In This Issue

Clinicians’ Corner
Regulators and Clinicians Alike Struggle with Off-label use and Safety Risks of Atypical Antipsychotics in Young Patients
Jun Yan

Lurasidone for the Treatment of Schizophrenia: New Advance or Nothing New?
Valerie-Ruth Loehr, Ana Francisca Trueba, and James D. Calvert

Serotonergics, Polypharmacy and Serotonin Toxicity—Part 1
Nicholas Patapis

President’s Podium
Changing Leadership in the Division
Glenn Ally

Legislative Update
Psychologist Prescribing in Oregon: What Does the Future Hold?
Robin Henderson

From the Editor
No Need for Specialized Training to Prescribe
James D. Calvert
Two years after expert advisors asked the Food and Drug Administration (FDA) to review the safety issues of atypical antipsychotics in children, particularly metabolic risks, the regulators were grilled again at the pediatric advisory committee on September 22, 2011 to consider the safety records of aripiprazole (Abilify). The drug’s pediatric indications remain, but so do the concerns about its potential harm.

The use of atypical antipsychotics is a subject of intense controversy and criticism within and outside the medical community, largely because these drugs can cause serious adverse effects on weight and metabolic dysfunction. In the 1990s, atypical antipsychotics quickly replaced older antipsychotics, such as chlorpromazine and haloperidol, as first-line treatment for schizophrenia and other psychotic disorders, thanks to their lower risks of extrapyramidal symptoms and arrhythmia as well as better effectiveness in treating negative symptoms in schizophrenia. The detrimental effects of atypical antipsychotics on glucose tolerance, cholesterol levels, and weight were not fully appreciated at the time. However, even after the metabolic adverse effects became known, and FDA began to issue warnings in 2003, this class of drugs remains popular. Perhaps the metabolic effects, more chronic than acute, are perceived as less clinically important than tremors or possible sudden cardiac death. Clinicians may consider hyperglycemia, weight gain, and hyperlipidemia as problems readily treatable with diet, exercise, antidiabetic drugs, or lipid-lowering drugs.

Nevertheless, the consequences of these metabolic effects, in the context of growing obesity among the entire population, worry patients and clinicians. The concern is especially heightened in children and ad-
Adolescents because there is a paucity of high-quality long-term research about the safety of atypical antipsychotics in children. Currently, five atypical antipsychotics have been approved by FDA for pediatric use in various age groups (see table). Two older antipsychotics, haloperidol and pimozide, are approved for treatment of Tourette’s syndrome, but none of the atypical antipsychotics is approved for Tourette’s. The clinical course and consequences of chronically elevated glucose, lipids, and prolactin levels and weight gain remain unclear. According to the current, FDA-approved prescribing information for atypical antipsychotics, some patients required antidiabetic treatment after the antipsychotic drug is discontinued, suggesting that the metabolic effect may not always be reversible.

Table: FDA-Approved Pediatric Indications for Currently Marketed Atypical Antipsychotics and Duration of Clinical Trials Leading to the Approvals.

<table>
<thead>
<tr>
<th>Antipsychotic</th>
<th>Pediatric Indications</th>
<th>Approved Age Group</th>
<th>CT Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aripiprazole</td>
<td>Schizophrenia</td>
<td>13-17 years</td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>Bipolar I (manic or mixed episode)</td>
<td>10-17 years</td>
<td>4 weeks</td>
</tr>
<tr>
<td></td>
<td>Irritability associated with autistic disorder</td>
<td>6-17 years</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Asenapine</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clozapine</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iloperidone</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lurasidone</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olanzapine</td>
<td>Schizophrenia</td>
<td>13-17 years</td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>Bipolar I (manic or mixed episode)</td>
<td>13-17 years</td>
<td>3 weeks</td>
</tr>
<tr>
<td>Paliperidone</td>
<td>Schizophrenia</td>
<td>12-17 years</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>Schizophrenia</td>
<td>13-17 years</td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>Bipolar I (manic or mixed episode)</td>
<td>10-17 years</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>Irritability associated with autistic disorder</td>
<td>5-16 years</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Risperidone</td>
<td>Schizophrenia</td>
<td>13-17 years</td>
<td>Up to 8 weeks</td>
</tr>
<tr>
<td></td>
<td>Bipolar I (manic or mixed episode)</td>
<td>10-17 years</td>
<td>3 weeks</td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Diabetes Risk in Children and Adolescents Remains Vague

As required by regulations for drugs with pediatric indications, the pediatric advisory committee for FDA had previously reviewed the safety of olanzapine and risperidone in 2008 and aripiprazole in 2009 (http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/PediatricAdvisoryCommittee/UCM272867.pdf). They have so far agreed with FDA’s decision to let these indications stand, but with stern warnings about the adverse metabolic effects in the prescribing information (also known as package insert). In 2009, the committee asked FDA to take a deeper look at the metabolic risks of antipsychotic drugs in pediatric patients. Since then, FDA and the Agency for Healthcare Research and Quality (AHRQ) jointly funded a retrospective study to examine the comparative risk of diabetes in children across the five atypical antipsychotics approved for pediatric use.

At the 2011 advisory committee meeting, Tobias Gerhard, Ph.D., the lead researcher of this study, reported that the incidence of developing type 2 diabetes mellitus was estimated to range from 3.93 (risperidone) to 11.05 (ziprasidone) per 1,000 patients per year (http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/PediatricAdvisoryCommittee/UCM272845.pdf). The study data were collected from 5 years of Medicaid records across 45 states and included only children and adolescents who were newly started on atypical antipsychotics.

In the general population, the incidence of diagnosed type 2 diabetes in U.S. youths ages 10 to 19 years is 8.5 per 100,000 per year, according to 2002-2005 data (http://diabetes.niddk.nih.gov/DM/PUBS/statistics/#ddY20). On the other hand, the background incidence of type 2 diabetes and risk factors may be much higher in young Medicaid recipients than the general population.

It should also be noted that the average follow-up duration for patients included in the Gerhard study was 98 to 136 days, and the median follow-up was 61 to 86 days, which suggests that many patients discontinued their initial atypical antipsychotic within a few months. The researchers could not conclude from the data whether the five antipsychotics carry different risks for causing diabetes, but they noted that the risk does not seem to vary by patient age, sex, diagnosis, or duration of drug exposure.

About half of the children on antipsychotic medication were diagnosed with ADHD or CD, while only 9%-20% were diagnosed with schizophrenia or bipolar disorder

Also notable from Gerhard’s data is a baseline finding: About half (47 to 61%, depending on the drug) of the children and adolescents started on atypical antipsychotics were diagnosed with attention deficit/hyperactivity disorder (ADHD) or conduct disorder, and about one third (22% to 34%) were diagnosed with......
depression. Only 3% to 7% had a diagnosis of schizophrenia, and 6% to 13% had a diagnosis of bipolar disorder, which are the FDA-approved indications. Pervasive developmental disorder and mental retardation combined accounted for 6.5% to 11.0% of the patients given antipsychotics.

**Widespread Off-Label Use**

With $3.5 billion in sales in 2010, aripiprazole is the top-selling psychiatric drug and sixth among all prescription drugs in the United States ([www.drugs.com/top200.html](http://www.drugs.com/top200.html)). Of the top 20 prescription drugs, three are atypical antipsychotics. Quetiapine (Seroquel) and olanzapine (Zyprexa) are ranked No. 8 and No. 13, respectively. The sales of atypical antipsychotics ballooned in the past two decades, which was hardly driven by their FDA-approved indications: schizophrenia, bipolar disorder, autism-associated irritability. Aripiprazole and olanzapine are also indicated for major depressive disorder (MDD) as adjunctive treatment to antidepressants. In recent years, off-label use is the main force driving the growth of atypical antipsychotic use. (Crystal, 2009). These drugs are increasingly used in patient populations that have not been studied by the companies or reviewed by the FDA. For example, a recent study showed that, among children aged 2 to 5 years, the rate of antipsychotic use doubled from 2001 to 2007 (Olfson, 2010).

**Aripiprazole (Abilify) is the top-selling psychiatric drug**

Physicians often have their reasons for going beyond FDA-approved indications. For all the currently marketed atypical antipsychotics, FDA has routinely approved them for marketing on the basis of 3- to 8-week-long clinical trials, which were conducted in patients with an acute episode of schizophrenia or bipolar disorder. A few drugs have undergone year-long clinical trials and carry the indication for maintenance therapy, but the pediatric indications can be attained if the drug produces favorable results in only one short-term trial. According to the prescribing information of each atypical antipsychotic, the duration of clinical trials that led to the approval of pediatric use was 3 weeks for bipolar disorder or 6 to 8 weeks for schizophrenia. Therefore, technically, prescribing risperidone for a 5-year-old child for bipolar disorder is an off-label use, and so is giving aripiprazole to a 16-year-old with schizophrenia for longer than 6 weeks.

In addition to prescribing off-label for age and treatment duration, atypical antipsychotic use has been expanded beyond psychotic disorders. They are widely prescribed for not only conditions with few or no established treatments (e.g., anorexia nervosa, mental retardation), but also for disorders with plenty of proven options, such as ADHD, posttraumatic stress disorder (PTSD), other anxiety disorders, sleep disorder, and other behavioral problems ([http://www.effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=453](http://www.effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=453)). For example, Comer et al. (2011) found that the prescriptions of atypical antipsychotics for anxiety doubled from late 1990s to mid 2000s. An Army physician recently conducted a chart review and found that, at a Veterans Affairs medical center, nearly 60%
of quetiapine prescriptions were written to treat insomnia, while less than 10% were for all FDA-approved indications combined (Levin, 2011).

In FDA’s own analysis of national prescription drug data, a total of 4.8 million prescriptions of atypical antipsychotics were dispensed to pediatric patients (0-17 years) in 2009, up from 2.9 million in 2002 (http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/PediatricAdvisoryCommittee/UCM272641.pdf). Of these 4.8 million prescriptions, FDA-approved indications accounted for approximately half of the dispensed prescriptions, including 21% prescriptions for “affect psychoses,” 17% for “bipolar affective,” and 8.5% for “infantile autism.” Nearly 37% atypical antipsychotic prescriptions were dispensed for “other” indications, not including another 12% given for ADHD.

Nevertheless, off-label use of prescription drugs is a problem because the efficacy and the risk-benefit ratio in these conditions have not been scrutinized in placebo-controlled clinical trials. For example, a recent study showed that risperidone is not effective in treating PTSD (Krystal et al., 2011). The comparative effectiveness of typical and atypical antipsychotics in treating various pediatric behavioral disorders is currently being reviewed by AHRQ, but the results have not been published.

Despite calls for greater regulatory oversight, including that from the pediatric advisory committee, off-label use of any prescription drug is legal and outside FDA’s jurisdiction, unless the Agency places the drug under a restricted distribution program or pulls it from the market altogether. Given the severity of schizophrenia and bipolar disorder, it is unlikely that FDA will take such drastic steps to restrict the access to atypical antipsychotics. However, FDA can ask manufacturers, usually the company that first markets a particular drug, to conduct post-marketing observational studies on adverse effects, including long-term harm; and the Agency itself collects voluntary, spontaneous reports of adverse events. Post-marketing safety data are useful in detecting risks in large populations, but do not have the same degree of rigor as those obtained from controlled clinical trials. In addition, FDA has much less leverage to persuade companies to invest millions of dollars on large and high-quality research after the drug goes on the market.

Safety Monitoring Remains Inadequate in Practice

At the September 2011 meeting, the pediatric advisory committee urged FDA to continue monitoring the long-term risks of antipsychotic drugs in children and adolescents and to revise the prescribing information of the entire class to strengthen the current warning language (Selyukh, 2011). The director of the division that reviews psychiatric products, Thomas Laughren, M.D., told the advisory committee that the la-
belonging of aripiprazole, and possibly other atypical antipsychotics, would be revised again soon. However, there appears to be no impending plan for the Agency to impose the dreaded “boxed warning” on atypical antipsychotics about the metabolic adverse effects.

History has shown that FDA’s safety warnings carry limited effects on clinical practice in the real world. The Agency has been requiring and updating various warnings in the prescribing information of all atypical antipsychotics since 2003, but antipsychotics remain widely prescribed and, in 2008 and 2009, were the top-selling therapeutic class in the U.S. (http://imshealth.com/deployedfiles/imshealth/Global/Content/StaticFile/Top_Line_Data/Top%20Therapy%20Classes%20by%20U.S.Sales.pdf). Morrato and colleagues (2010) have found that most pediatric patients on atypical antipsychotics did not receive baseline glucose and lipid testing despite numerous warnings and guidance from FDA, American Diabetic Association, and American Psychiatric Association. Limited access and psychosocial barriers to follow-up care among patients, as well as a perception of low risk among clinicians, may contribute to the phenomenon (Kuehn, 2010). Additional reasons may include a lack of knowledge among mental health professionals about monitoring physical health and communication barriers with primary care providers (Ronsley, 2011).

In conclusion, there is too much unknown about the long-term safety and effectiveness of atypical antipsychotics to justify their widespread use in children and adolescents. Instead of waiting for FDA to answer all the questions, clinicians must shoulder the responsibility to not only educate themselves with all the current research evidence but also carefully weigh the benefit and risk --- the known as well as the unknown --- before and after prescribing an atypical antipsychotic for each patient.

Jun Yan, Pharm.D. is a pharmacist and medical writer. She worked as a staff writer at Psychiatric News, the newspaper of American Psychiatric Association, from 2007 to 2010, and as a pharmacist at the FDA from 2010 to 2011. She is currently a freelance medical writer.

References


---

**Do you have a clinical review or grand-round case presentation? If so, we would like to consider it for publication in THE TABLET. Please contact Jim Calvert, Tablet editor, at jcalvert@calvertpartners.com to discuss your ideas.**
Schizophrenia is a complex and debilitating mental disease characterized by two broad symptom categories - positive and negative. Positive symptoms include disturbed thought content (delusions), altered thought processes (disturbed speeches), perception (hallucinations) and grossly disorganized behavior. Negative symptoms are characterized by changes in the intensity and range of emotional expression this can result in flattened affect, apathy, social withdrawal, and difficulty in engaging in goal oriented behavior (American Psychiatric Association; APA, 2000). New research suggests that cognitive impairment is an enduring feature of schizophrenia observed across subtypes that includes deficits in working memory, attention, and executive functioning. Current medications are helpful in treating some of these symptom groups; however, many medications cause aversive side effects. Older anti-psychotics in particular are able to effectively treat positive symptoms, but can cause strong extrapyramidal side effects (EPS). Newer medications are often viewed as more effective at relieving negative symptoms (see CATIE trial report that calls this greater efficacy into question [http://mentalhealth.gov/trials/practical/catie/phase1results.shtml](http://mentalhealth.gov/trials/practical/catie/phase1results.shtml)), but cause weight gain, metabolic dysfunction, and patients remain with cognitive deficits (Ishibashi et al., 2010). Advances in treatments for schizophrenia are needed that both increase tolerability and improve cognitive functioning.

The U.S. Food and Drug Administration (FDA) approved lurasidone (Latuda) in 2010 as the tenth atypical antipsychotic for the treatment of schizophrenia (Mullard, 2011). Lurasidone belongs to a class of drugs known as benzoisothiazol or azapirone derivatives, and is most similar to ziprasidone (Geodon) among the available atypical antipsychotics. It is a second generation antipsychotic, which may be better tolerated than older antipsychotics. Lurasidone, like other anti-psychotic medication, treats positive symptoms more effectively than negative symptoms (Meyer, Loebel, Schweizer, 2009).
Pharmacodynamics

Lurasidone possesses potent antipsychotic, anxiolytic-like, and antidepressant-like activity (Ishibashi et al., 2010). Researchers have found that lurasidone is an antagonist of dopamine D₂ and serotonin 5-HT₂A receptors (Citrome, 2011). Blocking dopamine D₂ receptors reduces positive symptoms, but in turn increases extrapyramidal side effects. Lurasidone’s capacity to block serotonin 5-HT₂A receptors reduces negative symptoms (Ishibashi, 2010).

Lurasidone sets itself apart from other atypical antipsychotics because it is a partial 5-HT₁A receptor agonist; these properties have the potential of pro-cognitive and antidepressant effects (Citrome, 2010). In addition, this drug is also thought to improve cognitive functioning because it is a strong agonist of serotonin 5-HT₇ receptors (Ishibashi, 2010). Its minimal agonist effect on 5-HT₂C and histamine H₁ receptors indicates a low risk for weight gain (Citrome, 2011). Lurasidone is also unlikely to cause anticholinergic side effects as it does not have an affinity for cholinergic M₁ receptors. However, this has only been examined at a biochemical level and needs to be tested more fully in clinical trials (Citrome, 2011).

Dosage and Interactions

Lurasidone can be administered in once-a-day dosing. The outpatient recommended dose for lurasidone is 40 mg/day, and this can be increased to a maximum of 80 mg/day for inpatient populations (Ehret, Sopko, & Lemieux, 2010). Studies suggest that when individuals ingest the drug, it is absorbed in about 1 to 3 hours. Dose adjustments are not necessary for race, sex, or age. However, a maximum dose of 40 mg/day is suggested for those with hepatic or renal impairment. Lurasidone carries a black-box warning of an increased risk of mortality for elderly patients with dementia-related psychosis. While plasma concentration after 20mg/day was similar in elderly patients with psychosis to those in younger patients, there is insufficient data to determine whether elderly patients respond differently. Safety and effectiveness have not been established in children. There have not been studies with pregnant women, but neonates who were exposed to lurasidone during the third trimester experienced agitation, movement disorders, or feeding disorders (Food and Drug Administration, 2010; Latuda, 2010).

One advantage of Lurasidone is that it can be administered once a day

Lurasidone should be taken with food (at least 350 calories), which doubles its absorption. Without food only 9–19% of the administered dose is absorbed (Citrome, 2011). This drug is largely eliminated by hepatic metabolism, principally via the cytochrome P-450 (CYP) 3A4 enzyme system. Thus, any drug that inhibits or induces this isoenzyme should be avoided when taking this medication (Aschenbrenner, 2011). For example, 3A4 inhibitors, such as diltiazem (Cardizem) increase lurasidone levels two-
fold, and ketoconazole (Nizoral) can raise lurasidone levels sevenfold. Inducers of 3A4 lower lurasidone levels. For example, Rifampin (Rifadin) lowers levels by 85% (Ehret, Sopko, & Lemeiux, 2010). Foods or herbs that are 3A4 inhibitors (e.g., grapefruit juice) or inducers (e.g., St. John’s wort) also affect the effects of the drug.

**Efficacy Outcomes**

Efficacy studies comparing lurasidone with placebo found improvements on core symptoms of schizophrenia, but data are limited to short-term (3- to 8-week) randomized control trials. The primary measures of improvement were mean changes in Positive and Negative Syndrome Scale (PANSS; Kay, 1991), Brief Psychiatric Scale (BPRS; Overall & Gorham, 1962), and Clinical Global Impression-Severity (CGI-S; Ventura et al., 2008). After 6 weeks, there were improvements on all psychopathology measures with 40 mg, 80 mg, and 120 mg dosages compared to placebo. There were no additional benefits of 120 mg compared to 40 or 80 mg (Loebel et al., 2010) and less discontinuation due to side effects with lower doses (Ehret, Sopki, & Lemeiux, 2010). Thus, the FDA recommends a starting dose of 40 mg/day and a maximum of 80 mg/day (Kelly, 2010).

The comparative efficacy to other antipsychotics is limited. To date, only two published studies have compared lurasidone to another atypical antipsychotic. One study was considered a "failed trial" because neither haloperidol nor lurasidone was statistically different than placebo in improving BPRS, PANSS, or CGI-S (Loebel et al., 2010). In a second study, lurasidone (40 and 120 mg/day) and olanzapine (15 mg/day) both produced significantly improved PANSS measures and the CGI-S compared to placebo (Loebel et al., 2010; Cucciaro et al., 2010). The long-term efficacy of lurasidone is currently being evaluated in a number of ongoing studies.

**Cognitive outcomes**

Lurasidone has been touted for its cognitive enhancing abilities. Lurasidone enhances cognition in animal models of learning and memory impairment, but data regarding its efficacy in humans is limited. To evaluate the cognitive effects of lurasidone, ziprasidone was used as the active comparator. Similar to lurasidone, ziprasidone has no affinity for acetylcholine M1 receptors, but does not have substantial 5-HT7 affinity and modest histaminergic activity (Daniel and Copeland, 2000). In the 21-day study, there were no between-group differences in performance on two measures of cognitive functioning (Harvey et al., 2011). However, there were significant within group improvement from baseline on the cognitive measures with lurasidone (120 mg/d), while those on ziprasidone (80 mg/d) didn't improve on either

---

**There is limited data comparing Lurasidone to other antipsychotics**

The comparative efficacy to other antipsychotics is limited. To date, only two published studies have compared lurasidone to another atypical antipsychotic. One study was considered a "failed trial" because neither haloperidol nor lurasidone was statistically different than placebo in improving BPRS, PANSS, or CGI-S (Loebel et al., 2010). In a second study, lurasidone (40 and 120 mg/day) and olanzapine (15 mg/day) both produced significantly improved PANSS measures and the CGI-S compared to placebo (Loebel et al., 2010; Cucciaro et al., 2010). The long-term efficacy of lurasidone is currently being evaluated in a number of ongoing studies.
measure. The cognitive effects of lurasidone warrant more investigation due to the very short duration of the study, the high dose of lurasidone, and the incomplete administration of the MCCB.

Common Adverse Events

The most common side effects of lurasidone were insomnia (23%), akathisia (15%), nausea and agitation (6%) (Food and Drug Administration, 2010). As dosages increase, akathisia and sedation/somnolence has also been shown to increase (Cucchiaro et al., 2009; Dainippon, 2011a; Dainippon, 2011b). The potential risk of tardive dyskinesia is still unknown as currently there is limited information from long-term clinical trials. Compared to risperidone and quietiapine, lurasidone had lower reported incidences of somnolence, constipation, and weight increase (Dainippon, 2011a; Dainippon, 2011b). However, lurasidone had higher incidences of akathisia, nausea, and vomiting. A 3-week trial comparing luraisdone and ziprasidone only found significant differences in sedation, with lurasidone showing less sedation (Cucchiaro et al., 2009).

Lurasidone has shown minimal problems with weight gain. It does not raise cholesterol and triglyceride indices (Cucchiaro et al., 2009; Food and Drug Administration, 2010; Dainippon, 2010c). Lurasidone also has a favorable fasting glucose profile (Cucchiaro, et al., 2009). Lurasidone can raise prolactin levels, which appears to be dose-related and slightly higher for females (Food and Drug Administration, 2010). Lurasidone does not impact QTc intervals and there have been no cases of electrocardiographic abnormalities (Food and Drug Administration, 2010; Latuda, 2010).

Summary

Lurasidone dosages of 40 and 80 mg/day appears efficacious and generally well-tolerated (Kelly, 2010). Higher doses of 120 mg/day have no added clinical benefit but significant dose-related side effects, most notably somnolence and akathisia. With regard to its reported efficacy in improving cognitive functioning, the evidence is limited. If clear conclusions could be drawn that support lurasidone improves cognitive functioning, then lurasidone would have an edge over the current antipsychotics on the market. However, there is no clear evidence at this time.

Unlike other second-generation antipsychotics, lurasidone has a favorable metabolic and cardiovascular tolerability profile, and once a day dosing. Patients with endocrine (diabetes, dyslipidemia), comorbid cardiovascular disease, or who are overweight, may particularly benefit from lurasidone over other antipsy-
chotics available on the market due to its side effect profile. However, similar to first generation antipsychotics, akathisia and hyperprolactinemia occurs and should be evaluated carefully.

Lurasidone shares a similar mechanism of action with established antipsychotics. Furthermore, it has similar efficacy to other established (and cheaper) drugs. Cost may be an impediment for some patients. Although insurance may cover the cost of the medication for many, prices are reportedly around $14 a day ($420/month; see http://www.fiercepharma.com/story/two-drugs-two-price-setting-tales/2010-12-20). Furthermore, the generic forms of risperidone and olanzapine are now available, and ziprasidone and quetiapine will be available generically in March 2012. Without clear data showing that it improves cognitive functioning, lurasidone does not appear to have any clear advantages over its competitors.

**LURASIDONE**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dose a day</td>
<td>Must be taken with food</td>
</tr>
<tr>
<td>Minimal weight gain</td>
<td>Akathisia and other EPS</td>
</tr>
<tr>
<td>Minimal increase in lipids, cholesterol, fasting glucose</td>
<td>Sedation</td>
</tr>
<tr>
<td>Minimal QTc prolongation</td>
<td>Expensive</td>
</tr>
<tr>
<td>Therapeutic starting dose</td>
<td>Drug interactions</td>
</tr>
</tbody>
</table>

**References**


Serotonergics, Polypharmacy and Serotonin Toxicity
(Part 1)

Nicholas Patapis, Psy.D., MACJ, MSCP
Associate Editor, The Tablet

“A Case That Shook Medicine” was the title of a 2006 essay by Barron Lerner, a physician who was in medical school in 1984, the year Libby Zion died. His essay marked the 25th anniversary of Zion’s death shortly after she was admitted to an ER in Manhattan. Zion’s case is best known for the impact it had on the institution of medical training in America. The Libby Zion Law (New York Department of Health Code 405) enacted after her death placed limitations on the number of consecutive hours that physicians in training could work. It also increased the supervisory requirements for all residency training programs in the state. The American Council on Graduate Medical Education (ACGME) implemented similar regulations in 2003.

Zion v. New York Hospital - The plaintiff in Zion v. New York Hospital was Sydney Zion, a well-known attorney and author who was no stranger to the media or high-profile lawsuits. The suit alleged that medical malpractice resulted in the wrongful death of Libby Zion. The major claim in the case was the administration of Demerol© (meperidine) in a patient who was taking Nardil© (phenelzine), a monoamine oxidase inhibitor (MAOI). The circumstances of Libby’s death allowed for dramatic testimony and arguments. The plaintiff’s attorneys described an otherwise well 18-year-old college freshman. She entered the ER with mild symptoms and then died while tied to her bed. Records indicate that upon her admission to NYU she complained of “flu-like symptoms.” She was described as mentally agitated and she displayed “strange jerking movements.” Libby was admitted for hydration and observation. However, Libby’s jerking movements continued and this prompted the second year resident to make what is now believed to have been a fatal mistake when she ordered that Demerol should be administered to Libby. This led to an exacerbation of Libby’s symptoms. She became increasingly agitated, mentally and physically. Physical restraints were ordered, as was Haldol (haloperidol). Libby ultimately became sedated, but she was not well. Her fever rose to 107°F before she died of cardiac arrest. Under cross-examination, one of the defendants agreed that she had overlooked the phrase "death can result" with respect to the combination of Nardil and Demerol. In a mixed verdict, the jury found the doctors that treated Libby negligent. The doctors and hospital to were ordered to pay Zion’s family $375,000 for Libby’s pain and suffering.

Libby Zion died of hyperserotonemia
The combination of Demerol and Nardil was cited as contributory but not causative of Zion’s death in the civil trial. In the many hearings that followed Libby’s death, including those held by the State Board of Medical Malpractice and Misconduct, several experts testified under oath that they were unaware of any known interactions between of Nardil and Demerol. However, much has been learned about how drug work since 1984. The pharmacological properties of MAOIs such as phenelzine were fairly well understood in 1984. However, the properties of Demerol (meperidine), such as its inhibition of serotonin (5-HT) re-uptake, were not.

**Serotonin Syndrome.** Serotonin syndrome (SS) and serotonin toxicity (ST) are used synonymously in the literature to describe a potentially life-threatening constellation of symptoms that are the result of hyperserotonemia, a state of excessively high serotonin levels. Hyperserotonemia and the resulting symptoms are almost exclusively attributed to drug-drug interactions. However, single-drug induced cases have been documented with SSRIs and other serotonergics (e.g., Nelson et al, 2007; Isbister, Hackett, Dawson, Whyte, & Smith, 2003). The characteristic observable features of serotonin toxicity include three key elements: 1) neuromuscular excitation, 2) autonomic stimulation and 3) mental status changes.

**Diagnostic Systems.** Sternbach (1991) proposed criteria to better define serotonin syndrome and identify patients in whom serotonin toxicity was causal in their presentation. Sternbach’s criteria required 1) the recent addition or increase of a known serotonergic agent, 2) an absence of other possible etiologies, and 3) no recent additions or increases of a neuroleptic agent. Sternbach’s system also required that at least three of the following ten symptoms are present: mental status changes, agitation, myoclonus, hyperreflexia, diaphoresis, shivering, tremor, diarrhea, poor coordination and fever. Sternbach’s criteria have been criticized because they have very low specificity and because they tend to yield a high number of false-positives (Isbister et al, 2003). Dunkley and colleagues (2003) conducted analyses of 2,200 patients meeting Sternbach’s criteria to identify those which were most predictive of clinically significant serotonin syndrome. The authors identified that five out of the ten symptoms identified by Sternbach accurately identified patients with toxicologically confirmed serotonin syndrome: 1) clonus (inducible, spontaneous or ocular), 2) agitation, 3) diaphoresis, 4) tremor, and 5) hyperreflexia. These symptoms when present in a patient taking a serotonergic medication were found to be more sensitive to serotonin toxicity and less likely to yield false positives than Sternbach’s criteria.

Stay tuned for Part 2 in the next issue of *The Tablet* — drugs implicated in serotonin syndrome and treatment
Any doctor will admit that any drug can have side effects, and that writing a prescription involves weighing the potential benefits against the risks. — Mark Udall, U.S. Senator for Colorado
Changing Leadership in the Division

Glenn Ally, Ph.D., MP
President, APA Division 55

Well, it is once again nearing time to change the leadership of our Division. My year as your President is nearing an end and soon we will be led by the very capable, Dr. Kevin McGuinness. Several prior Presidents and I have felt the disappointment of not having another state pass RxP legislation during our presidency. However, I know past Presidents have expressed to me the pride they had in leading the Division, the other accomplishments they had the pleasure of overseeing, and working with such dedicated professionals and colleagues. I am no exception to what they have experienced.

Though we once again came close to having another state, we fell just short of getting there. While there is no one single formula for passing RxP legislation that will work in each and every state, we have learned over the years that there are indeed, some “essentials,” so to speak, like establishing longer term political relationships, gathering contributions to the cause, and rallying dedicated professionals who are in it for the long haul, there is no one single approach that will work in each and every state to pass RxP legislation. Having said the above, I remain confident we will indeed get there soon. What makes me so confident? I know the people who remain dedicated to getting things done in their respective states and I know their enthusiasm may be temporarily diminished from time to time, but their commitment to the cause remains strong. I have confidence in them and I have confidence in you...the many of you that I see at meetings, conferences, and workshops. It will come. If we do not quit, we will win!

Over the past year, the Division accomplished several things. First, your board voted, under the leadership of Dr. Owen Nichols, to move management of the Division to a management service. We chose Reisman-White to managed Division 55 and this year, we welcomed David White of Reisman-White to our division and made the transition. David hit the ground running as he managed and coordinated our mid-winter conference this year. He and his firm have taken over everything from membership to the website and man-
aging the business matters of the Division. David is quite dynamic and has been a very positive influence in helping the Division move forward. Please welcome David White when you see him at conventions and Division functions.

As alluded to above, Division 55 held a mid-winter conference this year. That conference was held in conjunction with APA’s State Leadership Conference in Washington, D.C. This was quite an undertaking and the first time for such an event. One of the highlights of this past mid-winter conference was the participation of Dr. Daniel Carlat, a renowned psychiatrist and author of the Carlat Report, who has publicly professed his support for appropriately trained psychologists obtaining prescriptive authority. Also participating was Dr. Robert Julien, author of *A Primer of Drug Action*, who has also publicly supported appropriately trained psychologists having prescriptive authority. The mid-winter conference provided the platform for our members to network with leaders in state psychological associations across the country and rejuvenate the enthusiasm for prescriptive authority. It was a tremendous success. While there are many folks to thank I would be terribly remiss if I did not acknowledge the efforts of Dr. Elaine LeVine and David White in making this event happen.

Of course we had a very successful APA Convention, again in Washington, D.C., with fantastic Division 55 programming. There was something for all psychologists with any interest in psychopharmacology. We held a very well-attended workshop for early career psychologists interested in becoming medical psychologists and gaining prescriptive authority. As before, these things never happen without the work of numerous colleagues. But, again, I would be remiss if I did not acknowledge those who put together excellent programming for our Division and a very special Social Hour. My gratitude goes out to Dr. Massi Wyatt, Dr. Steve Tulkin, and David White for their special efforts in making Division 55’s convention efforts so successful.

I could go on further about additional accomplishments throughout this year. But I will mention one more before moving on to something very special to me. That last accomplishment has not come to full fruition as of yet, but I will indeed see it through. As many of you know, we have been prohibited from talking about certain things on the lists that essentially belong to APA. For fear of violating Antitrust laws and because of fear of risking APA’s tax status, we have been reminded on several occasions by APA that we should not discuss fees, insurance companies, or issues relating to political candidates, and fund raising. Many have seen this approach as being too restrictive and have expressed concern about reminders of what we cannot do, but precious little advice coming our way on how we go about getting to what we can do. To that end, we are developing a list, outside of the APA lists, that will be available to those RxP leaders in states that are serious about passing RxP legislation. We will be able to share experiences, political strategies, fund raising efforts, and more without some of the difficulties we have been encountering on our current list and without risk to APA. More to come on that soon...
I could say a lot of other nice stuff and include all the usual platitudes. But, I won’t. Just let me say, it has been my pleasure, my honor, and my privilege to serve as your President. I will, of course, still be around as Past-President and will assist Dr. McGuiness in any way that I can. It has truly been a pleasure. I look forward to continuing to work with you in the future and getting more statutes passed. As Dr. Jim Quillin often reminded, “If we do not quit, we will win.”

Now, with a little remaining space, I would like to say a very special thank you Dr. Pat DeLeon. He has been recognized by many as the father of our movement, and that title has been well deserved. From the inception of this idea, this movement, this agenda, Dr. DeLeon has truly personified the word “inspirational.” Whether it has been his work with the federal legislature or within our own organization, he has been there. Someone once said of me, because I usually like working behind the scene, “Dr. Ally’s work is like a crime scene... upon first inspection you may not see much but on closer inspection Dr. Ally’s fingerprints are all over this.” Dr. DeLeon’s fingerprints have been all over the RxP movement from the beginning. He continues to motivate and inspire us by his actions and by his words. Simply, our movement and indeed our profession are better because of his efforts. We have given him awards but awards fall terribly short of the enormous debt our profession owes him. Dr. DeLeon will be retiring from his work in the Senate for Senator Daniel Inouye. Our country will miss his work for the Senate and our profession will miss his efforts there on our behalf. I sincerely hope that he will remain active within the profession and within our Division. Again, simply, we need him. So, congratulations on your retirement. Pat, we wish you the best of everything and we hope it is all that you want it to be. Aloha, my friend.

Division 55 — 2011 Board of Directors

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Glenn Ally</td>
</tr>
<tr>
<td>President Elect</td>
<td>Kevin M. McGuinness</td>
</tr>
<tr>
<td>Past President</td>
<td>Owen Nichols</td>
</tr>
<tr>
<td>Secretary</td>
<td>Arlene Giordano</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Mary-Kathryn Black</td>
</tr>
<tr>
<td>Members at Large</td>
<td>Jeff Matranga</td>
</tr>
<tr>
<td></td>
<td>Kathleen M. McNamara</td>
</tr>
<tr>
<td></td>
<td>Robert Younger</td>
</tr>
<tr>
<td>APA Council Reps</td>
<td>Robert E. McGrath</td>
</tr>
<tr>
<td></td>
<td>Beth Rom-Rymer</td>
</tr>
<tr>
<td>APAGS Rep</td>
<td>Katherine Barteck</td>
</tr>
</tbody>
</table>
I have dreaded writing this article for some time. How do I begin to explain what happened to HB 3523, the bill that would have allowed specially trained psychologists to prescribe a limited formulary of psychotropics? How did we walk into Session with a strong bill, strong bipartisan and bicameral support, with a nod from the Governor in our direction—and walk out with nothing? Well, to coin a phrase, it’s complicated.

At the request of our Senate sponsor, we started the bill in the House. The intention was to bounce out of the House with a strong supportive vote, much as we did last Session, and then hit the Senate running. HB 3523 passed out of House Health Care Committee early in the Session and took a hard detour straight to Ways and Means. We fully anticipated that the Oregon Board of Medical Examiners would attach a large fiscal impact statement to this bill, and we welcomed it. The larger the fiscal impact, the more ridiculous it appeared, and this over-inflated fiscal didn’t disappoint. Legislators from both sides of the capital expressed outrage about a fiscal of this magnitude, including a remonstrance on the House floor from Representative Bill Kennemer. Things were looking good.

Then, our bill ran into that problem that happened for hundreds of bills this Session—we got lost in the shuffle. Ways and Means wasn’t meeting, and when they did, their focus was on a very small number of major healthcare reform pieces and a budget deficit of more than $350 million. HB 3523 lost importance in this group, and considering that most of the Senators sitting on the full Ways and Means did not support the bill to begin with, navigating this process became like rowing through caramel, only not as tasty. As the Session drew to a close, very few bills passed through deadlines, and Legislators were visibly ready to go home. Even
though we knew we could pass both the House and the Senate, we couldn’t get a hearing in Ways and Means. Without that key hearing, the bill died in committee.

Passing controversial scope of practice legislation is, at its best, a difficult process. Oregon’s RxP bill has traversed waters that many states consider to be successful—consistently passing out of key policy committees, gaining huge legislative support to pass through both the full House and Senate and the devastating Governor’s veto from last Session. We have pushed the conversation about expanding scope of practice to new heights. At the end of the day, our efforts were not totally in vain. Lessons learned here can be applied to other states and even to new efforts in Oregon. But for now, the fight in Oregon is over.

Every RxP effort requires the dedication of a small group of individuals to make it happen, and Oregon is no different. Wendy Bourg, Jessica Conwell, Peter Grover, Lynnea Lindsey, Douglas Marlow, and David Wade dedicated countless hours preparing for testimony, talking to legislators and their aides, reading scathing news articles and blogs that were, at times, personally attacking and filled with lies. They put their practices on hold to advocate for what they believed in—the right to choose, both as provider and as consumer of services. Most of this group has dedicated the last five years to making this legislation happen, and as such, they are the ones who should decide what comes next. In consultation with our lobbyists and the OPA Board, we have decided to stand down until conditions in the Oregon Legislature change and focus our efforts on integrating psychology into primary care. The extraordinary background of those who have completed a post-doctoral masters in psychopharmacology make them ideal candidates for integrated primary care, and Drs. Lindsey and Grover are both integral parts of demonstration projects within their home communities and agencies.

We owe a huge debt of gratitude to our legislative champions, including Sen. Laurie Monnes-Anderson, Sen. David Nelson, Rep. Bill Kennemer, Rep. Tina Kotek, Rep. Phil Barnhart, Rep. Val Hoyle, Rep. Mitch Greenlick and Rep. Bob Jenson. These tireless individuals were key to keeping the bill alive for so many years. There are many other Legislators who helped behind the scene, and we will thank them privately. It is impossible to run legislation like this without a cadre of bipartisan, bicameral support, and we are grateful.

We also wish to thank Sandra Fisher and the team at Update Management—the expert support that makes the Oregon Psychological Association run. They have endured late requests for fiscal information, letters that needed to go out “today,” and all with humor, grace and support. We are also forever indebted to the support of CAPP—Elaine Levine, Glenn Ally, Paul Burney, and others who have consistently approved grant requests to support our efforts. Your dollars funded the additional lobbying support of Gary Conkling and Conkling, Fiskum, and McCormick. Gary’s team was essential to our efforts, and they too donated many
unfunded hours and projects over these last few years. Thanks, Gary!

Our biggest thanks go to two teams that provided the energy and drive that moved us to all we have achieved. First, to the APA Practice Directorate, and specifically, Deborah Baker and Dan Abrahamson. How do we say thank you for all the support you have given us—from late night phone calls to last minute advice, technical assistance and just the shoulder to cry on. You are the unsung cheerleaders, advisors, and experts of RxP. You have sustained us with your tireless support, compiled statistics, guided us to legislative precedent, and made this effort worth engaging in. Thank you and your team of professionals for all you have done for Oregon and for RxP.

Our local team was our core lobbyists, Lara Smith and Betsy Jones of L. & E. Smith Government Relations, our core lobbyists. Your expertise in mental health lobbying is beyond compare. You guided our organization through RxP amid huge criticism, both internally and externally, and helped us avoid landmines at every step. You taught us how to walk away from responding to the lies and focus on the truth. You have called incredible plays and thrown Hail Mary passes at every step and helped us to be a better organization. We are now seen as legislative and political experts in mental health in Oregon. Even though we don’t have prescribing privileges, we do have a voice, and we owe that to you.

One final thought. As Chair of this effort for the last few years, I want to share a few things I’ve learned. If you’re considering pursuing RxP legislation in the future, develop a really thick skin. Find a few close friends who believe, and keep them close, because you’ll need them when times get rough. The hardest part of pursuing this legislation is dealing with the lies and the personal attacks. People you have never met will say unconscionable things about you personally and professionally. They’ll write worse things about your friends. They’ll say “people will die” and call you “incompetent.” Every time you want to respond to the lies, take a deep breath, write your best, most derisive response, and send it to your lobbyist. She’ll make sure it never sees the light of day, because in the end, you have to keep your focus on what is important. It’s not really about having prescription privileges. It’s about having the right to choose how you practice within the scope of what you can do. And it is about making sure your patients have the right to choose how they receive care. Scope of practice legislation is as old as practice itself—and in the not too distant past, psychiatrists fought hard to make sure psychologists could not engage in talk therapy with patients because they might kill someone. It’s all about turf, folks.

Healthcare reform offers incredible opportunities for psychologists to use all their skills to improve the quality of life for the people we serve. We have diverse skills, talents, and competencies that make us...
ideal partners for the future of healthcare in our country. I firmly believe expanding the scope of practice to prescribe will happen naturally—and not just for psychologists. We can’t afford to have everyone go through a physician for everything. The medical model has its strengths, but it isn’t the answer for everything. I look forward to continuing efforts to integrate psychologists across the continuum of healthcare, and I’ll use the lessons I’ve learned in the Oregon Legislature to make sure psychologists are at the table and not on the menu.

From the Editor

No Need for Specialized Training to Prescribe

James D. Calvert, Ph.D., MSCP
Editor, The Tablet

Back in the 1980’s when I started working in a small private practice, we bought one of the first computerized MMPI interpretation software packages. It didn’t even score the MMPI. We still had to hand-score the MMPI and then enter the T-scores into the program. It was just a glorified cook-book. I actually preferred some books that had two- and three-point code interpretations to what that program produced. However, it was clear that we were quickly moving toward computerized interpretation. It wasn’t too many years before we got a program that scored and interpreted the MMPI. The computerized scoring helped speed up scoring, but the interpretations were still poor. Computerized scoring of the MMPI has come a long way in the intervening years, but that’s not what this article is about.

Back when computerized scoring first came out, I was talking with a colleague who lamented the advent of computerized scoring. Since the actual scoring saved so much time, I assumed that he was concerned about how poor the actual computer interpretations were at the time. But that wasn’t his concern. He said that once it became easy to score and interpret the MMPI, there would be no need to have experts (i.e., psychologists) interpret the test. Anyone could get the test and computer software and interpret the test results. He felt it was just a matter of time before the computer programs became good enough that
almost anyone could give and interpret an MMPI. That seems to be what has happened. These days mental health professionals without specialized training in testing, not to mention professionals in other fields such as human resources, use the MMPI and other personality tests on a regular basis. They can get the results from the computer as easily as we (i.e., psychologists) can, and they do. How many psychological evaluations done by psychologists have you read where you knew the interpretation was copied from a computer program anyway? Others argue, and quite correctly, that they too can copy interpretations from a computer. It’s gotten to the point where most objective tests can be given by anyone who can read and work a computer.

Although you can argue that to fully understand test results in the context of a person’s life you need the extensive training in testing that psychologists receive, computer programs can do a lot of that for us these days. And the same is coming true for prescribing.

Algorithm-guided prescribing is the wave of the very near future

Algorithm-guided prescribing is gaining momentum and has been shown to be more effective than clinical decision-making by physicians. Recent studies have found that using medication algorithms to guide treatment of depression produced better outcomes, at lower cost, with fewer drug changes than treatment as usual (Bauer et al., 2009; Janssen et al., 2010; Ricken et al., 2011). Computerized algorithms are being successfully used in community mental health settings (Milner et al., 2009).

There continues to be significant concern about algorithms. Questions about which algorithm is best and updating algorithms in a timely fashion are serious concerns. There are at least 10 algorithms or guidelines just for the treatment of bipolar disorder (Ansari & Osser, 2010) and none for many other disorders. The differing algorithms are often developed using markedly different methods (e.g., expert consensus, meta-analysis of peer-reviewed research) with different recommendations (Moller & Maier, 2010).

There is also concern about dehumanizing the process of psychiatric treatment to the point where computers may one day replace psychiatrists (Veracity, 2006). Actually, it seems quite likely that computers will replace much of the decision-making in prescribing. As algorithms become better and easier to quickly and efficaciously update, we will be able to plug in a diagnosis or symptoms and quickly review our treatment options. We will also be able to see exactly what the drug interactions are for every combination of drugs with the push of a computer button (we can already do that.

Is the client-doctor relationship dehumanized if computers replace clinicians in deciding which medication to give?
to some extent right now). Once the diagnosis or symptoms are correctly identified, a technician (it wouldn’t need to be a doctor) could get a step-by-step guide to medicating a patient and write a prescription. And following those steps would likely produce more favorable outcomes than clinical decision-making alone.

So perhaps specialized training in selecting and administering medications won’t be necessary in the very near future. What if deciding which medication to give becomes as easy as scoring and interpreting an MMPI with a computer program? That could sound scary if your primary job is deciding which medication to give.

But it actually sounds liberating to me as a prescribing psychologist because the focus then becomes the relationship and making sure you really understand the problems. Clinical assessment would become the most important skill, above and beyond selecting medication. Without being able to accurately diagnose and identify salient symptoms, no treatment algorithm would work. The best prescribing professionals will necessarily be those who are best at identifying and diagnosing problems. The focus can become getting to know your client and understanding their particular issues and concerns.

**With computerized algorithms for prescribing, accurate assessment and diagnosis becomes the most important aspect of prescribing for professionals**

The model of prescribing that psychologists espouse is specifically designed to build on the client-patient relationship. Working with clients weekly in therapy allows us to have a strong client-therapist relationship and enables us to conduct ongoing assessment. Even with computerized MMPI scoring that anyone could use, we are the best trained professionals in psychological assessment. Who better to identify problems and diagnoses in order to develop the best treatment plan? Having an accurate diagnosis becomes the most important part of prescribing because computerized algorithms can give us the most up-to-date evidence-based approach to choosing medications once a diagnosis is identified.

Identifying side effects becomes the primary concern of prescribing once a patient is started on medication. For optimal treatment, quick identification of ongoing problems is necessary. Professionals who see clients on a regular basis, such as psychologists who are providing therapy as well as prescribing medication, are in the best position to react quickly and effectively. Clients typically see their psychologists weekly or every other week. It can be months between visits to see a psychiatrist (Maughan, 2010).
Computerized prescribing is here. Since there is mounting evidence that it is more effective and cost efficient to follow a computerized algorithm for medicating patients, it is only a matter of time before computers tell us which medications and dosages to give.

I am glad I was trained in psychopharmacology. I am really glad I know how to do psychotherapy too.

References


Do you have a comment, clinical update, legislative update, or other RxP information that might be helpful for our readers? If so, please send it to Jim Calvert, Tablet editor, at jcalvert@calvertpartners.com
### 2011 ASAP Committee Chairs

**ABPP**
Beth Rom-Rymer, Ph.D.

**CAPP Liaison**
Neal Morris, Ph.D.

**APA Convention Program of 2011**
Massi Wyatt, Psy.D.

**Evidence-Based Research Committee**
Beth Rom-Rymer, Ph.D.

**Gerontology Psychopharmacology Committee**
Merla Arnold, Ph.D.
Beth Rom-Rymer, Ph.D.

**Media**
Nina Tocci, Ph.D.

**Practice Guidelines Committee and Council Representative**
Bob McGrath, Ph.D.

**S.W.A.A.T. Committee**
Owen Nichols, Psy.D.

**Awards Committee**

**Chapter Chairs**
Nancy Alford, Psy.D.

**Early Career Psychologist**
E. Alessandra Strada, Ph.D.

**Federal Advocacy Coordinator**
Gilbert Sanders, Ph.D.

**International Psychology Committee**
Elizabeth Carll, Ph.D.
Brian Bigelow, Ph.D.

**Membership Committee**
Massi Wyatt, Psy.D.

**RxP National Task Force**
Michael Tilus, Psy.D.

**Tablet**
Editor - James D. Calvert, Ph.D.
Associate Editor—Nicholas Patapis, Psy.D.

**Canadian Psychology Committee**
Brian Bigelow, Ph.D.

**Continuing Education Director**
Warren Rice, Ph.D.

**Education and Training Committee**
Lenore Walker, Ph.D.

**Fellows Committee**
Ray Folen, Ph.D.

**Liaison to the Directors of Professional Affairs**
Michael Schwarzchild, Ph.D.

**Listserv Monitor**
Gordon Herz, Ph.D.

**Special Populations Committee**
Victor De La Cancela, Ph.D. (ethnic)
Beth Rom-Rymer, Ph.D. (geriatric)
George Kapalka, Ph.D. (pediatric)
Susan Patchin, Psy.D. (rural)
Elaine Foster, Ph.D. (women)

**Webmaster**
David White