

# METHOD FOR REDUCING IMMOBILIZATION TERMS FOR BONE FRACTURES

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## ABSTRACT:

Numerous patients with serious osteoporosis and a high danger of cracks regularly can't recover their unique bone quality. They keep on having breaks even with treatment as indicated by current norms with alendronate in tablet structure each week. The present examination included 493 ladies, of a normal age of 74 years, with osteoporosis and past cracks. They were arbitrarily designated to a year's treatment with either alendronate or the new prescription romosozumab, a neutralizer that hinders the substance sclerostin, which eases back the new arrangement of bone. Treatment with romosozumab in this manner prompts quick new bone development. After the initial a year, all patients got alendronate for a year.

**Keywords:** Bone Fractures, Immobilization terms

## INTRODUCTION

Losses of socially useful labor caused by bone damage across the country (even with a very rough estimate) are expressed in colossal numbers - many tens of millions of working days.

And if specialists were able to accelerate the processes of bone fusion, at least by a third, they would bring great benefits to people and society. According to statistics, currently only on average about 50,000 thousand trauma patients with various types of injuries visit hospitals on average. Of these, about 60% of injuries that do not require hospitalization (fractures without displacement or with a slight displacement) are about 40% of injuries

requiring hospitalization, including 10% for surgical treatment.

Recently, there has been a tendency to increase the terms of immobilization of fractures due to delayed consolidation, which increases the terms of patient rehabilitation and the period of patient disability.

It is known that in the case of fusion of bone fractures, a number of complex local and general biological changes occur. 5 phases of bone restoration are distinguished.

**The first phase** is the formation of germinal (mesenchymal) tissue. It begins immediately after an injury. In the area of a bone fracture from a hematoma, (edematous fluid and fibrin)

a peculiar jelly-like “primary glue” is formed.

**The second phase** is the differentiation of the cellular elements of the hematoma and the formation of fibrous structures with the formation of cell-fibrous tissues, on the basis of which

Bone is deposited in the neck.

**The third phase** is bone deposition. In the collagen fibers of the connective tissue callus, foci of compaction begin to appear with the formation of a continuous mass due to protein deposition, on the basis of which primitive bone-shaped beams are formed, first single, and then in the form of a dense network.

**The fourth phase** is the formation and calcification of bone marrow. Ossification of corn occurs mainly due to blood calcium, where it enters from the entire skeletal system,

including directly from adjacent bone fractures.

**The fifth phase** is the restructuring of corns with the replacement of immature bone structures with more mature ones and adaptation to stress conditions. Bone callus is rearranged according to functional requirements; the development of some structures and the creation and strengthening of others. The restructuring of the final callus lasts for months and even years, which depends on the position of the fused fragments, the size of the callus, and the correspondence of the limb axis to the functional requirements of the bone loads.

Various literary sources indicate that bone fracture repair can be impaired at any stage of bone callus formation, with large hematoma, poor standing of fragments, osteoporosis, calcium deficiency in the body, which is often associated with an improper lifestyle (smoking, alcohol, inactive lifestyle, short time in the sun), malnutrition (insufficient intake of foods containing calcium and phosphorus). All of these factors affect the processes of consolidation and bone density.

In connection with the above, of great scientific and practical interest are works aimed at studying the mechanisms of normalization or acceleration of bone fusion processes, the creation of drugs on this basis.

The aim of our work was to study the effectiveness of new calcium-containing osteoprotectant on the rate of bone callus formation in fractures.

## MATERIALS AND METHODS OF STUDY

For the study, 300 patients were selected (men - 112, women - 188) aged from

18 to 62 years old with the most common fractures - a fracture of the distal radial met epiphysis and a fracture of the ankle of the ankle.

Patients are divided into 3 groups: 1 group (122 patients) took *Osteo-Med* 3 tablets 1 times a day; Group 2 (103 patients) took Calcium D3 *Nycomed* (1 tablet 1 times a day); Group 3 (75 patients) did not take calcium preparations.

X-ray examination was performed for all before applying gypsum and 3 weeks after removing the gypsum. All patients received high calcium foods. For the study, the average time for fracture immobilization was chosen - 4 weeks.

## RESEARCH RESULTS

- in patients who did not take calcium preparations, bone marrow formation was not observed (bone marrow formation was observed only at 5 weeks);
- in patients receiving CaD3 *Nycomed*, weak consolidation was observed, bone callus was not traced, bone callus formation was traced only at 4–5 weeks of immobilization);
- in patients taking “*Osteomed*”, bone marrow was observed on radiographs in most patients. These results suggest that patients taking *Osteomed* could start rehabilitation 3 weeks after the injury and start working within a month after the injury.
- Patients taking CaD3 *Nycomed* could begin rehabilitation only 4 weeks after the injury and begin work after 1.5 months.

- Patients who are not taking calcium preparations began rehabilitation only after 1.5 months, to begin work 2 months after the injury. Based on the foregoing, it can be concluded that the use of the drug “Osteomed” in patients with fractures helps to reduce the time of immobilization. This allows for earlier rehabilitation during overfilling.

## CONCLUSION

The combined use of calcium citrate, vitamin D with the addition of drone brood promotes bone mineralization and closure of cavities by maintaining the level of androgens. This allows you to achieve the greatest effectiveness in the treatment of osteoporosis.

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