
Recommended Monitoring for Atypical Antipsychotics

For General Practitioners

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Introduction

Dear Colleague,

Thank you for your interest and helping to make atypical antipsychotics safer.

A baseline at the beginning of therapy is good practice, as is asking routinely for potential side effects.

I will update this list over time on jonathanhaverkampf.ie. However, it cannot be complete and there may be mistakes. If in doubt, please consult the current medical literature.

I can be reached by email (jonathanhaverkampf@gmail.com) or by phone (+353 874343347) and am happy to answer any questions you may have.

Dublin, November 2016

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All Atypical Antipsychotics

Because of the known metabolic side effects that occur in patients taking an atypical antipsychotic, baseline and periodic monitoring is recommended.

1. BMI and
2. waist circumference

should be recorded at baseline and tracked throughout treatment. Ideally, obtain measurements

- monthly for the first 3 months of therapy, or
- after any medication adjustments, then
- at 6 months, and
- annually thereafter.

Encourage patients to track their own weight.

1. HbA_{1c} and
2. fasting plasma glucose levels

should be measured at baseline and throughout the course of treatment. Obtain another set of measurements

- at 3 months, then
- annually thereafter, unless the patient develops type 2 diabetes mellitus.

Obtaining a

1. fasting lipid panel

at baseline and periodically throughout the course of treatment is recommended. After baseline measurement, another panel should be taken

- at 3 months and
- annually thereafter.

Guidelines of the American Diabetes Association recommend a fasting lipid panel every 5 years—however, good clinical practice dictates obtaining a lipid panel annually.

ECG Monitoring

- Mellaril (thioridazine), Serentil (mesoridazine, no longer available in U.S.), and Orap (pimozide) should not be prescribed for anyone with known heart disease. Geodon can be prescribed in patients with heart disease, but you should get a baseline ECG, and get follow-up ECG. In patients with no cardiac history, no screening ECG is required.

Recommended Monitoring for Atypical Antipsychotics

Prolactin

- Patients on Risperdal and most first generation antipsychotics should be asked screening questions about symptoms of elevated prolactin. For women, ask about changes in menstruation or libido, and whether they have noticed a milk discharge from breasts. For men, ask about libido and sexual dysfunction. Order prolactin levels only if screening questions indicate possible hyperprolactinemia.

Neuroleptic Malignant Syndrome

NMS is usually caused by antipsychotic drug use, and a wide range of drugs can result in NMS. Individuals using butyrophenones (such as haloperidol and droperidol) or phenothiazines (such as promethazine and chlorpromazine) are reported to be at greatest risk. However, various atypical antipsychotics such as clozapine, olanzapine, risperidone, quetiapine, and ziprasidone have also been implicated in cases. NMS is associated with elevated creatinine phosphokinase (CPK) levels. [2]

The first symptoms of neuroleptic malignant syndrome are usually muscle cramps and tremors, fever, symptoms of autonomic nervous system instability such as unstable blood pressure, and sudden changes in mental status (agitation, delirium, or coma). Once symptoms appear, they may progress rapidly and reach peak intensity in as little as three days. These symptoms can last anywhere from eight hours to forty days. The muscular symptoms are most likely caused by blockade of the dopamine receptor D2, leading to abnormal function of the basal ganglia similar to that seen in Parkinson's disease.

Symptoms are sometimes misinterpreted by doctors as symptoms of mental illness which can result in delayed treatment. NMS is less likely if a person has previously been stable for a period of time on antipsychotics, especially in situations where the dose has not been changed and there are no issues of noncompliance or consumption of psychoactive substances known to worsen psychosis.

- Increased body temperature $>38\text{ }^{\circ}\text{C}$ ($>100.4\text{ }^{\circ}\text{F}$), or
- Confused or altered consciousness
- Diaphoresis
- Rigid muscles
- Autonomic imbalance

Specific Atypical Antipsychotics

Aripiprazole

e.g. Abilify ®

Weight

- Baseline, 6 months, then yearly

Glucose

- Baseline glucose (fasting not necessary); then yearly

Lipids

- Baseline fasting lipid panel every 2 years.

CPK if indicated

- Neuroleptic malignant syndrome is typically characterized by high fever, muscular rigidity, and mental status changes, along with characteristic laboratory findings including creatinine phosphokinase (CPK) elevation and often leukocytosis.

Olanzapine

e.g. Zyprexa ®

Weight

- Determine BMI (body mass index, defined as weight divided by height) at baseline, once a month for the first three months, then every three months

Glucose

1. Baseline fasting glucose (below 100 is normal, 100-125 is pre-diabetes, above 126 is diabetes). If your patient can't manage to get to the lab before eating, order an HbA1c, which is a measure of long term glucose control.
2. Follow-up fasting glucose 4 months after starting med and then yearly, unless patients are gaining weight: if so, continue Q 4 mo. monitoring.

Recommended Monitoring for Atypical Antipsychotics

Ask patients about polyuria or polydipsia to monitor for diabetes.

Lipids

- Baseline fasting lipid panel: total cholesterol, low-density lipoprotein (LDL) and HDL cholesterol, and triglyceride levels. Check lipids again 3 months later, then every 2 years; refer to PCP if LDL is higher than 130 mg/dl.

CPK if indicated

- Neuroleptic malignant syndrome is typically characterized by high fever, muscular rigidity, and mental status changes, along with characteristic laboratory findings including creatinine phosphokinase (CPK) elevation and often leukocytosis.

Quetiapine

e.g. Seroquel ®

Weight

- Determine BMI (body mass index, defined as weight divided by height) at baseline, once a month for the first three months, then every three months.

Glucose

1. Baseline fasting glucose (below 100 is normal, 100-125 is pre-diabetes, above 126 is diabetes). If your patient can't manage to get to the lab before eating, order an HbA1c, which is a measure of long term glucose control.
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Risperidone

e.g Risperdal ®

Weight

- Determine BMI (body mass index, defined as weight divided by height) at baseline, once a month for the first three months, then every three months

Glucose

1. Baseline fasting glucose (below 100 is normal, 100-125 is pre-diabetes, above 126 is diabetes). If your patient can't manage to get to the lab before eating, order an HbA1c, which is a measure of long term glucose control.
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Paliperidone

e.g. Invega ®

Weight

- Determine BMI (body mass index, defined as weight divided by height) at baseline, once a month for the first three months, then every three months

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CPK if indicated

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Ziprasidone

Weight

- Baseline, 6 months, then yearly

Glucose

- Baseline glucose (fasting not necessary); then yearly

Lipids

- Baseline fasting lipid panel every 2 years

CPK if indicated

- Neuroleptic malignant syndrome is typically characterized by high fever, muscular rigidity, and mental status changes, along with characteristic laboratory findings including creatinine phosphokinase (CPK) elevation and often leukocytosis.

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References

- [1] Zeier K, Connell R, Resch W, Thomas CJ. Recommendations for lab monitoring of atypical antipsychotics. *Current Psychiatry*. 2013 Sep 1;12(9):51.
- [2] Strawn JR, Keck Jr, MD PE, Caroff SN. Neuroleptic malignant syndrome. *American Journal of Psychiatry*. 2007 Jun;164(6):870-6.