

## **SUMMARY OF PRODUCT CHARACTERISTICS**

### **1 NAME OF THE MEDICINAL PRODUCT**

Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster

### **2 QUALITATIVE AND QUANTITATIVE COMPOSITION**

Each medicated plaster contains 200 mg of ibuprofen.

For the full list of excipients, see section 6.1

### **3 PHARMACEUTICAL FORM**

Medicated plaster.

Colourless, self-adhesive formulation layer mounted onto a 10 cm by 14 cm flexible flesh-coloured woven support, with a release liner.

### **4 CLINICAL PARTICULARS**

#### **4.1 Therapeutic indications**

Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster is indicated for the short-term symptomatic treatment of local pain in acute muscular strains, or sprains in benign traumas close to the joint of the upper or lower limb in adults or adolescents aged 16 years and older.

#### **4.2 Posology and method of administration**

Posology

*Adults or adolescents aged 16 years and over:*

One dose is equal to one medicated plaster. The maximum dose for a single 24 hour period is one medicated plaster. The plaster can be applied at any time during the day or night, but should be removed and a new plaster re-applied at the same time on the following day.

The medicated plaster should be used for the shortest duration necessary to control symptoms. The treatment duration should not exceed 5 days. The therapeutic benefit of treatment longer than 5 days has not been established.

**If there is no improvement, during the recommended duration of treatment or a worsening of symptoms, a healthcare professional should be consulted.**

*Elderly patients:*

No special dose adjustment is necessary.

*Paediatric population:*

The safety and efficacy of Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster in children or adolescents under 16 years of age has not yet been established.

#### Method of administration

For cutaneous use and short-term use only.

The medicated plaster should be used whole and not be cut.

The medicated plaster should not be used together with an occlusive dressing.

It is recommended to carefully wash and dry the area to be treated before applying the medicated plaster.

Apply to intact skin only.

Tear or cut the sachet along the dotted line to remove a medicated plaster.

First remove the central portion of the release liner used to protect the adhesive surface and apply this surface to the painful area, once securely in place remove the remaining release liner at the edges of the plaster.

The medicated plaster is flexible and conformable, and if necessary can be applied on or near a joint and will allow for normal movement.

Avoid getting the medicated plaster wet.

### **4.3 Contraindications**

- Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.
- In patients who have previously shown hypersensitivity reactions (e.g. asthma, bronchospasm, rhinitis, angioedema or urticaria) in response to ibuprofen, acetylsalicylic acid or other non-steroidal anti-inflammatory drugs (NSAIDs).
- Application on broken or damaged skin

- Third trimester of pregnancy.
- Use on the eyes, lips or the mucous membranes.

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

If symptoms persist for longer than 5 days or worsen, a healthcare professional should be consulted.

Undesirable effects can be reduced by reducing the duration of treatment.

Bronchospasm can occur in patients using ibuprofen who suffer or have previously suffered from bronchial asthma or allergies.

The treatment should be discontinued immediately if a skin rash develops after applying the medicated plaster.

Patients should be warned against exposure of the treated area to strong sources of natural and/or artificial light (e.g. tanning lamps) during treatment and for one day after removal of the medicated plaster, in order to reduce the risk of photosensitivity.

Although the systemic availability of topically applied ibuprofen is significantly less than for oral dosage forms, complications may occur in rare cases. For these reasons, patients with: an impaired renal, cardiac or hepatic function; active or a history of peptic ulcer, intestinal inflammation or haemorrhagic diathesis should seek medical advice before using this medicinal product.

Non-steroidal anti-inflammatory drugs should be used with caution in elderly patients, as they are more likely to experience undesirable effects.

*Severe cutaneous adverse reactions (SCARs):*

Severe cutaneous adverse reactions (SCARs), including exfoliative dermatitis, erythema multiforme, Stevens-Johnson syndrome (SJS), Toxic Epidermal Necrolysis (TEN), Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS syndrome), and acute generalized exanthematous pustulosis (AGEP), which can be life-threatening or fatal, have been reported in association with the use of ibuprofen (see section 4.8). Most of these reactions occurred within the first month.

If signs and symptoms suggestive of these reactions appear ibuprofen should be withdrawn immediately and an alternative treatment considered (as appropriate).

#### **4.5 Interaction with other medicinal products and other forms of interaction**

Non-steroidal anti-inflammatory drugs may interact with antihypertensives, and may possibly enhance the effects of anticoagulants, however if the medicated plaster is used correctly, the rate of systemic transfer is low, so that the interactions reported in association with oral ibuprofen are unlikely to occur. Concurrent aspirin or other NSAIDs may result in an increased incidence of adverse reactions.

## 4.6 Fertility, pregnancy and lactation

### Pregnancy:

There are no clinical data from the use of topical forms of Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster during pregnancy. Even if systemic exposure is lower compared with oral administration, it is not known if the systemic Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster exposure reached after topical administration can be harmful to an embryo/foetus. With reference to experience from treatment with systemically applied NSAIDs, the following is recommended:

Inhibition of prostaglandin synthesis may adversely affect the pregnancy and/or the embryo/foetal development. Data from epidemiological studies suggest an increased risk of miscarriage and of cardiac malformation and gastroschisis after use of a prostaglandin synthesis inhibitor in early pregnancy. The risk is believed to increase with dose and duration of therapy. In animals, administration of a prostaglandin synthesis inhibitor has been shown to result in increased pre- and post-implantation loss and embryo-foetal lethality. In addition, increased incidences of various malformations, including cardiovascular, have been reported in animals given a prostaglandin synthesis inhibitor during the organogenetic period.

During the first and second trimester of pregnancy, Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster should not be given unless clearly necessary. If Nurofen Joint & Muscular Pain Relief 200mg Medicated Plaster is used during the first and second trimester of pregnancy, the dose should be kept as low and duration of treatment as short as possible.

During the third trimester of pregnancy, all prostaglandin synthesis inhibitors may expose the foetus to:

- cardiopulmonary toxicity (with premature closure of the ductus arteriosus and pulmonary hypertension);
- renal dysfunction, which may progress to renal failure with oligo-hydroamniosis; the mother and the neonate, at the end of pregnancy, to:
  - possible prolongation of bleeding time, an anti-aggregating effect which may occur even at very low doses.
  - inhibition of uterine contractions resulting in delayed or prolonged labour.

Consequently, ibuprofen is contraindicated during the third trimester of pregnancy (see Section 4.3).

### Breast-feeding:

After systemic application, only small amounts of ibuprofen and its metabolites pass into the breast milk. As no harmful effects to infants are known to date, it is not usually necessary to interrupt breast-feeding during short-term treatment with this medicated plaster at the recommended dose.

However, as a precautionary measure, this medicated plaster should not be applied directly onto the breast area of women who are breast-feeding.

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

None known.

#### 4.8 Undesirable effects

Systemic availability of topical ibuprofen is very low compared to orally administered NSAIDs. Adverse events, particularly those affecting the gastrointestinal tract, are less common with the use of topical ibuprofen.

The list of the following adverse events relates to those experienced with topical ibuprofen at OTC (dose maximum 500 mg per day), in short term use.

The following frequency conventions are used in the rating of undesirable effects: Very common ( $\geq 1/10$ ); Common ( $\geq 1/100$  to  $< 1/10$ ); Uncommon ( $\geq 1/1,000$  to  $< 1/100$ ); Rare ( $\geq 1/10,000$  to  $< 1/1,000$ ); Very rare ( $< 1/10,000$ ); Not known (cannot be estimated from the available data). Within each frequency grouping, adverse events are presented in order of decreasing seriousness.

System Organ Class	Frequency	Adverse Events
Immune System Disorders	Not known	Hypersensitivity <sup>1</sup>
Gastrointestinal Disorders	Not known	Abdominal pain, dyspepsia
Renal and Urinary Disorders	Not known	Renal impairment <sup>2</sup>
General Disorders and Administration Site conditions	Not known	Application site reaction <sup>3</sup>
Skin and subcutaneous tissue disorders	Very Rare	Severe cutaneous adverse reactions (SCARs) (including Erythema multiforme, exfoliative dermatitis, Stevens-Johnson syndrome, and toxic epidermal necrolysis)
	Not known	Photosensitivity reactions Drug reaction with eosinophilia and systemic symptoms (DRESS syndrome) Acute generalised exanthematous pustulosis (AGEP)

##### Description of Selected Adverse Reactions

<sup>1</sup> Hypersensitivity reactions have been reported following treatment with oral ibuprofen. These may consist of (a) non-specific allergic reaction and anaphylaxis, (b) respiratory tract reactions comprising asthma, aggravated asthma, bronchospasm or dyspnoea, or (c) skin reactions, including rashes of various types, urticaria, purpura, angioedema and, more rarely, exfoliative and bullous dermatoses (including toxic epidermal necrolysis, Stevens-Johnson Syndrome and erythema multiforme), and pruritus.

<sup>2</sup> Renal impairment may occur following the use of topical ibuprofen, particularly in those with pre-existing renal dysfunction.

<sup>3</sup> The most common undesirable effects are application site reactions

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme at: [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard) or search for MHRA Yellow card in Google Play or Apple App store.

## **4.9 Overdose**

Accidental overdose with a medicated plaster is unlikely. However, possible signs of overdose may include nausea, vomiting, abdominal pain or more rarely, diarrhoea. Tinnitus, headache and gastrointestinal bleeding is also possible. The half-life of ibuprofen in ibuprofen overdose is 1.5-3 hours. In the event of overdose, management should be symptomatic and medical advice should be sought.

## **5 PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic properties**

Pharmacotherapeutic group: Topical products for joint and muscular pain; Anti-inflammatory preparations, non-steroids for topical use.

ATC code: M02AA13

Ibuprofen is a propionic acid derivative NSAID that exerts its efficacy through the inhibition of prostaglandin synthesis. In humans ibuprofen reduces inflammatory pain, swellings and fever. Ibuprofen also reversibly inhibits platelet aggregation.

In the form of a medicated plaster, which locally delivers ibuprofen continuously at the site of pain over the 24 hours of application, it has topical anti-inflammatory and analgesic activity.

Pooled data from two clinical efficacy and safety studies in adults with acute soft tissue injuries showed that when applied once every 24h, the medicated plaster provided long lasting relief, with a statistically significant decrease in pain on movement compared with a placebo plaster from 2hrs post first dose and every subsequent time point over 5 days.

Analysis of tenderness at the injured site also showed a significant difference compared with placebo at 24 and 120 hours following use.

In a confirmatory efficacy and safety study 'excellent' or 'good' ratings of treatment efficacy for the medicated plaster were given by 70.3% of patients and 70.3% of healthcare professionals at 24 hours, and 92.2% of patients and 89.1% of healthcare professionals after 5 days. 'excellent' or 'good' ratings for local tolerability were given by 100% of patients and healthcare professionals after 24 hours, and 98.4% of

patients and healthcare professionals following 5 consecutive days' use. Subjective ratings were significantly better than for placebo ( $p < 0.0001$ ).

Data from clinical studies indicate that the rates of detachment or loss of adhesion of the medicated plaster over 24 hours are low.

## 5.2 Pharmacokinetic properties

This medicated plaster provides a topical formulation of ibuprofen designed to provide a sustained transfer of ibuprofen through the skin directly to the local site of the pain and inflammation.

In a human pharmacokinetic study, 28 subjects had the medicated plaster applied once daily for 5 consecutive days over a 7 day observation period. Plasma concentrations of ibuprofen rose rapidly reaching a mean concentration of 0.49 (95% CI: 0.39-0.58)  $\mu\text{g/ml}$  24hr after application of the first patch. On day 5 of treatment, the mean  $C_{\text{max}}$  was 0.51 (95% CI: 0.44-0.60)  $\mu\text{g/ml}$ , and the mean  $\text{AUC}_{0-24}$  was 9.59 (95% CI: 8.33-11.0)  $\mu\text{ghr/ml}$ . The mean  $C_{\text{max}}$  and systemic bioavailability are low compared to oral ibuprofen and consistent with literature reviews for topical NSAIDs. The typical  $C_{\text{max}}$  for a 200-400mg counterpart oral dose of ibuprofen is in the order of 20-50  $\mu\text{g/ml}$ . The low  $C_{\text{max}}$  and low AUC for the medicated plaster indicate that if used concomitantly with systemic ibuprofen, the contribution of the medicated plaster to systemic ibuprofen exposure would be negligible.

The PK profile demonstrated that of ibuprofen does not accumulate on repeated application and that there is rapid attenuation to baseline within 24 hours after discontinuation.

## 5.3 Preclinical safety data

After systemic application, the subchronic and chronic toxicity of ibuprofen in animal experiments showed up mainly in form of lesions and ulcerations in the gastrointestinal tract.

In vitro and in vivo studies gave no clinically relevant evidence of a mutagenic potential of ibuprofen. In studies in rats and mice no evidence of carcinogenic effects of orally applied ibuprofen was found.

Systemically applied ibuprofen inhibited ovulation in rabbits and led to implantation disorders in various animal species (rabbit, rat, mouse). Experimental studies in rat and rabbit have shown that ibuprofen crosses the placenta. Following administration of maternotoxic doses, an increased incidence of malformations (ventricular septal defects) occurred in the progeny of rats.

# 6 PHARMACEUTICAL PARTICULARS

## **6.1 List of excipients**

### **Adhesive layer**

Macrogol 20000

Macrogol 400

Levo-menthol

Styrene-Isoprene-Styrene Block Copolymer

Polyisobutylene

Hydrogenated rosin glycerol ester

Liquid paraffin

### **Backing layer**

Woven Polyethylene terephthalate (PET)

### **Release liner**

Silicone coated Polyethylene Terephthalate (PET)

## **6.2 Incompatibilities**

Not applicable.

## **6.3 Shelf life**

3 years (2 patches per sachet)

2 years (4 patches per sachet)

Shelf life after first opening of the sachet: 6 months.

## **6.4 Special precautions for storage**

Do not store above 25°C (2 patches per sachet).

Do not store above 30°C (4 patches per sachet).

Store in the original package in order to protect from light.

**6.5 Nature and contents of container**

Each sachet is made of composite PET/LDPE/aluminium/LDPE film.

Each sachet contains 2 or 4 medicated plasters. Packs of 2, 4 or 6 medicated plasters.

Not all pack sizes may be marketed.

**6.6 Special precautions for disposal**

Any unused medicinal product or waste material should be disposed of according to local requirements. Do not flush used plasters down the toilet.

**7 MARKETING AUTHORISATION HOLDER**

Reckitt Benckiser Healthcare UK Limited,

103-105 Bath Road,

Slough

SL1 3UH

United Kingdom

**8 MARKETING AUTHORISATION NUMBER(S)**

PL 00063/0733

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21/01/2025

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