# Part II

# Summary of Product Characteristics

## 1 NAME OF THE MEDICINAL PRODUCT

Nicorette 5mg/16 hours Transdermal Patch

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each patch contains 8.3mg of nicotine in a patch size of 10cm², releasing a nominal 5mg of nicotine per 16 hours.

*For a full list of excipients, see section 6.1.*

## 3 PHARMACEUTICAL FORM

Transdermal Patch

A 10cm² multilaminate transdermal patch; beige matte-finish backing marked 'Nicorette'; patterned silver adhesive release liner and clear removable backing film.

## 4 CLINICAL PARTICULARS

### 4.1 Therapeutic Indications

For the treatment of tobacco dependence by relieving nicotine craving and withdrawal symptoms, thereby facilitating smoking cessation in smokers motivated to quit.

### 4.2 Posology and method of administration

***Adults***
The recommended treatment programme for Nicorette Patch should occupy 3 months. Nicorette Patch should not be used concurrently with any other nicotine products and patients must stop smoking completely when starting treatment.

The daily dose is one patch delivering 15mg, 10mg or 5mg nicotine as appropriate, with application limited to 16 hours in a 24 hour period in each case.

Daily treatment commences with 15mg ($30cm^2$) patch, applied on waking (usually in the morning) and removed 16 hours later (usually at bedtime). Treatment should continue at this dose for an initial period of 8 weeks. Patients who have successfully abstained from smoking during this 8 week period should be supported through a further 4 week weaning period, using the lower strength patches. Downward titration of dose is achieved by applying one 10mg ($20cm^2$) patch daily for 2 weeks followed by one 5mg ($10cm^2$) patch daily for a further 2 weeks.

Patients should be reviewed after 12 weeks, if not successful after 12 weeks the patient should be encouraged to make a fresh attempt to stop smoking. This may necessitate full or partial re-treatment with an NRT programme.

After removal, used patches should be disposed of carefully (see warnings).
Nicorette Patch should be applied to clean intact areas of hairless skin, for example, the hip, upper arm or chest. These areas should be varied each day and the same site should not be used on consecutive days.

Experience with the treatment of nicotine dependence shows that success rates are improved if patients also receive supportive therapy and counseling.

A minor reduction in total clearance of nicotine has been demonstrated in healthy elderly patients, however, not justifying adjustment of dosage.

## 4.3 Contraindications

- Use in non-smokers
- Use in persons hypersensitive to nicotine or any ingredient in Nicorette Patch.

## 4.4 Special warnings and precautions for use

Nicotine in any dose form is capable of inducing a dependence syndrome after chronic use and is highly toxic after acute use. However, dependence with Nicorette Patch is a rare side-effect and is both less harmful and easier to break than smoking dependence.

Nicorette should be used with caution in patients with cardiovascular disease, severe/moderate hepatic impairment, severe renal impairment, active and duodenal ulcers.

Nicotine, both from NRT and smoking, causes the release of catecholamines from the adrenal medulla. Therefore, Nicorette should be used with caution in patients with hyperthyroidism or pheochromocytoma.

Patients with diabetes mellitus may require lower doses of insulin as a result of smoking cessation

Patients with chronic dermatological disorders such as psoriasis, chronic dermatitis or urticaria should not apply Nicorette Patch to the affected area.
Erythema may occur. If it is severe or persistent, treatment should be discontinued.

After removal, the patch should be folded in half, adhesive side innermost, and placed in the opened sachet, or in piece of aluminium foil. The used patch should then be disposed of carefully, away from the reach of children or animals.

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

Smoking (but not nicotine) is associated with an increase in CYP1A2 activity. After cessation of smoking, reduced clearance of substrates for this enzyme may occur. This may lead to an increase in plasma levels for some medicinal products of potential clinical importance and for products with a narrow therapeutic window, e.g. theophylline, tacrine and clozapine.

The plasma concentration of other drugs metabolised in part by CYP1A2 e.g. imipramine, olanzapin, clonipramine and fluvoxamine may also increase on cessation of smoking, although data to support this are lacking and the possible clinical significance of this effect is unknown.
Limited data indicate the metabolism of flecainide and pentazocine may also be induced by smoking

## 4.6 Pregnancy and lactation

**Pregnancy:**
Nicotine passes freely to the foetus and affects its breathing movements and circulation. The effect on the circulation is dose-dependent.
Therefore, the pregnant smoker should always be advised to stop smoking completely without the use of nicotine replacement therapy. The risk of continued smoking may pose a greater hazard to the foetus as compared with the use of nicotine replacement therapy products in a supervised cessation programme. Use of Nicorette should only be initiated after advice from a physician.

**Lactation:**
Nicotine passes freely into breast milk in quantities that may affect the child even in therapeutic dose. Nicorette should therefore not be used during breast-feeding.

## 4.7 Effects on ability to drive and use machines

Not applicable.

## 4.8 Undesirable effects

Nicorette Patch may cause adverse reactions similar to those associated with nicotine administered by other means and are dose dependent.

Common (>1/100)
CNS: Headache
Gastrointestinal: Nausea, GI discomfort, vomiting
Local: Erythema, itching

Less common (1/100-1/1000)
Circulation: Palpitations
Skin: Urticaria

Rare (<1/1000)
Cardiovascular: Reversible atrial fibrillation

Symptoms such as dizziness, headache and sleeplessness may be related to withdrawal symptoms associated with smoking cessation. Increased incidence of aphthous ulcer may occur after smoking cessation. The causality is unclear

## 4.9 Overdose

Excessive use of nicotine from either NRT and/or smoking might cause symptoms of an overdose. Symptoms of an overdose are those of acute nicotine poisoning and include nausea, salivation, abdominal pain, diarrhoea, sweating, headache, dizziness, disturbed hearing and marked weakness. At high doses, these symptoms may be followed by hypotension, weak and irregular pulse, breathing difficulties, prostration, circulatory collapse and general convulsions. Doses of nicotine that are tolerated by adult smokers during treatment may produce severe symptoms of poisoning in small children and may prove fatal.

**Management of overdose:**
The administration of nicotine must be stopped immediately and the patient should be treated symptomatically. Tachycardia causing circulatory impairment may require treatment with a ß-blocker. Excitation and convulsions may be treated with diazepam. Mechanically assisted ventilation should be instituted if necessary.

# 5 PHARMACOLOGICAL PROPERTIES

## 5.1 Pharmacodynamic properties

Nicotine has no therapeutic uses except as replacement therapy for the relief of abstinence symptoms in nicotine-dependent smokers.

Owing to its many actions, overall effects of nicotine are complex. A wide variety of stimulants and depressant effects are observed that involve the central and peripheral nervous, cardiovascular, endocrine, gastro-intestinal and skeletal motor systems. Nicotine acts on specific binding sites or receptors throughout the nervous system.

## 5.2 Pharmacokinetic properties

Taking into account the residual concentration of nicotine in the transdermal system, the nicotine released from the system is efficiently absorbed: a bioavailability of between 80-100% has been reported. There is no clinically significant difference in bioavailability of nicotine when the patch is applied to either hip, upper arm or chest.

Steady state concentrations of plasma nicotine in volunteers were examined during a study period of six days. Although nicotine was detectable 24 hours after the first dose, the data did not indicate any accumulation.

$T_{max}$ of nicotine after application of a $30cm^2$ nicotine transdermal has been shown to vary between 6 ± 2 and 9 ± 3 hours. $C_{max}$ has been shown to vary between 13 ± 3 and 16 ± 5 ng/ml. No difference in these pharmacokinetic parameters has been observed between males and females.
All Nicorette Patches are labelled by the average amount of nicotine absorbed by the patient over 16 hours.

## 5.3 Preclinical safety data

No data.

# 6 PHARMACEUTICAL PARTICULARS

## 6.1 List of excipients

Medium molecular weight polyisobutylene
Low molecular weight polyisobutylene
Polybutene
Polyester nonwoven
Backing film
Siliconised polyester release liner

## 6.2 Incompatibilities

Not applicable.

## 6.3 Shelf Life

3 years.

## 6.4 Special precautions for storage

Do not store above 30°C.

## 6.5 Nature and contents of container

Heat sealed multilaminated pouch (polyester / Al foil/polyacryonitrile copolymer) containing one patch. Cartons of 1, 2 7 and 14 pouches.

Not all pack sizes may be marketed.

## 6.6 Special precautions for disposal of a used medicinal product or waste materials derived from such medicinal product and other handling of the product

Cut open the pouch with scissors along the line, as indicated. A clean, dry intact area of skin is selected which is hairless, such as the hip, upper arm or chest. The transparent plastic backing is peeled away and the patch pressed carefully onto the skin. The fingers should be rubbed firmly round the edge to ensure that the patch sticks properly. The patch will normally resist bathing, showering, or swimming, but if it does come off it should be replaced with a new one. Use of skin oils or talc can prevent proper adhesion of the patch.

It is intended that the patch is worn through the waking hours (approximately 16 hours) being applied on waking and removed at bedtime. Nicotine residues in the used patches may present a hazard to children and pets, thus used patches

should be folded, sticky sides together, put back in an empty pouch and placed in household rubbish.

## 7 MARKETING AUTHORISATION HOLDER

McNeil Healthcare (Ireland) Ltd
Airton Road
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Dublin 24

## 8 MARKETING AUTHORISATION NUMBER

PA 0823/049/011

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

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## 10 DATE OF REVISION OF THE TEXT

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