# SUMMARY OF PRODUCT CHARACTERISTICS

## 1 NAME OF THE MEDICINAL PRODUCT

MINOCIN MR 100mg Modified Release Capsules

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

MINOCIN MR Capsules contain 100mg of the active ingredient minocycline (equivalent to 116 mg of minocycline hydrochloride as the dehydrate salt).

For a full list of excipients see 6.1

## 3 PHARMACEUTICAL FORM

Modified release capsule.
Two piece, hard shell, size 2 capsules with an orange opaque body and a brown opaque cap.

## 4 CLINICAL PARTICULARS

### 4.1 Therapeutic indications

MINOCIN MR Capsules are indicated for the treatment of acne.

### 4.2 Posology and method of administration

**Posology**

***Adults***
One 100mg capsule every 24 hours

***Paediatric Population***
Children over 12 years: One 100mg capsule every 24 hours
Children under 12 years: Minocycline is not recommended

***Elderly***
No special dosing requirement

**Method of Administration:**

To reduce the risk of oesophageal irritation and ulceration, the capsules should be swallowed whole with plenty of fluid, while sitting or standing. Unlike earlier tetracyclines, absorption of minocycline is not significantly impaired by food or moderate amounts of milk.

Treatment of acne should be continued for a minimum of 6 weeks, and where possible limited to a maximum of six months. If, after six months, there is no satisfactory response Minocin MR should be discontinued and other therapies considered.

If Minocin MR is to be continued for longer than six months, patients should be monitored (including laboratory investigations) at least three monthly thereafter for signs and symptoms of hepatitis or systemic lupus erythematosus (SLE) or unusual pigmentation**.** (see Special Warnings and Precautions)

## 4.3 Contraindications

Use of minocycline is contraindicated in the following:

- Hypersensitivity to the active substance minocycline, other tetracyclines or to any of the excipients.
- Pregnancy and lactation.
- Children under the age of 12 years.
- Complete renal failure.

## 4.4 Special warnings and precautions for use

Rare, anaphylaxis/anaphylactoid reactions including shock and fatalities have been associated with the administration of Minocin MR (See section 4.8 Undesirable effects).

Minocin MR should be used with caution in patients with hepatic dysfunction and in conjunction with alcohol and other hepatotoxic drugs. It is recommended that alcohol consumption should remain within the Government's recommended limits.

Rare cases of auto-immune hepatotoxicity and isolated cases of systemic lupus erythematosus (SLE) and also exacerbation of pre-existing SLE have been reported. If patients develop signs or symptoms of SLE or hepatotoxicity, or suffer exacerbation of pre-existing SLE, minocycline should be discontinued.

Other rare, serious events have occurred with Minocin MR including Stevens-Johnson Syndrome and toxic epidermal necrolysis. (See section 4.8 Undesirable effects). Minocin MR should be discontinued if either of these serious skin reactions is suspected.

Clinical studies have shown that there is no significant drug accumulation in patients with renal impairment when they are treated with Minocin MR in the recommended doses. In cases of severe renal insufficiency, reduction of dosage and monitoring of renal function may be required. The anti-anabolic action of the tetracyclines may cause an increase in serum urea. In patients with

significantly impaired renal function, higher serum levels of tetracyclines may lead to uraemia, hyperphosphataemia and acidosis. If renal impairment exists, even usual oral and parenteral doses may lead to excessive systemic accumulations of the drug and possible liver toxicity.

Caution is advised in patients with myasthenia gravis as tetracyclines can cause weak neuromuscular blockade.

Cross-resistance between tetracyclines may develop in micro-organisms and cross-sensitisation in patients. Minocin MR should be discontinued if there are signs/symptoms of overgrowth of resistant organisms, e.g. enteritis, glossitis, stomatitis, vaginitis, pruritus ani or Staphylococcal enteritis.

Patients taking oral contraceptives should be warned that if diarrhoea or breakthrough bleeding occur there is a possibility of contraceptive failure.

Minocycline may cause hyperpigmentation at various body sites (see Administration and 4.8 Undesirable Effects). Hyperpigmentation may present regardless of dose or duration of therapy but develops more commonly during long term treatment. Patients should be advised to report any unusual pigmentation without delay and Minocin MR should be discontinued.

If a photosensitivity reaction occurs, patients should be warned to avoid direct exposure to natural or artificial light and to discontinue therapy at the first signs of skin discomfort.

As with other tetracyclines, bulging fontanelleles in infants and benign intracranial hypertension in juveniles and adults have been reported. Presenting features were headache and visual disturbances including blurring of vision, scotoma and diplopia. Permanent vision loss has been reported.

Treatment should cease if evidence of raised intracranial pressure develops.

Elderly:

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.

Paediatric population:

The use of tetracyclines during tooth development in children under the age of 12 years may cause permanent discolouration. Enamel hypoplasia has also been reported.

Laboratory monitoring:

Periodic laboratory evaluations of organ system function, including haematopoietic, renal and hepatic should be conducted.

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

Tetracyclines depress plasma prothrombin activity and reduced doses of concomitant anticoagulants may be necessary.

Diuretics may aggravate nephrotoxicity by volume depletion.

Bacteriostatic drugs may interfere with the bactericidal action of penicillin. Avoid giving tetracycline-class drugs in conjunction with penicillin. Absorption of Minocin MR is impaired by the concomitant administration of antacids, iron, calcium, magnesium, aluminium bismuth and zinc salts (interactions with specific salts, antacids, bismuth containing ulcer – healing drugs, quinapril which contains a magnesium carbonate excipient). It is recommended that any indigestion remedies, vitamins, or other supplements containing these salts are taken at least 3 hours before or after a dose of Minocin MR. Unlike earlier tetracyclines, absorption of Minocin MR is not significantly impaired by food or moderate amounts of milk.

The concomitant use of tetracyclines may reduce the efficacy of oral contraceptives.

Administration of isotretinoin should be avoided shortly before, during and shortly after minocycline therapy. Each drug alone has been associated with pseudotumor cerebri (benign intracranial hypertension) (see 4.4 Special warnings and precautions).

Interference with laboratory and other diagnostic tests:
False elevations of urinary catecholamine levels may occur due to interference with the fluorescence test.

## 4.6 Fertility, Pregnancy and lactation

Use in pregnancy:

Minocycline is contraindicated during pregnancy as it can cause fetal harm.
Results of animal studies indicate that tetracyclines cross the placenta, are found in foetal tissues and can have toxic effects on the developing foetus (often related to retardation of skeletal development). Evidence of embryotoxicity has also been noted in animals treated early in pregnancy. Minocin MR therefore, should not be used in pregnancy unless considered essential.

In humans, minocycline like other tetracycline-class antibiotics, crosses the placenta and may cause foetal harm when administered to a pregnant woman. In addition, there have been post marketing reports of congenital abnormalities including limb reduction. If Minocin MR is used during pregnancy or if the patient becomes pregnant while taking this drug, the patient should be informed of the potential hazard to the foetus.

The use of drugs of the tetracycline class during tooth development (last half of pregnancy) may cause permanent discolouration of the teeth (yellow-grey-

brown). This adverse reaction is more common during long term use of the drugs but has been observed following repeated short term courses. Enamel hypoplasia has also been reported.

Tetracyclines administered during the last trimester form a stable calcium complex throughout the human skeleton. A decrease in fibula growth rate has been observed in premature human infants given oral tetracyclines in doses up to 25mg/kg every 6 hours. Changes in fibula growth rate were shown to be reversible when the drug was discontinued.

Use in lactation:

Tetracyclines have been found in the milk of lactating women who are taking a drug in this class. Permanent tooth discolouration may occur in the developing infant and enamel hypoplasia has been reported.

## 4.7 Effects on ability to drive and use machines

Headache, light-headedness, dizziness, tinnitus and vertigo (more common in women) and, rarely, impaired hearing have occurred with Minocin MR. Patients should be warned about the possible hazards of driving or operating machinery during treatment. These symptoms may disappear during therapy and usually disappear when the drug is discontinued.

## 4.8 Undesirable effects

The assessment of side effects is based on the following frequency information:
Very common (≥ 1/10)
Common: ((≥1/100 to <1/10)
Uncommon: (≥1/1 000 to <1/100)
Rare: (≥1/10 000 to <1/1 000)
Very Rare: (<1/10 000)
Not known (cannot be determined based on available data).

| System Organ Class | Frequency | Adverse Reaction |
|---|---|---|
| Infections and Infestations | Very Rare | Oral and anogenital candidiasis, vulvovaginitis. |
| Blood and Lymphatic System Disorders | Rare | Eosinophilia, leucopoenia, neutropenia, thrombocytopenia |
| | Very Rare | Haemolytic anaemia, pancytopenia. |
| | Not known | Agranulocytosis |
| Immune System Disorders | Rare | Anaphylaxis/anaphylactoid reaction (including shock and fatalities) |
| | Not Known | Hypersensitivity, pulmonary |

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| | | infiltrates, anaphylactoid purpura, Polyarteritis nodosa. |
| Endocrine Disorders | Very Rare | Abnormal thyroid function, brown-black discolouration of the thyroid |
| Metabolism and Nutrition Disorders | Rare | Anorexia |
| Nervous System Disorders | Common | Dizziness (light-headedness) |
| | Rare | Headache, hypaesthesia, paraesthesia, intracranial hypertension, vertigo |
| | Very Rare | Bulging fontanelle |
| | Not Known | Convulsions, sedation |
| Ear and Labyrinth Disorders | Rare | Impaired hearing, tinnitus |
| Cardiac Disorders | Rare | Myocarditis, Pericarditis |
| Respiratory, Thoracic and Mediastinal Disorders | Rare | Cough, dyspnoea |
| | Very Rare | Bronchospasm, exacerbation of asthma, pulmonary eosinophilia |
| | Not Known | Pneumonitis |
| Gastrointestinal Disorders | Rare | Diarrhoea, nausea, stomatitis, discolouration of teeth (including adult tooth discolouration), vomiting |
| | Very Rare | Dyspepsia, dysphagia, enamel hypoplasis, enterocolitis, oesophagitis, oesophageal ulceration, glossitis, pancreatitis, pseudomembranous colitis There are also reports of: Oral cavity discolouration (including tongue, lip and gum) |
| Hepatobiliary Disorders | Rare | Increased liver enzymes, hepatitis, autoimmune toxicity |
| | Very Rare | Hepatic cholestatis, hepatic failure (including fatalities), hyperbilirubinaemia, jaundice |
| | Not Known | Autoimmune hepatitis |
| Skin and Subcutaneous Tissue Disorders | Rare | Alopecia, erythema multiforme, erythema nodosum, fixed drug eruption, hyperpigmentation of skin, photosensitivity, pruritus, rash, urticaria |

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|---|---|---|
| | Very Rare | Angioedema, exfoliative dermatitis, hyperpigmentation of nails, Stevens-Johnson Syndrome, toxic epidermal necrolysis, vasculitis. |
| Musculoskeletal, Connective Tissue and Bone Disorders | Rare | Arthralgia, lupus-like syndrome, myalgia |
| | Very Rare | Arthritis, bone discolouration, cases of or exacerbation of systemic lupus erythematosus (SLE), joint stiffness, joint swelling |
| Renal and Urinary Disorders | Rare | Increase serum urea, Acute renal failure, interstitial nephritis. |
| Reproductive System and Breast Disorders | Very Rare | Balanitis |
| General Disorders and Administration Site Conditions | Uncommon | Fever |
| | Very Rare | Discolouration of secretions |

The following syndromes have been reported. In some cases involving these syndromes, death has been reported. As with other serious adverse reactions, if any of these syndromes are recognised, the drug should be discontinued immediately:

• Hypersensitivity syndrome consisting of cutaneous reaction (such as rash or exfoliative dermatitis), eosinophilia, and one or more of the following: hepatitis, pneumonitis, nephritis, myocarditis, pericarditis.

• Fever and lymphadenopathy may be present.

• Lupus-like syndrome consisting of positive antinuclear antibody, arthralgia, arthritis, joint stiffness or joint swelling, and one or more of the following: fever, myalgia, hepatitis, rash, vasculitis.

• Serum sickness-like syndrome consisting fever, urticaria or rash, and arthralgia, arthritis,joint stiffness or joint swelling. Eosinophilia may be present.

• Hyperpigmentation of various body sites including the skin, nails, teeth, oral mucosa, bones, thyroid, eyes (including sclera and conjunctiva), breast milk, lacrimal secretions and perspiration has been reported.

This blue/black/grey or muddy-brown discolouration may be localised or diffuse. The most frequently reported site is in the skin. Pigmentation is often reversible on discontinuation of the drug, although it may take several months or may persist in some cases. The generalised muddy-brown skin pigmentation may persist, particularly in areas exposed to the sun.

**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

Dizziness, nausea and vomiting are the adverse effects most commonly seen with overdose. There is no specific antidote. In cases of overdose, discontinue medication, treat symptomatically with appropriate supportive measures. Minocycline is not removed in significant quantities by haemodialysis or peritoneal dialysis.

## 5 PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

MINOCIN MR Capsules contain the active ingredient minocycline as minocycline hydrochloride, a semi-synthetic derivative of tetracycline.

Susceptibility testing breakpoints

MIC (minimum inhibitory concentration) interpretive criteria for susceptibility testing have been established by the European Committee on Antimicrobial Susceptibility Testing (EUCAST) for minocycline and are listed here: https://www.ema.europa.eu/documents/other/minimum-inhibitory-concentration-mic-breakpoints_en.xlsx

### 5.2 Pharmacokinetic properties

MINOCIN MR Capsules have been formulated as a "double pulse" delivery system in which a portion of the minocycline dose is delivered in the stomach, and a second portion of the dose is available for absorption in the duodenum and upper GI tract.

### 5.3 Preclinical safety data

None stated

## 6 PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

Pellets: Microcrystalline cellulose
Croscarmellose sodium

Hypromellose phthalate 50
Hypromellose (E464)
Light liquid paraffin
Methylene Chloride
Methanol
Purified Water
Opaspray K-1-7000 (white), (containing: Titanium dioxide
Hydroxypropylcellulose)

Capsule shells: Titanium dioxide (E171)
Iron oxide yellow (E172)
Iron oxide red (E172)
Iron oxide black (E172)
Gelatin

Capsule Cap: Titaniurn Dioxide
Iron Oxide red (E172)
Iron Oxide black (E172)
Iron Oxide yellow (E172)
Gelatin

**6.2 Incompatibilities**

None known.

**6.3 Shelf life**

24 months

**6.4 Special precautions for storage**

Do not store above 25°C.

Blisters: Store in the original package
Keep the container in the outer carton

Bottles: Store in the original container
Keep the container tightly closed

**6.5 Nature and contents of container**

PVC/PVDC aluminium blister packs containing 2, 49 and 56 capsules.
Polypropylene bottle with urea cap containing 100 capsules.

### 6.6 Special precautions for disposal

Not applicable.

## 7. MARKETING AUTHORISATION HOLDER

Viatris Products Limited
20 Station Close
Potters Bar
Hertfordshire
EN6 1TL
United Kingdom

## 8 MARKETING AUTHORISATION NUMBER(S)

PL 46302/0179

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

14 February 2005

## 10 DATE OF REVISION OF THE TEXT

06/11/2025