Cement Guide

Information about Biomet Bone Cements, Safety, Quality and Service
Experience ensures high quality products

With decades of experience, Biomet’s staff of scientists is devoted to research and development of cement and cementing techniques ensuring that the company’s products meet or exceed today’s stringent quality control standards.

WELL DOCUMENTED

Biomet’s bone cements follow the standard specifications in all respects of material used, recipe and manufacturing methods.

Bone cement is subjected to high mechanical stress. The mechanical properties of bone cement should therefore be tested for compressive strength, bending strength, and bending modulus according to ISO 5833\(^1\). All bone cements from Biomet exceed international standards established for strength.

Biomet’s well documented bone cements are also tested for fatigue properties, an important factor in the long term survival of cemented hip replacement.

The Swedish Hip Arthroplasty Register has been documenting cementing techniques and failures since 1979. Its data has shown that each step of Modern Cementing Technique has been linked to an approximate 20% reduction in revision for aseptic loosening\(^2\).

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Safety and Control

As the responsible manufacturer, Biomet maintains a high quality standard. During production all raw materials have to fulfil demanding specified criteria. The cements from Biomet undergo rigorous quality control under ISO 13485:2003 and pharmaceutical standards. Tests guarantee consistent high quality. The following aspects are tested:

- The components
- Cement homogeneity
- Antibiotic release
- Mechanical properties
- Sterility
- Packaging
- Handling characteristics

Antibiotics

The Norwegian Arthroplasty Register shows that the combination of antibiotic-loaded cement and systemic antibiotics reduce the risk of revision due to infections more than any other regime.

Gentamicin has proven to be the antibiotic of choice for bone cement as its broad therapeutic spectrum covers Gram-positive and Gram-negative bacteria.

Clindamycin covers anaerobic bacteria and shows superior bone penetration. Gentamicin and clindamycin is a combination known to have a bacterical effect on more than 90% of the bacteria common to infected arthroplasty cases.

EXCLUSIVE FORMULA

Biomet’s gentamicin sulphate is processed, exclusively for Biomet by a subsidiary of Merck KGaA, based upon a proprietary process exclusive to Biomet.

The combination of gentamic and clindamycin is known to have an antibacterial effect on more than 90% of the bacteria common to infected cases.

Did you know that... Biomet was the first company to develop a closed system for mixing and collection of bone cement under vacuum.
Biomet Bone Cements

An optimal bone cement for each application.
- Plain and antibiotic-loaded
- Primary and revision
- Different antibiotic combinations
- Bone cement especially designed for vertebroplasty

**REFOBACIN® BONE CEMENT R**
*with gentamicin*

**BIOMET BONE CEMENT R**
- High viscosity cement
- Easy handling in modern vacuum mixing system
- Local, long-lasting gentamicin release
- Green color of cement allows for easy recognition during surgery
- Available in a complete range of pack sizes

**REFOBACIN® PLUS BONE CEMENT**
*with gentamicin*

**BIOMET PLUS BONE CEMENT**
- Pre-chilling unnecessary
- High viscosity cement
- Optimal handling in modern vacuum mixing system
- Local, long-lasting gentamicin release
- Excellent mechanical properties
- Green color of cement allows for easy recognition during surgery

*Did you know that... “Refobacin®” is a trademark for Biomet’s gentamicin-loaded cement.*
“With complete product ranges for reconstructive, spine, and trauma procedures, Biomet provides total solutions for every orthopaedic situation”

PATIENT MATCHED CEMENT

Biomet’s standard bone cements cover most cases when cemented arthroplasty is necessary. Sometimes, however standard cements, are not adequate. In these cases, Biomet can offer a patient matched bone cement manufactured according to the European Medical Device Directive specially made for a certain patient.*

* Patient matched bone cements are produced upon request from the surgeon, using the patients antibiogram.

REFOBACIN® REVISION
with gentamicin and clindamycin

- Gentamicin + clindamycin loaded for double protection
- High local antibiotic concentration
- Broad antibacterial spectrum
- For one- and two-stage revisions
- Green color of cement allows for easy recognition during surgery.
- High viscosity cement

REFOBACIN® BONE CEMENT LV
with gentamicin

- Low viscosity cement
- Increased penetration of cancellous bone
- Local, long lasting gentamicin release
- Green color of cement allows for easy recognition during surgery.
- Easy handling in modern vacuum mixing system

BIOMET BONE CEMENT V
– for vertebroplasty

- High concentration of a radio-contrast agent for high optical density and easy guidance.
- Optimized viscosity and handling phase for vertebroplasty.
- Ready to use - no need for additional radiocontrast media.
- Reduced cost due to ready-to-use vertebroplasty cement.
Service

Biomet offers a wide range of high quality bone cements for most applications and is the only company on the market that offers patient matched bone cement. Be assured that Biomet supplies its customers with products and services of the highest level.

Wherever you are in the world, you can reach our customer support. Biomet distributors can be found in more than 100 countries. To find a distributor near you please visit our website www.bonecement.com.

Research & Development

Biomet focuses on R&D and clinical studies for excellent long term results. Significant resources are dedicated to research and development of bone cements and modern cementing techniques. The cooperation with the orthopaedic community will help us to constantly evolve our products and find the cement and cementing techniques of the future.

Handling

It is very important that the cement user becomes familiar with the cement properties, handling and use, and uses the same standardized handling technique every time.

Handling properties are highly dependent on the temperatures of the bone cement and the operating room. Higher temperatures make for a shorter working phase and a faster setting time. Pre-chilling prolongs the working phase as well as the setting time. The amount of bone cement required depends on the patient’s anatomy and the implant used. One or more complete units (one sachet and one ampoule) must always be mixed together.

Did you know that... – The cement hardens faster when temperature is high.

Did you know that... – To get to know your cement, it is a good idea for the hospital or clinic to standardize the way cement is mixed.
Cementing University works closely with the orthopaedic community and has established cooperation with surgeons and nurses, as well as with prominent key opinion leaders on bone cement and Modern Cementing Technique. Key Opinion Leaders participate in the university’s education and training, formulating curricula and educational materials.

Through the Cementing University you can engage in Courses & Events, E-learning and Workshops.

Our E-learning platform is an interactive way to increase your knowledge about bone cement and modern cementing techniques.

The Cementing University concept emphasizes on Biomet’s world leading position, setting the standard within the orthopaedic community.
Combined Strength – Complete Supplier

Proven products for bone cement, mixing and delivery, pressurization, and bone bed preparation make up one of the most complete modern cementing technique concepts available on the market today.

For further inquires please contact:
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