Dextroamphetamine (dex-troe-am-fet-a-meen)

**Drug**

**Classification**
Therapeutic: central nervous system stimulants
Pharmacologic: amphetamines

**Schedule II**

**Pregnancy Category C**

**Indications**

Adjunct management of ADDH. Narcolepsy. Unlabeled Use: Exogenous obesity.

**Action**

Produces CNS stimulation by releasing norepinephrine from nerve endings. Pharmacologic effects: CNS and respiratory stimulation, Vasoconstriction, Mydriasis (pupil-lary dilation), Contraction of the urinary bladder sphincter.

**Therapeutic Effects:**

Increased motor activity and mental alertness and decreased fatigue in narcoleptic patients. Increased attention span in ADHD.

**Pharmacokinetics**

**Absorption:** Well absorbed.

**Distribution:** Widely distributed, high concentrations in brain and CSF. Crosses the placenta; enters breast milk; potentially embryotoxic.

**Metabolism and Excretion:** Some metabolism by the liver. Urinary excretion is pH-dependent. Alkaline urine promotes reabsorption and prolongs action.

**Half-life:** 10–12 hr (6.8 hr in children).

**TIME/ACTION PROFILE (CNS stimulation)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>1–2 hr</td>
<td>3 hr</td>
<td>2–10 hr</td>
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<tr>
<td>PO-ER</td>
<td>unknown</td>
<td>unknown</td>
<td>up to 24 hr</td>
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</tbody>
</table>

**Contraindications/Precautions**

Contraindicated in: OB, LA: Pregnancy or lactation; Hyperexcitable states, including hyperthyroidism; Psychotic personalities; Suicidal or homicidal tendencies; Glaucoma; Some products contain tartrazine; avoid in patients with known hypersensitivity.

Use Cautiously in: Cardiovascular disease (sudden death has occurred in children with structural cardiac abnormalities or other serious heart problems); Hypertension; Hyperthyroidism; History of substance abuse; Delinquent patients. Continued use may produce psychological dependence or physical addiction.

**Adverse Reactions/Side Effects**

**CNS:** hyperactivity, insomnia, restlessness, irritability, behavioral disturbances, depression, agitation, nervousness, nervousness, anxiety, thoughts disorders.

**CV:** palpitations, tachycardia, arrhythmias, hypertension, peripheral vasculopathy.

**GI:** anorexia, constipation, cramps, diarrhea, dry mouth, metallic taste, nausea, vomiting.

**GU:** erectile dysfunction, loss of libido. Derma: Urticaria.

**Neuro:** paraesthesia.

**Misc:** physical dependence, psychological dependence.

**Interactions**

**Drug-Drug:** Addrenergic effects with other adrenergics. Use with MAO inhibitors can result in hypertensive crisis. Allibating the urine (sodium bicarbonate, aspirin) prolongs effect. Acidification of urine (ammonium chloride, large doses of ascorbic acid) may antagonize the response to dextroamphetamine.

Phenothiazines may antagonize the response to antihypertensives. Risk of cardiovascular side effects with beta blockers or tricyclic antidepressants.

**Drug-Natural Products:** St. John’s wort may enhance side effects, concurrent use is not recommended.

**Route/Dosage**

**Attention-Deficit Hyperactivity Disorder**

**PO (Adults):** 5–40 mg/day in divided doses. Sustained-release capsules should not be used as initial therapy.

**PO (Children ≥6 yr):** 5 mg 1–2 times daily, increase by 5 mg daily at weekly intervals (maximum: 40 mg/day). Sustained-release capsules should not be used as initial therapy.

**PO (Children 3–5 yr):** 2.5 mg/day, increase by 2.5 mg daily at weekly intervals (maximum: 40 mg/day).
Narcolepsy
PO (Adults): 5–10 mg/day single dose or in divided doses. Sustained-release capsules should not be used as initial therapy.

PO (Children <12 yr): 10 mg/day, by 10 mg at weekly intervals until response is obtained or 60 mg is reached.

PO (Children 6–12 yr): 5 mg/day, by 5 mg at weekly intervals until response is obtained or 60 mg is reached.

Exogenous obesity
PO (Adults and Children <12 yr): 5–30 mg/day in divided doses of 5–10 mg given 30–60 min before meals.

NURSING IMPLICATIONS
Assessment
- Monitor HR, pulse, and respiration before administering and periodically during therapy. Obtain a history (including assessment of family history of sudden death or ventricular arrhythmias), physical exam to assess for cardiac disease, and further evaluation (ECG and echocardiogram), if indicated. If exertional chest pain, unexplained syncope, or other cardiac symptoms occur, evaluate promptly.
- Has high dependence and abuse potential. Tolerance to medication occurs rapidly; do not increase dose.
- Monitor closely for behavior change.
- Geri: Not recommended for use in elderly secondary to risk for hypertension, angina, and MI.
- ADHD: Monitor weight biweekly and inform health care professional of significant loss.
- Monitor height periodically in children; report growth inhibition.
- Assess child’s attention span, impulse control, and interactions with others. Therapy may be interrupted at intervals to determine whether symptoms are sufficient to continue therapy.
- Narcolepsy: Observe and document frequency of narcoleptic episodes.
- May produce a false sense of relief and well being. Provide frequent rest periods and observe patients for rebound depression after the effects of the medication have worn off.

Potential Nursing Diagnoses
Disturbed thought processes (Side Effects)

Implementation
- Therapy should start with the lowest effective dose.
- PO: Sustained-release capsules should be swallowed whole; do not break, crush, or chew.
- ADHD: PO: When symptoms are controlled, dose reduction or interruption of therapy may be possible during summer months or may be given on each of the 5 school days with medications free weekends and holidays.

Patient/Family Teaching
- Instruct patient to take medication at least 6 hr before bedtime to avoid sleep disturbances. Take missed doses as soon as remembered up to 6 hr before bedtime. Do not double doses. Advise patient and parents to read the Medication Guide prior to starting therapy and with each Rx refill. Instruct patient NOT to alter dose without consulting health care professional. Abrupt cessation of high doses may cause extreme fatigue and mental depression.
- Instruct patient that sharing this medication may be dangerous.
- Instruct patients starting therapy of oral peripheral vasculopathy. Instruct patients to notify health care professional of any new numbness, pain, skin color change from pale, to blue, to red, or sensation or sensitivity to temperature in fingers or toes, and if unexplained wounds appear on fingers or toes. May require rheumatology consultation.
- Instruct patient that the effects of drug-induced dry mouth can be minimized by rinsing frequently with water or chewing sugarless gum or candies.
- Advise patients to avoid intake of large amounts of caffeine.
- Medication may impair judgment. Advise patients to use caution when driving or during other activities requiring alertness.
- Advise patient to notify health care professional of nausea, vomiting, constipation, insomnia, dizziness, and dry mouth. May reduce appetite and weight loss are a problem, advise parents to provide high calorie meals when drug levels are low (at breakfast and/or bedtime).
- Advise patient and/or parents to notify health care professional of behavioral changes.

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dextroamphetamine

Inform patient that periodic holiday from the drug may be ordered to assess progress and decrease dependence.

Advise patient to notify health care professional if pregnancy is planned or suspected.

Inform patient to notify health care professional if they have ever abused or been dependent on alcohol or drugs, or if they are now abusing or dependent on alcohol or drugs.

Emphasize the importance of routine follow-up exams to monitor progress.

Home Care Issues:

Advise parents to notify school nurse of medication regimen.

Evaluation/Desired Outcomes

Improved attention span. Therapy should be interrupted and reassessed periodically.

Decrease in narcoleptic symptoms.

Why was this drug prescribed for your patient?