TECHNOLOGY COMMERCIALIZATION OFFICE
THE UNIVERSITY OF UTAH

Reference: U-4182

Title: Improved Method for Bone Marrow Harvesting and Aspiration Based on a Novel Device

Invention Summary	A new type of bone marrow harvesting and aspiration device is being developed that will facilitate improved collection and reduce the pain associated with this procedure. An additional benefit of this system is the ability to use the precision hole that is created to provide access to the bone marrow for either diagnosis or therapy.
Market Applications	Bone marrow aspiration and harvesting is performed routinely in order to: find blood disorders that affect the bone marrow; look for the cause of diseases such as thrombocytopenia; identify cancer that has spread to the bone marrow; identify bone marrow infections; determine therapeutic effectiveness in bone marrow diseases; harvest and transplant stem cells. An improved method for collecting and aspirating bone marrow could significantly penetrate this established, growing market by displacing the needles that are currently used.
Features, Benefits & Advantages	Current methods of bone marrow harvesting and aspiration use a pointed needle to pierce through the outer surface of the bone to access the underlying trabecular bone where samples are collected. Such use of a needle causes significant pain, pressure and a crunching sound that is felt and heard by the patient. This invention employs a miniature, circular cutting surface to cut through all or a majority of the cortical bone. A more precise hole can be made in the bone to minimize pain and provide for an exact hole dimension. This precision hole can then be used for marrow aspiration, harvesting, and fitment of a hemostasis plug. In addition, it can be used for placement of diagnostic sensors or to infuse therapeutics.
Intellectual Property & Development Status	This concept-stage invention is the basis for one of the design projects for the Bioengineering 3801/4801 Design Class sequence, and will be further developed in that context. It is available for developmental research support/licensing under either exclusive or non-exclusive terms.
Related Research	http://www.bioen.utah.edu/research/research_initiatives.php?op=show&id=5 http://clinicaltrials.gov/ct/gui/show/NCT00463853; jsessionid=3E6FC6198B3671C063C90389483D90der=17
U of U Researcher	G. Russell Reiss, MD – VA Salt Lake City Health Care System
Student Liaison	Robert Hitchcock, PhD – Department of Biomedical Engineering
Licensing Contact	Name: Frank Norris Title: Licensing Manager Email: frank@tco.utah.edu Direct Phone: 801-581-8057