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**Professional information for IMODIUM® 2 mg tablets**

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**SCHEDULING STATUS**

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**1. NAME OF THE MEDICINE**

IMODIUM® 2 mg tablets

**2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Each tablet contains 2 mg loperamide hydrochloride.

*Excipients with known effect:*

Contains sugar: Each tablet contains 75 mg lactose monohydrate.

For the full list of excipients, see section 6.1.

**3. PHARMACEUTICAL FORM**

Tablets.

Round, white, odourless, biconvex tablet engraved "JANSSEN" on the one side and "1/2" on the reverse side.

**4. CLINICAL PARTICULARS****4.1 Therapeutic indications****Adults and children 6 years and older**

IMODIUM® 2 mg is indicated for the control and symptomatic relief of acute and chronic non-specific diarrhoea and inhibition of peristalsis and slowing intestinal transit time in patients with ileostomies, colostomies and other intestinal resections.

**Children below 6 years of age**

IMODIUM® 2 mg is indicated for inhibition of peristalsis and slowing intestinal transit time.

**4.2 Posology and method of administration**

IMODIUM® should not be used in infants under 2 years. The tablets, however, are not suited for children under 6 years of age.

***Acute non-specific diarrhoea***

Adults and children of 6 years and older: 2 tablets (4 mg) for adults, or 1 tablet (2 mg) for children as an initial dose followed by 1 tablet (2 mg) after each subsequent loose stool.

Do not exceed the following maximum daily dosages.

<b>WEIGHT IN KILOGRAMS (kg)</b>	<b>MAXIMUM DAILY DOSE</b>
From 14 kg	2 tablets (4 mg)
From 20 kg	3 tablets (6 mg)
From 27 kg	4 tablets (8 mg)
From 34 kg	5 tablets (10 mg)
From 40 kg	6 tablets (12 mg)
From 47 kg	7 tablets (14 mg)
From 54 kg	8 tablets (16 mg)

**Important:** STOP IMODIUM® 2 mg as soon as diarrhoea is under control.

In acute diarrhoea, if clinical improvement is not observed within 48 hours, the administration of IMODIUM® 2 mg should be discontinued, and patients should be advised to consult their doctor.

***Chronic non-specific diarrhoea (consult your doctor)***

With individually adjusted dosage it is usually possible to obtain a virtually normal bowel movement.

The initial dose is 2 tablets (4 mg) daily for adults and 1 tablet (2 mg) daily for children of 6 years and over.

The initial dose should be adjusted until 1 – 2 solid stools per day are obtained. This is usually achieved on a maintenance dose of 1 – 6 tablets (2 – 12 mg) daily.

If constipation occurs, the dosage should be decreased.

### ***Special populations***

#### *Elderly*

No dose adjustment is required for the elderly.

#### *Renal impairment*

No dose adjustment is required for patients with renal impairment.

#### *Hepatic impairment*

Although no pharmacokinetic data are available in patients with hepatic impairment, IMODIUM® 2 mg should be used with caution in such patients because of reduced first pass metabolism (see section 4.4 below).

### **4.3 Contraindications**

- IMODIUM® 2 mg is contraindicated in patients with a known hypersensitivity to loperamide hydrochloride or to any of the other ingredients in IMODIUM® 2 mg (see section 6.1).
- IMODIUM® 2 mg is contraindicated in infants below 2 years of age.
- IMODIUM® 2 mg should not be used as the primary therapy in patients with acute dysentery, which is characterised by blood in stools and high fever.

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- IMODIUM® 2 mg tablets should not be used in:
    - patients with acute ulcerative colitis,
    - patients with bacterial enterocolitis caused by invasive organisms including *Salmonella*, *Shigella*, and *Campylobacter*,
    - patients with pseudomembranous colitis associated with the use of broad-spectrum antibiotics.

**In general, IMODIUM® 2 mg should not be used when inhibition of peristalsis is to be avoided due to the possible risk of significant sequelae including ileus, megacolon and toxic megacolon. IMODIUM® 2 mg must be discontinued promptly when constipation, abdominal distension or ileus develop.**

#### **4.4 Special warnings and precautions for use**

Treatment of diarrhoea with IMODIUM® 2 mg is only symptomatic. Whenever an underlying aetiology can be determined, specific treatment should be given when appropriate (or when indicated).

In patients with diarrhoea, especially in infants, fluid and electrolyte depletion may occur. In such cases administration of appropriate fluid and electrolyte replacement (oral rehydration therapy (ORT)) is the most important measure. IMODIUM® 2 mg should not be given to children less than 6 years of age without medical prescription and supervision. IMODIUM® 2 mg is not recommended for routine use in acute or chronic diarrhoea in children under the age of 6 years (see section 4.3).

In acute diarrhoea, if clinical improvement is not observed within 48 hours, the administration of IMODIUM® 2 mg should be discontinued, and patients should be advised to consult their doctor.

**Patients with acquired immunodeficiency syndrome (AIDS) treated with IMODIUM® 2 mg for diarrhoea should have therapy stopped at the earliest signs of abdominal distension. There have been reports of obstipation with an increased risk of toxic megacolon in AIDS**

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**patients with infectious colitis from both viral and bacterial pathogens treated with****IMODIUM® 2 mg.**

Although no pharmacokinetic data are available in patients with hepatic impairment, IMODIUM® 2 mg should be used with caution in such patients because of reduced first pass metabolism.

IMODIUM® 2 mg must be used with caution in patients with hepatic impairment as it may result in a relative overdose leading to central nervous system (CNS) toxicity.

Abuse and misuse of loperamide, as an opioid substitute, have been described in individuals with opioid addiction (see section 4.9). Cardiac events including QT interval and QRS complex prolongation and torsades de pointes have been reported in association with overdose. Some cases had a fatal outcome (see section 4.9). Overdose can unmask existing Brugada syndrome. Patients should not exceed the recommended dose and/or the recommended duration of treatment.

IMODIUM® 2 mg contains lactose monohydrate. Patients with rare hereditary problems of galactose intolerance, the total lactase deficiency, or glucose-galactose malabsorption should not take IMODIUM® 2 mg.

#### **4.5 Interaction with other medicines and other forms of interaction**

Non-clinical data have shown that loperamide is a *P*-glycoprotein substrate. In two separate studies, concomitant administration of loperamide (16 mg single dose) with quinidine, or ritonavir, which are both *P*-glycoprotein inhibitors, resulted in a 2 to 3-fold increase in loperamide plasma levels with concomitant administration with quinidine, but not with ritonavir; there was evidence of respiratory suppression. The clinical relevance of this pharmacokinetic interaction with *P*-glycoprotein inhibitors, when loperamide is given at recommended dosages (2 mg, up to 16 mg maximum daily dose), is unknown.

The concomitant administration of loperamide (4 mg single dose) and itraconazole, an inhibitor of CYP3A4 and *P*-glycoprotein, resulted in a 3 to 4-fold increase in loperamide plasma concentrations. In the same study a CYP2C8 inhibitor, gemfibrozil, increased loperamide by approximately 2-fold. The combination of itraconazole and gemfibrozil resulted in a 4-fold increase in peak plasma levels of loperamide and a 13-fold increase in total plasma exposure. These increases were not associated with CNS effects as measured by psychomotor tests (i.e., subjective drowsiness and the Digit Symbol Substitution Test).

The concomitant administration of loperamide (16 mg single dose) and ketoconazole, an inhibitor of CYP3A4 and *P*-glycoprotein, resulted in a 5-fold increase in loperamide plasma concentrations. This increase was not associated with increased pharmacodynamic effects as measured by pupillometry.

Concomitant treatment with oral desmopressin resulted in a 3-fold increase of desmopressin plasma concentrations, presumably due to slower gastrointestinal motility.

It is expected that medicines with similar pharmacological properties may potentiate loperamide's effect and that medicines that accelerate gastrointestinal transit may decrease its effect.

#### **4.6 Fertility, pregnancy and lactation**

##### **Pregnancy**

The safety of use during pregnancy has not been established.

##### **Breastfeeding**

Small amounts of loperamide may appear in human breast milk. Therefore, IMODIUM® 2 mg is not recommended during breastfeeding.

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**Fertility**

The effect on human fertility has not been evaluated.

**4.7 Effects on ability to drive and use machines**

Tiredness, dizziness, or drowsiness may occur in the setting of diarrhoeal syndromes treated with IMODIUM® 2 mg. Therefore, it is advisable to use caution when driving a car or operating machinery (see section 4.8).

**4.8 Undesirable effects*****Summary of the safety profile***

The most commonly reported adverse reactions in patients with acute diarrhoea were constipation, flatulence, headache and nausea. In patients with chronic diarrhoea, the most commonly reported adverse reactions were flatulence, constipation, nausea and dizziness.

*Adverse events in patients with acute diarrhoea***Nervous system disorders:**

*Frequent:* headache

*Less frequent:* dizziness

**Gastrointestinal disorders:**

*Frequent:* constipation, dry mouth, flatulence, abdominal cramp, colic, nausea

*Less frequent:* abdominal pain, vomiting, abdominal discomfort, upper abdominal pain, abdominal distension

**Skin and subcutaneous tissue disorders:**

*Less frequent:* rash

*Adverse events in patients with chronic diarrhoea*

**Nervous system disorders:**

*Frequent:* dizziness, headache

**Gastrointestinal disorders:**

*Frequent:* constipation, nausea, vomiting, headache, meteorism, abdominal pain,  
abdominal cramp, colic, flatulence

*Less frequent:* dry mouth, abdominal discomfort, dyspepsia

*Adverse events in patients with acute or chronic diarrhoea*

**Gastrointestinal disorders:**

*Frequent:* nausea, constipation, abdominal cramp

*Adverse event in paediatric patients (under 12 years) with acute diarrhoea*

**Nervous system disorders:**

*Less frequent:* somnolence, dizziness, headache

**Gastrointestinal disorders:**

*Frequent:* vomiting

*Less frequent:* nausea, abdominal pain, constipation

**Skin and subcutaneous tissue disorders:**

*Less frequent:* rash

**Post-marketing experience****Immune system disorders:**

*Less frequent:* allergic reactions, hypersensitivity reactions including anaphylactic shock  
and anaphylactoid reactions

**Psychiatric disorders:**

*Less frequent:* drowsiness

**Nervous system disorders:**

*Less frequent:* abnormal coordination, depressed level of consciousness, hypertonia, loss of consciousness, somnolence, stupor

**Eye disorders:**

*Less frequent:* miosis

**Gastrointestinal disorders:**

*Less frequent:* ileus (including paralytic ileus), megacolon including toxic megacolon, glossodynia

**Skin and subcutaneous tissue disorders:**

*Less frequent:* urticaria, pruritus, angioedema, and bullous eruptions, including Stevens-Johnson Syndrome, erythema multiforme and toxic epidermal necrolysis

**Renal and urinary disorders:**

*Less frequent:* urinary retention

**General disorders and administration site disorders:**

*Less frequent:* fatigue.

A number of the adverse events reported during the clinical investigations and post-marketing experience with IMODIUM® 2 mg are also frequent symptoms of the underlying diarrheal syndrome (abdominal pain/discomfort, nausea, vomiting, dry mouth, tiredness, drowsiness, dizziness, constipation, and flatulence). These symptoms may be difficult to distinguish from

undesirable medicine effects. An increased risk of abdominal pain, including pancreatitis has been reported.

#### **Reporting of suspected adverse reactions:**

Reporting suspected adverse reactions after authorisation of IMODIUM® 2 mg. is important. It allows continued monitoring of the benefit/risk balance of IMODIUM® 2 mg. Health care providers are asked to report any suspected adverse reactions to SAHPRA via the “**6.04 Adverse Drug Reactions Reporting Form**”, found online under SAHPRA’s publications:

<https://www.sahpra.org.za/Publications/Index/8>.

For further information, please contact the Johnson & Johnson call centre on 0860 410032 (landline).

#### **4.9 Overdose**

##### ***Signs and symptoms:***

In case of overdose (including relative overdose due to hepatic dysfunction), central nervous system depression (e.g. stupor, coordination abnormality, somnolence, miosis, muscular hypertonia and respiratory depression), urinary retention, constipation and paralytic ileus may occur. Children may be more sensitive to central nervous system effects of loperamide than adults. Convulsions have been reported in children under the age of 2 years. See section 4.3.

Excessive inhibition of peristalsis with nausea and dryness of the mouth.

In individuals who have intentionally ingested overdoses of loperamide HCl, QT interval and QRS complex prolongation and/or serious ventricular dysrhythmias, including Torsade de Pointes, have been observed (see section 4.4). Fatal cases have also been reported. Abuse, misuse and/or overdose with excessively large doses of loperamide, may unmask Brugada syndrome. Upon cessation, cases of drug withdrawal syndrome, have been observed in individuals abusing, misusing or intentionally overdosing with excessively large doses of loperamide.

**Treatment:**

Treatment is symptomatic and supportive. Naloxone can be given as an antidote. Since the duration of action of IMODIUM® 2 mg is longer than that of naloxone (1 to 3 hours) repeated treatment with naloxone might be indicated. Therefore, the patient should be monitored closely for at least 48 hours in order to detect possible central nervous system depression.

**5. PHARMACOLOGICAL PROPERTIES****5.1 Pharmacodynamic properties**

Category and class: A.11.9 Anti-diarrhoeals.

Pharmacotherapeutic group: Antipropulsives.

ATC code: A07 DA03.

Loperamide hydrochloride inhibits hypermotility by direct action on the bowel wall. Its inhibition of peristalsis is the result of decreasing the activity of both the longitudinal muscles (preparatory and reflex phases) and the circular muscles (reflex phase).

Loperamide hydrochloride normalises the stool in both acute and chronic diarrhoea.

**5.2 Pharmacokinetic properties****Absorption:**

Most ingested loperamide is absorbed from the gut, but as a result of significant first pass metabolism, systemic bioavailability is only approximately 0,3 %.

**Distribution:**

Studies on distribution in rats show a high affinity for the gut wall with a preference for binding to receptors of the longitudinal muscle layer. The plasma protein binding of loperamide is 95 %, mainly to albumin. Non-clinical data have shown that loperamide is a *P*-glycoprotein substrate.

**Biotransformation:**

Loperamide is almost completely extracted by the liver, where it is predominantly metabolised, conjugated and excreted via the bile. Oxidative *N*-demethylation is the main metabolic pathway for loperamide and is mediated mainly through CYP3A4 and CYP2C8. Due to this very high first pass effect, plasma concentrations of unchanged medicine remain extremely low.

**Excretion:**

The half-life of loperamide is about 11 hours with a range of 9 – 14 hours.

Excretion of the unchanged loperamide and the metabolites mainly occurs through the faeces.

**Special populations:*****Paediatrics:***

No pharmacokinetic studies were performed in the paediatric population. It is expected that pharmacokinetic behaviour of loperamide and interactions with loperamide will be similar to those in adults.

**5.3 Preclinical safety data**

No further information of relevance available.

**6. PHARMACEUTICAL PARTICULARS****6.1 List of excipients**

Corn starch,  
lactose monohydrate,  
microcrystalline cellulose (E460(i)),  
modified starch,  
vegetable oil.

**6.2 Incompatibilities**

Not applicable.

### **6.3 Shelf life**

3 years.

### **6.4 Special precautions for storage**

Store at or below 25 °C.

Protect from light.

### **6.5 Nature and contents of container**

Cartons containing one aluminium blister pack of 6 tablets.

### **6.6 Special precautions for disposal and other handling**

No special requirements.

## **7. HOLDER OF CERTIFICATE OF REGISTRATION**

Johnson & Johnson (Pty) Ltd.

241 Main Road

Retreat

7945

South Africa

## **8. REGISTRATION NUMBER**

H/11.9/152

## **9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

04 March 2005

**10. DATE OF REVISION OF THE TEXT**

To be allocated by SAHPRA.

**EXPORT REGISTRATION DETAILS:**

Botswana: B9315240

Namibia: NS1 90/11.9/00625