amphetamine mixtures (an-fet-a-meen)  
Amphetamine Salt, Adderall, Adderall XR  
Classification  
Therapeutic: central nervous system stimulants  
Schedule II  
Pregnancy Category: C

Indications  
ADHD. Narcolepsy.

Action  
Causes release of norepinephrine from nerve endings. Pharmacologic effects are: CNS and respiratory stimulation, vasoconstriction, mydriasis (pupillary dilation).

Therapeutic Effects: increased motor activity, mental alertness, and decreased fatigue in narcoleptic patients. Increased attention span in ADHD.

Pharmacokinetics  
Absorption: Well absorbed after oral administration.

Distribution: Widely distributed in body tissues, with high concentrations in the brain and CSF. Crosses placenta and enters breast milk.

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

Half-life: Children 6–12 yrs: 9–11 hr; Adults: 10–13 hr (depends on urine pH).

TIME/ACTION PROFILE (CNS stimulation)  
ROUTE ONSET PEAK DURATION  
PO tablet: 0.5–1 hr tablet: 3 hr capsule: 7 hr 4–6 hr

Contraindications/Precautions  
Contraindicated in: Hyperexcitable states including hyperthyroidism; Psychotic personalities; Suicidal or homicidal tendencies; Chemical dependence; Glaucoma; Structural cardiac abnormalities (may ↑ the risk of sudden death); OB: Potentially embryotoxic.

Use Cautiously in: Cardiovascular disease (sudden death has occurred in children with structural cardiac abnormalities or other serious heart problems); History of substance use disorder (patients may result in serious cardiovascular events/sudden death); Hypertension; Diabetes mellitus; Tourette’s syndrome (may exacerbate tics); Geriatric or debilitated patients may be more susceptible to side effects.

Adverse Reactions/Side Effects  
CNS: hyperactivity, insomnia, restlessness, tremor, aggression, anger, behavioral disturbances, anxiety, dizziness, irritability, insomnia, restlessness, skin picking, talkativeness, weight loss, increased thirst; CV: CHF, angina pectoris, myocardial infarction, tachycardia, arrhythmias; EENT: blurred vision, mydriasis; GI: anorexia, constipation, cramps, dry mouth, nausea, vomiting; GU: erectile dysfunction, ↓ libido; Derm: alopecia, irritability; Endo: growth inhibition (with long-term use in children); Neuro: paranoid ideation; Psych: psychological dependence.

Interactions  
Drug-Drug: Use with MAO inhibitors or meperidine can result in hypertensive crisis. Drugs that alkalinize urine (sodium bicarbonate, acetazolamide) ↓ effects. Drugs that acidify urine (acetazolamide, ammonium chloride) ↑ effects. Risk of hypertension and Bradycardia with beta blockers. Risk of arrhythmias with digoxin. Tricyclic antidepressants may ↑ effect of amphetamine but may ↓ risk of arrhythmias, hypertension, or hyperpyrexia. Proton pump inhibitors may ↓ effects.

Drug-Natural Products: Use with St. John’s wort may ↑ serious side effects (avoid concurrent use).

Drug-Food: Foods that alkalinize the urine (fruit juices) can ↓ effect of amphetamine.

Route/Dosage  
Dose is expressed in total amphetamine content (amphetamine + dextroamphetamine).

ADHD  
PO (Children ≥6 yr): 5 mg/day 1–2 times daily; ↑ daily dose by 5 mg at weekly intervals. Maximum: 60 mg daily; tablets every 8–12 hr. If starting therapy with controlled release capsules, start with 10 mg once daily and ↑ by 10 mg at weekly intervals (up to 40 mg/day)
PO (Adults): 20 mg/day initially (as extended-release product).

PO (Children 5–11 yr): 2.5 mg/day in the morning; q daily dose by 2.5 mg at weekly intervals not to exceed 40 mg/day.

PO (Children 12–17 yr): 5 mg once daily; may q by 5 mg at weekly intervals to a maximum of 60 mg/day.

NURSING IMPLICATIONS

Assessment

● Monitor BP, pulse, and respiration before and periodically during therapy. Obtain a history (including assessment of family history of sudden death or ventricular arrhythmia), physical exam to assess for cardiac disease, and further evaluation (EGC and echocardiogram), if indicated.

● May produce a false sense of euphoria and well-being. Provide frequent rest periods and observe patient for rebound depression after the effects of the medication have worn off.

● Monitor closely for behavior change.

● Has high dependence and abuse potential. Tolerance to medication occurs rapidly; do not increase dose.

● ADHD: Monitor weight biweekly and inform physician of significant loss.

Pedi: Monitor height periodically in children; inform physician of 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.

● Lab Test Considerations: May interfere with urinary steroid determinations.

Potential Nursing Diagnoses

Disturbed thought process (Side Effects)

Implementation

● Do not confuse Adderall with Inderal or Adderall XR.

● PO: Use the lowest effective dose.

● May be taken without regard to food.

● Extended-release capsules may be swallowed whole or opened and sprinkled on applesauce; swallow contents without chewing. Applesauce should be swallowed immediately; do not store. Do not divide contents of capsule; entire contents of capsule should be taken.

● ADHD: Pedi. 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 medication-free weekends and holidays.

Patient/Family Teaching

● Instruct patient to take medication at least 6 hr before bedtime to avoid sleep disturbances. Missed doses should be taken as soon as remembered up to 6 hr before bedtime. With extended-release capsule, avoid afternoon doses to prevent insomnia. 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 patient that the effects of drug-induced dry mouth can be minimized by rinsing frequently with water or chewing sugarless gum or candy.

● Advise patient to limit caffeine intake.

● Advise patient to use caution when driving or during other activities requiring alertness.

● Instruct patient that periodic bloods from the drug may be used to assess progress and decrease dependence. Pedi: Children should be given a drug-free holiday each year to reassess symptoms and treatment. Dosage will change as children age due to pharmacokinetic changes such as slower hepatic metabolism.

● Advise patient and/or parents to notify health care professional of behavioral changes.

● Advise patient to notify health care professional of any new numbness; pain; skin color changes.

Pedi: Children should be given a drug-free holiday each year to reassess symptoms and treatment. Doses will change as children age due to pharmacokinetic changes such as slower hepatic metabolism.

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● Instruct patient to notify health care professional of any new numbness; pain; skin color changes.

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amphetamines mixtures

Change from pale, to blue, to red; or confusion or sensitivity in temperature in fingers or toes, and call if unexplained wounds appear on fingers or toes. May require rheumatology consultation.

- Caution patients to inform 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.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications.
- Advise patient to notify health care professional if pregnancy is planned or suspected, or if breast feeding.
- 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.
- Decrease in narcoleptic symptoms.

**Why was this drug prescribed for your patient?**