NOVARTIS

Lopresor® / Lopresor® Retard

Composition

Active substance
Metoprolol tartrate (2:1)

Excipients
Film-coated tablets: Tableting excipients
Divitabs (scored tablets): Tableting excipients
Solution for injection: Sodium chloride, water to 5 ml.

Pharmaceutical form and quantity of active substance per unit

Film-coated tablets containing 50 or 100 mg metoprolol tartrate (Lopresor 50, Lopresor 100).
Divitabs (scored tablets) containing 200 mg metoprolol tartrate (Lopresor Retard 200).
Solution for injection containing 5 mg metoprolol tartrate per 5 ml.

Indications / Potential uses

All forms
- Disturbances of cardiac rhythm, especially supraventricular tachyarrhythmia.
- Confirmed or suspected acute myocardial infarction.

Oral forms
- Hypertension: As monotherapy or in combination with other antihypertensives, e.g. a diuretic or peripheral vasodilator.
- Angina pectoris: For long-term prophylaxis. Nitroglycerin should be employed if necessary to relieve acute attacks.
- Hyperthyroidism (as supplementary medication).
- Functional cardiovascular disorders with palpitations.
- Prevention of migraine

Dosage and Administration

Parenteral administration of Lopresor should be supervised by experienced staff in a setting in which monitoring and resuscitation equipment is available.
For oral administration, the film-coated tablets should be swallowed whole.
It is advisable to individualize the dosage. The following dosage recommendations are intended as guidelines:

Disturbances of cardiac rhythm.
Ampoules
Initially up to 5 mg injected slowly i.v. (1–2 mg/minute). The injection may be repeated at 5 minute intervals until a satisfactory response has been obtained. 10–15 mg generally proves sufficient, and raising the dose to 20 mg or more does not usually yield better results.

Film-coated tablets
100–150 mg/day in 2–3 divided doses. If necessary, the daily dosage may be raised to up to 300 mg.

Myocardial infarction.
The recommended dosage may be reduced, depending on the haemodynamic status of the patient.

a) Treatment in the acute stage
Lopresor should be administered as soon as possible after the patient's arrival in hospital. Under constant haemodynamic monitoring (ECG, blood pressure, heart rate) one 5 mg bolus injection should be given i.v. and repeated at 2 minute intervals up to a total of 15 mg. Should any of the conditions listed under **Contraindications** arise, intravenous administration must be discontinued immediately and appropriate measures instituted (see **Overdose**). Provided the full intravenous dose (15 mg) has been well tolerated, oral therapy should be started 15 minutes later with 50 mg every 6 hours for 48 hours.
In patients who fail to tolerate the full intravenous dose, oral therapy should be cautiously initiated, starting with half the aforementioned oral dose.

b) Maintenance therapy
The oral maintenance dose is 200 mg daily, given in 2 divided doses. Treatment should be continued for at least 3 months.

Hypertension
Film-coated tablets
100–200 mg/day, either as a single dose in the morning or in two divided doses (morning and evening). If necessary, another antihypertensive may also be prescribed (see **Indications / Potential uses)**.

Divitabs (scored sustained-release tablets)
1 Divitab early in the morning. If necessary, another antihypertensive may also be prescribed. In mild forms of hypertension, half a Divitab taken early in the morning may suffice.

Angina pectoris.
Film-coated tablets
100–200 mg/day in two divided doses. If necessary, the daily dosage may be raised to up to 400 mg.

Divitabs
½–1 Divitab early in the morning. If necessary, this dose may be repeated in the evening.

Hyperthyroidism
Film-coated tablets
150–200 mg (may be increased to up to 400 mg) daily, given in 3–4 divided doses.

Functional cardiovascular disorders with palpitations; prevention of migraine
Film-coated tablets
100 mg/day as a single dose in the morning; if necessary, the daily dosage may be raised to 200 mg, taken in 2 divided doses (morning and evening).

Divitabs
Half a Divitab once daily in the morning; if necessary, the daily dosage may be increased to one Divitab, also taken as a single dose in the morning.

Children
The safety and efficacy of Lopresor and Lopresor Retard in children have not been established.

Contraindications

- Hypersensitivity to metoprolol and related substances or to any of the excipients
- Hypersensitivity to other beta-blockers (cross-sensitivity between beta-blockers can occur)
- Second or third degree atrioventricular (AV) block
- Decompensated heart failure, clinically relevant sinus bradycardia (heart rate under 45–50 beats/minute)
- Sinus bradycardia
- Sick sinus syndrome
- Severe disturbance of peripheral arterial circulation
- Cardiogenic shock
- Untreated phaeochromocytoma (see **Warnings and Precautions)**
- Hypotension.

In oral administration
Severe bronchial asthma or history of severe bronchospasm.

In intravenous administration
Bronchial asthma or history of bronchospasm (see **Warnings and Precautions**).

Lopresor is contraindicated in myocardial infarction patients with a heart rate below 45-50 beats/minute, a PR interval greater than 0.24 seconds, a systolic blood pressure below 100 mm Hg, and/or severe heart failure.

Warnings and Precautions

In general, patients with bronchospastic diseases should not be given beta-blockers. However, because of its relative cardioselectivity, Lopresor in its oral form may be administered with caution to patients with mild to moderate bronchospastic diseases who do not respond to, or cannot tolerate, other suitable treatments. Since $beta_1$-selectivity is not absolute, a $beta_2$-agonist should be given concomitantly, and Lopresor should be given at the lowest possible dose.
Lopresor should be used with caution in patients with diabetes mellitus, particularly those being treated with insulin or oral antidiabetics (see **Interactions**). Diabetic patients should be warned that beta-blockers may reduce the tachycardia occurring with hypoglycaemia. Other signs of hypoglycaemia, such as dizziness or sweating, may not be suppressed to any important extent, and sweating may even increase.
Beta-blockers must not be given to patients with untreated heart failure (see **Contraindications**). The patient's condition should first be stabilized.

Owing to their negative effect on AV conduction time, beta-blockers should be used with caution in patients with first-degree AV block (see **Contraindications**).
In cardiac arrhythmia patients with systolic blood pressure below 100 mm Hg, intravenous administration of metoprolol requires particular caution, since there is a risk that administration by this route may cause a further fall in blood pressure.
In the event of increasing bradycardia (heart rate under 50–55 beats/minute), the dosage should be gradually reduced or treatment gradually withdrawn (see **Contraindications**).
Lopresor should be used with caution in patients with peripheral arterial circulatory disorders (e.g. Raynaud's disease, Raynaud's phenomenon, intermittent claudication) because beta-blockers may aggravate such conditions (see **Contraindications**).
In patients diagnosed with, or suspected of having, phaeochromocytoma, Lopresor should be given only in combination with an alpha-blocker (see **Contraindications**).
Metoprolol is subject to extensive first-pass metabolism in the liver and is mainly eliminated by means of hepatic metabolism (see **Pharmacokinetics**). Its systemic bioavailability may therefore be increased in patients with liver cirrhosis, and total clearance may be reduced, leading to higher plasma concentrations.
Caution is required when treating elderly patients. An excessive fall in blood pressure or heart rate may result in inadequate blood supply to vital organs.
The necessity, or desirability, of withdrawing beta-blocking agents prior to major surgery is controversial. The impaired ability of the heart to respond to reflex adrenergic stimuli might augment the risks of general anaesthesia and surgical procedures. The benefits of continuing treatment with a beta-blocker should be balanced against the risk of withdrawing it in each patient.
If a patient on Lopresor requires a general anaesthetic, the anaesthetist must be informed that the patient is receiving beta-blocker therapy. An anaesthetic agent with as little cardiodepressant effect as possible should be used (see **Interactions**). If it is thought necessary to withdraw beta-blocker therapy prior to surgery, this should be done gradually and completed about 48 hours before the general anaesthetic is given.
Lopresor therapy should not be discontinued abruptly, particularly in patients with ischaemic heart disease. To prevent aggravation of angina pectoris, the dosage should be reduced gradually over a period of 1–3 weeks, during which time alternative therapy should, if necessary, be initiated.
During beta-blocker therapy, anaphylactic reactions triggered by other substances may be particularly severe and prove resistant to standard doses of adrenaline. Wherever possible, patients at increased risk of anaphylaxis should not be treated with beta-blockers.

Beta-blockers may increase the frequency and duration of angina attacks in patients with Prinzmetal's angina (vasospastic angina). Relatively selective $beta_1$-blockers such as Lopresor may be used in such patients, but only with extreme caution.
Beta-blockers may mask some of the clinical signs of thyrotoxicosis. Therefore, where Lopresor is administered to patients having, or suspected of developing, thyrotoxicosis, both thyroid and cardiac function should be monitored closely.
The full oculomucocutaneous syndrome described with practolol has not been observed in patients receiving Lopresor. However, individual features of this syndrome (dry eyes, either alone or occasionally in association with rash) have occurred. In most cases the symptoms cleared following withdrawal of Lopresor. Patients should be closely monitored for signs of possible effects on the eye. Discontinuation of Lopresor should be considered if such effects are observed.

Interactions

The effects of Lopresor and other antihypertensives on blood pressure are generally additive. Patients receiving concurrent treatment with a catecholamine-depleting drug, another beta-blocker (including one given in the form of eye drops), or an MAO inhibitor should be closely monitored.

Medicinal products that may potentiate the effects, or increase plasma concentrations, of metoprolol
Calcium channel blockers
Calcium channel blockers such as verapamil and diltiazem may potentiate the depressant effects of beta-blockers on blood pressure, heart rate, myocardial contractility and atrioventricular conduction. A calcium channel blocker of the verapamil (phenylalkylamine) type must not be given intravenously to patients receiving Lopresor because there is a risk of cardiac arrest in this situation. Patients receiving oral verapamil-type calcium channel blockers at the same time as Lopresor should be closely monitored.

Class I antiarrhythmic agents and amiodarone
Amiodarone, propafenone and other class I antiarrhythmic agents such as quinidine and disopyramide may potentiate the effect of beta-blockers on heart rate and atrioventricular conduction.

Nitroglycerin
Nitroglycerin may potentiate the antihypertensive effect of Lopresor.

Anaesthetic agents
Some inhalation anaesthetics may enhance the cardiodepressant effect of beta-blockers (see **Warnings and Precautions**).

Inhibitors of the cytochrome P450 2D6 isoenzyme
Concomitant use of metoprolol with potent inhibitors of the cytochrome P450 2D6 isoenzyme may increase plasma levels of metoprolol. Potent inhibition of CYP2D6 would slow down the rate of metabolism. In principle, this corresponds to a change to a "poor metabolizer" phenotype. Caution is therefore required when concomitantly administering metoprolol with potent CYP2D6 inhibitors. The following are well-known, clinically significant, potent CYP2D6 inhibitors:
- Antidepressants such as fluoxetine, paroxetine or bupropion
- Antipsychotic drugs such as thioridazine
- Antiarrhythmic agents such as quinidine or propafenone
- Antiviral substances such as ritonavir
- Antihistamines such as diphenhydramine
- Antimalarial drugs such as hydroxychloroquine or quinine
- Antifungals such as terbinafine
- Medicinal products used in the treatment of gastric ulcer, such as cimetidine

Medicinal products that may reduce the efficacy, or lower plasma concentrations, of metoprolol
Prazosin
The acute orthostatic hypotension that can occur following the first dose of prazosin may be exacerbated in patients already receiving beta-blocker therapy.

Digitalis glycosides
Concomitant administration of a digitalis glycoside may cause severe bradycardia and/or prolongation of AV conduction time.

Sympathomimetics
Adrenaline and other sympathomimetic agents (e.g. in cough medicines, nasal drops or eye drops) may cause hypertensive reactions in patients being treated with beta-blockers. However, this is less likely with therapeutic doses of $beta_1$-selective blockers than with non-selective beta-blockers.

NSAIDs
Concurrent treatment with a non-steroidal anti-inflammatory drug (NSAID), such as indometacin, may decrease the antihypertensive effect of metoprolol.

Enzyme induction
Enzyme inducers may affect plasma concentrations of metoprolol. Rifampicin, for example, lowers plasma concentrations of metoprolol.

Effect of metoprolol on other medicinal products
Clonidine
If a patient is receiving clonidine and Lopresor concomitantly and clonidine is to be discontinued, Lopresor therapy should also be withdrawn a few days in advance. This is because the increase in blood pressure that may occur with discontinuation of clonidine may be potentiated by concomitant beta-blocker therapy.

Insulin and oral antidiabetic agents
In diabetic patients using insulin, beta-blocker therapy may be associated with increased or prolonged hypoglycaemia. Beta-blockers may also counteract the hypoglycaemic effect of sulphonylureas. The warning signs

of hypoglycaemia, in particularly tachycardia, may be masked or reduced. Diabetic patients should be monitored during treatment with Lopresor to ensure that diabetes control is maintained (see **Warnings and Precautions**).

Lidocaine (Xylocaine)
Metoprolol may reduce the clearance of lidocaine, thus increasing the effects of the latter.

Alcohol
Metoprolol may alter the pharmacokinetics of alcohol.

Pregnancy and Lactation

Metoprolol should not be taken during pregnancy – particularly in the first trimester – unless it is clearly necessary. There is evidence that metoprolol reduces placental blood flow and may thus bring about lethal growth disorders. Miscarriage, premature labour and intrauterine fetal death have been observed following administration of other beta-blockers. If metoprolol is used during the third trimester, treatment must be withdrawn 72 hours before the estimated date of delivery. If this is not possible, neonates should be monitored closely for the first 72 hours following delivery.
Concentrated metoprolol is secreted into breast milk. Women should not breastfeed while using metoprolol. However, the amount of metoprolol ingested along with the breast milk can be reduced if women do not breastfeed until 3–4 hours after taking the product.

Effects on ability to drive and use machines

Lopresor may cause dizziness, fatigue or visual disturbances (see **Adverse reactions**) and thus impair the patient's ability to drive or use machines.
The risk is particularly great at the start of treatment, after a dose increase, when changing from one medicinal product to another, or when alcohol is also consumed.

Adverse effects

Frequency
Very rare: < 0.01%; rare: ≥ 0.01% to < 0.1%; uncommon: ≥ 0.1% to < 1%; common: ≥ 1% to < 10%; very common: ≥ 10%.

Blood and lymphatic system disorders
Very rare: Thrombocytopenia.

Disorders of metabolism and nutrition
Very rare: Weight gain

Psychiatric disorders
Rare: Depression, decreased mental alertness; drowsiness or insomnia, nightmares.
Very rare: Personality disorder, hallucinations.

Nervous system disorders
Common: Fatigue, dizziness, headache.
Rare: Paraesthesias, muscle cramps.

Disorders of the eye, ear and labyrinth
Very rare: Disturbances of vision, dry and/or irritated eyes, tinnitus and, at doses exceeding those recommended, hearing impairment.

Cardiovascular system
Like all antiarrhythmic agents, beta-blockers may have arrhythmogenic effects when used to treat disturbances of cardiac rhythm.
Common: Bradycardia, orthostatic hypotension (occasionally with syncope).
Rare: Heart failure, cardiac arrhythmias, oedema, palpitations, Raynaud's syndrome.
Very rare: Disturbances of cardiac conduction, precordial pain, gangrene (in patients with severe peripheral circulatory disorders).

Respiratory tract disorders
Common: Exertional dyspnoea.
Rare: Bronchospasm (also possible in patients without a history of obstructive lung disease).
Very rare: Rhinitis.

Gastrointestinal disorders
Common: Nausea and vomiting, abdominal pain.
Rare: Diarrhoea or constipation.
Very rare: Dry mouth.

Hepatobiliary disorders
Very rare: Liver function test abnormalities, hepatitis.

Skin
Rare: Rash (in the form of urticaria or psoriasiform and dystrophic skin lesions).
Very rare: Photosensitivity, increased sweating, hair loss. Exacerbation of psoriasis.

Musculoskeletal system
Very rare: Arthritis.

Renal and urinary disorders
Very rare: Retroperitoneal fibrosis (relationship to Lopresor has not been definitely established).

Reproductive system
Very rare: Disturbances of libido and potency (Peyronie's disease).

Overdose

Signs and symptoms
An overdose of Lopresor may lead to toxic effects such as: severe hypotension, sinus bradycardia, atrioventricular block, heart failure, cardiogenic shock, cardiac arrest, bronchospasm, impairment of consciousness (or even coma), convulsions, nausea, vomiting and cyanosis.
Concomitant ingestion of alcohol, antihypertensives, quinidine or barbiturates aggravates the signs and symptoms.
The first manifestations of overdosage occur 20 minutes to 2 hours after ingestion. The effects of a severe overdose may persist for several days, despite decreasing plasma concentrations.

Management
Patients should be admitted to hospital and should generally be taken care of in an intensive care unit in which cardiac function, blood gases, and blood biochemistry can be continuously monitored. If necessary, emergency measures such as artificial respiration or cardiac pacing should be instituted. Even patients who are apparently well after a mild overdose should be closely monitored for signs of intoxication for at least four hours.
In the first four hours after oral ingestion of a potentially life-threatening overdose of Lopresor, vomiting should be induced or gastric lavage performed, and/or activated charcoal administered, in order to remove the drug from the gastrointestinal tract. Haemodialysis is unlikely to make a significant contribution to metoprolol elimination.
Intravenous atropine may be given to counter severe bradycardia. An intravenous beta-agonist such as prenalterol or isoprenaline should be given if bradycardia and hypotension occur; very high doses may be necessary to overcome beta-blockade.
Dopamine, dobutamine or noradrenaline may be given to maintain blood pressure.
Glucagon has a positive inotropic and chronotropic effect on the heart that is independent of the beta receptors and has been shown to be effective in treatment-resistant hypotension and heart failure resulting from beta-blocker overdosage.
Diazepam is the drug of choice for the management of convulsions. A $beta_2$-agonist or aminophylline can be used to reverse bronchospasm; patients should be monitored for evidence of cardiac arrhythmias during and after administration of the bronchodilator.
The beta-blocker withdrawal phenomenon may occur after overdosage (see **Warnings and Precautions**).

Properties and Actions

ATC code: C07AB02

Mechanism of action and Pharmacodynamics
Metoprolol is a cardioselective beta-blocker. That is, it blocks $beta_1$ receptors, which are mainly located in the heart, at doses lower than those needed to block $beta_2$ receptors, which are mainly located in the bronchi and peripheral vessels.
Metoprolol is an aryloxypropanolamine derivative. It has no membrane-stabilizing effect and is not a partial agonist, i.e. it has no intrinsic sympathomimetic activity.
The stimulant effect of catecholamines on the heart is reduced or inhibited by metoprolol. This leads to a decrease in heart rate, cardiac contractility and cardiac output.
Metoprolol lowers elevated blood pressure in both the standing and the lying position and reduces the rise in blood pressure occurring in response to exercise.
Treatment results in an initial increase in peripheral vascular resistance, which is normalized, or in some cases reduced, during long-term treatment.
As with all beta-blockers, the precise mechanism of the antihypertensive effect of metoprolol is not fully understood. However, the long-term reduction in blood pressure seen with metoprolol appears to parallel this gradual decrease in total peripheral resistance.
In angina pectoris metoprolol reduces the frequency and severity of ischaemic episodes and increases physical working capacity.
These beneficial effects may be due to decreased myocardial oxygen demand as a result of the reduced heart rate and myocardial contractility.
In patients with supraventricular tachycardia, atrial fibrillation, or ventricular extrasystoles, metoprolol has a regulating effect on the heart rate. The anti-arrhythmic action is due primarily to inhibition of the automaticity of the pacemaker cells and to prolongation of AV conduction time.
Metoprolol reduces the mortality of patients for whom there is a suspicion, or confirmed diagnosis, of myocardial infarction. This effect may be attributable to a decrease in the incidence of severe ventricular arrhythmia, as well as to limitation of infarct size. Metoprolol has also been shown to reduce the incidence of non-fatal myocardial reinfarction.
Thanks to its beta-blocking effect, metoprolol is suitable for the treatment of functional cardiac disorders with palpitations, for the prevention of migraine, and as supplementary medication in hyperthyroidism.
Long-term treatment with metoprolol may reduce insulin sensitivity. However, metoprolol interferes less with insulin secretion and carbohydrate metabolism than do non-selective beta-blockers.
In short-term studies it has been shown that metoprolol may alter the blood lipid profile. It may cause an increase in triglycerides and a decrease in free fatty acids. In some cases a small decrease in the high-density lipoprotein (HDL) fraction has been observed, although to a lesser extent than with non-selective beta-blockers. In a long-term study lasting several years, cholesterol levels were found to be reduced.

Pharmacokinetics

Absorption
Oral forms
Metoprolol is primarily absorbed from the duodenum and the upper portion of the jejunum. Absorption is rapid and complete after administration of the conventional film-coated tablets. Absorption is slower with Lopresor Retard, but the availability of metoprolol is the same for both dosage forms.
Peak plasma concentrations are reached after about 1.5–2 hours with conventional film-coated tablets and after about 4–5 hours with the sustained-release tablets. Plasma concentrations of metoprolol increase approximately in proportion to the dose in the dose range of 50–200 mg.
Owing to extensive hepatic first-pass metabolism, only about 50% of a single oral dose of metoprolol reaches the systemic circulation. The extent of presystemic elimination differs between individuals because of genetic differences in oxidative metabolism. Although the plasma concentration profile is subject to wide intersubject variability, it is reproducible within an individual.
Upon repeated administration, the percentage of the dose systemically available is approx. 70%, i.e. it is approx. 40% higher than after a single dose. This may be due to partial saturation of the first-pass metabolism or to reduced clearance as a result of decreased hepatic blood flow.
Ingestion together with food may raise the systemic availability of a single oral dose by approximately 20–40%.

Parenteral form
Following administration by intravenous injection, metoprolol is very rapidly distributed, with a half-life of 5–15 minutes. One hour after an intravenous injection of 20 mg the plasma concentration is about 200 nmol/litre. The dose-dependent rise in plasma concentrations is linear at doses between 5 and 20 mg.

Distribution and metabolism
Metoprolol is rapidly distributed, with a reported volume of distribution of 3.2 to 5.6 litres/kg. The half-life is not dose-dependent and does not change on repeated administration.
Approximately 10% of metoprolol binds to plasma proteins.
Metoprolol crosses the placental barrier and is excreted in the breast milk (see **Pregnancy and Lactation**). In patients with hypertension, metoprolol concentrations in the cerebrospinal fluid are the same as those in the plasma.
Metoprolol is extensively metabolized in the liver by enzymes of the cytochrome P450 system. The oxidative metabolism of metoprolol is genetically controlled, with the result that plasma concentrations may be higher in poor metabolizers with genetic debrisoquine polymorphism. None of the metabolites of metoprolol contribute significantly to its beta-blocking effect.

Elimination
The average elimination half-life of metoprolol is 3–4 hours and can be 7–9 hours in poor metabolizers.
About 95 % of a dose is excreted in the urine.
In most cases (extensive metabolizers), less than 5% of an oral dose and less than 10% of an intravenous dose are excreted as unchanged drug.
In poor metabolizers, up to 30% of an oral dose and up to 40% of an intravenous dose are excreted unchanged.
Total plasma clearance of metoprolol after intravenous administration is approx. 1 litre/minute.

Pharmacokinetics in special patient populations
Plasma concentrations of metoprolol in the elderly are not essentially different from those in young people.
Impaired renal function does not exert any influence on the bioavailability or elimination of metoprolol, but the excretion of metabolites is reduced. However, while significant accumulation of metabolites occurs in patients with a creatinine clearance of approximately 5 ml/minute or less, this accumulation does not influence the beta-blocking properties of metoprolol.
Liver cirrhosis may increase the bioavailability of unchanged metoprolol and reduce its total clearance. Patients with portacaval anastomosis had a systemic clearance of about 0.3 litres/minute after an intravenous dose and AUC values were up to 6 times higher than in healthy subjects. Inflammatory disease has no effect on the pharmacokinetics of metoprolol. Hyperthyroidism may increase the presystemic clearance of metoprolol.

Preclinical data

Chronic toxicity
Investigations of chronic toxicity in different animal species have yielded no evidence of substance-related toxicity.

Tumorigenic and mutagenic potential
Results of carcinogenicity studies in rats and mice provide no evidence of tumorigenicity.
Metoprolol has not been subjected to extensive mutagenicity testing. In investigations carried out to date, there has been no evidence of mutagenicity.

Reproductive toxicity
Investigations in two animal species (rats and rabbits) have yielded no evidence that metoprolol has any teratogenic properties.

Other information

Special precautions for storage
See folding box

Pack sizes

Country specific pack sizes

Manufacturer

See folding box

Information last revised

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® = registered trademark

Novartis Pharma AG, Basle, Switzerland

This is a medicament
- A medicament is a product which affects your health, and its consumption contrary to instructions is dangerous for you.
- Follow strictly the doctor's prescription, the method of use and the instructions of the pharmacist who sold the medicament.
- The doctor and the pharmacist are experts in medicine, its benefits and risks.
- Do not by yourself interrupt the period of treatment prescribed for you.
- Do not repeat the same prescription without consulting your doctor.

Keep medicaments out of reach of children

Council of Arab Health Ministers
Union of Arab Pharmacists

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