## PRODUCT MONOGRAPH INCLUDING PATIENT MEDICATION INFORMATION

#### Pr JAMP Methimazole

Methimazole Tablets

Tablets, 5 mg and 10 mg, oral

USP ATC Code: H03BB02 Antithyroid Agent

JAMP Pharma Corporation 1310 rue Nobel Boucherville, Quebec Canada, J4B 5H3

**Control No.** 263906

Date of Initial Authorization: July 17, 2019 Date of Revision: October 18, 2022

#### **RECENT MAJOR LABEL CHANGES**

1 Indications	10/2022
2 Contraindications	10/2022
4 Dosage and Administration, Geriatric, Hepatic Impairment,	10/2022
and Renal Impairment	
7 Warnings and Precautions, Cardiovascular, Vasculitis	10/2022
7 Warnings and Precautions, Endocrine and Metabolism,	10/2022
<u>Hypothyroidism</u>	
7 Warnings and Precautions, Monitoring and Laboratory Tests	10/2022
7 Warnings and Precautions, Respiratory	10/2022
7 Warnings and Precautions, 7.1.1 Pregnant Women	10/2022

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## PART I: HEALTH PROFESSIONAL INFORMATION

#### **1** INDICATIONS

JAMP Methimazole (methimazole tablets) is indicated for:

- The medical treatment of hyperthyroidism. Long-term therapy may lead to remission of the disease.
- Ameliorate hyperthyroidism in preparation for subtotal thyroidectomy or radioactive iodine therapy.
- Use when thyroidectomy is contraindicated or not advisable.

## 1.1 Pediatrics

Pediatrics (<18 years): No data are available to Health Canada; therefore, Health Canada has not authorized an indication for pediatric use.

#### 1.2 Geriatrics

Information specific to the geriatric population is not available for this drug product.

#### 2 CONTRAINDICATIONS

JAMP Methimazole (methimazole tablets) is contraindicated in:

- Patients who are hypersensitive to this drug or to any ingredient in the formulation, including any non-medicinal ingredient, or component of the container. For a complete listing, see <u>6 Dosage Forms</u>, <u>Strengths</u>, <u>Composition and Packaging</u>.
- Nursing mothers, as the drug is excreted in breast milk.
- Patients with history of acute pancreatitis after administration of methimazole.

## 3 SERIOUS WARNINGS AND PRECAUTIONS BOX

## **Serious Warning and Precautions**

- Agranulocytosis (see **7 Warnings and Precautions**, Hematologic and **8 Adverse Reactions**)
- Liver toxicity (see 7 Warnings and Precautions, Hepatic/Biliary/Pancreatic)

#### 4 DOSAGE AND ADMINISTRATION

#### 4.2 Recommended Dose and Dosage Adjustment

**Adult (≥18 years of age):** The initial daily dose is 15 mg for mild hyperthyroidism, 30 to 40 mg for moderately severe hyperthyroidism and 60 mg for severe hyperthyroidism, divided into three doses at eight- hour intervals. The maintenance dosage is 5 to 15 mg daily.

**Geriatric (>65 years of age):** Clinical studies of methimazole did not include sufficient numbers of subjects aged 65 or over to determine whether they respond differently from younger subjects.

In general, dose selection for an elderly patient should be cautious reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

Pediatric (<18 years of age): Health Canada has not authorized an indication for pediatric use.

**Hepatic impairment:** The dose should be kept as low as possible and patients should be closely monitored as the plasma clearance of methimazole is reduced.

**Renal impairment:** The dose should be kept as low as possible and careful individual dose adjustment under close monitoring is recommended as there is a lack of data regarding the pharmacokinetic behaviour of methimazole in patients with renal impairment.

## 4.4 Administration

- JAMP Methimazole (methimazole tablets) is administered orally.
- JAMP Methimazole is usually given in three equal doses a day at approximately eight-hour intervals.

## 4.5 Missed Dose

If a dose is missed, patients should contact their healthcare professional. Patients should not take a double dose to make up for a forgotten dose. Patients should take their next scheduled dose as usual.

## 5 OVERDOSAGE

**Symptoms**: Symptoms may include nausea, vomiting, epigastric distress, headache, fever, joint pain, pruritus and edema. Aplastic anemia (pancytopenia) or agranulocytosis may be manifested in hours to days. Less frequent events are hepatitis, nephrotic syndrome, exfoliative dermatitis, neuropathies and CNS stimulation or depression. Although not well studied, methimazole-induced agranulocytosis is generally associated with doses of 40 mg or more in patients older than 40 years of age.

Overdose may also lead to hypothyroidism with corresponding symptoms of a reduced metabolism and, through the feedback effect, to activation of the adenohypophysis with subsequent goitre growth. This can be avoided by dose reduction as soon as a euthyroid metabolic condition is achieved.

No information is available on the median lethal dose (LD50) of the drug or the concentration of methimazole in biologic fluids associated with toxicity and/or death.

**Treatment:** In managing overdosage, consider the possibility of multiple drug overdoses, interaction among drugs, and unusual drug kinetics in your patient.

The patient's bone marrow function should be monitored.

In case of suspected overdose, patients should be closely monitored for signs or symptoms of adverse reactions and appropriate symptomatic treatment should be instituted as required.

Forced diuresis, peritoneal dialysis, hemodialysis or charcoal hemoperfusion have not been established as beneficial for an overdose of methimazole.

For management of suspected drug overdose, contact your regional poison control centre.

# 6 DOSAGE FORMS, STRENGTHS, COMPOSITION AND PACKAGING

Table 1 – Dosage Forms,	Strengths,	Composition and Packaging	

Route of	Dosage Form /	Non-medicinal Ingredients
Administration Oral		Pregelatinised Starch, lactose monohydrate, magnesium stearate and talc

5 mg tablets: White to off-white, round, debossed with "MET and 5" separated by breakline on one side and plain on other side.

10 mg tablets: White to off-white, round, debossed with "MET and 10" on one side and plain on other side.

JAMP Methimazole tablets are supplied in in bottles of 100.

# 7 WARNINGS AND PRECAUTIONS

Please see <u>3 SERIOUS WARNINGS AND PRECAUTIONS BOX</u>.

# General

Patients who receive methimazole should be under close surveillance. Physicians should encourage patients to immediately report any evidence of illness or unusual clinical symptoms, particularly sore throat, skin eruptions, fever, headache or general malaise. In such cases, white blood cell and differential counts should be made to determine whether agranulocytosis has developed. Particular care should be exercised with patients who are receiving additional drugs known to cause agranulocytosis.

The development of arthralgias should prompt drug discontinuation, since this symptom may indicate a severe transient migratory polyarthritis known as "the antithyroid arthritis syndrome".

## **Carcinogenesis and Mutagenesis**

Animal data has shown thyroid hyperplasia, thyroid adenoma and carcinoma formation (see <u>16 NON-</u> <u>CLINICAL TOXICOLOGY</u> – <u>carcinogenicity</u>).

## Cardiovascular

## Vasculitis

Cases of vasculitis have been observed very rarely in patients receiving methimazole therapy. The cases of vasculitis include: leukocytoclastic cutaneous vasculitis, glomerulonephritis, and systemic vasculitis (with fatal outcome). Many cases were associated with anti-neutrophilic cytoplasmic antibodies (ANCA)-positive vasculitis. Early recognition of vasculitis is important to prevent long term organ damage and/or death. Inform patients to promptly report symptoms that may be associated with vasculitis including rash, hematuria or decreased urine output, dyspnea or hemoptysis. If vasculitis is suspected, discontinue methimazole therapy and initiate appropriate intervention.

## **Endocrine and Metabolism**

Hypothyroidism

JAMP Methimazole (methimazole tablets) can cause hypothyroidism necessitating routine monitoring of TSH and free T4 levels with adjustments in dosing to maintain a euthyroid state. Excess dosage can lead to sub- clinical or clinical hypothyroidism and goitre growth due to TSH increase (see <u>Respiratory</u>).

## Lactose

JAMP Methimazole tablets contain lactose monohydrate. Patients with hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this product.

## Hematologic

## Agranulocytosis

Agranulocytosis is potentially the most serious side effect of therapy with methimazole. Patients should be instructed to report to their physicians any symptoms of agranulocytosis, such as fever or sore throat. Leukopenia, thrombocytopenia, and aplastic anemia (pancytopenia) may also occur. The drug should be discontinued in the presence of agranulocytosis or aplastic anemia (pancytopenia). The patient's bone marrow function should be monitored. See Monitoring and Laboratory Tests.

## Anticoagulant Therapy

Treating patients with both methimazole and warfarin necessitates intensive and frequent monitoring, in particular when initiating, discontinuing or changing doses of methimazole, since alterations in the thyroid function affect the response to anticoagulation. See <u>9.4 Drug-Drug</u><u>Interactions</u>.

# Hepatic/Biliary/Pancreatic

Hepatotoxicity is a rare adverse reaction in patients treated with methimazole. Although there have been reports of hepatotoxicity (including acute liver failure) associated with methimazole, the risk of hepatotoxicity appears to be less with methimazole than with propylthiouracil, especially in the pediatric population. There have been rare reports of fulminant hepatitis, hepatic necrosis, encephalopathy and death. Cholestatic jaundice has occurred rarely. Patients should be instructed to report symptoms of hepatic dysfunction such as jaundice, anorexia, pruritus, and/or right upperquadrant pain. Their presence should prompt evaluation of liver function tests and discontinuation of methimazole. Drug treatment should be discontinued promptly in the event of clinically significant evidence of liver abnormality, including hepatic transaminase values exceeding 3 times the upper limit of normal. See Monitoring and Laboratory Tests.

There have been post-marketing reports of acute pancreatitis in patients receiving methimazole. In case of acute pancreatitis, methimazole should be discontinued immediately. Do not start treatment in patients with a history of acute pancreatitis that has been attributed to methimazole. Re-exposure may result in recurrence of acute pancreatitis with decreased time to onset. See <u>8.5 Post-Market Adverse Reactions</u> section.

# Monitoring and Laboratory Tests

The patient's liver function, hepatic transaminase levels, and the complete blood count should be closely monitored. <u>See 3 SERIOUS WARNINGS AND PRECAUTIONS BOX</u> and <u>7 WARNING AND PRECAUTIONS</u>, Hematologic. Because methimazole may cause hypoprothrombinemia and bleeding, prothrombin time/INR should also be monitored during therapy with the drug, especially before surgical procedures.

Periodic monitoring of thyroid function is warranted. A laboratory result indicating elevated TSH warrants a decrease in the dosage of methimazole. Once clinical evidence of hyperthyroidism has resolved, the finding of a rising serum TSH indicates that a lower maintenance dose of JAMP Methimazole should be employed. Careful monitoring is necessary in patients with large goitres with constriction of the trachea because of the risk of goitre growth.

# Respiratory

Treating patients with intrathoracic goitres necessitates caution and monitoring since intrathoracic goitre can grow during treatment causing tracheal obstruction. Goitre growth due to increased TSH levels may indicate excess dosage.

# Skin

The drug should be discontinued in the presence of exfoliative dermatitis.

# 7.1 Special Populations

# 7.1.1 Pregnant Women

**Pregnant Women:** Hyperthyroidism in pregnant women should be adequately treated to prevent serious maternal and fetal complications.

Methimazole can cause fetal harm when administered to a pregnant woman. Methimazole readily crosses the placental membranes and can induce goiter and hypothyroidism in the developing fetus.

Based on human experience from epidemiological studies and spontaneous reporting, methimazole is suspected to cause congenital malformations when administered during pregnancy, particularly in the first trimester of pregnancy and at high doses. Reported malformations include aplasia cutis congenital, craniofacial malformations (choanal atresia; facial dysmorphism), exomphalos, oesophageal atresia, omphalo mesenteric duct anomaly and ventricular septal defect.

Methimazole must only be administered during pregnancy after a strict individual benefit/risk assessment and only at the lowest effective dose, without additional administration of thyroid hormones. If methimazole is used during pregnancy or if the patient becomes pregnant while taking this drug, the patient should be warned of the potential hazard to the fetus. Close maternal, fetal and neonatal monitoring is recommended, with adjustment of methimazole as necessary.

**Women of Childbearing potential:** Women of childbearing potential should use effective methods of contraception during methimazole therapy.

# 7.1.2 Breast-feeding:

Methimazole is excreted in human breast milk and its use is contraindicated in nursing mothers.

# 7.1.3 Pediatrics:

**Pediatrics (<18 years of age):** No data are available to Health Canada; therefore, Health Canada has not authorized an indication for pediatric use.

# 7.1.4 Geriatrics:

Clinical studies of methimazole did not include sufficient numbers of subjects aged 65 or over to determine whether they respond differently from younger subjects.

# 8 ADVERSE REACTIONS

# 8.1 Adverse Drug Reaction Overview

Serious adverse reactions (which occur less frequently than the minor less serious adverse reactions) include inhibition of myelopoiesis (agranulocytosis, granulocytopenia and thrombocytopenia), aplastic anemia, drug fever, a lupus-like syndrome, insulin autoimmune syndrome (which can result in hypoglycemic coma), hepatitis (jaundice may persist for several weeks after discontinuation of the drug), periarteritis and hypoprothrombinemia. Nephritis occurs very rarely. Cholestatic jaundice, fulminant hepatitis, encephalopathy, hepatic necrosis and death have been rarely reported. See <u>7 WARNING AND PRECAUTIONS</u>.

Less serious adverse reactions include skin rash, urticaria, nausea, vomiting, epigastric distress, arthralgia, paresthesia, loss of taste, abnormal loss of hair, myalgia, headache, pruritus, drowsiness, neuritis, edema, vertigo, skin pigmentation, jaundice, sialadenopathy, anorexia, right upper-quadrant pain and lymphadenopathy.

# 8.4 Abnormal Laboratory Findings: Hematologic, Clinical Chemistry and Other Quantitative Data

# **Clinical Trial Findings**

It should be noted that about 10% of patients with untreated hyperthyroidism have leucopenia (white-blood-cell count of less than 4,000/mm<sup>3</sup>), often with relative granulopenia.

# 8.5 Post-Market Adverse Reactions

The following adverse reactions have been reported from marketing experience with methimazole. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug.

Acute pancreatitis (see <u>7 WARNINGS AND PRECAUTIONS</u>). Vasculitis (see <u>7 WARNINGS AND PRECAUTIONS</u>).

Cases of congenital anomalies have been reported in neonates, whose mothers were treated with methimazole during pregnancy: aplasia cutis congenital, craniofacial malformations (choanal atresia; facial dysmorphism), exomphalos, oesophageal atresia, omphalo-mesenteric duct anomaly, and ventricular septal defect (see <u>7 WARNINGS AND PRECAUTIONS</u>).

# 9 DRUG INTERACTIONS

# 9.2 Drug Interactions Overview

JAMP Methimazole (methimazole tablets) may interact with anticoagulants and treatment of patients with both methimazole and warfarin necessitates intensive and frequent monitoring (see <u>7</u> <u>WARNINGS AND PRECAUTION</u>).

# 9.4 Drug-Drug Interactions

Increases and decreases in warfarin-induced anticoagulation have been reported in patients taking methimazole. In hyperthyroid patients, the metabolism of vitamin K clotting factors is increased, resulting in increased sensitivity to oral anticoagulants. Antithyroid drugs, by

reducing the extent of hyperthyroidism, decrease the metabolism of clotting factors and thus reduce the effects of oral anticoagulants. On the other hand, patients on anticoagulant therapy who are euthyroid due to antithyroid agents may develop marked hypoprothrombinemia if the antithyroid medications are ceased and they become thyrotoxic again. Treating patients with both methimazole and warfarin necessitates intensive and frequent monitoring, in particular when initiating, discontinuing or changing doses of methimazole, since alterations in thyroid function affect the response to anticoagulation.

As methimazole is used in the treatment of hyperthyroidism, once a patient becomes euthyroid, the following drug interactions may need to be considered:

- β-adrenergic blocking agents: Hyperthyroidism may cause an increased clearance of beta blockers with a high extraction ratio. A dose reduction of beta-adrenergic blockers may be needed when a hyperthyroid patient becomes euthyroid.
- Digitalis glycosides: Serum digitalis levels may be increased when hyperthyroid patients on a stable digitalis glycoside regimen become euthyroid; a reduced dosage of digitalis glycosides may be needed.
- Theophylline: Theophylline clearance may decrease when hyperthyroid patients on a stable theophylline regimen become euthyroid; a reduced dose of theophylline may be needed.

# 9.5 Drug-Food Interactions

Interactions with foods have not been studied.

# 9.6 Drug-Herb Interactions

Interactions with herbal products have not been studied.

# 9.7 Drug-Laboratory Test Interactions

Interactions with laboratory tests have not been studied.

# 10 CLINICAL PHARMACOLOGY

# 10.1 Mechanism of Action

Methimazole inhibits the synthesis of thyroid hormones and thus is effective in the treatment of hyperthyroidism. The drug does not inactivate existing thyroxine and triiodo-thyroxine that are stored in the thyroid or circulating in the blood, nor does it interfere with the effectiveness of thyroid hormones given by mouth or by injection.

The actions and use of methimazole are similar to those of propylthiouracil. On a weight basis, the drug is at least ten times as potent as propylthiouracil, but methimazole may be less consistent in action.

# 10.2 Pharmacodynamics

Methimazole inhibits dose-dependently the incorporation of iodine into tyrosine and thereby the neosynthesis of thyroid hormones. This property permits symptomatic therapy of hyperthyroidism regardless of its cause. Whether methimazole furthermore affects the 'natural course' taken by the immunologically induced type of hyperthyroidism (Graves' disease), i.e. whether it suppresses the underlying immunopathogenitic process, can presently not be decided with certainty. The release of previously synthesized thyroid hormones from the thyroid is not affected. This explains why the length of the latency period until normalization of the serum concentrations of thyroxine and triiodothyronine, and thus until clinical improvement, differs in individual cases. Hyperthyroidism due to the release of hormones after destruction of thyroid cells, e.g. after radioiodine therapy or in thyroiditis, is also not affected.

# 10.3 Pharmacokinetics

Absorption: Methimazole is readily absorbed from the gastrointestinal tract.

**Metabolism:** Methimazole is metabolized rapidly in the liver and requires frequent administration. **Elimination:** Methimazole is excreted in the urine.

# 11 STORAGE, STABILITY AND DISPOSAL

Store at room temperature (15 to 30 °C). Protect from light. Keep tightly closed. Keep out of reach and sight of children.

# **12 SPECIAL HANDLING INSTRUCTIONS**

None required.

## PART II: SCIENTIFIC INFORMATION

## 13 PHARMACEUTICAL INFORMATION

## Drug Substance

Proper name:	Methimazole	
Chemical name: 2-thiol	2-H-Imidazole-2-thione	, 1, 3–dihydro-l-methyl-1- methylimidazole-
Molecular formula a	and molecular mass:	C <sub>4</sub> H <sub>6</sub> N <sub>2</sub> S 114.16 g / mol

Structural formula:



Physicochemical properties:

Description:	Pale buff, crystalline powder, having faint characteristic odor. It differs chemically from the drugs of the thiouracil series primarily because it has a five- instead of a six-membered ring.
Melting range: Solubility:	146°C Freely soluble in water, in chloroform, slightly soluble in ether.

## 14 CLINICAL TRIALS

The clinical trial data on which the original indication was authorized is not available.

## 14.3 Comparative Bioavailability Studies:

A randomized, double blinded, two-treatment, two-period, two-sequence, single oral dose (1 x 10 mg), crossover comparative bioavailability study of JAMP Methimazole tablets 10 mg (JAMP Pharma Corporation) and TAPAZOLE<sup>®</sup> tablets 10 mg (Paladin Labs Inc.), was conducted in healthy, adult male subjects under fasting conditions. Comparative bioavailability data from 20 subjects that were included in the statistical analysis are presented in the following table:

Methimazole						
	(1 x 10 mg)					
		Geometric Mear	1			
		Arithmetic Mean (C	√%)			
ParameterTest1Reference2% Ratio of Geometric Means90% Con Inter						
AUC⊤ (ng.h/mL)	2346.48 2363.97 (12.48)	2316.36 2347.59 (17.49)	101.3	97.1 – 105.7		
AUC <sub>I</sub> (ng.h/mL)	2375.45 2393.67 (12.66)	2359.17 2395.95 (18.85)	100.7	96.3 – 105.3		
C <sub>max</sub> (ng/mL)	279.16 286.34 (24.36)	256.44 261.16 (20.27)	108.9	100.7 - 117.7		
T <sub>max</sub> <sup>3</sup>	0.50	0.50				
(h)	(0.25 – 1.33)	(0.25 - 1.75)				
T½ <sup>4</sup> (h)	7.39 (25.39)	8.13 (40.15)				

## SUMMARY TABLE OF THE COMPARATIVE BIOAVAILABILITY DATA

<sup>1</sup> JAMP Methimazole (methimazole) tablets, 10 mg (JAMP Pharma Corporation)

<sup>2</sup> TAPAZOLE<sup>®</sup> (methimazole) tablets, 10 mg (Paladin Labs Inc., Canada)

<sup>3</sup> Expressed as the median (range) only

<sup>4</sup> Expressed as the arithmetic mean (CV %) only

# 15 MICROBIOLOGY

No data available.

# 16 NON-CLINICAL TOXICOLOGY

**Carcinogenicity:** Rats treated for 2 years with methimazole demonstrated thyroid hyperplasia and thyroid adenoma and carcinoma formation. Such findings are seen with continuous suppression of thyroid function by sufficient doses of a variety of antithyroid agents. Pituitary adenomas have also been observed (see <u>7 WARNINGS AND PRECAUTIONS</u>).

#### **17 SUPPORTING PRODUCT MONOGRAPHS**

**1.** PTAPAZOLE<sup>®</sup> (Methimazole Tablets; 5, 10 and 20 mg), submission control No. 246350, Product Monograph. Paladin Labs Inc., Date of Revision: June 08, 2021.

## PATIENT MEDICATION INFORMATION READ THIS FOR SAFE AND EFFECTIVE USE OF YOUR MEDICINE

#### <sup>Pr</sup>JAMP Methimazole Methimazole Tablets

Read this carefully before you start taking **JAMP Methimazole** and each time you get a refill. This leaflet is a summary and will not tell you everything about this drug. Talk to your healthcare professional about your medical condition and treatment and ask if there is any new information about **JAMP Methimazole**.

#### **Serious Warnings and Precautions**

- Agranulocytosis (decrease in white blood cell count): Treatment with JAMP Methimazole can cause agranulocytosis. Your healthcare professional will monitor your health for signs and symptoms of agranulocytosis.
- Liver toxicity (injury or damage to the liver): Treatment with JAMP Methimazole can cause liver toxicity problems. This can lead to fulminant hepatitis (inflammation of the liver), hepatic necrosis (death of liver cells), encephalopathy (a neurological disorder), and cholestatic jaundice (yellowing of the skin or whites of eyes). If you notice any signs and symptoms of liver toxicity, tell your healthcare professional, they will also monitor your liver function.

See the **Serious side effects and what to do about them table**, below, for more information on these and other serious side effects.

## What is JAMP Methimazole used for:

JAMP Methimazole is used in adults:

- to treat hyperthyroidism (overactive thyroid gland).
- to treat and prepare for thyroidectomy (removal of the thyroid gland) or for radioactive iodine treatment.
- when the overactive thyroid gland cannot be removed.

#### How does JAMP Methimazole work?

JAMP Methimazole is a type of medication called antithyroid agents. It works by stopping the thyroid gland from making thyroid hormones.

## What are the ingredient in JAMP Methimazole?

Medicinal ingredient: Methimazole

Non-medicinal ingredients: Pregelatinised Starch, lactose monohydrate, magnesium stearate and talc.

JAMP Methimazole comes in the following dosage forms: Tablets: 5 mg and 10 mg

#### Do not use JAMP Methimazole if:

- you are allergic to methimazole or any of the ingredients in JAMP Methimazole.
- you are breastfeeding. JAMP Methimazole can be transferred into your breast milk.
- you have or have had problems with your pancreas after taking methimazole.

To help avoid side effects and ensure proper use, talk to your healthcare professional before you take JAMP Methimazole. Talk about any health conditions or problems you may have, including if you:

- have a low white blood cell count.
- have joint pain.
- have liver problems.
- have skin problems.
- are intolerant to some sugars (e.g., lactose, a milk sugar which is a component of JAMP Methimazole).
- have a large goitre (swelling in the front neck), the goitre may grow during treatment making it difficult to breath.
- are taking medications that are known to cause agranulocytosis (decrease in white blood cell count).

#### Other warnings you should know about:

JAMP Methimazole can cause the following:

- Arthralgia (joint pain): The development of arthralgia may indicate severe transient migratory polyarthritis also known as antithyroid arthritis syndrome (pain that spreads from one joint to another). Your healthcare professional will stop your treatment if this occurs.
- Acute pancreatitis (inflammation of the pancreas): Methimazole therapy has been reported to cause acute pancreatitis. If you notice any signs and symptoms of acute pancreatitis, your healthcare professional will immediately stop your treatment with JAMP Methimazole.
- Exfoliative dermatitis (severe inflammation of the entire skin surface): Tell your healthcare professional right away if you notice signs of exfoliative dermatitis such as redness or peeling of the skin over large areas of your body. Your treatment with JAMP Methimazole should be stopped.
- Vasculitis (inflammation and narrowing of blood vessels): This can cause long-term organ damage or even be life-threatening. Tell your healthcare professional if you notice or develop any symptoms of vasculitis. They will stop your treatment and may initiate an appropriate intervention.
- **Other blood problems:** Methimazole therapy can cause:
  - o leukopenia (low white blood cells),
  - o thrombocytopenia (low blood platelets), and
  - aplastic anemia (when cells meant to develop into mature blood cells are damaged).

Your healthcare professional may monitor your health (including your bone marrow function) and may stop your treatment if this occurs.

See the **Serious side effects and what to do about them table**, below, for more information on these and other serious side effects.

#### Pregnancy:

- If you are able to get pregnant or think you are pregnant, there are specific risks you must discuss with your healthcare professional.
- Treatment with JAMP Methimazole may harm your unborn baby, especially in the first trimester of pregnancy. Your healthcare professional will decide if taking JAMP Methimazole is right for you and your baby.
- You should use effective methods of birth control during your treatment.
- If you become pregnant or think you are pregnant while taking JAMP Methimazole, tell your healthcare professional right away.

**Check-ups and testing:** Your healthcare professional will monitor your health before and during your treatment. This may including having regular blood tests. This will tell your healthcare professional how JAMP Methimazole is affecting you.

# Tell your healthcare professional about all the medicines you take, including any drugs, vitamins, minerals, natural supplements or alternative medicines.

## The following may interact with JAMP Methimazole:

• medicines known as anticoagulants (blood thinners) such as warfarin.

#### How to take JAMP Methimazole:

- Take JAMP Methimazole exactly as prescribed by your doctor.
- JAMP Methimazole is usually taken orally three times a day (every 8 hours).

#### Usual Dose:

The Initial dose is 15 mg to 60 mg per day depending on your condition. The maintenance dose is 5 mg to 15 mg per day.

#### Overdose:

If you take too many JAMP Methimazole tablets, you may experience:

nausea

• fever

vomiting

joint pain

• rashes

- stomach discomfort
- headaches

 edema (fluid retention or swelling) If you think you, or a person you are caring for, have taken too much JAMP Methimazole, contact a healthcare professional, hospital emergency department, or regional poison control centre immediately, even if there are no symptoms.

#### Missed Dose:

Talk to your healthcare professional if you miss one of your scheduled doses of JAMP Methimazole. You should not take a double dose to make up for a forgotten dose. Take your next scheduled dose as usual.

## What are possible side effects from using JAMP Methimazole?

These are not all the possible side effects you may have when taking JAMP Methimazole. If you experience any side effects not listed here, tell your healthcare professional.

Some common side effects include:

- anorexia (an eating disorder)
- dizziness
- drowsiness
- edema (swelling due to fluid build up)
- hair loss
- heart burn
- hives (urticaria)
- loss of taste

- muscle pain
- neuritis (inflammation of a nerve, often with pain or tenderness)
- numbness
- sialadenopathy and lymphadenopathy (lymph node diseases)
- skin pigmentation
- vertigo

Serious side	effects and what to d	do about them	
	Talk to your healthcare professional		Stop taking
Symptom / effect	Only if severe	In all cases	drug and get immediate medical help
UNCOMMON			
<b>Agranulocytosis</b> (decrease in white blood cell count): frequent infection with fever, chills, sore throat.			$\checkmark$
<b>Liver problems</b> (including hepatitis): abdominal pain, yellowing of your skin and eyes (jaundice), right upper stomach area pain or swelling, nausea, vomiting, unusual dark urine, unusual tiredness.		✓	
RARE	· · · · · ·		

Serious side	effects and what to	do about them	
	Talk to your healthcare professional		Stop taking
Symptom / effect	Only if severe	In all cases	drug and get immediate medical help
Aplastic anemia (when cells meant to develop into mature blood cells are damaged): fatigue, weakness, pale skin, fevers, frequent infection, tendency to bruise and bleed easily.		✓	
<b>Drug fever:</b> fever greater than 40.5°C (105°F).		$\checkmark$	
<b>Nephritis</b> (inflammation of the kidney): decreased appetite, difficulty breathing, fatigue, frequent urination, itchiness, nausea, vomiting.		✓	
VERY RARE	1	II	
Vasculitis (inflammation of blood vessels): fever, headache, fatigue, weight loss, night sweats, rash, blood in urine, coughing up blood, shortness of breath.		✓	
UNKNOWN		I	
Insulin autoimmune syndrome (an immune response against your body's own cells that causes low blood sugar): numbness in the extremities, low levels of blood sugar.		✓	
Lupus-like syndrome (when your body's immune system attacks your own tissues and organs, including your joints, skin, kidneys, blood cells, heart and lungs): fatigue, fever, joint pain, stiffness and swelling, rash on the face that covers the cheeks and the bridge of the nose or rashes elsewhere on the body, skin lesions, shortness of breath, chest pain, dry eyes, headaches, confusion, memory loss.		✓	

Serious side effects and what to do about them			
	Talk to your healthcare professional		Stop taking
Symptom / effect	Only if severe	In all cases	drug and get immediate medical help
Acute pancreatitis (inflammation of the pancreas): upper abdominal pain, severe stomach pain that last and gets worse when you lie down, rapid heart beat, fever, nausea, vomiting.			✓
Hypoprothrombinemia (abnormally low levels of prothrombin, used for blood-clotting): bleeding problems, easy bruising.		✓	
<b>Periarteritis</b> (inflammation of the tissue surrounding an artery): pain in the muscles and joints.		✓	
Arthralgia (joint pain).		$\checkmark$	
<b>Exfoliative dermatitis</b> (severe inflammation of the entire skin surface): redness or peeling of the skin over large areas of your body.		✓	

If you have a troublesome symptom or side effect that is not listed here or becomes bad enough to interfere with your daily activities, tell your healthcare professional.

#### Reporting Side Effects

You can report any suspected side effects associated with the use of health products to Health Canada by:

- Visiting the Web page on Adverse Reaction Reporting (<u>https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada/adverse-reaction-reporting.html</u>) for information on how to report online, by mail or by fax; or
- Calling toll-free at 1-866-234-2345.

NOTE: Contact your health professional if you need information about how to manage your side effects. The Canada Vigilance Program does not provide medical advice

#### Storage:

Store at room temperature (15°C to 30 °C). Protect from light. Keep the bottle tightly closed. Keep out of reach and sight of children.

#### If you want more information about JAMP Methimazole:

- Talk to your healthcare professional
- Find the full Product Monograph that is prepared for healthcare professionals and includes this
  Patient Medication Information by visiting the Health Canada website
  <a href="https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/drug-products/drug-product-database.html">https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/drug-products/drug-product-database.html</a>); the manufacturer's website (<a href="https://www.jamppharma.com">www.jamppharma.com</a>), or by calling: 1866-399-9091.

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