OssiVet®

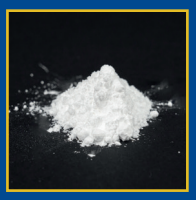
N2 (UK) Ltd
N2
Veterinary Supplies

Synthetic Adhesive Bone Substitute 3cc

Advanced Orthopaedic Bioadhesive Solution for Veterinary Use

OssiVet® is a self-setting Calcium Phosphate-based bioadhesive bone substitute, enhanced with phosphoserine. The unique components ensure OssiVet® provides adhesive and cohesive properties.

Designed for veterinary orthopaedic use, OssiVet® is indicated for reduction, provisional fixation, or void filling of bone fractures or defects in order to enhance structural stability where standard fixation alone cannot provide sufficient support for functional mobilisation.



OssiVet® contains Calcium salts including Calcium Phosphate and Calcium Silicate combined with Phosphoserine.

OssiVet® has osteoconductive properties to aid in bone remodelling.

OssiVet® is intended for:

- **Osteosynthesis procedures to augment the stability of orthopaedic implants (e.g., bone screws).**
- **Filling bone defects after removal of orthopaedic implants such as bone screws.**
- **Arthrodesis (e.g., carpal or tarsal joint).**
- **Bone fractures with bone defects (e.g., fractures of the tibia, ulna, or femur in conjunction with appropriate stabilisation hardware).**
- **Bone defects following resection of benign bone tumors or bone cysts.**
- **OssiVet® is designed and intended to be implanted into well vascularised and non-infected bone defects.**

Continued overleaf

OssiVet® supports quick and strong recovery from bone injury.

Micro-stable and strong with nano-scale bonding and biocompatibility.

Adhesive strength after 20 minutes

Distributed By

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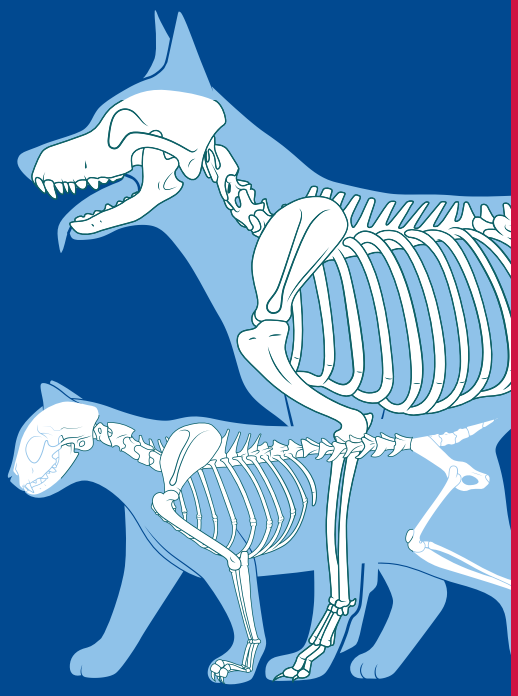
Benefits:

1. Remodels into new bone through a natural cell-mediated process, thereby maintaining micro-stability at the fracture interfaces to ensure no loss of structural integrity throughout the healing process.
2. Provides adherent properties to fragments on Nanoscale level which enables stabilisation to multi fragmentary and conventional screw fixation.
3. Cohesive properties enhance the adjunctive structural stability for the internal fixation of the affected bone, promoting proper alignment and healing.
4. This load sharing feature of OssiVet® will improve surgically efficiency, fracture construct stability leading to earlier mobilisation and weightbearing resulting in an improvement in functional outcomes.
5. As OssiVet® material is radiopaque surgeons can confirm adequate placement and filling of the defect allowing precise application to optimise fit and stability of the injured area.
6. OssiVet® mitigates micromotion between unstable small bone fragments and secondary inflammation thereby making the zone of injury at the fracture less prone to infection.
7. Can provide stability for osteochondral fractures and for a combination of cancellous and cortical components.
8. Wet environment compatible.

Features:

1. Enhanced stability with load sharing and support.
2. Customised application.
3. OssiVet® acts to supplement standard fixation by enhancing screw hardware engagement.
4. Provisional fixation of the fracture fragments.
5. Early weight-bearing and mobilisation.
6. Targeted structural support.
7. Minimised soft tissue disruption.
8. Reduced complications.



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OssiVet® Case Spotlight

2026: Comminuted Distal Tibial Fracture in a 20 year old cat with Secondary Injury – Plate Fixation and OssiVet®

Background

A 20-year-old male neutered Domestic Shorthair (DSH) presented with acute right pelvic limb lameness following suspected low-energy trauma. Radiographs identified a comminuted spiral fracture of the distal tibia with concurrent fibular fracture, consistent with a pathologic-type fracture pattern in a clinically challenging environment.

The case was considered high risk due to the patients advanced age and extensive comminution and bone loss.

Surgical Objectives

– Restore limb alignment and achieve stable fixation.
– Address structural bone deficits associated with comminution .
– Support early mechanical stability in clinically challenging bone defects .
– Enhance conditions for bone healing despite guarded prognosis.

Materials and Methods

OssiVet® was applied to the lateral aspect of the fracture site to fill bone voids, provide local structural support and augment fixation in compromised bone. OssiVet® was applied in its low-viscosity phase between 2-4 minutes to improve mechanical interlocking with the medullary canal and fragment spaces.

Results

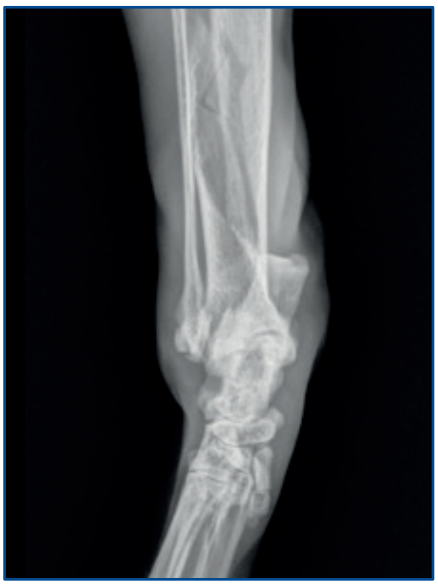
At 2 weeks post-operatively, the patient sustained a second fracture, managed conservatively with long-term splinting. Despite this complication, the primary fixation remained stable with no implant failure observed. At 8 weeks post-operatively, radiographs demonstrated:

– Integration of OssiVet® within the fracture site.
– Maintained alignment and stability.
– Evidence of progressive bone healing despite adverse conditions.

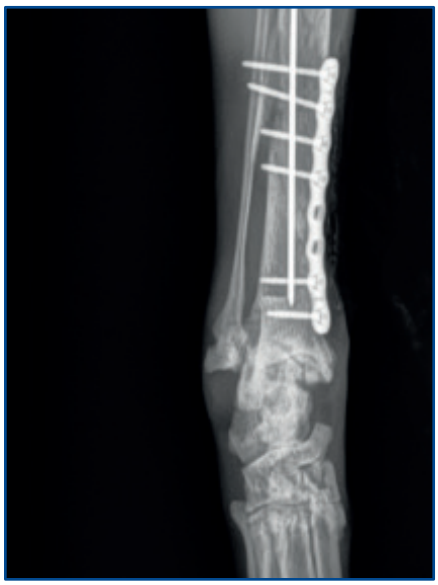
Clinical Relevance

This case highlights the use of OssiVet® in a highly compromised orthopedic scenario. OssiVet® contributed to structural defect filling in a fragmented environment and support of mechanical stability alongside fixation.

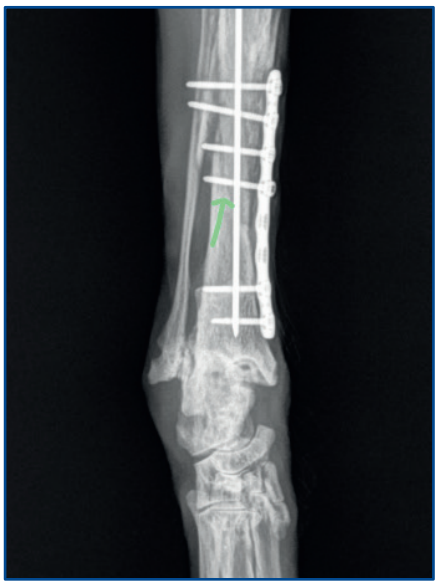
Pre-op: March 2026



Post-op: March 12th 2026



8 weeks post-op: May 2026



Testimonial

"I recently integrated Ossivet into my arthrodesis cases and found it incredibly user-friendly during surgery. More importantly the rapid bone union and overall clinical outcomes have been outstanding. I am happy to use on future cases without hesitation."

DVM Kris Herman EMSAVM-Surgery Pg Cert SAS

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OssiVet® Case Spotlight

2026: Pancarpal Arthrodesis Using OssiVet® as an Adjunct to Internal Fixation

Background

A 2-year-old Great Pyrenees presented with chronic instability and severe degenerative joint disease (DJD) of the right carpal joint, suspected secondary to previous traumatic injury. Surgical management was elected to restore alignment and limb stability through pancarpal arthrodesis.

Surgical Objectives

The carpal joints were surgically prepared to restore limb stability and reduce pain associated with chronic instability and degenerative joint disease. OssiVet® was used as an adjunctive bone adhesive and void filler to provide immediate stability by adhering to the prepared bone surfaces and filling the previous joint space. Its osteoconductive properties support bone ingrowth and remodelling into natural bone over time, aiding long term fusion and recovery. Final stabilisation was achieved using dorsal plate and screw fixation spanning the radius to the metacarpal region.

Materials and Methods

OssiVet® was prepared intraoperatively and applied directly within the prepared arthrodesis interfaces in its low-viscosity format prior to final plate and screw fixation of the pancarpal arthrodesis.

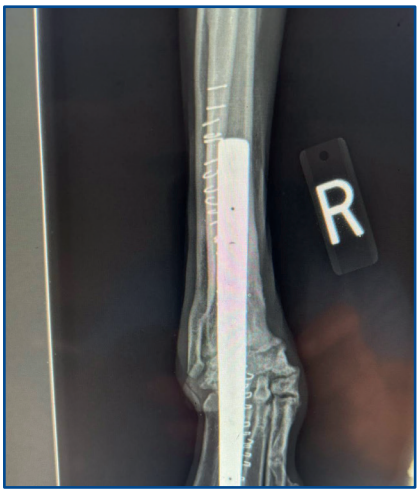
Results

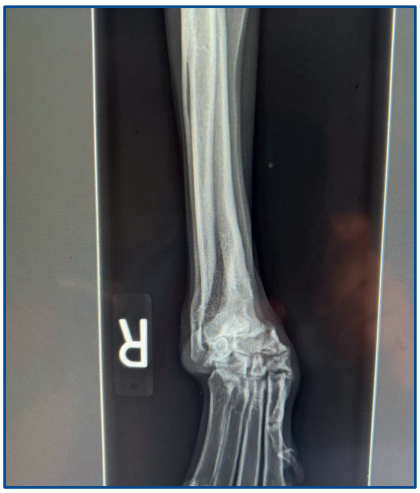
This case illustrates the use of OssiVet® as an adjunct to standard internal fixation in canine pancarpal arthrodesis, providing immediate structural support across the prepared arthrodesis interfaces alongside plate and screw stabilisation.

Clinical Relevance

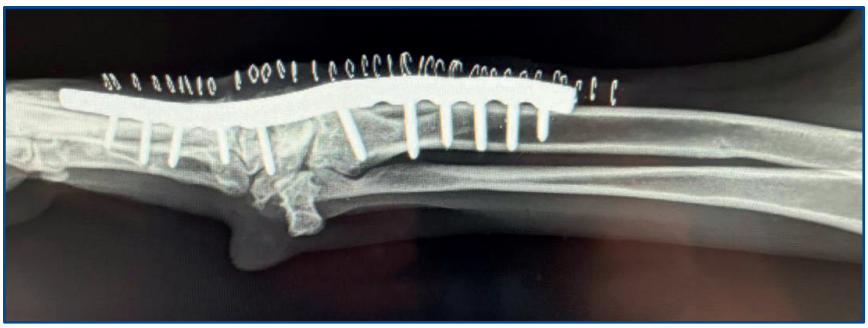
This case demonstrates the adjunctive use of OssiVet® in pancarpal arthrodesis, where chronic instability, irregular periarticular bone geometry, and high mechanical loads can make stable arthrodesis challenging. It highlights OssiVets® ability to provide immediate stability while remodelling into natural bone.

Pre-op

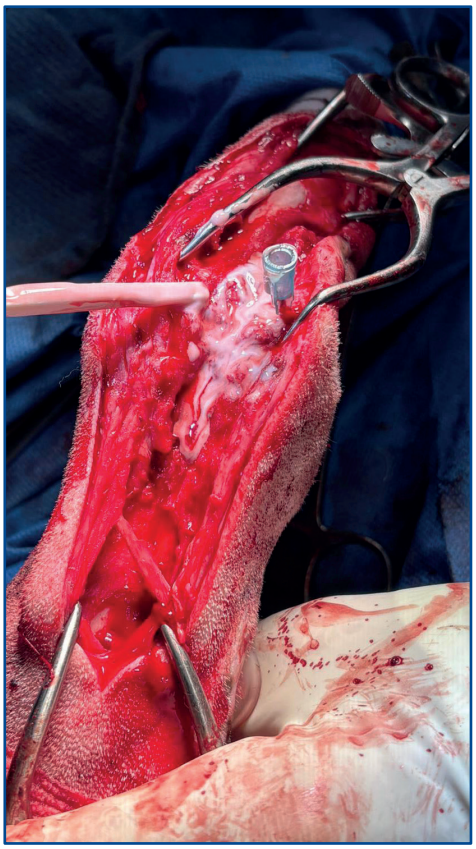




Post-op



Intra-op



OssiVet® Case Spotlight

2025: Comminuted Radius Ulna Fracture.

Complex Radial-Ulnar Fracture in an eight year old labrador using OssiVet® and orthopaedic Fixation.

Background

Patient had a multi-fragmentary radius and ulna fracture, presenting both mechanical and biological challenges following a road traffic accident.

Surgical objectives

Surgical stabilisation of a complex multifragment fracture using rigid fixation and adjunctive OssiVet® application to support structural integrity across fracture interfaces.

Materials and Methods

Intraoperative findings confirmed a multifragmentary mid-diaphyseal radius/ulna fracture. Surgical management included:

– Plate and screw fixation.
– Cerclage wires.
– K-wires for additional stabilisation.
– OssiVet® packed into fracture lines and fissures to augment the construct.
– OssiVet was used in its paste phase 2-4 minutes after activation to provide both mechanical and chemical adhesion.

Results

Early Postoperative Period

– Dog approximately 65% weight-bearing.
– Serial radiographs performed at Immediate post-op, 3 weeks and 12 weeks.

6–9 Week Follow-Up

Grade 1 lameness observed. Progressive healing of both radius and ulna. Incorporation of butterfly fragments visible radiographically. Minor backing out of one proximal screw noted. Overall favourable healing progression considering fracture severity.

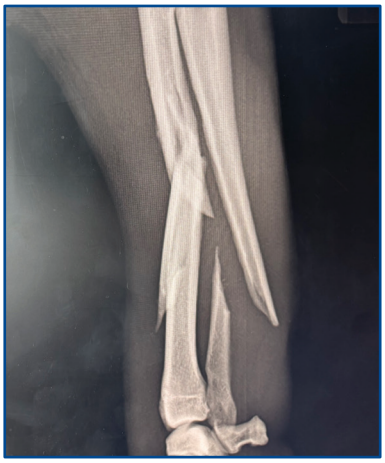
4 Month Follow-Up

– Fracture healed. Good functional outcome.
– Radiographic evidence of callus formation at previous fracture sites.

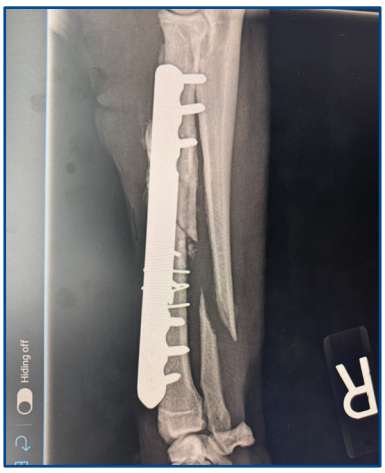
Clinical Relevance

In this case, OssiVet® was used to fill fracture interfaces and support the overall construct, with progressive healing observed over a 4 month period. Xray follow-up In this case, OssiVet® was used to fill fracture interfaces and support the overall construct, with progressive healing observed over a 4 month period. Xray follow up shows extensive callus formation and osteoconduction. Noteworthy in this case is not only callus bone but also extensive cortical remodelling of the previous fracture site in the ulna.

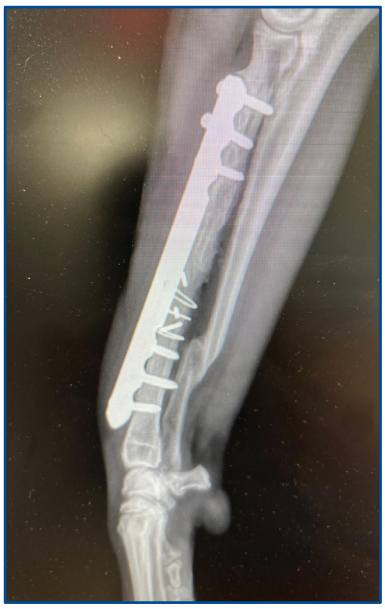
Pre-op



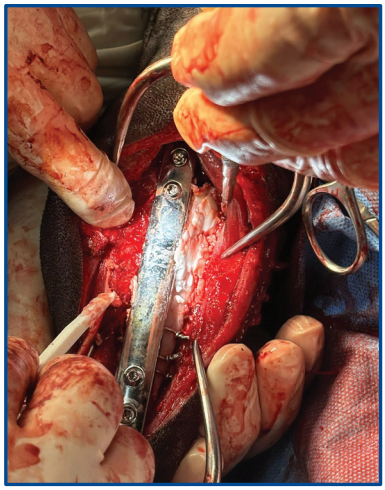
Post-op



4 months post-op



Intra-op



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OssiVet® Comparison Chart

Order Code	Description
OSS-3ML	Ossivet® Complete Kit

Product	Osteoconductivity	Adhesiveness	Load Bearing / Immediate Mechanical Support	Drillability	Setting Time	Biological Integration
Allograft (cancellous chips / DBM composites)	**Yes**	**No**	**No** (needs fixation, not structural)	**No**	**N/A** (no chemical set)	**Yes** bone remodelling
Synthetic bone graft (e.g. CaP granules / blocks)	**Yes**	**No**	**No** (needs fixation, brittle)	**No** for loose granules. **Yes** for blocks and scaffolds in some cases.	**N/A** for granules. **CaP cements** 20min.	**Partially** bone ingrowth varies by chemistry
Bone cement (PMMA)	**No**	**No**	**Yes** (not biologic load sharing, immediate structural support)	**Yes**	**Typical setting** 8-16min	**No**
OssiVet® (Bioadhesive)	**Yes**	**Yes**	**Yes** (stability / load sharing and augmentation with fixation)	**Yes** **Drillable** ≥8 min after mixing	**Typical setting** 10min	**Yes** bone integration and remodelling

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OssiVet® Bibliography

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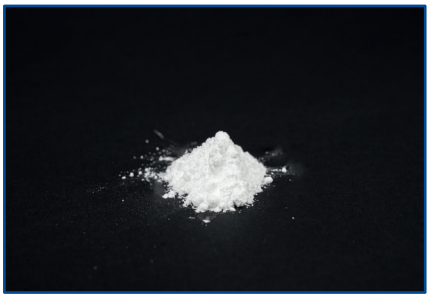
Link: **https://journals.lww.com/jbjsjournal/abstract/2008/10000/comparison_of_autogenous_bone_ graft_and.1.aspx**



Watch the video here!

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OssiVet® FAQ's

OssiVet® is a self-setting Calcium Phosphate-based bioadhesive bone substitute enhanced with phosphoserine. The unique components ensure OssiVet® provides adhesive and cohesive properties and is designed for veterinary orthopaedic use.

OssiVet® is a structural, mechanically enhanced osteoconductive bone adhesive suitable for reduction, provisional fixation, or void filling of bone fractures or defects in order to enhance structural stability where standard fixation alone cannot provide sufficient support.

Risk of Infection: What is the risk of infection of OssiVet® in arthroplasty or complex fracture situations? No studies have been conducted to specifically assess infection rates associated with the use of OssiVet®. Based on available non-clinical in vivo studies and post-implantation observations, there have been no adverse tissue response and/or infections reported. Clinical judgment should be exercised, and standard infection control practices should be followed when using OssiVet® in arthroplasty or complex fracture procedures.

Effect on Hardening: How does OssiVet® perform in comparison to conventional bone cements when exposed to a wet environment? Blood and saline environments do not inhibit the hardening of OssiVet®. The adhesive was explicitly designed to set in wet or fully immersed conditions, including contact with physiological fluids like blood. In fact, it demonstrates rapid setting and hardening properties even in wet environments, which is a distinguishing feature compared to many conventional bone cements. According to animal studies, OssiVet® remains cohesive and retains its adhesive properties during the initial setting, even under wet surgical conditions.

How does the degradation/resorption of OssiVet® affect the mechanical stability? OssiVet® undergoes a controlled degradation/resorption process. Over time, the material is resorbed and replaced by new bone tissue without compromising mechanical integrity during healing phases.

OssiVet® in the Joint: What happens to remnants of OssiVet® that might escape into the joint? OssiVet® does not set in synovial fluid; remnants that escape into the joint space after injection are unlikely to harden and will remain in a semi-liquid or gel-like state as observed during a bench test where OssiVet® was injected in synovial fluid. This potentially means that OssiVet® could either dissolve gradually or be resorbed by the body over time. Without contact with bone, OssiVet® would likely follow a different dissolving path affected from the surrounding body fluids, macrophages, or enzymes. However, no studies have been conducted to prove or investigate the dissolve/metabolic path of OssiVet® when in the joint space.

What happens to OssiVet® in soft tissue? OssiVet® does not induce bone formation in soft tissue, indicating it is not osteoinductive. A 28-day in vivo rat muscle implantation study confirmed the absence of ectopic bone formation. Histological evaluation showed no evidence of new bone formation or mineralisation in the soft tissue environment. This supports its tissue-specific response, making it safe for use without triggering unintended bone growth in soft tissues. OssiVet® does not adhere on soft tissue surfaces which makes the removal easy using standard surgical techniques, such as irrigation, suction, or mechanical wiping. Excess material should be removed before wound closure and that the defect should not be overfilled.

Is OssiVet® radiopaque? Yes, OssiVet® is radiopaque. OssiVet® exhibits sufficient radiopacity to be visible under standard clinical imaging (X-ray), meeting ISO standards for radiopacity for bone void fillers. Radiopacity is a critical property for intraoperative placement verification, postoperative assessment, and long-term monitoring of biomaterials used in osseous applications. OssiVet®'s radiopaque property supports accurate tracking of material placement and resorption over time, enhancing clinical decision-making and facilitating procedural safety. The radiopaque feature has no impact on its biocompatibility or adhesive performance and ensures compatibility with standard radiographic and CT imaging modalities used in orthopaedics.

Is the product osteoinductive in any way, or purely osteoconductive and adhesive? OssiVet® is not osteoinductive, but it is osteoconductive and adhesive.

Osteoinductivity: In vitro and in vivo studies demonstrated that OssiVet® does not upregulate osteogenic gene expression or ALP activity compared to controls, nor does it induce ectopic bone in muscle tissue.

Osteoconductivity and Adhesion: OssiVet® exhibits excellent osteoconductive properties, supporting the attachment and proliferation of mesenchymal stem cells (MSCs), and acts as a bioadhesive. Its phosphoserine-modified calcium phosphate matrix allows strong bonding to bone and metal implants, even in wet environments, which is atypical for traditional bone cements.

How long does it take for the bone to remodel? Remodelling of OssiVet® into natural bone occurs progressively over weeks to months: Histological data from animal models showed early signs of bone remodelling within 4 to 8 weeks.

Complete integration and remodelling timelines vary by defect size, host biology, and implantation site, but significant bone integration is typically observed by 13 to 26 weeks.

OssiVet® resorbs over time and is replaced by natural bone during the remodelling process.

How many 3.5mm screw holes will one 3cc kit fill? In clinical use, not all of the "3cc" ends up as usable paste due to handling. A 3cc kit typically yields about 2.3–2.6cc of effective fill.

For a 3.5mm diameter × 30mm hole (0.289cc), this works out to about 7–9 holes per kit.

How large a gap can one 3cc kit fill between bone ends?

This depends mainly on the size of the bone surface between the two bone ends. With an effective paste volume of about 2.3 - 2.6cc, a 3cc kit can typically fill:

– A large gap: about 2.3–2.6cm with a bone surface area of ~1cm²
– A moderate gap: about 1.1-1.3cm with a bone surface area of ~2cm²
– A small gap: about 0.8-0.9cm with a bone surface area of ~3cm²

In simple terms: the smaller the bone surface area, the deeper the gap that one kit can fill. Conversely, with larger surfaces, the paste spreads out more thinly and fills a shallower gap.

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