PSYCHIATRY: FREQUENTLY ASKED QUESTIONS

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Learning Objectives

- **Discuss best strategies for switching antidepressant medications**
- Develop a plan to taper an antidepressant regimen
- Identify risks for and signs and symptoms of serotonin syndrome
- Describe common drug interactions with lithium and key monitoring strategies with this medication
- Summarize key considerations for the use of atypical antipsychotics in depression

Best Strategies for Switching Antidepressants

- Up to 2/3 of patients with major depression do not respond to their first antidepressant (AD) medication or achieve remission
- Patients will often have to try multiple ADs before finding one that helps them
- Therefore, switching antidepressants is a common strategy and occurs when:
  1) There is no response 4-8 weeks after dose optimization
  2) The patient cannot tolerate an adequate dose
  3) Adverse effects such as weight gain or sexual dysfunction occur

Lam RW, Kennedy SH, Grigoriadis S et al., Canadian Network for Mood and Anxiety Treatments (CANMAT) clinical guidelines for the management of major depressive disorders in adults. III. Pharmacotherapy. J Affect Disord 2009; 117 (Supp 1):S26-43

Rush AJ, Trivedi MH, Wisniewski SR et al.Bupropion-SR, sertraline, or venlafaxine-XR after failure of SSRIs for depression. *N Engl J Med* 2006; 354:1231-42

- A patient may respond better to a drug in a different class but is equally as likely to respond to another drug in the same class
- **There are 4 common strategies for switching antidepressants**

Rush AJ, Trivedi MH, Wisniewski SR et al. Bupropion-SR, sertraline, or venlafaxine-XR after failure of SSRIs for depression. *N Engl J Med* 2006; 354:1231-42

Direct Switch

1) Stop the first antidepressant
2) Start the second antidepressant the next day at the usual therapeutic dose

- You are essentially switching directly from one agent to another
- Not typically recommended in general practice
- **No washout period (exception: fluoxetine) so only use this method when switching from one short acting SNRI/SSRI to another SSRI/SNRI**
- Withdrawal symptoms, drug interactions, and transient serotonergic side effects risks high
  - **Keep patient under close observation**

Keks N, Hope J, Keogh S. Switching and Stopping Antidepressants. *Aust Prescr. 2016;39 (3): 76-83.*

Cross-Taper Switch

1) The first antidepressant is gradually reduced and stopped
2) The second antidepressant is started at a low dose during the reduction of the first antidepressant (patient is **simultaneously** on both antidepressants)
3) The second antidepressant dose is increased to the therapeutic dose when the first antidepressant has been stopped

- Increased risk of drug interactions
- However, may reduce symptom recurrence and helps minimize withdrawal symptoms

Keks N, Hope J, Keogh S. Switching and Stopping Antidepressants. *Aust Prescr. 2016;39 (3): 76-83.*

Conservative Approach

1) Gradually reduce and stop the first antidepressant medication
2) Require drug-free washout interval of **5-half lives** of the first antidepressant
3) Start new antidepressant according to dosage recommendation

- 5 half lives is generally five days for SSRIs (except fluoxetine)
- Lowers drug-drug interaction risk
- MAOIs require a longer, specified washout period (typically 2 weeks)
- Withdrawal symptoms are likely, process takes a long time, and includes several days where a patient is not on an AD which may increase the risk for relapse

Keks N, Hope J, Keogh S. Switching and Stopping Antidepressants. *Aust Prescr. 2016;39 (3): 76-83.*

Moderate Approach

1) Gradually reduce and stop the first antidepressant
2) Drug free washout period over 2-4 days
3) Start new antidepressant at low dose

- Low risk of drug interactions but increased risk of withdrawal symptoms

Keks N, Hope J, Keogh S. Switching and Stopping Antidepressants. *Aust Prescr. 2016;39 (3): 76-83.*

Withdrawal Symptoms

- All ADs have the potential to cause withdrawal symptoms if used longer than 6 weeks if suddenly stopped or reduced
- Does not mean AD are "addictive"
- Recommended period to prevent withdrawal is dose reduction at a minimum of 4 weeks

Withdrawal symptoms= **FINISH** syndrome
- **F**lu-like symptoms (nausea, vomiting, diarrhea)
- **In**somnia
- **I**mbalance (loss of muscle coordination or muscle twitching)
- **S**ensory Disturbances (blurred vision, electric shock like sensations)
- **H**yperarousal (anxiety, agitation)

Lader M. Pharmacotherapy of mood disorders and treatment discontinuation. Drugs 2007; 6:1657-63.

Quiz Time!

Which antidepressant causes the least withdrawal effect?

a) Fluoxetine
b) Venlafaxine
c) Paroxetine
d) Duloxetine

Antidepressant	Approximate Half-life (days)
Citalopram	1.5
Escitalopram	1.5
Paroxetine	1.0
Sertraline	1.1-1.3
Fluoxetine	4-16
Duloxetine	0.5
Venlafaxine	0.6
Mirtazapine	0.8-1.6
Amitriptyline	0.2-1.9
Nortriptyline	0.8-2.3

Quiz Time!

Which antidepressant causes the least withdrawal effect?

a) Fluoxetine
b) Venlafaxine
c) Paroxetine
d) Duloxetine

- **Venlafaxine associated with most severe withdrawal effects**
- **Paroxetine shortly follows**

Antidepressant	Approximate Half-life (days)
Citalopram	1.5
Escitalopram	1.5
Paroxetine	1.0
Sertraline	1.1-1.3
Fluoxetine	4-16
Duloxetine	0.5
Venlafaxine	0.6
Mirtazapine	0.8-1.6
Amitriptyline	0.2-1.9
Nortriptyline	0.8-2.3

Quiz Time!

Which of the following switch strategies changing from an MAOI to a new AD medication is correct?

a) Taper and stop MAOI, wait 5 days then switch to paroxetine
b) Taper and stop MAOI, wait 14 days, then start fluoxetine
c) Taper and stop MAOI, start vortioxetine
d) Taper and stop MAOI, wait 7 days, then start venlafaxine

Quiz Time!

Which of the following switch strategies changing from an MAOI to a new AD medication is correct?

a) Taper and stop MAOI, wait 5 days then switch to paroxetine
b) Taper and stop MAOI, wait 14 days, then start fluoxetine
c) Taper and stop MAOI, start vortioxetine
d) Taper and stop MAOI, wait 7 days, then start venlafaxine

SSRIs (escitalopram, citalopram, paroxetine sertraline, fluoxetine, fluvoxamine), SNRIs (duloxetine, venlafaxine, desvenlafaxine), and vortioxetine require a **14 day washout period** before starting an MAOI to reduce the risk of serotonin syndrome

Keks N, Hope J, Keogh S. Switching and Stopping Antidepressants. *Aust Prescr. 2016;39 (3): 76-83.*
Fiedorowicz JG, Swartz KL. The Role of Monoamine Oxidase Inhibitors in Current Psychiatric Practice. *Journal of psychiatric practice.* 2004;10(4):239-48

Switching Approaches for Specific Drug Classes

Between SSRIs

SSRI (except fluoxetine) → SSRI

- Direct switch to equivalent dose (see next slide for approximate dose equivalency of SSRIs) OR
- Direct switch to a lower dose of new SSRI (consider taper of the original SSRI if at a high dose; cross-taper may be preferred)

Fluoxetine → Other SSRI

- Stop fluoxetine, 4-7 day washout with no antidepressant, start new SSRI at low dose

Keks N, Hope J, Keogh S. Switching and Stopping Antidepressants. *Aust Prescr. 2016;39 (3): 76-83.*

Approximate SSRI Dose Equivalency

SSRI	Dose
Fluoxetine	20 mg
Paroxetine	20 mg
Citalopram	20 mg
Escitalopram	10 mg
Sertraline	50-75 mg
Fluvoxamine	50-100 mg
Venlafaxine	37.5-75 mg

Adapted from from Table 2 : Ogle NK, Akkerman SR. Guidance for the discontinuation or switching of antidepressant therapies in adults. *J Pharm Pract.* 2013; 26(4):389-396.

SSRI to SNRI

SSRI → Duloxetine

- Stop SSRI, start duloxetine 60 mg daily (Direct switch) OR
- Start duloxetine 60 mg and taper SSRI over 2 weeks

SSRI → Venlafaxine

- Stop SSRI, start low dose venlafaxine (37.5 mg-75 mg total daily dose) OR
- Start venlafaxine 37.5 mg, increase slowly, taper SSRI

SNRI to SSRI

Venlafaxine → SSRI

- Stop venlafaxine, start SSRI at therapeutic dose (Direct Switch) OR
- Start new SSRI at low dose, increase as tolerated and cross-taper; if high dose venlafaxine, consider taper first before adding new SSRI

Duloxetine → SSRI

- Stop duloxetine, start SSRI at therapeutic dose OR
- Start SSRI at low dose, increase as tolerated and cross-taper; if high dose duloxetine, consider taper first before adding new SSRI

Mini Case Study

- Georgia is taking the maximum dose of duloxetine 120 mg every day. She would like to switch to escitalopram 20 mg daily. Which switching strategy would you recommend and why?

Mini-Case Study

- Consider cross-taper when patients are taking high doses of duloxetine or venlafaxine to help minimize withdrawal symptoms
- CYP2D6 Inhibition: Some AD may inhibit venlafaxine or duloxetine metabolism through CYP2D6 inhibition until the SSRI is cleared

Schatzberg AF, Blier P, Delgado PL, et al. Antidepressant discontinuation syndrome: consensus panel and additional research. *J Clin Psychiatry* 2006;67 (Suppl 4): 27-30.

MAOIs

MAOI	MAOI
MAOI	Other antidepressant
Other antidepressant (except fluoxetine)	MAOI

- Stop old medication, 2 week washout period with no AD, then start new AD

Fluoxetine	MAOI

- Stop fluoxetine, 5 week washout period with no AD (due to active metabolite, norfluoxetine), start MAOI

Quiz Time!

All of the following **direct switch** approaches are appropriate when switching from an old antidepressant to a new antidepressant *EXCEPT*… ?

a) Escitalopram → citalopram
b) Escitalopram→ duloxetine
c) Citalopram→ venlafaxine
d) Fluoxetine→ escitalopram

Quiz Time!

All of the following **direct switch** approaches are appropriate when switching from an old anti depressant to a new anti depressant *EXCEPT*… ?

a) Escitalopram → citalopram
b) Escitalopram→ duloxetine
c) Citalopram→ venlafaxine
d) Fluoxetine→ escitalopram

Really depends on dose. Direct switches are ideal if switching from one short-acting SSRI/SRNI to another short-acting SSRI/SNRI.

Ogle NK, Akkerman SR. Guidance for the discontinuation or switching of antidepressant therapies in adults. *J Pharm Pract.* 2013; 26(4):389-396.

Switching from…	Switching to…	Suggested approach
Other antidepressant/ Bupropion	Bupropion/other antidepressant	• Cross-taper
SSRI (except fluoxetine)	Mirtazapine	• Cross-taper OR • Taper SSRI to minimum dose then switch to mirtazapine 15 mg/day
Fluoxetine	Mirtazapine	• Taper fluoxetine while starting mirtazapine 15 mg per day. Increase as tolerated
Mirtazapine	SSRI or SNRI	• Cross-taper
Venlafaxine	Mirtazapine	• Cross-taper

Case Study

- Tamara is a 25 year old female who has been on fluoxetine 40 mg for 6 weeks but has experienced no symptomatic relief of her depression and has gained 5 pounds, making her feel even worse. She is looking for a new agent to switch to and read online that nortriptyline may be reasonable to try. What problems may Tamara experience with this switch?

Vaswani M, Linda FK,& Ramesh S:Role of selective serotonin reuptake inhibitors in psychiatric disorders: a comprehensive review. Prog Neuropsychopharmacol Biol Psych 2003; 85-102.

Aranow AB, Hudson JI, Pope HG et al: Elevated antidepressant plasma levels after addition of fluoxetine. Am J Psychiatry 1989; 146:911-913.

Learning Objectives

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Tapering an Antidepressant Regimen

- Tapering helps minimize withdrawal syndromes and worsening of underlying disease state(s)
- Most antidepressants should be tapered
- Different risks/benefits to tapering strategies:
  - If taper is gradual and requires washout period→ may take a long time and risk of illness due to periods of no treatment can occur
  - Cross taper increases risk of drug toxicity and risk of serotonin syndrome but used for patients with high risk for relapse

Lader M. Pharmacotherapy of mood disorders and treatment discontinuation. Drugs 2007; 6:1657-63.

Approaches to Tapering

- Goal is to reduce withdrawal of the medication
- General approach:
  - 25% medication dose reduction at weekly or longer intervals
  - 25% dose monthly or 12.5% every two weeks reduction if patient has experienced withdrawal symptoms heavily in the past
- Taper over ***at least four weeks*** if agent was previously taken for **at least 6 weeks**
  - Discontinuation symptoms are more likely with longer periods of treatment
  - *Limited evidence as to which tapering method is best*

Cross-Tapering Example

- Patient has been taking venlafaxine 225 mg/day for 5 weeks
- To cross-taper:
  - Start the SSRI at a low dose
    - 10 mg/day: fluoxetine, escitalopram, paroxetine OR
    - Sertraline 25 mg/day
  - 25% dose reduction of venlafaxine weekly
    - Week 1: Venlafaxine 175 mg/day
    - Week 2: Venlafaxine 137.5 mg/day
    - Week 3: Venlafaxine 100 mg/day
    - Week 4: Venlafaxine 75 mg/day

General Considerations

- Drugs with shorter half lives require longer tapering periods than those with longer ones
- If patient has had withdrawal symptoms causing discontinuation syndrome in the past, they are more likely to experience it again
  - Switch to more conservative tapering approach in these patients

Keks N, Hope J, Keogh S. Switching and stopping antidepressants. *Australian Prescriber*. 2016;39(3):76-83. doi:10.18773/austprescr.2016.039.

General Considerations

- There is no "one size fits all" approach
  - Monitor tolerability and adjust dosing according to individual patient
- Adjust switching strategy or speed of taper based on:
  1) Symptoms of withdrawal
  2) Side effects
  3) Return of depressive symptoms

Lader M. Pharmacotherapy of mood disorders and treatment discontinuation. Drugs 2007; 6:1657-63.

General Considerations

- Once tapering begins, educate patients that withdrawal symptoms:
  - Usually begin and peak within one week
  - May last 1 day to 3 weeks
  - Are generally transient and mild
- If symptoms appear during or at end of taper, **increase dose and taper more slowly**
- If symptoms are problematic, return to previous dose

Lader M. Pharmacotherapy of mood disorders and treatment discontinuation. Drugs 2007; 6:1657-63.

Case Study

- Martin is a 35 y.o. male. His psychiatrist increased his venlafaxine XR dose from 150 mg to 225 mg/day after 6 weeks of no response. After no relief, his psychiatrist wants to switch this patient to phenelzine. You learned from your psychiatry webinar that venlafaxine should be tapered and at least 14 days to elapse before starting an MAOI. Martin's dose of venlafaxine was reduced to 112.5 mg after 2 weeks. However, he explains the last 2 weeks as "absolutely miserable", feeling fatigued, dizzy, and so nauseated he almost had to skip work. What is Martin experiencing and what would be your next step in helping Martin manage his symptoms while also ensuring his depression remains under control?

- **However, tapering may not completely eliminate symptoms**
- Mild discontinuation symptoms will likely resolve with time
- Moderate to severe symptoms may require:
  1) Increasing the dose back to the last tolerated dose
  2) Restarting the agent or another which is pharmacologically similar
  3) Taper at a slower rate

Lader M. Pharmacotherapy of mood disorders and treatment discontinuation. Drugs 2007; 6:1657-63.

Warner CH, Bobo W, Warner C, Reid S, Rachal J. Antidepressant discontinuation syndrome. *Am Fam Physician. 2006*;74(3):449-56.

Specific Suggested Tapering Regimens

Medication	Suggested Taper
Paroxetine	Reduce dose by 25% for 4-6 weeks
Paroxetine CR	Reduce by 12.5 mg weekly
Venlafaxine	Reduce dose by 25% for 4-6 weeks Discontinue once a daily dose of 25 or 37.5 mg reached
Venlafaxine ER	Reduce daily dose by 37.5 mg to 75 mg weekly, if necessary
Desvenlafaxine	Extend dosing interval due to limited dose strength, if needed. Desvenlafaxine 25 mg ER tablet available
Duloxetine	50% decrease at week 1 and additional 50% decrease over week 2

McIntyre JS, Charles SC, Fochtmann LJ. Practice Guideline for the treatment of patients with major depressive disorder (3rd edition). *APA*. 2010.

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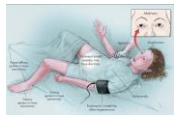
Potential Causes of Serotonin Syndrome

- Concomitant administration of two or more drugs that affect the serotonin system
- Due to stimulation of 5-HT2 receptors
- Elimination of serotonergic drug altered
  - Some SSRIs (e.g., paroxetine or fluoxetine can inhibit metabolism of tramadol by CYP2D6 inhibition)

Increased serotonin production	Serotonin reuptake inhibition	Serotonin metabolism inhibition (MAOIs)	Increased serotonin release	Stimulation of serotonin receptors
• Tryptophan	• Chlorpheniramine • Cyclobenzaprine • Methadone • Opioids • Trazodone • Garcinia cambogia • SSRIs, SNRIs, TCAs	• MAOIs like isocarboxazid, phenelzine, selegiline, rasagiline, tranylcypromine • Linezolid • Methylene blue • St. John's wort	• Dextromethorphan • Opioids (meperidine, methadone) • MDMA, ecstasy • Sibutramine	• Buspirone • LSD • Meperidine • Lithium

Serotonin syndrome

- 2/3 of patients will have symptoms of serotonin syndrome within **six hours** of medication initiation, dose change, or overdose
  - Up to 75% may have symptoms within **24 hours**
- Few patients who receive combinations of medications that affect serotonin will actually develop serious serotonin syndrome
- Counsel patients who must take combinations of serotonergic agents about signs and symptoms of serotonin syndrome



Boyer EW, Shannon M. The serotonin syndrome. *N Engl J Med* 2005;352:1112-20

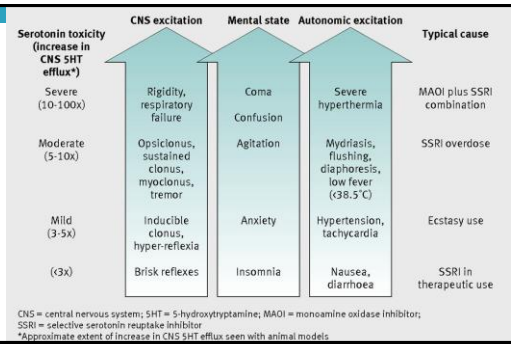
Serotonergic medications should be avoided or cautious with….(*not a complete list*)

Avoid

- MAOIs (selegiline, phenelzine, etc.)
- Linezolid
- Methylene blue

Be Cautious

- Serotonergic opioids like tramadol, fentanyl, methadone, meperidine
- Dextromethorphan
- Clomipramine or imipramine or other serotonergic antidepressants

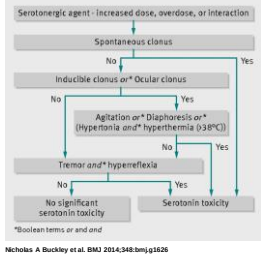


Signs and Symptoms of Serotonin Syndrome

- Mental Status Changes
  - **Agitation**, **confusion**, delirium, hallucinations, hyperactivity, hypervigilance, hypomania, and pressured speech
- Neuromuscular Effects
  - Hyperreflexia, increased muscle tone, restlessness, rhabdomyolysis, rigidity, **shivering**, clonus, and **tremor**
- Autonomic Effects
  - **Diarrhea**, mydriasis, **fever**, flushing, **increased respiratory rate** and tearing, hypo or hypertension, and sweating

- Advise patients to contact prescriber if they have mild symptoms of serotonin syndrome
- Stop medications and seek emergency care if they develop more serious symptoms

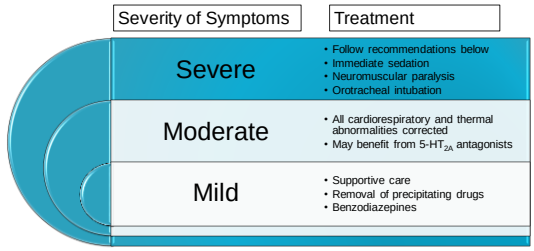
Fig 2 The Hunter serotonin toxicity criteria—a simple flowchart to guide clinical confirmation of diagnosis of moderate or severe serotonin toxicity13.



Nicholas A Buckley et al. BMJ 2014;348:bmj.g1626

Case Study

Madeline has been taking fluoxetine 40 mg/day for the past six months to treat her depression. You saw her at the checkout counter and she explains she has been having a cough and has Delsym (dextromethorphan) to purchase. What would be some important counseling points to tell her?



- Mild to moderate symptoms will resolve within 24-72 hours
- Resolution of severe symptoms may take longer

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Common Drug Interactions with Lithium

- Lithium is first line agent for treatment and prevention mania associated with bipolar disorder
  - Helpful for depression, especially when added to other medications
  - Narrow therapeutic window (0.6-1.2 mEq/L)
  - Minor alterations in plasma concentrations can have significant clinical impact
- Drug interactions with lithium can lead to clinically significant changes in lithium concentration that can be associated with toxicity
- Much of the evidence supporting lithium drug interactions is limited to anecdotal reports

Bellamkonda KK, Ecelbarger CM.Lithium: a versatile tool for understanding renal physiology. *Am J Physiol Renal Physiol.* 2013; 304; F1139-F1149

Speaking of Lithium

- **Increased lithium levels can result from:**
  - Diuretics
    - Thiazide (HCTZ)
    - Loop (Furosemide)
  - NSAIDS (ibuprofen, naproxen)
  - COX-2 Inhibitors (celecoxib)
  - ACE-Is like lisinopril
  - ARBS like losartan
  - Salt restriction
  - Dehydration
  - Caffeine
  - Excessive diet cola
- **Decreased lithium levels can result from:**
  - Theophylline
  - Volume Overload
  - Osmotic diuretics
  - Methyl xanthine

❑ Discontinue orders for PRN ibuprofen if your patient is on lithium
  ❑ Even PRN use of NSAIDs can significantly impact lithium levels
❑ Switch to acetaminophen instead

Cates et al, 2005

Key Monitoring Strategies with Lithium

- Caution is advised for initiation of lithium if:
  - Elderly
  - Compromised renal function
  - Electrolyte abnormalities
  - Dehydration

Common side effects:
- Weight gain
- Tremor
- Nausea
- Increased urination

Bellamkonda KK, Ecelbarger CM.Lithium: a versatile tool for understanding renal physiology. *Am J Physiol Renal Physiol.* 2013; 304; F1139-F1149

Monitoring

Parameter	Monitoring during maintenance treatment
Weight/BMI	Every 6 months
Serum creatinine/renal function	Every 6 months
Thyroid Stimulating Hormone	Every 6 months
Lithium levels	Every 3 months

- If creatinine levels rise, monitor lithium dose more closely and assess renal function
- Monitor weight gain, as this is a common side effect
- Lithium levels are standardized to 12 hours after the last dose (may be taken as single dose in the evening, check AM level)

Lithium Toxicity

- Severe hand shake (tremor)
- Blurred vision
- Stomach ache/ diarrhea
- Unsteady on feet
- Difficulty speaking/ slurring words
- Muscle twitches
- Fatigue
- Confusion
- Muscle weakness

Toxicity occurs when blood lithium concentration greater than 1.5 mmol/L
If above 2 mmol/L requires hospitalization

Case Study

- Mary Beth is a 66 year old female currently taking maintenance lithium carbonate 450 mg BID for the past 6 months for her bipolar disorder. She appears to be anxious, agitated, confused, and is having short term memory impairments. You notice her hand is shaking. The lithium level ordered is found to be 1.69 mmol/L. Other lab values including creatinine were in normal ranges. What do you suppose is happening to Mary Beth and why? What would you do moving forward?

Case adapted from: Aranaoudova MD. Lithium Toxicity in Elderly- A Case Report and Discussion. *J of IMAB*. 2014;20(4)519-522.

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Summary of Atypical Antipsychotic use in Depression

- Many patients fail to respond to standard antidepressant medication and even fail after switching medication or with other strategies like the ones discussed earlier
- These patients suffer from treatment-resistant depression (TRD)
- Atypical antipsychotics are being used more frequently in patients with TRD
  - One study found that one more patient in nine who have treatment resistant depression will respond when an atypical is added to an antidepressant therapy compared to placebo

Thase ME. What role do atypical antipsychotics have in treatment-resistant depression? *J Clin Psychiatry* 2002; 63(2):95-103.

Spielmans GI, Berman MI, Linardatos E., et al. Adjunctive atypical antipsychotic treatment for major depressive disorder: a meta analysis of depression, quality of life, and safety outcomes. *PLoS Med 2013;10:e10001403*

Summary of Atypical Antipsychotic use in Depression

- The following agents are FDA approved for **adjunctive** treatment of treatment resistant major depressive disorder

FDA approved Antipsychotics for Treatment Resistant Depression (TRD)				
Abilify® (aripiprazole)	Seroquel XR® (quetiapine)	Zyprexa® (olanzapine)	Symbyax® (olanzapine and fluoxetine)	Rexulti® (brexpiprazole)

Adverse Effects

- Second generation "atypical antipsychotics" have lower tendency for extrapyramidal side effects, hyperprolactinemia, and tardive dyskinesia than first generation or typical antipsychotics
- However, these agents may increase the risk for diabetes, hyperlipidemia, and weight gain
  - The risk for QT prolongation should also be considered

Antipsychotic	Indication related to depression	Weight Gain	Diabetes Risk	Dyslipidemia	QT Prolongation (low overall risk)	Sedation
Aripiprazole (Abilify®)	Major depression (adjunct)	Low	Low	Low	Yes	Low
Brexpiprazole (Rexulti®)	Major depression (adjunct)	Low	Low	Low	Yes	Low
Olanzapine (Zyprexa®)	Bipolar depression (with fluoxetine), Treatment resistant depression (with fluoxetine)	High	High	High	Yes	Moderate
Quetiapine (Seroquel®)	Bipolar depression *XR indicated for major depressive disorder	Moderate	Moderate	Moderate	Yes	Moderate

ÜÇOK A, GAEBEL W. Side effects of atypical antipsychotics: a brief overview. World Psychiatry. 2008;7(1):58-62.

Case Study

- Suzanne is a 40 year old female recently diagnosed with Type 2 diabetes. She has been taking sertraline 100 mg for the past year for her depression. However, over the past 2 months, she stopped sertraline and switched to fluoxetine 40 mg everyday with still no symptomatic relief. She has become even more depressed, gaining 20 pounds and read online about the use of atypical antipsychotics for adjunct use in depression. Would you recommend Suzanne trying this? Why or why not?

Antipsychotic	Weight gain	Risk for diabetes or worsening lipid profile
Atypical		
Clozapine (Clozaril ®)	Severe	Severe
Olanzapine (Zyprexa®)	Severe	Severe
Quetiapine (Seroquel®)	Intermediate	Significant
Risperidone (Risperdal®)	Intermediate	Low or neutral
Paliperidone (Invega®)	Intermediate	Low or neutral
Iloperidone (Fanapt®)	Intermediate	Low or neutral
Asenapine (Saphris®)	Intermediate	Low or neutral
Lurasidone (Latuda®)	Low or neutral	Low or neutral
Aripiprazole (Abilify®)	Low or neutral	Low or neutral
Ziprasidone (Geodon®)	Low or neutral	Low or neutral

Bostwick and Murphy, Psychiatric Times 2017

Typical	Weight gain	Risk for diabetes or worsening lipid profile
Chlorpromazine	Significant	Significant
Thioridazine	Intermediate	Significant
Haloperidol	Intermediate	Low or neutral
Fluphenazine	Low or neutral	Low or neutral
Perphenazine	Low or neutral	Low or neutral

Bostwick and Murphy, Psychiatric Times 2017

Monitoring Atypical Antipsychotics in Adults

Parameter	Frequency[a]
Personal and family history (e.g., diabetes, hyperlipidemia, obesity, hypertension)	Annually
Lifestyle behaviors (e.g. smoking, exercise, diet)	Regularly
Height, weight, BMI	Every 4 weeks for the first 12 weeks, then every 3 months
Waist circumference	Annually
Blood pressure, pulse; fasting blood glucose; lipids	12 weeks, then annually
Electrocardiography	Not specified

[a]May be completed more frequently, as indicated

Bostwick and Murphy, Psychiatric Times 2017

PSYCHIATRY: FREQUENTLY ASKED QUESTIONS

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QUESTIONS