

**DEXMETHYLPHENIDATE HYDROCHLORIDE- dexamethylphenidate hydrochloride tablet**  
**Neolpharma, Inc.**

-----

**HIGHLIGHTS OF PRESCRIBING INFORMATION**

**HIGHLIGHTS OF PRESCRIBING INFORMATION**

**These highlights do not include all the information needed to use DEXMETHYLPHENIDATE HYDROCHLORIDE TABLETS safely and effectively. See full prescribing information for DEXMETHYLPHENIDATE HYDROCHLORIDE TABLETS.**

**DEXMETHYLPHENIDATE HYDROCHLORIDE tablets, for oral use, CII**  
**Initial U.S. Approval: 2001**

**WARNING: ABUSE, MISUSE AND ADDICTION**

***See full prescribing information for complete boxed warning.***

Dexamethylphenidate hydrochloride tablets have a high potential for abuse and misuse, which can lead to the development of a substance use disorder, including addiction. Misuse and abuse of CNS stimulants, including dexamethylphenidate hydrochloride tablets, can result in overdose and death (5.1, 9.2, 10):

- Before prescribing dexamethylphenidate hydrochloride tablets, assess patient's risk for abuse, misuse, and addiction.
- Educate patients and their families about these risks, proper storage of the drug, and proper disposal of any unused drug.
- Throughout treatment, reassess each patient's risk and frequently monitor for signs and symptoms of abuse, misuse, and addiction.

-----  
**INDICATIONS AND USAGE**  
-----

Dexamethylphenidate hydrochloride tablets are a central nervous system (CNS) stimulant indicated for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) (1). (1)

-----  
**DOSAGE AND ADMINISTRATION**  
-----

- Administer orally twice daily, 4 hours apart with or without food (2).
- For patients new to methylphenidate: Recommend starting dose of 5 mg once daily (2.5 mg twice daily) (2.2).
- For patients currently taking methylphenidate: Initiate dexamethylphenidate hydrochloride tablets therapy with half (1/2) the current total daily dose of methylphenidate (2.2).
- Titrate weekly in increments of 2.5 to 5 mg to a maximum of 20 mg/day (10 mg twice daily) (2.2).

-----  
**DOSAGE FORMS AND STRENGTHS**  
-----

Tablets: 5 mg, and 10 mg (3). (3)

-----  
**CONTRAINDICATIONS**  
-----

- Known hypersensitivity to methylphenidate or other components of dexamethylphenidate hydrochloride tablets (4).
- Concurrent treatment with a monoamine oxidase inhibitor (MAOI), or use of an MAOI within the preceding 14 days (4).

-----  
**WARNINGS AND PRECAUTIONS**  
-----

- *Risks to Patients with Serious Cardiac Disease:* Avoid use in patients with known structural cardiac abnormalities, cardiomyopathy, serious cardiac arrhythmias, coronary artery disease, or other serious cardiac disease (5.2).
- *Increased Blood Pressure and Heart Rate:* Monitor blood pressure and pulse. (5.3).
- *Psychiatric Adverse Reactions:* Prior to initiating dexamethylphenidate hydrochloride tablets, screen patients for risk factors for developing a manic episode. If new psychotic or manic symptoms occur, consider discontinuing dexamethylphenidate hydrochloride tablets (5.4).
- *Priapism:* If abnormally sustained or frequent and painful erections occur, patients should seek immediate medical attention (5.5).
- *Peripheral Vasculopathy, including Raynaud's Phenomenon:* Careful observation for digital changes is necessary during dexamethylphenidate hydrochloride tablets treatment. Further clinical evaluation (e.g.,

rheumatology referral) may be appropriate for patients who develop signs or symptoms of peripheral vasculopathy (5.6).

- *Long-Term Suppression of Growth in Pediatric Patients:* Closely monitor growth (height and weight) in pediatric patients. Pediatric patients not growing or gaining height or weight as expected may need to have their treatment interrupted (5.7).
- *Acute Angle Closure Glaucoma:* Dexmethylphenidate hydrochloride tablets -treated patients considered at risk for acute angle closure glaucoma (e.g., patients with significant hyperopia) should be evaluated by an ophthalmologist (5.8).
- *Increased Intraocular Pressure (IOP) and Glaucoma:* Prescribe dexmethylphenidate hydrochloride tablets to patients with open-angle glaucoma or abnormally increased IOP only if the benefit of treatment is considered to outweigh the risk. Closely monitor patients with a history of increased IOP or open angle glaucoma (5.9).
- *Motor and Verbal Tics, and Worsening of Tourette's Syndrome:* Before initiating dexmethylphenidate hydrochloride tablets, assess the family history and clinically evaluate patients for tics or Tourette's syndrome. Regularly monitor patients for the emergence or worsening of tics or Tourette's syndrome. Discontinue treatment if clinically appropriate (5.10).

#### ----- **ADVERSE REACTIONS** -----

The most common adverse reactions (greater than or equal to 5% and twice the rate of placebo) in pediatric patients 6 to 17 years were abdominal pain, fever, nausea, and anorexia (6.1). (6)

**To report SUSPECTED ADVERSE REACTIONS, contact Neolpharma, Inc. at 1-844-200-4163 or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch).** (6)

#### ----- **DRUG INTERACTIONS** -----

- *Antihypertensive Drugs:* Monitor blood pressure. Adjust dosage of antihypertensive drug as needed (7.1).
- *Halogenated Anesthetics:* Avoid use of dexmethylphenidate hydrochloride tablets on the day of surgery if halogenated anesthetics will be used (7.1).

**See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.** (7)

**Revised: 08/2023** (7)

**See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.**

**Revised: 3/2024**

---

## **FULL PRESCRIBING INFORMATION: CONTENTS\***

### **1 INDICATIONS AND USAGE**

### **2 DOSAGE AND ADMINISTRATION**

#### **2.1 Pretreatment Screening**

#### **2.2 Recommended Dosage**

#### **2.3 Administration Instructions**

#### **2.4 Dose Reduction and Discontinuation**

### **3 DOSAGE FORMS AND STRENGTHS**

### **4 CONTRAINDICATIONS**

### **5 WARNINGS AND PRECAUTIONS**

#### **5.1 Abuse, Misuse, and Addiction**

#### **5.2 Risks to Patients With Serious Cardiac Disease**

#### **5.3 Increased Blood Pressure and Heart Rate**

#### **5.4 Psychiatric Adverse Reactions**

#### **5.5 Priapism**

#### **5.6 Peripheral Vasculopathy, Including Raynaud's Phenomenon**

#### **5.7 Long-Term Suppression of Growth**

#### **5.8 Acute Angle Closure Glaucoma**

- 5.9 Increased Intraocular Pressure and Glaucoma
- 5.10 Motor and Verbal Tics, and Worsening of Tourette’s Syndrome
- 6 ADVERSE REACTIONS
  - 6.1 Clinical Trials Experience
  - 6.2 Postmarketing Experience
- 7 DRUG INTERACTIONS
  - 7.1 Clinically Important Drug Interactions with Dexmethylphenidate Hydrochloride Tablets
- 8 USE IN SPECIFIC POPULATIONS
  - 8.1 Pregnancy
  - 8.2 Lactation
  - 8.4 Pediatric Use
  - 8.5 Geriatric Use
- 9 DRUG ABUSE AND DEPENDENCE
  - 9.1 Controlled Substance
  - 9.2 Abuse
  - 9.3 Dependence
- 10 OVERDOSAGE
  - Clinical Effects of Overdose
  - Overdose Management
- 11 DESCRIPTION
- 12 CLINICAL PHARMACOLOGY
  - 12.1 Mechanism of Action
  - 12.2 Pharmacodynamics
  - 12.3 Pharmacokinetics
- 13 NONCLINICAL TOXICOLOGY
  - 13.1 Carcinogenesis, Mutagenesis, and Impairment of Fertility
- 14 CLINICAL STUDIES
- 16 HOW SUPPLIED/STORAGE AND HANDLING
- 17 PATIENT COUNSELING INFORMATION
  - Abuse, Misuse, and Addiction
  - Risks to Patients with Serious Cardiac Disease
  - Increased Blood Pressure and Heart Rate
  - Psychiatric Adverse Reactions
  - Priapism
  - Circulation Problems in Fingers and Toes [Peripheral Vasculopathy, Including Raynaud’s Phenomenon]
  - Long-Term Suppression of Growth in Pediatric Patients
  - Increased Intraocular Pressure (IOP) and Glaucoma
  - Motor and Verbal Tics, and Worsening of Tourette’s Syndrome
  - Pregnancy Registry

\* Sections or subsections omitted from the full prescribing information are not listed.

---

## FULL PRESCRIBING INFORMATION

## **WARNING: ABUSE, MISUSE, AND ADDICTION**

**Dexmethylphenidate hydrochloride tablets have a high potential for abuse and misuse, which can lead to the development of a substance use disorder, including addiction. Misuse and abuse of CNS stimulants, including dexmethylphenidate hydrochloride tablets, can result in overdose and death [see Overdosage (10)], and this risk is increased with higher doses or unapproved methods of administration, such as snorting or injection.**

**Before prescribing dexmethylphenidate hydrochloride tablets, assess each patient's risk for abuse, misuse, and addiction. Educate patients and their families about these risks, proper storage of the drug, and proper disposal of any unused drug. Throughout dexmethylphenidate hydrochloride tablets treatment, reassess each patient's risk of abuse, misuse, and addiction and frequently monitor for signs and symptoms of abuse, misuse, and addiction [see Warnings and Precautions (5.1) and Drug Abuse and Dependence (9.2)].**

## **1 INDICATIONS AND USAGE**

Dexmethylphenidate hydrochloride tablets are indicated for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) [see *Clinical Studies (14)*].

## **2 DOSAGE AND ADMINISTRATION**

### **2.1 Pretreatment Screening**

Prior to treating patients with dexmethylphenidate hydrochloride tablets, assess:

- for the presence of cardiac disease (i.e., perform a careful history, family history of sudden death or ventricular arrhythmia, and physical exam) [see *Warnings and Precautions (5.2)*].
- the family history and clinically evaluate patients for motor or verbal tics or Tourette's syndrome before initiating dexmethylphenidate hydrochloride tablets [see *Warnings and Precautions (5.10)*].

### **2.2 Recommended Dosage**

#### Patients New to Methylphenidate

The recommended starting dose of dexmethylphenidate hydrochloride tablets for pediatric patients who are not currently taking racemic methylphenidate, or for patients who are on stimulants other than methylphenidate, is 5 mg daily (2.5 mg twice daily) with or without food.

#### Patients Currently on Methylphenidate

The recommended starting dose of dexmethylphenidate hydrochloride tablets for pediatric patients currently using methylphenidate is half (1/2) the total daily dose of racemic methylphenidate.

## Titration Schedule

The dose may be titrated weekly in increments of 2.5 to 5 mg to a maximum of 20 mg daily (10 mg twice daily). The dose should be individualized according to the needs and response of the patient.

### **2.3 Administration Instructions**

Dexmethylphenidate hydrochloride tablets are administered orally twice daily, at least 4 hours apart.

### **2.4 Dose Reduction and Discontinuation**

If paradoxical aggravation of symptoms or other adverse reactions occur, reduce the dosage, or if necessary, discontinue dexmethylphenidate hydrochloride tablets. If improvement is not observed after appropriate dosage adjustment over a one-month period, the drug should be discontinued.

## **3 DOSAGE FORMS AND STRENGTHS**

- 5 mg tablets: Yellow, round, uncoated tablet, debossed with “NP045” on one side and “5” on the other side.
- 10 mg tablets: Blue, round, uncoated tablet, debossed with “NP046” on one side and “10” on the other side.

## **4 CONTRAINDICATIONS**

- Hypersensitivity to methylphenidate or other components of dexmethylphenidate hydrochloride tablets. Hypersensitivity reactions, such as angioedema and anaphylactic reactions have been reported in patients treated with methylphenidate [see *Adverse Reactions (6.1)*].
- Concomitant treatment with monoamine oxidase inhibitors (MAOIs), or within 14 days following discontinuation of treatment with an MAOI, because of the risk of hypertensive crises [see *Drug Interactions (7.1)*].

## **5 WARNINGS AND PRECAUTIONS**

### **5.1 Abuse, Misuse, and Addiction**

Dexmethylphenidate hydrochloride tablets have a high potential for abuse and misuse. The use of dexmethylphenidate hydrochloride tablets exposes individuals to the risks of abuse and misuse, which can lead to the development of a substance use disorder, including addiction. Dexmethylphenidate hydrochloride tablets can be diverted for non-medical use into illicit channels or distribution [see *Drug Abuse and Dependence (9.2)*]. Misuse and abuse of CNS stimulants, including dexmethylphenidate hydrochloride tablets, can result in overdose and death [see *Overdosage (10)*], and this risk is increased with higher doses or unapproved methods of administration, such as snorting or injection.

Before prescribing dexmethylphenidate hydrochloride tablets, assess each patient’s risk

for abuse, misuse, and addiction. Educate patients and their families about these risks and proper disposal of any unused drug. Advise patients to store dexamethylphenidate hydrochloride tablets in a safe place, preferably locked, and instruct patients to not give dexamethylphenidate hydrochloride tablets to anyone else. Throughout dexamethylphenidate hydrochloride tablets treatment, reassess each patient's risk of abuse, misuse, and addiction and frequently monitor for signs and symptoms of abuse, misuse, and addiction.

## **5.2 Risks to Patients With Serious Cardiac Disease**

Sudden death has been reported in patients with structural cardiac abnormalities and other serious cardiac disease who were treated with CNS stimulants at the recommended ADHD dosage.

Avoid dexamethylphenidate hydrochloride tablets use in patients with known structural cardiac abnormalities, cardiomyopathy, serious cardiac arrhythmia, coronary artery disease, or other serious cardiac disease.

## **5.3 Increased Blood Pressure and Heart Rate**

CNS stimulants cause an increase in blood pressure (mean increase approximately 2 to 4 mmHg) and heart rate (mean increase approximately 3 to 6 beats per minute). Some patients may have larger increases.

Monitor all dexamethylphenidate hydrochloride tablets-treated patients for hypertension and tachycardia.

## **5.4 Psychiatric Adverse Reactions**

### Exacerbation of Preexisting Psychosis

CNS stimulants may exacerbate symptoms of behavior disturbance and thought disorder in patients with a preexisting psychotic disorder.

### Induction of a Manic Episode in Patients With Bipolar Disorder

CNS stimulants may induce a manic or mixed mood episode in patients. Prior to initiating dexamethylphenidate hydrochloride tablets treatment, screen patients for risk factors for developing a manic episode (e.g., comorbid or history of depressive symptoms or a family history of suicide, bipolar disorder, or depression).

### New Psychotic or Manic Symptoms

CNS stimulants, at the recommended dosage, may cause psychotic or manic symptoms (e.g., hallucinations, delusional thinking, or mania) in patients without a prior history of psychotic illness or mania. In a pooled analysis of multiple short-term, placebo-controlled studies of CNS stimulants, psychotic, or manic symptoms occurred in approximately 0.1% of CNS stimulant-treated patients, compared to 0% in placebo-treated patients. If such symptoms occur, consider discontinuing dexamethylphenidate hydrochloride tablets.

## **5.5 Priapism**

Prolonged and painful erections, sometimes requiring surgical intervention, have been

reported with methylphenidate use in both adult and pediatric male patients. Although priapism was not reported with methylphenidate initiation, it developed after some time on methylphenidate, often subsequent to an increase in dosage. Priapism also occurred during methylphenidate withdrawal (drug holidays or during discontinuation).

Dexmethylphenidate hydrochloride tablets-treated patients who develop abnormally sustained or frequent and painful erections should seek immediate medical attention.

## **5.6 Peripheral Vasculopathy, Including Raynaud's Phenomenon**

CNS stimulants, including dexmethylphenidate hydrochloride tablets, used to treat ADHD are associated with peripheral vasculopathy, including Raynaud's phenomenon. Signs and symptoms are usually intermittent and mild; however, sequelae have included digital ulceration and/or soft tissue breakdown. Effects of peripheral vasculopathy, including Raynaud's phenomenon, were observed in post-marketing reports and at the therapeutic dosages of CNS stimulants in all age groups throughout the course of treatment. Signs and symptoms generally improved after dosage reduction or discontinuation of the CNS stimulant.

Careful observation for digital changes is necessary during dexmethylphenidate hydrochloride tablets treatment. Further clinical evaluation (e.g., rheumatology referral) may be appropriate for dexmethylphenidate hydrochloride tablets-treated patients who develop signs or symptoms of peripheral vasculopathy.

## **5.7 Long-Term Suppression of Growth**

CNS stimulants have been associated with weight loss and slowing of growth rate in pediatric patients.

Careful follow-up of weight and height in patients 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 patients over 36 months (to the ages of 10 to 13 years), suggests that pediatric patients who received methylphenidate for 7 days per week throughout the year had 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 development period.

Closely monitor growth (weight and height) in dexmethylphenidate hydrochloride tablets-treated pediatric patients. Pediatric patients who are not growing or gaining height or weight as expected may need to have their treatment interrupted.

## **5.8 Acute Angle Closure Glaucoma**

There have been reports of angle closure glaucoma associated with methylphenidate treatment.

Although the mechanism is not clear, dexmethylphenidate hydrochloride tablets-treated patients considered at risk for acute angle closure glaucoma (e.g., patients with significant hyperopia) should be evaluated by an ophthalmologist.

## **5.9 Increased Intraocular Pressure and Glaucoma**

There have been reports of an elevation of intraocular pressure (IOP) associated with

methylphenidate treatment [see *Adverse Reactions (6.2)*].

Prescribe dexamethylphenidate hydrochloride tablets to patients with open-angle glaucoma or abnormally increased IOP only if the benefit of treatment is considered to outweigh the risk. Closely monitor dexamethylphenidate hydrochloride tablets-treated patients with a history of abnormally increased IOP or open angle glaucoma.

### **5.10 Motor and Verbal Tics, and Worsening of Tourette’s Syndrome**

CNS stimulants, including methylphenidate, have been associated with the onset or exacerbation of motor and verbal tics. Worsening of Tourette’s syndrome has also been reported [see *Adverse Reactions (6.2)*].

Before initiating dexamethylphenidate hydrochloride tablets, assess the family history and clinically evaluate patients for tics or Tourette’s syndrome. Regularly monitor dexamethylphenidate hydrochloride tablets-treated patients for the emergence or worsening of tics or Tourette’s syndrome, and discontinue treatment if clinically appropriate.

## **6 ADVERSE REACTIONS**

The following are discussed in more detail in other sections of the labeling:

- Abuse, Misuse and Addiction [see *Boxed Warning, Warnings and Precautions (5.1), Drug Abuse and Dependence (9.2, 9.3)*]
- Known hypersensitivity to methylphenidate or other ingredients of dexamethylphenidate hydrochloride tablets [see *Contraindications (4)*]
- Hypertensive crisis with Concomitant Use of Monoamine Oxidase Inhibitors [see *Contraindications (4), Drug Interactions (7.1)*]
- Risks to Patients with Serious Cardiac Disease [see *Warnings and Precautions (5.2)*]
- Increased Blood Pressure and Heart Rate [see *Warnings and Precautions (5.3)*]
- Psychiatric Adverse Reactions [see *Warnings and Precautions (5.4)*]
- Priapism [see *Warnings and Precautions (5.5)*]
- Peripheral Vasculopathy, Including Raynaud’s phenomenon [see *Warnings and Precautions (5.6)*]
- Long-term Suppression of Growth in Pediatric Patients [see *Warnings and Precautions (5.7)*]
- Acute Angle Closure Glaucoma [see *Warnings and Precautions (5.8)*]
- Increased Intraocular Pressure and Glaucoma [see *Warnings and Precautions (5.9)*]
- Motor and Verbal Tics, and Worsening of Tourette’s Syndrome [see *Warnings and Precautions (5.10)*]

### **6.1 Clinical Trials Experience**

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

#### Adverse Reactions in Studies with Dexamethylphenidate Hydrochloride Tablets in Pediatric Patients with ADHD

The safety data in this section is based on data related to dexamethylphenidate



hydrochloride tablets exposure during the premarketing development program in a total of 696 participants in clinical trials (684 patients, 12 healthy adult subjects). These participants received dexamethylphenidate hydrochloride tablets 5, 10, or 20 mg/day. The 684 ADHD patients (ages 6 to 17 years) were evaluated in 2 controlled clinical studies, 2 clinical pharmacology studies, and 2 open-label long-term safety studies.

*Most Common Adverse Reactions* (incidence of greater than or equal to 5% and at least twice placebo): abdominal pain, fever, anorexia, and nausea

*Adverse Reactions Leading to Discontinuation:*

Overall, 50 of 684 (7.3%) pediatric patients treated with dexamethylphenidate hydrochloride tablets experienced an adverse reaction that resulted in discontinuation. The most common reasons for discontinuation were twitching (described as motor or vocal tics), anorexia, insomnia, and tachycardia (approximately 1% each).

Table 1 enumerates adverse reactions for two, placebo-controlled, parallel group studies in pediatric patients with ADHD taking dexamethylphenidate hydrochloride tablets doses of 5, 10, and 20 mg/day. The table includes only those reactions that occurred in patients treated with dexamethylphenidate hydrochloride tablets for which the incidence was at least 5% and twice the incidence among placebo-treated patients.

**Table 1: Common Adverse Reactions in Pediatric Patients (6 to 17 years of age) With ADHD**

<b>System organ class</b>	<b>Adverse reactions</b>	<b>Dexamethylphenidate hydrochloride tablets (N = 79)</b>	<b>Placebo (N = 82)</b>
Body as a Whole	Abdominal Pain	15%	6%
	Fever	5%	1%
Digestive System	Anorexia	6%	1%
	Nausea	9%	1%

Abbreviation: ADHD, attention deficit hyperactivity disorder.

**6.2 Postmarketing Experience**

The following additional adverse reactions have been identified during postapproval use of dexamethylphenidate. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

*Musculoskeletal:* rhabdomyolysis

*Immune System Disorders:* hypersensitivity reactions, such as angioedema, anaphylactic reactions

Adverse Reactions Reported with All Methylphenidate Hydrochloride Tablets and Dexamethylphenidate Hydrochloride Tablets Formulations

The following adverse reactions associated with the use of all methylphenidate hydrochloride tablets and dexamethylphenidate hydrochloride tablets formulations were

identified in clinical trials, spontaneous reports, and literature. Because these reactions were reported voluntarily from a population of uncertain size, it is not always possible to estimate their frequency reliably or to establish a causal relationship to drug exposure.

*Infections and Infestations:* nasopharyngitis

*Blood and the Lymphatic System Disorders:* leukopenia, thrombocytopenia, anemia

*Immune System Disorders:* hypersensitivity reactions, including angioedema and anaphylaxis

*Metabolism and Nutrition Disorders:* decreased appetite, reduced weight gain, and suppression of growth during prolonged use in pediatric patients

*Psychiatric Disorders:* insomnia, anxiety, restlessness, agitation, psychosis (sometimes with visual and tactile hallucinations), depressed mood, depression

*Nervous System Disorders:* headache, dizziness, tremor, dyskinesia, including choreoathetoid movements, drowsiness, convulsions, cerebrovascular disorders (including vasculitis, cerebral hemorrhages, and cerebrovascular accidents), serotonin syndrome in combination with serotonergic drugs

*Eye Disorders:* blurred vision, difficulties in visual accommodation

*Cardiac Disorders:* tachycardia, palpitations, increased blood pressure, arrhythmias, angina pectoris

*Respiratory, Thoracic and Mediastinal Disorders:* cough

*Gastrointestinal Disorders:* dry mouth, nausea, vomiting, abdominal pain, dyspepsia

*Hepatobiliary Disorders:* abnormal liver function, ranging from transaminase elevation to severe hepatic injury

*Skin and Subcutaneous Tissue Disorders:* hyperhidrosis, pruritus, urticaria, exfoliative dermatitis, scalp hair loss, erythema multiforme rash, thrombocytopenic purpura

*Musculoskeletal and Connective Tissue Disorders:* arthralgia, muscle cramps, rhabdomyolysis, trismus

*Investigations:* weight loss (adult ADHD patients)

*Vascular Disorders:* peripheral coldness, Raynaud's phenomenon

#### Additional Adverse Reactions Reported with Other Methylphenidate-Containing Products

The list below shows adverse reactions not listed with methylphenidate hydrochloride tablets and dexmethylphenidate hydrochloride tablets formulations that have been reported with other methylphenidate products based on clinical trials data and post-marketing spontaneous reports.

*Blood and Lymphatic Disorders:* pancytopenia

*Immune System Disorders:* hypersensitivity reactions, such as auricular swelling

*Psychiatric Disorders:* affect lability, mania, disorientation, libido changes

*Nervous System Disorders:* migraine, motor and verbal Tics

*Eye Disorders:* diplopia, increased intraocular pressure, mydriasis

*Cardiac Disorders:* sudden cardiac death, myocardial infarction, bradycardia, extrasystole, supraventricular tachycardia, ventricular extrasystole

*Respiratory, Thoracic, and Mediastinal Disorders:* pharyngolaryngeal pain, dyspnea

*Gastrointestinal Disorders:* diarrhea, constipation

*Skin and Subcutaneous Tissue Disorders:* angioneurotic edema, erythema, fixed drug eruption

*Musculoskeletal, Connective Tissue, and Bone Disorders:* myalgia, muscle twitching

*Renal and Urinary Disorders:* hematuria

*Reproductive System and Breast Disorders:* gynecomastia

*General Disorders:* fatigue

*Urogenital Disorders:* priapism

## **7 DRUG INTERACTIONS**

### **7.1 Clinically Important Drug Interactions with Dexmethylphenidate Hydrochloride Tablets**

Table 2 presents clinically important drug interactions with dexmethylphenidate hydrochloride tablets.

#### **Table 2: Clinically Important Drug Interactions with Dexmethylphenidate Hydrochloride Tablets**

---

##### **Monoamine Oxidase Inhibitors (MAOIs)**

*Clinical Impact* Concomitant use of MAOIs and CNS stimulants, including dexmethylphenidate hydrochloride tablets, can cause hypertensive crisis. Potential outcomes include death, stroke, myocardial infarction, aortic dissection, ophthalmological complications, eclampsia, pulmonary edema, and renal failure [see Contraindications (4)].

*Intervention* Concomitant use of dexmethylphenidate hydrochloride tablets with MAOIs or within 14 days after discontinuing MAOI treatment is contraindicated.

##### **Antihypertensive Drugs**

*Clinical Impact* Dexmethylphenidate hydrochloride tablets may decrease the effectiveness of drugs used to treat hypertension [see Warnings and Precautions (5.3)].

*Intervention* Adjust the dosage of the antihypertensive drug as needed.

##### **Halogenated Anesthetics**

*Clinical Impact* Concomitant use of halogenated anesthetics and dexmethylphenidate hydrochloride tablets may increase the risk of sudden blood pressure and heart rate increase during surgery.

*Intervention* Monitor blood pressure and avoid use of dexmethylphenidate hydrochloride tablets in patients being treated with anesthetics on the day of surgery.

##### **Risperidone**

*Clinical Impact* Combined use of methylphenidate with risperidone when there is a change, whether an increase or decrease, in dosage of either or both medications,

*Impact* may increase the risk of extrapyramidal symptoms (EPS)  
*Intervention* Monitor for signs of EPS

---

## 8 USE IN SPECIFIC POPULATIONS

### 8.1 Pregnancy

#### Pregnancy Exposure Registry

There is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to ADHD medications, including dextmethylphenidate hydrochloride tablets, during pregnancy. Healthcare providers are encouraged to register patients by calling the National Pregnancy Registry for ADHD medications at 1-866-961-2388 or visiting <https://womensmentalhealth.org/adhd-medications/>.

#### Risk Summary

Dextmethylphenidate is the *d-threo* enantiomer of racemic methylphenidate. Published studies and postmarketing reports on methylphenidate use during pregnancy have not identified a drug-associated risk of major birth defects, miscarriage or adverse maternal or fetal outcomes. There may be risks to the fetus associated with the use of CNS stimulants during pregnancy ( see *Clinical Considerations*). Embryo-fetal development studies in rats showed delayed fetal skeletal ossification at doses up to 5 times the maximum recommended human dose (MRHD) of 20 mg/day given to adults based on plasma levels. A decrease in pup weight in males was observed in a pre- and post-natal development study with oral administration of methylphenidate to rats throughout pregnancy and lactation at doses 5 times the MRHD of 20 mg/day given to adults based on plasma levels. Plasma levels in adults were comparatively similar to plasma levels in adolescents ( see *Data*).

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

#### Clinical Considerations

##### *Fetal/Neonatal Adverse Reactions*

CNS stimulants, such as dextmethylphenidate hydrochloride tablets, can cause vasoconstriction and thereby decrease placental perfusion. No fetal and/or neonatal adverse reactions have been reported with the use of therapeutic doses of methylphenidate during pregnancy; however, premature delivery and low birth weight infants have been reported in amphetamine-dependent mothers.

#### Data

##### *Animal Data*

In embryo-fetal development studies conducted in rats and rabbits, dextmethylphenidate was administered orally at doses of up to 20 and 100 mg/kg/day, respectively, during the period of organogenesis. No evidence of malformations was found in either the rat or rabbit study; however, delayed fetal skeletal ossification was observed at the highest

dose level in rats. When dexamethylphenidate was administered to rats throughout pregnancy and lactation at doses of up to 20 mg/kg/day, post-weaning body weight gain was decreased in male offspring at the highest dose, but no other effects on postnatal development were observed. At the highest doses tested, plasma levels [area under the curves (AUCs)] of dexamethylphenidate in pregnant rats and rabbits were approximately 5 and 1 times, respectively, those in adults dosed with the MRHD of 20 mg/day.

Racemic methylphenidate has been shown to cause malformations (increased incidence of fetal spina bifida) in rabbits when given in doses of 200 mg/kg/day throughout organogenesis.

## **8.2 Lactation**

### Risk Summary

Dexamethylphenidate is the d-threo enantiomer of racemic methylphenidate. Limited published literature, based on milk sampling from seven mothers' reports that methylphenidate is present in human milk, which resulted in infant doses of 0.16% to 0.7% of the maternal weight-adjusted dosage and a milk/plasma ratio ranging between 1.1 and 2.7. There are no reports of adverse effects on the breastfed infant and no effects on milk production. Long-term neurodevelopmental effects on infants from stimulant exposure are unknown. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for dexamethylphenidate hydrochloride tablets and any potential adverse effects on the breastfed infant from dexamethylphenidate hydrochloride tablets or from the underlying maternal condition.

### Clinical Considerations

Monitor breastfeeding infants for adverse reactions, such as agitation, insomnia, anorexia, and reduced weight gain.

## **8.4 Pediatric Use**

The safety and effectiveness of dexamethylphenidate hydrochloride tablets have been established in pediatric patients aged 6 to 17 years in two adequate and well-controlled clinical trials [*see Clinical Studies (14)*].

The safety and effectiveness of dexamethylphenidate hydrochloride tablets in pediatric patients aged less than 6 years have not been established. The long-term efficacy of dexamethylphenidate hydrochloride tablets in pediatric patients has not been established.

### Long Term Suppression of Growth

Growth should be monitored during treatment with stimulants, including dexamethylphenidate hydrochloride tablets. Pediatric patients who are not growing or gaining weight as expected may need to have their treatment interrupted [*see Warnings and Precautions (5.7)*].

### Juvenile Animal Toxicity Data

Rats treated with racemic methylphenidate early in the postnatal period through sexual maturation demonstrated a decrease in spontaneous locomotor activity in adulthood. A deficit in acquisition of a specific learning task was observed in females only. The doses

at which these findings were observed are at least 6 times the MRHD of 60 mg/day given to children on a mg/m<sup>2</sup> basis.

In a study conducted in young rats, racemic methylphenidate was administered orally at doses of up to 100 mg/kg/day for 9 weeks, starting early in the postnatal period (postnatal Day 7) and continuing through sexual maturity (postnatal week 10). When these animals were tested as adults (postnatal Weeks 13 to 14), decreased spontaneous locomotor activity was observed in males and females previously treated with 50 mg/kg/day (approximately 4 times the MRHD of 60 mg of racemic methylphenidate given to children on a mg/m<sup>2</sup> basis) or greater, and a deficit in the acquisition of a specific learning task was seen in females exposed to the highest dose (8 times the MRHD given to children on a mg/m<sup>2</sup> basis). The no effect level for juvenile neurobehavioral development in rats was 5 mg/kg/day (approximately 0.5 times the MRHD given to children on a mg/m<sup>2</sup> basis). The clinical significance of the long-term behavioral effects observed in rats is unknown.

## **8.5 Geriatric Use**

Dexmethylphenidate hydrochloride tablets have not been studied in the geriatric population.

## **9 DRUG ABUSE AND DEPENDENCE**

### **9.1 Controlled Substance**

Dexmethylphenidate hydrochloride tablets contain dexmethylphenidate hydrochloride, a Schedule II controlled substance.

### **9.2 Abuse**

Dexmethylphenidate hydrochloride tablets have a high potential for abuse and misuse which can lead to the development of a substance use disorder, including addiction [see *Warnings and Precautions (5.1)*]. Dexmethylphenidate hydrochloride tablets can be diverted for non-medical use into illicit channels or distribution.

Abuse is the intentional non-therapeutic use of a drug, even once, to achieve a desired psychological or physiological effect. Misuse is the intentional use, for therapeutic purposes, of a drug by an individual in a way other than prescribed by a health care provider or for whom it was not prescribed. Drug addiction is a cluster of behavioral, cognitive, and physiological phenomena that may include a strong desire to take the drug, difficulties in controlling drug use (e.g., continuing drug use despite harmful consequences, giving a higher priority to drug use than other activities and obligations), and possible tolerance or physical dependence.

Misuse and abuse of methylphenidate may cause increased heart rate, respiratory rate, or blood pressure; sweating; dilated pupils; hyperactivity; restlessness; insomnia; decreased appetite; loss of coordination; tremors; flushed skin; vomiting; and/or abdominal pain. Anxiety, psychosis, hostility, aggression, and suicidal or homicidal ideation have also been observed with CNS stimulants abuse and/or misuse. Misuse and abuse of CNS stimulants, including dexmethylphenidate hydrochloride tablets, can result in overdose and death [see *Overdosage (10)*], and this risk is increased with higher doses or unapproved methods of administration, such as snorting or injection.

## 9.3 Dependence

### Physical Dependence

Dexmethylphenidate hydrochloride tablets may produce physical dependence. Physical dependence is a state that develops as a result of physiological adaptation in response to repeated drug use, manifested by withdrawal signs and symptoms after abrupt discontinuation or a significant dose reduction of a drug.

Withdrawal signs and symptoms after abrupt discontinuation or dose reduction following prolonged use of CNS stimulants including dexmethylphenidate hydrochloride tablets include dysphoric mood; depression; fatigue; vivid, unpleasant dreams; insomnia or hypersomnia; increased appetite; and psychomotor retardation or agitation.

### Tolerance

Dexmethylphenidate hydrochloride tablets may produce tolerance. Tolerance is a physiological state characterized by a reduced response to a drug after repeated administration (i.e., a higher dose of a drug is required to produce the same effect that was once obtained at a lower dose).

## 10 OVERDOSAGE

### Clinical Effects of Overdose

Overdose of CNS stimulants is characterized by the following sympathomimetic effects:

- Cardiovascular effects including tachyarrhythmias, and hypertension or hypotension. Vasospasm, myocardial infarction, or aortic dissection may precipitate sudden cardiac death. Takotsubo cardiomyopathy may develop.
- CNS effects including psychomotor agitation, confusion, and hallucinations. Serotonin syndrome, seizures, cerebral vascular accidents, and coma may occur.
- Life-threatening hyperthermia (temperatures greater than 104°F) and rhabdomyolysis may develop.

### Overdose Management

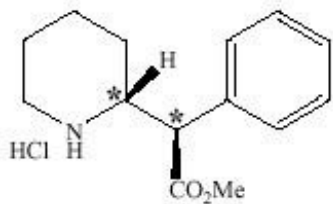
Consider the possibility of multiple drug ingestion. Because methylphenidate has a large volume of distribution and is rapidly metabolized, dialysis is not useful. Consider contacting the Poison Help line (1-800-222-1222) or a medical toxicologist for additional overdose management recommendations.

## 11 DESCRIPTION

Dexmethylphenidate hydrochloride tablets contain dexmethylphenidate hydrochloride, a CNS stimulant. Dexmethylphenidate hydrochloride is the *d-threo* enantiomer of racemic methylphenidate hydrochloride. Dexmethylphenidate hydrochloride tablets are available as 5 mg and 10 mg strength tablets for oral administration.

Chemically, dexmethylphenidate hydrochloride is methyl  $\alpha$ -phenyl-2-piperidineacetate hydrochloride, (R,R')-(+)-. Its molecular formula is C<sub>14</sub>H<sub>19</sub>NO<sub>2</sub>•HCl. Its structural

formula is:



Note: \* = asymmetric carbon centers

Dexmethylphenidate hydrochloride is a white crystalline powder. Its solutions are acid to litmus. It is soluble in water and in methanol, very slightly soluble in acetone. Its molecular weight is 269.77 g/mol.

**Inactive Ingredients:** lactose monohydrate, silicified microcrystalline cellulose, sodium lauryl sulfate, magnesium stearate, and D&C Yellow #10 aluminum lake (5 mg tablets), FD&C Blue #2 aluminum lake (10 mg tablets).

## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Dexmethylphenidate hydrochloride is a CNS stimulant. The mode of therapeutic action in ADHD is not known.

### 12.2 Pharmacodynamics

#### Pharmacodynamics

Dexmethylphenidate is the more pharmacologically active d -enantiomer of racemic methylphenidate. Methylphenidate blocks the reuptake of norepinephrine and dopamine into the presynaptic neuron and increase the release of these monoamines into the extraneuronal space.

#### Cardiac Electrophysiology

A formal QT study has not been conducted in patients taking dexmethylphenidate hydrochloride tablets; however, a large QT effect is not expected. At the recommended maximum total daily dosage of 40 mg, dexmethylphenidate hydrochloride extended-release capsule does not prolong the QTc interval to any clinically relevant extent.

### 12.3 Pharmacokinetics

#### Absorption

Dexmethylphenidate hydrochloride is readily absorbed following oral administration of dexmethylphenidate hydrochloride tablets. In patients with ADHD, plasma dexmethylphenidate concentrations increase rapidly, reaching a maximum in the fasted state at about 1 to 1.5 hours postdose. No differences in the pharmacokinetics of dexmethylphenidate hydrochloride tablets were noted following single and repeated twice daily dosing, thus indicating no significant drug accumulation in children with ADHD.



After single dose administration of dexamethylphenidate hydrochloride tablets to pediatric patients, dexamethylphenidate exposure ( $C_{max}$  and  $AUC_{0-inf}$ ) showed dose-proportional increase in the range of 2.5 mg to 10 mg. Comparable plasma dexamethylphenidate levels were achieved following single *dl-threo*-methylphenidate HCl doses given as capsules in twice the total mg amount (equimolar with respect to dexamethylphenidate hydrochloride tablets).

Approximately 90% of the dose is absorbed after oral administration of radiolabeled racemic methylphenidate. However, due to first pass metabolism the mean absolute bioavailability of dexamethylphenidate when administered in various formulations was 22% to 25%.

### *Effect of Food*

High fat breakfast did not significantly affect  $C_{max}$  and  $AUC_{0-inf}$  of dexamethylphenidate when two 10 mg dexamethylphenidate hydrochloride tablets were administered, but delayed  $T_{max}$  from 1.5 hours post dose to 2.9 hours post dose.

### Distribution

The plasma protein binding of dexamethylphenidate is not known; racemic methylphenidate is bound to plasma proteins by 12% to 15%, independent of concentration. Dexamethylphenidate shows a volume of distribution of  $2.65 \pm 1.11$  L/kg.

### Elimination

Plasma dexamethylphenidate concentrations declined exponentially following oral administration of dexamethylphenidate hydrochloride tablets. Intravenous dexamethylphenidate was eliminated with a mean clearance of  $0.40 \pm 0.12$  L/hr/kg. The mean terminal elimination half-life of dexamethylphenidate was approximately 2.2 hours.

### *Metabolism*

In humans, dexamethylphenidate is metabolized primarily via de-esterification to *d*- $\alpha$ -phenyl-piperidine acetic acid (also known as *d*-ritalinic acid). This metabolite has little or no pharmacological activity. There is little or no *in vivo* interconversion to the *l-threo*-enantiomer.

### *Excretion*

After oral dosing of radiolabeled racemic methylphenidate in humans, about 90% of the radioactivity was recovered in urine. The main urinary metabolite of racemic *dl*-methylphenidate was *dl*-ritalinic acid, accountable for approximately 80% of the dose. Urinary excretion of parent compound accounted for 0.5% of an intravenous dose.

### Studies in Special Populations

#### *Male and Female Patients*

Pharmacokinetic parameters were similar for boys and girls (mean age 10 years).

In a single dose study conducted in adults, the mean dexamethylphenidate  $AUC_{0-inf}$  values (adjusted for body weight) following single two 10 mg doses of dexamethylphenidate hydrochloride tablets were 25% to 35% higher in adult female

volunteers (n = 6) compared to male volunteers (n = 9). Both  $T_{max}$  and  $t_{1/2}$  were comparable for males and females.

#### *Racial or Ethnic Groups*

There is insufficient experience with the use of dexamethylphenidate hydrochloride tablets to detect ethnic variations in pharmacokinetics.

#### *Pediatric Patients*

The pharmacokinetics of dexamethylphenidate after dexamethylphenidate hydrochloride tablets administration have not been studied in children less than 6 years of age. When single doses of dexamethylphenidate hydrochloride tablets were given to children between the ages of 6 to 12 years and healthy adult volunteers,  $C_{max}$  of dexamethylphenidate was similar, however, pediatric patients showed somewhat lower AUCs compared to the adults.

#### *Patients with Renal Impairment*

There is no experience with the use of dexamethylphenidate hydrochloride tablets in patients with renal impairment. Since renal clearance is not an important route of methylphenidate clearance, renal impairment is expected to have little effect on the pharmacokinetics of dexamethylphenidate hydrochloride tablets.

#### *Patients with Hepatic Impairment*

There is no experience with the use of dexamethylphenidate hydrochloride tablets in patients with hepatic impairment.

#### Drug Interaction Studies

Methylphenidate is not metabolized by cytochrome P450 (CYP) isoenzymes to a clinically relevant extent. Inducers or inhibitors of CYPs are not expected to have any relevant impact on methylphenidate pharmacokinetics. Conversely, the d- and l-enantiomers of methylphenidate did not relevantly inhibit CYP1A2, 2C8, 2C9, 2C19, 2D6, 2E1 or 3A. Clinically, methylphenidate coadministration did not increase plasma concentrations of the CYP2D6 substrate desipramine.

## **13 NONCLINICAL TOXICOLOGY**

### **13.1 Carcinogenesis, Mutagenesis, and Impairment of Fertility**

#### Carcinogenesis

Lifetime carcinogenicity studies have not been carried out with dexamethylphenidate. In a lifetime carcinogenicity study carried out in B6C3F1 mice, racemic methylphenidate caused an increase in hepatocellular adenomas, and in males only, an increase in hepatoblastomas was seen at a daily dose of approximately 60 mg/kg/day. This dose is approximately 2 times the MRHD of 60 mg/day of racemic methylphenidate given to children on a  $mg/m^2$  basis. Hepatoblastoma is a relatively rare rodent malignant tumor type. There was no increase in total malignant hepatic tumors. The mouse strain used is sensitive to the development of hepatic tumors and the significance of these results to

humans is unknown. Racemic methylphenidate did not cause any increase in tumors in a lifetime carcinogenicity study carried out in F344 rats; the highest dose used was approximately 45 mg/kg/day, which is approximately 4 times the MRHD (children) of 60 mg/day of racemic methylphenidate on a mg/m<sup>2</sup> basis.

In a 24-week carcinogenicity study with racemic methylphenidate in the transgenic mouse strain p53+/-, which is sensitive to genotoxic carcinogens, there was no evidence of carcinogenicity. Male and female mice were fed diets containing the same concentrations as in the lifetime carcinogenicity study; the high-dose group was exposed to 60-74 mg/kg/day of racemic methylphenidate.

### Mutagenesis

Dexmethylphenidate was not mutagenic in the *in vitro* Ames reverse mutation assay, in the *in vitro* mouse lymphoma cell forward mutation assay, or in the *in vivo* mouse bone marrow micronucleus test. In an *in vitro* assay using cultured Chinese Hamster Ovary cells treated with racemic methylphenidate, sister chromatid exchanges and chromosome aberrations were increased, indicative of a weak clastogenic response.

### Impairment of Fertility

No human data on the effect of methylphenidate on fertility are available.

Fertility studies have not been conducted with dexmethylphenidate. Racemic methylphenidate did not impair fertility in male or female mice that were fed diets containing the drug in an 18-week continuous breeding study. The study was conducted at doses of up to 160 mg/kg/day, approximately 10 times the MRHD of 60 mg/day of racemic methylphenidate given adolescents on a mg/m<sup>2</sup> basis.

## **14 CLINICAL STUDIES**

The efficacy of dexmethylphenidate hydrochloride tablets for the treatment of ADHD was established in two double-blind, parallel-group, placebo-controlled trials in untreated or previously treated patients (ages 6 to 17 years old) who met The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria for ADHD inattentive, hyperactive-impulsive, or combined inattentive/hyperactive-impulsive subtypes. The sample was predominantly younger (ages 6 to 12 years); thus, the findings are most pertinent to this age group.

In Study 1, patients were randomized to receive either dexmethylphenidate hydrochloride tablets (5, 10, or 20 mg/day total dose), racemic methylphenidate HCl (10, 20, or 40 mg/day total dose), or placebo in a multicenter, 4-week, parallel group study in 132 pediatric patients. Patients received study medication twice daily separated by a 3.5 to 5.5 hours interval. Treatment was initiated with the lowest dose, and doses could be doubled at weekly intervals, depending on clinical response and tolerability, up to the maximum dose. The primary outcome was change from baseline to week 4 of the average score (an average of 2 ratings during the week) of the teacher's version of the Swanson, Nolan and Pelham (SNAP)-ADHD Rating Scale. This 18 item scale measures ADHD symptoms of inattention and hyperactivity/impulsivity, rated on a scale of 0 (Not at All) to 3 (Very Much). Patients treated with dexmethylphenidate hydrochloride tablets showed a statistically significant improvement in symptom scores from baseline over patients who received placebo (Table 3).

**Table 3: Summary of Efficacy Results From ADHD Acute-Phase Study in Pediatric Patients (6 - 17 years) (Study 1)**

Study number	Treatment group	Primary efficacy measure: teacher SNAP-ADHD total score <sup>a</sup>	
		Mean baseline score (SD)	Mean change from baseline Week 4 score (SD)
Study 1	Dexmethylphenidate hydrochloride tablets 5-20 mg/day <sup>b</sup> (n = 44)	1.4 (0.7) (n = 42)	- 0.7 (0.7) (n = 42)
	Placebo (n = 42)	1.6 (0.7) (n = 41)	- 0.2 (0.7) (n=39)

Abbreviations: ADHD, attention deficit hyperactivity disorder; SD, standard deviation; SNAP; swanson, Nolan and Pelham; n, number of patients available at the assessment time point.

<sup>a</sup>Average of two ratings.

<sup>b</sup>Statistically significantly different from placebo.

Study 2 was a multicenter, placebo-controlled, double-blind, 2-week treatment withdrawal study in 75 children (ages 6 to 12 years) who were responders during a 6-week, open-label initial treatment period. Children took study medication twice a day separated by a 3.5 to 5.5 hour interval. The primary outcome was proportion of treatment failures at the end of the 2-week withdrawal phase, where treatment failure was defined as a rating of 6 (much worse) or 7 (very much worse) on the Investigator Clinical Global Impression - Improvement (CGI-I). Patients continued on dexamethylphenidate hydrochloride tablets showed a statistically significant lower rate of failure over patients who received placebo (Table 4).

**Table 4: Summary of Efficacy Results From ADHD Randomized Withdrawal Study in Pediatric Patients (6 - 17 years) (Study 2)**

Study number	Treatment group	Primary efficacy measure: proportion of treatment failure <sup>a</sup>	
		Number of treatment failures / Number of randomized patients	Percentage
Study 2	Dexmethylphenidate hydrochloride tablets 5-20 mg/day <sup>b</sup>	6/35	17.1%
	Placebo	25/40	62.5%

Abbreviation: ADHD, attention deficit hyperactivity disorder.

<sup>a</sup>One patient did not have the value at Visit 10 and hence not included in this analysis.

<sup>b</sup>Statistically significantly different from placebo.

## **16 HOW SUPPLIED/STORAGE AND HANDLING**

Dexmethylphenidate hydrochloride tablets are available as follows:

- 5 mg tablets (NDC 55466-122-12) yellow, round, uncoated, debossed with “NP045” on one side and “5” on the other side, supplied in bottles of 100
- 10 mg tablets (NDC 55466-123-12) blue, round, uncoated, debossed with “NP046” on one side and “10” on the other side, supplied in bottles of 100

Store at 20°C to 25°C (68°F to 77°F); excursions permitted between 15°C and 30°C (59°F and 86°F) [see USP Controlled Room Temperature]. Protect from light and moisture.

Dispense in tight, light-resistant container (USP).

## **17 PATIENT COUNSELING INFORMATION**

Advise the patient to read the FDA-approved patient labeling (Medication Guide).

### **Abuse, Misuse, and Addiction**

Educate patients and their families about the risks of abuse, misuse, and addiction of dexmethylphenidate hydrochloride tablets, which can lead to overdose and death, and proper disposal of any unused drug [see *Warnings and Precautions (5.1)*, *Drug Abuse and Dependence (9.2)*, *Overdosage (10)*]. Advise patients to store dexmethylphenidate hydrochloride tablets in a safe place, preferably locked, and instruct patients to not give dexmethylphenidate hydrochloride tablets to anyone else.

### **Risks to Patients with Serious Cardiac Disease**

Advise patients that there are potential risks to patients with serious cardiac disease, including sudden death, with dexmethylphenidate hydrochloride tablets use. Instruct patients to contact a healthcare provider immediately if they develop symptoms, such as exertional chest pain, unexplained syncope, or other symptoms suggestive of cardiac disease [see *Warnings and Precautions (5.2)*].

### **Increased Blood Pressure and Heart Rate**

Instruct patients that dexmethylphenidate hydrochloride tablets can cause elevations of their blood pressure and pulse rate [see *Warnings and Precautions (5.3)*].

### **Psychiatric Adverse Reactions**

Advise patients that dexmethylphenidate hydrochloride tablets, at recommended doses, can cause psychotic or manic symptoms, even in patients without prior history of psychotic symptoms or mania [see *Warnings and Precautions (5.4)*].

### **Priapism**

Advise patients of the possibility of painful or prolonged penile erections (priapism). Instruct them to seek immediate medical attention in the event of priapism [see *Warnings and Precautions (5.5)*].

### **Circulation Problems in Fingers and Toes [Peripheral Vasculopathy, Including**

## **Raynaud's Phenomenon]**

Instruct patients beginning treatment with dexamethylphenidate hydrochloride tablets about the risk of peripheral vasculopathy, including Raynaud's phenomenon, and associated signs and symptoms: fingers or toes may feel numb, cool, painful, and/or may change color from pale, to blue, to red. Instruct patients to report to their physician any new numbness, pain, skin color change, or sensitivity to temperature in fingers or toes.

Instruct patients to call their physician immediately with any signs of unexplained wounds appearing on fingers or toes while taking dexamethylphenidate hydrochloride tablets. Further clinical evaluation (e.g., rheumatology referral) may be appropriate for certain patients [see *Warnings and Precautions (5.6)*].

## **Long-Term Suppression of Growth in Pediatric Patients**

Advise patients that dexamethylphenidate hydrochloride tablets may cause slowing of growth and weight loss [see *Warnings and Precautions (5.7)*].

## **Increased Intraocular Pressure (IOP) and Glaucoma**

Advise patients that IOP and glaucoma may occur during treatment with dexamethylphenidate hydrochloride tablets [see *Warnings and Precautions (5.9)*].

## **Motor and Verbal Tics, and Worsening of Tourette's Syndrome**

Advise patients that motor and verbal tics and worsening of Tourette's Syndrome may occur during treatment with dexamethylphenidate hydrochloride tablets. Instruct patients to notify their healthcare provider if emergence of new tics or worsening of tics or Tourette's syndrome occurs [see *Warnings and Precautions (5.10)*].

## **Pregnancy Registry**

Advise patients that there is a pregnancy exposure registry that monitors pregnancy outcomes in patients exposed to ADHD medications, including dexamethylphenidate hydrochloride tablets, during pregnancy [see *Use in Specific Populations (8.1)*].

Manufactured and Distributed by:

Neolpharma, Inc.

Caguas, Puerto Rico 00725, USA

PP12205

## **MEDICATION GUIDE**

## **MEDICATION GUIDE**

### **Dexamethylphenidate Hydrochloride Tablets CII**

**(dex-METH-il-FEN-i-date HYE-droe-KLOR-ide)**

---

**What is the most important information I should know about dexamethylphenidate hydrochloride tablets?**

## **Dexmethylphenidate hydrochloride tablets may cause serious side effects, including:**

- **Abuse, misuse, and addiction.** Dexmethylphenidate hydrochloride tablets have a high chance for abuse and misuse and may lead to substance use problems, including addiction. Misuse and abuse of dexmethylphenidate hydrochloride tablets, other methylphenidate containing medicines, and amphetamine containing medicines, can lead to overdose and death. The risk of overdose and death is increased with higher doses of dexmethylphenidate hydrochloride tablets or when it is used in ways that are not approved, such as snorting or injection.
- Your healthcare provider should check you or your child's risk for abuse, misuse, and addiction before starting treatment with dexmethylphenidate hydrochloride tablets and will monitor you or your child during treatment.
- Dexmethylphenidate hydrochloride tablets may lead to physical dependence after prolonged use, even if taken as directed by your healthcare provider.
- Do not give dexmethylphenidate hydrochloride tablets to anyone else. See **“What is dexmethylphenidate hydrochloride tablets?”** for more information.
- Keep dexmethylphenidate hydrochloride tablets in a safe place and properly dispose of any unused medicine. See **“How should I store dexmethylphenidate hydrochloride tablets?”** for more information.
- Tell your healthcare provider if you or your child have ever abused or been dependent on alcohol, prescription medicines, or street drugs.
- **Risks for people with serious heart disease.** Sudden death has happened in people who have heart defects or other serious heart disease.

Your healthcare provider should check you or your child carefully for heart problems before starting dexmethylphenidate hydrochloride tablets. Tell your healthcare provider if you or your child have any heart problems, heart disease, or heart defects.

**Call your healthcare provider or go to the nearest hospital emergency room right away if you or your child has any signs of heart problems, such as chest pain, shortness of breath, or fainting while taking dexmethylphenidate hydrochloride tablets.**

- **Increased blood pressure and heart rate.** Your healthcare provider should check you or your child's blood pressure and heart rate regularly during treatment with dexmethylphenidate hydrochloride tablets.
- **Mental (psychiatric) problems:**

### **All Patients**

- new or worse behavior and thought problems
- new or worse bipolar illness
- new psychotic symptoms (such as hearing voices, believing things that are not true, are suspicious) or new manic symptoms

Tell your healthcare provider about any mental problems you or your child have, or about a family history of suicide, bipolar illness, or depression.

**Call your healthcare provider right away if you or your child have any new or worsening mental symptoms or problems while taking dexmethylphenidate hydrochloride tablets, especially seeing or hearing things that are not real, believing things that are not real, or are suspicious.**

### **What are dexmethylphenidate hydrochloride tablets?**

- Dexmethylphenidate hydrochloride tablets are a central nervous system stimulant

(CNS) prescription medicine. **It is used for the treatment of Attention-Deficit Hyperactivity Disorder (ADHD).** Dexmethylphenidate hydrochloride tablets may help increase attention and decrease impulsiveness and hyperactivity in patients with ADHD.

- Dexmethylphenidate hydrochloride tablets should be used as a part of a total treatment program for ADHD that may include counseling or other therapies.

**Dexmethylphenidate hydrochloride tablets are a federally controlled substance (CII) because they contain dexmethylphenidate that can be a target for people who abuse prescription medicines or street drugs.** Keep dexmethylphenidate hydrochloride tablets in a safe place to protect it from theft. Never give your dexmethylphenidate hydrochloride tablets to anyone else because it may cause death or harm them. Selling or giving away dexmethylphenidate hydrochloride tablets may harm others and is against the law.

**Who should not take dexmethylphenidate hydrochloride tablets?**

**Dexmethylphenidate hydrochloride tablets should not be taken if you or your child:**

- are allergic to methylphenidate hydrochloride, or any of the ingredients in dexmethylphenidate hydrochloride tablets. See the end of this Medication Guide for a complete list of ingredients in dexmethylphenidate hydrochloride tablets.
- are taking or have taken within the past 14 days an anti-depression medicine called a monoamine oxidase inhibitor (MAOI).

**Dexmethylphenidate hydrochloride tablets may not be right for you or your child. Before starting dexmethylphenidate hydrochloride tablets, tell your or your child's healthcare provider about all health conditions (or a family history of), including:**

- heart problems, heart disease, heart defects, high blood pressure
- mental problems, including psychosis, mania, bipolar illness, or depression
- circulation problems in fingers or toes
- have eye problems, including increased pressure in your eye, glaucoma, or problems with your close-up vision (farsightedness)
- have or had repeated movements or sounds (tics) or Tourette's syndrome, or have a family history of tics or Tourette's syndrome.
- if you are pregnant or plan to become pregnant. It is not known if dexmethylphenidate hydrochloride tablets will harm your unborn baby.
- There is a pregnancy registry for females who are exposed to ADHD medications, including dexmethylphenidate hydrochloride tablets during pregnancy. The purpose of the registry is to collect information about the health of females exposed to dexmethylphenidate hydrochloride tablets and their baby. If you or your child becomes pregnant during treatment with dexmethylphenidate hydrochloride tablets, talk to your healthcare provider about registering with the National Pregnancy Registry of ADHD medications at 1-866-961-2388 or visit online at <https://womensmentalhealth.org/adhd-medications/>.
- if you are breastfeeding or plan to breastfeed. Dexmethylphenidate hydrochloride tablets pass into your breast milk. Talk to your healthcare provider about the best way to feed the baby during treatment with dexmethylphenidate hydrochloride tablets.

**Tell your healthcare provider about all of the medicines that you or your child**



**takes, including prescription and over-the-counter medicines, vitamins, and herbal supplements.** Dexmethylphenidate hydrochloride tablets and some medicines may interact with each other and cause serious side effects. Sometimes the doses of other medicines will need to be adjusted while taking dexmethylphenidate hydrochloride tablets.

Your healthcare provider will decide whether dexmethylphenidate hydrochloride tablets can be taken with other medicines.

**Especially tell your healthcare provider if you or your child takes:**

- blood pressure medicines (anti-hypertensive)

Know the medicines that you or your child takes. Keep a list of your medicines with you to show your healthcare provider and pharmacist.

- You should not take dexmethylphenidate hydrochloride tablets on the day of your operation if a certain type of anesthetic is used. This is because there is a chance of a sudden rise in blood pressure and heart rate during the operation.

**Do not start any new medicine while taking dexmethylphenidate hydrochloride tablets without talking to your healthcare provider first.**

**How should dexmethylphenidate hydrochloride tablets be taken?**

- Take dexmethylphenidate hydrochloride tablets exactly as prescribed. Your healthcare provider may adjust the dose until it is right for you or your child.
- Take dexmethylphenidate hydrochloride tablets twice daily, at least 4 hours apart.
- Dexmethylphenidate hydrochloride tablets may be taken with or without food.
- Your healthcare provider may do regular checks of the blood, heart, and blood pressure while taking dexmethylphenidate hydrochloride tablets.
- Children should have their height and weight checked often while taking dexmethylphenidate hydrochloride tablets. Dexmethylphenidate hydrochloride tablets treatment may be stopped if a problem is found during these check-ups.

If you or your child take too much dexmethylphenidate hydrochloride tablets, call your healthcare provider or Poison Help line at 1-800-222-1222 or go to the nearest hospital emergency room right away.

**What are the possible side effects of dexmethylphenidate hydrochloride tablets?**

**Dexmethylphenidate hydrochloride tablets may cause serious side effects, including:**

- see **“What is the most important information I should know about dexmethylphenidate hydrochloride tablets?”** for information on reported heart and mental problems.
- **painful and prolonged erections (priapism)** have occurred with methylphenidate. If you or your child develops priapism, seek medical help right away. Because of the potential for lasting damage, priapism should be evaluated by a healthcare provider immediately.
- **circulation problems in fingers and toes** (peripheral vasculopathy, including Raynaud’s phenomenon):
  - fingers or toes may feel numb, cool, painful
  - fingers or toes may change color from pale, to blue, to red

Tell your healthcare provider if you or your child have, numbness, pain, skin color change, or sensitivity to temperature in the fingers or toes.

- **Call your healthcare provider right away if you have or your child has any signs of unexplained wounds appearing on fingers or toes while taking dexamethylphenidate hydrochloride tablets.**
- **Slowing of growth (height and weight) in children.** Children should have their height and weight checked often during treatment with dexamethylphenidate hydrochloride tablets. Dexamethylphenidate hydrochloride tablets treatment may be stopped if your child is not growing or gaining weight.
- **Eye problems (increased pressure in the eye and glaucoma).** Call your healthcare provider right away if you or your child develop changes in your vision or eye pain, swelling, or redness.
- **New or worsening tics or worsening Tourette's syndrome.** Tell your healthcare provider if you or your child get any new or worsening tics or worsening Tourette's syndrome during treatment with dexamethylphenidate hydrochloride tablets.

**Common side effects include:**

- abdominal pain · fever · anorexia · nausea

Call your doctor for medical advice about side effects. **You may report side effects to FDA at 1-800-FDA-1088.**

**How should I store dexamethylphenidate hydrochloride tablets?**

- Store dexamethylphenidate hydrochloride tablets in a safe place and in a tightly closed container at room temperature between 68°F to 77°F (20°C to 25°C).
- Protect from light and moisture.
- Dispose of remaining, unused, or expired dexamethylphenidate hydrochloride tablets by a medicine take-back program at a U.S. Drug Enforcement Administration (DEA) authorized collection site. If no take-back program or DEA authorized collector is available, mix dexamethylphenidate hydrochloride tablets with an undesirable, nontoxic substance, such as dirt, cat litter, or used coffee grounds to make it less appealing to children and pets. Place the mixture in a container, such as a sealed plastic bag and throw away dexamethylphenidate hydrochloride tablets in the household trash. Visit [www.fda.gov/drugdisposal](http://www.fda.gov/drugdisposal) for additional information on disposal of unused medicines.
- **Keep dexamethylphenidate hydrochloride tablets and all medicines out of the reach of children.**

**General information about the safe and effective use of dexamethylphenidate hydrochloride tablets.**

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. You can ask your pharmacist or healthcare provider for information about dexamethylphenidate hydrochloride tablets that is written for healthcare professionals. Do not use dexamethylphenidate hydrochloride tablets for a condition for which it was not prescribed. Do not give dexamethylphenidate hydrochloride tablets to other people, even if they have the same symptoms that you have. It may harm them and it is against the law.

**What are the ingredients in dexamethylphenidate hydrochloride tablets?**

**Active ingredient:** dexamethylphenidate hydrochloride


**Inactive ingredients:** lactose monohydrate, silicified microcrystalline cellulose, sodium lauryl sulfate, magnesium stearate, and D&C Yellow #10 aluminum lake (5 mg tablets), FD&C Blue #2 aluminum lake (10 mg tablets)

Manufactured and Distributed by:  
 Neolpharma, Inc.  
 Caguas, Puerto Rico 00725, USA  
 For more information, call 1-844-200-4163.  
 MG12204

This Medication Guide has been approved by the U.S. Food and Drug Administration  
 Revised: 02/2024

Each tablet contains 5 mg  
 Dexmethylphenidate Hydrochloride  
 Usual Dosage: See package insert.  
 Store at 20°C to 25°C (68°F to 77°F);  
 excursions permitted between 15°C and 30°C  
 (59°F and 86°F) [see USP Controlled Room  
 Temperature]. Protect from light and moisture.  
 Dispense in a light, light-resistant container  
 (USP). Store this and all drugs out of the reach  
 of children.  
 Manufactured and Distributed by:  
 Neolpharma, Inc.  
 Caguas, Puerto Rico,  
 00725, USA  
 LB1221202  
 Revised 02/2024


NDC 55466-122-12

**Dexmethylphenidate  
 Hydrochloride  
 Tablets** 

**5 mg**

100 Tablets Rx only

**PHARMACIST:** Dispense the  
 accompanying Medication  
 Guide to each patient.




GTIN: 00355466122125 PXXXXX

3 5 5 4 6 6 1 2 2 1 2 5

Each tablet contains 10 mg  
 Dexmethylphenidate Hydrochloride  
 Usual Dosage: See package insert.  
 Store at 20°C to 25°C (68°F to 77°F);  
 excursions permitted between 15°C and 30°C  
 (59°F and 86°F) [see USP Controlled Room  
 Temperature]. Protect from light and moisture.  
 Dispense in a light, light-resistant container  
 (USP). Store this and all drugs out of the reach  
 of children.  
 Manufactured and Distributed by:  
 Neolpharma, Inc.  
 Caguas, Puerto Rico,  
 00725, USA  
 LB1231202  
 Revised 02/2024


NDC 55466-123-12

**Dexmethylphenidate  
 Hydrochloride  
 Tablets** 

**10 mg**

100 Tablets Rx only

**PHARMACIST:** Dispense the  
 accompanying Medication  
 Guide to each patient.



GTIN: 00355466123122 PXXXXX

3 5 5 4 6 6 1 2 3 1 2 2

## DEXMETHYLPHENIDATE HYDROCHLORIDE

dexmethylphenidate hydrochloride tablet

### Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:55466-122
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CII

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>DEXMETHYLPHENIDATE HYDROCHLORIDE</b> (UNII: 1678OK0E08) (DEXMETHYLPHENIDATE - UNII: M32RH9MFGP)	DEXMETHYLPHENIDATE HYDROCHLORIDE	5 mg

### Inactive Ingredients

Ingredient Name	Strength
<b>LACTOSE MONOHYDRATE</b> (UNII: EWQ57Q8I5X)	
<b>D&amp;C YELLOW NO. 10</b> (UNII: 35SW5USQ3G)	
<b>SODIUM LAURYL SULFATE</b> (UNII: 368GB5141J)	

MAGNESIUM STEARATE (UNII: 70097M6I30)  
MICROCRYSTALLINE CELLULOSE (UNII: OP1R32D61U)

### Product Characteristics

Color	yellow	Score	no score
Shape	ROUND	Size	7mm
Flavor		Imprint Code	NP045;5
Contains			

### Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:55466-122-12	100 in 1 BOTTLE; Type 0: Not a Combination Product	03/29/2024	

### Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA209211	03/29/2024	

## DEXMETHYLPHENIDATE HYDROCHLORIDE

dexmethylphenidate hydrochloride tablet

### Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:55466-123
Route of Administration	ORAL	DEA Schedule	CII

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
DEXMETHYLPHENIDATE HYDROCHLORIDE (UNII: 1678OK0E08) (DEXMETHYLPHENIDATE - UNII:M32RH9MFGP)	DEXMETHYLPHENIDATE HYDROCHLORIDE	10 mg

### Inactive Ingredients

Ingredient Name	Strength
SODIUM LAURYL SULFATE (UNII: 368GB5141J)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	
MICROCRYSTALLINE CELLULOSE (UNII: OP1R32D61U)	
LACTOSE MONOHYDRATE (UNII: EWQ57Q8I5X)	
FD&C BLUE NO. 2 (UNII: L06K8R7DQK)	

## Product Characteristics

<b>Color</b>	blue	<b>Score</b>	no score
<b>Shape</b>	ROUND	<b>Size</b>	8mm
<b>Flavor</b>		<b>Imprint Code</b>	NP046;10
<b>Contains</b>			

## Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:55466-123-12	100 in 1 BOTTLE; Type 0: Not a Combination Product	03/29/2024	

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA209211	03/29/2024	

**Labeler** - Neolpharma, Inc. (078709787)

**Registrant** - Neolpharma, Inc. (078709787)

## Establishment

Name	Address	ID/FEI	Business Operations
Neolpharma, Inc.		078709787	manufacture(55466-122, 55466-123) , analysis(55466-122, 55466-123) , pack(55466-122, 55466-123) , label(55466-122, 55466-123)

Revised: 3/2024

Neolpharma, Inc.