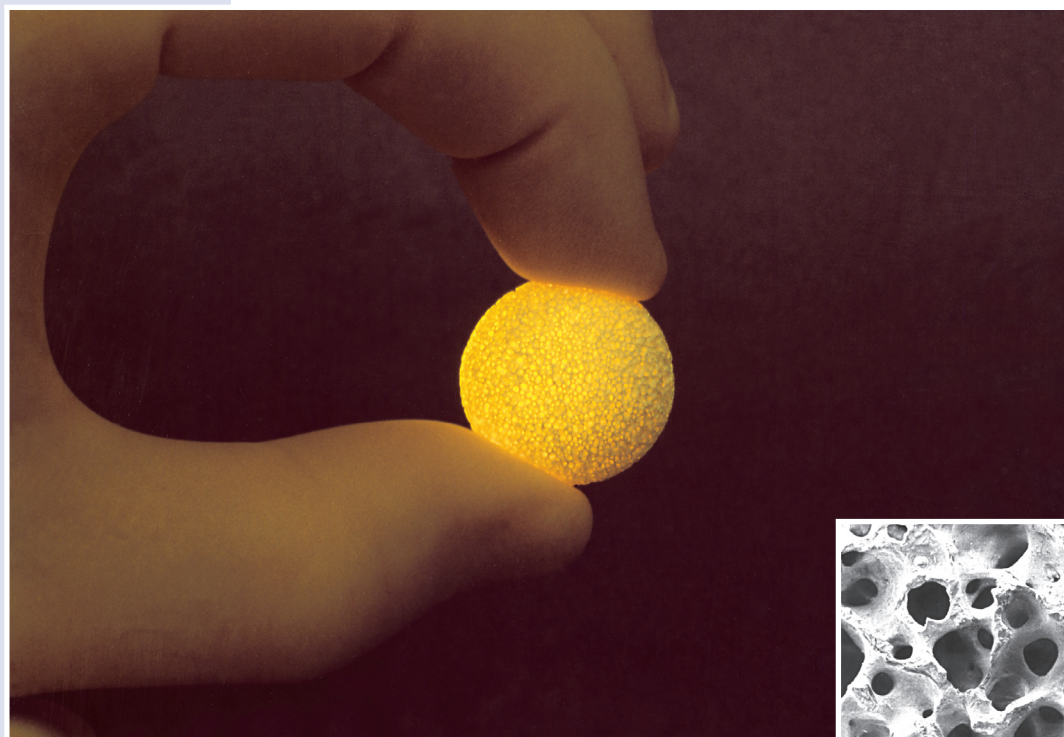
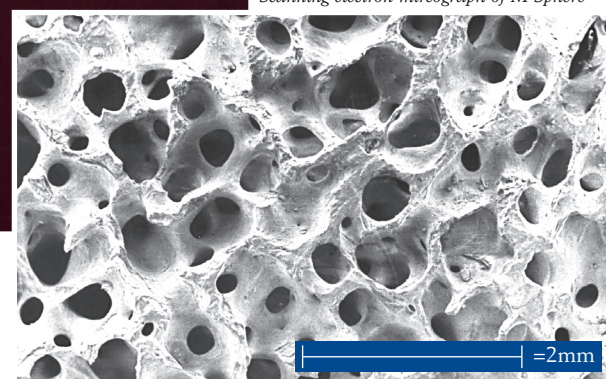


MOLTENO® M-Sphere®



The M-Sphere® back-illuminated to show the natural porous structure.



The completely porous structure of the M-Sphere® ensures rapid fibrovascular ingrowth, and superior long term results

Scanning electron micrograph of M-Sphere®

NATURAL HYDROXYAPATITE ORBITAL IMPLANT

For Use in Anophthalmic Cases

Fully biocompatible
Completely porous
Rapidly and easily organised
Robust, permanent
Supplied sterile



MOLTENO®
OPHTHALMIC LIMITED
P. O. BOX 6322 • DUNEDIN • NEW ZEALAND
www.molteno.com

0314-MCI

CE 0120

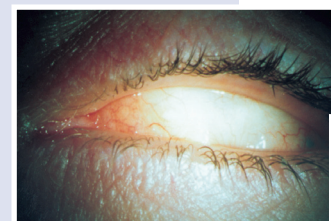
MOLTENO® and Molteno Implant®, M-Sphere® and MoaBone® are registered trade marks of Anthony C. B. Molteno, FRCS, FRACO

Introducing the Molteno®

M-Sphere® Natural Hydroxyapatite Orbital Implant

The M-Sphere® orbital implant is manufactured from MoaBone®, the natural hydroxyapatite mineral matrix of cancellous bone. The bone, of New Zealand origin, is treated to remove the organic components leaving only the hydroxyapatite mineral framework. M-Sphere® orbital implants are designed to support and impart movement to an artificial eye (prosthesis) after enucleation. Like the mineral portion of human bone, the bony trabeculae within the M-Sphere® provide a completely porous structure which is easily and rapidly incorporated into the tissues. With careful surgical technique it is possible to insert a relatively large M-Sphere® into Tenon's space and eliminate dead space in the socket. Cosmetically this is highly desirable as it produces a visible bulge behind closed lids giving an impression of a normal closed eye when a artificial eye is not being worn. Furthermore, the movement of the conjunctiva covered orbital implant against the tarsal conjunctiva prevents the accumulation of secretions and maintains a healthy socket. Where customised artificial eyes are not available, a smaller M-Sphere® orbital implant can be used with a stock artificial eye.

In most patients where the tissue is healthy it is not necessary to cover the M-Sphere® with a cap of sclera. However if the tissues are deficient, unduly thin or scarred, donor sclera can be placed over the front of the M-Sphere®.



Appearance 3 years after surgery without prosthesis.



Appearance with prosthesis fitted.

Features of the M-Sphere® Natural Hydroxyapatite Orbital Implant:

- The M-Sphere® is made from MoaBone®, the hydroxyapatite mineral matrix of mammalian cancellous bone. Its natural chemical composition and the preservation of its natural porous structure gives the M-Sphere® full biocompatibility.
- The M-Sphere® is the most porous orbital implant available. When buried in the patient's tissues it is rapidly and easily organised by host fibrovascular tissue.
- When incorporated in the patient's tissue the M-Sphere® resists migration and extrusion. It provides a robust, permanent and mobile support for an artificial eye.
- When fitted with an artificial eye the M-Sphere® gives an excellent cosmetic appearance without the need for drilling and pegging.
- The M-Sphere® is supplied as 16mm, 18mm, 20mm, and 22mm diameter spheres. This allows the correct size of M-Sphere® to be selected to suit the individual case.

All MoaBone® and M-Sphere® orbital implants are manufactured and sterilised in strict accordance with international standards and guidelines.

Selecting the correct size M-Sphere®

The correct size M-Sphere® is usually between 3/4ths and 7/8ths of the diameter of the eye that has been removed. For example; a 24mm diameter eye has been enucleated. Normally an 18mm to 20mm M-Sphere® would be used.

However, if there are complicating factors such as poor blood supply, badly damaged tissues or other factors limiting the vitality of the tissues, a smaller M-Sphere® would be selected.

Reconstruction Pack

The reconstruction pack consists of a selection of 8 MoaBone® segments (quarter spheres). These are designed to correct cosmetic defects due to post traumatic atrophy of the orbital fat. When packed posteriorly, between the periosteum and the adjacent bone of the lateral and inferior portions of the orbit, they reduce the volume of the bony orbit and displace the remaining orbital fat forward. This corrects the sunken appearance and fills the hollow beneath the brow.

Sizes available include:

Cat. No.	Description
MS16	M-Sphere® 16mm Orbital Implant
MS18	M-Sphere® 18mm Orbital Implant
MS20	M-Sphere® 20mm Orbital Implant
MS22	M-Sphere® 22mm Orbital Implant
MS08	Reconstruction pack (8 assorted MoaBone® segments)

- 1) Allen, T. D., *Guist's bone spheres*. AM J. Ophthalmol Vol 13, pp226, 1930.
- 2) McCoy, L. L., *Guist's bone spheres*. AM J. Ophthalmol Vol 15, pp960, 1932.
- 3) Molteno, A.C.B., Van Rensberg, B., Van Rooyen, B., Ancker, E., "Physiological" orbital implant. Brit. J. Ophthal. Vol 57, pp615-621, 1973.
- 4) Molteno, A.C.B., *Antigen-free Cancellous Bone Implants After Removal of an Eye*. Trans Ophthal. Soc. N.Z. Vol 32, pp36-39, 1983.
- 5) Molteno, A.C.B., Elder, M.J., *Bone Implants After Enucleation*. Australian and New Zealand Journal of Ophthalmology Vol 19(2), pp129-136, 1991.
- 6) Jordan DR, Huang I, Browstein S, McEachren T, Gilberg S, Gravhovac S, Mawn L, *The Molteno M-Sphere*, Ophthalmic Plastic and Reconstructive Surgery, Vol 16(5), pp356-62, 2000.
- 7) Suter, A.J., et.al. *Long Term Follow-up of Bone Derived Hydroxyapatite Orbital Implants*. Brit. J. Ophthal. (in press).



MOLTENO®
OPHTHALMIC LIMITED
P. O. BOX 6322 • DUNEDIN • NEW ZEALAND
TEL ++ 64 (0)3 479 2744 • FAX ++ 64 (0)3 479 2444
EMAIL moltenosales@xtra.co.nz • WEBSITE www.molteno.com

CE 0120

Detailed Video and Surgical Guide
Available From Your Local Distributor