



**Adaptos<sup>®</sup>**  
by Biomendex **vet**

Treating bone  
fractures and defects  
with Adaptos<sup>®</sup>vet  
bone graft

---

**Biomendex**

# Treatment of Italian Greyhound's fractures in radius and ulna diaphysis

A 5-year-old Italian Greyhound arrived at the clinic with complicated ulna and radius fractures. The dog had been operated on 4-5 weeks before elsewhere, but the position of the leg had started to worry his owner.

During examination, instability was detected in the diaphysis of the lower third in the fracture-line, which caused the change in leg position. An X-ray showed that the fracture had not started to heal properly but it had developed into a non-union.

The bone heads were reattached to each other with a locking plate and Adaptos<sup>®</sup>vet

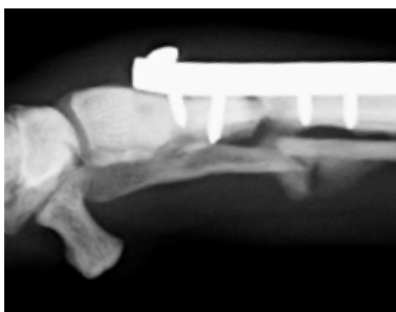
granules were implanted into the fracture line and its immediate proximity to support bone regeneration.

## Follow-ups after surgery

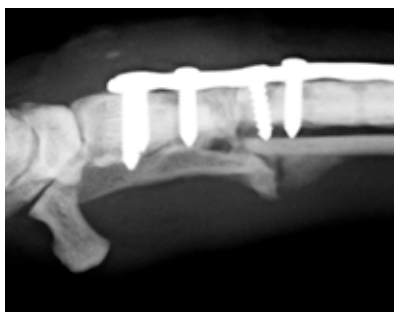
Healing of the non-union was monitored with x-ray post op 10 days, five weeks, ten weeks, twelve weeks, 21 weeks and after 2 years.

The follow-up period was uneventful and after two years bone remodeling was visible in x-ray and even though the fracture had healed, the cortex was not yet on display.

Pre-op



Post-op



Post-op 12 weeks



Post-op 21 weeks



Post-op 1 year



Post-op 2 year





“Handling, modification and packing properties similar to natural bone graft makes Adaptos® unique in terms of usability among bone graft substitute materials.”

---

**Mikael Morelius**

Chief Veterinary Surgeon at Morelius  
Animal Clinic in Sipoo, Finland



# Stimulating bone regeneration with Adaptos<sup>®</sup>vet bone graft

A four-month-old Shetland shepherd weighting 7 kg had fallen from the lap of the owner in the stairs, which had caused a fracture in the left radius and ulna. The patient was anesthetized, and the distal radius fracture was fixed with a locking compression plate (LCP) and 2.0 mm locking screws. The patient started limping 3.5 months post op. In the x-rays a decrease in the bone mass was found from around the two most distal screws. Because the bone mass loss can be related to osteomyelitis the plate and the screws were decided to be surgically removed. Also, as the bone tissue laying below the plate in the cranio-caudal projection was narrower and the bone density, measured by x-ray, was less dense than the normal bone tissue, it was decided that a bone graft was implanted to the place where the plate was removed.

A drill hole was made to the proximal humerus with a 2 mm drill bit, from which 1 ml of bone marrow was aspirated by a G14 needle. 0.5 ml of the aspirated bone marrow (BMA) was mixed

with Adaptos<sup>®</sup>vet 0.5-1.0 mm granules with were prepacked in an applicator syringe. The abnormal tissue located below the plate was reamed by a periosteum detacher and with a surgical blade after which the site was washed with saline solution. Adaptos<sup>®</sup>vet mixed with the BMA was packed to the bone void left by the plate removal process. The patient was given Clinacin 75 mg twice per days for a period of four weeks. During the surgical operation bacterial samples were taken from the plate and the adjacent tissue, which were found positive for penicillin resistant staphylococcus pseudointermedius.

The usage of the fractured leg was more cautious than normally for one month before and one month after the revision operation and the muscle strength weaker than normally. After this period a rapid healing occurred, and the muscular strength was improved by physiotherapy. New bone formation at six weeks follow-up period was good.

Pre-op



Post-op



Post-op 2 weeks



Post-op 6 weeks

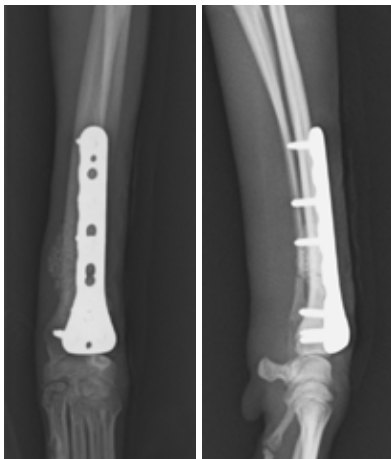


# Enhancing radius fracture healing with Adaptos<sup>®</sup>vet granules

An eight-month-old, 1.8 kg papillon dog was operated four days after a radius-ulna fracture in the left front leg. The fracture was internally fixed in general anaesthesia and nerve anaesthesia. A 2.0 mm drill hole was made to the proximal humerus, from which 1 ml of bone marrow blood was aspirate with a G14 (2.1 x 60 mm) needle. The bone marrow aspirate was then mixed with 0.5-1.0 mm Adaptos<sup>®</sup>vet granules prepacked in an applicator syringe.

The fracture in the radius was fixed by a locking plate and 1.5 mm locking screws. Adaptos<sup>®</sup>vet granules that were hydrated with the bone marrow aspirate were packed to the fracture site on the bone surface and on the medial and lateral sides of the plate. Bone healing was fast.

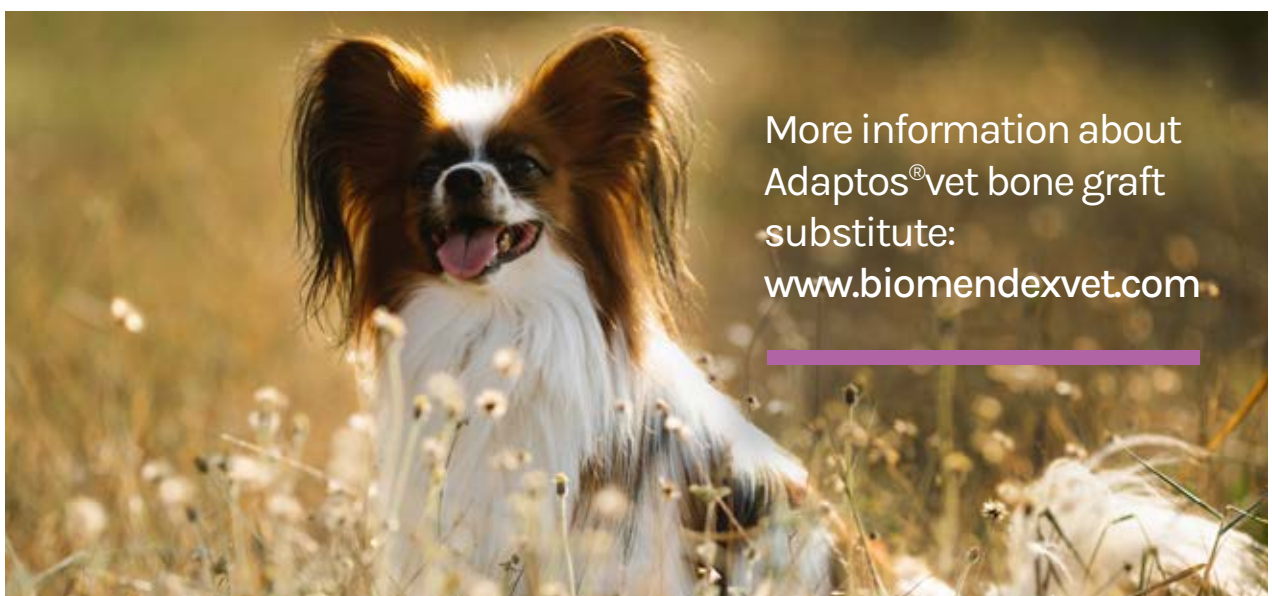
Post-op



Post-op 2 weeks



Post-op 4 weeks



## Adaptos<sup>®</sup>vet

The first truly adaptable bone graft substitute for veterinary use with superior handling qualities and performance.

### Contact us on:

Email: [sales@biomendex.com](mailto:sales@biomendex.com)

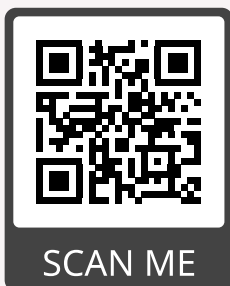
Web: [www.biomendexvet.com](http://www.biomendexvet.com)

### Research partners:



HELSINGIN YLIOPISTO  
YLIOPISTOLLINEN  
ELÄINSAIRAALA

**EVIDENSIA**



Shortest  
way to reach  
Adaptos<sup>®</sup>vet  
products

---

**Biomendex**

Biomendex Oy  
Korkeakoulunkatu 1  
33720 Tampere  
Finland