



MTF and OREF: two foundations, one goal

From hip revisions and ACL repairs to spinal fusions and preserving limbs in tumor patients, allografts are used in more than one million tissue transplants in the United States each year. **The Musculoskeletal Transplant Foundation (MTF)**, a nonprofit organization and one of the leading providers of allografts, is also a strong supporter of OREF, giving nearly \$2.7 million to support orthopaedic research since becoming a Corporate Associate in 1991.

▲ MTF headquarters in Edison, NJ
Photos courtesy of MTF

MTF was founded in 1987 when surgeons realized how difficult it was to find allograft tissue suitable for major orthopaedic transplant surgery. The Foundation's first obligation was to provide a consistent supply of high-quality allografts. Today, MTF employs about 1,000 people, and works with 36 tissue recovery centers, five of which it manages. MTF is committed to ensuring that the allografts provided are the best and that applications for them are constantly evolving. Since its inception, MTF has provided approximately 4.2 million tissue grafts, from nearly 80,000 deceased donors.

In addition to providing allograft tissue, MTF's founders decided that part of the organization's mission should be to support orthopaedic research and education.

"We know that allografts are very effective in helping patients. We're committed to making them the best we can and to finding new applications for them. The only way to do that is through research," explained **Mr. Bruce Stroeve**, President and CEO of MTF.



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◀ Bruce Stroever, President and CEO of MTF

MTF BOARDS

One of the reasons MTF is so committed to funding research, Mr. Stroever said, is due to its board structure. MTF has a Medical Board of Trustees and a Board of Directors. The Medical Board of Trustees includes orthopaedic surgeon representatives from MTF's 44 Academic Members — academic medical institutions that are committed to supporting MTF services. The Medical Board of Trustees establishes MTF's acceptance criteria for donor tissue, and is responsible for approving any modifications made to those criteria. All changes must be scientifically based and often require specific research into the impact on the quality of allograft tissue.

“Our Board of Directors consists of 11 orthopaedic surgeons and two executive directors of recovery centers,” said Mr. Stroever. “Our board is very focused on what good MTF can do. Most of our board meetings revolve around the kind of research we're conducting, the kind of research we're supporting, and the types of tissues we provide.”

Like other tissue banks, MTF is concerned with honoring the wishes of the donor, aiding donor families, and providing respectful stewardship of the donated gift, while also attending to the wider set of needs of patients receiving donated tissue. For example, MTF has provided skin at no charge for burn patients in Mexico and California and for surgeons doing missionary work to fix facial and extremity deformities. Currently, MTF is working to provide donated tissue to the people of Haiti.

BEST QUALITY ALLOGRAFTS

“We believe the very best quality graft you can have starts with the highest quality donor,” said Mr. Stroever. Proper donor selection is a critical first step in the process. MTF maintains strict acceptance criteria for donor tissue, declining donations from patients diagnosed with systemic infection, or who have a history of cancer or illicit drug use. MTF never accepts donors deferred by other tissue banks or direct referrals from funeral homes.

“We're also convinced that the very

best quality tissue is processed aseptically with validated methods that maintain the inherent biomechanical integrity and biologic compatibility of the tissue,” explained Mr. Stroever. “MTF processes acceptable donor tissue in Class 10 clean rooms and maintains numerous validated safety checks and balances to ensure sterility throughout the entire process rather than employing harsh chemicals or sterilizing after processing.” After processing, all tissues must go through a final sterility validation before being released for distribution.

According to Mr. Stroever, organ and tissue procurement organizations opt to work with MTF because of the quality of the tissue processing and the service they receive from MTF. MTF helps them with technical training, donor family issues, donor development, and staff support. Many hospitals use tissues processed by MTF, which also appeals to procurement organizations.

RECOGNITION AND REACH

MTF supports research and education in several ways. MTF's Board of Directors, largely made up of current and past chairs of orthopaedic departments, decided that Academic Members should be orthopaedic teaching or education centers. As a result, MTF requires all of its Academic Members to have an accredited residency program in a discipline related to tissue transplantation.

MTF has had its own peer review grants program for 18 years. MTF accepts applications for research,

which are reviewed by a blinded panel of experts who are not affiliated with the Foundation. The reviewers rank the proposals, and MTF awards the grants based upon those independent rankings.

MTF provides a broad range of educational support for surgeons, such as its International Symposium. Held every 4 years, the symposium focuses on one orthopaedic specialty, and the proceedings are published in *Clinical Orthopaedics and Related Research*. And for researchers who use human specimens in their work, MTF donates tissues that don't meet the Foundation's high standards for patients. Finally, MTF's subsidiary, the International Institute for the Advancement of Medicine (IIAM), provides non-transplantable tissues and specimens (such as spines, torsos, and extremities) that can be used for education, research, and surgeon training.

"We are a fairly small organization in the orthopaedic world, and our reach is limited," said Mr. Stroever. "We decided to include OREF as part of our grant program so that we could extend our reach. OREF is known nationally."

Under the unique partnership that MTF and OREF established in 1991, MTF contributes \$200,000 to \$499,999 in financial support to OREF. OREF performs all grant-making responsibilities as usual, including formal peer review, ranking proposals, and choosing which are most promising. From the pool of grant proposals that OREF's peer review



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committee selects, MTF chooses three related to research on allografts or the types of surgeries of interest to MTF. These include one \$100,000 Research Grant and two \$20,000 Resident Clinician Scientist Training Grants. MTF supports another \$100,000 in research in sports medicine, a field of great interest to MTF. By funding grants through OREF, MTF receives a broader spectrum of applications than those submitted through the MTF peer review grant program.

"Our grant program would be a little more parochial if we didn't fund research through OREF, and only funded the people we know," said Mr. Stroever. "If it weren't for OREF, MTF would not receive as much recognition for its research efforts because those efforts wouldn't be known."

JOIN THE CLUB

Recognition and reach are two reasons other tissue banks should consider funding orthopaedic research and education through OREF, Mr. Stroever said.

"When you're able to contribute to OREF and show that you're supporting the orthopaedic community, it gives a lot of visibility to your organization," said Mr. Stroever.

If tissue banks cannot support at a high level, Mr. Stroever points out that there are smaller resident grants that also need funding. Supporting orthopaedists who are just starting out in research is important, he said, because it gives them the chance to lay the groundwork for submitting grants to larger funding bodies such as the National Institutes of Health.

Whether or not they support OREF, Mr. Stroever thinks all tissue bank organizations should recognize the importance research holds for allografts. Although MTF wasn't the first to implement its use, Trinity® Evolution™, a cryopreserved bone matrix containing viable mesenchymal stem cells and osteoprogenitor cells, was the result of research. Research, Mr. Stroever said, is important for orthopaedic allografts. It ensures that they are used properly and are in the best condition possible.

"There's good work being done out there. As we continue to explore the ever-growing benefits of allografts, we need to continue to support the people who are finding new and promising ways to use them to improve patients' lives." ■