Educating Staff Key to Curbing Use of Restraints

BY PATRICE WENDLING
Chicago Bureau

The use of physical and chemical restraints remains a thorny issue, despite great strides that are being made to improve, reduce, and eliminate the practice.

An investigative series by the Hartford Courant in 1998 prompted a federal investigation and report confirming that the use of seclusion and restraint was largely ungoverned, erratically monitored, and underreported, and had caused injury and death to both children and adults.

That same report from the U.S. General Accounting Office (now known as the Government Accountability Office) went on to say that some states had been able to reduce—and even eliminate—seclusion and restraint use. Just how clinicians are expected to accomplish that is the topic of much debate and little scientific research.

Eliminating the use of restraints in the emergency department, for example, isn't possible because, by its very nature, the ED isn't as controlled a setting as are other units, said Douglas Kupas, M.D., director of the emergency residency program at Geisinger Medical Center, Danville, Pa. Emergency departments have to consider the safety of the patient, staff, and other patients who are often in close proximity.

"Although there are deaths in patients who have been restrained, the restraint frequently has nothing to do with the cause of death. We must always work to improve our training and to use best practices when restraining patients, but many emergency medical services systems and EDs do an excellent job in restraining these very difficult patients," he said.

Patients should be restrained in a way that maintains their dignity and permits evaluation of underlying medical conditions, he said. The staff needs both to be educated on the use of verbal de-escalation and physical and chemical restraints, and to be prepared to use the appropriate techniques.

To point to a single practice as hazardous oversimplifies the issue, Dr. Kupas said.

In particular, critics posit that restraining patients in the prone position predisposes them to suffocation. Although his practice is to avoid the prone position, Dr. Kupas said it can be helpful in the initial restraint or "take-down" of a patient.

"The key is that [restraint] is multifaceted," he said. "There isn't a silver bullet answer, but there are many best practices that EDs should incorporate into their policies and procedures."

Educating staff about the appropriate time to administer and remove restraints is essential, agrees David H. Dorfman, M.D., a pediatrician with the division of pediatric emergency medicine at Boston Medical Center and the department of pediatrics at Boston University.

A study led by Dr. Dorfman found that a large percentage of emergency medicine residency programs (52% of 48 respondents) and pediatric emergency medicine fellowships (82% of 33 respondents) do not teach their trainees about the application of restraints, and 35% of responding emergency medicine residencies and 64% of pediatric emergency medicine fellowships did not teach appropriate situations in which to use restraints (Pediatr. Emerg. Care 2004;20:151-6).

Chemical restraints were used in pediatric psychiatric patients in the emergency department by almost three-fourths of the respondents, but few reported having formal policies on chemical restraint.

Benzodiazepines and butyrophenones were the most commonly used agents. But both responding groups often misclassified butyrophenones as phenothiazines.

Cascading to Arrhythmia

A situation ripe for improvement is the misinterpretation of the cascade of events leading to fatal arrhythmias, particularly when patients are restrained in the prone position, said Tracy G. Sanson, M.D., assistant medical director in the department of emergency medicine at Brandon (Fla.) Regional Hospital.

In a typical scenario, a patient may be brought in by police, handcuffed to a bed after being chased for 10 blocks for selling cocaine, and administered a second intramuscular injection under restraints because nothing else is working, she said. Staff or police may increase the pressure of their hold until the patient stops resisting, at which point they assume either that

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RISPERDAL®
(RISPERIDONE)
TABLETS/ORAL SOLUTION

BEFORE PRESCRIBING, PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION OF WHICH THE FOLLOWING IS A BRIEF SUMMARY.

INDICATIONS AND USAGE
RISPERDAL® (risperidone) is indicated for the treatment of schizophrenia.
Monotherapy: RISPERDAL® is indicated for the short-term treatment of acute manic or mixed episodes associated with Bipolar I Disorder.
Combination Therapy: The combination of RISPERDAL® with lithium or valproate is indicated for the short-term treatment of acute manic or mixed episodes associated with Bipolar I Disorder.

CONTRAINDICATIONS
RISPERDAL® (risperidone) is contraindicated in patients with a known hypersensitivity to the product.

WARNINGS
Neuroleptic Malignant Syndrome (NMS) A potentially fatal symptom complex sometimes referred to as Neuroleptic Malignant Syndrome (NMS) has been reported in association with antipsychotic drugs. If a patient requires antipsychotic drug treatment after recovery from NMS, the potential reintroduction of drug therapy should be carefully considered. The patient should be carefully monitored, since recurrences of NMS have been reported.
Tardive Dyskinesia A syndrome of potentially irreversible, involuntary, dyskinetic movements may develop in patients treated with antipsychotic drugs. Whether antipsychotic drug products differ in their potential to cause tardive dyskinesia is unknown. If signs and symptoms of tardive dyskinesia appear in a patient on RISPERDAL®, drug discontinuation should be considered. However, some patients may require treatment with RISPERDAL® despite the presence of the syndrome.
Cerebrovascular Adverse Events, Including Stroke, in Elderly Patients With Dementia Cerebrovascular adverse events (e.g., stroke, transient ischemic attack), including fatalities, were reported in patients (mean age 85 years; range 73-97) in trials of risperidone in elderly patients with dementia-related psychosis. In placebo-controlled trials, there was a significantly higher incidence of cerebrovascular adverse events in patients treated with risperidone compared to patients treated with placebo. RISPERDAL® has not been shown to be safe or effective in the treatment of patients with dementia-related psychosis.
Hyperglycemia and Diabetes Mellitus Hyperglycemia, in some cases extreme and associated with ketoacidosis or hyperosmolar coma or death, has been reported in patients treated with atypical antipsychotics including RISPERDAL®. Patients with an established diagnosis of diabetes mellitus who are started on atypical antipsychotics should be monitored regularly for worsening of glucose control. Patients with risk factors for diabetes mellitus who are starting treatment with atypical antipsychotics should undergo fasting blood glucose testing at the beginning of treatment and periodically during treatment.

PRECAUTIONS
General
Orthostatic Hypotension: RISPERDAL® (risperidone) may induce orthostatic hypotension associated with dizziness, tachycardia, and in some patients, syncope, especially during the initial dose-titration period, probably reflecting its alpha-adrenergic antagonistic properties. Syncope was reported in 0.2% (6/2607) of RISPERDAL® treated patients in phase 2-3 studies. The risk of orthostatic hypotension and syncope may be minimized by limiting the initial dose to 2 mg total (either QD or 1 mg BID) in normal adults and 0.5 mg BID in the elderly and patients with renal or hepatic impairment (See DOSAGE AND ADMINISTRATION). Monitoring of orthostatic vital signs should be considered in patients for whom this is of concern. A dose reduction should be considered if hypotension occurs. RISPERDAL® should be used with particular caution in patients with known cardiovascular disease (history of myocardial infarction or ischemia, heart failure, or conduction abnormalities), cerebrovascular disease, and conditions which would predispose patients to hypotension e.g., dehydration and hypovolemia. Clinically significant hypotension has been observed with concomitant use of RISPERDAL® and antihypertensive medication.
Seizures: RISPERDAL® should be used cautiously in patients with a history of seizures.
Dysphagia: Esophageal dysmotility and aspiration have been associated with antipsychotic drug use. Aspiration pneumonia is a common cause of morbidity and mortality in patients with advanced Alzheimer's dementia. RISPERDAL® and other antipsychotic drugs should be used cautiously in patients at risk for aspiration pneumonia.
Osteodystrophy and Tumors in Animals: RISPERDAL® CONSTA™ produced osteodystrophy in male and female rats in a 1-year toxicity study and a 2-year carcinogenicity study at a dose of 40 mg/kg administered IM every 2 weeks. RISPERDAL® CONSTA™ produced renal tubular tumors (adenoma, adenocarcinoma) and adrenomedullary pheochromocytomas in male rats in the 2-year carcinogenicity study at 40 mg/kg administered IM every 2 weeks. In addition, RISPERDAL® CONSTA™ produced an increase in a marker of cellular proliferation in renal tissue in males in the 1-year toxicity study and in renal tumor-bearing males in the 2-year carcinogenicity study at 40 mg/kg administered IM every 2 weeks.
Hyperprolactinemia: As with other drugs that antagonize dopamine D_2 receptors, risperidone elevates prolactin levels and the elevation persists during chronic administration. Neither clinical studies nor epidemiologic studies conducted to date have shown an association between chronic administration of this class of drugs and tumorigenesis in humans; the available evidence is considered too limited to be conclusive at this time.
Potential for Cognitive and Motor Impairment: Somnolence was a commonly reported adverse event associated with RISPERDAL® treatment, especially when ascertained by direct questioning of patients. This adverse event is dose related. Patients should be cautioned about operating hazardous machinery, including automobiles, until they are reasonably certain that RISPERDAL® therapy does not affect them adversely.
Priapism: Rare cases of priapism have been reported.
Thrombotic Thrombocytopenic Purpura (TTP): A single case of TTP was reported in a 28 year-old female patient receiving RISPERDAL® in a large, open premarketing experience (approximately 1300 patients). She experienced jaundice, fever, and bruising, but eventually recovered after receiving plasmapheresis. The relationship to RISPERDAL® therapy is unknown.
Antiemetic Effect: Risperidone has an antiemetic effect in animals; this effect may also occur in humans, and may mask signs and symptoms of overdosage with certain drugs or of conditions such as intestinal obstruction, Reye's syndrome, and brain tumor.
Body Temperature Regulation: Disruption of body temperature regulation has been attributed to antipsychotic agents. Caution is advised when prescribing for patients who will be exposed to temperature extremes.
Suicide: The possibility of a suicide attempt is inherent in schizophrenia, and close supervision of high risk patients should accompany drug therapy.
Use in Patients With Concomitant Illness: Clinical experience with RISPERDAL® in patients with certain concomitant systemic illnesses is limited. Caution is advisable in using RISPERDAL® in patients with diseases or conditions that could affect metabolism or hemodynamic responses.
Because of the risks of orthostatic hypotension and QT prolongation, caution should be observed in cardiac patients (see WARNINGS and PRECAUTIONS).
Increased plasma concentrations of risperidone and 9-hydroxyrisperidone occur in patients with severe renal impairment and in patients with severe hepatic impairment. A lower starting dose should be used in such patients.
Information for Patients Physicians are advised to consult full prescribing information to review issues to be discussed with patients for whom they prescribe RISPERDAL®.
Phenylketonurics Phenylalanine is a component of aspartame. Each 2 mg RISPERDAL® M-TAB™ Orally Disintegrating Tablet contains 0.56 mg phenylalanine; each 1 mg RISPERDAL® M-TAB™ Orally Disintegrating Tablet contains 0.28 mg phenylalanine; and each 0.5 mg RISPERDAL® M-TAB™ Orally Disintegrating Tablet contains 0.14 mg phenylalanine.
Drug Interactions: The interactions of RISPERDAL® and other drugs have not been systematically evaluated. Given the primary CNS effects of risperidone, caution should be used when RISPERDAL® is taken in combination with other centrally acting drugs and alcohol. Because of its potential for inducing hypotension, RISPERDAL® may enhance the hypotensive effects of other therapeutic agents with this potential. RISPERDAL® may antagonize the effects of levodopa and dopamine agonists. Chronic administration of clozapine with risperidone may decrease the clearance of risperidone.

Carbamazepine and Other Enzyme Inducers: In a drug interaction study in schizophrenic patients, 11 subjects received risperidone titrated to 6 mg/day for 3 weeks, followed by concurrent administration of carbamazepine for an additional 3 weeks. During co-administration, the plasma concentrations of risperidone and its pharmacologically active metabolite, 9-hydroxyrisperidone, were decreased by about 50%. Plasma concentrations of carbamazepine did not appear to be affected. The dose of risperidone may need to be titrated accordingly for patients receiving carbamazepine, particularly during initiation or discontinuation of carbamazepine therapy. Co-administration of other known enzyme inducers (e.g., phenytoin, rifampin, and phenobarbital) with risperidone may cause similar decreases in the combined plasma concentrations of risperidone and 9-hydroxyrisperidone, which could lead to decreased efficacy of risperidone treatment.
Fluoxetine: Fluoxetine (20 mg QD) has been shown to increase the plasma concentration of risperidone 2.5-2.8 fold, while the plasma concentration of 9-hydroxyrisperidone was not affected. When concomitant fluoxetine is initiated or discontinued, the physician should re-evaluate the dosing of RISPERDAL®. The effects of discontinuation of concomitant fluoxetine therapy on the pharmacokinetics of risperidone and 9-hydroxyrisperidone have not been studied.
Lithium: Repeated oral doses of risperidone (3 mg BID) did not affect the exposure (AUC) or peak plasma concentrations (C_{max}) of lithium (n=13).
Valproate: Repeated oral doses of risperidone (4 mg QD) did not affect the pre-dose or average plasma concentrations exposure (AUC) of valproate (1000 mg/day in three divided doses) compared to placebo (n=21). However, there was a 20% increase in valproate peak plasma concentration (C_{max}) after concomitant administration of risperidone.
Drugs that Inhibit CYP 2D6 and Other CYP Isozymes: Risperidone is metabolized to 9-hydroxyrisperidone by cytochrome $P_{450}IID_6$, an enzyme that is polymorphic in the population and that can be inhibited by a variety of psychotropic and other drugs (see CLINICAL PHARMACOLOGY). Drug interactions that reduce the metabolism of risperidone to 9-hydroxyrisperidone would increase the plasma concentrations of risperidone and lower the concentrations of 9-hydroxyrisperidone. Analysis of clinical studies involving a modest number of poor metabolizers (n=70) does not suggest that poor and extensive metabolizers have different rates of adverse effects. No comparison of effectiveness in the two groups has been made. In vitro studies showed that drugs metabolized by other P_{450} isozymes, including 1A1, 1A2, IIC9, MP, and IIIA4, are only weak inhibitors of risperidone metabolism.
Drugs Metabolized by CYP 2D6: *In vitro* studies indicate that risperidone is a relatively weak inhibitor of CYP 2D6. Therefore, RISPERDAL® is not expected to substantially inhibit the clearance of drugs that are metabolized by this enzymatic pathway. However, clinical data to confirm this expectation are not available.
Carcinogenesis, Mutagenesis, Impairment of Fertility *Carcinogenesis:* Carcinogenicity studies were conducted in Swiss albino mice and Wistar rats. Risperidone was administered in the diet at doses of 0.63, 2.5, and 10 mg/kg for 18 months to mice and for 25 months to rats. These doses are equivalent to 2.4, 9.4 and 37.5 times the maximum human dose (16 mg/day) on a mg/kg basis or 0.2, 0.75 and 3 times the maximum human dose (mice) or 0.4, 1.5, and 6 times the maximum human dose (rats) on a mg/m² basis. There were statistically significant increases in pituitary gland adenomas, endocrine pancreas adenomas and mammary gland adenocarcinomas. These findings are considered to be prolactin medicated. The relevance for human risk of the findings of prolactin-mediated endocrine tumors in rodents is unknown (See Hyperprolactinemia under PRECAUTIONS, GENERAL).
Mutagenesis: No evidence of mutagenic potential for risperidone was found.
Impairment of Fertility: Risperidone (0.16 to 5 mg/kg) was shown to impair mating, but not fertility, in Wistar rats in three reproductive studies at doses 0.1 to 3 times the maximum recommended human dose on a mg/m² basis.
Pregnancy Category C
The teratogenic potential of risperidone was studied in three Segment II studies in Sprague-Dawley and Wistar rats (0.63-10 mg/kg or 0.4 to 6 times the maximum recommended human dose [MRHD] on a mg/m² basis) and in one Segment II study in New Zealand rabbits (0.31-5 mg/kg or 0.4 to 6 times the MRHD on a mg/m² basis). The incidence of malformations was not increased compared to control in offspring of rats or rabbits given 0.4 to 6 times the MRHD on a mg/m² basis. In three reproductive studies in rats (two Segment III and a multigenerational study), there was an increase in pup deaths during the first 4 days of lactation at doses of 0.16-5 mg/kg or 0.1 to 3 times the MRHD on a mg/m² basis. It is not known whether these deaths were due to a direct effect on the fetuses or pups or to effects on the dams. There was no no-effect dose for increased rat pup mortality. In one Segment III study, there was an increase in stillborn rat pups at a dose of 2.5 mg/kg or 1.5 times the MRHD on a mg/m² basis. In a cross-fostering study in Wistar rats, toxic effects on the fetus or pups, as evidenced by a decrease in the number of live pups and an increase in the number of dead pups at birth (Day 0), and a decrease in birth weight in pups of drug-treated dams were observed. In addition, there was an increase in deaths by Day 1 among pups of drug-treated dams, regardless of whether or not the pups were cross-fostered. Risperidone also appeared to impair maternal behavior in that pup body weight gain and survival (from Day 1 to 4 of lactation) were reduced in pups born to control but reared by drug-treated dams. These effects were all noted at the one dose of risperidone tested, i.e., 5 mg/kg or 3 times the MRHD on a mg/m² basis. Placental transfer of risperidone occurs in rat pups. There are no adequate and well-controlled studies in pregnant women. However, there was one report of a case of agenesis of the corpus callosum in an infant exposed to risperidone *in utero*. The causal relationship to RISPERDAL® therapy is unknown. RISPERDAL® should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. **Labor and Delivery** The effect of RISPERDAL® on labor and delivery in humans is unknown.
Nursing Mothers In animal studies, risperidone and 9-hydroxyrisperidone are excreted in milk. Risperidone and 9-hydroxyrisperidone are also excreted in human breast milk. Therefore, women receiving risperidone should not breast-feed.
Pediatric Use Safety and effectiveness in children have not been established.
Geriatric Use Clinical studies of RISPERDAL® did not include sufficient numbers of patients aged 65 and over to determine whether they respond differently from younger patients. Other reported clinical experience has not identified differences in responses between elderly and younger patients. In general, a lower starting dose is recommended for an elderly patient, reflecting a decreased pharmacokinetic clearance in the elderly, as well as a greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy (see CLINICAL PHARMACOLOGY and DOSAGE AND ADMINISTRATION). While elderly patients exhibit a greater tendency to orthostatic hypotension, its risk in the elderly may be minimized by limiting the initial dose to 0.5 mg BID followed by careful titration (see PRECAUTIONS). Monitoring of orthostatic vital signs should be considered in patients for whom this is of concern. This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function (see DOSAGE AND ADMINISTRATION).

ADVERSE REACTIONS
Associated With Discontinuation of Treatment
Bipolar Mania In the US placebo-controlled trial with risperidone as monotherapy, approximately 8% (10/134) of RISPERDAL®-treated patients discontinued treatment due to an adverse event, compared with approximately 6% (7/125) of placebo-treated patients. The adverse events associated with discontinuation and considered to be possibly, probably, or very likely drug-related included paroniria, somnolence, dizziness, extrapyramidal disorder, and muscle contractions involuntary. Each of these events occurred in one RISPERDAL®-treated patient (0.7%) and in no placebo-treated patients (0%).
In the US placebo-controlled trial with risperidone as adjunctive therapy to mood stabilizers, there was no overall difference in the incidence of discontinuation due to adverse events (4% for RISPERDAL® vs. 4% for placebo).
Incidence in Controlled Trials *Commonly Observed Adverse Events in Controlled Clinical Trials:*
Bipolar Mania: In the US placebo-controlled trial with risperidone as monotherapy, the most commonly observed adverse events associated with the use of RISPERDAL® (incidence of 5% or greater and at least twice that of placebo) were somnolence, dystonia, akathisia, dyspepsia, nausea, parkinsonism, vision abnormal, and saliva increased. In the US placebo-controlled trial with risperidone as adjunctive therapy to mood stabilizers, the most commonly observed adverse events associated with the use of RISPERDAL® were somnolence, dizziness, parkinsonism, saliva increased, akathisia, abdominal pain, and urinary incontinence.
Adverse Events Occurring at an Incidence of 2% or More Among RISPERDAL®-Treated Patients - Bipolar Mania
Adverse events that occurred at an incidence of 2% or more, and were more frequent among patients treated with flexible doses of RISPERDAL® (1-6 mg daily as monotherapy and as adjunctive therapy to mood stabilizers, respectively) than among patients treated with placebo. Reported adverse events were classified using the World Health Organization preferred terms.
Incidence of Treatment-Emergent Adverse Events in a 3-Week, Placebo-Controlled Trial [Monotherapy in Bipolar Mania]
Body System/Preferred Term
Central & peripheral nervous system: Dystonia, Akathisia, Dizziness, Parkinsonism, Hypoaesthesia ***Psychiatric:*** Somnolence, Agitation, Manic reaction, Anxiety, Concentration impaired ***Gastrointestinal system:*** Dyspepsia, Nausea, Saliva increased, Mouth dry ***Body as a whole - general:*** Pain, Fatigue, Injury ***Respiratory system:*** Sinusitis, Rhinitis, Coughing ***Skin and appendage:*** Acne, Pruritus ***Musculo-Skeletal:*** Myalgia, Skeletal pain ***Metabolic and nutritional:*** Weight increase ***Vision disorders:*** Vision abnormal ***Cardiovascular, general:*** Hypertension, Hypotension ***Heart rate and rhythm:*** Tachycardia
Incidence of Treatment-Emergent Adverse Events in a 3-Week, Placebo-Controlled Trial [Adjunctive Therapy in Bipolar Mania]
Body System/Preferred Term
Gastrointestinal system: Saliva increased, Diarrhea, Abdominal pain, Constipation, Mouth dry, Tooth ache, Tooth disorder ***Central & peripheral nervous system:*** Dizziness, Parkinsonism, Akathisia, Dystonia ***Psychiatric:*** Somnolence, Anxiety, Confusion ***Respiratory system:*** Rhinitis, Pharyngitis, Coughing ***Body as a whole - general:*** Asthenia ***Urinary system:*** Urinary incontinence ***Heart rate and rhythm:*** Tachycardia ***Metabolic and nutritional:*** Weight increase ***Skin and appendages:*** Rash
Dose Dependency of Adverse Events:
Data from two fixed dose trials provided evidence of dose-relatedness for extrapyramidal symptoms associated with risperidone treatment. These symptoms include: sleepiness, increased duration of sleep, accommodation disturbances, orthostatic dizziness, palpitations, weight gain, erectile dysfunction, ejaculatory dysfunction, orgastic dysfunction, asthenia/lassitude/increased fatiguability, and increased pigmentation. ***Vital Sign Changes:*** RISPERDAL® is associated with orthostatic hypotension and tachycardia (see PRECAUTIONS). ***Weight Changes:*** A statistically significantly greater incidence of weight gain for RISPERDAL® (18%) compared to placebo (9%).
Laboratory Changes: A between group comparison for 6- to 8-week placebo-controlled trials revealed no statistically significant RISPERDAL®/placebo differences in the proportions of patients experiencing potentially important changes in routine serum chemistry, hematology, or urinalysis parameters. Similarly, there were no RISPERDAL®/placebo differences in the incidence of discontinuations for changes in serum chemistry, hematology, or urinalysis. However, RISPERDAL® administration was associated with increases in serum prolactin (see PRECAUTIONS).
ECG Changes: Between-group comparisons for pooled placebo-controlled trials revealed no statistically significant differences between risperidone and placebo in mean changes from baseline in ECG parameters, including QT, QTc, and PR intervals, and heart rate. When all RISPERDAL® doses were pooled from randomized controlled trials in several indications, there was a mean increase in heart rate of 1 beat per minute compared to no change for placebo patients. In short-term schizophrenia trials, higher doses of risperidone (8-16 mg/day) were associated with a higher mean increase in heart rate compared to placebo (4-6 beats per minute).
Other Events Observed During the Pre-Marketing Evaluation
During its premarketing assessment, multiple doses of RISPERDAL® (risperidone) were administered to 2607 patients in phase 2 and 3 studies and the following reactions were reported: (Note: frequent adverse events are those occurring in at least 1/100 patients. Infrequent adverse events are those occurring in 1/100 to 1/1000 patients; rare events are those occurring in fewer than 1/1000 patients. It is important to emphasize that, although the events reported occurred during treatment with RISPERDAL®, they were not necessarily caused by it.) ***Psychiatric Disorders:*** *Frequent:* increased dream activity*, diminished sexual desire*, nervousness. *Infrequent:* impaired concentration, depression, apathy, catatonic reaction, euphoria, increased libido, amnesia. *Rare:* emotional lability, nightmares, delirium, withdrawal syndrome, yawning. ***Central and Peripheral Nervous System Disorder:*** *Frequent:* increased sleep duration*. *Infrequent:* dysarthria, vertigo, stupor, paraesthesia, confusion. *Rare:* aphasia, cholinergic syndrome, hypoesthesia, tongue paralysis, leg cramps, torticollis, hypotonia, coma, migraine, hyperreflexia, choreoathetosis. ***Gastro-intestinal Disorders:*** *Frequent:* anorexia, reduced salivation*. *Infrequent:* flatulence, diarrhea, increased appetite, stomatitis, melena, dysphagia, hemorrhoids, gastritis. *Rare:* fecal incontinence, eructation, gastro-esophageal reflux, gastroenteritis, esophagitis, tongue discoloration, cholelithiasis, tongue edema, diverticulitis, gingivitis, discolored feces, GI hemorrhage, hematemesis. ***Body as a Whole/General Disorders:*** *Frequent:* fatigue. *Infrequent:* edema, rigors, malaise, influenza-like symptoms. *Rare:* pallor, enlarged abdomen, allergic reaction, ascites, sarcoidosis, flushing. ***Respiratory System Disorders:*** *Infrequent:* hyperventilation, bronchospasm, pneumonia, stridor. *Rare:* asthma, increased sputum, aspiration. ***Skin and Appendage Disorders:*** *Frequent:* increased pigmentation*, photosensitivity*. *Infrequent:* increased sweating, acne, decreased sweating, alopecia, hyperkeratosis, pruritus, skin exfoliation. *Rare:* bullous eruption, skin ulceration, aggravated psoriasis, furunculosis, verruca, dermatitis lichenoid, hypertrichosis, genital pruritus, urticaria. ***Cardiovascular Disorders:*** *Infrequent:* palpitation, hypertension, hypotension, AV block, myocardial infarction. *Rare:* ventricular tachycardia, angina pectoris, premature atrial contractions, T wave inversions, ventricular extrasystoles, ST depression, myocarditis. ***Vision Disorders:*** *Infrequent:* abnormal accommodation, xerophthalmia. *Rare:* diplopia, eye pain, blepharitis, photopsia, photophobia, abnormal lacrimation. ***Metabolic and Nutritional Disorders:*** *Infrequent:* hyponatremia, weight increase, creatine phosphokinase increase, thirst, weight decrease, diabetes mellitus. *Rare:* decreased serum iron, cachexia, dehydration, hypokalemia, hypoproteinemia, hyperphosphatemia, hypertriglyceridemia, hyperuricemia, hypoglycemia. ***Urinary System Disorders:*** *Frequent:* polyuria/polydipsia*. *Infrequent:* urinary incontinence, hematuria, dysuria. *Rare:* urinary retention, cystitis, renal insufficiency. ***Musculo-skeletal System Disorders:*** *Infrequent:* myalgia. *Rare:* arthrosis, synostosis, bursitis, arthritis, skeletal pain. ***Reproductive Disorders, Female:*** *Frequent:* menorrhagia*, orgastic dysfunction*, dry vagina*. *Infrequent:* nonpuerperal lactation, amenorrhea, female breast pain, leukorrhea, mastitis, dysmenorrhea, female perineal pain, intermenstrual bleeding, vaginal hemorrhage. ***Liver and Biliary System Disorders:*** *Infrequent:* increased SGOT, increased SGPT. *Rare:* hepatic failure, cholestatic hepatitis, cholecystitis, cholelithiasis, hepatitis, hepatocellular damage. ***Platelet, Bleeding and Clotting Disorders:*** *Infrequent:* epistaxis, purpura. *Rare:* hemorrhage, superficial phlebitis, thrombophlebitis, thrombocytopenia. ***Hearing and Vestibular Disorders:*** *Rare:* tinnitus, hyperacusis, decreased hearing. ***Red Blood Cell Disorders:*** *Infrequent:* anemia, hypochromic anemia. *Rare:* normocytic anemia. ***Reproductive Disorders, Male:*** *Frequent:* erectile dysfunction*. *Infrequent:* ejaculation failure. ***White Cell and Resistance Disorders:*** *Rare:* leukocytosis, lymphadenopathy, leucopenia, Pelger-Huet anomaly. ***Endocrine Disorders:*** *Rare:* gynecomastia, male breast pain, antidiuretic hormone disorder. ***Special Sense:*** *Rare:* bitter taste. ***Postintroduction Reports:*** Adverse events reported since market introduction which were temporally (but not necessarily causally) related to RISPERDAL® therapy, include the following: anaphylactic reaction, angioedema, apnea, atrial fibrillation, cerebrovascular disorder, including cerebrovascular accident, hyperglycemia, diabetes mellitus aggravated, including diabetic ketoacidosis, intestinal obstruction, jaundice, mania, pancreatitis, Parkinson's disease aggravated, pulmonary embolism. There have been rare reports of sudden death and/or cardiopulmonary arrest in patients receiving RISPERDAL®. A causal relationship with RISPERDAL® has not been established. It is important to note that sudden and unexpected death may occur in psychotic patients whether they remain untreated or whether they are treated with other antipsychotic drugs.

DRUG ABUSE AND DEPENDENCE
Controlled Substance Class: RISPERDAL® (risperidone) is not a controlled substance.
For information on symptoms and treatment of overdosage, see full prescribing information.
More detailed professional information is available upon request.
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the patient is "playing possum" or that the medication has taken effect.

"Essentially that is the [moment]—if you would recognize it—that if you flipped them over, defibrillated them, [and] gave them bicarb and fluids, you could get them back," Dr. Sanson said.

The actual causes of cocaine-associated sudden death and excited delirium are unknown. But studies have suggested that the vast majority of such patients die after a struggle, which may increase the level of circulating epinephrine and may result in metabolic acidosis.

In the ED, chemical restraint should be used more aggressively, Dr. Sanson said. It must be accompanied by ongoing monitoring because of the risk of respiratory arrest and because of the cumulative effect of drugs that may have been used by the patient prior to arrival and/or those administered by ED staff.

A prospective study found that chemical restraint was added to only 28% of 298 consecutive patients restrained in an inner-city teaching hospital ED over a 1-year period (J. Emerg. Med. 2003;24:119-24). Patients were most frequently restrained on a cart with two physical restraints (59%), in the supine position (86%), with a low rate of minor complications (7%).

'My theory is that we are tapping into the neurolinguistic part of our brain, our humanness.'

DR. BENNINGTON-DAVIS

The federal requirement for face-to-face physician evaluation of an individual in restraints within 1 hour of the event has strengthened the focus on the safer use of seclusion and restraint. But there is no evidence that the "1-hour rule" has made restraint a safer intervention or changed practice since it was established in 1999, said Kevin Ann Huckshorn, R.N., director of the office of technical assistance for the National Association of State Mental Heath Program Directors (NASMHPD).

Promoting Prevention

NASMHPD has joined with others in calling for the application of the public health prevention model of primary, secondary, and tertiary prevention interventions to the practice of seclusion and restraint.

Primary prevention works to create an administrative and clinical treatment environment that minimizes the development of conflict.

Secondary interventions—such as comfort rooms and staff training on attitudes and behaviors in conflict settings—are focused on mitigating conflict or aggression once it occurs. Tertiary preventions address the most effective ways to mitigate damage done to patients, staff, and others who witness a seclusion and restraint event. An example is an event debriefing of all witnesses and the patient, with rigorous problem-solving activities.

Although participation by the private sector has been slow, public health care providers from all but two states have gone through NASMHPD's 2½-day training sessions since they began in 2003. The sessions highlight six core strategies: leadership training, use of data, workforce development, prevention tools, consumer roles, and debriefing tools.

"Some states have really taken it on board," Ms. Huckshorn said. "It's one thing to get an 'ah-ha moment,' but this was brilliant."

The large-scale evaluation of the training will take place this year in an attempt to build an evidence-based practice, because "that is how you change clinical practice standards," Ms. Huckshorn said.

The adoption of the Oregon model program, which also has prevention at its core, has virtually eliminated the use of seclusion and restraint in the psychiatric inpatient unit at Salem (Ore.) Hospital, said Maggie Bennington-Davis, M.D., medical director of the 24-bed, adult locked unit.

The model uses the basic tenets of the neurobiology of trauma and the development of community as set forth by author Sandra L. Bloom. The Salem team eliminated any rule that was based on staff convenience or that created a power struggle, and adopted an attitude based on patient satisfaction.

They created a social structure in which everyone is assumed to be respectful of the physical surroundings and of each other. The pressure to conform in this kind of culture is significant, and is passed on through a variety of verbal and behavioral cues that reach even those patients who have broken with reality, Dr. Bennington-Davis said.

Even when they are most ill, "people with schizophrenia … respond to the environment and the culture in ways I would never have predicted but have come to see repeated over and over again," Dr. Bennington-Davis said.

"My theory is that we are tapping into the neurolinguistic part of our brain, our humanness." ■