SYNICEM™

POWER TO SIMPLIFY

The SYNICEM Spacer Range

Biocomposites®

SYNICEM™

Preformed antibiotic loaded spacers to maintain space and simplify your procedures

The **SYNICEM** spacer range provides a ready-to-use preformed spacer with the performance characteristics you need for your two-stage revision procedures.

Designed to overcome the challenges of using traditional intra-operative molded and handmade spacers, **SYNICEM** spacers with gentamicin support revisions of the hip, knee and shoulder to preserve articular space.

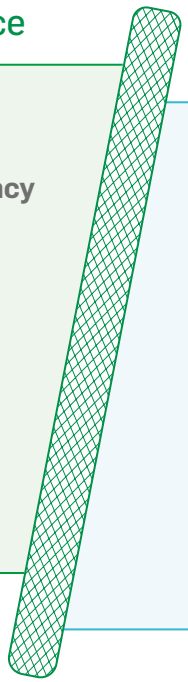
SYNICEM spacers are preformed and precision engineered to overcome mechanical complications from poor intra-operative spacer design, such as instability and spacer fracture.[1]

"Mechanical complication rates are higher in 'bespoke' or handmade dynamic spacers which are time-consuming to make and prone to fracture"[1]

Preformed for improved performance

Preformed spacers

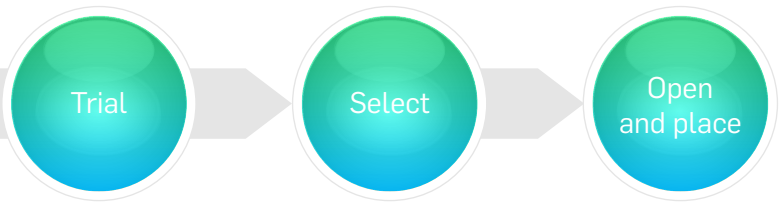
- ✔ **Precision engineered for consistency and structural uniformity**
- ✔ **Designed to maintain joint mobility and stability**
- ✔ **Preloaded with gentamicin**
- ✔ **Case-by-case flexibility and time-saving**



Intra-operatively prepared spacers

- ✘ Inconsistent spacer design and mechanical integrity[1,2]
- ✘ Structural strength varies by antibiotic concentration[3]
- ✘ Unpredictable antibiotic elution due to lack of uniform mixing and irregular porosity, roughness and size[4]
- ✘ Requires dedicated intra-operative time and expertise[1,5]

SYNICEM simplicity



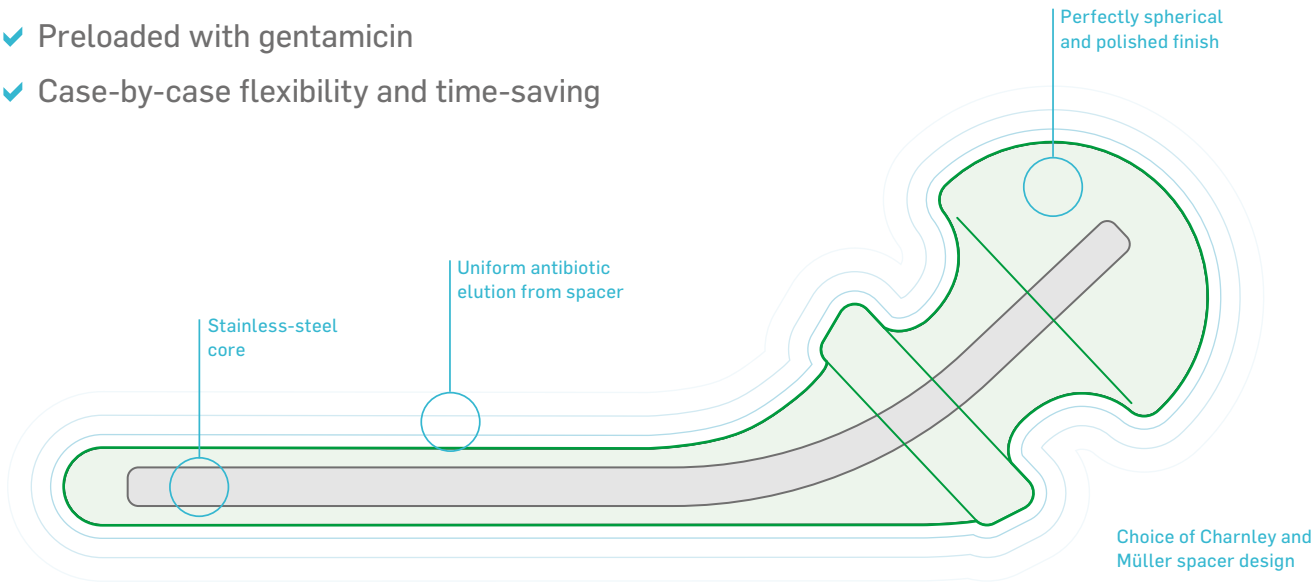
SYNICEM™

Hip

Specifically designed to maintain joint space in your hip revisions

Combining convenience, structural uniformity and stability, while delivering a local concentration of gentamicin. SYNICEM hip spacers maintain joint space and limb length to preserve the abduction and stabilization structures of the hip.[6]

- Precision engineered for consistency and structural uniformity
- Designed to maintain joint mobility and stability
- Preloaded with gentamicin
- Case-by-case flexibility and time-saving



Precision engineered for consistency and structural uniformity

Strictly controlled manufacturing conditions minimize the risk of mechanical failure by eliminating unwanted variation in the shape and structural integrity of the base material.

- Perfectly spherical and polished finish of the femoral head prevents bone stock wear[6]
- Lower complication rates and risk of periprosthetic fracture compared to intra-operatively prepared spacers[1]

Preloaded with gentamicin

The spacer yields a prolonged local concentration of gentamicin while maintaining low systemic levels.[6,7]

Designed to maintain joint mobility and stability

Designed to maintain joint space and limb length to preserve the abduction and stabilization structures after removal of the original implant.[6]

- Choice of Charnley and Müller spacer design
- Uniform stainless-steel core to increase mechanical strength

Charnley hip spacer

Müller hip spacer

Case-by-case flexibility and time-saving

A comprehensive range of sizes and styles provide case-by-case flexibility, with a reusable trial spacer tray available to ensure you select the correct size every time.[6]

- No molding required

1 min — SYNICEM spacers
Ready-to-use in under a minute

vs.

16 mins — Intra-operatively prepared
16 minutes per spacer fitting[5]

Trial spacer tray

SYNICEM hip spacers with gentamicin

Model	Model type	Head diameter	Neck angle	Offset	Stem length	Gentamicin content*	Order code
40C	Charnley	40 mm	137°	23.9 mm	127 mm	1.6 grams	885430
48C	Charnley	48 mm	137°	29.5 mm	130 mm	2.5 grams	885431
56C	Charnley	56 mm	137°	32.8 mm	130 mm	3.7 grams	885432
40CXL	Charnley	40 mm	137°	23.9 mm	250 mm	2.1 grams	885433
48CXL	Charnley	48 mm	137°	29.5 mm	250 mm	3.0 grams	885434
56CXL	Charnley	56 mm	137°	32.8 mm	250 mm	4.2 grams	885435
48M	Müller	48 mm	137°	20.7 mm	120 mm	2.7 grams	885436
56M	Müller	56 mm	137°	24.7 mm	127 mm	3.8 grams	885437
Reusable trial spacer tray	Regular	-	-	-	-	-	882022
	XL	-	-	-	-	-	882023

*May vary by ±5%

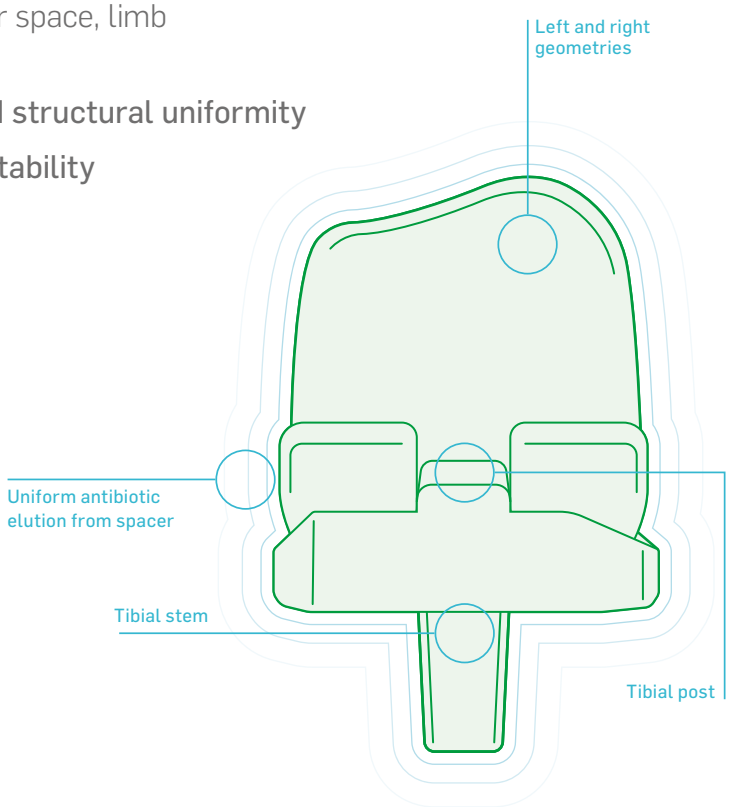
SYNICEM™

Knee

Specifically designed to maintain joint space in your knee revisions

Combining convenience, structural uniformity and stability, while delivering a local concentration of gentamicin. SYNICEM knee spacers maintain articular space, limb length and ligament structures.[6]

- Precision engineered for consistency and structural uniformity
- Designed to maintain joint mobility and stability
- Preloaded with gentamicin
- Case-by-case flexibility and time-saving



Precision engineered for consistency and structural uniformity

Strictly controlled manufacturing conditions minimize the risk of mechanical failure by eliminating unwanted variation and ensuring the uniform shape and structural integrity of the base material.

- Intra-operatively prepared spacers are time-consuming to make and prone to fracture[1]

Preloaded with gentamicin

The spacer yields a prolonged local concentration of gentamicin while maintaining low systemic levels.[6,7]

Designed to maintain joint mobility and stability

Designed to maintain the articular space, limb length and ligament structures after removal of the original implant.[6]

- Specific left and right geometries for each knee
- Tibial stem ensures stability of the tibial component
- Tibial post aligns the femoral component

Case-by-case flexibility and time-saving

A comprehensive range of sizes and styles provide case-by-case flexibility, with a reusable trial spacer tray available to ensure you select the correct size every time.[6]

- No molding required

1 min — SYNICEM spacers
Ready-to-use in under a minute

vs.

14 mins — Intra-operatively prepared
14 minutes per spacer fitting[5]

Left knee spacer

Right knee spacer

Trial spacer tray

SYNICEM knee spacers with gentamicin

Model	Stem inclusion	Knee spacer orientation	Femoral medial / lateral	Femoral anterior / posterior	Tibial medial / lateral	Tibial anterior / posterior	Gentamicin content*	Order code
R58	✔	Right	58 mm	45 mm	65 mm	43 mm	3.2 grams	885438
L58	✔	Left	58 mm	45 mm	65 mm	43 mm	3.2 grams	885439
R65	✔	Right	65 mm	45 mm	73 mm	43 mm	3.5 grams	885440
L65	✔	Left	65 mm	45 mm	73 mm	43 mm	3.5 grams	885441
R72	✔	Right	72 mm	54 mm	77.5 mm	50 mm	5.3 grams	885442
L72	✔	Left	72 mm	54 mm	77.5 mm	50 mm	5.3 grams	885443
R79	✔	Right	79 mm	54 mm	85 mm	50 mm	5.5 grams	885444
L79	✔	Left	79 mm	54 mm	85 mm	50 mm	5.5 grams	885445
Reusable trial spacer tray	-	-	-	-	-	-	-	882024

*May vary by ±5%

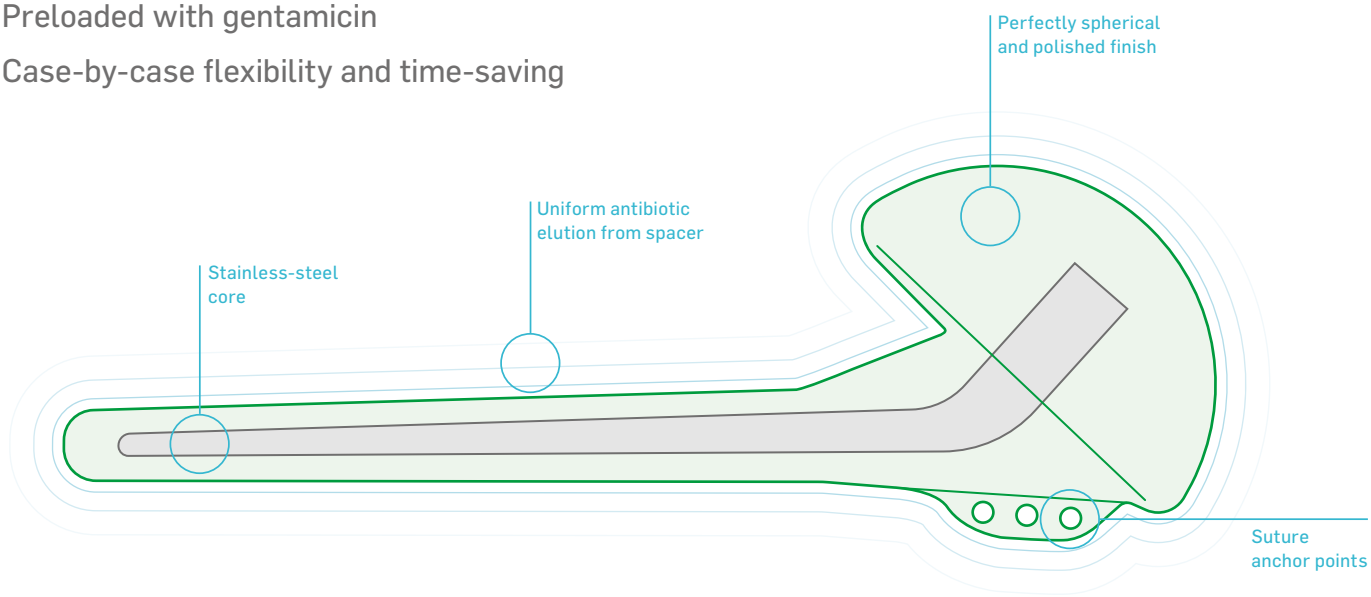
SYNICEM™

Shoulder

Specifically designed to maintain joint space in your shoulder revisions

Combining convenience, structural uniformity and stability, while delivering a local concentration of gentamicin. SYNICEM shoulder spacers reliably stabilize the shoulder, while maintaining the articular space.[6]

- Precision engineered for consistency and structural uniformity
- Designed to maintain joint mobility and stability
- Preloaded with gentamicin
- Case-by-case flexibility and time-saving



Precision engineered for consistency and structural uniformity

Strictly controlled manufacturing conditions minimize the risk of mechanical failure by eliminating unwanted variation in the shape and structural integrity of the base material.

- Perfectly spherical and polished finish of the humeral head prevents bone stock wear[6]
- Intra-operatively prepared spacers are time-consuming to make and prone to fracture[1]

Preloaded with gentamicin

The spacer yields a prolonged local concentration of gentamicin while maintaining low systemic levels.[6,7]

Designed to maintain joint mobility and stability

Designed to stabilize the shoulder, while maintaining the articular space after removal of the original implant.[6]

- Uniform stainless-steel core to increase mechanical strength
- Suture anchor points allow rotator cuff to be secured to the spacer

Case-by-case flexibility and time-saving

A comprehensive range of sizes and styles provide case-by-case flexibility, with a reusable trial spacer tray available to ensure you select the correct size every time.[6]

- No molding required

1 min

SYNICEM spacers
Ready-to-use in under a minute

Shoulder spacer

Trial spacer tray

SYNICEM shoulder spacers with gentamicin

Model	Head diameter	Stem length	Gentamicin content*	Order code
40H	40 mm	120 mm	1.0 grams	885446
48H	48 mm	120 mm	1.5 grams	885447
Reusable trial spacer tray	-	-	-	882052

*May vary by ±5%

The Biocomposites Companion

Your essential guide to making the most of SYNICEM spacers and our other products – all in one straightforward app.

- **How to use:** surgical technique
- **Top tips:** tried and tested advice for surgeons
- **FAQs:** common questions answered
- **Product range:** what's available

To download your Biocomposites Companion, simply scan the QR code.

Download on the App Store

GET IT ON Google Play

1. Craig, A. et al., (2022). Articular spacers in two-stage revision arthroplasty for prosthetic joint infection of the hip and the knee. EFORT Open Reviews, 7, 137–152.
2. Ocguder, A. et al., (2010). Two-stage total infected knee arthroplasty treatment with articulating cement spacer. Archives of orthopaedic and trauma surgery, 130(6), 719–725.
3. Dunne, N. et al., (2007). In vitro study of the efficacy of acrylic bone cement loaded with supplementary amounts of gentamicin: effect on mechanical properties, antibiotic release, and biofilm formation. Acta orthopaedica, 78(6), 774–785.
4. Hollyer, I. et al., (2023). Selecting a high-dose antibiotic-laden cement knee spacer. Journal of orthopaedic research: official publication of the Orthopaedic Research Society, 41(7), 1383–1396.
5. Moerenhout, K. et al., (2021). Economic advantage of 'self-made' antibiotic-loaded spacer compared to prefabricated antibiotic-loaded spacer and spacer molds in two-staged revision arthroplasty. Acta orthopaedica Belgica, 87(3), 557–562.
6. SYNICEM Spacers: Instructions for Use.
7. Biocomposites, Data on file.

SYNICEM spacers are manufactured by Synergie Ingénierie Médicale S.A.R.L.

Synergie Ingénierie Médicale S.A.R.L. (Synimed), Zone Artisanale de l'Angle, 19370 Chamberet, France.

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Innovation is at the heart of what we do

Biocomposites' innovative calcium compound and polymer products range from bone grafts to implants that aid in the treatment of infection. Possessing unique characteristics for regenerating bone and managing infected sites, our products are opening new possibilities for surgeons around the world.

Find out more at biocomposites.com

Biocomposites®