

# METHYLPHENIDATE HYDROCHLORIDE- methylphenidate hydrochloride capsule, extended release

## Rhodes Pharmaceuticals

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### HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use Methylphenidate Hydrochloride Extended-Release Capsules safely and effectively. See full prescribing information for Methylphenidate Hydrochloride Extended-Release Capsules

Methylphenidate Hydrochloride Extended-Release Capsules, for oral use, CII  
Initial U.S. Approval: 1955

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

*See full prescribing information for complete boxed warning.*

Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules, can result in overdose and death (5.1, 9.2, 10):

- Before prescribing methylphenidate hydrochloride extended-release capsules, 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 treatment, reassess each patient's risk and frequently monitor for signs and symptoms of abuse, misuses, and addiction.

#### RECENT MAJOR CHANGES

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Boxed Warning	10/2023
Dosage and Administration (2.1, 2.3, 2.4)	10/2023
Warnings and Precautions (5.1, 5.2, 5.7, 5.8, 5.9, 5.10)	10/2023

#### INDICATIONS AND USAGE

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Methylphenidate hydrochloride extended-release capsules are a central nervous system (CNS) stimulant indicated for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) in patients 6 years and older. (1)

##### Limitations of Use:

Pediatric patients younger than 6 years of age experienced higher plasma exposure than patients 6 years and older at the same dose and high rates of adverse reactions, most notably weight loss. (8.4)

#### DOSAGE AND ADMINISTRATION

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- Recommended starting dose for patients 6 years and older: 10 mg once daily with or without food in the morning. Dosage may be increased weekly in increments of 10 mg per day. Daily dosage above 60 mg is not recommended. (2.1)
- Capsules may be swallowed whole or opened and the entire contents sprinkled onto applesauce. (2.1)

#### DOSAGE FORMS AND STRENGTHS

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Extended-release capsules: 10 mg, 15 mg, 20 mg, 30 mg, 40 mg, 50 mg, and 60 mg of methylphenidate hydrochloride, which is equivalent to 8.6 mg, 13.0 mg, 17.3 mg, 25.9 mg, 34.6 mg, 43.2 mg, and 51.9 mg of methylphenidate free base, respectively, per capsule. (3)

#### CONTRAINDICATIONS

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

#### WARNINGS AND PRECAUTIONS

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- *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 methylphenidate hydrochloride extended-release capsules, screen patients for risk factors for developing a manic episode. If new psychotic or manic symptoms occur, consider discontinuing methylphenidate hydrochloride extended-release capsules. (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 methylphenidate hydrochloride extended-release capsules 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:* Methylphenidate hydrochloride extended-release capsules-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 methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules, 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)

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#### ADVERSE REACTIONS

The most common adverse reactions in double-blind clinical trials (> 5% and twice the rate of placebo) in pediatric patients 6 to 17 years were abdominal pain, decreased appetite, headache and insomnia. (6.1)

**To report SUSPECTED ADVERSE REACTIONS, contact Rhodes Pharmaceuticals at (1-888-827-0616); or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch)**

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#### DRUG INTERACTIONS

Antihypertensive Drugs: Monitor blood pressure. Adjust dosage of antihypertensive drug as needed (7).

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

**Revised: 10/2023**

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## FULL PRESCRIBING INFORMATION: CONTENTS\*

### WARNING: ABUSE, MISUSE, AND ADDICTION

#### 1 INDICATIONS AND USAGE

#### 2 DOSAGE AND ADMINISTRATION

2.1 Pretreatment Screening

2.2 Recommended Dosage

2.3 Administration Instructions

2.4 Dosage 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 in Pediatric Patients
- 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 Post-Marketing Experience

## **7 DRUG INTERACTIONS**

- 7.1 Clinically Important Interactions with Methylphenidate Hydrochloride Extended-Release Capsules

## **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**

## **11 DESCRIPTION**

## **12 CLINICAL PHARMACOLOGY**

- 12.1 Mechanism of Action
- 12.2 Pharmacodynamics
- 12.3 Pharmacokinetics

## **13 NONCLINICAL TOXICOLOGY**

- 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

## **14 CLINICAL STUDIES**

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

## **17 PATIENT COUNSELING INFORMATION**

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

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## **FULL PRESCRIBING INFORMATION**

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

**Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules 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**

Methylphenidate hydrochloride extended-release capsules are indicated for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) in patients 6 years and older [see *Clinical Studies (14)*].

### Limitations of Use

Pediatric patients younger than 6 years of age experienced higher plasma exposure than patients 6 years and older at the same dose and high rates of adverse reactions, most notably weight loss [see *Use in Specific Populations (8.4)*].

## **2 DOSAGE AND ADMINISTRATION**

### **2.1 Pretreatment Screening**

Prior to treating patients with methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules [see *Warnings and Precautions (5.10)*].

### **2.2 Recommended Dosage**

The recommended starting dose of methylphenidate hydrochloride extended-release capsules in patients 6 years and older is 10 mg once daily orally in the morning with or without food. Advise patients to establish a routine pattern with regard to meals. The

dose should be individualized according to the needs and response of the patient.

The dose may be titrated weekly in increments of 10 mg. Daily doses above 60 mg have not been studied and are not recommended.

### 2.3 Administration Instructions

Methylphenidate hydrochloride extended-release capsules may be taken whole or the capsule may be opened and the entire contents sprinkled onto applesauce. If the patient is using the sprinkled administration method, the sprinkled applesauce should be consumed immediately; it should not be stored. Patients should take the applesauce with sprinkled beads in its entirety without chewing. The dose of a single capsule should not be divided. The contents of the entire capsule should be taken, and patients should not take anything less than one capsule per day.

### 2.4 Dosage Reduction and Discontinuation

If paradoxical aggravation of symptoms or other adverse reactions occur; the dosage should be reduced, or, if necessary, discontinue methylphenidate hydrochloride extended-release capsules.

If improvement is not observed after appropriate dosage adjustment over a one-month period, discontinue methylphenidate hydrochloride extended-release capsules.

## 3 DOSAGE FORMS AND STRENGTHS

- **10 mg Extended-Release Capsules** - Hard Gelatin Capsules, white opaque body & light turquoise blue opaque cap containing white spherical beads. Body Imprinting: 910. Cap imprinting: RP
- **15 mg Extended-Release Capsules** - Hard Gelatin Capsules, white opaque body and orange cap containing white spherical beads. Body imprinting: 915. Cap imprinting: RP
- **20 mg Extended-Release Capsules** Hard Gelatin Capsules, white opaque body and yellow opaque cap containing white spherical beads. Body imprinting: 920. Cap imprinting: RP
- **30 mg Extended-Release Capsules** Hard Gelatin Capsules, white opaque body and blue violet cap containing white spherical beads. Body imprinting: 930. Cap imprinting: RP
- **40 mg Extended-Release Capsules** - Hard Gelatin Capsules, white opaque body and pink opaque cap containing white spherical beads. Body imprinting: 940. Cap imprinting: RP
- **50 mg Extended-Release Capsules** - Hard Gelatin Capsules, white opaque body and green opaque cap containing white spherical beads. Body imprinting: 950. Cap Imprinting: RP
- **60 mg Extended-Release Capsules** Hard Gelatin Capsules, white opaque body and gray opaque cap containing white spherical beads. Body imprinting: 960. Cap imprinting: RP

## 4 CONTRAINDICATIONS

- Hypersensitivity to methylphenidate or other components of the product. Hypersensitivity reactions such as angioedema and anaphylactic reactions have been

reported in patients treated with methylphenidate products [see *Adverse Reactions (6.1)*].

- Concomitant treatment with monoamine oxidase inhibitors, and also within 14 days following discontinuation of treatment with a monoamine oxidase inhibitor, because of the risk of hypertensive crisis [see *Drug Interactions (7.1)*].

## **5 WARNINGS AND PRECAUTIONS**

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

Methylphenidate hydrochloride extended-release capsules have a high potential for abuse and misuse. The use of methylphenidate hydrochloride extended-release capsules expose individuals to the risks of abuse and misuse, which can lead to the development of a substance use disorder, including addiction. Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules in a safe place, preferably locked, and instruct patients to not give methylphenidate hydrochloride extended-release capsules to anyone else. Throughout methylphenidate hydrochloride extended-release capsules 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 or other serious cardiac disease who were treated with CNS stimulants at the recommended ADHD dosage.

Avoid methylphenidate hydrochloride extended-release capsules use in patients with known structural cardiac abnormalities, cardiomyopathy, serious heart 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 bpm). Some patients may have larger increases.

Monitor all methylphenidate hydrochloride extended-release capsules-treated patients for hypertension and tachycardia.

### **5.4 Psychiatric Adverse Reactions**

#### Exacerbation of Pre-Existing Psychosis

CNS stimulants may exacerbate symptoms of behavior disturbance and thought

disorder in patients with a pre-existing psychotic disorder.

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

CNS stimulants may induce a manic or mixed episode in patients. Prior to initiating methylphenidate hydrochloride extended-release capsules 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% of placebo-treated patients. If such symptoms occur, consider discontinuing methylphenidate hydrochloride extended-release capsules.

## **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).

Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules treatment. Further clinical evaluation (e.g., rheumatology referral) may be appropriate for methylphenidate hydrochloride extended-release capsules-treated patients who develop signs or symptoms of peripheral vasculopathy.

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

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

Careful follow-up of weight and height in pediatric 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 pediatric 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 methylphenidate hydrochloride extended-release capsules-treated pediatric patients. Pediatric patients who are not growing or gaining height or weight as expected may need to have their treatment interrupted. Methylphenidate hydrochloride extended-release capsules are not approved for use in pediatric patients below 6 years of age [see *Use in Specific Populations (8.4)*].

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

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

Although the mechanism is not clear, methylphenidate hydrochloride extended-release capsules-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 methylphenidate hydrochloride extended-release capsules to patients with open-angle glaucoma or abnormally increased IOP only if the benefit of treatment is considered to outweigh the risk. Closely monitor methylphenidate hydrochloride extended-release capsules-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 methylphenidate hydrochloride extended-release capsules, assess the family history and clinically evaluate patients for tics or Tourette's syndrome. Regularly monitor methylphenidate hydrochloride extended-release capsules-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), and Drug Abuse and Dependence (9.2, 9.3)*]
- Hypersensitivity to Methylphenidate [see *Contraindications (4)*]
- Hypertensive Crisis with Concomitant Use of Monoamine Oxidase Inhibitors [see *Contraindications (4) and 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 Other Methylphenidate Products in Children, Adolescents, and Adults with ADHD

Commonly reported ( $\geq 2\%$  of the methylphenidate group and at least twice the rate of the placebo group) adverse reactions from placebo-controlled trials of methylphenidate products include: decreased appetite, decreased weight, nausea, abdominal pain, dyspepsia, dry mouth, vomiting, insomnia, anxiety, nervousness, restlessness, affect lability, agitation, irritability, dizziness, vertigo, tremor, blurred vision, increased blood pressure, increased heart rate, tachycardia, palpitations, hyperhidrosis, and pyrexia.

### Adverse Reactions in Studies with Methylphenidate Hydrochloride Extended-Release Capsules in Pediatric Patients with ADHD

The safety data in this section is based on data from two one-week controlled clinical studies of methylphenidate hydrochloride extended-release capsules in pediatric patients with ADHD, one in children ages 6 to 12 years (RP-BP-EF001, hereafter "Study 1"), and one in children and adolescents ages 6 to 17 years (RP-BP-EF002, hereafter "Study 2").

Two methylphenidate hydrochloride extended-release capsules clinical studies evaluated a total of 256 patients with ADHD. Two hundred and forty-three (243) patients participated in the double-blind phase of these two clinical studies.

Study 1 was a randomized, double-blind, single center, placebo-controlled, flexible-dose, cross-over study to evaluate the time of onset, duration of efficacy, tolerability and safety of methylphenidate hydrochloride extended-release capsules 15 mg, 20 mg, 30 mg, or 40 mg administered for one week in 26 pediatric patients aged 6 to 12 years who met DSM-IV criteria for ADHD [see *Clinical Studies (14)*].

*Most Common Adverse Reactions* (incidence of  $\geq 5\%$  and at a rate at least twice placebo): abdominal pain, pyrexia and headache.

*Adverse Reactions Leading to Discontinuation:* No subjects discontinued due to adverse reactions during the double-blind phase of this study.

Study 2 was a randomized, double-blind, multicenter, placebo-controlled, parallel group,

fixed-dose study of 10 mg, 15 mg, 20 mg, and 40 mg of methylphenidate hydrochloride extended-release capsules administered for one week in 221 pediatric patients (6 to 17 years of age) who met DSM-IV criteria for ADHD [see *Clinical Studies (14)*].

*Most Common Adverse Reactions* (incidence of  $\geq 5\%$  and at a rate of at least twice placebo): abdominal pain, decreased appetite, headache and insomnia.

*Adverse Reactions Leading to Discontinuation:* Two patients (4.4%) in the methylphenidate hydrochloride extended-release capsules 40 mg group discontinued due to insomnia, nausea and rapid heart rate, respectively during the double-blind phase of the study.

**Table 1: Common Adverse Reactions Occurring in  $\geq 2\%$  of Pediatric Patients (6 to 17 years of age) with ADHD Taking Methylphenidate Hydrochloride Extended-Release Capsules and at a Rate Greater than Placebo (Study 2)**

<b>System Organ Class Adverse Reaction</b>	<b>Methylphenidate Hydrochloride Extended-Release Capsules (n=183)</b>	<b>Placebo (n=47)</b>
<b>Nervous System Disorders</b>		
Headache	10.9%	8.5%
Insomnia	9.8%	2.1%
Dizziness	2.2%	2.1%
<b>Gastrointestinal Disorders</b>		
Abdominal pain upper	8.2%	0%
Nausea	3.8%	2.1%
Vomiting	3.8%	0%
<b>Metabolism and Nutritional</b>		
Decreased Appetite	4.9%	0%

## 6.2 Post-Marketing Experience

The following adverse reactions have been identified during post approval use of methylphenidate products. Because these reactions are reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency or establish a causal relationship to drug exposure. These adverse reactions are as follows:

*Blood and Lymphatic System Disorders:* Pancytopenia, Thrombocytopenia, Thrombocytopenic purpura

*Cardiac Disorders:* Angina pectoris, Bradycardia, Extrasystole, Supraventricular tachycardia, Ventricular extrasystole

*Eye Disorders:* Diplopia, Increased intraocular pressure, Mydriasis, Visual impairment

*General Disorders:* Chest pain, Chest discomfort, Hyperpyrexia

*Immune System Disorders:* Hypersensitivity reactions such as Angioedema, Anaphylactic reactions, Auricular swelling, Bullous conditions, Exfoliative conditions, Urticarias, Pruritus NEC, Rashes, Eruptions, and Exanthems NEC

*Investigations:* Alkaline phosphatase increased, Bilirubin increased, Hepatic enzyme increased, Platelet count decreased, White blood cell count abnormal, severe hepatic injury

*Musculoskeletal, Connective Tissue and Bone Disorders:* Arthralgia, Myalgia, Muscle twitching, Rhabdomyolysis

*Nervous System:* Convulsion, Grand mal convulsion, Dyskinesia, serotonin syndrome in combination with serotonergic drugs, Motor and Verbal Tics

*Psychiatric Disorders:* Disorientation, Libido changes

*Skin and Subcutaneous Tissue Disorders:* Alopecia, Erythema

## **7 DRUG INTERACTIONS**

### **7.1 Clinically Important Interactions with Methylphenidate Hydrochloride Extended-Release Capsules**

#### Monoamine Oxidase Inhibitors (MAOIs)

Do not administer methylphenidate hydrochloride extended-release capsules concomitantly or within 14 days after discontinuing MAOI treatment. Concomitant use of MAOIs and CNS stimulants can cause hypertensive crisis. Potential outcomes include death, stroke, myocardial infarction, aortic dissection, ophthalmological complications, eclampsia, pulmonary edema, and renal failure [see *Contraindications (4)*].

#### Antihypertensive Drugs

Methylphenidate hydrochloride extended-release capsules may decrease the effectiveness of drugs used to treat hypertension. Monitor blood pressure and adjust the dosage of the antihypertensive drug as needed [see *Warnings and Precautions (5.3)*].

#### Halogenated Anesthetics

Concomitant use of halogenated anesthetics and methylphenidate hydrochloride extended-release capsules may increase the risk of sudden blood pressure and heart rate increase during surgery. Avoid use of methylphenidate hydrochloride extended-release capsules in patients being treated with anesthetics on the day of surgery.

#### Risperidone

Combined use of methylphenidate with risperidone when there is a change, whether an increase or decrease, in dosage of either or both medications, may increase the risk of extrapyramidal symptoms (EPS). 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 methylphenidate hydrochloride extended-release capsules during pregnancy. Healthcare providers are encouraged to register patients by calling the National Pregnancy Registry for Psychostimulants at 1-866-961-2388.

#### Risk Summary

Limited published studies report on the use of methylphenidate in pregnant women; however, the data are insufficient to inform any drug-associated risks. No effects on morphological development were observed in embryo-fetal development studies with oral administration of methylphenidate to pregnant rats and rabbits during organogenesis at doses up to 10 and 15 times, respectively, the maximum recommended human dose (MRHD) of 60 mg/day given to adolescents on a mg/m<sup>2</sup> basis. However, spina bifida was observed in rabbits at a dose 52 times the MRHD given to adolescents. A decrease in pup body weight was observed in a pre- and post-natal development study with oral administration of methylphenidate to rats throughout pregnancy and lactation at the highest dose of 60 mg/kg/day (6 times the MRHD given to adolescents) [see Data]. The background risk of major birth defects and miscarriage for the indicated population are unknown. However, the background risk in the U.S. general population of major birth defects is 2% to 4% and of miscarriage is 15% to 20% of clinically recognized pregnancies.

#### Clinical Considerations

##### *Fetal/Neonatal adverse reactions*

CNS stimulants, such as methylphenidate hydrochloride extended-release capsules, 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, methylphenidate was administered orally at doses of up to 75 and 200 mg/kg/day, respectively, during the period of organogenesis. Malformations (increased incidence of fetal spina bifida) were observed in rabbits at the highest dose, which is approximately 52 times the maximum recommended human dose (MRHD) of 60 mg/day given to adolescents on a mg/m<sup>2</sup> basis. The no effect level for embryo-fetal development in rabbits was 60 mg/kg/day (15 times the MRHD given to adolescents on a mg/m<sup>2</sup> basis). There was no evidence of morphological development effects in rats, although increased incidences of fetal skeletal variations were seen at the highest dose level (10 times the MRHD of 60 mg/day given to adolescents on a mg/m<sup>2</sup> basis), which was also maternally toxic. The no effect level for embryo-fetal development in rats was 25 mg/kg/day (2 times the MRHD

on a mg/m<sup>2</sup> basis). When methylphenidate was administered to rats throughout pregnancy and lactation at doses of up to 45 mg/kg/day, offspring body weight gain was decreased at the highest dose (6 times the MRHD of 60 mg/day given to adolescents on a mg/m<sup>2</sup> basis), but no other effects on postnatal development were observed. The no effect level for pre- and postnatal development in rats was 15 mg/kg/day (1.5 times the MRHD given to adolescents on a mg/m<sup>2</sup> basis).

## **8.2 Lactation**

### Risk Summary

Limited published literature, based on breast milk sampling from five 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. However, 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 methylphenidate hydrochloride extended-release capsules and any potential adverse effects on the breastfed infant from methylphenidate hydrochloride extended-release capsules or from the underlying maternal condition.

### Clinical Considerations

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

## **8.4 Pediatric Use**

The safety and effectiveness of methylphenidate hydrochloride extended-release capsules in pediatric patients under 6 years have not been established.

Safety and efficacy of methylphenidate hydrochloride extended-release capsules were evaluated in a multicenter, placebo-controlled, double-blind, parallel group study in 119 children 4 to <6 years of age with ADHD followed by a 12-month open-label extension in 44 of these children. In these studies, patients experienced high rates of adverse reactions, most notably weight loss. Comparing weights prior to initiation of methylphenidate hydrochloride extended-release capsules (in the safety and efficacy study) to weights after 12 months of treatment (in the open-label extension), 20 of 39 patients with data (50%) had lost enough weight to decrease 10 or more percentiles on a Centers for Disease Control growth chart for weight. In addition, systemic drug exposures in patients 4 to <6 years of age were higher than those observed in older children and adolescents at the same dose (2 to 3 fold higher C<sub>max</sub> and AUC). Therefore, the benefits of methylphenidate hydrochloride extended-release capsules do not outweigh the risks in pediatric patients 4 to <6 years of age.

The safety and effectiveness of methylphenidate hydrochloride extended-release capsules have been established in pediatric patients ages 6 to 17 years in two adequate and well-controlled clinical trials [see *Clinical Studies (14)*]. The long-term efficacy of methylphenidate in pediatric patients has not been established.

### Long Term Suppression of Growth

Growth should be monitored during treatment with stimulants, including

methylphenidate hydrochloride extended-release capsules. 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 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 maximum recommended human dose (MRHD) of 60 mg/day given to children on a mg/m<sup>2</sup> basis.

In the study conducted in young rats, 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 13-14), decreased spontaneous locomotor activity was observed in males and females previously treated with 50 mg/kg/day (approximately 6 times the MRHD of 60 mg/day 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 observed 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**

Clinical trials of methylphenidate hydrochloride extended-release capsules did not include any patients aged 65 years and over. In general, dose selection for an elderly patient start at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function and of concomitant disease or other drug therapy.

## **9 DRUG ABUSE AND DEPENDENCE**

### **9.1 Controlled Substance**

Methylphenidate hydrochloride extended-release capsules contains methylphenidate a Schedule II controlled substance.

### **9.2 Abuse**

Methylphenidate hydrochloride extended-release capsules 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)*]. Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules, 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

Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules include dysphoric mood; depression; fatigue; vivid, unpleasant dreams; insomnia or hypersomnia; increased appetite; and psychomotor retardation or agitation.

#### Tolerance

Methylphenidate hydrochloride extended-release capsules 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.

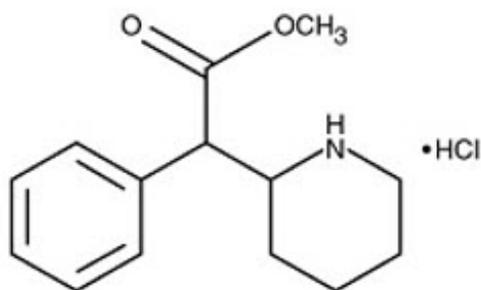
### Overdose Management

Consider the possibility of multiple drug ingestion. The pharmacokinetic profile of methylphenidate hydrochloride extended-release capsules should be considered when treating patients with overdose. 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

Methylphenidate hydrochloride extended-release capsules contain methylphenidate hydrochloride, a central nervous system (CNS) stimulant. Methylphenidate hydrochloride extended-release capsules contain multi layered beads, which are composed of an immediate-release layer which contains approximately 40% of the methylphenidate dose, and a controlled release layer which contains approximately 60% of the methylphenidate dose. Methylphenidate hydrochloride extended-release capsules are available in seven capsule strengths. Each extended-release capsule for once-a-day oral administration contains 10 mg, 15 mg, 20 mg, 30 mg, 40 mg, 50 mg, or 60 mg of methylphenidate HCl USP, which is equivalent to 8.6 mg, 13.0 mg, 17.3 mg, 25.9 mg, 34.6 mg, 43.2 mg, or 51.9 mg of methylphenidate free base, respectively. Chemically, methylphenidate HCl is *d,l* (racemic) methyl  $\alpha$ -phenyl-2-piperidineacetate hydrochloride. Its molecular formula is  $C_{14}H_{19}NO_2 \cdot HCl$ . Its structural formula is:



Methylphenidate hydrochloride USP is a white to off-white, odorless, fine crystalline powder. Its solutions are acid to litmus. It is freely soluble in water and in methanol, soluble in alcohol, and slightly soluble in chloroform and in acetone. Its molecular weight is 269.77.

**Inactive Ingredients:** ammonio methacrylate copolymer, type B; colloidal silicon dioxide (added if necessary); gelatin; hypromelloses; methacrylic acid copolymer, type C; polyethylene glycol; sugar spheres; talc; titanium oxide; and triethyl citrate.

Each strength capsule also contains colorant ingredients in the capsule shell as follows:

10 mg: FD&C Blue No. 1  
15 mg: D&C Red No. 28, D&C Yellow No. 10, FD&C Red No. 40  
20 mg: D&C Red No. 33, D&C Yellow No. 10  
30 mg: FD&C Blue No. 1, FD&C Red No. 3  
40 mg: D&C Red No. 28, FD&C Blue No. 1, FD&C Red No. 40  
50 mg: D&C Yellow No. 10, FD&C Green No. 3  
60 mg: Black Iron Oxide

## 12 CLINICAL PHARMACOLOGY

## 12.1 Mechanism of Action

Methylphenidate HCl is a central nervous system (CNS) stimulant. The mode of therapeutic action in ADHD is not known.

## 12.2 Pharmacodynamics

Methylphenidate is a racemic mixture comprised of the *d*- and *l*-isomers. The *d*-isomer is more pharmacologically active than the *l*-isomer. Methylphenidate blocks the reuptake of norepinephrine and dopamine into the presynaptic neuron and increase the release of these monoamines into the extraneuronal space.

## 12.3 Pharmacokinetics

### Absorption

Following oral administration of methylphenidate hydrochloride extended-release capsules in adults, plasma methylphenidate concentrations increase rapidly, reaching an initial maximum at about 2 hours, followed by gradual descending concentrations over the next 4 to 6 hours, after which a gradual increase begins, reaching a second peak at approximately 8 hours (Figure 1). The relative bioavailability of methylphenidate hydrochloride extended-release capsules given once daily as compared to a methylphenidate immediate-release oral product given three times daily in adults is comparable. The relative bioavailability is 102%.

The pharmacokinetic profiles and parameters of methylphenidate are similar when methylphenidate hydrochloride extended-release capsules are administered either as a whole capsule or sprinkled onto applesauce in subjects under fasting conditions (see Table 2 and Figure 1).

**Table 2: The Single Dose Pharmacokinetics of d,l-Methylphenidate\* ER Capsule and Sprinkle following an Oral Dose of 80 mg Methylphenidate Hydrochloride Extended-Release Capsules under Fasted Conditions in Healthy Adults**

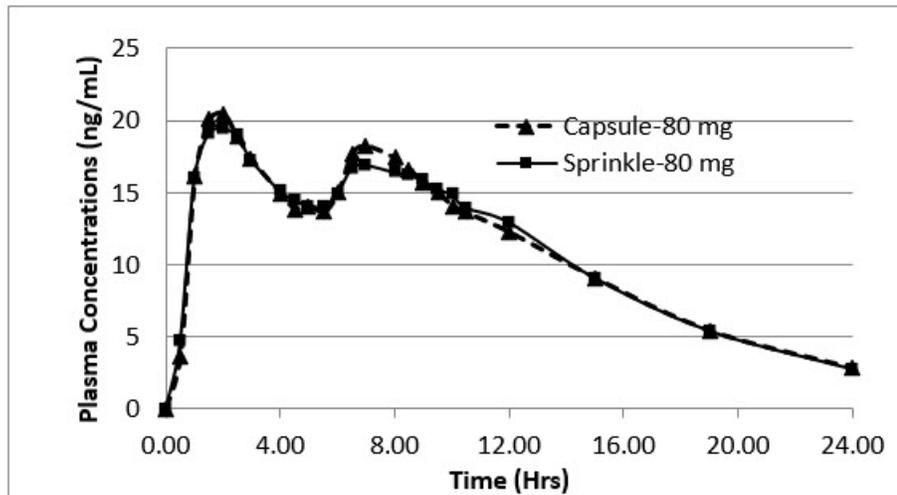
Pharmacokinetic Parameters	Capsule	Sprinkle
$C_{max}^{\dagger}$ (ng/mL)	23.47 ± 11.4	21.78 ± 9.5
$AUC_{(0-t)}^{\dagger}$ (ng.hr/mL)	262.7 ± 135	262.9 ± 128
$AUC_{(0-inf)}^{\dagger}$ (ng.hr/mL)	258.1 ± 94.2	258.0 ± 84.4
$T_{max}$ (hr) ‡	2.0	2.0
Half-life (hr)	5.09	5.43
Relative bioavailability	102%	101%

\* *d,l* (racemic) methylphenidate HCl

†  $C_{max}$ ,  $AUC_{(0-t)}$ ,  $AUC_{(0-inf)}$  presented as mean ± SD

‡ data presented as median (range)

**Figure 1: Mean d,l-Methylphenidate Plasma Concentration-Time Profiles following 80 mg Administered as Capsule and Sprinkle Dose in Healthy Adults**



### Metabolism and Excretion

In humans, methylphenidate is metabolized primarily via deesterification to alpha-phenyl-piperidine acetic acid (PPAA). The metabolite has little or no pharmacologic activity.

After oral dosing of radiolabeled methylphenidate in humans, about 90% of the radioactivity was recovered in urine. The main urinary metabolite was PPAA, accounting for approximately 80% of the dose.

### Food Effects

Administration of methylphenidate hydrochloride extended-release capsules with high fat meal showed a decreased or diminished second peak. A high-fat meal also increased the average  $C_{max}$  of methylphenidate by about 28% and the AUC by about 19%. In the clinical trials of methylphenidate hydrochloride extended-release capsules, it was administered without regard to meals.

### Alcohol Effect

At an alcohol concentration up to 40%, there was 96% release of methylphenidate from methylphenidate hydrochloride extended-release capsules 80 mg within two hours. The results with the 80 mg capsule are considered to be representative of the other available capsules strengths.

### Studies in Specific Populations

#### *Gender*

There is insufficient experience with the use of methylphenidate hydrochloride extended-release capsules to detect gender variations in pharmacokinetics.

#### *Race*

There is insufficient experience with the use of methylphenidate hydrochloride extended-release capsules to detect ethnic variations in pharmacokinetics.

## Age

The pharmacokinetics of methylphenidate after methylphenidate hydrochloride extended-release capsules administration was studied in pediatric patients with ADHD between 6 and 12 years of age. Following administration of methylphenidate hydrochloride extended-release capsules, the bi-phasic plasma methylphenidate concentration profile was qualitatively similar in healthy adult volunteers and pediatric patients with ADHD. The bi-phasic profile in both groups is characterized by an early peak due to rapid absorption of the immediate-release component followed by a delayed, secondary peak due to the controlled-release component of methylphenidate hydrochloride extended-release capsules.

## Renal Insufficiency

There is no experience with the use of methylphenidate hydrochloride extended-release capsules in patients with renal insufficiency. After oral administration of radiolabeled methylphenidate in humans, methylphenidate was extensively metabolized and approximately 80% of the radioactivity was excreted in the urine in the form of ritalinic acid metabolite. Since renal clearance is not an important route of methylphenidate clearance, renal insufficiency is expected to have little effect on the pharmacokinetics of methylphenidate hydrochloride extended-release capsules.

## Hepatic Insufficiency

There is no experience with the use of methylphenidate hydrochloride extended-release capsules in patients with hepatic insufficiency.

## 13 NONCLINICAL TOXICOLOGY

### 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

#### Carcinogenesis

In a lifetime carcinogenicity study carried out in B6C3F1 mice, methylphenidate caused an increase in hepatocellular adenomas and, in males only, an increase in hepatoblastomas, at a daily dose of approximately 60 mg/kg/day. This dose is approximately 2 times the maximum recommended human dose (MRHD) of 60 mg/day given to children on a mg/m<sup>2</sup> 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.

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) on a mg/m<sup>2</sup> basis.

#### Mutagenesis

Methylphenidate was not mutagenic in the *in vitro* Ames reverse mutation assay or in the *in vitro* mouse lymphoma cell forward mutation assay. Sister chromatid exchanges and chromosome aberrations were increased, indicative of a weak clastogenic response, in an *in vitro* assay in cultured Chinese Hamster Ovary (CHO) cells. Methylphenidate was negative *in vivo* in males and females in the mouse bone marrow micronucleus assay.

## Impairment of Fertility

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 maximum recommended human dose of 60 mg/day given to adolescents on a mg/m<sup>2</sup> basis.

## **14 CLINICAL STUDIES**

The efficacy of methylphenidate hydrochloride extended-release capsules for the treatment of ADHD was established in a randomized, double-blind, single center, placebo-controlled, flexible-dose, cross-over trial in pediatric patients aged 6 to 12 years and a second randomized, double-blind, multicenter, placebo-controlled, fixed-dose trial in pediatric patients 6 to 17 years.

### **Pediatric Patients**

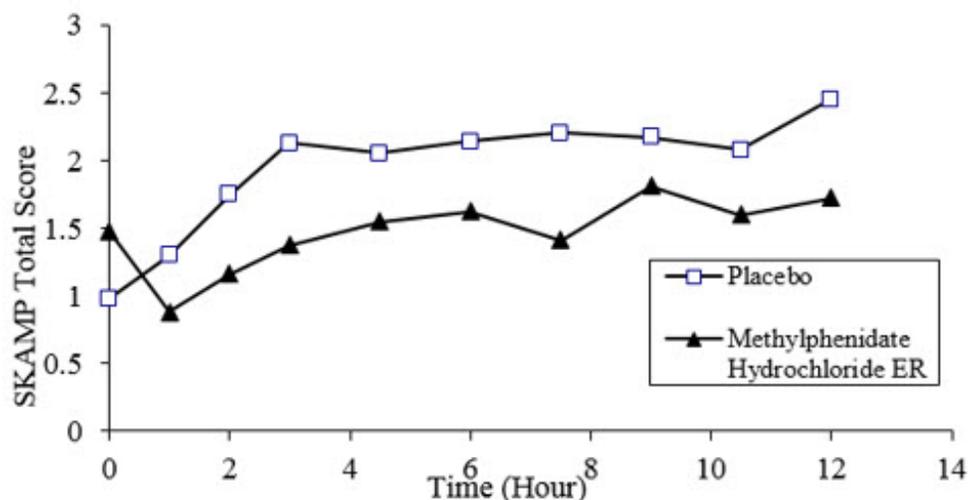
A randomized, double-blind, placebo-controlled, flexible-dose, cross-over, analog classroom study (Study 1) was conducted in pediatric patients ages 6 to 12 years (N=26) who met DSM-IV-TR criteria for ADHD inattentive, hyperactive-impulsive or combined inattentive/hyperactive-impulsive subtypes.

Following a 2 to 4 week open-label dose optimization phase in which patients received flexible-dose methylphenidate hydrochloride extended-release capsules 15 mg, 20 mg, 30 mg, or 40 mg administered once daily in the morning, patients were randomly assigned to methylphenidate hydrochloride extended-release capsules (dose from open-label phase) or placebo. After 1-week of treatment, patients were evaluated over a period of 12 hours. Subsequently, patients were given the opposite treatment for 1-week and returned for the second evaluation. Patients could then enter an open-label extension phase for up to 21 months.

Efficacy assessments were conducted at 1, 2, 3, 4.5, 6, 7.5, 9, 10.5 and 12 hours post-dose using the Swanson, Kotkin, Agler, M. Flynn, and Pelham Total score (SKAMP). The primary efficacy endpoint was the average SKAMP Total Score, comparing methylphenidate hydrochloride extended-release capsules to placebo. SKAMP is a validated 13-item teacher-rated scale that assesses manifestations of ADHD in a classroom setting.

The SKAMP Total Scores were statistically significantly better (lower) for methylphenidate hydrochloride extended-release capsules than for placebo at the test day average and at all time points (1, 2, 3, 4.5, 6, 7.5, 9, 10.5 and 12 hours) post-dosing (see Figure 2).

**Figure 2: Absolute SKAMP- Total Score after treatment with Methylphenidate Hydrochloride Extended-Release Capsules or Placebo (Study 1).**



A randomized, double-blind, multicenter, placebo-controlled, parallel-group, fixed-dose study (Study 2) was conducted in pediatric patients age 6 to 17 years (N=230) who met DSM-IV-TR criteria for ADHD inattentive, hyperactive-impulsive or combined inattentive/hyperactive-impulsive subtypes.

The ADHD-RS-IV is an 18-item questionnaire with a score range of 0 to 54 points that measures the core symptoms of ADHD and includes both hyperactive/impulsive and inattentive subscales.

Patients were randomized to a daily morning dose of methylphenidate hydrochloride extended-release capsules 10 mg, 15 mg, 20 mg, or 40 mg, or placebo for 1 week. An 11-week open label phase followed the double-blind phase. Patients could then enter another open-label phase for up to 21 months.

The primary efficacy endpoint was the mean decrease from baseline to the end of Week 1 in the ADHD-RS-IV Total Score. Each of the four methylphenidate hydrochloride extended-release capsules doses (10 mg, 15 mg, 20 mg, and 40 mg/day) was compared to placebo at the end of week 1. For both the 20 mg/day and the 40 mg/day doses, methylphenidate hydrochloride extended-release capsules was superior to placebo in reduction of the ADHD-RS-IV Total Score, but not for the 10 mg/day or the 15 mg/day doses.

A total of 221 patients completed the 1-week double-blind phase. Among those, 200 (90.5%) completed the 11-week open label phase and 173 (86.5%) patients continued into the 21-month open-label extension phase.

**Table 3: Summary of Parallel-Group Study**

Study Number	Treatment Group	Primary Efficacy Measure: ADHD-RS-IV Total Score		
		Mean Baseline Score (SD)	LS Mean Reduction from Baseline (SE)	Placebo-subtracted Difference* (95% CI)
Study 2 (Pediatric)	Methylphenidate hydrochloride extended-release	37.6 (8.32)	9.1 (1.40)	3.7 (-0.31, 7.66)

(Racemic)	capsules			
	10 mg/day			
	Methylphenidate hydrochloride extended-release capsules	38.0 (8.64)	10.3 (1.59)	4.9 (0.63, 9.07)
	15 mg/day			
	Methylphenidate hydrochloride extended-release capsules	36.2 (8.46)	11.4 (1.49)	6.0 (1.92, 10.02)
	20 mg/day <sup>†</sup>			
	Methylphenidate hydrochloride extended-release capsules	35.6 (9.16)	12.8 (1.49)	7.4 (3.38, 11.45)
	40 mg/day <sup>†</sup>			
	Placebo	33.4 (11.01)	5.4 (1.48)	--

Note: SD: standard deviation; SE: standard error; LS Mean: least-squares mean;

CI: confidence interval, not adjusted for multiple comparisons.

\* Difference (placebo minus drug) in least-squares mean change from baseline. Positive numbers indicate reduction (improvement).

† Doses that are demonstrated to be effective.

## 16 HOW SUPPLIED/STORAGE AND HANDLING

Methylphenidate Hydrochloride Extended-Release Capsules are available as follows:

**10 mg Extended-Release Capsules** - white opaque body & light turquoise blue opaque cap containing white spherical beads. Body Imprinting "910". Cap imprinting "RP"

Bottles of 90

NDC 42858-075-45

**15 mg Extended-Release Capsules** - white opaque body and orange cap containing white spherical beads. Body imprinting "915". Cap imprinting "RP"

Bottles of 90

NDC 42858-076-45

**20 mg Extended-Release Capsules** - white opaque body and yellow opaque cap containing white spherical beads. Body imprinting "920". Cap imprinting "RP"

Bottles of 90

NDC 42858-077-45

**30 mg Extended-Release Capsules** - white opaque body and blue violet cap containing white spherical beads. Body imprinting "930". Cap imprinting "RP"

Bottles of 90

NDC 42858-078-45

**40 mg Extended-Release Capsules** - white opaque body and pink opaque cap containing white spherical beads. Body imprinting "940". Cap imprinting "RP"

Bottles of 90

NDC 42858-079-45

**50 mg Extended-Release Capsules** - white opaque body and green opaque cap containing white spherical beads. Body imprinting "950". Cap Imprinting "RP"

Bottles of 90

NDC 42858-080-45

**60 mg Extended-Release Capsules** - white opaque body and gray opaque cap containing white spherical beads. Body imprinting "960". Cap imprinting "RP"

Bottles of 90

NDC 42858-081-45

## **Storage and Handling**

Methylphenidate Hydrochloride Extended-Release Capsules should be stored at 20°C to 25°C (68°F to 77°F) [see USP Controlled Room Temperature]. Protect from moisture.

Dispense in tight container (USP).

## **17 PATIENT COUNSELING INFORMATION**

Advise patients 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 methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules in a safe place, preferably locked, and instruct patients to not give methylphenidate hydrochloride extended-release capsules to anyone else.

### Dosage and Administration Instructions

Advise patients that methylphenidate hydrochloride extended-release capsules can be taken with or without food and that they should establish a routine pattern of taking methylphenidate hydrochloride extended-release capsules with regard to meals. For patients who take methylphenidate hydrochloride extended-release capsules sprinkled over applesauce, the contents of the entire capsule should be consumed immediately; it should not be stored. Patients should take the applesauce with sprinkled beads in its entirety without chewing. When initiating treatment with methylphenidate hydrochloride extended-release capsules, provide dosage escalation and administration instructions [see *Dosage and Administration (2.2)*].

### Risks to Patients with Serious Cardiac Disease

Advise patients that there are potential risks to patient with serious cardiac disease, including sudden death, with methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules can cause elevations of their blood pressure and pulse rate [see *Warnings and Precautions (5.3)*].

#### Psychiatric Adverse Reactions

Advise patients that methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules 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 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 methylphenidate hydrochloride extended-release capsules. 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 methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules [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 methylphenidate hydrochloride extended-release capsules. 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)*].

#### Alcohol Effect

Advise patients to avoid alcohol while taking methylphenidate hydrochloride extended-release capsules. Consumption of alcohol while taking methylphenidate hydrochloride extended-release capsules may result in a more rapid release of the dose of methylphenidate [see *Clinical Pharmacology (12.3)*].

### Pregnancy Registry

Advise patients that there is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to methylphenidate hydrochloride extended-release capsules during pregnancy [see *Use in Specific Populations (8.1)*].

### **Marketed by:**

Rhodes Pharmaceuticals  
Wilson, NC 27893

### **Manufactured by:**

Patheon Manufacturing Services LLC  
Greenville, North Carolina 27834

This product is covered by US patents including US Patents No. 6,419,960, 7,083,808, 7,247,318, 8,580,310, 9,066,869 and 9,801,823.

305286-0D

## **MEDICATION GUIDE**

### **Methylphenidate (METH-il-FEN-i-date) Hydrochloride Extended-Release Capsules, CII**

**What is the most important information I should know about methylphenidate hydrochloride extended-release capsules?**

**Methylphenidate hydrochloride extended-release capsules may cause serious side effects, including:**

- **Abuse, misuse, and addiction.** Methylphenidate hydrochloride extended-release capsules have a high chance for abuse and misuse and may lead to substance use problems, including addiction. Misuse and abuse of methylphenidate hydrochloride extended-release capsules, 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 methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules and will monitor you or your child during treatment.
  - Methylphenidate hydrochloride extended-release capsules may lead to physical dependence after prolonged use, even if taken as directed by your healthcare provider.
  - Do not give methylphenidate hydrochloride extended-release capsules to anyone else. See "**What is methylphenidate hydrochloride extended-release capsules?**" for more information.
  - Keep methylphenidate hydrochloride extended-release capsules in a safe place and properly dispose of any unused medicine. See "**How should I store methylphenidate hydrochloride extended-release capsules?**" 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 treatment with methylphenidate hydrochloride extended-release capsules. Tell your healthcare provider if you or your child have any heart problems, heart disease, or heart defects. Your healthcare provider should check you or your child's blood pressure and heart rate regularly during treatment with methylphenidate hydrochloride extended-release capsules.  
**Call your healthcare provider or go the nearest hospital emergency room right away if you or your child have any signs of heart problems such as chest pain, shortness of breath, or fainting during treatment with methylphenidate hydrochloride extended-release capsules**
- **Increased blood pressure and heart rate.** Your healthcare provider should check your or your child's blood pressure and heart rate regularly during treatment with methylphenidate hydrochloride extended-release capsules.
- **Mental (psychiatric) problems, including:**
  - new or worse behavior and thought problems
  - new or worse bipolar illness
  - new psychotic symptoms (such as hearing voices, or seeing or believing things that are not real) or new manic symptomsTell 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 during treatment with methylphenidate hydrochloride extended-release capsules, especially hearing voices, seeing or believing things that are not real, or new manic symptoms.**

### **What are methylphenidate hydrochloride extended-release capsules?**

Methylphenidate hydrochloride extended-release capsules are a central nervous system (CNS) stimulant prescription medicine used for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) in people 6 years of age and older. Methylphenidate hydrochloride extended-release capsules may help increase attention and decrease impulsiveness and hyperactivity in people with ADHD.

- **Methylphenidate hydrochloride extended-release capsules are not for use in children under 6 years of age.**

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

**Do not take methylphenidate hydrochloride extended-release capsules if you or your child are:**

- allergic to methylphenidate hydrochloride or any of the ingredients in methylphenidate hydrochloride extended-release capsules. See the end of this Medication Guide for a complete list of ingredients in methylphenidate hydrochloride extended-release capsules.
- taking or have stopped taking within the past 14 days a medicine used to treat depression called a monoamine oxidase inhibitor (MAOI).

**Before taking methylphenidate hydrochloride extended-release capsules tell your healthcare provider about all medical conditions, including if you or your child:**

- have heart problems, heart disease, heart defects, or high blood pressure
- have mental problems including psychosis, mania, bipolar illness, or depression, or have a family history of suicide, bipolar illness, or depression
- have circulation problems in fingers and 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
- are pregnant or plan to become pregnant. It is not known if methylphenidate hydrochloride extended-release capsules will harm your unborn baby.
  - There is a pregnancy registry for females who are exposed to methylphenidate hydrochloride extended-release capsules during pregnancy. The purpose of the registry is to collect information about the health of females exposed to methylphenidate hydrochloride extended-release capsules and their baby. If you or your child becomes pregnant during treatment with methylphenidate hydrochloride extended-release capsules, talk to your healthcare provider about registering with the National Pregnancy Registry for Psychostimulants at 1-866-961-2388.
- are breastfeeding or plan to breastfeed. Methylphenidate hydrochloride extended-release capsules pass into breast milk. Talk to your healthcare provider about the best way to feed the baby during treatment with methylphenidate hydrochloride extended-release capsules.

**Tell your healthcare provider about all the medicines that you or your child take,** including prescription and over-the-counter medicines, vitamins, and herbal supplements.

Methylphenidate hydrochloride extended-release capsules and some medicines may interact with each other and cause serious side effects. Sometimes the doses of other medicines will need to be changed during treatment with methylphenidate hydrochloride extended-release capsules. Your healthcare provider will decide whether methylphenidate hydrochloride extended-release capsules can be taken with other medicines.

**Especially tell your healthcare provider if you or your child take** a medicine used to treat depression called monoamine oxidase inhibitor (MAOI).

Know the medicines that you or your child take. Keep a list of the medicines with you to show your healthcare provider and pharmacist. **Do not start any new medicine during treatment with methylphenidate hydrochloride extended-release**

**capsules without talking to your healthcare provider first.**

### **How should methylphenidate hydrochloride extended-release capsules be taken?**

- Take methylphenidate hydrochloride extended-release capsules exactly as prescribed by your healthcare provider.
- Your healthcare provider may change the dose if needed.
- Take methylphenidate hydrochloride extended-release capsules by mouth 1 time each day in the morning.
- Methylphenidate hydrochloride extended-release capsules can be taken with or without food but take it the same way each time.
- Swallow methylphenidate hydrochloride extended-release capsules whole, or if methylphenidate hydrochloride extended-release capsules cannot be swallowed whole, the capsules may be opened and sprinkled onto a tablespoonful of applesauce. Make sure to sprinkle all the medicine onto the applesauce. The methylphenidate hydrochloride extended-release capsules dose should not be divided.
  - swallow all the applesauce and medicine mixture without chewing right away or within 10 minutes
  - **do not** chew the applesauce and medicine mixture
  - **do not** store applesauce and medicine mixture
- If a dose of methylphenidate hydrochloride extended-release capsules is missed, do not take the dose later in the day or take an extra dose to make up for the missed dose, wait until the next morning to take the next scheduled dose.

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

### **What should be avoided during treatment with methylphenidate hydrochloride extended-release capsules?**

Avoid drinking alcohol during treatment with methylphenidate hydrochloride extended-release capsules. This may cause a faster release of the methylphenidate hydrochloride extended-release capsules medicine.

### **What are possible side effects of methylphenidate hydrochloride extended-release capsules?**

**Methylphenidate hydrochloride extended-release capsules may cause serious side effects, including:**

See "**What is the most important information I should know about methylphenidate hydrochloride extended-release capsules?**"

- **Painful and prolonged erections (priapism).** Priapism has happened in males who take products that contain methylphenidate. **If you or your child develop priapism, get medical help right away.**
- **Circulation problems in fingers and toes (peripheral vasculopathy, including Raynaud's phenomenon).** Signs and symptoms may include:
  - 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 have 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 have any signs of unexplained wounds appearing on fingers or toes during**

## **treatment with methylphenidate hydrochloride extended-release capsules.**

- **Slowing of growth (height and weight) in children.** Children should have their height and weight checked often during treatment with methylphenidate hydrochloride extended-release capsules. Methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules.

**The most common side effects of methylphenidate hydrochloride extended-release capsules in children 6 to 17 years of age include** stomach pain, decreased appetite, headache, trouble sleeping.

These are not all the possible side effects of methylphenidate hydrochloride extended-release capsules.

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

You may also report side effects to Rhodes Pharmaceuticals at 1-888-827-0616.

## **How should I store methylphenidate hydrochloride extended-release capsules?**

- Store methylphenidate hydrochloride extended-release capsules at room temperature between 68°F to 77°F (20°C to 25°C).
- Store methylphenidate hydrochloride extended-release capsules in a safe place, like a locked cabinet. Protect from moisture.
- Dispose of remaining, unused, or expired methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules 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 methylphenidate hydrochloride extended-release capsules in the household trash. Visit [www.fda.gov/drugdisposal](http://www.fda.gov/drugdisposal) for additional information on disposal of unused medicines.

**Keep methylphenidate hydrochloride extended-release capsules and all medicines out of the reach of children.**

## **General information about the safe and effective use of methylphenidate hydrochloride extended-release capsules.**

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use methylphenidate hydrochloride extended-release capsules for a condition for which it was not prescribed. Do not give methylphenidate hydrochloride extended-release capsules to other people, even if they have the same symptoms. It may harm them and it is against the law. You can ask your healthcare

provider or pharmacist for information about methylphenidate hydrochloride extended-release capsules that is written for healthcare professionals.

**What are the ingredients in Methylphenidate Hydrochloride Extended-Release Capsules?**

**Active Ingredient:** methylphenidate hydrochloride

**Inactive Ingredients:** ammonio methacrylate copolymer, type B; colloidal silicon dioxide (added if necessary); gelatin; hypromelloses; methacrylic acid copolymer, type C; polyethylene glycol; sugar spheres; talc; titanium oxide; and triethyl citrate.

**Manufactured by:** Patheon Manufacturing Services LLC, Greenville, North Carolina 27834

For more information, call Rhodes Pharmaceuticals (the distributor for methylphenidate hydrochloride extended-release capsules) at 1-888-827-0616.

This Medication Guide has been approved by the U.S. Food and Drug Administration.

Revised:  
10/2023

**PRINCIPAL DISPLAY PANEL - 10 mg Capsule Bottle Label**

NDC 42858-075-45

CII

Methylphenidate  
HCl Extended-Release  
Capsules

10 mg

Dispense the accompanying  
Medication Guide to each patient.

Rhodes  
R<sub>x</sub> only

Once Daily  
90 Capsules

N 3 42858-075-45 9

**Each capsule contains:**  
Methylphenidate Hydrochloride..... 10 mg  
(equivalent to 8.6 mg of methylphenidate free base)  
**Usual Dosage:** See package insert.  
**Store at 20° to 25°C (68° to 77°F).**  
**[see USP Controlled Room Temperature].**  
**Dispense in a tight, light-resistant container with a child-resistant closure. Protect from moisture.**

NDC 42858-075-45

**Methylphenidate  
HCl Extended-Release  
Capsules**

**10 mg**

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

**Rhodes**  
Rx only

**Once Daily**  
90 Capsules

Marketed by:  
Rhodes Pharmaceuticals, Wilson, NC 27893  
Manufactured by:  
Patheon Manufacturing Services LLC, Greenville, NC 27834  
**031362**

DO NOT USE UNLESS  
CAPSULES CARRY THIS  
IDENTIFICATION: Imp rinted  
with "RP" on  
the cap and "910" on  
the body

305279-0B

**PRINCIPAL DISPLAY PANEL - 15 mg Capsule Bottle Label**

NDC 42858-076-45  
CII

Methylphenidate  
HCl Extended-Release  
Capsules

15 mg

Dispense the accompanying  
Medication Guide to each patient.

Rhodes  
Rx only

Once Daily  
90 Capsules



N 3 42858-076-45 6

Each capsule contains:  
Methylphenidate Hydrochloride.....15 mg  
(equivalent to 13.0 mg of methylphenidate free base)  
Usual Dosage: See package insert.  
Store at 20° to 25° C (68° to 77° F).  
[see USP Controlled Room Temperature].  
Dispense in a tight, light-resistant container with  
a child-resistant closure. Protect from moisture.

NDC 42858-076-45

**Methylphenidate  
HCl Extended-Release  
Capsules**



**15 mg**

Dispense the accompanying  
Medication Guide to each patient.



R<sub>x</sub> only

**Once Daily**

90 Capsules

Marketed by:

Rhodes Pharmaceuticals, Wilson, NC 27893

Manufactured by:

Patheon Manufacturing Services LLC, Greenville, NC 27834

**031363**

DO NOT USE UNLESS  
CAPSULES CARRY THIS  
IDENTIFICATION: Imprinted  
with "RP" on  
the cap and "915" on  
the body

305280-0B

**PRINCIPAL DISPLAY PANEL - 20 mg Capsule Bottle Label**

NDC 42858-077-45

CII

Methylphenidate  
HCl Extended-Release  
Capsules

20 mg

Dispense the accompanying  
Medication Guide to each patient.

Rhodes  
R<sub>x</sub> only

Once Daily  
90 Capsules



N 3 42858-077-45 3

Each capsule contains:  
Methylphenidate Hydrochloride.....20 mg  
(equivalent to 17.3 mg of methylphenidate free base)  
Usual Dosage: See package insert.  
Store at 20° to 25° C (68° to 77° F).  
[see USP Controlled Room Temperature].  
Dispense in a tight, light-resistant container with  
a child-resistant closure. Protect from moisture.

NDC 42858-077-45

**Methylphenidate  
HCl Extended-Release  
Capsules**



**20 mg**

Dispense the accompanying  
Medication Guide to each patient.



Rx only

**Once Daily**

90 Capsules

Marketed by:  
Rhodes Pharmaceuticals, Wilson, NC 27893  
Manufactured by:  
Patheon Manufacturing Services LLC, Greenville, NC 27834  
**031364**

DO NOT USE UNLESS  
CAPSULES CARRY THIS  
IDENTIFICATION: Imprinted  
with "RP" on the cap  
and "920" on  
the body

305281-0B

**PRINCIPAL DISPLAY PANEL - 30 mg Capsule Bottle Label**

NDC 42858-078-45

CII

Methylphenidate  
HCl Extended-Release  
Capsules

30 mg

Dispense the accompanying  
Medication Guide to each patient.

Rhodes  
Rx only

Once Daily  
90 Capsules



N 3 42858-078-45 0

**Each capsule contains:**

Methylphenidate Hydrochloride.....30 mg  
(equivalent to 25.9 mg of methylphenidate free base)

**Usual Dosage:** See package insert.

Store at 20° to 25° C (68° to 77° F).

[see USP Controlled Room Temperature].

Dispense in a tight, light-resistant container with a child-resistant closure. Protect from moisture.

NDC 42858-078-45

**Methylphenidate  
HCl Extended-Release  
Capsules**



**30 mg**

Dispense the accompanying  
Medication Guide to each patient.



Rx only

**Once Daily**

90 Capsules

Marketed by:

Rhodes Pharmaceuticals, Wilson, NC 27893

Manufactured by:

Pathreon Manufacturing Services LLC, Greenville, NC 27834

**031365**

DO NOT USE UNLESS  
CAPSULES CARRY THIS  
IDENTIFICATION: Imprinted  
with "RP" on  
the cap and "930" on  
the body

305282-0B

**PRINCIPAL DISPLAY PANEL - 40 mg Capsule Bottle Label**

NDC 42858-079-45

CII

Methylphenidate  
HCl Extended-Release  
Capsules

40 mg

Dispense the accompanying  
Medication Guide to each patient.

Rhodes  
Rx only

Once Daily  
90 Capsules

N 3 42858-079-45 7

**Each capsule contains:**  
 Methylphenidate Hydrochloride.....40 mg  
 (equivalent to 34.6 mg of methylphenidate free base)

**Usual Dosage:** See package insert.  
**Store at 20° to 25°C (68° to 77°F).**  
 [see USP Controlled Room Temperature].  
 Dispense in a **tight, light-resistant container with a child-resistant closure. Protect from moisture.**

NDC 42858-079-45

**Methylphenidate HCl Extended-Release Capsules**

**40 mg**

Dispense the accompanying Medication Guide to each patient.

**Rhodes**  
 Rx only

**Once Daily**  
 90 Capsules

Marketed by:  
 Rhodes Pharmaceuticals, Wilson, NC 27893  
 Manufactured by:  
 Patheon Manufacturing Services LLC, Greenville, NC 27834

031366

DO NOT USE UNLESS CAPSULES CARRY THIS IDENTIFICATION:  
 Imprints d with "RP" on the cap and "940" on the body

305283-0B

**PRINCIPAL DISPLAY PANEL - 50 mg Capsule Bottle Label**

NDC 42858-080-45

CII

Methylphenidate  
 HCl Extended-Release  
 Capsules

50 mg

Dispense the accompanying  
 Medication Guide to each patient.

Rhodes  
 Rx only

Once Daily  
 90 Capsules

N 3 4 2 8 5 8 - 0 8 0 - 4 5 3

**Each capsule contains:**  
 Methylphenidate Hydrochloride.....50 mg  
 (equivalent to 43.2 mg of methylphenidate free base)  
**Usual Dosage:** See package insert.  
**Store at 20° to 25°C (68° to 77°F).**  
 [see USP Controlled Room Temperature].  
 Dispense in a tight, light-resistant container with  
 a child-resistant closure. Protect from moisture.

NDC 42858-080-45

**Methylphenidate  
 HCl Extended-Release  
 Capsules**

**50 mg**

Dispense the accompanying  
 Medication Guide to each patient.

**Rhodes**  
 Rx only

**Once Daily**  
 90 Capsules

Marketed by:  
 Rhodes Pharmaceuticals L.P., Coventry, RI 02816  
 Manufactured by:  
 Patheon Manufacturing Services LLC, Greenville, NC 27834

**023169**

DO NOT USE UNLESS CAPSULES  
 CARRY THIS IDENTIFICATION:  
 Imprinted with "RP" on the  
 cap and "950" on the body

305284-0A

**PRINCIPAL DISPLAY PANEL - 60 mg Capsule Bottle Label**

NDC 42858-081-45

CII

Methylphenidate  
 HCl Extended-Release  
 Capsules

60 mg

Dispense the accompanying  
 Medication Guide to each patient.

Rhodes  
 Rx only

Once Daily  
 90 Capsules



Each capsule contains:  
 Methylphenidate Hydrochloride.....60 mg  
 (equivalent to 51.9 mg of methylphenidate free base)  
 Usual Dosage: See package insert.  
 Store at 20° to 25°C (68° to 77°F).  
 [see USP Controlled Room Temperature].  
 Dispense in a tight, light-resistant container with  
 a child-resistant closure. Protect from moisture.

NDC 42858-081-45

# Methylphenidate HCl Extended-Release Capsules

**60 mg**

Dispense the accompanying Medication Guide to each patient.

**Rhodes** **Once Daily**

Rx only 90 Capsules

Marketed by:  
 Rhodes Pharmaceuticals, Wilson, NC 27893  
 Manufactured by:  
 Patheon Manufacturing Services LLC, Greenville, NC 27834

031368

DO NOT USE UNLESS CAPSULES  
 CARRY THIS IDENTIFICATION:  
 Imprinted with "RP" on the  
 cap and "960" on the body

305285-0B

## METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

### Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:42858-075
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CII

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B3SC438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	10 mg

### Inactive Ingredients

Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY3SJ)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	
<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0K00R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>FD&amp;C Blue No. 1</b> (UNII: H3R47K3TBD)	

**Propylene Glycol** (UNII: 6DC9Q167V3)

**Ferrosoferric oxide** (UNII: XM0M87F357)

**Potassium hydroxide** (UNII: WZH3C48M4T)

### Product Characteristics

<b>Color</b>	TURQUOISE (light turquoise blue opaque) , WHITE (opaque)	<b>Score</b>	no score
<b>Shape</b>	CAPSULE	<b>Size</b>	14mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;910
<b>Contains</b>			

### Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:42858-075-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020	

### Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

## METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

### Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:42858-076
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CII

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B3SC438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	15 mg

### Inactive Ingredients

Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY35J)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	

<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0KO0R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>D&amp;C Red No. 28</b> (UNII: 767IP0Y5NH)	
<b>D&amp;C Yellow No. 10</b> (UNII: 35SW5USQ3G)	
<b>FD&amp;C Red No. 40</b> (UNII: WZB9127XOA)	
<b>Propylene Glycol</b> (UNII: 6DC9Q167V3)	
<b>Ferrosoferric oxide</b> (UNII: XM0M87F357)	
<b>Potassium hydroxide</b> (UNII: WZH3C48M4T)	

### Product Characteristics

<b>Color</b>	ORANGE, WHITE (opaque)	<b>Score</b>	no score
<b>Shape</b>	CAPSULE	<b>Size</b>	14mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;915
<b>Contains</b>			

### Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:42858-076-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020	

### Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

## METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

### Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:42858-077
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CII

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B3SC438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	20 mg

## Inactive Ingredients

Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY3SJ)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	
<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0KO0R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>D&amp;C RED NO. 33</b> (UNII: 9DBA0SBB0L)	
<b>D&amp;C Yellow No. 10</b> (UNII: 35SW5USQ3G)	
<b>Propylene Glycol</b> (UNII: 6DC9Q167V3)	
<b>Ferrosoferric oxide</b> (UNII: XM0M87F357)	
<b>Potassium hydroxide</b> (UNII: WZH3C48M4T)	

## Product Characteristics

<b>Color</b>	YELLOW (opaque) , WHITE (opaque)	<b>Score</b>	no score
<b>Shape</b>	CAPSULE	<b>Size</b>	16mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;920
<b>Contains</b>			

## Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:42858-077-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020	

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

## METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

## Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:42858-078
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Route of Administration ORAL

DEA Schedule

CII

**Active Ingredient/Active Moiety**

Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B35C438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	30 mg

**Inactive Ingredients**

Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY3SJ)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	
<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0KO0R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>FD&amp;C Blue No. 1</b> (UNII: H3R47K3TBD)	
<b>FD&amp;C Red No. 3</b> (UNII: PN2ZH5LOQY)	
<b>Propylene Glycol</b> (UNII: 6DC9Q167V3)	
<b>Ferrosoferric oxide</b> (UNII: XM0M87F357)	
<b>Potassium hydroxide</b> (UNII: WZH3C48M4T)	

**Product Characteristics**

<b>Color</b>	BLUE (blue violet) , WHITE (opaque)	<b>Score</b>	no score
<b>Shape</b>	CAPSULE	<b>Size</b>	18mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;930
<b>Contains</b>			

**Packaging**

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:42858-078-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020	

**Marketing Information**

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

# METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

## Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:42858-079
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CII

## Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B3SC438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	40 mg

## Inactive Ingredients

Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY3SJ)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	
<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0KO0R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>D&amp;C Red No. 28</b> (UNII: 767IPOY5NH)	
<b>FD&amp;C Blue No. 1</b> (UNII: H3R47K3TBD)	
<b>FD&amp;C Red No. 40</b> (UNII: WZB9127XOA)	
<b>Propylene Glycol</b> (UNII: 6DC9Q167V3)	
<b>Ferrosoferric oxide</b> (UNII: XM0M87F357)	
<b>Potassium hydroxide</b> (UNII: WZH3C48M4T)	

## Product Characteristics

<b>Color</b>	PINK (opaque) , WHITE (opaque)	<b>Score</b>	no score
<b>Shape</b>	CAPSULE	<b>Size</b>	19mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;940
<b>Contains</b>			

## Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
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1	NDC:42858-079-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020
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## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

## METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

### Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:42858-080
Route of Administration	ORAL	DEA Schedule	CII

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B3SC438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	50 mg

### Inactive Ingredients

Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY35J)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	
<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0K00R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>D&amp;C Yellow No. 10</b> (UNII: 35SW5USQ3G)	
<b>FD&amp;C Green No. 3</b> (UNII: 3P3ONR601S)	
<b>Propylene Glycol</b> (UNII: 6DC9Q167V3)	
<b>Ferrosoferric oxide</b> (UNII: XM0M87F357)	
<b>Potassium hydroxide</b> (UNII: WZH3C48M4T)	

### Product Characteristics

Color	GREEN (opaque) , WHITE (opaque)	Score	no score
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<b>Shape</b>	CAPSULE	<b>Size</b>	22mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;950
<b>Contains</b>			

<b>Packaging</b>				
#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:42858-080-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020	

<b>Marketing Information</b>			
Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

## METHYLPHENIDATE HYDROCHLORIDE

methylphenidate hydrochloride capsule, extended release

<b>Product Information</b>			
<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:42858-081
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CII

<b>Active Ingredient/Active Moiety</b>		
Ingredient Name	Basis of Strength	Strength
<b>Methylphenidate Hydrochloride</b> (UNII: 4B3SC438HI) (Methylphenidate - UNII:207ZZ9QZ49)	Methylphenidate Hydrochloride	60 mg

<b>Inactive Ingredients</b>	
Ingredient Name	Strength
<b>Sucrose</b> (UNII: C151H8M554)	
<b>Starch, corn</b> (UNII: O8232NY35J)	
<b>Hypromellose, unspecified</b> (UNII: 3NXW29V3WO)	
<b>Polyethylene glycol, unspecified</b> (UNII: 3WJQ0SDW1A)	
<b>AMMONIO METHACRYLATE COPOLYMER TYPE B</b> (UNII: 161H3B14U2)	
<b>METHACRYLIC ACID AND ETHYL ACRYLATE COPOLYMER</b> (UNII: NX76LV5T8J)	
<b>Triethyl citrate</b> (UNII: 8Z96QXD6UM)	
<b>Talc</b> (UNII: 7SEV7J4R1U)	
<b>Water</b> (UNII: 059QF0K00R)	
<b>Silicon dioxide</b> (UNII: ETJ7Z6XBU4)	
<b>Titanium dioxide</b> (UNII: 15FIX9V2JP)	
<b>Gelatin, unspecified</b> (UNII: 2G86QN327L)	
<b>Ferrosoferric Oxide</b> (UNII: XM0M87F357)	

**Propylene Glycol** (UNII: 6DC9Q167V3)

**Potassium hydroxide** (UNII: WZH3C48M4T)

### Product Characteristics

<b>Color</b>	GRAY (opaque) , WHITE (opaque)	<b>Score</b>	no score
<b>Shape</b>	CAPSULE	<b>Size</b>	23mm
<b>Flavor</b>		<b>Imprint Code</b>	RP;960
<b>Contains</b>			

### Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:42858-081-45	90 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2020	

### Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA AUTHORIZED GENERIC	NDA205831	04/01/2020	

**Labeler** - Rhodes Pharmaceuticals (831928986)

### Establishment

Name	Address	ID/FEI	Business Operations
Patheon Manufacturing Services LLC		079415560	MANUFACTURE(42858-075, 42858-076, 42858-077, 42858-078, 42858-079, 42858-080, 42858-081)

Revised: 11/2023

Rhodes Pharmaceuticals