

Policy #: 097

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Title

Bone Morphogenetic Protein

Description

Bone morphogenetic proteins are a group of proteins that promote the formation of bone. Two of these proteins, known as BMP-2 and BMP-7, have been found to stimulate the growth of new bone, and have been used successfully to treat skeletal defects due to their ability to repair and regenerate bone. These proteins are found in the human body, but in small quantities. To obtain a sufficient supply for therapeutic purposes, they are produced in large quantities using recombinant DNA technology. The commercially available proteins, rhBMP-2 and rhBMP-7, are used as an alternative to bone grafting to promote bone growth during surgical procedures such as spinal fusions, internal fixation of fractures, treatment of bone defects, treatment of non-union of long bone fractures and reconstruction of maxillofacial conditions.

During a surgical procedure to repair a fracture or bone defect, the protein solution is mixed with an absorbable material (known as a carrier system) to form a putty-like substance which holds the protein in place, allowing a greater concentration of protein to remain at the site of the defect. The rhBMP in its putty-like carrier system may be applied directly to the treatment site or placed in a delivery system which is implanted around the bony structure being treated to maintain the position of the bone elements and secure the rhBMP in place at the treatment site.

Two rhBMPs and associated carrier/delivery systems have received approval from the U.S. Food and Drug Administration:

- The Stryker® OP-1
- The InFUSE™ system

When services are covered for all Products (including Medicare HMOB, Medicare PPO Blue and Blue Medicare PFFS PlusRx Products)

We cover **bone morphogenetic protein** for the following indications:¹

- As an alternative to autograft in recalcitrant long bone nonunions where use of autograft is unfeasible and alternative treatments have failed;
- For spinal fusion procedures at one or more levels in skeletally mature patients with degenerative disc disease from L2-S1; or
- For the treatment of acute, open fracture of the tibial shaft.

When services are not covered for all Products (including Medicare HMOB, Medicare PPO Blue and Blue Medicare PFFS PlusRx Products)

We do not cover **bone morphogenetic protein** including but not limited to the following since its use is considered investigational¹ and does not meet the BCBSMA Medical Technology Assessment Guidelines, #350:

- As an alternative to autograft in compromised patients requiring revision posterolateral (intertransverse) lumbar spinal fusion, for whom autologous bone and bone marrow harvest are not feasible or are not expected to promote fusion (i.e., a labeled indication of Striker® OP-1);

- As an alternative or adjunct to bone grafting in other locations, including craniomaxillofacial surgeries.

Individual consideration

All our medical policies are written for the majority of people with a given condition. Each policy is based on medical science. For many of our medical policies, each individual's unique clinical circumstances may be considered in light of current scientific literature. For consideration of an individual patient, physicians may send relevant clinical information to:

For services already billed

Blue Cross Blue Shield of Massachusetts
 Provider Appeals
 PO Box 986065
 Boston, MA 02298

Prior to performance of service

Blue Cross Blue Shield of Massachusetts
 Case Creation/Medical Policy
 One Enterprise Drive
 Quincy, MA 02171
 Tel: 1-800-327-6716
 Fax: 1-888-641-5330

Managed Care guidelines

- Authorizations are required.

Indemnity and PPO guidelines

- Authorizations are required.

Coding information

Procedure codes are from current CPT, HCPCS Level II, Revenue Code, and/or ICD-9-CM manuals, as recommended by the American Medical Association, Centers for Medicare and Medicaid Services and American Hospital Associations. Blue Cross Blue Shield Association national codes may be developed when appropriate.

The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Hospital Billing

- ICD-9-CM procedure code 84.52, Insertion of recombinant morphogenetic protein rhBMP via collagen sponge, coral, ceramic or other carriers.

NOTES:

- The ICD-9-CM manual clarifies that code 84.52 should be used in conjunction with the primary procedure performed: 79.00-79.99 (fracture repair); 81.00-81.88(spinal fusion); 81.30-81.39 (spinal re-fusion).
- There is no specific CPT or HCPCS Level II procedure code for bone morphogenetic protein, its preparation or application.

Policy update history

New Policy, effective May 2009. Reviewed 7/09 MPG - Orthopedics, Rehabilitation Medicine, and Rheumatology, no changes in coverage were made.

Footnotes

¹ Based upon BCBSA national medical policy, *Bone Morphogenetic Protein*, #7.01.100.

References

References for Footnote 1

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