

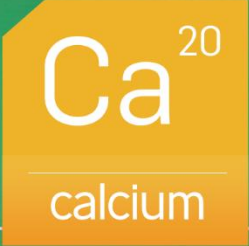
bringing  to life[®]

Ca²⁰
calcium

S T I M U L A N[®]

Introduction and Preparation Guide
for UK Healthcare Professionals

Biocomposites[®]

bringing  to life[®]

- Innovative approaches to infection management
- Singular focus on calcium compound technologies
- Deep expertise
- Dedicated to quality
- Based in Keele, UK – with companies in the USA and China, and a presence in Canada and India

Aim of the training course

This training course will

- ✓ Introduce you to STIMULAN, the perfect partner for your infection management strategy
- ✓ Show you how to prepare STIMULAN Rapid Cure ready for use



STIMULAN[®]

Treatment goals

- ✓ Provide a novel and innovative solution to infected or high risk patients.
- ✓ Provide a proven treatment alternative for periprosthetic joint infection, infected non-unions and osteomyelitis.
- ✓ Minimise avoidable complications.
- ✓ Improve patient outcomes and decrease hospital readmissions.
- ✓ Improve treatments while decreasing overall treatment cost.

STIMULAN[®]

What is STIMULAN indicated for?

Indications for use for STIMULAN can be found in the Instructions for Use (IFU). STIMULAN Rapid Cure is the perfect partner for your infection management strategy. The characteristics of STIMULAN Rapid Cure make it suitable as a carrier material for substances such as antibiotics. It can be used at an infected site for bone and soft tissue implantation and regeneration. It is indicated for use in musculoskeletal defects created by surgery, a cyst, a tumour, osteomyelitis or traumatic injury. STIMULAN Rapid Cure is not intended to provide structural support during the healing process.

STIMULAN[®]

What is S T I M U L A N contraindicated for?

Contraindications for STIMULAN can be found in the IFU. These include contraindications for filling defects which are intrinsic to the stability of the bony structure, hypercalcaemia, severe vascular or neurological disease, uncontrolled diabetes, pregnancy, severe degenerative bone disease and uncooperative patients who can't or won't follow post operative instructions including individuals who abuse alcohol or drugs.

STIMULAN[®]

Perfect partner for your infection management strategy

STIMULAN is a truly absorbable, calcium sulfate antibiotic carrier – specifically designed to support the proactive management of dead space and surgical site infection.¹

- ✓ the only calcium matrix approved for use in bone and soft tissue
- ✓ approved for mixing with vancomycin, gentamicin and tobramycin
- ✓ can be placed directly into infected and non-infected sites



STIMULAN[®]

Truly absorbable, antibiotic carrier recrystallised for enhanced clinical performance

STIMULAN is a pharmaceutical-grade calcium sulfate with a unique crystal structure and tightly controlled properties.¹

- ✓ controlled purity
- ✓ physiologic pH level
- ✓ no hydroxyapatite
- ✓ easily mixed with liquid and powder antibiotics



STIMULAN[®]

Truly absorbable, antibiotic carrier recrystallised for enhanced clinical performance

Only STIMULAN undergoes a proprietary DRy26[™] recrystallisation method that makes it suitable for carrying antibiotics to infected sites.^{1,2,5-9}

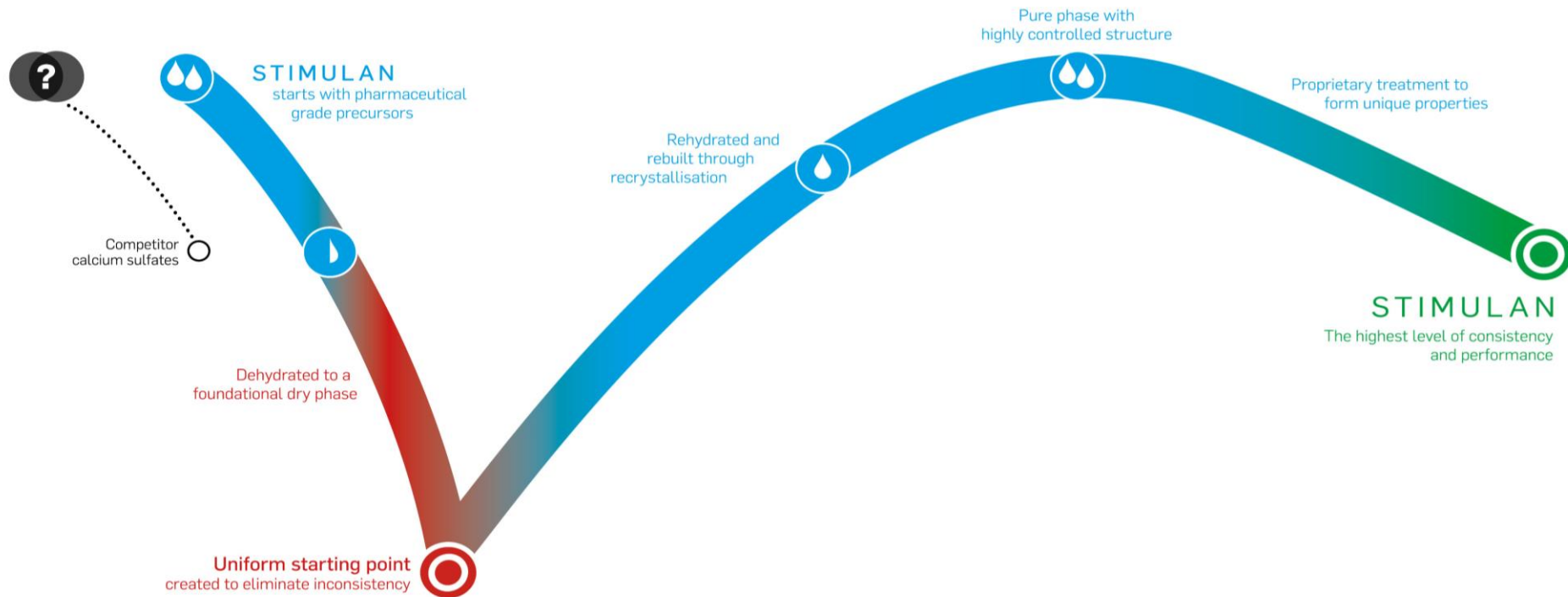
- ✓ completely absorbs at an optimal rate
- ✓ no third body damage
- ✓ predictable elution profile
- ✓ proven action against biofilms
- ✓ flexibility to tailor antibiotic to clinical need



STIMULAN[®]

Proprietary DRy26[™] methodology

Each and every synthesis of STIMULAN undergoes a 26 step process that starts with pharmaceutical grade precursors and takes over 6 weeks to reach maturity.²



STIMULAN[®]

Completely absorbs at an optimal rate¹

No hydroxyapatite, insoluble impurities or PMMA debris – leaves no nidus for infection.^{3,4}



Post-operative



1 month



11 weeks



6 months

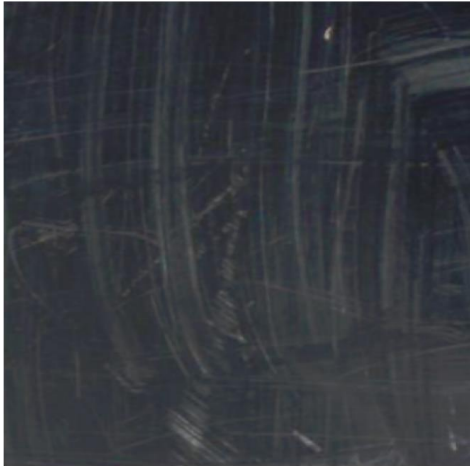


15 months

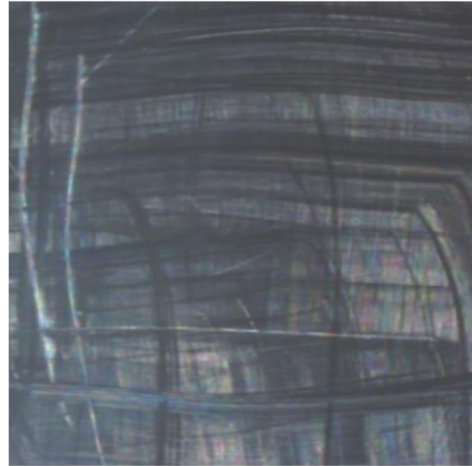
STIMULAN[®]

No third body damage to articulating surfaces^{5,6}

Less scratching than competitor calcium sulfate



STIMULAN



Competitor calcium sulfate



Control

Microscope images (x6.5) of a cobalt chrome plate following damage simulation (360,000 cycles) with third body particles trapped between it and an articulating UHMWPE pin

STIMULAN does not damage total knee replacements when trapped between the articulating surfaces of the implant.

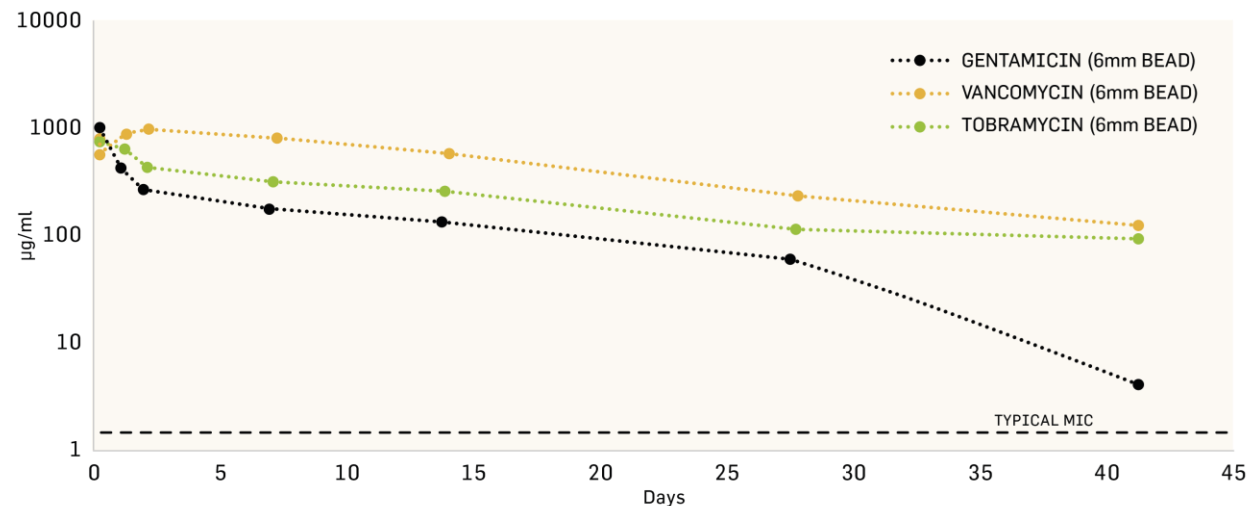
STIMULAN[®]

Uniquely engineered for the precision and control you demand every time

Ability to mix substances according to the specific antimicrobial needs of each infection to ensure sustained antibiotic cover.

Predictable, supra-therapeutic elution profile⁷

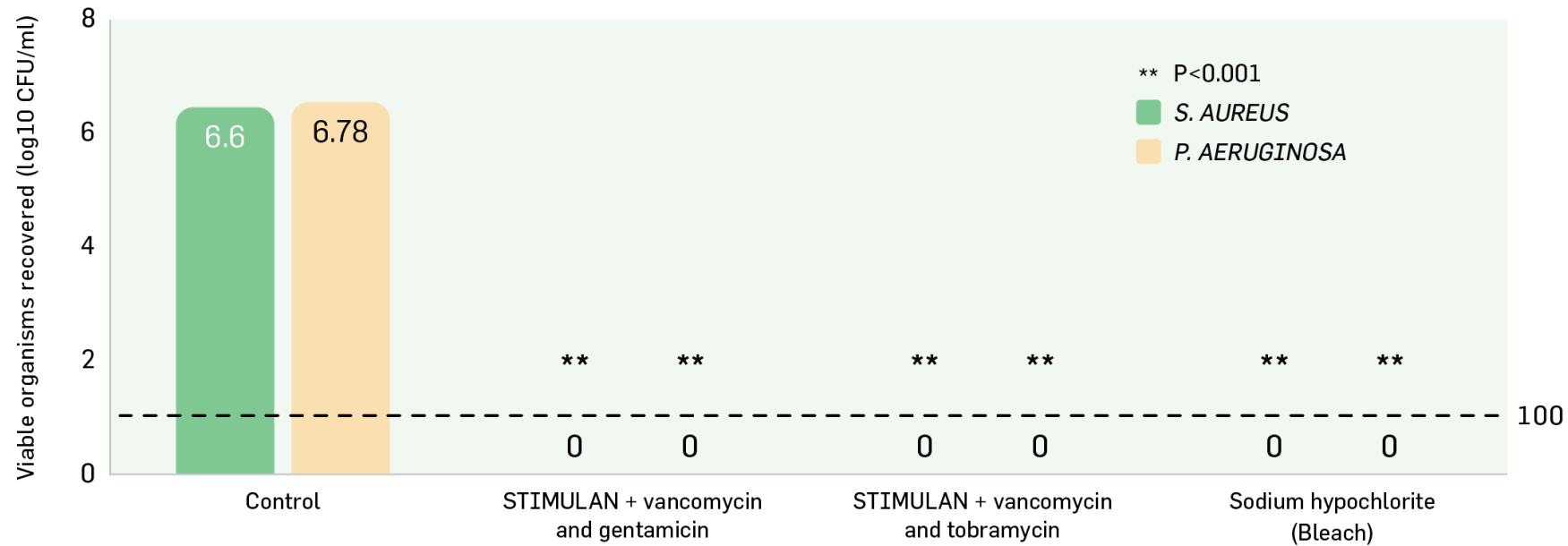
Antibiotic levels sustained above MIC for over 40 days with STIMULAN Rapid Cure



STIMULAN[®]

Proven action against biofilms⁸

No viable organisms were recovered from pre-formed biofilms.

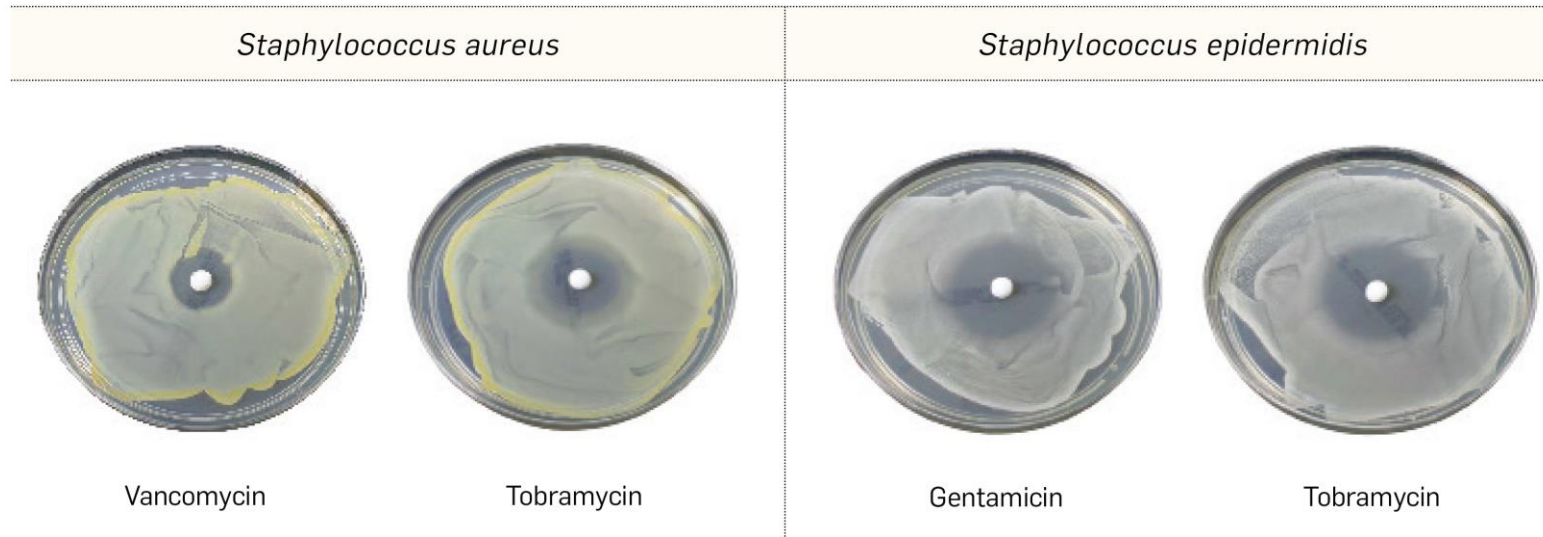


In vitro study determining the efficacy of antibiotic-loaded STIMULAN beads against *Pseudomonas aeruginosa* and *Staphylococcus aureus* biofilms.

STIMULAN[®]

Flexibility to tailor antibiotic to clinical need⁹

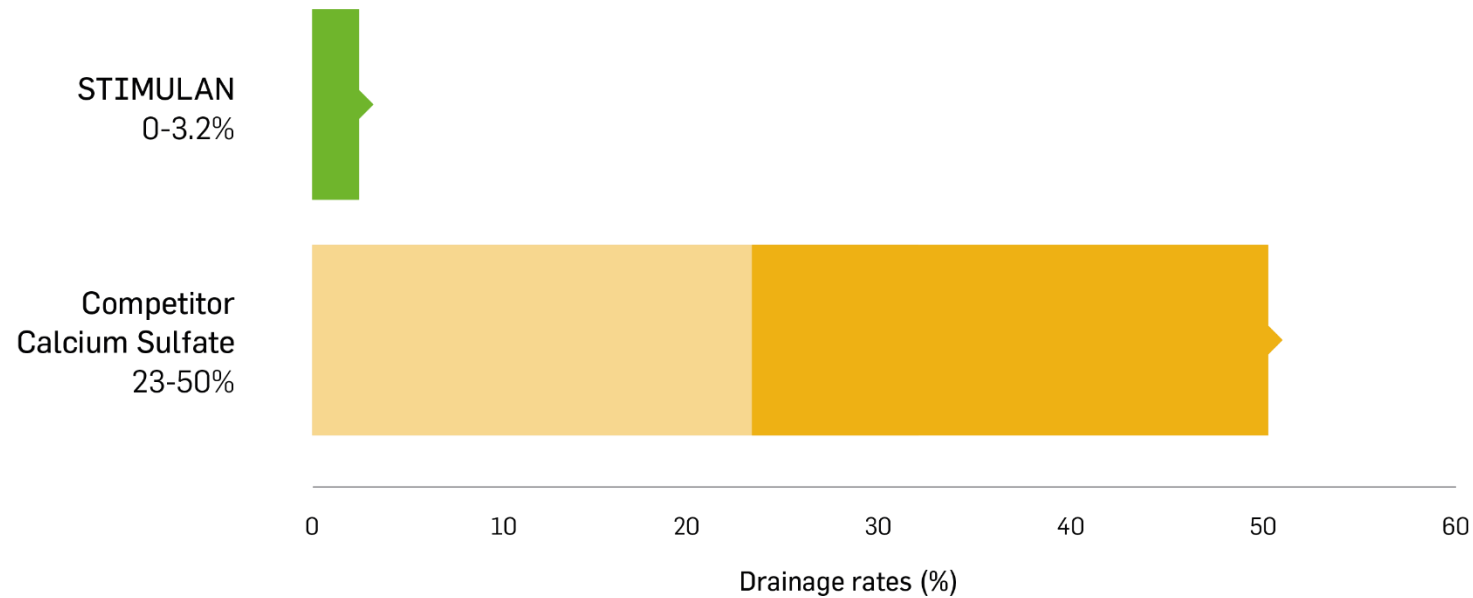
Effective against a broad spectrum of pathogens



Zone of inhibition (ZOI) testing using a modified Kirby–Bauer disk diffusion method. 6mm bead after 24 hours.

STIMULAN[®]

Low levels of drainage¹⁰⁻¹⁶



STIMULAN[®]

Flexibility at your fingertips

STIMULAN is optimised to work around the clinical and surgical demands of the individual patient. Whatever the time, shape, accessibility or size constraints, STIMULAN gives you a way to adapt to each case.

Sets in



STIMULAN Rapid Cure

For faster setting times


+ antibiotic

Sets in




Vancomycin
(1000mg powder)

Sets in



Gentamicin
(240mg in 6ml solution)

Sets in



Tobramycin
(240mg in 6ml solution)

STIMULAN[®]

Flexibility at your fingertips

STIMULAN includes a range of pack sizes which enable you to mix and match to any size of void



STIMULAN Kit
More time to sculpt or inject

+ antibiotic



Vancomycin
(1000mg powder)



Gentamicin
(240mg in 6ml solution)

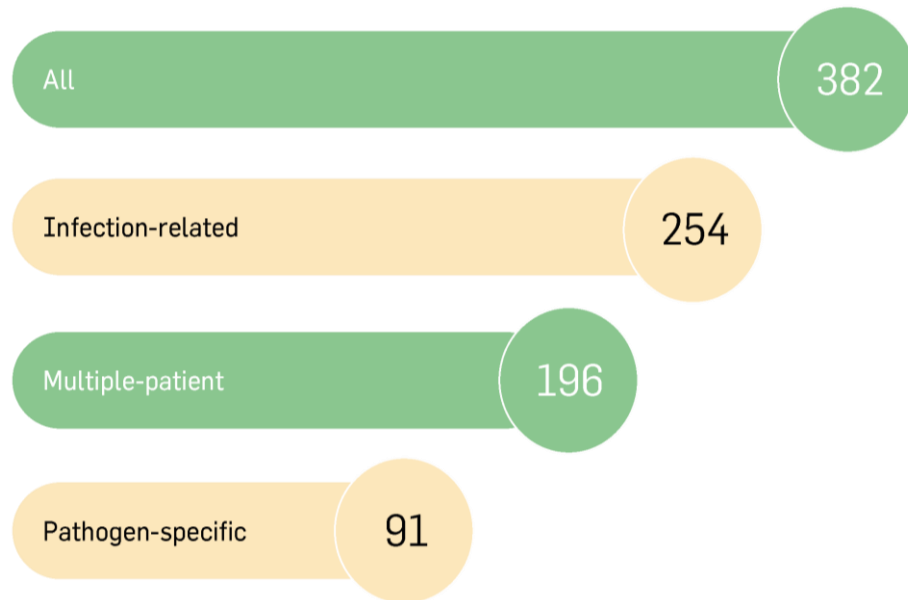


Tobramycin
(240mg in 6ml solution)

STIMULAN[®]

Unrivalled evidence and expertise bring confidence

Industry-leading knowledge, dedication and experience



With 20 years of experience and use in 50,000 new cases each year, STIMULAN continues to expand the possibilities for surgeons and patients.

Peer-reviewed papers, presentations and posters

STIMULAN[®]

Transforming outcomes in infected non-unions, osteomyelitis and periprosthetic joint infection



TRANSFORM OSTEOMYELITIS IN DIABETIC FOOT^{17*}

Patient presented with: Persistent osteomyelitis and interphalangeal joint destruction of left hallux. He was already receiving treatment for Charcot arthropathy to his right foot.

Outcome: 2 weeks post-operatively the toe reduced in size. At the 16 month x-ray the patient was infection free and amputation had been avoided. STIMULAN was seen to have completely absorbed at 4 months.

*Additional information and case studies are available on request

STIMULAN[®]

Transforming outcomes in infected non-unions, osteomyelitis and periprosthetic joint infection



TRANSFORM INFECTED TRAUMA^{18*}

Patient presented with: Infected femoral nail and non-union of left femur with persistent discharging wounds proximally and distally.

Outcome: At 7 months follow-up there was complete healing of the non-union and at 1 year patient remains infection free, walking with no pain.

*Additional information and case studies are available on request

STIMULAN[®]

Transforming outcomes in infected non-unions, osteomyelitis and periprosthetic joint infection



TRANSFORM INFECTED REVISION ARTHROPLASTY^{19*}

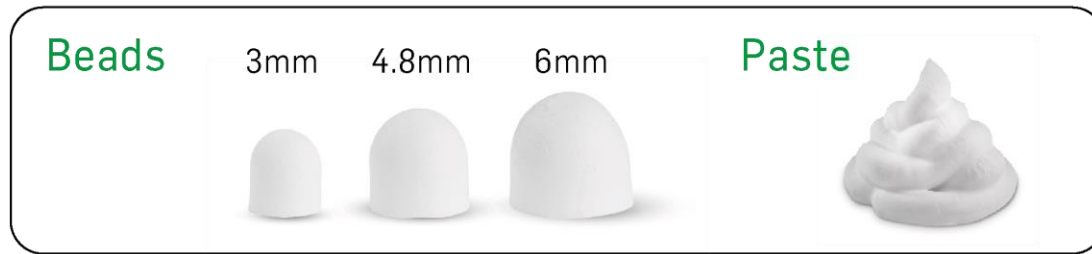
Patient presented with: Infected total knee replacement 2 years after primary procedure.

Outcome: At 1 year follow-up the patient remains infection free and is under regular follow-up.

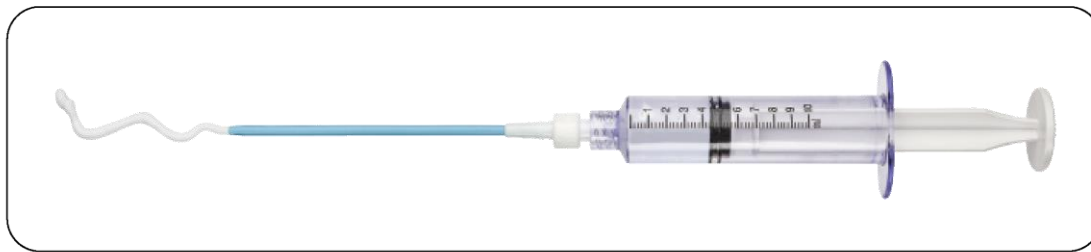
*Additional information and case studies are available on request

STIMULAN[®]

Choice of formats



Bead mat available with STIMULAN Rapid Cure and STIMULAN Kit



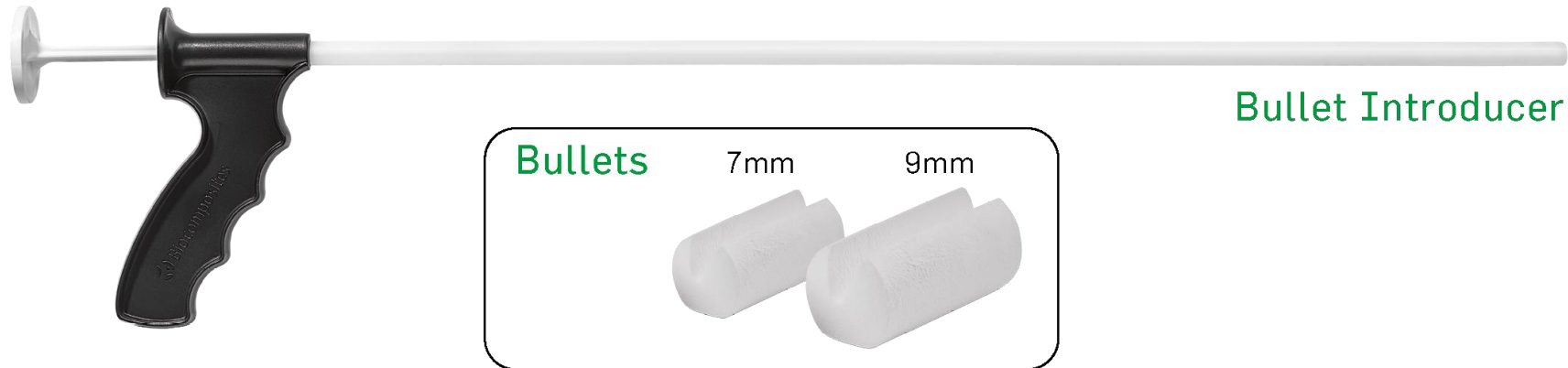
Syringe available with STIMULAN Kit

STIMULAN[®]

Quickly and easily fill medullary canals

STIMULAN Bullet Mat and Introducer

Streamlined, flexible design that simplifies the delivery of STIMULAN, into the medullary canal – more efficiently and cost-effectively than using paste.



STIMULAN®

Flexible formats to optimise dead space management

STIMULAN Rapid Cure

Paste volume	Bead volume	In the pack	Order code
5cc	12cc	<ul style="list-style-type: none">• Powder and solution• Spatula	620-005
10cc	25cc	<ul style="list-style-type: none">• Paste applicator• Bead mat	620-010
20cc	50cc	<ul style="list-style-type: none">• Powder and solution• Mixing bowl• Spatula• Paste applicator• 2 x bead mats	620-020

STIMULAN®

Flexible formats to optimise dead space management

STIMULAN Kit

Paste volume	Bead volume	In the pack	Order code
5cc	10cc	<ul style="list-style-type: none">• Powder and solution• Spatula• Paste applicator• Bead mat• Syringe and extension tube	600-005
10cc	20cc		600-010

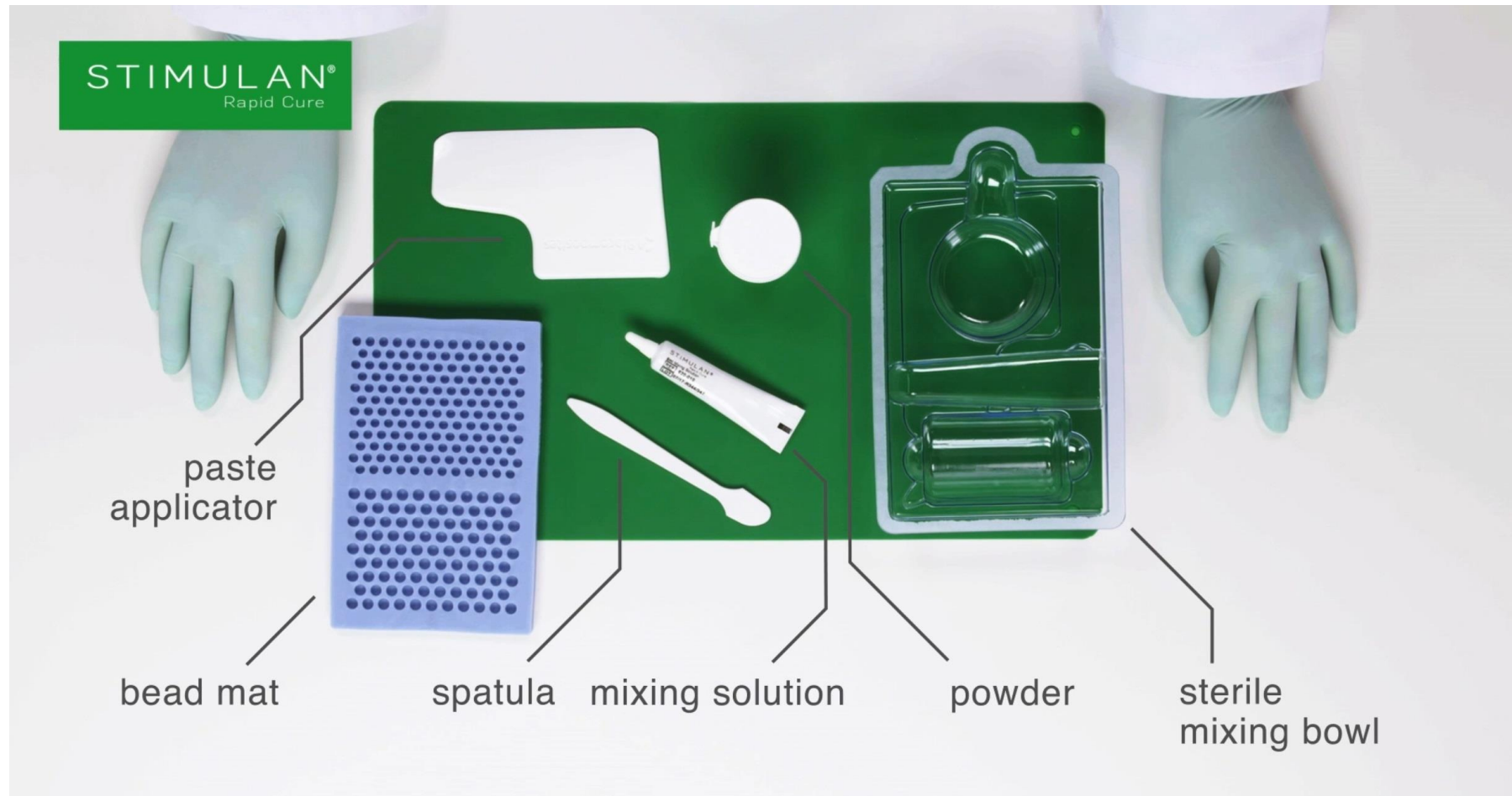
STIMULAN Bullet Mat and Introducer

Bullet dimensions	Reamed diameter	In the pack	Order code
7mm x 20mm	10mm reamed diameter (minimum)	<ul style="list-style-type: none">• Bullet mat• 7mm (black) inserter• 9mm (silver) inserter• Obturator	660-001
9mm x 20mm	12mm reamed diameter (minimum)		

Now let's try to mix STIMULAN



STIMULAN®



Find out more at biocomposites.com

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17. Biocomposites, Data on file, Mr Jogia.
18. Biocomposites, Data on file, Mr Sharma.
19. Biocomposites, Data on file, Mr Dharmarajan.

For indications, contraindications, warnings and precautions see Instructions for Use. Concurrent use of locally administered antibiotics may affect setting time, absorption characteristics and/or bone formation. It is the surgeon/healthcare professional's responsibility to give due consideration to the details in the medicinal product marketing authorization in deciding whether it is appropriate for the patient under his/her care. The relevant Summary of Product Characteristics (SmPC) must be consulted. The type and dose of medicinal substance should also be assessed according to the individual patient's clinical circumstance. This brochure may include the use of STIMULAN or techniques that go beyond the current clearance / approval granted by the relevant regulatory authority. Please contact your local representative for further information.

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Patents pending: GB1502655.2, US 15/040075, CN 201610089710.5, GB1704688.9, EP 18275044.8, US 15/933936, CN 108619579A

Thank you

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