

# Pospondyl™

Alpha Ketoanalogue Tablets

**Postpone Dialysis**

## Product Description:

<b>Each film coated tablet contains:</b>	
Calcium-3-methyl-2-oxo-valerate ( $\alpha$ -Ketoanalogue to isoleucine, Calcium salt)	67mg
Calcium-4-methyl-2-oxo-valerate ( $\alpha$ -Ketoanalogue to leucine, Calcium salt)	101mg
Calcium-2-oxo-3-phenylpropionate ( $\alpha$ -Ketoanalogue to phenylalanine, Calcium salt)	68mg
Calcium-3-methyl-2-oxo-butyrate ( $\alpha$ -Ketoanalogue to valine, Calcium salt)	86mg
Calcium-DL-2-hydroxy-4(methylthio) butyrate ( $\alpha$ -hydroxyanalogue to methionine, Calcium salt)	59mg
L-Lysine Acetate USP (Eq to L-Lysine 75mg)	105mg
L-Threonine U.S.P.	53mg
L-Tryptophan U.S.P.	23mg
L-Histidine U.S.P.	38mg
L-Tyrosine U.S.P.	30mg
Total nitrogen content per tablet	36mg
Calcium content per tablet	1.25 mmol=0.05g
Excipients q.s.	

## General Information

Dietary protein plays a crucial role in the progression of chronic kidney disease (CKD), and a low protein diet (LPD) is usually

recommended to patients with CKD to reduce uremic symptoms and slow the progression of renal dysfunction.

It is also seen that prolonged protein restriction preceding dialysis may induce protein malnutrition and thus confer a poor prognosis during dialysis. The prevalence of protein-energy wasting in early to moderate CKD is 20–25% and increases as CKD progresses.

Alpha-Ketoanalogues (KA) of essential amino acids, converted into essential amino acids in the body via transamination & improves nutritional deficiencies caused by protein-restricted diets in CKD patients.

### **Indication & Usage**

Prevention and treatment of damages due to faulty or deficient protein metabolism in chronic kidney disease in connection with a limited dietary protein intake of 40 g/day or less (adult). Usually this applies to patients whose glomerular filtration rate (GFR) is less than 25 mL/min.

### **Dosage and Administration**

The standard dosage of Pospondyl is 1 tab/5 kg/day with low protein diet LPD (0.6/kg protein/day)

With very low protein diet vLPD (0.3/kg protein/day) dose is 1 tab/10kg/day

Pospondyl tablets are administered as long as the glomerular filtration rate (GFR) is below 25 mL/min, and concomitantly, dietary protein is restricted to 40 g/day or less (adult).

### **Mechanism of action**

Pospondyl tablets are to be given as nutritional therapy in chronic kidney disease. Pospondyl minimises the amino-nitrogen intake & allows the intake of essential amino acids. Following absorption, the keto- and hydroxy-analogues are transaminated to the corresponding essential amino acids by taking nitrogen from non-essential amino acids, thereby decreasing the formation of urea by re-using the amino group. Hence, the accumulation of uremic toxins is reduced. Keto and hydroxy acids do not induce hyperfiltration of the residual nephrons.

Supplements containing Ketoacid shows a positive effect on renal hyperphosphatemia and secondary hyperparathyroidism. Moreover, renal osteodystrophy may be improved.

Pospondyl reduces nitrogen intake when administered in combination with a very low protein diet and prevent the deleterious consequences of inadequate dietary protein intake and malnutrition.

### **Pharmacokinetic**

In healthy individuals, the plasma levels of ketoacids increase within 10 min after oral administration. Increases of up to the 5-fold the baseline levels are achieved. Peak levels occur within 20-60 min, and after 90 min levels stabilise in the range of the base levels. Gastrointestinal absorption is thus very rapid. The simultaneous increases in the levels of the ketoacids and the corresponding amino acids show that the ketoacids are transaminated very rapidly. Due to the physiological utilisation pathways of ketoacids in the body it is likely that exogenously supplied ketoacids are very rapidly integrated into the metabolic cycles. Ketoacids follow the same catabolic pathways as classical amino acids.

### **Use in Specific Population**

**Pregnancy:** There are no adequate data from the use of Alpha ketoanalogue in pregnant women. Caution should be given when prescribing to pregnant women.

**Nursing Mother:** No experience has been made so far with the use during lactation.

**Paediatric Use:** No experience has been gained so far with the administration in paediatric patients.

**Contraindication:** Pospondyl is contraindicated in below mentioned set of patients

- If patient has hypersensitivity to the active substances or to any of the excipients of Pospondyl
- Hypercalcaemic patients
- If patient has disturbed amino acid metabolism

**Warning & Precaution:**

- While taking Pospondyl, serum calcium level should be monitored regularly.
- Ensure sufficient calorie intake.
- In the presence of hereditary phenylketonuria, attention should be given to the fact that Pospondyl contains phenylalanine.
- Serum phosphate levels monitoring is required in case of concomitant administration of aluminium hydroxide

**Drug Interaction:**

- Calcium-containing drugs if prescribed simultaneously with Pospondyl may cause or aggravate elevated serum calcium levels.
- Drugs that form hardly soluble compounds with calcium (e.g. tetracyclines, quinolones such as ciprofloxacin and norfloxacin as well as drugs containing iron, fluoride or estramustine) should not be taken at the same time with alpha ketoanalogue to avoid disturbed absorption of the active substances. An interval of at least two hours should elapse between the ingestion of alpha ketoanalogue and these drugs.

**Adverse Reactions:**

If hypercalcaemia occurs, the intake of vitamin D should be reduced. In case of persisting hypercalcaemia, the dose of Pospondyl as well as the intake of any other calcium sources has to be reduced.