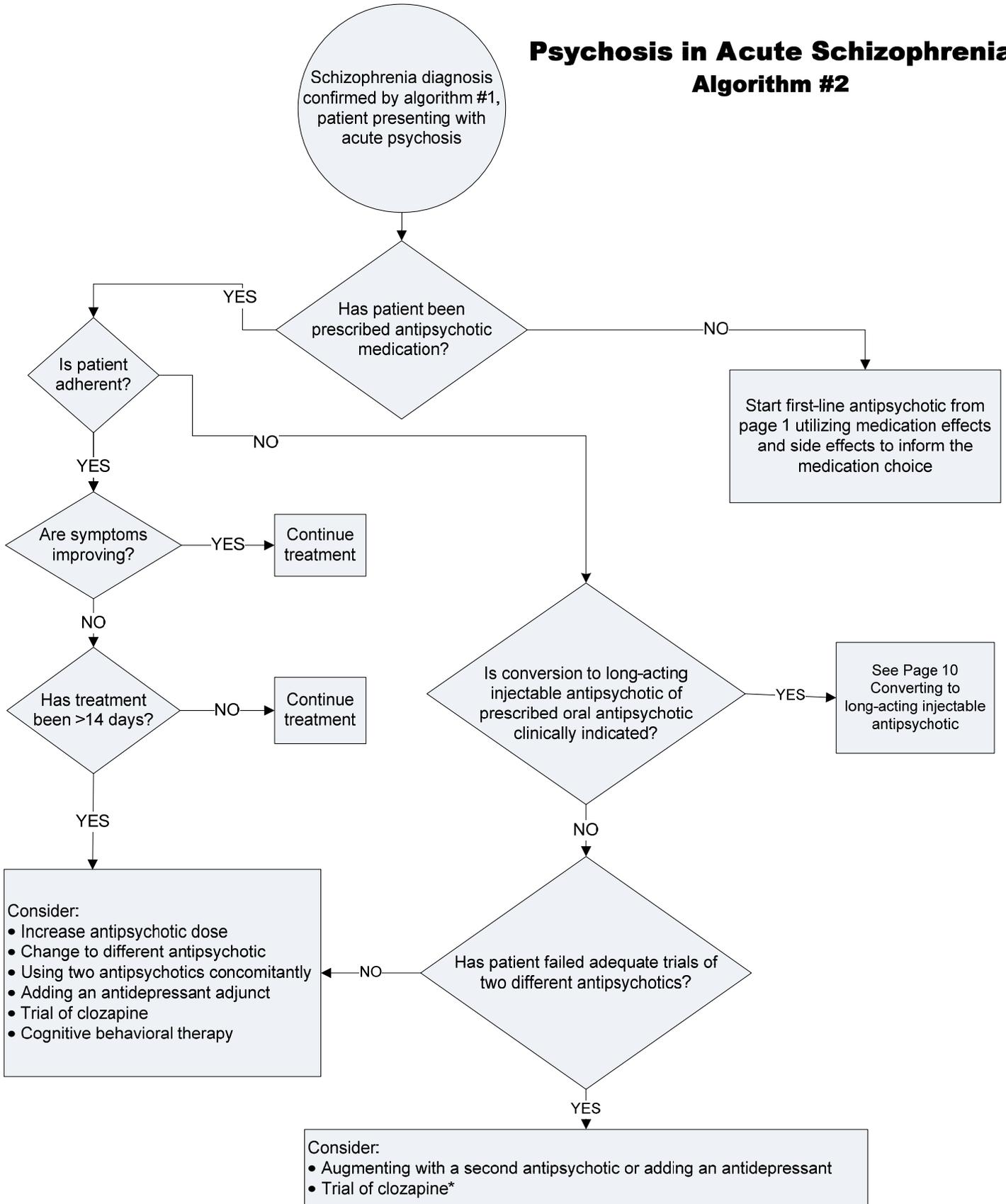
New Onset Psychosis

Algorithm #1



*Concurrent use of IM lorazepam with IM olanzapine – potential for excessive sedation, cardiorespiratory depression, and death.

Psychosis in Acute Schizophrenia Algorithm #2



*See CCHCS/DHCS Clozapine Care Guide

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
MENTAL STATUS AND PHYSICAL EXAM IN SCHIZOPHRENIA		
<p>MENTAL STATUS EXAM</p> <ul style="list-style-type: none"> Disorganized idea sequencing and/or disorganized error-correction (inability to change thought despite evidence to the contrary) is the objective mental status exam finding in schizophrenia. Negative symptoms are frequent (e.g., social withdrawal, lack of initiative, poverty of thought), and Disorganized behavior. <p>PHYSICAL EXAM</p> <ul style="list-style-type: none"> Carefully examine for focal neurologic findings. Document abnormal involuntary movement including: <ul style="list-style-type: none"> antipsychotic induced extrapyramidal symptoms, Parkinson's symptoms, tardive dyskinesia, and akathisia. Note: extreme excitement or lack of movement, posturing, mutism, grimacing, and waxy flexibility may represent catatonia. (Schizophrenia may rarely present with catatonia, but it is usually in the context of a severe coincident affective disorder, e.g., major depression, schizoaffective disorder). 		

PSYCHIATRIC DIFFERENTIAL DIAGNOSIS OF PSYCHOSIS	
Borderline personality disorder	These patients may experience auditory/visual hallucinations (psychosis not otherwise specified) when undergoing extreme stress.
Delusional disorder	Delusions may be erotomanic, grandiose, jealous, persecutory, somatic, etc., but unlike schizophrenia, the delusions are not as bizarre, and there are no negative symptoms. Delusional disorder tends not to respond well to medications.
Mood disorder with psychotic features	Manic or depressive symptoms with psychosis, but psychosis remits when the mood symptoms remit (unlike schizoaffective disorder).
Posttraumatic stress disorder	Patients often have vivid visual (and auditory) hallucinations. Unlike schizophrenia, the psychosis is preceded by traumatic recollections and the hallucinations are more frequently visual.
Psychosis induced by substance abuse	Differentiate schizophrenia from substance induced psychosis by establishing a timeline of substance use vs. timeline of onset of psychosis. Substance induced psychosis should remit when the substance is withdrawn, in some cases this may take months (e.g., marijuana). Alcohol intoxication and withdrawal, as well as intoxication with other substances including cocaine, bath salts, PCP, cannabis, amphetamines, hallucinogens, or even high-dose caffeine can create psychotic states.
Schizoaffective disorder	Associated with frequent mood symptoms (e.g., manic or depressive mood symptoms, but there is never a time that a patient has mood symptoms without psychotic symptoms, unless the psychotic symptoms have been treated).
Schizophreniform disorder	Full blown symptoms of schizophrenia, but the time course of the illness has been less than 6 months.
Schizotypal personality disorder	Not a true psychosis, the patient has distance in relationships and odd beliefs, but no florid delusions or hallucinations.

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SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
MEDICAL CAUSES OF NEW ONSET PSYCHOSIS		
CNS LESIONS	<ul style="list-style-type: none"> • Seizures: Complex partial seizures can create ictal, preictal, or postictal psychotic states. • Space occupying lesions: consider with older age of new onset psychosis, or any atypicality in new onset presentation, particularly any new focality on physical exam associated with psychosis/delirium. Certain frontal lobe lesions may not be detectable on physical exam. • Head trauma and new onset confusion (consider subdural). • Multiple sclerosis: may be confused for a “thought-process” schizophrenia and somatization because of circumstantial speech due to cerebellar dysfunction (called cerebellar speech) and seemingly inconsistent and changing neurological symptoms. • Strokes: Depending on location, CVA may produce symptoms appearing to be psychosis. • Dementia: Often co-morbid with psychosis and may be associated with visual hallucinations. • Narcolepsy: In patients with prominent visual hallucinations throughout the day, consider narcolepsy, particularly if there is also daytime somnolence, cataplexy, sleep paralysis and hypnagogic hallucinations (although only 10% have all four). 	
DELIRIUM	<ul style="list-style-type: none"> • Disturbance of consciousness which develops over a short period of time and which fluctuates, associated with a change in cognition not better explained by dementia with evidence from history physical or lab findings that the cause is a medical condition, substance intoxication, or medication side effect. May be drowsy or agitated, visual hallucinations are variably present. Risk factors are primarily dementia, stroke, Parkinson’s disease, advanced age. Most common precipitants are fluid and electrolyte disturbances, infections, drugs (especially anticholinergics in elderly) or alcohol toxicity, withdrawal from alcohol, barbiturates, benzodiazepines, SSRIs, metabolic disturbances, low perfusion states (CHF, shock), postoperative states (especially in elderly). 	
ENDOCRINE DISEASE	<ul style="list-style-type: none"> • Thyroid dysfunction: Hyperthyroidism can present as agitated manic psychosis and hypothyroidism as disorganized psychosis (myxedema madness). • Cushing’s disease may present with psychosis. 	
GENETIC DISEASE	<ul style="list-style-type: none"> • Acute intermittent porphyria (The Madness of King George): Intermittent psychosis with abdominal/colicky pain and severe constipation. • Wilson’s disease: particularly consider with Parkinson’s like symptoms. 	
INFECTION	<ul style="list-style-type: none"> • HIV infected patients may have active CNS HIV infection causing memory deficits, subtle cognitive changes and disinhibition, major depression-like symptoms, confabulation and psychosis, even with undetectable viral loads and normal CD4 counts (most antiretrovirals, even the newer medications, do not penetrate the CNS well). • Neurosyphilis may present as psychosis first and occasionally occur with a negative blood RPR. Consider LP with CNS VDRL as indicated. • Lyme disease should be suspected if unexpected new onset depression/anxiety/attention deficit like syndrome or even psychosis presents in someone with unexplained headaches and migrating muscle and joint pains with exposure in endemic areas. • Toxoplasmosis may present with psychosis. 10% of Americans have been exposed. Latent exposure is correlated with ADD, OCD, schizophrenia, and suicidality. • Viral encephalitis. 	
METABOLIC DISTURBANCES	<ul style="list-style-type: none"> • Consider hepatic failure in all patients with new onset psychosis. • Uremia. • Sodium and potassium abnormalities or any cause of anion gap may present with delirium/psychosis. • Increased and decreased calcium cause psychiatric symptoms and have been reported (along with decreased magnesium) to cause psychosis. • Diabetic ketoacidosis can present with confusion. • Check for B12 deficiency in all new onset psychosis as the psychosis can precede the anemia. • Hypoxia. 	
NEOPLASTIC DISEASE	<ul style="list-style-type: none"> • Pheochromocytoma: may present with manic psychosis and sweating, tachycardia, and/or elevated blood pressure. 	

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SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
DRUGS OR DRUG CLASSES WHICH MAY CAUSE PSYCHOSIS		
<ul style="list-style-type: none"> Anabolic steroids Anticholinergics Anticonvulsants (zonisamide, high doses of other anticonvulsants) Antihistamines Antidepressants (TCAs, bupropion) Antimalarials (mefloquine, chloroquine) Antineoplastics (vincristine) Antivirals (acyclovir at high doses, efavirenz, abacavir, oseltamivir) Baclofen Cardiac drugs (disopyramide, propafenone, quinidine, beta blockers, ACE inhibitors) Corticosteroids (may be dose related, may occur on withdrawal) Dextromethorphan 		<ul style="list-style-type: none"> Digoxin Erythropoietin Fluoroquinolone antibiotics Metronidazole NSAIDs Opioids Parkinson's drugs (e.g., amantadine, levodopa, bromocriptine) Sedatives/hypnotics (barbiturates, benzodiazepines, especially upon withdrawal) Stimulants (cocaine, bath salts, MDMA, ecstasy, methylphenidate) Sulfonamides Sympathomimetics (pseudoephedrine, caffeine) TB agents (INH, d-cycloserine)

MONITORING ANTIPSYCHOTIC MEDICATION (EXCLUDING CLOZAPINE*)

	Initiation/ Baseline	3 Months	Annually	Comments
Consents	X		X	
AIMS	X		X	AIMS evaluation recommended every 6 months, and required every 12 months.
Weight/Height	X	X	X	Follow weight check schedule when changes are made in therapy
Blood Pressure	X	X	X	More frequent checks are recommended for patients with a higher baseline risk for developing HTN
EKG	ziprasidone, pimozone, thioridazine		ziprasidone, pimozone, thioridazine	Polypharmacy, medical comorbidity, and age are other factors supporting EKG monitoring with a broad range of antipsychotic medication
Eye Exam			Consider annual exam with quetiapine	Particularly in patients <ul style="list-style-type: none"> over 40 at risk of developing cataracts
Pregnancy Test	X			Women < 50 years old
CBC with differential	X		X	
CMP	X	X	X	
Glucose / HbA1c	X	X	X	Monitor more frequently in patients with a higher baseline risk for diabetes (suggest 3-6 months)
Lipids	X	X	X	Check more frequently as clinically indicated
TSH, T3/T4			Every 5 years	

Drug Specific monitoring noted above gives minimal requirements, and these recommendations do not preclude additional monitoring as clinically indicated.

*NOTE: Clozapine monitoring is not included in this care guide.

Refer to CCHCS/DHCS Clozapine Care Guide for description of clozapine monitoring requirements.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
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CHRONIC UNRESPONSIVE SCHIZOPHRENIA—Failure to respond to therapeutic dosage of an antipsychotic

EVALUATION

- Consider medication nonadherence
- Consider substance abuse
- Consider medication adverse effects as cause of symptoms
- Consider medication interactions which may reduce medication efficacy
- Consider mood component to poor response

TREATMENT

- Trial of atypical neuroleptic if not previously used
- Trial of typical neuroleptic if not previously used
- Treatment of mood disorder if indicated (e.g., mood stabilizers and antidepressants)
- Adjust medications to reduce or eliminate adverse effects or drug interactions
- Change medications as indicated

TREATMENT REFRACTORY SCHIZOPHRENIA
Schizophrenia unresponsive to two full trials of adequate dosages of neuroleptics.

TREATMENT:

Clozapine (see CCHCS/DHCS Clozapine Care Guide)

- Clozapine is the only FDA approved drug for this condition.
- Studies corroborate underutilization of clozapine. (Clozapine should also be considered in schizophrenic patients with suicidality).

Olanzapine

- High dose olanzapine (40 mg) was found to be as effective as clozapine in treatment refractory schizophrenia in one study, while haloperidol did not separate from placebo on either the positive and negative symptom scale in this same study.
- Because 40 mg of olanzapine is not FDA approved, its use requires documentation of rationale with evaluations of risks and benefits.

SWITCHING ANTIPSYCHOTICS	
Method	Description
Abrupt Switch	Antipsychotic 1 (old): Immediate Discontinuation Antipsychotic 2 (new): Immediate Start
Taper Switch	Antipsychotic 1 (old): Gradual Discontinuation Antipsychotic 2 (new): Immediate Start
Cross-Taper Switch	Antipsychotic 1 (old): Gradual Discontinuation Antipsychotic 2 (new): Gradual Start The cross-taper switch method may be adjusted depending on current symptoms, presence of adverse effects and tolerability to the switch.

INDICATIONS FOR PRESCRIBING MULTIPLE ANTIPSYCHOTIC MEDICATIONS

- More than one antipsychotic agent is generally not indicated or optimal except in circumstances described below.
- If there is clinical worsening when a second neuroleptic is eliminated and symptoms do not improve with adequate dosing of new agent, consideration should be given to adding the first antipsychotic back to the regimen if there are no contraindications.
- Two antipsychotics may sometimes be clinically indicated. When two agents are used, the failure of the patient to respond to trials of single antipsychotics should be well documented as well as the risks and benefits of prescribing more than one antipsychotic to the patient.

MEDICATION SWITCH	With change from one antipsychotic medication to another, switch should be completed within six weeks.
INVOLUNTARY MEDICATION “BACK UP”	An injectable antipsychotic ordered as “back up” in case of refusal of oral antipsychotic agent in a patient with an involuntary medication order (PC-2602).
FOR ACUTE AGITATION OR PSYCHOSIS	An intramuscular (IM) or STAT PRN oral antipsychotic agent may be indicated in addition to a regularly prescribed oral antipsychotic agent.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
MANAGEMENT OF ADVERSE EFFECTS IN PATIENTS ON ANTIPSYCHOTIC MEDICATIONS*		
ADVERSE EFFECT**	DESCRIPTION	MANAGEMENT
Extrapyramidal Symptoms (EPS)	Routine monitoring for EPS symptoms is important in all patients receiving antipsychotics. EPS symptoms include: <ul style="list-style-type: none"> • akathisia • parkinsonism • dystonias 	Evaluate patients starting antipsychotic weekly for EPS until medication dose stable for 2 weeks. Repeat weekly assessment for at least 2 weeks following significant dose increases. Subsequent EPS monitoring based on medication and patient factors.
Akathisia	<ul style="list-style-type: none"> • Akathisia is a state of motor restlessness induced by neuroleptics. It is the most common form of EPS. • It presents as a compelling urge to move or inability to sit still. • Easily confused with: <ul style="list-style-type: none"> • mania (but with mania there is usually less sleep at night), • anxiety (but anxiety usually does not respond to beta-blockers and akathisia is likely to cause pacing and wiggling of legs), • restless legs (but akathisia is associated with higher potency neuroleptics and gets better with antihistamines, while restless legs/body is associated with lower potency neuroleptics like quetiapine, gets worse with antihistamines, is particularly present at night, and often is associated with SOB or panic symptoms). 	<ol style="list-style-type: none"> 1. Careful reduction of antipsychotic dose 2. Beta-blockers may help with symptoms: <ul style="list-style-type: none"> • propranolol or metoprolol penetrate CNS • propranolol: initial dose 10 mg po twice daily, gradual increase to 20 mg three times daily (max 120 mg/d) • consult with PCP before beta-blocker use in patients with asthma or COPD • check blood pressure & possibly also orthostatic blood pressure on initiation and periodically due to potential additive orthostatic effect of beta-blockers with many neuroleptics 3. Anticholinergic and antihistaminic medications are second line therapies which may be helpful. 4. Watch for additive anticholinergic symptoms (with antipsychotic) e.g., dry mouth, constipation, urinary retention, memory impairment. <ul style="list-style-type: none"> • benztropine (Cogentin®) 1-4 mg/d • diphenhydramine 25-100 mg/d
Parkinsonism	<ul style="list-style-type: none"> • Muscular rigidity (cogwheeling on physical exam) • Mask-like facies, decreased blink rate • Resting tremor • Shuffling gait • Slowing of movement (bradykinesia), decreased arm swing when walking • Depression symptom mimic: flattening of affect and decreased motivation, easily confused with depression (but depression does not have the motor symptoms), and negative symptoms of schizophrenia (but negative symptoms not associated with motor symptoms except decreased movement) 	<ol style="list-style-type: none"> 1. Decrease dose of antipsychotic 2. Anticholinergic drugs <ul style="list-style-type: none"> • benztropine 1-4 mg/d • diphenhydramine 25-100 mg/d • amantadine 100-300 mg/d
Dystonias	<ul style="list-style-type: none"> • Acute dystonias are intermittent spasmodic or sustained involuntary contractions of muscles in the face, neck, trunk, pelvis, extremities, and rarely the larynx (which may be life-threatening). (e.g., torticollis, opisthotonos, oculogyric crisis). • Risk factors include male sex, young age, cocaine use, hx acute dystonic reactions. • Dystonic reactions most often occur shortly after initiation of drug treatment - 50% occur within 48 hours and 90% occur within 5 days. 	More severe symptoms: <ul style="list-style-type: none"> • benztropine 1 to 2 mg daily IM/IV • diphenhydramine 50 mg daily IM/IV Mild symptoms: <ul style="list-style-type: none"> • benztropine 1-2 mg po once or twice daily Preferred intervention is change of antipsychotic, if change not possible, daily anticholinergic antiparkinson medication (e.g., benztropine) may be indicated.

*See prescribing information for complete description of adverse effects and drug interactions.

**Adverse effects should be assessed based upon objective assessment over time, not solely on patient self-report.

It may be necessary to obtain information from multiple sources to adequately assess a patient's actual response and side effects. Also see page 17 of this care guide.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
MANAGEMENT OF ADVERSE EFFECTS IN PATIENTS ON ANTIPSYCHOTIC MEDICATIONS*		
ADVERSE EFFECT**	DESCRIPTION	MANAGEMENT
Anticholinergic Effects	Symptoms include constipation, dry mouth, urinary hesitancy, visual disturbance, cognitive impairment. Symptoms are worse in elderly and can be especially severe when patients are taking other medications which also have anticholinergic effects.	<ul style="list-style-type: none"> • Closely monitor for bowel and bladder or other significant anticholinergic effects. • Consider dose reduction or medication change. • Reduce dose or discontinue other agents with anticholinergic properties.
Metabolic Side Effects	Many antipsychotics cause weight gain, hyperlipidemia, hyperglycemia, and hypertension. These effects often occur in association with weight gain although hyperglycemia may also occur independently.	<ul style="list-style-type: none"> • Consider switch to an antipsychotic with lower risk for weight gain or dyslipidemia. • Treat new problems symptomatically: e.g., antihypertensives, statins, metformin • Lifestyle changes to reduce weight
Neuroleptic Malignant Syndrome (NMS)	A rare disorder induced by neuroleptics associated with muscular rigidity, fever, confusion, and autonomic instability. NMS is unique as it has a life-threatening potential.	<ul style="list-style-type: none"> • Screen with muscle CK. • Stop neuroleptic immediately. • Transfer to medical ward/ICU for cardiovascular, hyperthermia, and fluid and electrolyte support.
Orthostatic Hypotension	Antipsychotics with alpha-blocking properties (clozapine, iloperidone, risperidone, paliperidone) can produce dose-related orthostatic hypotension and related tachycardia, especially when starting therapy.	Treatment is slow and gradual titration of dose.
Prolactin Elevation	First generation antipsychotics and risperidone and paliperidone may elevate prolactin, causing galactorrhea and menstrual disturbances in women, sexual dysfunction (men and women), and gynecomastia in men.	Treatment is to change to an agent less likely to elevate prolactin.
QT Prolongation	Especially with clozapine, iloperidone, thioridazine, ziprasidone, pimozone, IV haloperidol	Avoid QTc prolonging agents in those with cardiac disease, elderly, and patients on other QTc prolonging agents.
Sedation	Any antipsychotic agent can cause sedation; it is most common with chlorpromazine, clozapine, quetiapine. Symptoms most severe at initiation.	Slow and gradual titration of dose
Seizures	Many antipsychotics reduce seizure threshold and the effect is dose related.	<ul style="list-style-type: none"> • Closely monitor AED therapy and seizure frequency when adding antipsychotics or changing doses. • New onset seizures should not be attributed to Antipsychotic without appropriate work-up for new onset seizure disorder.
Sudden Death	Antipsychotic use is associated with an increased risk of sudden death although overall death rate in treated schizophrenic patients vs. non-treated patients appears to be lower. The increased risk is presumed to be related to the cardiac effects of antipsychotics.	<ul style="list-style-type: none"> • Obtain EKG on known cardiac patients before initiating antipsychotic. • Unclear if EKG monitoring reduces risk of sudden death. • Avoid concomitant use of other medications that prolong the QT when antipsychotics are needed.
Tardive Dyskinesia (TD)	Tardive Dyskinesia is characterized by repetitive, involuntary, purposeless movements due to long-term use of neuroleptics, although similar features can be present in individuals with schizophrenia who have never taken neuroleptics. Features may include: grimacing; tongue protrusion; lip smacking, puckering, and pursing; and rapid eye blinking. Rapid movements of the arms, legs, and trunk may also occur.	<ul style="list-style-type: none"> • Always use lowest effective antipsychotic dose. • Consider patient's risk and history of TD. • Monitor with AIMS at least annually. • Minimize or eliminate antipsychotics if possible. • For moderate to severe symptoms consider change to clozapine*** or quetiapine. These agents have low incidence of TD and have improved TD symptoms in some patients. • Elderly patients are at increased TD risk. • There are no effective therapies for TD.
Thermoregulatory problems	Antipsychotics may disrupt the body's ability to reduce core body temperature and could result in hyperthermia with exposure to extreme heat, strenuous exercise, etc. Antipsychotics, particularly risperidone, can also make it difficult for patients to adjust to cold temperatures, and therefore can precipitate hypothermia, particularly when the temperature is cold or if patients are not well covered.	<p>Appropriate care is advised in patients who will be experiencing:</p> <ul style="list-style-type: none"> • conditions which may contribute to an elevation in core body temperature (e.g., exercising strenuously, exposure to extreme heat, receiving concomitant medication with anticholinergic activity, or being subject to dehydration) • conditions which may lower core body temperature

*See prescribing information for complete description of adverse effects and drug interactions. Also see page 17 of this care guide.

**Adverse effects should be assessed based upon objective assessment over time, not solely on patient self-report. It may be necessary to obtain information from multiple sources to adequately assess a patient's actual response and side effects.

***See CCHCS/DHCS Clozapine Care Guide

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
CONVERTING PATIENT TO LONG-ACTING INJECTABLE (LAI) ANTIPSYCHOTIC MEDICATIONS		
It is advisable to initiate a trial of the oral antipsychotic form before converting to the LAI form in order to establish the patient's response and appropriate dosage.		
LAI antipsychotics should be reserved for patients who meet one or more of the following criteria: <ul style="list-style-type: none"> • Have a demonstrated history of non-adherence to oral antipsychotics despite directly observed therapy (DOT). • Patients under a PC2602 court order (formerly KEYHEA) who regularly refuse oral medications, necessitating the administration of involuntary IM back up medications. • Patients with a history of multiple relapses and re-hospitalizations. • Patients who have demonstrated a superior response to LAI antipsychotics. • Patients who are unable to take oral medications (e.g., malabsorption or inability to swallow). 		

DRUG NAME	CONVERSION FROM ORAL DOSE
Aripiprazole Extended-Release (ABILIFY MAINTENA®)	<ul style="list-style-type: none"> • Initial dose: 400 mg IM once monthly • Continue treatment with oral aripiprazole (10-20 mg) or other oral antipsychotic for 14 consecutive days to maintain therapeutic concentrations during initiation of IM therapy
Haloperidol Decanoate (HALDOL®)	<ul style="list-style-type: none"> • <u>Previous oral dose ≤10 mg/day haloperidol</u>: Recommended decanoate dose 10-15 times the oral daily dose given IM monthly and titrate upwards • <u>Previous oral dose >10 mg/day haloperidol</u>: Recommended decanoate dose 20 times the oral daily dose given IM monthly and titrate downwards • First dose not to exceed 100 mg • Approximate conversion: 100-200 mg IM decanoate every month = 10 mg/day oral haloperidol • Consider co administration of prophylactic anticholinergic (benztropine or diphenhydramine) with IM haloperidol to prevent an acute dystonic reaction (e.g. 1 or 2 mg IM benztropine)
Fluphenazine Decanoate (PROLIXIN®)	<ul style="list-style-type: none"> • 1.25 mg LAI IM every 3 weeks for each 1 mg of oral daily dose • Initial dose: 6.25-25 mg IM or subQ. Increase or repeat every 1-4 weeks as needed, usually every 2 weeks • Approximate conversion: 12.5-25 mg IM decanoate every 3 weeks = 10-20 mg/day oral fluphenazine • Continue oral medication for at least first week after LAI administered
Risperidone Long-Acting Injection (RISPERDAL CONSTA®)	<ul style="list-style-type: none"> • Initial dose: 25 mg IM every 2 weeks with increase in dose to response every 4 weeks • Continue oral medication at full dose for 3 weeks after first injection to allow for adequate plasma levels of depot risperidone to be reached
Paliperidone Palmitate Extended-Release (INVEGA SUSTENNA®)	<ul style="list-style-type: none"> • Initiate 234 mg IM on day 1, then 156 mg IM 1 week later • Oral can be discontinued at first injection • Approximately equivalent maintenance doses: <ul style="list-style-type: none"> • 3 mg/day oral = 39-78 mg/month IM • 6 mg/day oral = 117 mg/month IM • 12 mg/day oral = 234 mg/month IM

BOLD = Formulary

*See prescribing information for complete description of adverse effects and drug interactions. Also see page 17 of this care guide.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
FDA BLACK BOX WARNING (all antipsychotics): Increased risk of death when antipsychotics are used to treat elderly patients with dementia-related psychosis compared to placebo.		
BEERS CRITERIA MEDICATION (all antipsychotics): Potentially inappropriate for use in geriatric patients.		
FIRST-GENERATION ANTIPSYCHOTICS (FGAS) HIGH POTENCY		
MEDICATION	DOSE	SPECIAL NOTES*
Fluphenazine HCl (Prolixin®) Tablet: 1 mg, 2.5 mg, 5 mg, 10 mg Elixir: 2.5 mg/5 ml Immediate-release injectable: 2.5 mg/ml HEAT DRUG** \$	<u>Oral</u> Initial: 2.5-10 mg/day in divided doses every 6-8 hours Usual: 1-20 mg/day Max: 40 mg/day <u>Immediate-release injectable</u> Initial: 1.25mg IM as a single dose Usual: 2.5-10 mg/day IM in divided doses every 6-8 hours Max: 10 mg/day (Long-acting injectable– page 16)	<u>Contraindications</u> <ul style="list-style-type: none"> Severe CNS depression (e.g., acute head trauma); liver damage; blood dyscrasia; subcortical brain damage <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with hepatic impairment, renal impairment, seizures, or significant cardiac disease IM dose has been found to be 1/3 to 1/2 of oral dose (e.g., 4 mg IM fluphenazine = 10 mg oral fluphenazine HCl). May cause photosensitivity <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, citalopram, fluoxetine, paroxetine, propranolol, rifampin, tramadol
Haloperidol (Haldol®) Tablet: 0.5 mg, 1 mg, 2 mg, 5 mg, 10 mg, 20 mg HEAT DRUG** \$\$	<u>Oral</u> Initial: Moderate symptoms: 0.5-2 mg orally 2 or 3 times daily; Severe symptoms or chronic or resistant patient: 3-5 mg orally 2 or 3 times daily Usual: 2-20 mg/day Max: 100 mg/day (Long-acting injectable– page 16)	<u>Contraindications</u> <ul style="list-style-type: none"> Severe CNS depression or coma; Parkinson's disease <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with hepatic impairment, seizures, severe cardiovascular disorders <u>Drug Interactions</u> <ul style="list-style-type: none"> Azole antifungals (e.g., fluconazole, itraconazole), bupropion, carbamazepine, citalopram, erythromycin, fluoxetine, lithium, metoclopramide, paroxetine, quinidine, rifampin, tramadol, trazodone
Haloperidol Lactate (Haldol®) Oral Soln: 2 mg/ml Immediate-release injectable: 5 mg/ml HEAT DRUG** \$\$	<u>Oral soln</u> Initial: Moderate symptoms: 0.5-2 mg orally 2 to 3 times daily; Severe sx or resistant cases: 3-5 mg orally 2 or 3 times daily Usual: 2-20 mg/day Max: 100 mg/day <u>Immediate-release injectable</u> Initial: 2-5 mg IM every 1-4 hours Usual: 2-5 mg IM every 4-8 hours Max: 100 mg/day	
Pimozide (Orap®) Tablet: 1 mg, 2 mg HEAT DRUG** \$\$\$	Initial: 1-2 mg/day orally in divided doses Titration: Increase dose as needed every other day Max: 10 mg/day or 2 mg/kg/day (whichever is less) (Patients receiving doses exceeding 4 mg/day should have CYP2D geno/phenotyping performed)	<u>Contraindications</u> <ul style="list-style-type: none"> Severe CNS depression or coma; cardiac arrhythmias; hypokalemia or hypomagnesemia Coadministration with drugs known to prolong QTc interval (e.g., amiodarone, quinidine, etc.), CYP2D6 inhibitors (e.g., fluoxetine, paroxetine), CYP3A4 inhibitors (e.g., clarithromycin, erythromycin, fluconazole, itraconazole, protease inhibitors, etc.), citalopram, escitalopram <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with renal or hepatic impairment, cardiovascular disorders or conduction disorders, seizures <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, corticosteroids, duloxetine, phenytoin, rifampin, tramadol, verapamil
Thiothixene (Navane®) Capsule: 1 mg, 2 mg, 5 mg, 10 mg HEAT DRUG** \$\$\$	Initial: Mild conditions: 2 mg orally 3 times daily; Severe conditions: 5 mg orally 2 times daily Usual: 5-30 mg/day Max: 60 mg/day	<u>Contraindications</u> <ul style="list-style-type: none"> CNS depression due to any cause; blood dyscrasias <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular disease, hepatic disease, seizures <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, phenytoin, rifampin, tramadol
Trifluoperazine (Stelazine®) Tablet: 1 mg, 2 mg, 5 mg HEAT DRUG** \$\$\$	Initial: 2-5 mg orally 2 times daily Usual: 2-40 mg/day Max: 40 mg/day	<u>Contraindications</u> <ul style="list-style-type: none"> Blood dyscrasias, bone marrow depression, liver damage, CNS depression <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular disease, glaucoma, hepatic impairment, seizures May cause photosensitivity <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, propranolol, rifampin, tramadol

Bold = Formulary

*See prescribing information for complete description of adverse effects and drug interactions. Also see page 17 of this care guide.

**HEAT DRUG: Antipsychotics may disrupt the body's ability to reduce core body temperature. See page 9, thermoregulatory problems.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
FIRST-GENERATION ANTIPSYCHOTICS (FGAS) MEDIUM POTENCY		
MEDICATION	DOSE	SPECIAL NOTES*
Loxapine (Loxitane®) Capsule: 5 mg, 10 mg, 25 mg, 50 mg HEAT DRUG** \$\$	Initial: 10 mg orally twice daily; for severe cases up to 50 mg/day Usual: 60-100 mg/day in 2-4 divided doses Max: 250 mg/day	<u>Contraindications</u> <ul style="list-style-type: none"> Severe drug-induced depressed states (e.g., barbiturates, narcotics) <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular disease, glaucoma, hepatic disease, seizures, urinary retention <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, metoclopramide, phenytoin, tramadol
Perphenazine (Trilafon®) Tablet: 2 mg, 4 mg, 8 mg, 16 mg HEAT DRUG** \$\$\$	Initial: Outpatients: 4-8 mg, orally 3 times daily; Hospitalized patients: 8-16 mg orally 2-4 times a day Usual: 12-64 mg/day Max: 64 mg/day	<u>Contraindications</u> <ul style="list-style-type: none"> Blood dyscrasias, bone marrow depression, concomitant use with large doses of CNS depressants (e.g., barbiturates, narcotics, analgesics, antihistamines), liver damage, subcortical brain damage <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with seizures, psychic depression, hepatic disease, renal impairment, respiratory impairment May cause photosensitivity <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, metoclopramide, propranolol, rifampin, tramadol
FIRST-GENERATION ANTIPSYCHOTICS (FGAS) LOW POTENCY		
MEDICATION	DOSE	SPECIAL NOTES
Chlorpromazine (Thorazine®) Tablet: 10 mg, 25 mg, 50 mg, 100 mg, 200 mg Injectable: 25 mg/ml HEAT DRUG** \$\$\$	<u>Oral</u> Initial: Outpatients: 10-25 mg orally 2-4 times a day, increase 20-50 mg every 3-4 days until symptoms controlled; Hospitalized patients: 25 mg orally 3 times a day, increase 25-50mg every 3-4 days as needed Usual: 200-1000 mg/day Max: 2000 mg/day <u>Injectable</u> Initial: 25 mg IM, may repeat 25-50 mg IM in 1 hour Usual: 300-800 mg/day IM divided every 4-6 hours Max: 400mg IM every 4-6 hours in very severe cases until patient controlled (usually within 24-48 hrs)	<u>Contraindications</u> <ul style="list-style-type: none"> Concomitant use with large doses of CNS depressants (e.g., barbiturates, narcotics, analgesics, antihistamines) <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with bone marrow depression, cardiovascular disease, glaucoma, liver disease, renal disease, seizures, and those at risk for pneumonia due to esophageal dysmotility and aspiration IM solution may contain sulfites that can cause allergic-type reactions (e.g., anaphylaxis, life-threatening asthmatic reactions); increased risk in asthmatic patients May cause photosensitivity <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, ciprofloxacin, citalopram, erythromycin, fluconazole, fluoxetine, levofloxacin, methadone, paroxetine, propranolol, rifampin, quinidine, sertraline, trazodone
Thioridazine (Mellaril®) Tablet: 10 mg, 25 mg, 50 mg, 100 mg HEAT DRUG** \$\$	Initial: 50-100 mg orally 3 times daily Usual: 200-800 mg/day Max: 800 mg/day	<u>Boxed warning</u> <ul style="list-style-type: none"> Can cause dose-related QTc prolongation; associated with torsade de pointes and sudden death <u>Contraindications</u> <ul style="list-style-type: none"> Coadministration with drugs known to prolong QTc interval (e.g., amiodarone, erythromycin, fluconazole, etc.), CYP2D6 inhibitors (e.g., fluoxetine, paroxetine), drugs that inhibit thioridazine metabolism (e.g., fluvoxamine, propranolol, pindolol); congenital long QT syndrome; cardiac arrhythmias; genetic defect causing poor CYP2D6 metabolism; severe CNS depression; severe hypertensive or hypotensive heart disease <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with bradycardia, hypokalemia, baseline QTc >450 msec, seizures May cause photosensitivity <u>Drug Interactions</u> <ul style="list-style-type: none"> Interacts with bupropion, carbamazepine, tramadol

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**HEAT DRUG: Antipsychotics may disrupt the body's ability to reduce core body temperature. See page 9, thermoregulatory problems.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
SECOND-GENERATION ANTIPSYCHOTICS (ATYPICALS, SGAS)		
MEDICATION	DOSE	SPECIAL NOTES*
<p>Aripiprazole (Abilify[®], Abilify Discmelt[®])</p> <p>Tablet: 2 mg, 5 mg, 10 mg, 15 mg, 20 mg, 30 mg</p> <p>ODT: 10 mg, 15 mg</p> <p>Oral soln: 1 mg/ml</p> <p>Immediate-release injectable: 9.75 mg/1.3 mL</p> <p>HEAT DRUG** \$\$\$\$</p>	<p><u>Oral</u> Initial: 10-15 mg once daily Usual: 10-30 mg/day Max: 30 mg/day</p> <p><u>Immediate-release injectable</u> Initial: 9.75 mg IM, may repeat after 2 hours Usual: 5.25-15 mg Max: 30 mg/day</p> <p>(Long acting injectable– page 16)</p>	<p><u>Other</u></p> <ul style="list-style-type: none"> Use caution in patients with cardiovascular disease, seizures, patients at risk for aspiration pneumonia Oral soln mg-per-mg dose same as tablet up to 25 mg; for 30 mg tablet, use oral soln at 25 mg ODT contains phenylalanine, use caution with phenylketonuria <p><u>Drug Interactions</u></p> <ul style="list-style-type: none"> Strong CYP3A4 inhibitors (e.g., ketoconazole, clarithromycin) or strong CYP2D6 inhibitors (e.g., quinidine, fluoxetine, paroxetine): reduce aripiprazole dose to 1/2 of usual dose when used concomitantly Strong CYP3A4 inhibitor <u>and</u> strong CYP2D6 inhibitors coadministered: reduce aripiprazole dose to 1/4 of the usual dose CYP3A4 inducers (e.g., carbamazepine): double aripiprazole dose over 1-2 weeks
<p>Clozapine (Clozaril[®])</p> <p>Tablets: 25 mg, 50 mg, 100 mg, 200 mg</p> <p>HEAT DRUG** \$\$\$\$</p>	<p>Initial: 12.5 mg orally once daily on day 1; may increase by 12.5-25 mg every 3 days to achieve a target dose of dose of 300-450 mg/day (in 2-3 divided doses) Usual: 300-900 mg/day Max: 900 mg/day</p>	<p><u>Boxed Warning</u></p> <ul style="list-style-type: none"> Can cause agranulocytosis; orthostatic hypotension, bradycardia, and syncope; seizures; myocarditis and cardiomyopathy <p><u>Contraindications</u></p> <ul style="list-style-type: none"> Patients with a history of clozapine-induced agranulocytosis or severe granulocytopenia <p><u>Other</u></p> <ul style="list-style-type: none"> Use caution in patients with cardiovascular disease, seizures, patients at risk of cerebrovascular events, concomitant use with QT-interval prolonging drugs, or patients with bowel hypomotility Daily dose >500 mg require 3 divided doses <p><u>Drug Interactions</u></p> <ul style="list-style-type: none"> Bupropion, carbamazepine, citalopram, erythromycin, fluconazole, fluoxetine, fluvoxamine, itraconazole, metoclopramide, nefazodone, oxcarbazepine, paroxetine, sertraline, trazodone <p>SEE CCHCS/DHCS CLOZAPINE CARE GUIDE</p>
<p>Iloperidone (Fanapt[®])</p> <p>Tablet: 1 mg, 2 mg, 4 mg, 6 mg, 8mg, 10 mg, 12 mg</p> <p>HEAT DRUG** \$\$\$\$</p>	<p>Initial: 1 mg orally twice daily, then moving to 2 mg, 4 mg, 6 mg, 8 mg, 10 mg, and 12 mg twice daily on days 2, 3, 4, 5, 6, and 7 respectively, to reach target dose of 6-12 mg twice daily Usual: 12-24 mg/day Max: 24 mg/day</p>	<p><u>Other</u></p> <ul style="list-style-type: none"> Use caution in patients with significant cardiovascular illness (e.g., QT prolongation, arrhythmia, recent acute myocardial infarction, uncompensated heart failure), seizures, patients at risk for aspiration pneumonia, hepatic impairment, concomitant use with QT-interval prolonging drugs <p><u>Drug Interactions</u></p> <ul style="list-style-type: none"> Strong CYP2D6 inhibitors (e.g., fluoxetine, paroxetine) or strong CYP3A4 inhibitors (e.g., ketoconazole, clarithromycin): cut looperidone dose by 1/2 Avoid concomitant use with QT-interval prolonging drugs
<p>Lurasidone (Latuda[®])</p> <p>Tablet: 20 mg, 40 mg, 60 mg, 80 mg, 120 mg</p> <p>HEAT DRUG** \$\$\$\$</p>	<p>Initial: 40 mg orally once daily with food (at least 350 calories) Usual: 40-160 mg/day Max: 160 mg/day</p> <p><u>Renal Dosing</u> CrCl <50 mL/min: initial dose, 20 mg/day; not to exceed 80 mg/day</p> <p><u>Hepatic Dosing</u> Moderate hepatic impairment (Child-Pugh 7-9): initial dose, 20 mg/day, not to exceed 80 mg/day Severe hepatic impairment (Child-Pugh 10-15): initial dose, 20 mg/day, not to exceed 40 mg/day</p>	<p><u>Contraindications</u></p> <ul style="list-style-type: none"> Do not use with strong CYP3A4 inhibitors (e.g., ketoconazole, clarithromycin, ritonavir, voriconazole, etc.) or strong CYP3A4 inducers (e.g., rifampin, carbamazepine, phenytoin, etc.) <p><u>Other</u></p> <ul style="list-style-type: none"> Use caution in patients with hepatic impairment, renal impairment, seizures, patients at risk for aspiration pneumonia Take with food (at least 350 calories) to increase absorption <p><u>Drug Interactions</u></p> <ul style="list-style-type: none"> Concomitant moderate CYP3A4 inhibitors (e.g., diltiazem, atazanavir, erythromycin, fluconazole, verapamil, etc.): <ul style="list-style-type: none"> When initiating lurasidone, 20mg/day; not to exceed 80mg/day When moderate CYP3A4 inhibitor added to stable lurasidone therapy, reduce lurasidone to half of original dose Concomitant moderate CYP3A4 inducer: may require lurasidone dose increase following chronic treatment (≥7 days)

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**HEAT DRUG: Antipsychotics may disrupt the body's ability to reduce core body temperature. See page 9, thermoregulatory problems.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
SECOND-GENERATION ANTIPSYCHOTICS (ATYPICALS, SGAS) CONT'D		
MEDICATION	DOSE	SPECIAL NOTES*
Olanzapine (Zyprexa[®], Zyprexa[®] Zydys) Tablet: 2.5 mg, 5 mg, 7.5 mg, 10 mg, 15 mg, 20 mg ODT(Oral dissolving tablet): 5 mg, 10 mg, 15 mg, 20 mg Immediate-release injectable: 10mg/vial (5mg/ml) HEAT DRUG** \$-\$\$	<u>Oral</u> Initial: 5-10 mg once daily, with target dose of 10 mg/day within several days Usual: 5-20 mg/day Max: 20 mg/day <u>Immediate-release injectable</u> Initial: 10 mg IM as a single dose Usual: 2.5-10 mg/day Max: 30 mg/day (10 mg IM 2-4 hours apart)	<u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular or cerebrovascular disease, significant hepatic impairment, seizures Assess for orthostatic hypotension prior to administration of IM olanzapine ODT contains phenylalanine, use caution in patients with phenylketonuria <u>Drug Interactions</u> <ul style="list-style-type: none"> Bupropion, carbamazepine, citalopram, erythromycin, fluvoxamine, metoclopramide
Paliperidone (Invega [®]) Tablet, extended-release: 1.5 mg, 3 mg, 6 mg, 9 mg HEAT DRUG** \$\$\$\$\$	Initial: 6 mg orally once daily in morning Usual: 3-12 mg/day Max: 12 mg/day <u>Renal Dosing</u> CrCl 50-79 mL/min: 3 mg/day; Max: 6 mg/day CrCl 10-49 mL/min: 1.5 mg/day; Max 3 mg/day CrCl <10 mL/min: avoid (Long-acting injectable– page 16)	<u>Contraindications</u> <ul style="list-style-type: none"> Hypersensitivity to risperidone <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular or cerebrovascular disease, seizures, renal impairment, bradycardia, cardiac arrhythmias, patients at risk for aspiration pneumonia, gastrointestinal narrowing <u>Drug Interactions</u> <ul style="list-style-type: none"> Carbamazepine, citalopram, erythromycin, fluconazole and other azoles, fluoxetine, metoclopramide
QUETIAPINE—SEE NEXT PAGE		
Risperidone (Risperdal[®], Risperdal M-Tab[®]) Tablet: 0.25 mg, 0.5 mg, 1 mg, 2 mg, 3 mg, 4 mg ODT: 0.5 mg, 1 mg, 2 mg, 3 mg, 4 mg Oral Soln: 1 mg/ml HEAT DRUG** \$	Initial: 2 mg/day orally as a single dose or 2 divided doses. Increase in increments of 1-2 mg/day as tolerated to target dose of 4-8 mg/day. Max: 16 mg/day <u>Renal and Hepatic Dosing</u> CrCl <30 ml/min or Child-Pugh 0-15: initial dose, 0.5 mg twice daily; may increase by no more than 0.5 mg twice daily, with increase to dose >1.5mg twice daily at intervals of at least 1 week (Long-acting injectable– page 16)	<u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular or cerebrovascular disease, patients at risk for aspiration pneumonia, hepatic impairment, renal impairment, seizures ODT contains phenylalanine, use caution in patients with phenylketonuria <u>Drug Interactions</u> <ul style="list-style-type: none"> Enzyme inducers (e.g., carbamazepine, rifampin, phenytoin): slowly titrate risperidone dosage upward as clinically necessary without exceeding twice the patient's usual dose CYP2D6 inhibitors (e.g., fluoxetine, paroxetine): dose of risperidone should be reduced; do not exceed 8 mg/day of risperidone
Ziprasidone (Geodon[®]) Capsule: 20 mg, 40 mg, 60 mg, 80 mg Injectable: 20 mg/ml HEAT DRUG** \$\$	<u>Oral</u> Initial: 20 mg twice daily with food Usual: 20-80 mg twice daily Max: 160 mg/day <u>Injectable</u> Initial: 10 mg IM every 2 hours or 20 mg every 4 hours Max: 40 mg/day	<u>Contraindications</u> <ul style="list-style-type: none"> Patients with known history of significant QT prolongation, recent acute myocardial infarction, uncompensated heart failure, in combination with other drugs that can prolong QT interval <u>Other</u> <ul style="list-style-type: none"> Use caution in patients with cardiovascular or cerebrovascular disease, seizures Oral ziprasidone should be taken with food to increase absorption <u>Drug Interactions</u> <ul style="list-style-type: none"> Avoid drugs that can prolong QT interval (e.g., citalopram, erythromycin, fluconazole, fluoxetine)

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SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
SECOND-GENERATION ANTIPSYCHOTICS (ATYPICALS, SGAS) CONT'D		
<p>Quetiapine fumarate (Seroquel®)</p> <p>Tablet, immediate-release: 25 mg, 50 mg, 100 mg, 200 mg, 300 mg, 400 mg</p> <p>(Tablet, extended-release: Not used in CCHCS)</p> <p>HEAT DRUG** \$\$-\$\$\$\$</p>	<p><u>Immediate-release Tablets</u> Initial: 25 mg orally twice daily on day 1; increase 25-50 mg, divided 2-3 times, on day 2 and day 3 to a target range of 300-400 mg/day in divided doses by day 4 Usual: 150-750 mg/day Max: 750 mg/day</p> <p><u>Extended-release Tablets</u> Initial: 300 mg orally once daily in evening Usual: 400-800 mg/day Max: 800 mg/day</p> <p><u>Hepatic Dosing</u> Immediate-release: initial dose, 25 mg/day; increase dose daily by 25-50 mg/day to lowest effective and tolerable dose Extended-release: initial dose, 50 mg/day, increase by 50 mg/day to lowest effective and tolerable dose</p>	<p><u>Restrictions:</u></p> <ul style="list-style-type: none"> • Quetiapine is nonformulary and its use is highly restricted in CCHCS/DHCS due to significant safety issues primarily due to misuse and abuse. • Long-acting oral quetiapine (Seroquel XR®) may not be prescribed in CCHCS/DHCS. • Patients arriving in CDCR on long-acting quetiapine will be converted to immediate-release quetiapine using the P&T committee approved therapeutic Interchange process. Consideration should be given to monitoring orthostatic blood pressure/pulse for two days when converting a patient to immediate release quetiapine from the long-acting form. • Quetiapine must be crushed and floated for administration in CCHCS/DHCS. • Use of quetiapine requires nonformulary review and approval. Required documentation on the nonformulary request includes: <ul style="list-style-type: none"> ◆ Diagnosis of bipolar disorder or a disorder with a psychotic component including Parkinsonism with psychosis or tardive dyskinesia with psychosis. ◆ Severity of the impairment and how it affects the patient's function in prison. ◆ 3 failed trials of antipsychotic agents (if prescribed for a psychotic disorder) each given for a minimum of 6 weeks at maximum tolerated therapeutic doses with blood levels which confirm adherence with therapeutic trials. Minimum treatment duration is not required if the trial ended due to adverse effects. ◆ 3 failed trials of mood stabilizing agents (if prescribed for mood disorder) at maximum tolerated doses given for 6-8 weeks with blood levels which confirm adherence with the therapeutic trial. Minimum treatment duration is not required if the trial ended due to adverse effects. ◆ Documentation must also include doses used, duration of treatment, side effects, and response to each failed therapy. • Patients currently receiving quetiapine who do not meet the criteria above will be tapered off quetiapine and switched to another agent as clinically indicated. • If there is clinical indication to continue quetiapine, the prescriber shall submit the nonformulary request with the applicable documentation as described above. • Quetiapine may not be prescribed for patients: <ul style="list-style-type: none"> ◆ with history of institutional drug abuse or community illicit drug abuse ◆ with history of medication misuse or hoarding ◆ as treatment of insomnia alone <p><u>Other</u></p> <ul style="list-style-type: none"> • Use caution in patients with cardiovascular or cerebrovascular disease, hepatic impairment, patients at risk for aspiration pneumonia. <p><u>Drug Interactions</u></p> <ul style="list-style-type: none"> • Strong CYP3A4 inhibitors (e.g., ketoconazole, ritonavir): reduce quetiapine dose to 1/6 of original dose • Strong CYP3A4 inducers (e.g., phenytoin, rifampin): increase quetiapine dose up to 5-fold the original dose when used concomitantly for > 7-14 days • Avoid drugs that prolong QT interval

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**HEAT DRUG: Antipsychotics may disrupt the body's ability to reduce core body temperature. See page 9, thermoregulatory problems.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
LONG-ACTING INJECTABLE ANTIPSYCHOTICS		
It may be advisable to initiate a trial of short-acting antipsychotic form before converting to the long-acting injectable form to establish the patient's response and appropriate dosage.		
MEDICATION	DOSE	SPECIAL NOTES*
<p>Aripiprazole (Abilify Maintena®)</p> <p>Extended-release injectable: 300 mg, 400 mg</p> <p>HEAT DRUG** \$\$\$\$\$</p>	<p>Initial: 400 mg IM once monthly Usual: 400 mg IM once monthly Max: 400 mg IM once monthly</p>	<p><u>Administration & Site</u></p> <ul style="list-style-type: none"> IM injection into gluteal muscle With the initial injection, give oral aripiprazole (10-20 mg) or another antipsychotic concurrently for 14 consecutive days <p><u>Dosage adjustments</u></p> <ul style="list-style-type: none"> CYP2D6 Poor Metabolizers: 300 mg CYP2D6 Poor Metabolizers taking CYP3A4 inhibitors >14 days: 200 mg Patients taking Abilify Maintena® 400 mg <ul style="list-style-type: none"> Strong CYP2D6 <u>or</u> CYP3A4 inhibitors >14 days: 300 mg CYP2D6 <u>and</u> CYP3A4 inhibitors >14 days: 200 mg CYP3A4 inducers >14 days: Avoid use Patients taking Abilify Maintena® 300 mg <ul style="list-style-type: none"> Strong CYP2D6 <u>or</u> CYP3A4 inhibitors >14 days: 200 mg CYP2D6 <u>and</u> CYP3A4 inhibitors >14 days: 160 mg CYP3A4 inducers >14 days: Avoid use
<p>Haloperidol decanoate (Haldol® Decanoate)</p> <p>Decanoate injectable: 50 mg/mL, 100 mg/ml</p> <p>HEAT DRUG** \$\$\$</p>	<p>Initial: <u>Previous oral dose ≤10 mg/day haloperidol</u>: 10-15x oral daily dose IM monthly <u>Previous oral dose >10 mg/day haloperidol</u>: 20x oral daily dose IM monthly Usual: 75-300 mg/month Max: 450 mg/month, first dose not to exceed 100mg</p>	<p><u>Administration & Site</u></p> <ul style="list-style-type: none"> Deep IM injection. Max volume per injection site should not exceed 3 mL <p><u>Other</u></p> <ul style="list-style-type: none"> Initial doses >100 mg should be administered in 2 separate IM injections 3-7 days apart Approximate conversion: 100-200 mg IM decanoate every month = 10 mg/day oral haloperidol
<p>Fluphenazine decanoate (Prolixin® Decanoate)</p> <p>Decanoate injectable: 25 mg/ml</p> <p>HEAT DRUG** \$\$\$</p>	<p>Initial: 6.25-25 mg IM or subQ. Increase or repeat every 1-4 weeks as needed, usually every 2 weeks Usual: 12.5-100mg Max: 100 mg/dose</p>	<p><u>Administration & Site</u></p> <ul style="list-style-type: none"> May be given subQ or IM. Gluteal injection preferred. Inject slowly and deeply into upper outer quadrant or gluteal muscle. <p><u>Other</u></p> <ul style="list-style-type: none"> Oral dose should be discontinued after first injection. Approximate conversion: 12.5-25 mg IM decanoate every 3 weeks = 10-20 mg/day oral fluphenazine
<p>Risperidone (Risperidal Consta®)</p> <p>Long-acting injectable: 12.5 mg, 25 mg, 37.5 mg, 50 mg</p> <p>HEAT DRUG** \$\$\$\$\$</p>	<p>Initial: 25 mg IM every 2 weeks with increase in dose to response every 4 weeks Usual: 12.5-50 mg Max: 50 mg IM every 2 weeks</p>	<p><u>Administration & Site</u></p> <ul style="list-style-type: none"> Deep IM deltoid or gluteal injection. Deltoid injection only for patients with adequate muscle mass <p><u>Other</u></p> <ul style="list-style-type: none"> Continue oral for 3 weeks after first injection to allow for adequate plasma therapeutic concentrations from depot risperidone. Renal and/or hepatic impairment <ul style="list-style-type: none"> Titrate oral risperidone prior to starting IM: 0.5 mg oral risperidone twice daily during first week, which can be increased to 1 mg twice daily or 2 mg once daily during second week. If daily dose of 2 mg oral risperidone is well tolerated, an injection of 25 mg Risperdal Consta® can be administered every 2 weeks. Oral risperidone should be continued for 3 weeks after first injection.
<p>Paliperidone palmitate (Invega Sustenna®)</p> <p>Extended-release injectable: 39 mg, 78 mg, 117 mg, 156 mg, 234 mg</p> <p>HEAT DRUG** \$\$\$\$\$</p>	<p>Initial: 234 mg on day 1 and 156 mg one week later, both IM deltoid Usual: 39-234 mg/month Max: 234 mg/month</p> <p><u>Renal Dosing</u> CrCl 50-79 mL/min: Initial dose 156 mg IM day 1 and 117 mg IM one week later, both IM deltoid; then 78 mg/month IM CrCl <50 ml/min: not recommended</p>	<p><u>Administration & Site</u></p> <ul style="list-style-type: none"> Slow, deep IM injection. 1st and 2nd dose must be given in deltoid, maintenance doses can be given in deltoid or gluteal muscle. <p><u>Other</u></p> <ul style="list-style-type: none"> Oral can be discontinued at first injection Same initiation schedule for all patients Approximate equivalent maintenance doses: <ul style="list-style-type: none"> 3 mg/day oral = 39-78 mg/month IM 6 mg/day oral = 117 mg/month IM 12 mg/day oral = 234 mg/month IM

Bold = Formulary

*See prescribing information for complete description of adverse effects and drug interactions. Also see page 17 of this care guide.

**HEAT DRUG: Antipsychotics may disrupt the body's ability to reduce core body temperature. See page 9, thermoregulatory problems.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
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ANTIPSYCHOTIC POTENCY, DOSAGE, AND ADVERSE EFFECT* COMPARISON

DRUG	POTENCY	EQUIVALENT DOSE (APPROX MG.)	USUAL DOSE (MG/D)	WT GAIN	EPS	SEDATION	ANTICHOLINERGIC	ORTHOSTATIC	PROLACTIN	TD	AKATHISIA
FGAs											
Chlorpromazine	Low	100	200-1000	++	++	+++	+++	++/+++	+++	++	++
Fluphenazine	High	2	1-20	+	+++	++	++	+	+++	++	+++
Haloperidol	High	2	2-20	+	+++	+	+	+	+++	++	+++
Loxapine	Med	10	60-100	+	++	+	++	+	+++	++	++
Pimozide	High	2	1-10	+	+++	+	+	+	+++	++	++
Perphenazine	Med	10	12-64	+	++	+ / ++	+ / ++	+	+++	++	+++
Thioridazine	Low	100	200-800	+	+	+++	+++	+++	+++	++	++
Thiothixene	High	4	5-30	+	+++	+ / ++	+	+	+++	++	+++
Trifluoperazine	High	5	2-40	+	+++	+	+	+	+++	++	+++
SGAs											
Aripiprazole		7.5	10-30	0/+	+	0/+	0/+	0/+	0	+	++
Clozapine		100	300-900	+++	0	++++	+++	+++	0	0	0/+
Iloperidone		6	12-24	+	+	++	0/+	++	+++	+	+
Lurasidone		20	40-160	+	++	++	0/+	+	0	+	++
Olanzapine		5	5-20	+++	+	++	++	+	0/+	+	+
Paliperidone		3	3-12	+	++	+	0/+	+	+++	+	++
Quetiapine		75	150-800	++	0	++	++	++	0	0	+
Risperidone		1	2-8	+	++	+	0/+	++	+++	+	++
Ziprasidone		60	40-160	0/+	+	+	0/+	+ / ++	0/+	+	++

*See prescribing information for complete description of adverse effects and drug interactions.

SCHIZOPHRENIA: WHAT YOU SHOULD KNOW



What is schizophrenia?

- It is a brain disorder that keeps you from thinking clearly.
- It is a biological illness and not anyone's fault.
- It can cause you to see or hear things that are not there.
- Most people with this condition need to stay on antipsychotic medication for the rest of their lives.

Who gets schizophrenia?

- It affects people from all cultures.
- It can start at any age, but usually begins in late teenage years or the early 20s.
- It is equally common in men and women.

How can I tell if I have schizophrenia?

- There is no test to diagnose schizophrenia.
- Health care providers can tell if you have it by learning about you and your symptoms during a medical visit.

What are the symptoms of schizophrenia?

- Hallucinations – when you hear, see, feel, smell, or taste things that are not there
- Delusions – when you believe things that are not true
- Disorganized thinking or speech – when you have trouble thinking in an organized way or when you make up words or say things that do not make any sense
- Not showing much emotion or not changing your facial expression
- Not moving or talking much
- Not keeping clean or taking showers
- Not having much interest in having fun or spending time with people
- Trouble learning and remembering
- Anxiety or depression are common with schizophrenia

How is schizophrenia treated?

- Schizophrenia is treated with a combination of medications, supportive therapy and programs.

When should I contact health care staff?

- Any time you have concerns or questions about how you are feeling.
- If you get muscle stiffness or fever or you have trouble thinking clearly.
- It is especially important to contact the team if you are:
 - Hearing voices that are telling you to hurt yourself or others
 - Feeling the urge to hurt yourself or others
 - Feeling hopeless or overwhelmed
 - Seeing things that are not really there
 - Unable to care for yourself
- If you are having troublesome medication side effects.

SCHIZOPHRENIA: WHAT YOU SHOULD DO



Regularly take your medications

- Take your medication as prescribed by your doctor.
- Never just stop your treatment.
- If you are having side effects, talk to your doctor about them.
- Some side effects improve with time and occasionally a change in medication is needed.



Report changes in symptoms

- If you feel that your medication is not working or if you start feeling anxious or confused, talk to health care staff.
- If you are feeling low or depressed, it is important to share this with your therapist.
- Patients with schizophrenia have a higher risk for suicide.
- If you are feeling hopeless, overwhelmed, or have thoughts or urges to hurt yourself, contact any health care or custody staff immediately.



Participate in supportive therapy

- Your Mental Health providers will usually meet with you one on one to help you learn about your illness and help you develop better coping skills.
- Group therapy can often help you gain more coping skills and give you support from others who understand what you are going through.
- When possible, talking to a family member, religious or spiritual leader, or a friend can help you feel supported.



Learn relaxation and stress management

- Stress reduction techniques (e.g., regular exercise, meditation) can help you cope.



ESQUIZOFRENIA: LO QUE DEBE SABER



¿Qué es la esquizofrenia?

- Es un desorden cerebral que impide que usted piense claramente.
- Es una enfermedad biológica, nadie es culpable de tenerla.
- Puede ocasionar que usted vea o escuche cosas que no están realmente allí.
- La mayoría de las personas que sufren de esta condición debe tomar medicamentos antipsicóticos por el resto de sus vidas.

¿Quién puede sufrir de esquizofrenia?

- Afecta a personas de todas las culturas.
- Puede presentarse a cualquier edad, pero por lo general comienza durante la adolescencia tardía o al inicio de la segunda década de vida.
- Es igualmente común en hombres y mujeres.

¿Cómo saber si tengo esquizofrenia?

- No existe ninguna prueba para diagnosticar la esquizofrenia.
- El personal médico puede determinar si tiene esquizofrenia al conocer sobre usted y sus síntomas durante una visita médica.

¿Cuáles son los síntomas de la esquizofrenia?

- Alucinaciones: cuando escucha, ve, siente, huele o saborea cosas que no están realmente allí.
- Delirios: cuando cree cosas que no son verdaderas.
- Pensamiento o discurso desorganizado: cuando tiene problemas al pensar de manera organizada, inventa palabras o dice cosas que no tienen ningún sentido.
- Deja de mostrar algunas emociones y no cambia su expresión facial.
- No habla ni se mueve demasiado.
- No mantiene su higiene personal, ni se ducha.
- No tiene interés en divertirse o pasar tiempo con otras personas.
- Tiene problemas al tratar de aprender y recordar.
- La ansiedad y la depresión son comunes en la esquizofrenia.

¿Cómo se trata la esquizofrenia?

- La esquizofrenia se trata con una combinación de medicamentos, terapias de apoyo y programas.

¿Cuándo debería contactar al personal de salud?

- Cada vez que tenga inquietudes o preguntas acerca de cómo se siente.
- Si se le presenta rigidez muscular o fiebre o si tiene dificultad para pensar con claridad.
- Es particularmente importante que contacte al equipo médico si usted:
 - Escucha voces que le dicen que se haga daño a sí mismo o a los demás.
 - Siente la urgencia de hacerse daño a sí mismo o a los demás.
 - Se siente desesperado o abrumado.
 - Ve cosas que no están realmente allí.
 - No se siente capaz de cuidar de sí mismo.
- Si está presentando efectos secundarios molestos producto de la medicación.

ESQUIZOFRENIA: LO QUE DEBE HACER



Tome sus medicamentos con regularidad

- Tome sus medicamentos tal como se lo indicó el médico.
- Nunca detenga su tratamiento.
- Si tiene efectos secundarios, dígaselo a su médico.
- Algunos efectos secundarios mejoran con el tiempo, y ocasionalmente, se requiere un cambio de medicamentos.



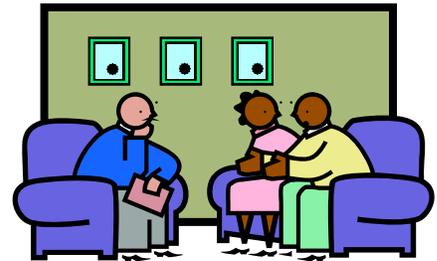
Informe sobre cambios en sus síntomas

- Si siente que sus medicamentos no están haciendo efecto, o si comienza a sentirse ansioso o confundido, hable con el personal de salud.
- Si se siente triste o deprimido, es importante que lo comparta con su terapeuta.
- Los pacientes de esquizofrenia tienen un riesgo más alto de suicidio.
- Si se siente desesperado, abrumado, o siente la necesidad de hacerse daño a sí mismo, contacte al personal de salud o de custodia de inmediato.



Participe en las terapias de apoyo

- Generalmente, su proveedor de cuidados de salud mental se reunirá cara a cara con usted para ayudarlo a aprender sobre su enfermedad y a desarrollar habilidades para sobrellevarla.
- La terapia de grupo puede ayudarlo a obtener más habilidades para sobrellevar la enfermedad, y le proporcionará apoyo de otras personas que entienden por lo que usted está pasando.
- El hablar cuando sea posible con un familiar, un líder espiritual o religioso o un amigo, puede ayudarlo a sentirse apoyado.



Aprenda a relajarse y a manejar el estrés

- Las técnicas para reducir el estrés (por ejemplo: ejercitarse regularmente, meditar) pueden ayudarlo a sobrellevar su enfermedad.

