

# Congress Reverses Medicare's Physician Pay Cut

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After several delays, Congress has acted to reverse a scheduled 10.6% cut to physician fees under Medicare and thus avert an estimated 5.4% cut that would have taken effect in January 2009.

The legislation (H.R. 6331), which passed the House and Senate by veto-proof margins in early July, extends the

0.5% increase in place for the first half of 2008 and provides a 1.1% update for 2009. The bill also includes controversial cuts to the Medicare Advantage program, authorizes increased bonus payments for the Physician Quality Reporting Initiative (PQRI), and delays implementation of the Competitive Acquisition Program for durable medical equipment. The Medicare Advantage cuts had been the basis for President Bush's threatened veto, which had not been issued at press time.

Meanwhile, officials at the Centers for Medicare and Medicaid Services released the 2009 Medicare Physician Fee Schedule proposed rule including new measures for the PQRI, new requirements for physicians offering diagnostic testing services, and plans to reevaluate services and supplies potentially valued incorrectly.

For the PQRI, Medicare's voluntary pay-for-reporting program, the agency is recommending 56 new measures for 2009, bringing the total number to 175. Officials

at the Centers for Medicare and Medicaid Services also are proposing new "measures groups" that allow physicians to report on subsets of measures related to a particular clinical condition. For example, new measures groups for 2009 include coronary artery disease, coronary artery bypass surgery, HIV/AIDS, rheumatoid arthritis, care during surgery, and back pain.

In addition, CMS plans to begin allowing physicians to report on certain measures through electronic health records in 2009, pending successful testing this year.

Although the CMS proposal does not include bonus payments for physicians as part of the program, the pay fix legislation passed in Congress does. For 2009, physicians participating in PQRI will be eligible for bonuses of up to 2% of total allowable Medicare charges for successful reporting of measures. The legislation authorized additional bonuses of 2% for electronic prescribing quality measures.

The CMS proposal also would require physicians who perform diagnostic testing services to meet most of the quality and performance standards established for Independent Diagnostic Testing Facilities, including requiring a supervising physician to prove proficiency in the performance and interpretation of each diagnostic procedure and maintenance of an inventory of diagnostic testing equipment. The proposed rule also gives physicians a glimpse of the CMS thinking on the possible expansion of the agency's hospital-acquired conditions policy. Beginning Oct. 1, CMS will begin withholding payment to hospitals for certain conditions and infections acquired after admission.

While the agency did not propose any changes in policy, it wrote in the proposed rule that the hospital-acquired condition payment policy could be expanded into other settings, including hospital outpatient departments, skilled nursing facilities, and physician practices.

The proposed rule was published in the Federal Register on July 7 and can be found at [www.cms.hhs.gov/center/physician.asp](http://www.cms.hhs.gov/center/physician.asp). CMS expects to issue a final rule by November.

## Child Mental Health Web Site

The Child Health and Development Interactive System has launched a new Web site, [www.chadis.com](http://www.chadis.com), which features a demonstration video and a listing of mental health assessment tools for different age ranges. Managed by Total Child Health Inc., the CHADIS system enables pediatricians and other clinicians to administer and analyze previsit online questionnaires including Ages & Stages; Kutcher Adolescent Depression Screen; Pediatric Symptom Checklist and Vanderbilt Follow-Up; Parent and Teacher Informant; and Adverse Childhood Experiences. The American Academy of Pediatrics has named CHADIS as part of the "Pediatric Office of the Future."

**Vyvanse™ (lisdexamfetamine dimesylate)** CII Rx Only  
BRIEF SUMMARY: Consult the Full Prescribing Information for complete product information.  
AMPHEMINE HAS A HIGH POTENTIAL FOR ABUSE. ADMINISTRATION OF AMPHEMINE FOR PROLONGED PERIODS OF TIME MAY LEAD TO DRUG DEPENDENCE. PARTICULAR ATTENTION SHOULD BE PAID TO THE POSSIBILITY OF SUBJECTS OBTAINING AMPHEMINE FOR NON-THERAPEUTIC USE OR DISTRIBUTION TO OTHERS AND THE DRUGS SHOULD BE PRESCRIBED OR DISPENSED SPARINGLY.  
MISUSE OF AMPHEMINE MAY CAUSE SUDDEN DEATH AND SERIOUS CARDIOVASCULAR ADVERSE EVENTS.

**INDICATIONS AND USAGE**  
Vyvanse is indicated for the treatment of Attention-Deficit/Hyperactivity Disorder (ADHD). The efficacy of Vyvanse in the treatment of ADHD has been established on the basis of two controlled trials in children aged 6 to 12, who met DSM-IV criteria for ADHD (see CLINICAL TRIALS).  
A diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD; DSM-IV<sup>®</sup>) implies the presence of hyperactive-impulsive or inattentive symptoms that caused impairment and were present before age 7 years. The symptoms must cause clinically significant impairment in social, academic, or occupational functioning, and be present in two or more settings, e.g., at school (or work) and at home. The symptoms must not be better accounted for by another mental disorder. For the inattentive type, at least six of the following symptoms must have persisted for at least 6 months: lack of attention to details/careless mistakes; lack of sustained attention; poor listener; failure to follow through on tasks; poor organization; avoids tasks requiring sustained mental effort; loses things; easily distracted; forgetful. For the hyperactive-impulsive type, at least six of the following symptoms must have persisted for at least 6 months: fidgeting/squirming; leaving seat; inappropriate running/climbing; difficulty with quiet activities; "on the go"; excessive talking; blurting answers; can't wait turn; intrusive. The Combined Type requires both inattentive and hyperactive-impulsive criteria to be met.  
**Special Diagnostic Considerations:** Specific etiology of this syndrome is unknown, and there is no single diagnostic test. Adequate diagnosis requires the use not only of medical but of special psychological, educational, and social resources. Learning may or may not be impaired. The diagnosis should be based upon a complete history and evaluation of the child and not solely on the presence of the required number of DSM-IV<sup>®</sup> characteristics.

**Need for Comprehensive Treatment Program:** Vyvanse is indicated as an integral part of a total treatment program for ADHD that may include other measures (psychological, educational, social) for patients with this syndrome. Drug treatment may not be indicated for all children with this syndrome. Stimulants are not intended for use in the child who exhibits symptoms secondary to environmental factors and/or other primary psychiatric disorders, including psychosis. Appropriate educational placement is essential and psychosocial intervention is often helpful. When these measures alone are insufficient, the decision to prescribe stimulant medication will depend upon the physician's assessment of the chronicity and severity of the child's symptoms.  
**Long-Term Use:** The effectiveness of Vyvanse for long-term use, i.e., for more than 4 weeks, has not been systematically evaluated in controlled trials. Therefore, the physician who elects to use Vyvanse for extended periods should periodically re-evaluate the long-term usefulness of the drug for the individual patient.

**CONTRAINDICATIONS**  
Advanced arteriosclerosis, symptomatic cardiovascular disease, moderate to severe hypertension, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma.  
Agitated states.  
Patients with a history of drug abuse.  
During or within 14 days following the administration of monoamine oxidase inhibitors (hypertensive crises may result).

**WARNINGS**  
**Serious Cardiovascular Events**  
**Sudden Death and Pre-existing Structural Cardiac Abnormalities or Other Serious Heart Problems**  
Children and Adolescents  
Sudden death has been reported in association with CNS stimulant treatment at usual doses in children and adolescents with structural cardiac abnormalities or other serious heart problems. Although some serious heart problems alone carry an increased risk of sudden death, stimulant products generally should not be used in children or adolescents with known structural cardiac abnormalities, cardiomyopathy, serious heart rhythm abnormalities, or other serious cardiac problems that may place them at increased vulnerability to the sympathomimetic effects of a stimulant drug (see CONTRAINDICATIONS).  
Adults  
Sudden deaths, stroke, and myocardial infarction have been reported in adults taking stimulant drugs at usual doses for ADHD. Although the role of stimulants in these adult cases is also unknown, adults have a greater likelihood than children of having serious structural cardiac abnormalities, including atherosclerosis, coronary artery disease, or other serious cardiac problems. Stimulant drugs should also be used cautiously in adults with structural cardiac abnormalities (see CONTRAINDICATIONS).  
**Hypertension and other Cardiovascular Conditions**  
Stimulant medications cause a modest increase in average blood pressure (about 2-4 mmHg) and average heart rate (about 3-6 bpm), and individuals may have larger increases. While the mean changes alone would not be expected to have short-term consequences, all patients should be monitored for larger changes in heart rate and blood pressure. Caution is indicated in treating patients whose underlying medical conditions might be compromised by increases in blood pressure or heart rate, e.g., those with pre-existing hypertension, heart failure, recent myocardial infarction, or ventricular arrhythmia (see CONTRAINDICATIONS).  
Assessing Cardiovascular Status in Patients being Treated with Stimulant Medications  
Children, adolescents, or adults who are being considered for treatment with stimulant medications should have a careful history (including assessment for a family history of sudden death or ventricular arrhythmia) and physical exam to assess for the presence of cardiac disease, and should receive further cardiac evaluation if findings suggest such disease (e.g., electrocardiogram and echocardiogram). Patients who develop symptoms such as exertional chest pain, unexplained syncope, or other symptoms suggestive of cardiac disease during stimulant treatment should undergo a prompt cardiac evaluation.

**Psychiatric Adverse Events**  
**Pre-existing Psychosis**  
Administration of stimulants may exacerbate symptoms of behavior disturbance and thought disorder in patients with pre-existing psychotic disorder.  
**Bipolar illness**  
Particular care should be taken in using stimulants to treat ADHD patients with comorbid bipolar disorder because of concern for possible induction of mixed/ manic episode in such patients. Prior to initiating treatment with a stimulant, patients with comorbid depressive symptoms should be adequately screened to determine if they are at risk for bipolar disorder; such screening should include a detailed psychiatric history, including a family history of bipolar, schizoid, bipolar disorder, and depression.

**Emergence of New Psychotic or Manic Symptoms**  
Treatment emergent psychotic or manic symptoms, e.g., hallucinations, delusional thinking, or mania in children and adolescents without prior history of psychotic illness or mania can be caused by stimulants at usual doses. If such symptoms occur, consideration should be given to a possible causal role of the stimulant, and discontinuation of treatment may be appropriate. In a pooled analysis of multiple short-term, placebo-controlled studies, such symptoms occurred in about 0.1% (4 patients with events out of 3482 exposed to methylphenidate or amphetamine for several weeks at usual doses) of stimulant-treated patients compared to 0 in placebo-treated patients.

**Aggression**  
Aggressive behavior or hostility is often observed in children and adolescents with ADHD, and has been reported in clinical trials and the postmarketing experience of some medications indicated for the treatment of ADHD. Although there is no systematic evidence that stimulants cause aggressive behavior or hostility, patients beginning treatment for ADHD should be monitored for the appearance of or worsening of aggressive behavior or hostility.  
**Long-Term Suppression of Growth**  
Careful follow-up of weight and height in children ages 7 to 10 years who were randomized to either methylphenidate or non-medication treatment groups over 14 months, as well as in naturalistic subgroups of newly methylphenidate-treated and non-medication treated children over 36 months (to the ages of 10 to 13 years), suggests that consistently medicated children (i.e., treatment for 7 days per week throughout the year) have a temporary slowing in growth rate (on average, a total of about 2 cm less growth in height and 2.7 kg less growth in weight over 3 years), without evidence of growth rebound during this period of development. In a controlled trial of amphetamine (d to l enantiomer ratio of 3:1) in adolescents, mean weight change from baseline within the initial 4 weeks of therapy was -1.1 lbs. and -2.8 lbs., respectively, for patients receiving 10 mg and 20 mg of amphetamine (d to l enantiomer ratio of 3:1). Higher doses were associated with greater weight loss within the initial 4 weeks of treatment. In a controlled trial of lisdexamfetamine in children ages 6 to 12 years, mean weight loss from baseline after 4 weeks of therapy was -0.9, -1.9, and -2.5 lb, respectively, for patients receiving 30 mg, 50 mg, and 70 mg of lisdexamfetamine. Similar weight gain for patients receiving placebo. Higher doses were associated with greater weight loss with 4 weeks of treatment. Careful follow-up for weight in children ages 6 to 12 years who received lisdexamfetamine over 12 months suggests that consistently medicated children (i.e., treatment for 7 days per week throughout the year) have a slowing in growth rate measured by body weight as demonstrated by an age- and sex-normalized mean change from baseline in percentile of -13.4 over 1 year (average percentile at baseline and 12 months, were 60.6 and 47.2, respectively). Therefore, growth should be monitored during treatment with stimulants, and patients who are not growing or gaining weight as expected may need to have their treatment interrupted.

**Seizures**  
There is some clinical evidence that stimulants may lower the convulsive threshold in patients with prior history of seizure, in patients with prior EEG abnormalities in absence of seizures, and very rarely, in patients without a history of seizures and no prior EEG evidence of seizures. In the presence of seizures, the drug should be discontinued.  
**Visual Disturbance**  
Difficulties with accommodation and blurring of vision have been reported with stimulant treatment.

**PRECAUTIONS**  
**General:** The least amount of Vyvanse feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Vyvanse should be used with caution in patients who use other sympathomimetic drugs.  
**Tics:** Amphetamines have been reported to exacerbate motor and phonic tics and Tourette's syndrome. Therefore, clinical evaluation for tics and Tourette's syndrome in children and their families should precede use of stimulant medications.  
**Information for Patients:** Amphetamines may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or vehicles; the patient should therefore be cautioned accordingly.  
Prescribers or other health professionals should inform patients, their families, and their caregivers about the benefits and risks associated with treatment with lisdexamfetamine and should counsel them in its appropriate use. A patient Medication Guide is available for Vyvanse. The prescriber or health professional should instruct patients, their families, and their caregivers to read the Medication Guide and should assist them in understanding its contents. Patients should be given the opportunity to discuss the contents of the Medication Guide and to obtain answers to any questions they may have. The complete text of the Medication Guide is reprinted at the end of this document.  
**Drug Interactions:**  
**Urinary acidifying agents**—These agents (ammonium chloride, sodium acid phosphate, etc.) increase the concentration of the ionized species of the amphetamine molecule, thereby increasing urinary excretion. Both groups of agents lower blood levels and efficacy of amphetamines.  
**Adrenergic blockers**—Adrenergic blockers are inhibited by amphetamines.  
**Antidepressants, tricyclic**—Amphetamines may enhance the activity of tricyclic antidepressants or sympathomimetic agents; d-amphetamine with desipramine or protriptyline and possibly other tricyclics cause striking and sustained increases in the concentration of d-amphetamine in the brain; cardiovascular effects can be potentiated.  
**MAO inhibitors**—MAOI antidepressants, as well as a metabolite of furazolidone, slow amphetamine metabolism. This slowing potentiates amphetamines, increasing their effect on the release of norepinephrine and other monoamines from adrenergic nerve endings; this can cause headaches and other signs of hypertensive crisis. A variety of toxic neurological effects and malignant hypertyrexa can occur, sometimes with fatal results.  
**Antihistamines**—Amphetamines may counteract the sedative effect of antihistamines.  
**Antihypertensives**—Amphetamines may antagonize the hypotensive effects of antihypertensives.  
**Chlorpromazine**—Chlorpromazine blocks dopamine and norepinephrine receptors, thus inhibiting the central stimulant effects of amphetamines and can be used to treat amphetamine poisoning.  
**Ethosuximide**—Amphetamines may delay intestinal absorption of ethosuximide.  
**Haloperidol**—Haloperidol blocks dopamine receptors, thus inhibiting the central stimulant effects of amphetamines.  
**Lithium carbonate**—The anorectic and stimulatory effects of amphetamines may be inhibited by lithium carbonate.  
**Mepredine**—Amphetamines potentiate the analgesic effect of mepredine.

**Methamphetamine therapy**—Urinary excretion of amphetamines is increased, and efficacy is reduced by acidifying agents used in methamphetamine therapy.  
**Moronegamine**—Amphetamines enhance the adrenergic effect of norepinephrine.  
**Phenobarbital**—Amphetamines may delay intestinal absorption of phenobarbital; co-administration of phenobarbital may produce a synergistic anticonvulsant action.  
**Phenytion**—Amphetamines may delay intestinal absorption of phenytion; co-administration of phenytion may produce a synergistic anticonvulsant action.

**Propoxyphene**—In cases of propoxyphene overdose, amphetamine CNS stimulation is potentiated and fatal convulsions can occur. Urinary acidifying agents and diuretics inhibit the diuretic effects of propoxyphene.  
**Drug/Laboratory Test Interactions:** Amphetamines can cause a significant elevation in plasma corticosteroid levels. This increase is greatest in the evening. Amphetamines may interfere with urinary steroid determinations.  
**Carcinogenesis/Mutagenesis and Impairment of Fertility:** Carcinogenicity studies of lisdexamfetamine have not been performed. No evidence of carcinogenicity was found in studies in which d,l-amphetamine (enantiomer ratio of 1:1) was administered to mice and rats in the diet for 2 years at doses of up to 30 mg/kg/day in male mice, 19 mg/kg/day in female mice, and 5 mg/kg/day in male and female rats. Lisdexamfetamine dimesylate was not teratogenic in the mouse bone marrow micronucleus test *in vivo* and was negative when tested in the *E. coli* and *S. typhimurium* components of the Ames test and in the LS178YTK\* mouse lymphoma assay *in vitro*. Amphetamine (d to l enantiomer ratio of 3:1) did not adversely affect fertility or early embryonic development in the rat at doses of up to 20 mg/kg/day.  
**Pregnancy:** Pregnancy Category C. Reproduction studies of lisdexamfetamine have not been performed.  
Amphetamine (d to l enantiomer ratio of 3:1) had no apparent effects on embryofetal morphological development or survival when orally administered to pregnant rats and rabbits throughout the period of organogenesis at doses of up to 6 and 16 mg/kg/day, respectively. Fetal malformations and death have been reported in mice following parenteral administration of dextroamphetamine doses of 50 mg/kg/day or greater to pregnant animals. Administration of these doses was also associated with severe maternal toxicity. A number of studies in rodents indicate that prenatal or early postnatal exposure to amphetamine (d- or d,l-) at doses similar to those used clinically can result in long term neurochemical and behavioral alterations. Reported behavioral effects include learning and memory deficits, altered locomotor activity, and changes in sexual function.  
There are no adequate and well-controlled studies in pregnant women. There has been one report of severe congenital bony deformity, tracheo-oesophageal fistula, and anal atresia (vater association) in a baby born to a woman who took dextroamphetamine sulfate with lovastatin during the first trimester of pregnancy. Amphetamines should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.  
**Nonteratogenic Effects:** Infants born to mothers dependent on amphetamine have an increased risk of premature delivery and low birth weight. Also, these infants may experience symptoms of withdrawal as demonstrated by dysphoria, including agitation, and significant lassitude.  
**Usage in Nursing Mothers:** Amphetamines are excreted in human milk. Mothers taking amphetamines should be advised to refrain from nursing.

**Pediatric Use:** Vyvanse is indicated for use in children aged 6 to 12 years.  
A study was conducted in which juvenile rats received oral doses of 4, 10, or 40 mg/kg/day of lisdexamfetamine from day 7 to day 63 of age. These doses are approximately 0.3, 0.7, and 3 times the maximum recommended human daily dose of 70 mg on a mg/m<sup>2</sup> basis. Dose-related decreases in food consumption, bodyweight gain, and crown-rump length were seen; after a four week drug-free recovery period bodyweights and crown-rump lengths had significantly recovered in females but were still substantially reduced in males. Time to vaginal opening was delayed in females at the highest dose, but there were no drug effects on fertility when the animals were mated beginning on day 85 of age.  
In a study in which juvenile dogs received lisdexamfetamine for 6 months beginning at 10 weeks of age, decreased bodyweight gain was seen at all doses tested (2.5, 5, and 12 mg/kg/day, which are approximately 0.5, 1, and 3 times the maximum recommended human daily dose on a mg/m<sup>2</sup> basis). This effect partially or fully reversed during a four week drug-free recovery period.  
**Use in Children under Six Years of Age:** Lisdexamfetamine dimesylate has not been studied in 3-5 year olds. Long-term effects of amphetamines in children have not been well established. Amphetamines are not recommended for use in children under 3 years of age.  
**Geriatric Use:** Vyvanse has not been studied in the geriatric population.

**ADVERSE EVENTS**  
The premarketing development program for Vyvanse included exposures in a total of 404 participants in clinical trials (348 pediatric patients and 56 healthy adult subjects). Of these, 348 pediatric patients (ages 6 to 12) were evaluated in two controlled clinical studies (one parallel-group and one crossover), one open-label extension study, and one single-dose clinical pharmacology study. The information included in this section is based on data from the 4-week parallel-group controlled clinical trial in pediatric patients with ADHD. Adverse reactions were assessed by collecting adverse events, results of physical examinations, vital signs, weights, laboratory analyses, and ECGs. Adverse events during exposure were obtained primarily by general inquiry and recorded by clinical investigators using terminology of their own choosing. Consequently, it is not possible to provide a meaningful estimate of the proportion of individuals experiencing adverse events without first grouping similar types of events into a smaller number of standardized event categories. In the tables and listings that follow, MedDRA terminology has been used to classify reported adverse events.  
The stated frequencies of adverse events represent the proportion of individuals who experienced, at least once, a treatment-emergent adverse event of the type listed.

**Adverse events associated with discontinuation of treatment:** Ten percent (21/218) of Vyvanse-treated patients discontinued due to adverse events compared to 1% (1/72) who received placebo. The most frequent adverse events leading to discontinuation and considered to be drug-related (i.e., leading to discontinuation in at least 1% of Vyvanse-treated patients and at a rate at least twice that of placebo) were ECG voltage criteria for ventricular hypertrophy, tic, vomiting, psychomotor hyperactivity, insomnia, and rash (2/218 each, 1%).  
**Adverse events occurring in a controlled trial:** Adverse events reported in a 4-week clinical trial in pediatric patients treated with Vyvanse or placebo are presented in the table below.

The prescriber should be aware that these figures cannot be used to predict the incidence of adverse events in the course of usual medical practice because patient characteristics and other factors differ from those which prevailed in the clinical trial. Similarly, the cited frequencies cannot be compared with figures obtained from other clinical investigations involving different treatments, uses, and investigators. The cited figures, however, do provide the prescribing physician with some basis for estimating the relative contribution of drug and non-drug factors to the adverse event incidence rate in the population studied.  
The following adverse events that occurred in at least 5% of the Vyvanse patients and at a rate twice that of the placebo group (Table 1): Upper abdominal pain, decreased appetite, dizziness, dry mouth, irritability, insomnia, nausea, vomiting, and decreased weight.

The following additional adverse reactions have been associated with the use of amphetamine, amphetamine (d to l enantiomer ratio of 3:1), or Vyvanse:  
Cardiovascular: Palpitations, tachycardia, elevation of blood pressure, sudden death, myocardial infarction. There have been isolated reports of cardiomyopathy associated with chronic amphetamine use.  
Central Nervous System: Psychotic episodes at recommended doses, overstimulation, restlessness, dizziness, euphoria, dyskinesia, dysphoria, depression, tremor, headache, exacerbation of motor and phonic tics and Tourette's syndrome, seizures, stroke.  
Gastrointestinal: Dryness of the mouth, unpleasant taste, diarrhea, constipation.  
Allergic: Urticaria, hypersensitivity reactions including angioedema and anaphylaxis. Serious skin rashes, including Stevens Johnson Syndrome and toxic epidermal necrolysis have been reported.  
Endocrine: Impotence, changes in libido.

**DRUG ABUSE AND DEPENDENCE**  
**Controlled Substance Class**  
Vyvanse is classified as a Schedule II controlled substance.  
Amphetamines have been extensively abused. Tolerance, extreme psychological dependence, and severe social disability have occurred. There are reports of patients who have increased the dosage of amphetamine to achieve a desired effect. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with amphetamines may include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxication is psychosis, often clinically indistinguishable from schizophrenia.

**Human Studies**  
In a human abuse liability study, when equivalent oral doses of 100 mg lisdexamfetamine dimesylate and 40 mg immediate release d-amphetamine sulfate were administered to individuals with a history of drug abuse, lisdexamfetamine 100 mg produced subjective responses on a scale of "Drug Liking Effects" "Amphetamine Effects", and "Stimulant Effects" that were significantly less than d-amphetamine immediate release 40 mg. However, oral administration of 150 mg lisdexamfetamine produced increases in positive subjective responses on these scales that were statistically indistinguishable from the positive subjective responses produced by 40 mg of oral immediate-release d-amphetamine and 200 mg of dextropropion (C-IV).  
Intravenous administration of 50 mg lisdexamfetamine to individuals with a history of drug abuse produced positive subjective responses on scales measuring "Drug Liking", "Euphoria", "Amphetamine Effects", and "Benzedrine Effects" that were greater than placebo but less than those produced by an equivalent dose (20 mg) of intravenous d-amphetamine.

**Animal Studies**  
In animal studies, lisdexamfetamine produced behavioral effects qualitatively similar to those of the CNS stimulant d-amphetamine. In monkeys trained to self-administer cocaine, intravenous lisdexamfetamine maintained self-administration at a rate that was statistically less than that for cocaine, but greater than that of placebo.  
**OVERDOSAGE**  
Individual response to amphetamines varies widely. Toxic symptoms may occur idiosyncratically at low doses.  
Symptoms: Manifestations of acute overdose with amphetamines include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states, hyperpyrexia and rhabdomyolysis. Fatigue and depression usually follow the central nervous system stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning is usually preceded by convulsions and coma.

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In animal studies, lisdexamfetamine produced behavioral effects qualitatively similar to those of the CNS stimulant d-amphetamine. In monkeys trained to self-administer cocaine, intravenous lisdexamfetamine maintained self-administration at a rate that was statistically less than that for cocaine, but greater than that of placebo.  
**OVERDOSAGE**  
Individual response to amphetamines varies widely. Toxic symptoms may occur idiosyncratically at low doses.  
Symptoms: Manifestations of acute overdose with amphetamines include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states, hyperpyrexia and rhabdomyolysis. Fatigue and depression usually follow the central nervous system stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning is usually preceded by convulsions and coma.

In a human abuse liability study, when equivalent oral doses of 100 mg lisdexamfetamine dimesylate and 40 mg immediate release d-amphetamine sulfate were administered to individuals with a history of drug abuse, lisdexamfetamine 100 mg produced subjective responses on a scale of "Drug Liking Effects" "Amphetamine Effects", and "Stimulant Effects" that were significantly less than d-amphetamine immediate release 40 mg. However, oral administration of 150 mg lisdexamfetamine produced increases in positive subjective responses on these scales that were statistically indistinguishable from the positive subjective responses produced by 40 mg of oral immediate-release d-amphetamine and 200 mg of dextropropion (C-IV).  
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