

# Lasix<sup>®</sup> 500mg

## Tablets

### furosemide

sanofi aventis

The package leaflet concerns the following:

1. What Lasix<sup>®</sup> 500 mg tablets are and what they are taken for
2. Before you take Lasix<sup>®</sup> 500 mg tablets
3. How Lasix<sup>®</sup> 500 mg tablets are taken
4. Possible side effects
5. Storing Lasix<sup>®</sup> 500 mg tablets
6. Other information

#### 1. WHAT Lasix<sup>®</sup> 500 mg tablets ARE AND WHAT THEY ARE TAKEN FOR

Lasix<sup>®</sup> 500 mg tablets are a diuretic (a medicine that promotes urine production).

This high-dose medicine is indicated exclusively in patients with highly impaired kidney function (glomerular filtration rate less than 20 ml/min). Lasix<sup>®</sup> 500 mg tablets are taken for reduced urine production (oliguria) in patients with advanced and end-stage kidney failure (if dialysis is needed or may become necessary), if they have fluid accumulation and/or high blood pressure, or to maintain residual urine output (the increase in urine output produced by the drug should be checked through occasional urine elimination tests).

#### 2. BEFORE YOU TAKE Lasix<sup>®</sup> 500 mg tablets

Lasix<sup>®</sup> 500 mg tablets must not be taken:

- if your kidney function is normal or reduced (glomerular filtration more than 20 ml/min), since there may be a risk of excess fluid and salt (electrolyte) loss
- if you are hypersensitive (allergic) to furosemide, sulfonamides, or any other ingredient in Lasix<sup>®</sup> 500 mg tablets
- if you have acute kidney failure with no urine production (anuria)
- if you have acute liver failure with consciousness disorders (coma and hepatic precoma)
- if you have a severe potassium deficit
- if you have a severe sodium deficit
- if you have a blood volume deficit (hypovolemia) or body water deficit (dehydration)

- if you are breast-feeding (see also Section "Pregnancy and Breast-feeding").

#### Take special care with Lasix<sup>®</sup> 500 mg tablets

- if your blood pressure is very low (hypotension)
- if you have already existing or underlying diabetes mellitus; regular monitoring of blood sugar levels is required
- if you have gout; regular monitoring of blood uric acid levels is required
- if you have impaired urine excretion (e.g. enlarged prostate, intrarenal obstruction, ureteral stenosis)
- if your blood protein level is decreased (hypoproteinemia), e.g. in nephrotic syndrome (protein loss, lipid metabolism disorders, and water accumulation); dosage must be carefully adjusted
- if you have liver cirrhosis as well as impaired kidney function
- if you have blood flow disorders in the brain vessels (cerebrovascular perfusion disorders) or heart vessels (coronary disease), since you would be particularly at risk if you experienced a sharp adverse drop in blood pressure. In patients with urination disorders (e.g. enlarged prostate), Lasix<sup>®</sup> 500 mg tablets may only be taken if normal urine output can be restored, since a sudden onset of urine flow could result in obstructive anuria, which could strain the bladder.

During long-term treatment with Lasix<sup>®</sup>, certain blood tests, particularly potassium, sodium, calcium, bicarbonate, creatinine, urea, and uric acid, as well as blood glucose, should be regularly performed.

Particularly careful monitoring is required if you are at high risk for electrolyte disturbances, or if you have severe fluid loss (e.g. due to vomiting, diarrhea, or excessive sweating). Any deficit in circulating blood volume (hypovolemia), body water deficit (dehydration), significant electrolyte disturbances, or acid-base balance disturbances must be corrected. This may require temporary adjustment of Lasix treatment.

Weight loss due to increased urine excretion should not exceed 1 kg/day regardless of the extent of urine output.

If you have nephrotic syndrome (see above), particularly strict compliance with the prescribed dose is essential, due to the increased risk of adverse effects.

#### Children

Particularly careful monitoring is required in premature children, since they are at risk for renal calcification or kidney stones. Monitoring methods include kidney function tests and ultrasound.

In premature infants with conditions involving difficulty breathing (respiratory distress syndrome) undergoing diuretic treatment with Lasix<sup>®</sup> in the first weeks of life, there may be a higher risk that the vessel that shunts pulmonary circulation before birth will remain open (persistent patent ductus arteriosus).

#### Taking other medicines with Lasix<sup>®</sup> 500 mg tablets

Please inform your doctor or pharmacist if you are taking or have recently taken any other medicines, even over-the-counter drugs.

The efficacy of Lasix<sup>®</sup> 500 mg tablets may be affected by simultaneous treatment with the following drugs or groups of medicines:

- Glucocorticoids (cortisone), carbenoxolone, or laxatives may increase potassium loss, which can result in potassium deficit.
- Medicines with an anti-inflammatory effect (non-steroidal anti-inflammatory drugs, such as indomethacin and aspirin) may reduce the effect of Lasix<sup>®</sup>. If Lasix<sup>®</sup> treatment causes a decrease in circulating blood volume (hypovolemia) or body water loss (dehydration), simultaneous administration of non-steroidal anti-inflammatory drugs may cause acute kidney failure.
- Probenedecid (antigout agent), methotrexate (antirheumatic agent and immunosuppressant) and other drugs which, like furosemide, are excreted in the urine, may reduce the effect of Lasix<sup>®</sup>.
- Simultaneous administration of phenytoin (drug used to treat seizures and certain types of pain) has been reported to reduce the effect of Lasix<sup>®</sup>.
- Since sucralfate (stomach drug) reduces the intestinal absorption of Lasix<sup>®</sup>

and thereby decreases its effect, an interval of at least two hours should be allowed between administration of the two drugs.

The effectiveness of the following drugs or groups of medicines may be affected by simultaneous treatment with Lasix<sup>®</sup> 500 mg tablets.

- During simultaneous treatment with certain cardiac agents (glycosides), it should be noted that the sensitivity of the heart muscle to these drugs may be increased by a potassium or magnesium deficit developing under treatment with Lasix<sup>®</sup>. There is a higher risk of heart rate disturbances (ventricular arrhythmias, including torsades de pointes) during simultaneous administration of drugs (e.g. terfenadine, an anti-allergic, and certain medicines used in heart rate disturbances [class I and III anti-arrhythmics]) that can cause certain ECG changes (prolongation of QT interval) and in patients with electrolyte disturbances.

- The adverse effects of high-dose salicylates (painkillers) may be enhanced by simultaneous use with Lasix<sup>®</sup>.

- Lasix<sup>®</sup> may enhance the harmful effects of medicines that damage the kidneys (nephrotoxic drugs) (e.g. antibiotics such as aminoglycosides, cephalosporins, polymyxins). Kidney function may deteriorate in patients receiving both furosemide and high doses of certain cephalosporins.

- Damage to hearing (ototoxicity) caused by aminoglycosides (e.g. kanamycin, gentamicin, tobramycin) and other ototoxic drugs may be increased by simultaneous administration of Lasix<sup>®</sup>. Hearing impairment may not be reversible. Consequently, simultaneous use of the drugs mentioned above should be avoided.

- Simultaneous use of cisplatin (treatment for malignant diseases) and Lasix<sup>®</sup> may result in hearing impairment. In addition, Lasix<sup>®</sup> must be used with special care since it may enhance the harmful effect of cisplatin on the kidneys (nephrotoxicity).

- Simultaneous use of Lasix<sup>®</sup> and lithium (used in certain forms of depression) may enhance the harmful effects of lithium on the heart (cardiotoxicity) and nerves (neurotoxicity). The blood lithium level should therefore be closely monitored in patients receiving this combination.

- If other medicines used to reduce high blood pressure (antihypertensives) or diuretic drugs or products that may have a hypotensive effect are used at the same time as Lasix<sup>®</sup>, a substantial decrease in blood pressure can be expected. Major drops in blood pressure, even leading to shock, and a deterioration of kidney function (with isolated cases of acute kidney failure) have been observed, particularly during initial administration of ACE inhibitors or angiotensin II receptor antagonists or during initial administration of higher doses. If possible, Lasix<sup>®</sup> treatment should therefore be stopped temporarily, or at least the dose should be reduced for three days, before treatment with an ACE inhibitor or angiotensin II receptor antagonist is started or the dose increased.

- Lasix<sup>®</sup> may reduce the elimination of probenedecid, methotrexate, and other drugs which, like furosemide, are excreted via the kidneys. High-dose treatment may result in high levels of active substances in the blood and increase the risk of adverse effects.

- The effect of theophyllin (anti-asthmatic drug) or curare-like agents that cause muscle relaxation (muscle relaxants) may be enhanced by Lasix<sup>®</sup>.

- The effect of drugs that lower blood sugar levels (antidiabetics) or increase blood pressure (pressor amines, e.g. adrenalin, noradrenalin) may be reduced by simultaneous use of Lasix<sup>®</sup>.

#### Other interactions:

- Simultaneous use of cyclosporin A and Lasix<sup>®</sup> is linked to a higher risk of arthritis due to gout, as a result of increased blood uric acid levels caused by furosemide and impaired urine excretion of uric acid caused by cyclosporin.

- In patients treated with furosemide who are at high risk for renal impairment during X-rays with contrast agents, renal function deteriorated more frequently after the examination in patients who received contrast materials than in those who only received intravenous fluids before the contrast-enhanced examination.

- In isolated cases, intravenous use of Lasix<sup>®</sup> within 24 hours of chloral hydrate administration resulted in sensations of warmth, sweating, agitation, nausea, and increased blood pressure and heart rate (tachycardia). Consequently, simultaneous use of Lasix<sup>®</sup> and chloral hydrate should be avoided.

#### Taking Lasix<sup>®</sup> 500 mg tablets with food and drink

Eating large quantities of licorice under treatment with Lasix<sup>®</sup> may increase potassium loss.

#### Pregnancy and Breast-feeding

Lasix<sup>®</sup> 500 mg tablets must not be taken during pregnancy unless the attending physician considers it absolutely necessary, since the active substance furosemide crosses the placenta.

Furosemide is excreted in breast milk and inhibits its production.

Consequently, you should not be treated with Lasix<sup>®</sup> 500 mg tablets if you are breast-feeding. If necessary, you must stop breast-feeding.

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

Even when this medicine is used as specified, it may affect your capacity to react to such extent that your ability to drive, use machines, or work without a safe footing is impaired. This applies to a greater extent at the beginning of treatment, when increasing the dose, when switching products, and in combination with alcohol.

#### Important warning regarding other components of Lasix<sup>®</sup> 500 mg Tablets

This medicine contains lactose. Please consult your doctor before taking Lasix<sup>®</sup> 500 mg Tablets if you know that you have a known indigestion to certain sugars.

#### 3. HOW Lasix<sup>®</sup> 500 mg tablets ARE TAKEN

Always take Lasix<sup>®</sup> 500 mg tablets exactly according to your doctor's instructions. You should check with your doctor or pharmacist if you are in doubt.

#### Dosage

The dose should be determined on a case by case basis, particularly in light of your response to treatment. The lowest dose that achieves the desired effect should always be used.

Unless otherwise prescribed, the following dosages are recommended for adults:

**Reduced urine production (oliguria) in patients with advanced and end-stage kidney failure (if dialysis is needed or may rapidly become necessary):**

Up to 1 000 mg of furosemide may be administered daily to increase urine output, with monitoring of fluid and salt levels. Urine elimination tests should be performed occasionally to check whether furosemide continues to increase urine output.

In patients with chronic kidney failure, the dose must be determined carefully

so that fluids that have accumulated in the tissue can be eliminated gradually. The switch to Lasix® 500 mg tablets can only be made if patients do not respond sufficiently to an oral dose of 120 mg of furosemide daily. The dose can then be increased from ½ x Lasix® 500 mg tablet (equivalent to 250 mg of furosemide) to up to 2 x Lasix® 500 mg tablets (equivalent to 1 000 mg of furosemide).

#### Method and duration of administration

Swallow the tablets whole on an empty stomach in the morning with enough liquid (e.g. with a glass of water).

The attending physician decides on the duration of treatment. This is based on the type and severity of the disease.

#### If you take more Lasix® 500 mg tablets than you should:

If you suspect a significant overdose of Lasix® 500 mg tablets, you should inform a doctor immediately. The doctor can decide on the measures that may be necessary, depending on the extent of overdose.

The signs of acute or chronic overdose depend on the severity of the salt and fluid losses.

Overdose may result in low blood pressure (hypotension) and circulatory disorders when changing from a lying to a standing position (orthostatic regulation disorders), electrolyte disturbances (decreased potassium, sodium, and chloride levels) and increased blood pH (alkalosis).

Severe fluid loss may result in dehydration and, due to blood volume losses (hypovolemia), in circulatory shock and thickening of the blood (hemoconcentration) with a tendency for thrombosis (blood clots).

Sudden water and electrolyte losses can result in a confusional state (delirium).

#### If you forget to take Lasix® 500 mg tablets:

Do not take twice the amount next time, but continue taking the prescribed dose.

#### If you stop taking Lasix® 500 mg tablets:

You must not interrupt or prematurely stop your treatment with Lasix® 500mg Tablets without medical advice, because otherwise you will be jeopardizing the efficacy of the medicine.

If you have other questions regarding the use of medicines, ask them to your doctor or pharmacist.

#### 4. POSSIBLE SIDE EFFECTS

Like all drugs, Lasix® 500 mg tablets may have side effects, which do not necessarily occur to everyone.

The frequency of side effects is classified as follows:

|   |   |
|---|---|
| <b>very common:</b><br>more than 1 in 10 patients                                 | <b>common:</b><br>fewer than 1 in 10 but more than 1 in 100 patients                        |
| <b>uncommon:</b><br>fewer than 1 in 100 but more than 1 in 1 000 patients         | <b>rare:</b><br>fewer than 1 in 1 000 but more than 1 in 10 000 patients                    |
| <b>very rare:</b><br>fewer than 1 in 10 000 patients, including exceptional cases | <b>No frequency details:</b><br>The frequency cannot be calculated with the available data. |

#### Possible side effects:

##### Blood:

Uncommon: platelet depletion (thrombocytopenia)

Rare: Increase in certain white blood cells (eosinophilia), decrease in white blood cells (leukopenia)

Very rare: anemia due to increased decomposition of red blood cells (hemolytic anemia), anemia due to blood cell formation disorders in the bone marrow (aplastic anemia), severe decrease in certain white blood cells with increased susceptibility to infections and poor general health (agranulocytosis).

##### Immune system/hypersensitivity reactions:

Uncommon: itching, skin and mucosal reactions (see side effects on skin)

Rare: feverish state, inflammation of blood vessels (vasculitis), kidney inflammation (interstitial nephritis), serious hypersensitivity reactions such as circulatory shock (anaphylactic shock). The first signs of shock include skin reactions such as severe flushing or hives, agitation, headache, bouts of sweating, nausea, and bluish discoloration of the skin (cyanosis).

##### Hormone system:

The blood sugar level may increase under furosemide treatment. In patients with existing diabetes (manifest diabetes mellitus) this may lead to deterioration of the patient's metabolism. Underlying diabetes mellitus may become manifest.

##### Metabolism/electrolytes:

Fluid and electrolyte disturbances are often observed during treatment with Lasix®, due to increased elimination of fluids and electrolytes. For this reason, certain blood parameters should be tested regularly (especially potassium, sodium, and calcium).

Underlying diseases (e.g. liver cirrhosis, heart failure), simultaneous medication (see Section 2) and food are factors that may lead to electrolyte disturbances.

Due to increased sodium loss in the urine, a sodium deficit (hyponatremia) may occur, with corresponding symptoms, particularly if salt (sodium chloride) intake is reduced. Symptoms that are often reported with sodium deficit include apathy, calf cramps, loss of appetite, weakness, drowsiness, vomiting, and confusional state.

A potassium deficit may occur as a result of increased potassium excretion in the urine, especially if, during treatment, potassium intake is reduced or potassium loss increased (e.g. due to vomiting or chronic diarrhea). This condition may lead to symptoms such as muscle weakness, abnormal touch sensations in the hands and feet (paresthesia), minor paralysis (paresis), vomiting, constipation, build-up of gas in the digestive tract (tympantites), excessive urine output (polyuria), abnormal feeling of thirst with excessive fluid intake (polydipsia) and irregular pulse (e.g. excitation-conduction disorders). Severe potassium loss may result in bowel paralysis (paralytic ileus) or consciousness disorders and even coma.

Increased calcium excretion in the urine may cause a calcium deficit. In rare cases, this may result in neuromuscular hyperexcitability (tetany).

Increased magnesium loss in the urine may result in a magnesium deficit, and in rare cases, tetany and heart rate disorders have been reported.

Electrolyte and fluid loss during Lasix® treatment may cause or exacerbate metabolic alkalosis (increased blood pH).

Blood uric acid levels are often increased during Lasix® treatment.

Predisposed patients are likely to suffer gout attacks.

Blood lipids (cholesterol, triglycerides) may increase during Lasix® therapy.

##### Nervous system:

Rare: a sensation of prickling or numbness in the hands and feet (paresthesia) In patients with advanced hepatic malfunction, a brain disease (Hepatic encephalopathy) may appear.

##### Sense organs:

Due to the possible damage to hearing (ototoxicity) caused by Lasix®, hearing disorders and/or noises in the ears (tinnitus) may occur in rare cases, which are usually curable (reversible). This can especially occur if the intravenous injection of Lasix® is too rapid, particularly in patients who also have kidney failure or decreased blood protein levels (hypoproteinemia, e.g. in nephrotic syndrome).

##### Cardiovascular system:

Excessive urine output may be accompanied by circulation disorders, especially in elderly patients and children, which are manifested in particular by headache, dizziness, sight disorders, dry mouth and thirst, low blood pressure (hypotension) and circulation disorders with a drop in blood pressure when changing from a lying to a standing position (orthostatic regulation disorders). Considerable (excessive) urine output may result in dehydration leading to decreased blood volume (hypovolemia), circulatory shock, and thickening of the blood (hemoconcentration). Hemoconcentration can increase patients' tendency for thrombosis, particularly in the elderly.

##### Digestive tract:

Rare: stomach and bowel disorders (e.g. nausea, vomiting, diarrhea)

##### Liver / pancreas:

Very rare: acute inflammation of the pancreas, obstruction of bile flow (intrahepatic cholestasis), and increase in certain liver function parameters (elevated transaminases)

##### Skin:

Uncommon: itching, skin and mucosal reactions with redness, formation of blisters or scales (e.g. bullous exanthema, hives, purpura, erythema multiforme, bullous pemphigoid, exfoliative dermatitis) and increased sensitivity to light (photosensitivity)

Rare: blood vessel inflammation (vasculitis)

##### Kidneys:

Lasix treatment may cause a temporary increase in blood levels of substances that are eliminated by the kidneys (creatinine, urea).

Signs of impaired urine excretion (e.g. in patients with enlarged prostate, build-up of urine in the kidneys, narrowed ureter) may appear or worsen with Lasix®. Urinary obstruction (urine retention) with complications may occur.

Rare: kidney inflammation (interstitial nephritis)

##### Newborns:

In premature infants treated with Lasix®, kidney stones and/or calcification of kidney tissue may develop.

In premature infants with respiratory distress syndrome (major difficulty breathing) under diuretic treatment with Lasix® in the first weeks of life, there may be a higher risk that the vessel that shunts pulmonary circulation before birth will remain open (persistent patent ductus arteriosus).

##### General status:

Rare: feverish state.

Should any of the side effects described above occur, inform your doctor as soon as possible, so that he/she can determine the severity and, if necessary, decide on further measures.

If a side effect occurs suddenly or becomes more severe, inform your doctor immediately, since some drug reactions may become life-threatening in certain circumstances. The doctor will decide what measures must be taken and whether treatment can be continued.

At the first signs of a hypersensitivity reaction, Lasix® 500 mg tablets should not be used again.

If you notice any side effects not mentioned in this leaflet, please inform your doctor or pharmacist.

#### 5. STORING Lasix® 500 mg tablets

Keep out of the reach of children.

Do not use after the expiry date given on the blister pack and box.

The expiry day is on the last day of the month.

#### Special storage precautions

Always store in outer packaging protected from light.

Do not store above 30°C.

#### 6. OTHER INFORMATION

##### What do Lasix® 500 mg tablets contain:

The active substance is furosemide.

One tablet contains 500 mg of furosemide.

The other ingredients are:

Corn (maize) starch, lactose monohydrate, powdered cellulose, sodium starch glycolate, talc, colloidal silica, magnesium stearate, quinoline yellow (E 104). Note for diabetic patients: 1 tablet contains less than 0.01 bread units of carbohydrate.

##### How are Lasix® 500 mg tablets supplied:

Yellow round tablets with 2 score lines.

Lasix® 500 mg tablets are available in packs containing 20 tablets.

**Date of leaflet revision:** May 2012.

#### Packed by

**Benta S.A.L., Dbayah - Lebanon**



Under license from

**Sanofi-Aventis Deutschland GmbH  
Germany**

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  
- Medicament: keep out of reach of children