

Package leaflet: Information for the user

Ringer Lactate Intravenous Infusion BP Solution for Infusion

Read all of this leaflet carefully before using this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor or pharmacist.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. See section 4.

What is in this leaflet:

1. What Ringer Lactate Intravenous Infusion BP is and what it is used for
2. What you need to know before you use Ringer Lactate Intravenous Infusion BP
3. How to use Ringer Lactate Intravenous Infusion BP
4. Possible side effects
5. How to store Ringer Lactate Intravenous Infusion BP
6. Contents of the pack and other information

1. What Ringer Lactate Intravenous Infusion BP Solution for Infusion is and what it is used for

Compound Ringer Lactate Infusion is a solution of the following substances in water:

- Sodium chloride
- Potassium chloride
- Calcium chloride dihydrate
- Sodium lactate.

Sodium, potassium, calcium, chloride and lactate are chemical substances (electrolytes) found in the blood.

Compound Ringer Lactate Infusion is used:

- To treat a loss of body water and chemicals (e.g. By heavy sweating, kidney disorders)
- To treat you, if the volume of blood in your blood vessels is low (hypovolaemia) or if you have low blood pressure (hypotension)
- In metabolic acidosis (when the blood becomes too acidic).

2. What you need to know before you use Ringer Lactate Intravenous Infusion BP Solution for Infusion

You must NOT receive Compound Ringer Lactate Infusion if you are suffering from any of the following conditions

if you're a newborn (less than 28 days old) receiving ceftriaxone (an antibiotic)

- if you're allergic to sodium lactate or any of the other ingredients in Compound Sodium Lactate
- when there is too much fluid in the spaces around the cells of the body (extracellular hyperhydration)
- when there is a larger volume of blood in the blood vessels than there should be (hypervolaemia)
- severe kidney failure (when your kidneys do not work well and you require dialysis)
- uncompensated heart failure. This is heart failure that is not adequately treated and causes symptoms such as:
 - **shortness of breath**

– swelling of the ankles

- higher levels of potassium in the blood than normal (hyperkalaemia)
- higher levels of calcium in the blood than normal (hypercalcaemia)
- a disorder in which the blood becomes too alkaline (metabolic alkalosis)
- liver disease that causes fluid to build up within the abdomen (ascitic cirrhosis)
- your blood is too acidic which is life-threatening (severe metabolic acidosis)
- a particular type of metabolic acidosis (lactic acidosis)
- severe liver disease (when the liver does not function properly and requires very intensive treatment)
- poor lactate metabolism (this occurs in severe liver disease, as lactate is removed by the liver)
- if you are taking cardiac glycosides (cardiotonics) used to treat heart failure, such as digitalis or digoxin (see also “Taking other medicines”)

Warnings and precautions

Talk to your doctor or nurse before receiving Compound Ringer Lactate Infusion if you have or have had any of the following medical conditions:

- if you’re receiving ceftriaxone (an antibiotic) (see also “Other medicines and Compound Ringer Lactate Infusion”)
- heart failure
- respiratory failure (lung disease) (special monitoring may be required in the above conditions)
- poor kidney function
- higher levels of chloride in the blood than normal (hyperchloraemia)
- high blood pressure (hypertension)
- build up of fluid under the skin, affecting all parts of the body (general oedema)
- build up of fluid under the skin, particularly around the ankles (peripheral oedema)
- build up of fluid in the lungs (pulmonary oedema)
- high blood pressure during pregnancy (pre-eclampsia)
- a disease that causes high levels of a hormone called aldosterone (aldosteronism)
- higher levels of sodium in the blood than normal (hypernatraemia) or any other condition associated with sodium retention (when the body retains too much sodium), such as treatment with steroids (See also below, “Taking other medicines”)
- heart disease of any type
- any condition that means that you are more likely to have high blood levels of potassium (hyperkalaemia), such as:
 - kidney failure
 - adrenocortical insufficiency (this disease of the adrenal gland affects hormones that control the concentration of chemicals in the body)
 - acute dehydration (a loss of water from the body, e.g. due to vomiting or diarrhoea)
 - extensive tissue damage (as can occur in severe burns)

Close monitoring of your blood potassium levels is required.

- diseases associated with high levels of vitamin D (e.g. sarcoidosis, a disease affecting the skin and internal organs)
- kidney stones
- poor liver function
- diabetes
- if you have a condition that could cause high levels of vasopressin, a hormone regulating fluid in your body. You may have too much vasopressin in your body because, for example:
 - you have had a sudden and serious illness

- you are in pain
- you have had surgery
- you have infections, burns or brain disease
- you have diseases linked to your heart, liver, kidneys or central nervous system
- because you are taking certain medicines (see also below Other medicines and ‘Compound Ringer Lactate Infusion’).

This may increase the risk of low levels of sodium in your blood and can lead to headache, nausea, seizures, lethargy, coma, swelling of the brain and death. Brain swelling increases the risk of death and brain damage. People who are at higher risk of brain swelling are:

- children
- women (particularly if you are of a fertile age)
- people who have problems with their brain fluid levels, for example, because of meningitis, bleeding in the skull or a brain injury.

When you are given this infusion, your doctor will take blood and urine samples to monitor:

- the amount of fluid in your body
- the amount of chemicals such as sodium and potassium in your blood (your plasma electrolytes)
- the acidity of your blood and urine (your acid-base balance).

Although Compound Ringer Lactate Infusion contains potassium, it does not contain enough to treat very low blood plasma levels of potassium (severe potassium deficiency).

Calcium chloride can be harmful if injected into the body tissues. Therefore, the Compound Ringer Lactate Infusion must not be given by injecting it into a muscle (intramuscular injection). Also, your doctor will make every effort to avoid the escape of the solution into the tissues surrounding the vein.

Compound Ringer Lactate Infusion must not be given through the same needle as a blood transfusion. This can damage the red blood cells or cause them to clump together.

As Compound Ringer Lactate Infusion contains lactate (a substance found in the body), it can make your blood too alkaline (metabolic alkalosis).

Compound Ringer Lactate Infusion should be given with special care to babies less than 6 months of age. Your doctor will take into account if you are receiving parenteral nutrition (nutrition given by infusion into a vein). If you are given Compound Ringer Lactate Infusion for a long time, you will be given an extra source of nutrients.

Other medicines and Compound Ringer Lactate Infusion

Tell your doctor or nurse if you are taking, have recently taken or might take any other medicines.

It is particularly important that you inform your doctor if you are taking:

- ceftriaxone (an antibiotic), this should not be given through the same infusion line, unless thoroughly flushed.
- cardiac glycosides (cardiotonics) such as digitalis or digoxin used to treat heart failure, must not be used with Compound Ringer Lactate Infusion (see also section “You must NOT receive Compound Ringer Lactate Infusion if you are suffering from...”). The effects of these drugs can be increased by calcium. This can lead to life threatening changes to the heart rhythm
- corticosteroids (anti-inflammatory medicines) These medicines can cause the body to accumulate sodium and water, leading to:
- tissue swelling due to fluid collection under the skin (oedema)
- high blood pressure (hypertension).

The following medicines can increase the concentration of potassium in the blood. This effect can be life-threatening. A rise in the blood potassium levels is more likely to occur if you have kidney disease.

- potassium-sparing diuretics (certain water tablets, e.g. amiloride, spironolactone, triamterene) (Note that these medicines may be included in combination medicinal products)
- angiotensin converting enzyme (ACE) inhibitors (used to treat high blood pressure)
- angiotensin II receptor antagonists (used to treat high blood pressure)
- tacrolimus (used to prevent rejection of a transplant and to treat some skin diseases)
- cyclosporin (used to prevent rejection of a transplant)

Some medicines act on the hormone vasopressin. These may include:

- anti-diabetic medication (chlorpropamide)
- cholesterol medicine (clofibrate)
- some cancer drugs (vincristine, ifosfamide, cyclophosphamide)
- selective serotonin reuptake inhibitors (used to treat depression)
- antipsychotics
- opioids for severe pain relief
- medicines for pain and/or inflammation (also known as NSAIDs)
- medicines that imitate or strengthen the effects of vasopressin such as desmopressin (used to treat increased thirst and urination), terlipressin (used to treat bleeding of the gut) and oxytocin (used to induce labour)
- anti-epileptic medication (carbamazepine and oxcarbazepine)
- diuretics (water tablets).

Other medicines that can affect or be affected by Compound Ringer Lactate Infusion include:

- thiazide diuretics such as hydrochlorothiazide or chlortalidone
- vitamin D
- bisphosphonates (to treat bone diseases such as osteoporosis)
- fluoride (for the teeth and bones)
- fluoroquinolones (a type of antibiotic, including ciprofloxacin, norfloxacin, ofloxacin)
- tetracyclines (a type of antibiotic, including tetracycline)
- acidic medicines, including:
 - salicylates used to treat inflammation (aspirin)
 - barbiturates (sleeping tablets)
 - lithium (used to treat psychiatric illness)
- alkaline (basic) medicines including:
 - sympathomimetics (stimulant medicines such as ephedrine and pseudoephedrine, used in cough and cold preparations)
 - other stimulants (e.g. dexamphetamine, phenfluramine).

Compound Ringer Lactate Infusion with food and drink

You should ask your doctor about what you can eat or drink.

Pregnancy, breast-feeding and fertility

If you are pregnant or breast feeding, think you may be pregnant or are planning to have a baby, ask your doctor or nurse for advice before taking this medicine.

Compound Ringer Lactate Infusion can be used safely during pregnancy or breast-feeding. Your doctor will monitor the levels of chemicals in your blood and the amount of fluid in your

body.

Calcium can reach your unborn baby through the placenta and, after birth, through the breast milk. However, if another medicine is to be added to your solution for infusion during pregnancy or breast-feeding you should:

- consult your doctor
- read the Package Leaflet of the medicine that is to be added.

Driving and using machines Ask your doctor or pharmacist for advice before driving or using machines.

3. How to use Ringer Lactate Intravenous Infusion BP Solution for Infusion

You will be given Compound Ringer Lactate Infusion by a doctor or nurse. Your doctor will decide on how much you need and when it is to be given. This will depend on your age, weight, condition and the reason for treatment. The amount you are given may also be affected by other treatments you are receiving.

You should NOT be given Compound Ringer Lactate Infusion if there are particles floating in the solution or if the pack is damaged in any way.

Compound Ringer Lactate Infusion will usually be given to you through a plastic tube attached to a needle in a vein. Usually, a vein in your arm is used to give you the infusion. However, your doctor may use another method to give you the medicine.

Before and during the infusion, your doctor will monitor:

- the amount of fluid in your body
- the acidity of your blood and urine
- the amount of electrolytes in your body (particularly sodium, in patients with high level of the vasopressin, or if you are taking other medicines which increase the effect of vasopressin).

Any unused solution should be thrown away. You should NOT be given an infusion of Compound Ringer Lactate Infusion from a bag that has been partly used.

If you receive more Compound Ringer Lactate Infusion than you should

If you are given too much Compound Ringer Lactate Infusion (over-infusion) or it is given too fast, this may lead to the following symptoms:

- water and/or sodium (salt) overload with build up of liquid in the tissues (oedema) causing swelling

hyperkalaemia (higher levels of potassium in the blood than normal) especially in patients with kidney failure, causing symptoms such as:

- pins and needles in the arms and legs (paraesthesia)
- muscle weakness
- an inability to move (paralysis)
- an irregular heartbeat (cardiac arrhythmias)
- heart block (a very slow heartbeat)
- cardiac arrest (the heart stops beating; a life-threatening situation)
- confusion

– hypercalcaemia (higher levels of calcium in the blood than normal) causing symptoms such as:

- a decreased appetite (anorexia)
- feeling sick (nausea)
- vomiting
- constipation

- abdominal pain
 - mental disturbances such as irritability or depression
 - drinking lots of water (polydipsia)
 - producing more urine than normal (polyuria)
 - kidney disease due to build up of calcium in the kidneys (nephrocalcinosis)
 - kidney stones
 - coma (unconsciousness)
 - chalky taste
 - redness (hot flushes)
 - dilatation of the blood vessels in the skin (peripheral vasodilatation).
- Hypokalaemia (lower levels of potassium in the blood than normal) and metabolic alkalosis (when the blood becomes too basic), especially in patients with kidney failure, causing symptoms such as:
 - mood changes
 - tiredness
 - shortness of breath
 - stiffness of the muscles
 - twitching of the muscles
 - contraction of muscles.

If you develop any of these symptoms you must inform your doctor immediately. Your infusion will be stopped and you will be given treatment depending on the symptoms.

If a medicine has been added to your Compound Ringer Lactate Infusion before over-infusion occurs, that medicine may also cause symptoms. You should read the Package Leaflet of the added medicine for a list of possible symptoms.

Stopping your Compound Ringer Lactate Infusion

Your doctor will decide when to stop giving you this infusion. If you have any further questions on the use of this product, ask your doctor or nurse.

4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them.

If you have any of the following symptoms you should tell your doctor or nurse immediately.

These may be signs of a very severe or even fatal hypersensitivity (allergic) reaction called anaphylactic shock:

- Hives (urticaria) which may be localised to a part of the body or widespread
- Skin rash
- Redness of the skin (erythema)
- Itching (pruritus)
- Skin swelling (angioedema)
- Coughing
- Narrowing of the airways causing difficulty breathing (bronchospasm)
- A fast heartbeat (tachycardia)
- A slow heartbeat (bradycardia)
- Decreased blood pressure
- Chest discomfort or pain
- Anxiety
- Tightness of the chest (making it difficult to breathe)
- Shortness of breath (dyspnea)

- Flushing
- Throat irritation
- Pins and needles (paraesthesia)
- Reduced sense in the mouth (hypoesthesia oral)
- Altered taste (dysgeusia)
- Fever (pyrexia)
- Nausea
- Headache

Higher levels of potassium in the blood than normal (hyperkalaemia)

Low levels of sodium in the blood that may be acquired during hospitalization (nosocomial hyponatraemia) and related neurological disorder (acute hyponatraemic encephalopathy). Hyponatraemia can lead to irreversible brain injury and death due to cerebral oedema/swelling (see also section 2 “Warnings and precautions”).

Reactions due to the administration technique manifested by one or more of the following symptoms:

- local pain or reaction redness or swelling at the site of infusion
- irritation and inflammation of the vein into which the solution is infused (phlebitis). This can cause redness, pain or burning and swelling along the path of the vein into which the solution is infused.
- rash or itching (pruritus) of the infusion site.

Other side effects noted with similar products (other sodium-lactate containing solutions) include:

- other manifestations of hypersensitivity/infusion reactions: a blocked nose (nasal congestion), sneezing, swelling in the throat making it difficult to breathe (laryngeal oedema also called Quincke’s oedema), skin swelling (angioedema)
- changes in the concentrations of the chemicals in the blood (electrolyte disturbances)
- a larger volume of blood in the blood vessels than there should be (hypervolemia)
- panic attack
- other reactions due to the administration technique: infection at the site of infusion, escape of the infusion solution into the tissues around the vein (extravasation). This can damage the tissues and cause scarring, numbness at the site of infusion.

If a medicine has been added to the solution for infusion, the added medicine may also cause side effects. These side effects will depend on the medicine that has been added. You should read the Package Leaflet of the added medicine for a list of possible symptoms.

5. How to store Ringer Lactate Intravenous Infusion BP Solution for Infusion

- This medicinal product does not require any special storage conditions.
- Keep this medicine out of the sight and reach of children.
- Do not use this medicine after the expiry date which is stated on the labels on the bottle or the bag and on the outer carton. The expiry date refers to the last day of that month.

Do not use the medicinal product if you notice that the solution appears cloudy or coloured, if you find particles in the solution or if the container is leaking.
Store below 30°C

6. Contents of the pack and other information

What Ringer Lactate Intravenous Infusion BP Solution for Infusion contains

The active substances are:

- sodium chloride: 6.00 g per litre
- potassium chloride: 0.40 g per litre
- calcium chloride dihydrate: 0.27 g per litre
- sodium lactate: 3.20 g per litre.

The only other ingredient is water for injections

SUPPLIER AND MANUFACTURER

Fidson Healthcare Plc, Km.38,
Lagos-Abeokuta Expressway,
Sango-Ota, Ogun State, Nigeria
Tel: 234-(0)30077008888
customercare@fidson.com

