



## About Bonalive

Our Smart Healing™ solutions sustainably improve the anatomical and functional healing of benign bone tumor patients – supporting healthy bone formation also in a growing skeleton.

With over 20 years clinical history and one of the most evidence-based technologies in the industry, we are re-imagining a smarter future for healthcare.

It's time to heal smarter.

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# Pediatric benign bone tumor surgery



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Smart Healing™



## Distal femur bone cyst (ABC/UBC)

### Patient

11-year-old girl injured her leg while jumping. Large bone cyst (ABC/UBC) finding in the distal femur during the examination.



Pre-op      8 months post-op      14 months post-op

### Operation

A cortical window was made on the medial aspect of the femur and the cyst was intralesionally cauterized carefully. The removal was completed with 75% phenol treatment. The cortical bone around the cyst was very thin.

The cavity was filled with 50 cc Bonalive® granules and covered with 5 cc Bonalive® putty. The cavity was closed with a cortical bone lid and the periosteum was sutured. Postoperatively, a plaster splint was applied and it was used for one week. Thereafter, a hinged orthosis with a range of 0-60 degrees was applied for eight weeks. Partial weight bearing (5-10kg) was allowed immediately.

Full weight bearing was allowed at two months and unlimited physical education was started within six months.

### Clinical outcome

In radiographic follow-up, Bonalive® granules and putty seemed to work well and the femur was growing normally. There was no sign of any fractures at 2 months post-op. A small stress fracture was observed in radiographs on the lateral side at 8 months post-op. The fracture healed without any symptoms. The patient is free of pain and the growth is undisturbed.

## Bonalive® granules

### Indications

- Bone cavity filling
- Bone cavity filling in the treatment of chronic osteomyelitis

### Properties

- Inhibition of bacterial growth
- Osteoconductive
- Osteostimulative\*

### Composition

- 53% SiO<sub>2</sub>, 23% Na<sub>2</sub>O, 20% CaO, 4% P<sub>2</sub>O<sub>5</sub>

| Unit size                  | Granule size | Ref. no. |
|----------------------------|--------------|----------|
| 5 cc prefilled applicator  | 1.0-2.0 mm   | 13330    |
| 10 cc prefilled applicator | 1.0-2.0 mm   | 13340    |

## Bonalive® putty

### Indications

- Bony voids and gaps

### Properties

- Osteoconductive
- Osteostimulative\*

### Composition

- 53% SiO<sub>2</sub>, 23% Na<sub>2</sub>O, 20% CaO, 4% P<sub>2</sub>O<sub>5</sub>
- Polyethylene glycols (PEGs) and glycerol

| Unit size                   | Ref. no. |
|-----------------------------|----------|
| 1 cc prefilled applicator   | 16110    |
| 2.5 cc prefilled applicator | 16120    |
| 5 cc prefilled applicator   | 16130    |
| 10 cc prefilled applicator  | 16140    |

\* non-osteoinductive

## Natural bone formation

Pediatric patients require special attention since surgery on a growing skeleton can be challenging. We provide Smart Healing™, which means we focus on solutions that restore the functions of the body through the patient's own biological processes.

By stimulating new bone formation through osteostimulation\*, Bonalive® bioactive glass induces a high but balanced local bone turnover. Bioactive glass does not disturb the normal growth of bone in children. Its performance has been proven in a prospective randomized study, that involved follow-up ranging up to 14 years.

Bonalive® granules is intended for larger defects. For small and medium size defects of up to 20 cc Bonalive® putty can be used.