SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT

Lemsip Max Cold & Flu Capsules
Lemsip Max Plus Cold & Flu Relief Capsules

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active ingredients	**mg/capsule**
Paracetamol	500
Caffeine	25
Phenylephrine hydrochloride	6.1

Excipient(s) with known effect:

- Sodium: 3.22mg (0.140 mmol) /dose

For excipients, see Section 6.1.

3. PHARMACEUTICAL FORM

Red/yellow hard gelatine capsules

4. CLINICAL PARTICULARS

4.1. Therapeutic indications

For the relief of symptoms associated with the common cold and influenza, including relief of aches and pains, sore throat, headache, fatigue and drowsiness, nasal congestion, and lowering of temperature.

4.2 Posology and method of administration

Duration of treatment should be limited to a maximum of 5 days. Patients should consult a doctor or pharmacist if symptoms persist for more than 5 days, or worsen.

Posology
Adults, the elderly and children aged 16 years and over:

Take two capsules every 4-6 hours as required to a maximum of four doses in any 24 hours, or up to a maximum of three doses in any 24 hours if a night-time paracetamol-containing product is taken before bedtime.

Do not take more than 8 capsules (4 doses) in any 24 hours.

Do not give to children under 16 years of age.

Elderly Population: Experience has indicated that normal adult dose is usually appropriate. However, in frail, immobile, elderly subjects or in elderly patients with renal or hepatic impairment, a reduction in the amount of frequency of dosing may be appropriate.

Method of administration
For oral administration. Swallow whole with water. Do not chew.

4.3. Contraindications

- Hypersensitivity to paracetamol, phenylephrine, caffeine or to any of the excipients listed in section 6.1.

Due to the presence of phenylephrine, use of the product is contraindicated in:
- Patients with severe coronary heart disease or cardiovascular disorder.
- Patients with hypertension.
- Patients with hyperthyroidism.
- Patients currently receiving or within two weeks of stopping therapy with monoamine oxidase inhibitors (MAOIs).
- Patients using other sympathomimetic decongestants concomitantly.
- Patients with prostatic enlargement.
- Patients with phaeochromocytoma.
- Patients with closed-angle glaucoma.
- Patients with diabetes mellitus.

4.4 Special warnings and precautions for use

Use with caution in patients with Raynaud's Phenomenon.

Care is advised in the administration of paracetamol to patients with severe renal or severe hepatic impairment. These patients should seek the advice of a doctor before taking this product. The hazard of overdose is greater in those with non-cirrhotic alcoholic liver disease.

Cases of high anion gap metabolic acidosis (HAGMA) due to pyroglutamic acidosis have been reported in patients with severe illness such as, severe renal impairment and sepsis, or malnutrition and other sources of glutathione deficiency (e.g. chronic alcoholism), who were treated with paracetamol at therapeutic dose for a prolonged period or a combination of paracetamol and flucloxacillin. If HAGMA due to pyroglutamic acidosis is suspected, prompt discontinuation of paracetamol and close monitoring, is recommended. The measurement of urinary 5-oxoproline may be useful to identify pyroglutamic acidosis as an underlying cause of HAGMA in patients with multiple risk factors.

Patients should be advised not to take other paracetamol-containing products concurrently.

Immediate medical advice should be sought in the event of an overdose, even if the patient feels well because of the risk of delayed serious liver damage (see section 4.9).

The product should not be used during pregnancy unless recommended by a healthcare professional (see section 4.6).

Use during breastfeeding should be avoided, unless recommended by a healthcare professional (see section 4.6).

Due to the presence of caffeine, the product should be taken with care in patients with a history of peptic ulcers.

Excessive intake of caffeine (e.g. coffee, tea and some soft drinks) should be avoided while taking this product due to the risk of adverse effects, such as, palpitations.

Excipients:
This product contains 3.22mg (1.40mmol) sodium per dose, that is to say essentially 'sodium-free'.

Keep out of the sight and reach of children.

Do not exceed the stated dose.

If symptoms persist, consult your doctor.

4.5 Interaction with other medicinal products and other forms of interaction

Monoamine oxidase inhibitors (including moclobemide) (MAOIs): do not use in patients taking monoamine oxidase inhibitors (MAOIs) or who have taken MAOIs within the previous 14 days. Hypertensive interactions occur between sympathomimetic amines such as phenylephrine and monoamine oxidase inhibitors (see section 4.3).

Cardiac glycosides: Concomitant use of cardiac glycosides (e.g. digoxin) with phenylephrine may increase the risk of irregular heartbeat or heart attack.

Tricyclic antidepressants: Tricyclic antidepressants (e.g. amitriptyline) may increase the risk of cardiovascular side effects with phenylephrine (see section 4.3).

Sympathomimetic agents: Concomitant use of phenylephrine with other sympathomimetic amines can increase the risk of hypertension and other cardiovascular side effects (see section 4.3).
Phenylephrine may reduce the efficacy of beta–blockers and other antihypertensives (including debrisoquine, guanethidine, reserpine, methyldopa).

Anticoagulants: The anticoagulant effect of warfarin and other coumarins may be enhanced by prolonged regular daily use of paracetamol with increased risk of bleeding; occasional doses have no significant effect.

Antiemetics: The speed of absorption of paracetamol may be increased by metoclopramide or domperidone.

Cholestyramine: Paracetamol absorption may be reduced by cholestyramine.

Isoniazid: the toxicity of paracetamol may be increased by isoniazid.

Liver enzyme-inducing drugs: drugs which induce or regulate liver microsomal enzymes, such as, anticonvulsants (including phenytoin, barbiturates, carbamazepine) and alcohol, may increase the hepatotoxic potential of paracetamol.

Oxytocic agents: the vasopressor effect of sympathomimetics, such as, phenylephrine, may be potentiated when used in conjunction with oxytocic drugs, such as, oxytocin and ergot alkaloids, which can increase risk of haemorrhagic stroke.

CYP Inhibitors: Caffeine undergoes extensive metabolism by hepatic microsomal cytochrome P450, factors known to alter the activity of this enzyme system may influence caffeine clearance. Thus, caffeine elimination is enhanced in cigarette smokers and inhibited by cimetidine, disulfiram, and oral contraceptive steroids.

Flucloxacillin: Caution should be taken when paracetamol is used concomitantly with flucloxacillin as concurrent intake has been associated with high anion gap metabolic acidosis due to pyroglutamic acidosis, especially in patients with risks factors (see section 4.4).

4.6 Fertility, Pregnancy and Lactation

Pregnancy
The product should not be used during pregnancy unless recommended by a healthcare professional.

The safety of this medicine during pregnancy and lactation has not been established but in view of a possible association of foetal abnormalities with first trimester exposure to phenylephrine, the use of the product during pregnancy should be avoided. In addition, because phenylephrine may reduce placental perfusion, the product should not be used in patients with a history of pre-eclampsia.

Epidemiological studies in human pregnancy have shown no ill effects due to paracetamol used in the recommended dosage.
Taken during pregnancy it appears that the half-life of caffeine is prolonged. This is a possible contributing factor in hyperemesis gravidarum.

Breast-feeding
The product should be avoided during lactation unless recommended by a healthcare professional. There are limited data on the use of phenylephrine in lactation.

Paracetamol is excreted in breast milk, but not in a clinically significant amount. Available published data do not contraindicate breastfeeding.

Whilst caffeine is excreted in breast milk at levels which are considered not to present a hazard to the infant, irritability and poor sleeping patterns have been reported.

Fertility
There are no available data regarding the effects of the active ingredients on fertility.

4.7 Effects on ability to drive and use machines

This product contains caffeine, a central nervous stimulant which helps counteract drowsiness and restore alertness. These effects are usually considered to have a positive influence on the ability to drive or operate machinery. However, dizziness and agitation have been reported with caffeine use (see section 4.8); affected patients should not drive or use machinery.

4.8 Undesirable effects

Adverse effects of paracetamol are rare.

The most commonly reported adverse events following dosing with caffeine are GI irritation and CNS stimulation.
Adverse events which have been associated with paracetamol, phenylephrine and caffeine are given below, tabulated by system organ class and frequency. Frequencies are defined as: Very common (≥1/10); Common (≥1/100 and <1/10); Uncommon (≥1/1000 and <1/100); Rare (≥1/10,000 and <1/1000); 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
Blood and Lymphatic System Disorders	Not known	Thrombocytopenia, leucopenia, pancytopenia, neutropenia, agranulocytosis[1]♦
Immune System Disorders	Not known	Hypersensitivity♦■♦
Metabolism and Nutrition Disorders	Not known	High anion gap metabolic acidosis[2]
Psychiatric Disorders	Not known	Insomnia♦, restlessness♦, anxiety♦, agitation♦, nervousness, delirium
Nervous System Disorders	Not known	Headache■, Dizziness♦
Cardiac Disorders	Not known	Palpitations■
Vascular Disorders	Not known	Hypertension■
Gastrointestinal Disorders	Not known	Epigastric discomfort♦, gastric ulcer♦, nausea♦, vomiting♦
Skin and Subcutaneous Tissue Disorders	Very rare Not known	Cases of serious skin reactions have been reported♦ Skin rash♦
Renal and Urinary Disorders	Not known	Urinary retention[3]■

Description of Selected Adverse Reactions
[1] There have been reports of blood dyscrasias including thrombocytopenia, leucopenia, pancytopenia, neutropenia and agranulocytosis, but these were not necessarily causally related to paracetamol.
[2] High anion gap metabolic acidosis: Cases of high anion gap metabolic acidosis due to pyroglutamic acidosis have been observed in patients with risk factors using paracetamol (see section 4.4). Pyroglutamic acidosis may occur as a consequence of low glutathione levels in these patients.
[3] Especially in males.

•Paracetamol; ▪Phenylephrine Hydrochloride; ♦Caffeine

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 or search for MHRA Yellow Card in the Google Play or Apple App Store.

4.9 Overdose

Paracetamol
The main cause for concern in overdosage is Paracetamol intake.
Immediate medical advice should be sought in the event of an overdose, even if you feel well. Liver damage is possible in adults who have taken 10 g or more of paracetamol. Ingestion of 5 g of more of paracetamol may lead to liver damage if the patient has risk factors (see below).

Risk factors
An increased risk of liver damage from paracetamol overdosing has been associated with: (a) Patients on long-term treatment with carbamazepine, phenobarbitone, phenytoin, primidone, rifampicin, St John's Wort or other drugs that induce liver enzymes.

Or

(b) Patients who regularly consume ethanol in excess of recommended amounts.

Or

(c) Patients likely to be glutathione depleted, e.g. eating disorders, cystic fibrosis, HIV infection, starvation, cachexia.

Or

(d) Patients taking isoniazid.

Symptoms
Symptoms of paracetamol overdose in the first 24 hours are pallor, nausea, vomiting, anorexia and abdominal pain. Liver damage may become apparent 12 to 48 hours after ingestion. Abnormalities of glucose metabolism and metabolic acidosis may occur. In severe poisoning, hepatic failure may progress to encephalopathy, haemorrhage, hypoglycaemia, cerebral oedema and death. Acute renal failure with acute tubular necrosis, strongly suggested by loin pain, haematuria and proteinuria, may develop even in the absence of severe liver damage. Cardiac arrhythmias and pancreatitis have been reported. Overdose may also result in disseminated intravascular coagulation.

Management
Immediate treatment is essential in the management of paracetamol overdose. Despite a lack of significant early symptoms, patients should be referred to hospital urgently for immediate medical attention. Symptoms may be limited to nausea or vomiting and may not reflect the severity of overdose or the risk of organ damage. Management should be in accordance with established treatment guidelines. See BNF overdose section.

Treatment with activated charcoal should be considered if the overdose has been taken within 1 hour. Plasma paracetamol concentration should be measured at 4 hours or later after ingestion (earlier concentrations are unreliable). Treatment with N-acetylcysteine may be used up to 24 hours after ingestion of paracetamol, however, the maximum protective effect is obtained up to 8 hours post-ingestion. The effectiveness of the antidote declines sharply after this time. If required the patient should be given intravenous N-acetylcysteine, in line with the established dosage schedule. If vomiting is not a problem, oral methionine may be a suitable alternative for remote areas, outside hospital. Management of patients who present with serious hepatic dysfunction beyond 24 hours from ingestion should be discussed with the NPIS or a liver unit.

Caffeine

Symptoms of caffeine overdose are rare but may include emesis, epigastric pain, tachycardia, diuresis and convulsions. No specific antidote. However, treatment is usually fluid therapy. Fatal poisoning is rare. If symptoms become apparent or overdose is suspected, consult a doctor immediately.

Phenylephrine hydrochloride

Features of severe overdose of phenylephrine include haemodynamic changes and cardiovascular collapse with respiratory depression. Treatment includes symptomatic and supportive measures. Hypertensive effects may be treated with an i.v. alpha-receptor blocking agent.

Phenylephrine overdose is likely to result in: nervousness, headache, dizziness, insomnia, increased blood pressure, nausea, vomiting, reflex bradycardia, mydriasis, acute angle closure glaucoma (most likely to occur in those with closed angle glaucoma), tachycardia, palpitations, allergic reactions (e.g. rash, urticaria, allergic dermatitis), dysuria, urinary retention (most likely to occur in those with bladder outlet obstruction, such as prostatic hypertrophy).

Additional symptoms may include, hypertension, and possibly reflex bradycardia. In severe cases confusion, seizures and arrhythmias may occur. However the amount required to produce serious phenylephrine toxicity would be greater than that required to cause paracetamol-related liver toxicity.

Treatment should be as clinically appropriate. Severe hypertension may need to be treated with alpha blocking medicinal products such as phentolamine.

5 Pharmacological Properties

5.1. Pharmacodynamic Properties

Pharmacotherapeutic group: Analgesics, Anilides;

ATC Code: N02BE51. Paracetamol, combinations excl. psycholeptics

Paracetamol: Paracetamol has both analgesic and antipyretic activity which is believed to be mediated principally through its inhibition of prostaglandin synthesis within the central nervous system.

Caffeine: Caffeine is a central nervous system stimulant. It inhibits the enzyme phosphodiesterase and has an antagonistic effect at central adenosine receptors. Its action on the central nervous system is mainly on the higher centres and it produces a condition of wakefulness and increased mental activity.

Phenylephrine hydrochloride: Phenylephrine is sympathomimetic post-synaptic α1–adrenergic receptor agonist with low cardioselective beta receptor affinity and minimal central nervous stimulant activity. It is a recognised decongestant and acts by vasoconstriction to reduce oedema and nasal swelling.

5.2. Pharmacokinetic Properties

Paracetamol: Paracetamol is absorbed rapidly and completely mainly from the small intestine, producing peak plasma levels after 15-20 minutes following oral dosing. The systemic availability is subject to first-pass metabolism and varies with dose between 70% and 90%. The drug is rapidly and widely distributed throughout the body and is eliminated from plasma with a $T_{½}$ of approximately 2 hours. The major metabolites are glucuronide and sulphate conjugates (>80%) which are excreted in urine.

Caffeine: Caffeine is absorbed readily from oral, rectal or parenteral administration, but absorption from the gastrointestinal tract may be erratic. There is little evidence of accumulation in any particular tissue. Caffeine passes readily into the central nervous system and into saliva. Concentrations have also been detected in breast milk. It is metabolised almost completely and is excreted in the urine as 1-methyluric acid, 1-methylxanthine and other metabolites, with only about 1% unchanged.

Phenylephrine hydrochloride: Phenylephrine is absorbed from the gastrointestinal tract, but has reduced bioavailability by the oral route due to first-pass metabolism. It retains activity as a nasal decongestant when given orally, the drug distributing through the systemic circulation to the vascular bed of the nasal mucosa. When taken by mouth as a nasal decongestant phenylephrine is usually given at intervals of 4-6 hours.

5.3. Preclinical Safety Data

No preclinical findings of relevance have been reported.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Starch
croscarmellose sodium
sodium lauryl sulphate
magnesium stearate
talc
gelatine
titanium dioxide (E171)
quinoline yellow (E104)

patent blue V (E131)
erythrosin (E127)
shellac

6.2. Incompatibilities

None known.

6.3. Shelf Life

Three years.

6.4. Special Precautions for Storage

Do not store above 25°C. Store in original package.

6.5 Nature and contents of container

250 micron opaque uPVC blister with foil/paper laminate, 35 gsm paper/9 micron soft-temper foil and heat-seal coated, contained in an outer cardboard carton.

Pack sizes: 4, 6, 8, 10, 12, 14 and 16 capsules. Not all pack sizes may be marketed.

6.6. Special precautions for disposal and other handling

No special requirements for disposal.

7. MARKETING AUTHORISATION HOLDER

Reckitt Benckiser Healthcare (UK) Limited,
Dansom Lane,
Hull,
HU8 7DS
United Kingdom

8. MARKETING AUTHORISATION NUMBER

PL 00063/0104.

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

16/03/2009

10 DATE OF REVISION OF THE TEXT

23/02/2026