Aastrom Biosciences' U.S. Clinical Investigator to Report on Long Bone Fracture Repair Trial

Ann Arbor, Michigan, March 22, 2006 -- Aastrom Biosciences, Inc. (Nasdaq: ASTM) announced today that Matthew L. Jimenez, M.D. will present results from his early clinical experience with the first seven patients treated for recalcitrant long bone non-union fractures with Aastrom's Tissue Repair Cells (TRCs). The presentation will be delivered today as part of a symposium at the combined Orthopaedic Research Society and American Academy of Orthopaedic Surgeons meetings in Chicago, IL. Dr. Jimenez, of the Illinois Bone & Joint Institute, Morton Grove, IL, is the Principal Investigator of Aastrom's U.S. Phase I/II multi-center clinical trial evaluating the use of TRCs – a mixture of stem, stromal and progenitor cells derived from the patient's bone marrow – in the treatment of severe fractures that have failed prior treatment interventions.

Dr. Jimenez will present a brief overview of the multi-center trial that is currently underway, as well as the background and progress of the first seven patients that he treated in the trial. The results include data from the first 6 months of observation after TRC grafting that was combined with surgical correction of long-standing non-union fractures. The results noted in this U.S. trial complement observations previously reported in Aastrom's European feasibility study, showing positive bone regeneration with no TRC-related adverse events. A copy of Dr. Jimenez' planned presentation is being filed today on Form 8-K with the SEC. At that time the presentation may be accessed on Aastrom's website using the following link: http://www.aastrom.com/pdf/MLJ-Presentation-032206.pdf.

These seven patients, treated at Lutheran General Hospital in Park Ridge, IL, all had fractures of their tibia bone which had failed to heal after one to three (with a mean of two) prior standard of care bone grafting and surgical treatments. Previous treatment approaches included failures in internal and external fixation to align and immobilize the fractured bone, autologous bone grafting and bone morphogenetic protein (BMP) supplementation. The average period of time from the initial fractures to TRC treatment was 12 months (range 7 to 29 months). The TRC-treated patients, age 30-73 years, underwent open reduction and internal fixation (ORIF) surgery in which TRCs were applied directly at the fracture site, together with an allograft bone matrix graft extender (provided by Aastrom's partner in the study, the Musculoskeletal Transplant Foundation) to promote local bone regeneration.

Bone regeneration, evidenced by callus formation or bone bridging, was observed in radiographs for all seven patients by 6 months. Early healing was seen in four of the patients by 3 months after treatment with TRCs. Post-surgical evaluations of these patients using standard clinical and radiographic evaluations of the healing fracture site will continue over a 12 month period. The multi-center trial is accruing up to a total of 36 patients.

"I am encouraged by the healing of these very difficult to treat fractures in these first few patients. The use of an autologous bone marrow-derived tissue product as an innovative cell therapy has the potential to provide a valuable alternative to some of the most difficult orthopedic challenges in trauma," commented Matthew L. Jimenez, M.D. "We, and the other clinical sites in this study, will continue to accrue and treat patients with this novel TRC product."

This multi-center trial protocol is approved at the following treatment centers: Lutheran General Hospital, Park Ridge, IL; the University of Michigan Health System, Ann Arbor, MI; William Beaumont Hospital, Royal Oak, MI; Lutheran Medical Center, Brooklyn, NY; and, University of Nebraska Medical Center, Omaha, NE.

"These early pilot data are most encouraging, especially given the poor prognosis of these patients who had failed standard-of-care treatments. We are adding to our knowledge the use of TRCs with different formulations of bone gap-filling materials. These results in patients using allograft matrix complement our European studies which tested TRCs with synthetic ceramic matrices," stated Janet M. Hock, B.D.S., Ph.D., Vice President Global Research and Chief Scientific Officer of Aastrom. "While these data are very promising, we will maintain caution in interpreting the results of our U.S. trial of non-union fractures until the full set of 36 patients at the five sites is completed."

About Tissue Repair Cells

Tissue Repair Cells (TRCs) are Aastrom's proprietary mixture of bone marrow-derived adult stem, stromal and progenitor cells produced using patented single-pass perfusion technology in the AastromReplicell® System. The clinical procedure begins with the collection of a small sample of bone marrow from the patient's hip in an outpatient setting. TRCs are then produced in the automated AastromReplicell System over a 12-day period. It has been demonstrated in the laboratory that TRCs are able to develop into different types of tissue lineages in response to inductive signals, including hematopoietic (blood and immune systems), mesenchymal (connective tissues such as bone), adipose, and endothelial (vascular tubules). In clinical trials, TRCs have been shown to be safe in over 200 patients.

About Aastrom Biosciences, Inc.

Aastrom Biosciences, Inc. (Nasdaq: ASTM) is developing products for the repair or regeneration of multiple human tissues, based on its proprietary Tissue Repair Cell (TRC) adult stem cell technology. Aastrom's TRC products contain large numbers of stem, stromal and progenitor cells that are produced from a small amount of bone marrow cells originating from the patient. The AastromReplicell® System, an industry-unique automated cell product manufacturing platform, was developed for the production of standardized, patient-specific TRC products. TRC products have been used safely in humans as a substitute for bone marrow stem cells, and are currently in clinical trials for bone grafting (long bone fractures and spine fusion) and blood vessel regeneration (diabetic limb ischemia) applications. The Company has recently reported positive interim clinical trial results for its TRCs demonstrating both the clinical safety and ability of TRCs to induce healthy new tissue growth (long bone fractures and jaw bone reconstruction).

For more information, visit Aastrom's website at www.aastrom.com.

This document contains forward-looking statements, including without limitation, statements concerning product development objectives, planned clinical trials, potential advantages of TRCs and the AastromReplicell® System, and potential product applications, which involve certain risks and uncertainties. The forward-looking statements are also identified through use of the words "may," "planned," "potential," and other words of similar meaning. Actual results may differ significantly from the expectations contained in the forward-looking statements. Among the factors that may result in differences are, potential product development difficulties, clinical trial results, potential patient accrual difficulties, the effects of competitive therapies, regulatory approval requirements, the availability of financial and other resources and the allocation of resources among different potential uses. These and other significant factors are discussed in greater detail in Aastrom's Annual Report on Form 10-K and other filings with the Securities and Exchange Commission.

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