



AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS

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June 2, 2008

Alan M. Krensky, MD
Director
Office of Portfolio Analysis & Strategic Initiatives (OPASI)
Building 1 - Shannon Building, 260B
1 Center Drive, Mail Stop: 0186
Bethesda, MD 20892

Dear Dr. Krensky:

The American Academy of Orthopaedic Surgeons (AAOS), representing over 17,000 board-certified orthopaedic surgeons and researchers, welcomes the opportunity to respond to the National Institutes of Health (NIH) Request for Information (RFI): To Submit Ideas for Common Fund/Roadmap Trans-NIH Strategic Initiatives, Notice NOT-RM-08-014.

The AAOS applauds your decision to seek input from the scientific community on the identification of a new cohort of Common Fund/Roadmap programs for the fiscal year 2011. Of particular interest to the AAOS is the topic of mobility, a basic human need which can preserve one's integrity, dignity and functionality.

Musculoskeletal conditions are among the most disabling and costly conditions suffered by Americans. In 2005, musculoskeletal medical conditions were self-reported by 107.67 million adults in the U.S. in the National Health Interview Study (NIHS), which represents nearly one in two persons ages 18 and over (of the estimated 2005 population). Musculoskeletal conditions are also the greatest cause of total lost work days and medical bed days. One in six persons employed in the previous 12 months reported lost work days --- totaling nearly 437.6 million days as a result of debilitating musculoskeletal conditions.

As the population ages over the coming years, the number of people with these conditions will increase, as they are most prevalent in the older population. In fact, by 2030, the number of individuals in the U.S. ages 65 years and older is expected to double, with individuals aged 85 and older the most rapidly changing segment of society.

The topic of mobility is not simply confined to one NIH institute or center and spans a great variety of institutes and disciplines. Institutes that touch upon the idea of mobility with varied research and topical interests include the:

- **National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS):** Research involving musculoskeletal systems, bone, and arthritis.
- **National Center for Complementary and alternative Medicine (NCCAM):** Research on acupuncture and osteoarthritis in women; pilot studies involving low back pain.
- **National Center on Minority Health and Health Disparities (NCMHD):** Research on eliminating the gap between medically underserved populations and minority populations with emphasis on physical access to medical care.
- **National Cancer Institute (NCI):** Immobility leads to many complications in cancer care.
- **National Institute on Aging (NIA):** Exercise, arthritis, and quality of life in the aged are mobility issues.
- **Eunice Kennedy Shriver National Institute on Child Health and Human Development (NICHD):** Research on mobility for children with developmental or neuromuscular disease.
- **National Center for Medical Research and Rehabilitation (NCMRR):** Links to mobility through prosthesis design and fundamental research needs in advances in rehabilitation medicine.
- **National Institute of Environmental Health Sciences (NIEHS):** Environmental factors can have a varied affect on the musculoskeletal system.
- **National Institute of Neurological Disorders and Stroke (NINDS):** Central nervous system dysfunction or injury causes reduced mobility and quality of life.
- **National Institute of Dental and Craniofacial Research (NIDCR)** Advances in bone research will improve mobility.
- **National Institute of Biomedical Imaging and Bioengineering (NIBIB):** Advances and research in central nervous system imaging and links to mobility or obstacles to such.
- **National Institute of Diabetes and Digestive and Kidney Disorders (NIDDK):** Studies involving systemic manifestations of diabetes and renal disorders influence mobility.

The RFI specifically requests specific information which the AAOS has addressed below:

1. **Provide a Short Project Title:** Mobility: Moving Americans' Health Forward
2. **Problem or Opportunity:** Activity restrictions are a problem for the health of the population. Translational research is needed that tests the potential for scientific discoveries to improve clinical care. Multiple clinical and basic science disciplines need to apply their diverse knowledge and tools in a concerted effort to provide meaningful gains towards improving function and reducing activity restrictions and physical disability among all people.

Mobility is a fundamental issue at all stages of human existence – from birth through the end of life. Common practices and recent research have demonstrated many advances in improving mobility for persons of all ages. Children and teenagers who engage in regular physical activity build strong bones, setting the stage for strong bones in their later life. In one's middle age years, general health and personal happiness can be preserved by physical activity. Seniors who remain mobile enjoy an elevated quality of life. Mobility is not simply an issue confined to the musculoskeletal system. Basic functions that many take for granted

– brushing one’s hair, writing, picking up a small child - are all essential functions in daily life. Issues in mobility have recently come to public attention with our injured soldiers returning from the conflicts overseas. Patriotic men and women have suffered grievous injuries including brain, torso and extremity injuries. Many injuries have resulted in the amputation of an extremity. We need to seize the opportunity to translate current and future scientific discoveries into quality of life improvements for all people.

3. Approach:

The approach to moving this research initiative forward is collaboration. Collaboration with a multitude of disciplines – molecular biology, genetics, cardiovascular, neuroscience, engineering and imaging , to name a few ...– allows us to work together to discover new ways of thinking and practicing. Such collaborations would:

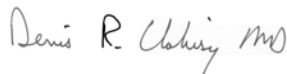
- (1) Link basic and translational research studying all organ systems (cardiovascular, central and peripheral nervous systems, musculoskeletal, hematologic, tissue engineering, imaging, etc.);
- (2) Link investigations and investigators pioneering disease oriented research (stroke, cardiac disease, pain, aging, oncology, limb prostheses design, health policy research on access and disparities ...); and
- (3) Link existing roadmap initiatives. The NIH Common Fund is uniquely positioned to foster this collaboration by funding clinical trials that test applicability of new basic science and clinical knowledge towards improving physical activity status broadly across populations, and developing new methods to facilitate clinical research aimed at decreasing pain and improving functionality in humans.

4. Please include 2-3 terms that you would use to classify your proposal:

Activity limitations, functional status, disability

The AAOS is appreciative for the opportunity to provide feedback. We look forward to our continued dialogue and partnerships with the NIH in the future. If you have any questions about our comments, please feel free to contact either one of us or Christy M.P. Gilmour, AAOS Manager, Medical Research, Office of Government Relations, at 847-384-4323 or gilmour@aaos.org.

With Kind Regards,



Denis R. Clohisy, MD
Chair, AAOS Research Development Committee



Kristy L. Weber, MD
Chair, AAOS Council on Research, Quality Assessment, and Technology

Alan M. Krensky, MD

June 2, 2008

Page 4



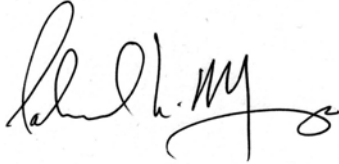
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