

**ANTIPSYCHOTICS (AP): Comparison Chart**

Name: Generic/TRADE (& receptor activity) <small>g=generic</small>	GROUP	Clinical Equivalency-mg	ADVERSE EVENTS - AE (%)				ANTI-EMETIC	DOSE: INITIAL/d; MAX/d; Elderly Dosing	USUAL DOSE RANGE	\$ /Month
			Anticholinergic	Sedation	Hypotension	EPS				
<b>ChlorproMAZINE</b> LARGACTIL, g (25,50,100 mg tab)(liquid made by some pharmacies) 50mg/2ml amp; D/C 2016) D2, α1, 5-HT2A	Aliphatic	100	>30	>30	>30	>10	Pregnancy category → +++++	25-75mg; 1000mg po 1200mg → Retinal pigmentosa	100mg po BID 200mg po BID	12 14
<b>Methotrimeprazine</b> NOZINAN, g (2, 5, 25, 50mg tab) (5mg/ml soln, 25mg/ml amp) *H1,5HT2A	Phenothiazine	70	>30	>30	>30	>10	+	Mild: 5-25mg; 1000mg po	25mg po BID 50mg po BID	28 37
<b>Periciazine</b> (Pericyazine) NEULEPTIL* (5,10,20mg cap; 10mg/ml liquid) D2	Phenothiazine	15	>30	>30	>10	>2	++++	5-20mg AM + 10-40mg PM po	5mg po AM + 10mg po PM	42
<b>FluPHENazine</b> MODECATE,MODITEN, g (DEPOT with preservative 125mg/5ml Vial & 100mg/1ml amp; 1, 2, 5mg tab) D2, 5-HT2A, 5-HT7	Piperazine	5 15mg IM q4week	>2	>2	>2	>30	+	2.5-10mg; 20mg po 2.5-12.5mg; 100mg IM/SC q2-3w	1-5mg po daily 12.5-50mg IM/SC q2-4w	17-23 35 /5ml vial
<b>Perphenazine</b> TRILAFON, g (2,4,8,16mg tab); (5mg/ml amp) *D2, 5-HT2A, H1	Piperazine	8	>10	>10	>10	>10	++++	4-16mg; 64mg po	8mg po BID ~20mg/d CATIE	17
<b>Trifluoperazine</b> STELAZINE, g (1,2,5,10, 20 mg tab; 10mg/ml soln) D2, 5-HT2A	Piperazine	6	>2	>2	>10	>30	++++	4-10mg; 40mg po	5mg po TID 10mg BID	34 29
<b>Flupentixol</b> FLUANXOL (DEPOT) 20mg/1ml amp, 100mg/1ml amp; 0.5,3mg tab)	Piperazine	10 24mg IM q4week	>10	>2	>2	>30	++	3mg; 12mg po 5-20mg;100mg IM q2-3w	3mg po BID 20-40mg IM q2-3w	47 27-42
<b>Zucloperitoxol</b> CLOPIXOL (10,25mg tabs), D1-2, 5HT2A, α1 Acuphase (50mg/1 ml amp) DEPOT 200mg/1 ml amp)	Thioxanthene	50 120mg IM q4week	>10	>30	>2	>30	++	10-50mg; 100mg po 100-200mg IM q2w; 400mg	10mg po BID 150-300mg IM q2-3w	36 28-44
<b>CloZAPine</b> CLOZARIL, g (patients must register with specific monitoring program!) (25, 50, 100, 200 mg tab) D1-5, 5HT1A,2A,7, α1-2, H1, M1, α-5 AE: dizziness, constipation, NV, HA, fever, nightmares, ↑sweat, ↑HR, ↓BP, ↑salivation, ↑Atropine eye drop/Atrovent nasal spray, enuresis nocturnal, seizure (<5% dose related), agranulocytosis 1% → CBC qweek (q2-4week if stable), weight ↑↑↑, ECG Q's, Max: 900mg D1-5, 5HT1A,2A,7, α1-2, H1, M1, α-5 AE: dizziness, constipation, NV, HA, fever, nightmares, ↑sweat, ↑HR, ↓BP, ↑salivation, ↑Atropine eye drop/Atrovent nasal spray, enuresis nocturnal, seizure (<5% dose related), agranulocytosis 1% → CBC qweek (q2-4week if stable), weight ↑↑↑, ECG Q's, Max: 900mg FDA: ↓suicide risk in schizophrenics	Dibenzodiazepine	50	>30	>30	>30	>2	+	6.25-25mg (↑25-50mg/d)	100mg po TID 200mg po BID	268 347
<b>Haloperidol</b> HALDOL, g (0.5,1,2,5,5,10 mg tab; 2mg/ml soln) *D2, 5HT2A, α1 DEPOT with preservative 250mg/5ml, 500mg/5ml Vial, 100mg/1ml amp; 5mg/ml amp) D2>D1	Butyrophenone	2 - 6 40mg IM q4week or 10-15x po daily dose.	>2	>2	>2	>30	+++	1.5-3mg; 100mg po 50mg; 450mg IM q4w 0.25-2mg/d	2mg po BID 5mg po BID 50-200mg IM q2-4w	28 42 57-87
<b>Loxapine</b> LOXAPAC IM, XYLAC (5,10,25,50 mg tab); (2.5 mg tab) (25mg/ml soln) *D/C, 50mg/ml amp) D2, 5HT2A	Dibenzoxapine	15 -inhaled powder ADASUVE	>10	>30	>10	10-30	+	10-20mg; 250mg po	10mg po BID 25mg po BID	31 42
<b>OLANzapine</b> ZYPREXA, g Reg + Zydys, g (2.5,5,7.5,10,15mg tab) (ZYDIS 5,10,15mg tab) (20mg) 10mg IM *D1-4, 5HT2A, α1, H1, M1-3 (approved 1996)	Thienobenzodiazepine	2.5 - 5	>10	>30	>2	>2	+	5-10mg; 20mg po 2.5-5mg/d	10mg daily 15-20mg CATIE po daily	33 75 54-75
<b>Pimozide</b> ORAP, g (2,4mg tab) D2, 5-HT7	Diphenylbutyl piperidine	2	>2	>10	>2	>30	+	2-4mg; 20mg po	6mg po daily	45
<b>QUETiapine</b> SEROQUEL, g (25, 50, 100, 200, 300mg tab), (150mg) (XR) g; 50, 150, 200, 300, 400mg) D1-2, 5HT1A,2A, α1, H1, (avail. 1997)	Dibenzothiazepine	60 - 75	10-30	>10-30	>10	>2	+	50mg; 800mg po 12.5-200mg/d	200mg po TID 600mg hs ~540mg/d CATIE 300mg po BID	35 35 35
<b>Risperidone</b> RISPERDAL, g (0.25,0.5,1,2,3,4 mg tab) (DEPOT 12.5, 25, 37.5, 50mg vial) (M-TAB, g melts 0.5,1,2,3,4 mg tab; 1mg/ml soln) D1-4, 5HT1A,2A, α1, α2, H1 - little M1 (approved 1993) (Perseris: FDA Jul'18 90-120mg SC monthly)	Benzisoxazole	2	>2	>2-10	>10-30	>10	+	1-2mg; 8mg po 0.25-2mg/d 25mg; 50mg IM q2w	1mg po BID 2mg po BID CATIE 25-50mg IM q2w CONSTA	25 ODT=544 41 ODT=577 368-708
<b>ARIPiprazole</b> ABILIFY, g (2.5, 10, 15, 20, 30mg tab) (DEPOT 300, 400mg IM vial) D2= D4, 5HT1A,2A, α1, 5HT7	Phenylpiperazine	7.5	<2	>10	>2	>2	+	10-15mg; 30mg po 400mg IM q4w	10-15mg po AM ≤400mg IM q4w MAINTENA	45-52 483

**General:** Onset 7day; good trial is ≤4-6wk. 25% of pts respond poorly to Tx, yet 30% of these respond to clozapine. ♀ may need ↓dose than ♂

**Neuroleptic Malignant Syndrome:** up to 1% often within 30day esp. younger males; high potency depot; mortality of 10%; S/Sx: >39°C, muscle rigidity, delirium, autonomic instability (i.e. ↑BP, ↑CPK, ↑HR, arrhythmias, tremors, seizures & coma Tx: D/C neuroleptic, cooling blanket, hydrate, dantrolene, bromocriptine & benzodiazepines.

**Tardive dyskinesia:** after months → of neuroleptics, ↑ in elderly S/Sx: fly catching/protruding motions of tongue, tics of the face, chewing motions or excessive blinking Tx: D/C/change ↓ neuroleptic, anticholinergics, tetrabenazine, donepezil, Vit E 400-1600IU/d

**Depot Meds:** after 3-6 months many accumulate; thereby, requiring ↓ dose, onset of action for most are 2-3 days (Peak 4-7day), except Clopixol ACUPHASE with onset: 2-4hr, duration: 2-3days and max. sedation at 8hr. (see pg 155)

**Pregnancy:** Consider risk vs benefit! Use lowest possible dose, if possible try to D/C before delivery; neonate EPS risk & withdrawal sx. Avoid if possible esp. during 1st trimester. Phenothiazines are not thought to be teratogenic (most data with chlorpromazine). Atypicals: not routinely recommended (assoc. with 'large for gestational age' babies), but benefits may outweigh risk. No known congenital malformations ↑risperidone. Recommend folic acid ≤5mg/day & monitor blood sugars developmental toxicity

**Level ↓ by:** antacid, cholestyramine, carbamazepine, phenobarbital, phenytoin, rifampin & smoking. Level ↑ by: amitriptyline, amiodarone, cimetidine, ciprofloxacin, diltiazem, erythromycin, fluoxetine, fluvoxamine, grapefruit juice, isoniazid, ketoconazole, nefazodone, paroxetine, propranolol, quinidine, ranolazine & ritonavir.

**EPS:** Acute dystonia-spasm of face, neck & back-like seizure (Onset 1-5day esp. young male; Tx: benztropine). Akathisia-motor restless-not verbal, pacing, fidgety (Onset 5-60day, esp. old female; Tx: benztropine, amantadine). Rabbit Syndrome-rapid chewing movements (Onset after months esp. old females; Tx: benztropine). =EDS X = Non-formulary Sask

**Asenapine SAPHRIS:** 5, 10mg SL tab BID S105 \*BPAD (FDA BPAD age 10-17yr) Wait 10min after SL tab, before eat/drink. D2 & 5HT2A. May ↑QT interval. EPS, akathisia, somnolence, allergic rx, minimal ↑wt; mouth numbness, poor taste. Dis: 1A2; ↑ level by fluvoxamine, ↑ paroxetine level by asenapine. CDN: schizo & manic or mixed BPAD I.

**Brexpiprazole REKULT:** adult schizophrenia in CDN X & adj depression (major in USA) D2+3 & 5HT1A,2A,2D; 0.25,0.5,1,2,3,4mg tabs daily \$132; AE: ↑wt, akathisia, tremor, diarrhea, dyspepsia, constipation, EPS symptoms, ↑QT, & ↑blood glucose/lipid/TG; D: 3A4, 2D6 eg. ketoconazole, rifampin

**Lurasidone LATUDA:** 20,40,60,80,120mg tabs daily with food; Max 160mg D1: 3A4, 2D6, 2D7; D2 & 5HT2A,7,1A; AE: akathisia, nausea, EPS, agitation, drowsy, somnolence, tremor, insomnia, minimal ↑weight, ↑less QT. D: 3A4 eg. diltiazem, erythromycin, grapefruit juice, ketoconazole, rifampin. ↓ schizophrenia in 13yr FDA; 255yr CDN & Depression with BPAD I (CDN FDA).

**Paliperidone INVEGA:** 3, 6, 9mg XR tab qd 3-6-9mg OD \$120-170; Max 12mg D2 & 5HT2A,7,1A; AE: akathisia, nausea, EPS, agitation, drowsy, somnolence, tremor, insomnia, minimal ↑weight, ↑less QT, may ↑wt 2kg/5mos /prolactin/ EPS, IFIS eye; short trials; D: 2D6, 3A4, P-gp; CBZ, Paxil.

**Ziprasidone ZELDOX:** 20, 40, 60, 80mg cap on SP09, \* 20mg/ml vial in USA 40-80mg BID S110 with meal & earlier in the day CATIE 110mg/d; D2-3 & 5HT2A,2C,7,1A, α1, 1A; ↑QT interval 5S, Df5 ↑, EPS ~5%, minimal ↑weight, ↓sexual AE, stimulating, abnormal vision; rare: DRESS skin (rash) → fever → eosinophilia, Dis: 3A4; CDN: schizo & manic or mixed BPAD.

**USA Iloperidone FANAPT:** 1,2,4,6,8,10,12mg tab; 6-12mg po BID; May ↑QT interval, EPS, ↓BP, may ↑wt, fatigue. D1 3A4, 2D6; ↑ level by paroxetine & clarithromycin. ↓ adult Schizophrenia.

**Cariprazine VYVAN:** 1.5, 3, 4, 5 & 6mg cap OD; AE: akathisia, GI, drowsy, dyspepsia, EPS sx, restless, ↑wt 0.7kg/6wk & vomiting; D1 3A4, 2D6.

**Pimavanserin NUPLAZINE:** FDA 15 24,000/yr 34mg po OD; 5HT2A in PD dx; AE: nausea, confusion, edema, ↑QT; D1 3A4, 2D6

**Discontinued:** Pipotiazine PIPORTIL, DC Feb'15 Thioridazine MELLARIL, DC Can Sept'05

# ANTIPSYCHOTICS (AP): Frequently Asked Questions

## 1. What is the difference in WEIGHT GAIN among the different antipsychotics?¹

(Prevention: diet & exercise<sup>1,2</sup> psych sx, cognition, D/C smoking, metformin, 7topiramate, 7tiraglutide/exenatide, 7amantadine; monitor BG & lipids)

**Estimated weight Δ at 10 weeks:**  
1,2 using a Fixed effects Model

AP	kg	minimal
loxapine	0.48	
haloperidol	~ 4.4	
aripiprazole	2.0	5.3
risperidone	~2.5	6.1
chlorpromazine	3.49	
quetiapine	3.51	8.5
thioridazine	3.9	
olanzapine		
clozapine		

Allison, David  
Am J Psych Nov 99, JCP 2001;  
Correll JAMA Oct 2009  
in kids over 10.8 weeks

The following statements from the CPS or specific studies state:

<b>risperidone</b> <b>RISPERDAL</b>	-can ↑ weight by 2 kg at 10 weeks, then 2.3kg after long-term treatment -18% of pts vs 9% of placebo pts ↑ by >7% from baseline (CATIE <sup>18months</sup> : 14% ↑ by >7%; Mean change 0.8 lbs)
<b>quetiapine</b> <b>SEROQUEL</b>	-can ↑ weight by 2 kg at 4-8 weeks, 3.5kg at 18-26 week & 5.6kg at 1 year -25% of pts vs 4% of placebo pts ↑ by >7% from baseline (CATIE <sup>18months</sup> : 16% ↑ by >7%; Mean change 1.1 lbs)
<b>olanzapine</b> <b>ZYPREXA</b>	-can ↑ weight by ~3.5kg at 10 weeks, then 5.4kg at 6-8months -29% of pts vs 3% of placebo pts ↑ by >7% from baseline (CATIE <sup>18months</sup> : 30% ↑ by >7%; Mean change 9.4 lbs)
<b>clozapine</b> <b>CLOZARIL</b>	-can ↑ weight by 4 kg at 10 weeks, dose related. {less wt gain when started on metformin after antipsychotic-induced amenorrhea}

## 2. What are the different EXTRAPYRAMIDAL ADVERSE EVENTS (EPS) and COSTS?

Atypical agent	EPS effect	Prolactin levels	Younger patients (Dose & Cost/month)	Geriatric patients (Dose & Cost/month)
haloperidol AP-C	High	↑↑	5mg po BID \$42	1mg po hs \$18
risperidone <b>RISPERDAL</b>	Low*	↑	1mg po BID \$25 2mg po BID \$41	0.5mg po hs \$16 1mg po hs \$18
olanzapine <b>ZYPREXA</b>	Lower*	↑ ↔	10mg po daily \$33 15mg po daily \$123	2.5mg po daily \$16 5mg po daily \$21
quetiapine <b>SEROQUEL</b>	Even lower	↔	100mg po TID \$23 200mg po BID \$27	25mg po hs \$12 50mg (2x25mg) po hs \$13
clozapine	Lowest*	↔	100mg po TID \$268	100mg po hs \$97

\* dose dependent \*even some anti-tremor effect

## 3. Are there any SPECIAL SITUATIONS where one agent differs from the other agents?

Atypical Agent	Liver (↑ALT-2-3x)	Seizure Risk	Neutropenia	Special differences
risperidone <b>RISPERDAL</b>	Rare	≤ 0.3%	Rare	Approved → behavioural disturbances in severe dementia (BPSD) & for acute treatment of mania; Liquid formulation, M tab & depot forms available; Parkinson's motor function worse esp. if >2mg/d
olanzapine <b>ZYPREXA</b>	↑ ≤ 6%	≤ 0.9%	Rare	Approved for acute treatment of mania, ↑ diabetes, ↑ weight, anticholinergic & ↑ lipid. Zydys wafer avail.
quetiapine <b>SEROQUEL</b>	↑ ≤ 9%	≤ 0.8%	Rare	Approved: acute mania & depression bipolar, ↑ cholesterol 11%, ↑ triglycerides 17%, TSH changes (i.e. hypothyroidism ~0.4%) Eye lens changes → cataracts in beagle dogs
clozapine <b>CLOZARIL</b>	↑ ≤ 37%	≤ 5% dose dependent	YES 1% (esp. ↑ in kids & elderly) Death ~0.02%/pyr	Anti-tremor effects, useful for Parkinson's induced psychosis but ADR's & weekly q 2-4week if stable blood tests discourage its use. Approved to ↓ suicide risk in schizophrenics CSAN: 1-800-267-2726 Gen: 1-866-501-3338 Apotex 1-877-276-2569
haloperidol	↑ ≤ 16%	<1%	NO	Available in IV/IM & depot formulations, Useful option for acute treatment of delirium Tilhonen'17

## 4. What DEPOT MEDICATIONS are available? (Low relapse rates with depot meds)

MEDICATION	DEPOT SOLUTION
flupentixol - <b>FLUANXOL Depot</b>	fluphenazine - <b>MODECATE</b> (preserv. benzyl alc.)
haloperidol - <b>HALDOL LA</b> (preserv. benzyl alcohol)	pipotiazine - <b>PIPORTIL D/C Feb'15</b>
zuclophenithol - <b>CLOPIXOL Depot</b>	coconut oil but highly refined
Risperidone - <b>RISPERDAL Consta</b> IM deltid/deltoid preferred q2wk (continue initial oral risperidone for ~3wk after 1st inj) (Perseis; FDA Jul 18 90-120mg SC monthly)	microspheres in diluent
Paliperidone <b>palmitate INVEGA SUSTENNA</b> IM monthly 50,75,100,150mg syringe, low volume, deltid/deltoid store: room temp., may use after stabilized 4mos on Sustenna dose x 3,5, (INVEGA TRINZA CDN'16, FDA'15 IM q3month 175, 263, 350 & 525mg; shake; use after stabilized 4mos on Sustenna dose x 3,5, D/C postat, if IM Day 1 & 4-8-12) 3months=\$940-1850; shake)	
Aripiprazole <b>ABILIFY MAINTENA</b> 300, 400mg vial IM q2wk/deltoid q4wk, (continue initial oral aripiprazole for ~2wk after 1st inj.) <b>ARISTADA</b> FDA: Arip. lauroxil IM q 4-8wk. (USA: Olanzapine <b>ZYPREXA RELPREV</b> Depot 210, 300, 405mg vial, pamoate susp IM q2-4wk. <0.1% post-injection delirium sedation syndrome)	

AP-A - atypical antipsychotics (clozapine, olanzapine, quetiapine, risperidone etc...); AP-B - benzodiazepines; AP-C: conventional antipsychotics (chlorpromazine, haloperidol, zuclophenithol, etc...); Low potency AP-C: chlorpromazine, methotrimeprazine, & thioridazine etc.; Mid potency AP-C: perphenazine; High potency AP-C: flupentixol, fluphenazine, haloperidol, loxapine, etc.

**Drug induced psychosis:** ACEI, acetazolamide, acyclovir, amantadine, amphetamine & cocaine withdrawal, anticholinergics, anticonvulsants, antidepressants, baclofen, barbiturates, benzodiazepines, beta-blockers, bromocriptine, bupropion, caffeine, calcium channel blockers, cannabis, cephalosporins, chemo some, chloroquine, cimetidine, clonidine, cocaine, cyclobenzaprine, dapsone, DEET, digoxin, diphenhydramine, disopyramide, disulfiram, DM, dopamine agonists, dronabinol, efavirenz, EPO, ethanol, fluoroquinolones, ganciclovir, ifosfamide, interleukin-2, interferon, isoniazid, isotretinoin, ketamine, levodopa, lidocaine, mefloquine, methyldopa, methylphenidate, methysergide, metronidazole, nevirapine, nitrofurantoin, NSAIDs, opiates, phenacyclidine, procainamide, propafenone, Miconidol; wt, waist circumference, pulse/BP/PECG; glucose, A1C, lipids, prolactin levels; movement disorders, diet, & physical activity. Response to tx & AE.

2017 Canadian Schizophrenia Guidelines: <http://journals.sagepub.com/doi/pdf/10.1177/0706743717720448> First episode schizophrenia/psychosis (schizo diagnosis requires Sx ≥ 6 months); Treatment-resistant schizo (be aware of nonadherence & substance abuse; offer clozapine); Clozapine-resistant schizo; & Specific symptom domains. (Previously Canadian 2005)

## 5. Pediatric Approved Indication & Dose 3 Use non-pharmacological 1st; ↑AE risk weight, diabetes, lipid, if over-dose...

Chlorpromazine CDN, FDA	Schizo: ≥6mos 0.5-1mg/kg po/IM/IV q4-6h; max <22.7kg 40mg/d, 22.7-45.5kg 75mg/d
Haloperidol CDN, FDA	Schizo: >3yr 0.25-0.5mg/d po ÷ 2-3x/d, ↑ q5-7d; usual 0.05-0.15mg/kg/d, max 0.15mg/kg/d Tourette's: >3yr 0.05-0.75mg/kg/d po ÷ 2-3x/d
Pimozide FDA	Tourette's: ≤12yr 0.05mg/kg po HS, ↑ q3d; usual 2-4mg/d, max 10mg/d or 0.2mg/kg/d >12yr adult dosing
Thioridazine FDA	Behavioural problems: 2-12yr 10mg po ÷ 2-3x/d; >12yr adult dosing
Aripiprazole CDN, FDA (CDN & FDA: Add on tx of adult MDD)	Autism irritability/Tourette FDA: ≥6yr start 2mg po daily, target 5-10mg OD, max 15mg/day Bipolar mixed/mania: ≥13yr CDN, ≥10yr FDA 2mg po daily, target 10mg daily, max 30mg po daily Schizo: ≥15yr CDN, ≥13yr FDA start 2mg po daily, target 10mg po daily, max 10-30mg po daily
Asenapine FDA	Bipolar 1: age 10-17yr
Lurasidone FDA, CDN	Schizo: ≥13yr FDA; ≥15yr CDN
Olanzapine FDA	Bipolar mixed/mania FDA: ≥13yr start 2.5-5mg po daily, target 10mg po daily, max 20mg/day Schizo FDA: ≥13yr start 2.5-5mg po daily, target 10mg po daily, max 20mg po daily
Paliperidone FDA	Schizo: ≥12yr start 3mg po daily, target <51kg 3-6mg/d & ≥51kg 3-12mg/d
Quetiapine FDA	Bipolar mania: ≥10yr start 25mg po BID, target 400-600mg/d po ÷ 2-3x/d Schizo: ≥13yr start 25mg po BID, target 400-800mg/d po ÷ 2-3x/d
Risperidone FDA	Autism irritability: ≥5yr & <20kg start 0.25mg/d, target 0.5mg/d, max 1mg/d; ≥5yr & ≥20kg start 0.5mg/d, target 1mg/d, max 2.5mg/d (>45kg 3mg/d) Bipolar mania/mixed: ≥10yr start 0.5mg/d, target 2.5mg/d Schizo: ≥13yr start 0.5mg/d, target 3mg/d

## 6. Selecting Medications for Specific Complicating Problems 4,5,6,7 Other txs: ECT, TMS, tDCS...

Specific Complicating Problem	Recommended psych medication choices	Recommended adjuncts
<b>Aggression/Violence Agitation/Excitement</b> {Use non-pharmacological first; if meds: oral preferred over IM; monitor for sedation, EPS, & cardiac/respiratory AE. Use lower doses in the elderly.}	haloperidol 2-5mg IM/1-2mg IV q1h prn Max 20mg/d (with promethazine 25-50mg IM prn useful) lorazepam 1-4mg IV/IM/q1h prn Max 8mg/d zuclophenithol acuphase 50-150mg IM q2d prn Max total cumulative dose ≤ 400mg & ≤ 4 inj olanzapine 10mg IM prn (but ↑) inj ziprasidone & aripiprazole in USA high potency AP-C or AP-A (i.e. risperidone)	valproic acid possibly lithium, carbamazepine, propranolol, BZ (if no hx of substance abuse)
<b>Insomnia</b> (Risk of sleep walking & eating disorders) ♦ if history of abuse consider trazodone, diphenhydramine, hydroxyzine & methotrimeprazine	AP-A (quetiapine, olanzapine ) or low potency AP-C preferred	BZ-short term use of tema-/lora-/oxa-zepam
<b>Depression:</b> antipsychotics quetiapine, olanzapine, aripiprazole etc. used as adjuncts, esp. if psychotic depression. Caution: ↑weight, diabetes, sedation.		
<b>Dysphoria</b>	AP-A strongly preferred over AP-C	SSRI
<b>Suicidal behaviour</b>	AP-A strongly preferred over AP-C	SSRI-if in the context of postpsychotic depression
<b>Comorbid substance abuse</b>	AP-A preferred over AP-C depot meds may be helpful for non-compliance	
<b>Cognitive problems</b>	AP-A strongly preferred over AP-C	
<b>Compulsive water drinking (psychogenic polydipsia)</b>	AP-A preferred over AP-C clozapine (but not for initial treatment)	

## 7. Selecting Medications to Avoid ADVERSE EVENTS 4,5,6,7

Adverse Event	LEAST likely to cause	MOST likely to cause
<b>Sedation (Sleep apnoea with AP-A)</b>	risperidone, high potency AP-C (aripiprazole, lurasidone, paliperidone seem less)	Low potency AP-C clozapine, quetiapine, olanzapine
<b>Weight Gain /hyperglycemia- esp in 1st time antipsych users &amp; diabete</b>	haloperidol, perphenazine, aripiprazole; luras-, risper-, & zipras- idone; asenapine	clozapine most, then olanzapine, then quetiapine (not always dose related except clozapine)
<b>Extrapyramidal effects (EPS adverse events)</b>	clozapine Less EPS quetiapine, olanzapine ↓ risperidone/paliperidone More EPS	Mid & high potency AP-C; lurasidone
<b>Anticholinergic AE &amp; Cognitive adverse events</b>	risperidone aripiprazole, high potency AP-C	Low potency AP-C clozapine, olanzapine
<b>Sexual adverse events</b>	quetiapine, olanzapine, clozapine	AP-C
<b>Cardiovascular AE (eg. QT effect), concern if cardiac risk/DIs/elderly, consider ECG testing in select pts</b>	risperidone, aripiprazole, lurasidone, olanzapine, high potency AP-C, quetiapine ↓dose	Low potency AP-C e.g. thioridazine, 7asenapine, haloperidol clozapine, 7paliperidone, pimoziide & ziprasidone Sudden cardiac death: ↓dose-related class effect; ~0.3% of pts tx for 1yr.
<b>Tardive dyskinesia (TD)</b> -?clonazepam/amantadine/tetrabenazine; -?Vit B 1200mg/d, 7levetiracetam Woods '08, -?Atypicals may be similar to AP-C Woods '10	clozapine Less TD quetiapine ↓ olanzapine ↓ risperidone Likely More	AP-C (especially haloperidol) Valbenazine <b>Ingrezza</b> FDA'17 40-80mg po OD adult TD; AE: somnolence. ↑OT: DI: 3A4, 2D6, & MAOI's & SS. Deutetrabenazine <b>Austedo</b> FDA'17 6-24mg po bid cc; adult TD, DI 2D6, AE: akathisia, depression, parkinsonism, ↓ cognition, ↑QT
<b>Recurrence of neuroleptic malignant syndrome</b>	olanzapine Less recurrence clozapine ? quetiapine, risperidone More	AP-C
<b>Prolactin Elevation</b> -level may be ↑ into the 25-200ug/litre range Melmed'11	Asen- cloz- & queti -apine; aripiprazole, ziprasidone	Risperidone, paliperidone, olanzapine, AP-C, iloperidone, lurasidone
<b>Venous thromboembolism</b>	Possible VTE association with antipsychotics (esp. if new or atypicals) Parker'10	
<b>Dress skin reaction</b>	Atypical antipsychotics may be more likely to cause eg. olanzapine, ziprasidone	

**Switching:** Concern if treatments differ greatly in receptor affinity. Common issues: rebound sleep disturbances, agitation, or restless/anxiety.

Acute exacerbation: Relapse prevention & maintenance tx (adequate trial is ≤4-6wk; duration tx ≥18months after 1<sup>st</sup> episode & offer 2-5yrs of tx.);

2004 APA Practice Guideline for the Treatment of Schizophrenia: [http://psychiatryonline.org/data/books/prac/Schizophrenia2e\\_Inactivated\\_04-16-09.pdf](http://psychiatryonline.org/data/books/prac/Schizophrenia2e_Inactivated_04-16-09.pdf)

## ANTIPSYCHOTIC COMPARISON CHART

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FDA Dec/14 is warning that the antipsychotic drug **ziprasidone** (marketed under the brand name, Geodon, and its generics) is associated with a rare but serious skin reaction that can progress to affect other parts of the body. A new warning has been added to the Geodon drug label to describe the serious condition known as Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS).

FDA May/16 is warning that **compulsive or uncontrollable urges to gamble, binge eat, shop, and have sex** have been reported with the use of the antipsychotic drug **aripiprazole** (Abilify, Abilify Maintena, Aristada).

FDA May/16 is warning that the antipsychotic medicine **olanzapine** can cause a rare but serious skin reaction that can progress to affect other parts of the body. FDA is adding a new warning to the drug labels for all olanzapine-containing products that describes this severe condition known as Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS).

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Health Canada Mar/11 **Salvia divinorum** (*S. divinorum*) is a species of sage belonging to the mint family. Some street names for *S. divinorum* include: Sally D, Lady Sally, Maria pastora, ska Maria pastora, ska pastora, diviner's sage, magic mint, puff, incense special, and salvia. Canadians are cautioned against the use of products containing *S. divinorum* and/or salvinorin A because these products are known to cause hallucinations and little is known about the long-term effects of these substances on the brain and body.

Health Canada June/11 Antipsychotic drugs: Labelling update regarding the risk of abnormal **muscle movements and withdrawal symptoms in newborns** exposed during pregnancy.

Health Canada Nov/13 **Risperidone- and paliperidone-**containing products are primarily prescribed for the treatment of schizophrenia; however, the risk of Intraoperative floppy iris syndrome (**IFIS**) applies to all patients undergoing cataract surgery, who have been exposed to these products, irrespective of indication.

Health Canada Feb/15 **Risperidone** - Restriction of the Dementia Indication - Janssen Inc. The indication for risperidone in dementia has been restricted to the **short-term symptomatic management of aggression or psychotic symptoms in patients with severe dementia of the Alzheimer type**. The indication no longer includes the treatment of other types of dementia.

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