TITLE: **Incorporation of patient reported outcomes data in the care of US veterans with rheumatoid arthritis**

FACULTY MENTOR: **Michael R. Bubb, bubbmr@medicine.ufl.edu**
Phone 352-682-6390
FAX 352-392-8483

FACULTY MENTOR DEPARTMENT: **Medicine**

RESEARCH PROJECT DESCRIPTION

The overall goal of this proposal is to address barriers to the use of patient reported outcome (PRO) data and to evaluate the effect of these data on medical outcome in patients with rheumatoid arthritis (RA). Patient reported outcome data are the forms that patients fill out while waiting to see their physician that contain relevant information about the patient's state of illness. For RA, this would include information about the patient's overall sense of well-being, the current level of pain, and questions that reflect the extent of disability due to arthritis. These data have been shown to correlate well with the physical exam in measuring how well the patient's arthritis is being controlled. These measures are increasingly popular means of obtaining data to guide changes in medical therapy and in some situations, are now considered standard-of-care activities expected of any physician caring for a patient with RA. However, it has not been established that these data actually improve a patient's outcome, and this study directly addresses this question. Our hypothesis is that the availability of these data in the form of the patient-completed MDHAQ/RAPID3 questionnaire will change patient-centric outcomes such as patient reported well-being, patient satisfaction and medication compliance. The targeted population is US veterans with rheumatoid arthritis who receive medical care within the North Florida/South Georgia Veterans Integrated Service Network (NF/SG VISN). The intervention is a single-blinded, randomized controlled trial to provide (or not provide) PRO data to the treating physicians. Outcome measures used to evaluate the results of this study include a comparison between intervention and control subjects for patient-derived instruments of patient satisfaction, patient-reported disease outcome data, medication compliance, and physician/lab-derived instruments of clinical efficacy as measured by DAS28 change and DAS28 remission.
ROLE OF MEDICAL STUDENT – Will be involved in data collection, management, and interpretation, and the publication of results
FUNDING SOURCE – Pfizer Independent Grants for Learning & Change
RELEVANT PUBLICATIONS – Pincus T, Yazici Y, and Castrejón I. Pragmatic and scientific advantages of MDHAQ/ RAPID3 completion by all patients at all visits in routine clinical care. Bull NYU Hosp Jt Dis. 2012;70 Suppl 1:30-6.

TITLE: **Thymosin β4, a Novel Biologic Therapy for Post-traumatic Osteoarthritis**

FACULTY MENTOR: **Michael R. Bubb,** bubbmr@medicine.ufl.edu
Phone 352-682-6390
FAX 352-392-8483

FACULTY MENTOR DEPARTMENT: **Medicine**

RESEARCH PROJECT DESCRIPTION

Thymosin β4 (tb4) is a protein that, when inside cells, regulates the shape and crawling behavior of cells. When secreted outside of cells, tb4 demonstrates remarkable functions in that it promotes the repair of tissue and inhibits inflammation. As a therapy for promotion of tissue repair, tb4 is currently in trials to promote the healing of wounds in the skin and cornea. Both of these tissues optimally heal when there is no significant scarring, which is one of the properties of tb4. Even more remarkable studies have been published as lead articles in Nature that show that tb4 can promote the healing of the heart, again without scarring, after an experimentally-induced heart attack in rats.   Because osteoarthritis (OA) is another disease in which healing of the joint surface needs to occur without excessive scar, the use of tb4 as a treatment for OA is appealing. Moreover, OA that develops after an injury, for example, post-traumatic knee OA, represents a perfect use for tb4, as the drug could be injected directly into affected joints. In this project we will evaluate the efficacy of tb4 in preventing OA in a mouse model of OA in which damage is caused to a joint by surgical destabilization of the knee. This model has been shown to be very similar to the OA that patients might get after injuring a joint. If efficacious in the mouse, and later in human studies, then tb4 could become the first approved medication that changes the natural history of OA.
ROLE OF MEDICAL STUDENT – Will be involved in analysis and interpretation of data, and publication of results.
FUNDING SOURCE – US Dept. Veterans Affairs
RELEVANT PUBLICATIONS – Pipes G.T. and Yang J. Cardioprotection by Thymosin Beta 4. Vitam Horm. 2016;102:209-26.