WARNING: INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

See full prescribing information for complete boxed warning.

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. INVEGA HAFYERA is not approved for use in patients with dementia-related psychosis. (5.1)

INDICATIONS AND USAGE

INVEGA HAFYERA, an every-six-month injection, is an atypical antipsychotic indicated for the treatment of schizophrenia in adults after they have been adequately treated with:

• A once-a-month paliperidone palmate extended-release injectable suspension (e.g., INVEGA SUSTENNA) for at least four months or

• An every-three-month paliperidone palmate extended-release injectable suspension (e.g., INVEGA TRINZA) for at least one three-month cycle. (1)

DOSE AND ADMINISTRATION:

• Administer INVEGA HAFYERA by gluteal injection once every 6 months by a healthcare professional. Do not administer by any other route. (2.1)

• See Full Prescribing Information for complete dosing information. (2.2)

• Initiate INVEGA HAFYERA when the next once-a-month or every-three-month product is due and the previous once-a-month or every-three-month product has been used. (2.2)

INVEGA HAFYERA Doses for Adults Adequately Treated with Once-a-month Paliperidone Palmate Extended-release Injectable Suspension (PP1M)*

<table>
<thead>
<tr>
<th>If the Last Dose of PP1M is:</th>
<th>Initiate INVEGA HAFYERA at the Following Dose:</th>
</tr>
</thead>
<tbody>
<tr>
<td>156 mg</td>
<td>1,092 mg</td>
</tr>
<tr>
<td>234 mg</td>
<td>1,560 mg</td>
</tr>
</tbody>
</table>

*Switching from the PP1M 39 mg, 78 mg and 117 mg doses was not studied.

INVEGA HAFYERA Doses for Adults Adequately Treated with Every-three-month Paliperidone Palmate Injectable Suspension (PP3M)*

<table>
<thead>
<tr>
<th>If the Last Dose of PP3M is:</th>
<th>Initiate INVEGA HAFYERA at the Following Dose:</th>
</tr>
</thead>
<tbody>
<tr>
<td>546 mg</td>
<td>1,092 mg</td>
</tr>
<tr>
<td>819 mg</td>
<td>1,560 mg</td>
</tr>
</tbody>
</table>

*Switching from the PP3M 273 mg and 410 mg doses was not studied.

Missed Doses: Refer to the Full Prescribing Information. (2.3)

See Full Prescribing Information for important preparation and administration information. (2.4)

DOSE FORMS AND STRENGTHS

Extended-release injectable suspension: 1,092 mg/3.5 mL or 1,560 mg/5 mL single-dose prefilled syringes. (3)

FULL PRESCRIBING INFORMATION: CONTENTS*

WARNING: INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

1 INDICATIONS AND USAGE

2 DOSAGE AND ADMINISTRATION

2.1 Important Dosage and Administration Information

2.2 Recommended Dosage for INVEGA HAFYERA

2.3 Missed Doses

2.4 Instructions for Preparation and Administration

3 DOSAGE FORMS AND STRENGTHS

4 CONTRAINDICATIONS

5 WARNINGS AND PRECAUTIONS

5.1 Increased Mortality in Elderly Patients with Dementia-Related Psychosis

5.2 Cerbrovascular Adverse Reactions, Including Stroke, in Elderly Patients with Dementia-Related Psychosis

5.3 Neuroleptic Malignant Syndrome

5.4 QT Prolongation

5.5 Tardive Dyskinesia

5.6 Metabolic Changes

5.7 Orthostatic Hypotension and Syncope

5.8 Falls

5.9 Leukopenia, Neutropenia, and Agranulocytosis

5.10 Hyperprolactinemia

5.11 Potential for Cognitive and Motor Impairment

5.12 Seizures

5.13 Dysphagia

5.14 Priapism

5.15 Disruption of Body Temperature Regulation

6 ADVERSE REACTIONS

6.1 Clinical Trials Experience

6.2 Postmarketing Experience

7 DRUG INTERACTIONS

7.1 Drugs Having Clinically Important Interactions with INVEGA HAFYERA

7.2 Drugs Having No Clinically Important Interactions with INVEGA HAFYERA

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

8.2 Lactation

8.3 Females and Males of Reproductive Potential

8.4 Pediatric Use

8.5 Geriatric Use

8.6 Renal Impairment

8.7 Hepatic Impairment

8.8 Patients with Parkinson’s Disease or Lewy Body Dementia

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

13.2 Animal Toxicology and/or Pharmacology

14 CLINICAL STUDIES

15 HOW SUPPLIED/STORAGE AND HANDLING

16 PATIENT COUNSELING INFORMATION

*Sections or subsections omitted from the full prescribing information are not listed.
INVEGA HAFYERA™ (paliperidone palmitate)

FULL PRESCRIBING INFORMATION

WARNING: INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. INVEGA HAFYERA is not approved for use in patients with dementia-related psychosis (see Warnings and Precautions [5.1]).

1 INDICATIONS AND USAGE

INVEGA HAFYERA, an every-six-month injection, is indicated for the treatment of schizophrenia in adults after they have been adequately treated with:

• A once-a-month paliperidone palmitate extended-release injectable suspension (e.g., INVEGA SUSTENNA) for at least four months, or
• An every-three-month paliperidone palmitate extended-release injectable suspension (e.g., INVEGA TRINZA) for at least one three-month cycle.

2 DOSAGE AND ADMINISTRATION

2.1 Important Dose and Administration Information

• INVEGA HAFYERA must be administered as a gluteal intramuscular injection by a healthcare professional once every 6 months. Do not administer by any other route (see Dose and Administration [2.4, 2.5]).

• Initiate INVEGA HAFYERA only after adequate treatment has been established with either:
  ° A once-a-month paliperidone palmitate extended-release injectable suspension (e.g., INVEGA SUSTENNA), referred to as PP1M, once monthly for at least four months; or
  ° An every-three-month paliperidone palmitate extended-release injectable suspension (e.g., INVEGA TRINZA), referred to as PP3M, once every three months for at least one three-month injection cycle.

• See Prescribing Information of the PP1M and PP3M products for the recommended dosage of these products.

2.2 Recommended Dosage for INVEGA HAFYERA

Switching to INVEGA HAFYERA from a PP1M Product

The recommended initial INVEGA HAFYERA dose is based on the previous PP1M dose (see Table 1). Initiate INVEGA HAFYERA when the next PP1M dose is scheduled. INVEGA HAFYERA may be administered up to 1 week before or 1 week after the next scheduled PP1M dose. When switching from PP1M to INVEGA HAFYERA, the two injection cycles immediately preceding the switch should be the same dosage strength before starting INVEGA HAFYERA.

Table 1. Initial INVEGA HAFYERA Dose for Adult Patients Switching from a PP1M® Product

<table>
<thead>
<tr>
<th>Last Dose of PP1M**</th>
<th>Initial Dose of INVEGA HAFYERA</th>
</tr>
</thead>
<tbody>
<tr>
<td>156 mg</td>
<td>1,092 mg</td>
</tr>
<tr>
<td>234 mg</td>
<td>1,560 mg</td>
</tr>
</tbody>
</table>

*PP1M: Once-a-month paliperidone palmitate extended-release injectable suspension
**There are no equivalent doses of INVEGA HAFYERA for 39 mg, 78 mg, or 117 mg doses of a PP1M product, which were not studied (see Clinical Studies [14]).

Switching to INVEGA HAFYERA from a PP3M Product

The recommended initial INVEGA HAFYERA dose is based on the previous PP3M dose (see Table 2). Initiate INVEGA HAFYERA when the next PP3M dose is scheduled. INVEGA HAFYERA may be administered up to 2 weeks before or 2 weeks after the next scheduled PP3M dose.

Table 2. Initial INVEGA HAFYERA Dose for Adult Patients Switching from a PP3M® Product

<table>
<thead>
<tr>
<th>Last Dose of PP3M**</th>
<th>Initial Dose of INVEGA HAFYERA</th>
</tr>
</thead>
<tbody>
<tr>
<td>546 mg</td>
<td>1,092 mg</td>
</tr>
<tr>
<td>619 mg</td>
<td>1,560 mg</td>
</tr>
</tbody>
</table>

*PP3M: Every-three-month paliperidone palmitate extended-release injectable suspension
**There are no equivalent doses of INVEGA HAFYERA for the 273 mg or 410 mg doses of a PP3M product, which were not studied (see Clinical Studies [14]).

Dosing Interval and Dosage Adjustments of INVEGA HAFYERA

Following the initial dose, administer INVEGA HAFYERA once every 6 months. If needed, dosage adjustment can be made every 6 months between the dose of 1,092 mg to 1,560 mg based on individual response and tolerability. Because of the potential longer duration of INVEGA HAFYERA, the patient’s response to an adjusted dose may not be apparent for several months (see Clinical Pharmacology [12.3]).

2.3 Missed Doses

Dosing Window

To avoid a missed dose, patients may be given the injection up to 2 weeks before or 3 weeks after the scheduled 6-month dose.

Missed Dose

If a dose of INVEGA HAFYERA is missed, re-initiate with a PP1M product using the re-initiation regimens described in Tables 3 and 4.

More than 6 Months and 3 Weeks Since Last Dose

If more than 6 months and 3 weeks but less than 8 months have elapsed since the last dose of INVEGA HAFYERA, do not administer the next dose of INVEGA HAFYERA. Instead, use the re-initiation regimen shown in Table 3:

<table>
<thead>
<tr>
<th>Last Dose of INVEGA HAFYERA</th>
<th>Administer PP1M Product* into deltoid muscle</th>
<th>Administer INVEGA HAFYERA into gluteal muscle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>1,092 mg</td>
<td>1,092 mg</td>
</tr>
<tr>
<td>1 week after Day 1</td>
<td>1,560 mg</td>
<td>1,560 mg</td>
</tr>
</tbody>
</table>

*PP1M: Once-a-month paliperidone palmitate extended-release injectable suspension

8 Months Up to and including 11 Months Since Last Dose

If 8 months but up to and including 11 months have elapsed since the last dose of INVEGA HAFYERA, do not administer the next dose of INVEGA HAFYERA. Instead, use the re-initiation regimen shown in Table 4:

<table>
<thead>
<tr>
<th>Last dose of INVEGA HAFYERA</th>
<th>Administer PP1M Product* into deltoid muscle</th>
<th>Administer INVEGA HAFYERA into gluteal muscle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>1,092 mg</td>
<td>1,092 mg</td>
</tr>
<tr>
<td>Day 8</td>
<td>1,560 mg</td>
<td>1,560 mg</td>
</tr>
</tbody>
</table>

*PP1M: Once-a-month paliperidone palmitate extended-release injectable suspension

More than 11 Months Since Last Dose

If more than 11 months have elapsed since the last dose of INVEGA HAFYERA, re-initiate treatment with a PP1M product as described in the prescribing information for that product. INVEGA HAFYERA can then be resumed after the patient has been adequately treated with a PP1M product for at least 4 months.

2.4 Instructions for Preparation and Administration

• To be prepared and administered by a healthcare provider only.

• Read the instructions for preparation and administration below and consider referring to the separate Healthcare Provider Instructions for Use for preparation and administration considerations.

• For gluteal intramuscular injection only. Do not inject by any other route. As a universal precaution, always wear gloves.

• Inspect INVEGA HAFYERA for particulate matter and discoloration prior to administration.

• Do not mix with any other product or diluent.

• After shaking, INVEGA HAFYERA should appear uniform, thick and milky white.

• Do not use needles from the PP1M or PP3M products or other commercially-available needles to reduce the risk of blockage.

• Avoid inadvertent injection into a blood vessel. Administer the dose in a single injection; do not administer the dose in divided injections. Inject slowly, deep into the upper-outter quadrant of the gluteal muscle. Future injections should be alternated between the two gluteal muscles.

Incomplete Administration

• Proper shaking can reduce the likelihood for an incomplete injection. Storing the carton in a horizontal orientation improves the ability to resuspend this highly concentrated product (see How Supplied/Storage and Handling [16]).

• Follow the full instructions for preparation and administration to avoid an incomplete injection.

• In the event of an incompletely administered dose, do not re-inject the dose remaining in the syringe and do not administer another dose of INVEGA HAFYERA.

• Closely monitor and treat the patient with oral paliperidone supplementation at a clinically appropriate until the next scheduled 6-month injection of INVEGA HAFYERA. See Prescribing Information of the oral paliperidone product for the recommended dosage of these products.
Administer every 6 months

Shake syringe with the syringe tip cap pointing up VERY FAST for at least 15 seconds, rest briefly, then shake again for 15 seconds.

For Gluteal Intramuscular injection only.

INVEGA HAFYERA™ (paliperidone palmitate)

Shake syringe with the syringe tip cap pointing up VERY FAST for at least 15 seconds, rest briefly, then shake again for 15 seconds.

For Gluteal Intramuscular injection only.

INVEGA HAFYERA requires longer and faster shaking than once-a-month paliperidone palmitate extended-release injectable suspension (e.g., INVEGA SUSTENNA).

INVEGA HAFYERA must be administered by a healthcare professional as a single injection. Do not divide dose into multiple injections.

INVEGA HAFYERA is intended for gluteal intramuscular use only. Inject slowly, deep into the muscle taking care to avoid injection into a blood vessel.

Administer INVEGA HAFYERA once every 6 months.

Thin Wall Safety Needle

Thin wall safety needle is designed to be used with INVEGA HAFYERA. Therefore, it is important to only use the needle provided in the INVEGA HAFYERA suspension kit.

Dose pack contents

Prefilled Syringe

Syringe Tip Cap

Luer Connection

Finger Flange

Plunger

Yellow hub

Needle Sheath

Needle Pouch

Thin Wall Safety Needle

20G x 1½”

Only use the needle included in this kit

1. Prepare for the injection: this highly concentrated product requires specific steps to resuspend

Hold syringe with the tip cap pointing up

Shake syringe VERY FAST for at least 15 seconds, rest briefly, then shake again for 15 seconds

To ensure complete resuspension shake syringe with:
- Short, VERY FAST up and down motion
- Loose wrist

If more than 5 minutes pass before injection, shake the syringe VERY FAST with the tip cap pointing up again for at least 30 seconds to resuspend INVEGA HAFYERA

Proceed to the next step immediately after shaking.

Check suspension for solid product

Mixed well

- Uniform, thick and milky white
- It is normal to see air bubbles

Not mixed well

- Solid product on sides and top of syringe
- Uneven mix
- Thin liquid

STOP

Product may clog.

Shake syringe with the syringe tip cap pointing up VERY FAST for at least 15 seconds, rest, then shake again for 15 seconds.

Open needle pouch

Peel off the pouch cover.
Place pouch with the needle inside on a clean surface.
INVEGA HAFYERA™ (paliperidone palmitate)

3 DOSAGE FORMS AND STRENGTHS
INVEGA HAFYERA is a white to off-white aqueous extended-release injectable suspension for gluteal intramuscular injection in dose strengths of 1,092 mg/3.5 mL and 1,580 mg/5 mL paliperidone palmitate in single-dose prefilled syringes.

4 CONTRAINDICATIONS
INVEGA HAFYERA is contraindicated in patients with a known hypersensitivity to either paliperidone or risperidone, or to any of the excipients in the INVEGA HAFYERA formulation. Hypersensitivity reactions, including anaphylactic reactions and angioedema, have been reported in patients treated with risperidone and in patients treated with paliperidone. Paliperidone palmitate is converted to paliperidone, which is a metabolite of risperidone.

5 WARNINGS AND PRECAUTIONS
5.1 Increased Mortality in Elderly Patients with Dementia-Related Psychosis
Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. Analyses of 17 placebo-controlled trials (modal duration of 10 weeks), largely in patients taking atypical antipsychotic drugs, revealed a risk of death in drug-treated patients of between 1.6 to 1.7 times the risk of death in placebo-treated patients. Over the course of a typical 10-week controlled trial, the rate of death in drug-treated patients was about 4.5%, compared to a rate of about 2.6% in the placebo group. Although the causes of death were varied, most of the deaths appeared to be either cardiovascular (e.g., heart failure, sudden death) or infectious (e.g., pneumonia) in nature. Observational studies suggest that, similar to atypical antipsychotic drugs, treatment with conventional antipsychotic drugs may increase mortality. The extent to which the findings of increased mortality in observational studies may be attributed to the antipsychotic drug as opposed to other characteristics(s) of the patients is not clear. INVEGA HAFYERA is not approved for the treatment of patients with dementia-related psychosis [see Boxed Warning and Warnings and Precautions (5.2)].

5.2 Cerebrovascular Adverse Reactions, Including Stroke, in Elderly Patients with Dementia-Related Psychosis
In placebo-controlled trials with risperidone, aripiprazole, and olanzapine in elderly subjects with dementia, there was a higher incidence of cerebrovascular adverse reactions (cerebrovascular accidents and transient ischemic attacks) including fatalities compared to placebo-treated subjects. No studies have been conducted with oral paliperidone, the 1-month paliperidone palmitate extended-release injectable suspension, the 3-month paliperidone extended-release injectable suspension or INVEGA HAFYERA in elderly patients with dementia. These medications are not approved for the treatment of patients with dementia-related psychosis [see Boxed Warning and Warnings and Precautions (5.5)].

5.3 Neuroleptic Malignant Syndrome
Neuroleptic Malignant Syndrome (NMS), a potentially fatal symptom complex, has been reported in association with antipsychotic drugs, including paliperidone. Clinical manifestations of NMS are hyperpyrexia, muscle rigidity, altered mental status, including delirium, and autonomic instability (irregular pulse or blood pressure, tachycardia, diaphoresis, and cardiac dysrhythmia). Additional signs may include elevated creatine phosphokinase, myoglobinuria (rhabdomyolysis), and acute renal failure.

If NMS is suspected, discontinue INVEGA HAFYERA and provide symptomatic treatment and monitoring.

5.4 QT Prolongation
Paliperidone causes a modest increase in the corrected QT (QTc) interval. The use of paliperidone should be avoided in combination with other drugs that are known to prolong QTc including Class 1A (e.g., quinidine, procainamide) or Class 3 (e.g., amiodarone, sotalol) antiarrhythmic medications, antipsychotic medications (e.g., chlorpromazine, thioridazine), antibiotics (e.g., gatifloxacin, moxifloxacin), or any other class of medications known to prolong the QTc interval. Paliperidone should also be avoided in patients with congenital long QT syndrome and in patients with a history of cardiac arrhythmias.

Certain circumstances may increase the risk of the occurrence of Torsades de pointes and/or sudden death in association with the use of drugs that prolong the QTc interval, including (1) bradycardia; (2) hypokalemia or hypomagnesemia; (3) concomitant use of other drugs that prolong the QTc interval; and (4) presence of congenital prolongation of the QT interval.

The effects of paliperidone on the QT interval were evaluated in a double-blind, active-controlled (moxifloxacin 400 mg single dose), multicenter Thorough QT study with oral paliperidone in adult patients, and in four fixed-dose efficacy studies and one maintenance study of the 1-month paliperidone palmitate injectable product. In the Thorough QT study (n=141), the 8 mg dose of immediate-release oral paliperidone (n=50) showed a mean placebo-subtracted increase from baseline in QTcLD (QT interval corrected for heart rate using the population specified linear derived method) of 12.3 msec (90% CI: 8.9, 15.6) on day 8 at 1.5 hours post-dose. The mean steady-state peak plasma concentration for this 8 mg dose of paliperidone immediate release (Cmax ss=113 ng/mL) was approximately 1.3-fold the exposure with the maximum recommended 1,580 mg dose of INVEGA HAFYERA administered in the gluteal muscle (mean Cmax ss=89.3 ng/mL). In this same study, a 4 mg dose of
INVEGA HAFYERA™ (paliperidone palmitate)

the immediate-release oral formulation of paliperidone, for which \( C_{\text{max}} = 35 \, \text{ng/mL} \) showed an increased placebo-subtracted QTcLD of 6.8 msec (90% CI: 3.6; 10.1) on day 2 at 1.5 hours post-dose.

In the four fixed-dose efficacy studies of the 1-month paliperidone palmitate injectable product, no subject had a change in QTcLD exceeding 60 msec and no subject had a QTcLD value of >507 msec (Bazett's QT corrected interval [QTcB] value of 483 msec); this latter subject also had a heart rate of 45 beats per minute.

In the INVEGA HAFYERA randomized double-blind active controlled study in subjects with schizophrenia, during the double-blind Phase, QTcLD exceeding 60 msec was observed in 2 subjects (0.4%) in the INVEGA HAFYERA treatment group and in 2 subjects (0.5%) in the PP3M treatment group. No subject had a QTcLD value of >480 msec at any point in the study.

5.5 Tardive Dyskinesia
Tardive dyskinesia, a syndrome of potentially irreversible, involuntary, dyskinetic movements, may develop in patients treated with antipsychotic drugs. Although the prevalence of the syndrome appears to be highest among the elderly, especially elderly women, it is impossible to predict which patients will develop the syndrome. Whether antipsychotic drug products differ in their potential to cause tardive dyskinesia is unknown.

The risk of developing tardive dyskinesia and the likelihood that it will become irreversible appear to increase as the duration of treatment and the total cumulative dose. The syndrome can develop after relatively brief treatment periods, even at low doses. It may also occur after discontinuation of treatment.

Tardive dyskinesia may remit, partially or completely, if antipsychotic treatment is discontinued. Antipsychotic treatment itself may suppress (or partially suppress) the signs and symptoms of the syndrome and may thus mask the underlying process. The effect of symptomatic suppression on the long-term course of the syndrome is unknown.

Given these considerations, INVEGA HAFYERA should be prescribed in a manner that is most likely to minimize the occurrence of tardive dyskinesia. Chronic antipsychotic treatment should generally be reserved for patients who suffer from a chronic illness that is known to respond to antipsychotic drugs. In patients who do require chronic treatment, the smallest dose and the shortest duration of treatment producing a satisfactory clinical response should be sought. The need for continued treatment should be reassessed periodically.

If signs and symptoms of tardive dyskinesia appear in a patient treated with INVEGA HAFYERA, drug discontinuation should be considered. Consideration should be given to the long-acting nature of INVEGA HAFYERA. However, some patients may require treatment with INVEGA HAFYERA despite the presence of the syndrome.

5.6 Metabolic Changes
Atypical antipsychotic drugs have been associated with metabolic changes that may increase cardiovascular/cerebrovascular risk. These metabolic changes include hyperglycemia, dyslipidemia, and body weight gain. While all of the drugs in the class have been shown to produce some metabolic changes, each drug has its own specific risk profile.

Hyperglycemia and Diabetes Mellitus
Hyperglycemia and diabetes mellitus, in some cases extreme and associated with ketoadiposis or hyperosmolar coma or death, have been reported in patients treated with all atypical antipsychotics. These cases were, for the most part, seen in post-marketing clinical use and epidemiologic studies, not in clinical trials. Hyperglycemia and diabetes have been reported in trial subjects treated with INVEGA HAFYERA. Assessment of the relationship between atypical antipsychotic use and glucose abnormalities is complicated by the possibility of an increased background risk of diabetes mellitus in patients with schizophrenia and the increasing incidence of diabetes mellitus in the general population. Given these confounders, the relationship between atypical antipsychotic use and hyperglycemia-related adverse events is not completely understood. However, epidemiological studies suggest an increased risk of hyperglycemia-related adverse reactions in patients treated with the atypical antipsychotics.

Patients with an established diagnosis of diabetes mellitus who are started on atypical antipsychotics should be monitored regularly for worsening of glucose control. Patients with risk factors for diabetes (e.g., obesity, family history of diabetes) who are starting treatment with atypical antipsychotics should undergo fasting blood glucose testing at the beginning of treatment and periodically during treatment. Any patient treated with atypical antipsychotics should be monitored for symptoms of hyperglycemia including polydipsia, polyuria, polyphagia, and weakness. Patients who develop symptoms of hyperglycemia during treatment with atypical antipsychotics should undergo fasting blood glucose testing. In some cases, hyperglycemia has resolved when the atypical antipsychotic was discontinued; however, some patients required continuation of anti-diabetic treatment despite discontinuation of the suspect drug.

Data from the randomized double-blind active controlled study with INVEGA HAFYERA in patients with schizophrenia are presented in Table 5.

### Table 5. Change in Fasting Glucose from the randomized double-blind active controlled study with INVEGA HAFYERA in patients with schizophrenia

<table>
<thead>
<tr>
<th>Total no. of patients*</th>
<th>PP3M†</th>
<th>INVEGA HAFYERA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal to high</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Impaired glucose tolerance to high</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Normal/impaired glucose tolerance to high</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>&lt;126 mg/dL to &gt;=200 mg/dL</td>
<td>0</td>
<td>1%</td>
</tr>
<tr>
<td>&lt;126 mg/dL to &gt;=300 mg/dL</td>
<td>0</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

PP3M – Every-three-month paliperidone palmitate extended-release injectable suspension

*The number of subjects with paired fasting data (baseline and any post baseline assessment).

Using the conversion factor (1 mg/dL=0.05551 mmol/L) the ADA specified limits are as follows:

Normal: <100 mg/dL (<5.551 mmol/L)
Impaired: ≥100 mg/dL (≥5.551 mmol/L) to <126 mg/dL (<6.994 mmol/L)
High: ≥126 mg/dL (≥6.994mmol/L)
126 mg/dL=6.994 mmol/L; 140 mg/dL=7.771 mmol/L; 200 mg/dL=11.102 mmol/L; 300 mg/dL=16.653 mmol/L

Dyslipidemia
Undesirable alterations in lipids have been observed in patients treated with atypical antipsychotics.

Shifts in lipid parameters from the randomized double-blind active controlled study with INVEGA HAFYERA in patients with schizophrenia are presented in Table 6.

### Table 6. Shifts in Fasting Lipids in the Double-Blind Phase from the randomized active controlled study with INVEGA HAFYERA in patients with schizophrenia

<table>
<thead>
<tr>
<th>PP3M†</th>
<th>INVEGA HAFYERA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting Cholesterol (mg/dL)</td>
<td>2 (1%)</td>
</tr>
<tr>
<td>&lt;200 mg/dL to &gt;=240 mg/dL</td>
<td>28 (14%)</td>
</tr>
<tr>
<td>Fasting LDL Cholesterol (mg/dL)</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>≥40 mg/dL to &lt;40 mg/dL</td>
<td>12 (6%)</td>
</tr>
<tr>
<td>Fasting Triglycerides (mg/dL)</td>
<td>150 mg/dL to &gt;=200 mg/dL</td>
</tr>
</tbody>
</table>

PP3M – Every-three-month paliperidone palmitate extended-release injectable suspension

For each fasting parameter, subjects with both Baseline (DB) record and any post baseline (DB) record during Double-Blind Phase are included in the denominator.

### Change in Body Weight
Weight gain has been observed with atypical antipsychotic use. Clinical monitoring of weight is recommended. In the randomized active controlled clinical study of INVEGA HAFYERA, the overall mean weight change during the double-blind Phase was similar to PP3M.

5.7 Orthostatic Hypotension and Syncope
Paliperidone can induce orthostatic hypotension and syncope in some patients because of its alpha-adrenergic blocking activity.

Use INVEGA HAFYERA with caution in patients with known cardiovascular disease (e.g., heart failure, history of myocardial infarction or ischemia, conduction abnormalities), cerebrovascular disease, or conditions that predispose the patient to hypotension (e.g., dehydratation, hypovolemia, and treatment with antihypertensive medications). Monitoring of orthostatic vital signs should be considered in patients who are vulnerable to hypotension.

5.8 Falls
Somnia, postural hypotension, motor and sensory instability have been reported with the use of antipsychotics, including paliperidone palmitate, which may lead to falls and, consequently, fractures or other fall-related injuries. For patients, particularly the elderly, with diseases, conditions, or medications that could exacerbate these effects, assess the risk of falls when initiating antipsychotic treatment and recurrently for patients on long-term antipsychotic therapy.

5.9 Leukopenia, Neutropenia, and Agranulocytosis
In clinical trial and/or postmarketing experience, events of leukopenia and neutropenia have been reported temporally related to antipsychotic agents, including INVEGA HAFYERA. Agranulocytosis has also been reported.

Possible risk factors for leukopenia/neutropenia include pre-existing low white blood cell count (WBC)/absolute neutrophil count (ANC) and history of drug-induced leukopenia/neutropenia. In patients with a history of a clinically significant low WBC/ANC or a drug-induced leukopenia/neutropenia, perform a complete blood count (CBC) frequently during the first few months of therapy. In
such patients, consider discontinuation of INVEGA HAFYERA at the first sign of a clinically significant decline in WBC in the absence of other causative factors. Monitor patients with clinically significant neutropenia for fever or other symptoms or signs of infection and treated promptly if such symptoms or signs occur. Discontinue INVEGA HAFYERA in patients with severe neutropenia (absolute neutrophil count <1000/mm³) and follow their WBC until recovery.

5.10 Hyperprolactinemia
Like other drugs that antagonize dopamine D₂ receptors, paliperidone elevates prolactin levels and the elevation persists during chronic administration. Paliperidone has a prolactin-elevating effect similar to that seen with risperidone, a drug that is associated with higher levels of prolactin than other antipsychotic drugs. Hyperprolactinemia, regardless of etiology, may suppress hypothalamic GnRH resulting in reduced pituitary gonadotrophin secretion. This, in turn, may inhibit reproductive function by impairing gonadal steroidogenesis in both female and male patients. Galactorrhea, amenorrhea, gynecomastia, and impotence have been reported in patients receiving prolactin-elevating compounds. Long-standing hyperprolactinemia when associated with hypergonadism may lead to decreased bone density in both female and male subjects.

Tissue culture experiments indicate that approximately one-third of human breast cancers are prolactin dependent in vitro, a factor of potential importance if the prescription of these drugs is considered in a patient with previously detected breast cancer. An increase in the incidence of pituitary gland, mammary gland, and pancreatic islet cell neoplasia (mammary adenocarcinomas, pituitary and pancreatic adenomas) was observed in the risperidone carcinogenicity studies conducted in mice and rats [see Nonclinical Toxicology (12.1)]. Neither clinical studies nor epidemiologic studies conducted to date have shown an association between chronic administration of this class of drugs and tumorigenesis in humans, but the available evidence is too limited to be conclusive.

Median prolactin levels remained relatively stable throughout the open-label and double-blind phases in male subjects, whereas in female subjects, median prolactin levels increased. During the double-blind phase, median prolactin levels continued to increase after dosing in both the INVEGA HAFYERA and PP3M groups, returning to baseline level at Month 6 and at Month 12 (end of double-blind phase). During the double-blind phase, prolactin levels relative to reference range (>13.13 ng/mL in males and >26.72 ng/mL in females) from maintenance baseline were noted in a similar percentage of subjects in the INVEGA HAFYERA and PP3M groups in both males (35% vs 36%) and females (29% vs. 30%). In the INVEGA HAFYERA group, 14 females (2.9%) and 4 males (0.8%) experienced potentially prolactin-related adverse reactions, while 6 females (2.7%) and 1 male (0.4%) in the PP3M group experienced potentially prolactin-related adverse reactions.

5.11 Potential for Cognitive and Motor Impairment
Somnolence and sedation were reported as adverse reactions in patients treated with INVEGA HAFYERA [see Adverse Reactions (6.1)]. Antipsychotics, including INVEGA HAFYERA, have the potential to impair judgment, thinking, or motor skills. Patients should be cautioned about performing activities requiring mental alertness, such as operating hazardous machinery or operating a motor vehicle, until they are reasonably certain that paliperidone therapy does not adversely affect them.

5.12 Seizures
In the 6-month paliperidone palmitate extended-release injectable suspension double-blind active controlled clinical trial there were no reports of seizures or convulsions nor were any reports made in the long-term maintenance trial of PP3M. In the pivotal clinical studies with PP1M which included four fixed-dose, double-blind, placebo-controlled studies in subjects with schizophrenia, <1% (1/1293) of subjects treated in the double-blind phase, 478 patients were randomized to receive 2 injection cycles of INVEGA HAFYERA over a 12-month duration. The mean (SD) duration of exposure was 323.8 (86.97) days in the INVEGA HAFYERA group and 336.4 (80.89) days in the PP3M group during the double-blind phase.

Commonly Observed Adverse Reactions: The most common adverse reactions (incidence at least 5% in the double-blind Phase) of the INVEGA HAFYERA clinical trial were, upper respiratory tract infection, injection site reaction, weight increased, headache and parkinsonism.

Discontinuation of Treatment Due to Adverse Reactions: In the double-blind phase of the INVEGA HAFYERA clinical trial 1.3% of subjects in the INVEGA HAFYERA group and 0.4% of subjects in the 3-month paliperidone palmitate extended-release injectable suspension group discontinued due to adverse reactions.

Table 7. Incidences of Adverse Reactions 2% or More in INVEGA HAFYERA-Treated Patients: Table 7 lists the adverse reactions reported in the INVEGA HAFYERA clinical trial.

Table 7. Incidences of Adverse Reactions 2% or More of INVEGA HAFYERA-Treated Patients for the Double-Blind Phase of the Randomized Double-blind Active Controlled Trial in Patients with Schizophrenia

<table>
<thead>
<tr>
<th>System Organ Class</th>
<th>INVEGA HAFYERA (N=478)</th>
<th>Double Blind PP3M (N=224)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commonly Observed Adverse Reactions: The most common adverse reaction (incidence at least 5% in the double-blind Phase) of the INVEGA HAFYERA clinical trial were, upper respiratory tract infection, injection site reaction, weight increased, headache and parkinsonism.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Discontinuation of Treatment Due to Adverse Reactions: In the double-blind phase of the INVEGA HAFYERA clinical trial 1.3% of subjects in the INVEGA HAFYERA group and 0.4% of subjects in the 3-month paliperidone palmitate extended-release injectable suspension group discontinued due to adverse reactions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adverse Reactions Occurring at an Incidence of 2% or More in INVEGA HAFYERA-Treated Patients: Table 7 lists the adverse reactions reported in the INVEGA HAFYERA clinical trial.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INVEGA HAFYERA™ (paliperidone palmitate)

1 PP3M – Every-three-month paliperidone palmitate extended-release injectable suspension

- The following terms were combined:
  
  **Diarrhea includes:** Diarrhea, Diarrhea infectious.
  
  **Injection site reaction:** includes Injection site reaction, Injection site discomfort, Injection site erythema, Injection site hemorrhage, Injection site induration, Injection site nodule, Injection site oedema, Injection site pain, Injection site swelling.
  
  **Weight increased includes:** Weight increased, Body mass index increased.
  
  **Upper respiratory tract infection includes:** Nasopharyngitis, Pharyngitis, Rhinitis, Viral pharyngitis, Viral upper respiratory tract infection.
  
  **Back pain includes:** Back pain, Neck pain, Spinal pain.
  
  **Musculoskeletal pain includes:** Musculoskeletal pain, Musculoskeletal chest pain, Myalgia, Pain in extremity.
  
  **Akathisia includes:** Akathisia, Restless legs syndrome, Restlessness.
  
  **Extrapyramidal Symptoms includes:** Blepharospasm, bradykinesia, drooling, dyskinesia, dystonia, hypokinesia, musculoskeletal stiffness, muscle rigidity, muscle spasms, oculogyric crisis, Parkinsonism, Parkinsonism rest tremor, reduced facial expression, tardive dyskinesia.
  
  **Insomnia includes:** Insomnia, Initial insomnia, Middle insomnia.
  
  **Psychosis includes:** acute psychosis, delusion, delusion of reference, hallucination (auditory), psychotic disorder, psychotic symptom, and schizophrenia.

**Demographic Differences**

An examination of population subgroups in the INVEGA HAFYERA trial did not reveal any evidence of differences in safety on the basis of age, gender, or race alone.

**Extrapyramidal Symptoms (EPS)**

Data from the randomized double-blind active controlled study provided information regarding EPS. Several methods were used to measure EPS: (1) the Simpson-Angus Rating Scale Global Score which broadly evaluates parkinsonism, (2) the Barnes Akathisia Rating Scale Global Clinical Rating Score which evaluates akathisia, (3) the Abnormal Involuntary Movement Scale scores which evaluates dyskinesia, and (4) use of anticholinergic medications to treat EPS (Table 8) and (5) incidence of spontaneous reports of EPS (Table 9).

### Table 8. Extrapyramidal Symptoms (EPS) Assessed by Rating Scales Incidence and Use of Anticholinergic Medication During the Double-blind Phase

<table>
<thead>
<tr>
<th></th>
<th>PP3M</th>
<th>INVEGA HAFYERA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N=224)</td>
<td>(N=478)</td>
</tr>
<tr>
<td>Use of Anticholinergic Medication[^a]</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Parkinsonism[^b]</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Akathisia[^c]</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Dyskinesia[^d]</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

[^a]: Use of Anti-EPS Medication During the Double-blind Phase
[^b]: Percent of subjects with Simpson-Angus Scale Global Score ≥0.3 (Global Score defined as total sum of items score divided by the number of items).
[^c]: Percent of subjects with Barnes Akathisia Rating Scale Global Clinical Rating Score ≥2.
[^d]: Percent of subjects with a score ≥2 on any of the first seven items or a score ≥2 on two or more of any of the first seven items of the Abnormal Involuntary Movement Scale.

Note: Percentages are calculated based on number of subjects in the DB Safety analysis set per treatment group.

### Table 9. Extrapyramidal Symptoms (EPS)-Related Events by MedDRA Preferred Term

<table>
<thead>
<tr>
<th></th>
<th>Double-blind Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PP3M[^e]</td>
</tr>
<tr>
<td></td>
<td>(N=224)</td>
</tr>
<tr>
<td>Overall percentage of subjects with EPS-related adverse events</td>
<td>9%</td>
</tr>
<tr>
<td>Parkinsonism</td>
<td>4%</td>
</tr>
<tr>
<td>Hyperkinesia</td>
<td>4%</td>
</tr>
<tr>
<td>Tremor</td>
<td>0%</td>
</tr>
<tr>
<td>Dyskinesia</td>
<td>1%</td>
</tr>
<tr>
<td>Dystonia</td>
<td>1%</td>
</tr>
</tbody>
</table>

[^e]: PP3M – Every-three-month paliperidone palmitate extended-release injectable suspension

**Dystonia**

Symptoms of dystonia, prolonged abnormal contractions of muscle groups, may occur in susceptible individuals during the first few days of treatment. Dystonic symptoms include: spasm of the neck muscles, sometimes progressing to tightness of the throat, swallowing difficulty, difficulty breathing, and/or protrusion of the tongue. While these symptoms can occur at low doses, they occur more frequently and with greater severity with high potency and at higher doses of first-generation antipsychotic drugs. An elevated risk of acute dystonia is observed in males and younger age groups.

**Pain Assessment and Local Injection Site Reactions**

**Investigator ratings of injection site.** Induration, redness and swelling were observed in 13% in the INVEGA HAFYERA group and 9% in the PP3M group during the double-blind Phase. Investigator evaluation of tenderness was higher for subjects in the INVEGA HAFYERA group versus the 3-month paliperidone palmitate extended-release injectable suspension group (31% vs. 19%) during the double-blind Phase. Active INVEGA HAFYERA medication was given at double-blind baseline and Month 6, while placebo medication was given at the other injection times.

**Subject ratings of injection site pain.** The average score for the subject’s evaluation of injection pain on a scale of 0 to 100 was approximately 16 at the open-label Phase end point and approximately 5 in both groups at the double-blind Phase end point.

**Other Adverse Reactions Observed During the Clinical Trial Evaluation of INVEGA HAFYERA**

The following additional adverse reactions were identified in the randomized double-blind active controlled study. The following list does not include reactions: 1) already listed in previous tables or elsewhere in labeling, 2) for which a drug cause was remote, 3) which were so general as to be uninformative, 4) which were not considered to have significant clinical implications.

**Blood and lymphatic system disorders:** anemia

**Cardiac disorders:** bradycardia, tachycardia

**Ear and labyrinth disorders:** vertigo

**Gastrointestinal disorders:** constipation, nausea, vomiting

**General disorders and administration site conditions:** fatigue

**Hepatobiliary disorders:** transaminases increased

**Infections and infestations:** cystitis, respiratory tract infection, tonsillitis

**Metabolism and nutritional disorders:** decreased appetite, increased appetite, weight decreased

**Psychiatric disorders:** depression

**Reproductive system and breast disorders:** breast pain, menstrual disorder

**Skin and subcutaneous tissue disorders:** rash

**Vascular disorders:** hypertension

**Additional Adverse Reactions Reported in Clinical Trials with Oral Paliperidone**

**Cardiac disorders:** atrioventricular block first degree, bundle branch block, palpitations, postural orthostatic tachycardia syndrome

**Eye disorders:** eye movement disorder, eye rolling, oculogyric crisis, vision blurred

**Gastrointestinal disorders:** abdominal discomfort/abdominal pain upper, diarrhea, dry mouth, toothache

**General disorders and administration site conditions:** asthenia, chest discomfort

**Immune system disorders:** hypersensitivity

**Investigations:** electrocardiogram abnormal

**Metabolism and nutrition disorders:** hyperinsulinemia

**Musculoskeletal and connective tissue disorders:** myalgia, pain in extremity, joint stiffness, muscle spasms, muscle twitching, nuchal rigidity

**Nervous system disorders:** bradykinesia, cerebrovascular accident, convulsion, dizziness, dizziness postural, dystarthis, hypertonia, lethargy, ophthalmologic dystonia, psychomotor hyperactivity, syncope

**Psychiatric disorders:** agitation, nightmare

**Reproductive system and breast disorders:** breast discharge, erectile dysfunction, gynecomastia, sexual dysfunction

**Respiratory, thoracic and mediastinal disorders:** cough

**Skin and subcutaneous tissue disorders:** drug eruption, eczema, pruritus, pruritus generalized, urticaria

**Vascular disorders:** hypotension, orthostatic hypotension

**Additional Adverse Reactions Reported in Clinical Trials with Oral Paliperidone**

The following is a list of additional adverse reactions that have been reported in clinical trials with oral paliperidone:

**Cardiac disorders:** bundle branch block left, sinus arrhythmia
INVEGA HAFYERA™ (paliperidone palmitate)

Gastrointestinal disorders: abdominal pain, constipation, flatulence, small intestinal obstruction

General disorders and administration site conditions: edema, edema peripheral

Immune system disorders: anaphylactic reaction

Musculoskeletal and connective tissue disorders: arthralgia, torticollis, trismus

Nervous system disorders: grand mal convulsion, parkinsonian gait, transient ischemic attack

Psychiatric disorders: sleep disorder

Reproductive system and breast disorders: breast engorgement, breast tenderness, retrograde ejaculation

Respiratory, thoracic and mediastinal disorders: nasal congestion, pharyngolaryngeal pain, pneumonia aspiration

Skin and subcutaneous tissue disorders: rash papular

Vascular disorders: ischemia

6.2 Postmarketing Experience

The following adverse reactions have been identified during post-approval use of paliperidone; because these reactions were reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure: angioedema, catatonia, ileus, somnambulism, swollen tongue, thrombotic thrombocytopenic purpura, urinary incontinence, and urinary retention.

Cases of anaphylactic reaction after injection with the 1-month paliperidone palmitate extended-release suspension have been reported during postmarketing experience in patients who have previously tolerated oral risperidone or oral paliperidone.

Paliperidone is the major active metabolite of risperidone. Adverse reactions reported with oral risperidone and risperidone long-acting injection can be found in the Adverse Reactions (8) section of the Prescribing Information for those products.

7 DRUG INTERACTIONS

7.1 Drugs HavingClinically Important Interactions with INVEGA HAFYERA

Because paliperidone palmitate is hydrolyzed to paliperidone, reported from studies with oral paliperidone should be taken into consideration when assessing drug-drug interaction potential. In addition, consider the 6-month dosing interval and the half-life of INVEGA HAFYERA [see Clinical Pharmacology (12.3)].

Table 10 presents clinically significant drug interactions with INVEGA HAFYERA.

Table 10. Clinically Important Drug Interactions with INVEGA HAFYERA

Centrally acting Drugs and Alcohol

Clinical Rationale
Given the primary CNS effects of paliperidone, concomitant use of centrally acting drugs and alcohol may modulate the CNS effects of INVEGA HAFYERA.

Clinical Recommendation
INVEGA HAFYERA should be used with caution with other centrally acting drugs and alcohol.

Drugs with Potential for Inducing Orthostatic Hypotension

Clinical Rationale
Because INVEGA HAFYERA has the potential for inducing orthostatic hypotension, an additive effect may occur when INVEGA HAFYERA is administered with other therapeutic agents that have this potential [see Warnings and Precautions (5.7)].

Clinical Recommendation
Monitor orthostatic vital signs in patients who are vulnerable to hypotension [see Warnings and Precautions (5.7)].

Strong Inducers of CYP3A4 and P-gp

Clinical Rationale
The concomitant use of INVEGA HAFYERA and strong inducers of CYP3A4 and P-gp may decrease the exposure of paliperidone [see Clinical Pharmacology (12.3)].

Clinical Recommendation
Avoid using CYP3A4 and/or P-gp inducers with INVEGA HAFYERA during the 6-month dosing interval, if possible. If administering a strong inducer is necessary, consider managing the patient using paliperidone extended-release tablets [see Dosage and Administration (2.7)].

Examples
carbamazepine, rifampin, or St. John’s Wort

Levodopa and Other Dopamine Agonists

Clinical Rationale
Paliperidone may antagonize the effect of levodopa and other dopamine agonists.

Clinical Recommendation
Monitor and manage patient as clinically appropriate.

7.2 Drugs Having No Clinically Important Interactions with INVEGA HAFYERA

Based on in vitro pharmacokinetic studies with oral paliperidone, no dosage adjustment of INVEGA HAFYERA is required when administered concomitantly with valproate [see Clinical Pharmacology (12.3)]. Additionally, no dosage adjustment is necessary for valproate when co-administered with INVEGA HAFYERA [see Clinical Pharmacology (12.3)].

Pharmacokinetic interaction between lithium and INVEGA HAFYERA is unlikely.

Paliperidone is not expected to cause clinically important pharmacokinetic interactions with drugs that are metabolized by cytochrome P450 isozymes. In vitro studies indicate that CYP2D6 and CYP3A4 may be involved in paliperidone metabolism; however, there is no evidence in vivo that inhibitors of these enzymes significantly affect the metabolism of paliperidone. Paliperidone is not a substrate of CYP1A2, CYP2A6, CYP2C9, and CYP2C19; an interaction with inhibitors or inducers of these isozymes is unlikely [see Clinical Pharmacology (12.3)].

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 atypical antipsychotics, including INVEGA HAFYERA, during pregnancy. Healthcare providers are encouraged to register patients by contacting the National Pregnancy Registry for Atypical Antipsychotics at 1-866-961-2388 or online at http://womensmentalhealth.org/clinical-and-research-programs/pregnancyregistry/.

Risk Summary

Neonates exposed to antipsychotic drugs during the third trimester of pregnancy are at risk for extrapyramidal and/or withdrawal symptoms following delivery [see Clinical Considerations]. Overall, available data from published epidemiologic studies of pregnant women exposed to paliperidone have not established a drug-associated risk for major birth defects, miscarriage, or adverse maternal or fetal outcomes [see Data]. There are risks to the mother associated with untreated schizophrenia and with exposure to antipsychotics, including INVEGA HAFYERA during pregnancy [see Clinical Considerations]. Paliperidone has been detected in plasma in adult subjects up to 18 months after a single-dose administration of 3-month paliperidone palmitate extended-release injectable suspension. [See Clinical Pharmacology (12.3)]. The clinical significance of INVEGA HAFYERA administered before pregnancy or anytime during pregnancy is not known.

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

In animal reproduction studies, there were no treatment related effects on the offspring when pregnant rats were injected intramuscularly with paliperidone palmitate or when pregnant rats and rabbits were treated orally with paliperidone during the period of organogenesis. Additional reproduction toxicity studies were conducted with orally administered risperidone, which is extensively converted to paliperidone (see Animal Data).

Clinical Considerations

• Disease-associated maternal and/or embryo/fetal risk

There is a risk to the mother from untreated schizophrenia, including increased risk of relapse, hospitalization, and suicide. Schizophrenia is associated with increased adverse perinatal outcomes, including preterm birth. It is not known if this is a direct result of the illness or other comorbid factors.

• Fetal/Neonatal Adverse Reactions

Extrapyramidal and/or withdrawal symptoms, including agitation, hypotonia, tremor, somnolence, respiratory distress, and feeding disorder have been reported in neonates who were exposed to antipsychotic drugs, including INVEGA HAFYERA, during the third trimester of pregnancy. These symptoms have varied in severity. Monitor neonates for extrapyramidal and/or withdrawal symptoms and manage symptoms appropriately. Some neonates recovered within hours or days without specific treatment; others required prolonged hospitalization.

Data

• Human Data

Published data from observational studies, birth registries, and case reports on the use of atypical antipsychotics during pregnancy do not report a clear association with antipsychotics and major birth defects. A prospective observational study including 6 women treated with risperidone, the parent compound of paliperidone, demonstrated placental passage of risperidone and paliperidone. A retrospective cohort study from a Medicaid database of 9258 women exposed to antipsychotics during pregnancy did not indicate an overall increased risk for major birth defects. There was a small increase in the risk of major birth defects (RR=1.26, 95% CI 1.02-1.56) and of cardiac malformations (RR=1.26, 95% CI 0.88-1.81) in a subgroup of 1568 women exposed to the parent compound of paliperidone, risperidone, during the first trimester of pregnancy; however, there is no mechanism of action to explain the difference in malformation rates.

• Animal Data

No developmental toxicity studies were conducted with the 6-month paliperidone palmitate extended-release injectable suspension.

There were no treatment-related effects on the offspring when pregnant rats were injected intramuscularly with 1-month paliperidone palmitate extended-release
INVEGA HAFYERA™ (paliperidone palmitate)

injectable suspension during the period of organogenesis at doses up to 250 mg/kg, which is ~10 times the MRHD of 234 mg of the 1-month paliperidone palmitate extended-release injectable suspension based on mg/m² body surface area. In animal reproduction studies, there were no increases in fetal abnormalities when pregnant rats and rabbits were treated orally with paliperidone during the period of organogenesis with up to 8 times the oral MRHD of 12 mg based on mg/m² body surface area.

Additional reproduction toxicity studies were conducted with orally administered risperidone, which is extensively converted to paliperidone. Cleft palate was observed in the offspring of pregnant mice treated with risperidone at 3 to 4 times the MRHD of 16 mg based on mg/m² body surface area; maternal toxicity occurred at 4 times the MRHD. There was no evidence of teratogenicity in embryofetal developmental toxicity studies with risperidone in rats and rabbits at doses up to 6 times the MRHD of 16 mg/day risperidone based on mg/m² body surface area. When the offspring of pregnant rats, treated with risperidone at 0.6 times the MRHD, were observed at 0.8 times the fetal body surface area, reached adulthood, learning was impaired. Increased neuronal cell death occurred in the fetal brains of the offspring of pregnant rats treated at 0.5 to 1.2 times the MRHD; the postnatal development and growth of the offspring was delayed.

In rat reproduction studies with risperidone, pup deaths occurred at oral doses which are less than the MRHD of risperidone based on mg/m² body surface area; it is not known whether these deaths were due to a direct effect on the fetuses or pups or, to effects on the dams.

8.2 Lactation
Risk Summary
Limited data from published literature report the presence of paliperidone in human breast milk. There is no information on the effects on the breastfed infant, or the effects on milk production; however, there are reports of sedation, failure to thrive, jitteriness, and extrapyramidal symptoms (tremors and abnormal muscle movements) in breastfed infants exposed to paliperidone's parent compound, risperidone (see Clinical Considerations). Paliperidone has been detected in plasma in adult subjects up to 18 months after a single-dose administration of 3-month paliperidone palmitate extended-release injectable suspension. The clinical significance of the breastfeeding infant is not known (see Clinical Pharmacology (12.3)). The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for INVEGA HAFYERA and any potential adverse effects on the breastfed child from INVEGA HAFYERA or from the mother’s underlying condition.

Clinical Considerations
Infants exposed to INVEGA HAFYERA through breastmilk should be monitored for excess sedation, failure to thrive, jitteriness, and extrapyramidal symptoms (tremors and abnormal muscle movements).

8.3 Females and Males of Reproductive Potential
Infertility
Females
Based on the pharmacologic action of paliperidone (D₂ receptor antagonism), treatment with INVEGA HAFYERA may result in an increase in serum prolactin levels, which may lead to a reversible reduced ovulation rate and infertility in females of reproductive potential (see Warnings and Precautions [5.10]).

8.4 Pediatric Use
Safety and effectiveness of INVEGA HAFYERA in patients less than 18 years of age have not been established. Use of INVEGA HAFYERA is not recommended in pediatric patients because of the potential longer duration of an adverse event. In clinical trials of oral paliperidone, there were notably higher incidences of dystonia, hyperkinesia, tremor, and parkinsonism in the adolescent population as compared to the adult studies.

Juvenile Animal Studies
No juvenile animal studies were conducted with the 6-month paliperidone palmitate extended-release injectable suspension. In a study in which juvenile rats were treated with oral paliperidone from days 24 to 73 of age, a reversible impairment of performance in a test of learning and memory was seen at a no-effect dose of 0.63 mg/kg/day, which produced plasma levels (AUC) of paliperidone similar to those in adolescents dosed at 12 mg/day. No other consistent effects on neurobehavioral or reproductive development were seen up to the highest dose tested (2.5 mg/kg/day), which produced plasma levels of paliperidone 2-3 times those in adolescents.

Juvenile dogs were treated for 40 weeks with oral risperidone, which is extensively metabolized to paliperidone in animals and humans, at doses of 0.31, 1.25, or 5 mg/kg/day. Decreased bone length and density were seen with a no-effect dose of 0.31 mg/kg/day, which produced plasma levels (AUC) of risperidone plus paliperidone which were similar to those in children and adolescents receiving the MRHD of risperidone. In addition, a delay in sexual maturation was seen at all doses in both males and females. The above effects showed little or no reversibility in females after a 12-week drug-free recovery period.

8.5 Geriatric Use
The clinical study of INVEGA HAFYERA did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients.

This drug is substantially excreted by the kidney and clearance is decreased in patients with renal impairment (see Clinical Pharmacology [12.3]). Because elderly patients are more likely to have decreased renal function, INVEGA HAFYERA is not recommended to be used in elderly patients with mild, moderate or severe renal impairment (see Use in Specific Populations [8.6]).

8.6 Renal Impairment
Use of INVEGA HAFYERA is not recommended for use in patients with mild, moderate, or severe renal impairment (creatinine clearance <90 mL/min) because necessary dosage adjustment is not possible with available strengths of INVEGA HAFYERA [Clinical Pharmacology (12.3)].

8.7 Hepatic Impairment
INVEGA HAFYERA has not been studied in patients with hepatic impairment. Based on a study with oral paliperidone, no dose adjustment is required in patients with mild or moderate hepatic impairment. Paliperidone has not been studied in patients with severe hepatic impairment (see Clinical Pharmacology [12.3]).

8.8 Patients with Parkinson's Disease or Lewy Body Dementia
Patients with Parkinson's Disease or Dementia with Lewy Bodies can experience increased sensitivity to INVEGA HAFYERA. Manifestations can include confusion, obtundation, postural instability with frequent falls, extrapyramidal symptoms, and clinical features consistent with neuroleptic malignant syndrome.

9 DRUG ABUSE AND DEPENDENCE

9.1 Controlled Substance
INVEGA HAFYERA contains paliperidone, which is not a controlled substance.

9.2 Abuse
Paliperidone has not been systematically studied in animals or humans for its potential for abuse.

9.3 Dependence
Paliperidone has not been systematically studied in animals or humans for its potential for tolerance or physical dependence.

10 OVERDOSAGE

Human Experience
No cases of overdose were reported in premarketing studies with paliperidone palmitate injection.

While experience with paliperidone overdose is limited, among the few cases of overdose reported in premarketing trials with oral paliperidone, the highest estimated ingestion was 405 mg. Observed signs and symptoms included extrapyramidal symptoms and gait unsteadiness. Other potential signs and symptoms include those resulting from an exaggeration of paliperidone's known pharmacological effects, i.e., drowsiness and sedation, tachycardia and hypertension, and QT prolongation. Torsades de pointes and ventricular fibrillation have been reported in a patient in the setting of overdose with oral paliperidone.

Paliperidone is the major active metabolite of risperidone. Refer to the OVERDOSAGE section of the risperidone prescribing information for overdose experience with risperidone.

Management of Overdose
Contact a Certified Poison Control Center for the most up to date information on the management of paliperidone and INVEGA HAFYERA overdose (1-800-222-1222 or www.poison.org). Provide supportive care, including close medical supervision and monitoring. Treatment should consist of general measures employed in the management of overdose with any drug. Consider the possibility of multiple drug overdose. Ensure an adequate airway, oxygenation, and ventilation. Monitor cardiac rhythm and vital signs. Use supportive and symptomatic measures. There is no specific antidote to paliperidone.

Consider the extended-release characteristics of INVEGA HAFYERA and the half-life of paliperidone when assessing treatment needs and recovery.

11 DESCRIPTION
INVEGA HAFYERA™ contains a racemic mixture of (+)- and (-)-paliperidone palmitate. Paliperidone palmitate is an atypical antipsychotic belonging to the chemical class of benzoxazole derivatives. The chemical name is [9RS-3-[4-(6-Fluoro-1,2-benzisoxazol-3-yl)piperidin-1-yl][ethyl]-2-methyl-4-oxo-6,7,8,9-tetrahydro-4H-pyrido][2,3-b]pyrimidin-3-yl hexadecanoate. Its molecular formula is C₃₅H₄₈F₂N₂O₅ and its molecular weight is 684.89. The structural formula is:

Paliperidone palmitate is very slightly soluble in ethanol and methanol, practically insoluble in polyethylene glycol 400 and propylene glycol, and slightly soluble in ethyl acetate.
INVEGA HAFYERA™ (paliperidone palmitate)

INVEGA HAFYERA™ is available as a white to off-white aqueous extended-release suspension for intramuscular injection in dose strengths of 1,092 mg and 1,560 mg paliperidone palmitate. The drug product hydrolyzes to the active moiety, paliperidone, resulting in dose strengths of 700 mg, and 1,000 mg of paliperidone, respectively. The inactive ingredients are polysorbate 20 (10 mg/mL), polyethylene glycol 4000 (75 mg/mL), citric acid monohydrate (7.5 mg/mL), sodium dihydrogen phosphate monohydrate (6 mg/mL), sodium hydroxide (5.4 mg/mL), and water for injection.

INVEGA HAFYERA™ is provided in a single-dose prefilled syringe (cyclic-olefin-copolymer) prefilled with either 700 mg (3.5 mL), or 1,000 mg (5.0 mL) paliperidone palmitate (as 1,092 mg, or 1,560 mg paliperidone palmitate) suspension with a tip cap, plunger rod, backstop and a thin walled 20G, ½-inch safety needle.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action
Paliperidone palmitate is hydrolyzed to paliperidone [see Clinical Pharmacology (12.3)]. Paliperidone is the major active metabolite of risperidone. The mechanism of action of paliperidone is unclear. However, its efficacy in the treatment of schizophrenia could be mediated through a combination of central dopamine D2 receptor and serotonin 5HT2A receptor antagonism.

12.2 Pharmacodynamics
In vitro, paliperidone acts as an antagonist at the central dopamine D2 and serotonin 5HT2A receptors with binding affinities (Ki values) of 1.8-2.8 nM and 0.8-1.2 nM, respectively. Paliperidone also acts as an antagonist at histamine H1 and α1 and β1-adrenergic receptors with binding affinities of 22, 4, and 17 nM, respectively. Paliperidone has no appreciable affinity for cholinergic muscarinic or μ- and β2-adrenergic receptors. The pharmacological activity of the (+)- and (-)-paliperidone enantiomers is qualitatively and quantitatively similar in vitro.

12.3 Pharmacokinetics
The pharmacokinetics for INVEGA HAFYERA presented below are based on gluteal administration only.

INVEGA HAFYERA delivers paliperidone over a 6-month period, compared to the 1-month or 3-month products which are administered every month or every three months, respectively. INVEGA HAFYERA doses of 1,092 mg and 1,560 mg result in paliperidone total exposure ranges that are encompassed within the exposure range for corresponding doses of 1-month paliperidone palmitate injections (PP1M) (156 mg and 234 mg) or corresponding doses of 3-month paliperidone palmitate (PP3M) injections (546 mg and 819 mg, respectively) or to corresponding once daily doses of paliperidone extended-release tablets. However, mean trough concentrations (Cmin) at the end of the dosing interval were approximately 20 - 25% lower for INVEGA HAFYERA as compared to corresponding doses of 3-month paliperidone palmitate. The mean peak concentration (Cmax) was higher (1.4 to 1.5-fold) for INVEGA HAFYERA as compared to corresponding doses of 3-month paliperidone palmitate.

Inter-subject variability in paliperidone PK parameters for INVEGA HAFYERA ranged from 42 to 48% for AUC and Cmax respectively. Paliperidone has no appreciable affinity for cytochrome P450 enzymes. In vitro, paliperidone is not a substrate of P-gp, a strong inhibitor of both CYP3A4 and P-gp [see Drug Interactions (7.1)]. This decrease is caused, to a substantial degree, by a 35% increase in renal clearance of paliperidone.

INVEGA HAFYERA™ (paliperidone palmitate)

Excetration
The median apparent half-life of paliperidone following a single INVEGA HAFYERA administration of either 1,092 or 1,560 mg was 148 and 159 days respectively. The concentration of paliperidone remaining in the circulation 18 months after dosing of 1,560 mg 6-month paliperidone palmitate extended-release injectable suspension stopped is estimated to be 18% of the average steady-state levels.

Drug Interaction Studies
No specific drug interaction studies have been performed with INVEGA HAFYERA. The information below is obtained from studies with oral paliperidone.

Effects of other drugs on the exposures of INVEGA HAFYERA are summarized in Figure 1. After oral administration of 20 mg/day of paroxetine (a potent CYP2D6 inhibitor), an increase in mean Cmax and AUC values at steady-state was observed (see Figure 1). Higher doses of paroxetine have not been studied. The clinical relevance is unknown. After oral administration of paliperidone, a decrease in mean Cmax and AUC values at steady-state is expected when patients are treated with substrates of P-gp, a strong inhibitor of both CYP3A4 and P-gp [see Drug Interactions (7.1)]. This decrease is caused, to a substantial degree, by a 35% increase in renal clearance of paliperidone.

Figure 1: Effects of Other Drugs on INVEGA HAFYERA Pharmacokinetics
Specific Populations
No specific pharmacokinetic studies have been performed with INVEGA HAFYERA in specific populations. All the information is obtained from studies with oral paliperidone or is based on the population pharmacokinetic modelling of oral paliperidone and INVEGA HAFYERA. Exposures of paliperidone in specific populations (renal impairment, hepatic impairment and elderly) are summarized in Figure 3 [see Dosage and Administration (2.5) and Use in Specific Populations (8.6)].

Patients with Hepatic Impairment
After oral administration of paliperidone in patients with moderate hepatic impairment, the plasma concentrations of free paliperidone were similar to those of healthy subjects, although total paliperidone exposure decreased because of a decrease in protein binding. Paliperidone has not been studied in patients with severe hepatic impairment [see Use in Specific Populations (8.7)].

Geriatric Patients
After oral administration of paliperidone in elderly subjects, the Cmax and AUC increased 1.2-fold compared to young subjects. This may be attributable to age-related decreases in creatinine clearance [see Dosage and Administration (2.5) and Use in Specific Populations (8.5)].

Figure 3: Effects of Intrinsic factors on Paliperidone Pharmacokinetics

Smokers
Based on in vitro studies utilizing human liver enzymes, paliperidone is not a substrate for CYP1A2; smoking should, therefore, not have an effect on the pharmacokinetics of paliperidone.

Male and Female Patients
Slower absorption was observed in females in a population pharmacokinetic analysis. At apparent steady-state with 6-month paliperidone palmitate extended-release injectable suspension the trough concentrations were similar between males and females.

Obese Patients
Lower Cmax was observed in overweight and obese subjects. At apparent steady state with INVEGA HAFYERA, the trough concentrations were similar among normal, overweight, and obese subjects.

13 NONCLINICAL TOXICOLOGY
13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility
Carcinogenesis
No carcinogenicity studies were conducted with the 6-month paliperidone palmitate extended-release injectable suspension. The carcinogenic potential of intramuscularly injected 1-month paliperidone palmitate extended-release injectable suspension was assessed in rats. There was an increase in mammary gland adenocarcinomas in female rats at 16, 47, and 94 mg/kg/month, which are ~0.7, 2 and 4 times, respectively, the MRHD of 234 mg based on mg/m² body surface area. There was an increase in mammary gland adenocarcinomas in male rats at 2.5 mg/kg/day which is half of the oral MRHD of 12 mg based on mg/m² body surface area. However, pre- and post-implantation loss was increased, and the number of live embryos was slightly decreased, at 2.5 mg/kg, a dose that also caused slight maternal toxicity. These parameters were not affected at an oral dose of 0.63 mg/kg, which is half of the oral MRHD of 12 mg based on mg/m² body surface area.

The fertility of male rats was not affected at oral doses of paliperidone of up to 2 times the oral MRHD of 12 mg/kg/day based on mg/m² body surface area, although sperm count and sperm viability studies were not conducted with paliperidone. In a subchronic study in Beagle dogs with risperidone, which is extensively converted to paliperidone in dogs and humans, all doses tested (0.31 mg/kg - 5.0 mg/kg) resulted in decreases in serum testosterone and in sperm motility and concentration (0.6 to 10 times the MRHD of 16 mg/day for risperidone, based on mg/m² body surface area). Serum testosterone and sperm parameters partially recovered, but remained decreased after the last observation (two months after treatment was discontinued).

13.2 Animal Toxicology and/or Pharmacology
Injection site toxicity was assessed in minipigs injected intramuscularly with the 6-month paliperidone palmitate extended-release injectable suspension at doses up to 2,115 mg, which is slightly above the MRHD. Injection site inflammatory reactions were greater and more advanced than reactions to the 1-month paliperidone palmitate extended-release injectable suspension. Reversibility of these findings was not examined.

14 CLINICAL STUDIES
The efficacy of INVEGA HAFYERA for the treatment of schizophrenia in patients who had previously been stably treated with either PP1M for at least 4 months or PP3M for at least one 3-month injection cycle was evaluated in a randomized, double-blind, active-controlled, interventional, parallel-group, multicenter, non-inferiority study designed to evaluate time to relapse in adults with a DSM-5 diagnosis of schizophrenia.

Patients could enter the study if previously treated with PP1M at dosages of 156 or 234 mg, PP3M at dosages of 546 or 819 mg, injectable risperidone at dosages of 50 mg, or any oral atypical antipsychotic with a reason to change (e.g., efficacy, safety, tolerability, or a preference for a long-acting injectable medication) and with a PANSS total score of <70 points.

After establishing tolerability with PP1M (at dosages of 156 or 234 mg) or PP3M (at dosages of 546 or 819 mg) and clinical stability, defined by having a PANSS total score of <70 points for the previous 2 assessments prior to the double-blind phase, patients were randomized in a 2:1 ratio to receive INVEGA HAFYERA (478 patients) or PP3M (224 patients).

The primary efficacy variable was time to first relapse in the double-blind phase. The primary efficacy analysis was based on the difference in Kaplan-Meier 12-month estimates of percentage of subjects remaining relapse-free between INVEGA HAFYERA and 3-month paliperidone palmitate extended-release injectable suspension. Relapse was pre-defined as emergence of one or more of the following:

- psychotic hospitalization, ≥25% increase (if the baseline score was >40) or a 10-point increase (if the baseline score was ≤40) in total PANSS score on two consecutive assessments, deliberate self-injury, violent behavior, suicidal/homicidal ideation: a score of ≥5 (if the maximum baseline score was ≥3) or ≥6 (if the maximum baseline score was >4) on two consecutive assessments of the specific PANSS items.

A relapse event was experienced by 7.5% and 4.9% of patients in the baseline score was 4) on two consecutive assessments of the specific PANSS items. The primary efficacy analysis was based on the Kaplan-Meier 12-month estimates of percentage of subjects remaining relapse-free between INVEGA HAFYERA and PP3M at dosages of 546 or 819 mg, injectable risperidone at dosages of 50 mg, or any oral atypical antipsychotic with a reason to change (e.g., efficacy, safety, tolerability, or a preference for a long-acting injectable medication) and with a PANSS total score of <70 points.

After establishing tolerability with PP1M (at dosages of 156 or 234 mg) or PP3M (at dosages of 546 or 819 mg) and clinical stability, defined by having a PANSS total score of <70 points for the previous 2 assessments prior to the double-blind phase, patients were randomized in a 2:1 ratio to receive INVEGA HAFYERA (478 patients) or PP3M (224 patients).

The primary efficacy variable was time to first relapse in the double-blind phase. The primary efficacy analysis was based on the difference in Kaplan-Meier 12-month estimates of percentage of subjects remaining relapse-free between INVEGA HAFYERA and 3-month paliperidone palmitate extended-release injectable suspension. Relapse was pre-defined as emergence of one or more of the following:

- psychotic hospitalization, ≥25% increase (if the baseline score was >40) or a 10-point increase (if the baseline score was ≤40) in total PANSS score on two consecutive assessments, deliberate self-injury, violent behavior, suicidal/homicidal ideation: a score of ≥5 (if the maximum baseline score was ≥3) or ≥6 (if the maximum baseline score was >4) on two consecutive assessments of the specific PANSS items.

A relapse event was experienced by 7.5% and 4.9% of patients in the
INVEGA HAFYERA™ (paliperidone palmitate)

Figure 4  Kaplan-Meier Plot of Cumulative Proportion of Patients with Relapse Over Time

An evaluation of population subgroups did not reveal any clinically significant differences in responsiveness on the basis of gender, age, or race.

16 HOW SUPPLIED/STORAGE AND HANDLING

INVEGA HAFYERA™ is available as a white to off-white sterile aqueous extended-release suspension for subcutaneous administration in single-dose prefilled syringes and a 20G, 1½-inch safety needle.

1,092 mg paliperidone palmitate kit (NDC 50458-611-01)
1,560 mg paliperidone palmitate kit (NDC 50458-612-01)

Storage and Handling

Store at room temperature 20°C to 25°C (68°F to 77°F); excursions between 15°C and 30°C (59°F and 86°F) are permitted. Do not mix with any other product or diluent.

Ship and store in a horizontal position. See arrows on product carton for proper orientation.

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Patient Information).

Neuroleptic Malignant Syndrome (NMS)

Counsel patients about a potentially fatal side effect referred to as Neuroleptic Malignant Syndrome (NMS) that has been reported in association with administration of antipsychotic drugs. Patients should contact their health care provider or report to the emergency room if they experience the following signs and symptoms of NMS, including hyperpyrexia, muscle rigidity, altered mental status, and evidence of autonomic instability (irregular pulse or blood pressure, tachycardia, diaphoresis, and cardiac dysrhythmia [see Warnings and Precautions (5.3)].

Tardive Dyskinesia

Counsel patients on the signs and symptoms of tardive dyskinesia and to contact their health care provider if these abnormal movements occur [see Warnings and Precautions (5.5)].

Metabolic Changes

Educate patients about the risk of metabolic changes, how to recognize symptoms of hyperglycemia (high blood sugar) and diabetes mellitus (e.g., polydipsia, polyuria, polyphagia, and weakness), and the need for specific monitoring, including blood glucose, lipids, and weight [see Warnings and Precautions (5.6)].

Orthostatic Hypotension

Educate patients about the risk of orthostatic hypotension, particularly at the time of initiating treatment, re-initiating treatment, or increasing the dose [see Warnings and Precautions (5.7)].

Leukopenia/Neutropenia

Advise patients with a pre-existing low WBC or a history of drug induced leukopenia/neutropenia they should have their CBC monitored while taking INVEGA HAFYERA [see Warnings and Precautions (5.9)].

Hyperprolactinemia

Counsel patients on signs and symptoms of hyperprolactinemia that may be associated with chronic use of INVEGA HAFYERA. Advise them to seek medical attention if they experience any of the following: amenorrhea or galactorrhea in females, erectile dysfunction or gynecomastia in males. [See Warnings and Precautions (5.10)].
# PATIENT INFORMATION

**INVEGA HAFYERA™**
(in-VAY-guh HAF-ye-RA)
(paliperidone palmitate)
extended-release injectable suspension

## What is the most important information I should know about INVEGA HAFYERA?

INVEGA HAFYERA may cause serious side effects, including:

- **Increased risk of death in elderly people with dementia-related psychosis.** INVEGA HAFYERA increases the risk of death in elderly people who have lost touch with reality (psychosis) due to confusion and memory loss (dementia). INVEGA HAFYERA is not for the treatment of people with dementia-related psychosis.

## What is INVEGA HAFYERA?

INVEGA HAFYERA is a prescription medicine given by injection by a healthcare provider 1 time every 6 months and used for the treatment of schizophrenia in adults who have been adequately treated with either:

- A 1 time each month paliperidone palmitate extended-release injectable suspension for at least 4 months.
- A 1 time every 3 months paliperidone palmitate extended-release injectable suspension for at least 3 months.

It is not known if INVEGA HAFYERA is safe and effective in children under 18 years of age.

## Do not receive INVEGA HAFYERA if you

- are allergic to paliperidone palmitate, risperidone, or any of the ingredients in INVEGA HAFYERA. See the end of this Patient Information leaflet for a complete list of ingredients in INVEGA HAFYERA.

## Before receiving INVEGA HAFYERA, tell your healthcare provider about all your medical conditions, including if you:

- have had Neuroleptic Malignant Syndrome (NMS)
- have or have had heart problems, including a heart attack, heart failure, abnormal heart rhythm, or long QT syndrome
- have or have had low levels of potassium or magnesium in your blood
- have or have had uncontrolled movements of your tongue, face, mouth, or jaw (tardive dyskinesia)
- have or have had kidney or liver problems
- have diabetes or have a family history of diabetes
- have Parkinson's disease or a type of dementia called Lewy Body Dementia
- have had a low white blood cell count
- have had problems with dizziness or fainting or are being treated for high blood pressure
- have or have had seizures or epilepsy
- are pregnant or plan to become pregnant. It is not known if INVEGA HAFYERA will harm your unborn baby.

- Tell your healthcare provider right away if you become pregnant or think you may be pregnant during treatment with INVEGA HAFYERA.
- If you become pregnant while receiving INVEGA HAFYERA, talk to your healthcare provider about registering with the National Pregnancy Registry for Atypical Antipsychotics. You can register by calling 1-866-961-2388 or visit [http://womensmentalhealth.org/clinical-and-research-programs/pregnancyregistry/](http://womensmentalhealth.org/clinical-and-research-programs/pregnancyregistry/).
- Babies born to mothers who receive INVEGA HAFYERA during their third trimester of pregnancy may develop agitation, low muscle tone (floppy baby syndrome) tremors, excessive sleepiness, breathing problems, and feeding problems. Tell your healthcare provider right away if your baby develops any of these symptoms.
- are breastfeeding or plan to breastfeed. INVEGA HAFYERA can pass into your breast milk. Talk to your healthcare provider about the best way to feed your baby during treatment with INVEGA HAFYERA.

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

INVEGA HAFYERA and other medicines may affect each other causing possible serious side effects. INVEGA HAFYERA may affect the way other medicines work, and other medicines may affect how INVEGA HAFYERA works.

Your healthcare provider can tell you if it is safe to receive INVEGA HAFYERA with your other medicines. Do not start or stop any medicines during treatment with INVEGA HAFYERA without talking to your healthcare provider first.

Know the medicines you take. Keep a list of them to show to your healthcare provider or pharmacist when you get a new medicine.
How will I receive INVEGA HAFYERA?
• Follow your INVEGA HAFYERA treatment schedule exactly as your healthcare provider tells you to.
• Your healthcare provider will tell you how much INVEGA HAFYERA you will receive and when you will receive it.
• INVEGA HAFYERA is given as an injection by your healthcare provider into the muscle (intramuscularly) of your buttocks, 1 time every 6 months.

What should I avoid while receiving INVEGA HAFYERA?
• Do not drive, operate heavy machinery, or do other dangerous activities until you know how INVEGA HAFYERA affects you. INVEGA HAFYERA may affect your judgment, thinking, or motor skills.
• Avoid getting too hot or dehydrated.
  • Do not exercise too much.
  • In hot weather, stay inside in a cool place if possible.
  • Stay out of the sun.
  • Do not wear too much clothing or heavy clothing.
  • Drink plenty of water.

What are the possible side effects of INVEGA HAFYERA?
INVEGA HAFYERA may cause serious side effects, including:
• See “What is the most important information I should know about INVEGA HAFYERA?”
• Cerebrovascular problems (including stroke) in elderly people with dementia-related psychosis that can lead to death.
• Neuroleptic Malignant Syndrome (NMS), a serious condition that can lead to death. Call your healthcare provider or go to your nearest hospital emergency room right away if you have some or all of the following signs and symptoms of NMS:
  ° high fever
  ° stiff muscles
  ° confusion
  ° sweating
  ° changes in your breathing, pulse, heart rate, and blood pressure
• Problems with your heartbeat. These heart problems can cause death. Call your healthcare provider right away if you have any of these symptoms:
  ° passing out or feeling like you will pass out
  ° dizziness
  ° feeling as if your heart is pounding or missing beats
• Uncontrolled body movements (tardive dyskinesia). INVEGA HAFYERA may cause movements that you cannot control in your face, tongue, or other body parts. Tardive dyskinesia may not go away, even if you stop receiving INVEGA HAFYERA. Tardive dyskinesia may also start after you stop receiving INVEGA HAFYERA.
What are the possible side effects of INVEGA HAFYERA? (continued)

INVEGA HAFYERA may cause serious side effects, including:

- Problems with your metabolism such as:
  - **High blood sugar (hyperglycemia) and diabetes.** Increases in blood sugar can happen in some people who receive INVEGA HAFYERA. Extremely high blood sugar can lead to coma or death. Your healthcare provider should check your blood sugar before you start and regularly during treatment with INVEGA HAFYERA.
    - **Call your healthcare provider if you have any of these symptoms of high blood sugar during treatment with INVEGA HAFYERA:**
      - feel very thirsty
      - feel very hungry
      - feel sick to your stomach
      - need to urinate more than usual
      - feel weak or tired
      - feel confused, or your breath smells fruity
  - **Increased fat levels (cholesterol and triglycerides) in your blood.** Your healthcare provider should check the fat levels in your blood before you start and regularly during treatment with INVEGA HAFYERA.
    - **Weight gain.** You and your healthcare provider should check your weight before you start and often during treatment with INVEGA HAFYERA.
  - **Decreased blood pressure (orthostatic hypotension) and fainting.** You may feel lightheaded or faint when you rise too quickly from a sitting or lying position, especially early in treatment or when the dose is changed.
  - **Falls.** INVEGA HAFYERA may make you sleepy or dizzy, may cause a decrease in your blood pressure when changing position (orthostatic hypotension), and can slow your thinking and motor skills which may lead to falls that can cause fractures or other injuries.
  - **Low white blood cell count.** Your healthcare provider may do blood tests during the first few months of treatment with INVEGA HAFYERA.
  - **Increased prolactin levels in your blood (hyperprolactinemia).** INVEGA HAFYERA may cause a rise in the blood levels of a hormone called prolactin (hyperprolactinemia) that may cause side effects including missed menstrual periods, a reversible reduction in fertility in females who are able to become pregnant, leakage of milk from the breasts, development of breasts in men, or problems with erection.
  - **INVEGA HAFYERA can make you sleepy or dizzy, and can slow your thinking and motor skills.** Do not drive, operate heavy machinery, or do other dangerous activities until you know how INVEGA HAFYERA affects you.
  - **Seizures (convulsions).**
  - **Difficulty swallowing** that can cause food or liquid to get into your lungs.
  - **Prolonged or painful erection lasting more than 4 hours (priapism).** Call your healthcare provider or go to your nearest emergency room right away if you have an erection that lasts more than 4 hours.
  - **Problems controlling your body temperature so that you feel too warm.** See, “What should I avoid while receiving INVEGA HAFYERA?”

The most common side effects of INVEGA HAFYERA include:

- upper respiratory tract infections
- tremors
- weight gain
- shuffling walk
- feeling restless or difficulty sitting still
- injection site reactions
- slow movements
- headache
- stiffness

These are not all the possible side effects of INVEGA HAFYERA.

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

General information about INVEGA HAFYERA.

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. You can ask your pharmacist or healthcare provider for information about INVEGA HAFYERA that is written for health professionals.

What are the ingredients in INVEGA HAFYERA?

**Active ingredient:** paliperidone palmitate

**Inactive ingredients:** polysorbate 20, polyethylene glycol 4000, citric acid monohydrate, sodium dihydrogen phosphate monohydrate, sodium hydroxide, and water for injection

Manufactured by: Janssen Pharmaceutica N.V. Beerse, Belgium
Manufactured for: Janssen Pharmaceuticals, Inc. Titusville, NJ 08560
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For more information, go to www.invegahafyerahcp.com or call 1-800-526-7736.