



# Ostogen®

Calcium

## Description

Calcium Carbonate (Ostogen®) has three main actions; it supplements dietary calcium, neutralizes gastric acid in peptic ulcer disease and sequesters phosphorus in the intestine to reduce total body phosphate accumulation in chronic renal failure.

## Mode of action

Calcium carbonate reacts with gastric acid to produce a salt and water. In chronic renal failure patients, calcium carbonate is used as a phosphate- binding agent, alone, or in combination with an aluminium containing drug. Phosphate absorption from the gastrointestinal tract is reduced by calcium carbonate subsequent to the formation of calcium phosphate in the lumen.

## Pharmacokinetics

About 39% of the calcium is absorbed from the doses of calcium carbonate from 0.5-1.4 g. Vitamin D is the prime physiological regulator of calcium absorption and is responsible for ensuring that overall calcium balance is maintained despite large fluctuations in calcium intake. Calcium carbonate is absorbed as free calcium and bicarbonate ions and not metabolized. Physiological concentration of calcium are tightly controlled principally by the effects of parathyroid hormone (PTH), vitamin D and its metabolites, and calcitonin, on intestinal absorption, deposition in bone and renal excretion. Approximately half of the calcium in serum is protein bound, 5-10% complexes in the form of small readily diffusible organic salts and the remainder as free ions.

## Composition

**Ostogen® 500 mg Tablet:** Each film-coated tablet contains Calcium Carbonate USP 1250 mg equivalent to elemental Calcium 500 mg.

**Ostogen® Jr. Chewable Tablet:** Each chewable tablet contains Calcium Carbonate USP 625 mg equivalent to elemental Calcium 250 mg.

## Indications

For dietary calcium supplementation, in osteoporosis, as a phosphate binder in chronic renal failure, as an antacid.

## Dosage & administration

As a dietary supplement such as for the prevention of osteoporosis, 500 to 1500 mg (1 to 3 tablets of Ostogen with water, or 2 to 6 tablets of Ostogen Jr.) calcium daily is recommended in general, but again this will need to be tailored to the individual patient depending on any disease specificities such as specific calcium deficiency, malabsorption or parathyroid function. As phosphate binder in chronic renal failure, the doses used vary from 2.5 to 9 gm calcium carbonate daily depending on the needs of the patients. As an antacid the recommended doses for adults are equivalent to 540 to 2000 mg calcium carbonate daily; doses of children being half of those for adults.

## Contraindications

Hypercalcaemia and hyperparathyroidism, renal calculi and nephrolithiasis, Zollinger-Ellison syndrome, concomitant digoxin therapy (requires careful monitoring of serum calcium level).

## Side effects

Anorexia, nausea, vomiting, constipation, abdominal pain, dry mouth, thirst, polyuria may be reported.

## Use in pregnancy & lactation

Calcium containing drugs are used widely in pregnancy by way of oral calcium supplementation or antacid therapy. There is no contraindication to the use of calcium carbonate in lactating women.

## Precautions

Calcium salts should be given cautiously to patients with impaired renal function, disease associated with excess vitamin D.

## Drug interactions

Calcium carbonate and other calcium salts may enhance the cardiac effects of digoxin and other cardiac glycosides if systemic hypercalcaemia occurs. It may interfere with the absorption of concomitantly administered tetracycline. It reduces the total absorption and peak serum levels of ciprofloxacin.

## Over dosage

Excessive amount of calcium can cause hypercalcaemia, which is usually associated with parenteral administration, but can occur after oral administration. The incidence of overdosing is greater in patients with renal impairment or taking vitamin D concomitantly.

## Storage

Store in a cool and dry place, protected from light.

## Packaging

**Ostogen® 500 mg Tablet:** Each carton contains 10X10 tablets in blister pack.

**Ostogen® Jr. Chewable Tablet:** Each carton contains 10X5 chewable tablets in blister pack.

