Handbook for the Prospective VA Investigator

The VA Mission

The mission of the VA is to provide top quality medical care for veterans. In the years after World War II, the VA conceived a strategy to achieve this mission: build VA medical centers near academic health science centers and provide a source of research funds that would both incentivize university physicians to do research, provide clinical care, mentor students and residents, and advance the science of diseases prevalent among veterans. As academic research has evolved, the VA has recognized the need to also fund non-clinician investigators. Optimizing VA-university collaboration increases research opportunities for investigators, enhances the potential for VA-university synergies, and serves the VA mission.

VA Funding

VA research is funded by the Office of Research and Development (ORD). There are five services within ORD (analogous to NIH institutes): Biomedical Laboratory Research and Development (BLR&D), Clinical Science Research and Development (CSR&D), Rehabilitation Research and Development (RR&D), Health Services Research and Development (HSR&D), and the Cooperative Studies Program (CSP). BLR&D and CSR&D are under the same administrative structure. CSP provides the infrastructure for and coordinates the conduct of VA multicenter phase III clinical trials. Local VA investigators are always invited to participate in ongoing multi-center trials and they have the opportunity to initiate such trials.

Investigator-initiated grant proposals must be submitted through a VA ORD Request for Application (RFA). The term notwithstanding, these RFAs will accommodate a broad range of research topics even as they prioritize certain research areas. RFAs provide extensive information, subject to change every grant cycle, on details of grant preparation and submission that either supplement or trump material in the standard guidelines.

Non-VA Funding

VA investigators can compete for funding from other sources, such as NIH, the Department of Defense (DOD), foundations, and industry (through our non-profit center, the North Florida Foundation for Research and Education (NFFRE, Appendix A). Non-VA research grants can be obtained through and administered by University of Florida Departments and the University of Florida Division of Sponsored Programs, or via NFFRE. Multicenter studies in which the VA is a participating center must be administered through NFFRE via a direct award or a sub-award from the University of Florida.

How to Become a VA Investigator

Scientists must have a 5/8 FTE or greater assignment to the VA (25+ hours/week) for their research project to be funded. Clinicians may not put salary on VA grant applications as they are paid by a different funding authority (except in the case of Career Development Award recipients — see below). Therefore, they must have a ≥5/8 FTE VA clinical appointment to acquire grant funds, though they may apply for a grant with a <5/8 assignment. Non-clinicians are expected to put salary on grant applications. A non-clinician investigator outside the VA can successfully compete for a VA grant by placing ≥5/8 salary on the grant; when the money is awarded, the investigator thereby meets the 5/8 requirement and becomes a ≥5/8 VA investigator. Prospective investigators should contact the VA Associate Chief of Staff for

Research (ACOS/R) or the Research Office Administrative Officer (AO) before submitting such proposals (Appendix B).

Nonclinicians interested in submitting grant proposals to BLR&D or CSR&D must first obtain approval to submit a grant by an ORD peer review committee. In general, only those with records of research achievement that qualify them as established independent investigators will be authorized to submit grant proposals. RR&D, which funds both preclinical and clinical research, does not require such prequalification.

VA investigators may, under some circumstances, perform all or significant parts of their research outside the VA, e.g., at University labs. Such off-site research must be precisely justified to ORD (see below, Off-Site Research). Investigators performing off-site research must also make a meaningful contribution to the Malcom Randall VA Research Service, through participation in Research Service committees, support of research infrastructure, and mentorship activities.

As a general rule, VA research funding is limited to United States Citizens. This rule is absolute for career development awards (see below). Permanent residents (green card holders) may be able to compete for and obtain other types of VA funding if they will be eligible to apply for citizenship in the near future.

Effort Assignment

Research effort assignment is defined by site-specific activity (e.g., seeing patients/prospective research participants in clinic or working in a wet-lab), except in the case of database research. Investigators performing site-specific activity must formally establish a tour of duty. For database research, effort assignment will be defined by source of funding unless the funding is administered by NFFRE, in which case it will be defined as VA research. Precise assessment of effort allocation is essential for three reasons: 1) it provides the basis for calculation of indirect costs charged by the VA and UF and avoidance of misallocation and double-dipping; 2) it provides the basis for clinicians and their Service Chiefs/Chairs to calculate the reduction of clinical loads at VA or UF Health Science Center Colleges as needed to perform their research; and 3) it optimizes ORD allocation of funds to the VA Research office, which are based upon total grand funding, VA and non-VA.

Salaries

The VA operates on the basis of a 40-hour workweek. Therefore, for example, 5/8 effort = 25 hours/week. UF colleges may assume longer workweeks, e.g., up to 60 hours for the College of Medicine, and such assignments are honored by NIH.

VA salaries are set according to schedules developed by the Department of Veterans Affairs, which strives to take into account national standards (e.g., American Association of Medical Colleges benchmarks) and local cost of living differences. In the process of being hired by the VA, there is some room for salary negotiation.

Full salaries for dually appointed faculty (VA + UF) must be negotiated by the relevant VA service chief, the UF department chair, and the candidate, and are subject to approval by VA leadership and the Dean of the affected college. The difference between the amount of salary to be provided by the VA and the total salary offered to an investigator must be made up by the University or other funding sources.

Types of VA Grants
ORD supports seven types of grants: 1) Merit review grants (equivalent to R01s); 2) Career Development Awards (CDAs)(approximately equivalent to K awards); 3) Research Career Scientist Awards; 4) Cooperative Study Program (CSP) awards; 5) Center of Excellence grants; 6) Research Enhancement Award Programs (REAPs); and 7) common use equipment awards.

Merit review grants: The application process, though it differs slightly among VA research services, is very similar to that for R01s. Grant applications are submitted by the local VA Research Office to grants.gov. In general, funding is for 3 years, although there are some 2-year instruments and some VA research services will support more extended awards, up to 5 years.

Career Development Awards (CDAs): There are two types of CDA: CDA-1 and CDA-2. Both emphasize career development and include scientific proposal and training components. Applicants should take considerable trouble to define the career research and training trajectory to which a particular award is to contribute. ORD does not prohibit effort by CDA awardees at the university, but it is sensitive to the potential for compromise of research and training activity by additional clinical and administrative responsibilities. CDA awards come with full VA indirect cost payments, thereby strongly incentivizing local VAs to support them.

- CDA-1 grants are for 2 years and support only salary. At present, only VA RR&D accepts CDA-1 applications. These are expected to be post-doctoral projects that will provide pilot data for a subsequent CDA-2 award.
- CDA-2 awards are for 5 years and support salary plus $65,000/year. They are expected to be full research proposals, to have a training component, as with K awards, and to lead logically to subsequent Merit Review or R01 grant applications. All VA research services accept CDA-2 proposals.

Non-clinicians can receive 100% salary support from ORD. Clinicians can receive up to 75% of salary. They must also contribute 1/8 or 2/8 FTE to clinical service. Clinical effort is provided through one of the established clinical services at the MRVAMC, which in turn is responsible for provision of the 1/8 or 2/8 clinical salary support. Clinician CDA awardees are hired and credentialed through standard medical center mechanisms and using standard salary scales.

Research Career Scientist Awards (RCSAs): Non-clinician VA investigators who have an extended track record of research funding, scientific discovery, and contribution to the VA Research Service, are encouraged to compete for RCSAs. These provide 5 years of full salary support.

Cooperative Studies Program (CSP) awards: These provide funding for personnel and infrastructure required to carry out site-specific activity for a VA-sponsored multi-center clinical trial.

Center of Excellence Awards: VA RR&D and HSR&D provide funding, typically in the $900,000 to $1 million/year range, to support these platform grants. They are expected to support research infrastructure but not the actual conduct of research. Grant duration is 5 years and renewal is competitive. The MRVAMC currently has two centers, the RR&D funded Brain Rehabilitation Research Center (BRRC), and the HSR&D funded Center for Innovation on Disability and Rehabilitation Research (CINDRR).

Research Enhancement Award Program (REAP): These awards, which are currently offered exclusively by VA RR&D, provide up to $250,000/year in infrastructure support for research programs in which four or more VA investigators are engaged.

Common use equipment awards: BLR&D, CSR&D and RR&D together support a competitive common use equipment award program that enables purchases in the range of $50,000-$500,000 (maximum $500,000/VA medical center). Priority is accorded equipment that will benefit multiple investigators, promote innovation or research competitiveness, and advance VA-university synergy.

VA Research Service Infrastructure

The VA Research Service is governed by the Research Office and the Research and Development Committee (R&DC) and its subcommittees. The Research Office, which is directed by the Associate Chief of Staff for Research (ACOS-R), is responsible for administering programs, maintenance of infrastructure (see below: VA Research Service Investigator Support), and provision of information and advice to investigators and the R&DC and its subcommittees. The R&DC is comprised solely of investigators and is responsible for formulating Research Service policy and vetting research grants and protocols. No VA research, regardless of source of funding, can proceed without R&DC approval.

A number of subcommittees, all comprised of investigators, provide support to and are responsible to the R&DC. These included the Subcommittee for Research Safety (SRS), the Scientific Projects Committee (SPC), the Research Facility and Space Utilization Subcommittee (RFSUS), the Research Budget Subcommittee (RBS), the Oversight Committee for Clinical Research (OCCR), the Subcommittee for Research Support, and the VA IACUC. Human subject research protocols are vetted and monitored by University of Florida IRB-01, with which the Malcom Randall VA Medical Center has a memorandum of understanding.

Recommendations regarding allocation of research space are made by the RFSUS to the R&DC.

Recommendations for allocation of funding (e.g., bridge funding) are made by the RBS to the R&DC.

VA Research Service Investigator Support

The MRVAMC Research Service maintains a comprehensive research support infrastructure. This includes:

- VA grant proposal review and submission process
- VA grant administration and budget management
- Non-VA (e.g., NIH, DOD, or foundation) grant submission, administration, and budget management via NFFRE.
- Bridge funding through the RBS
- Contracts and purchasing officer
- Human resources officer to assist in personnel recruitment and hiring
- Specialist responsible for the approval process for employees supported by non-VA funds who will work at the VA (without compensation employees, WOCs)
- Human research protection process, closely linked to IRB-01, and personnel to assist investigators through this process
- Institutional animal care and use committee (IACUC)

Laboratory and equipment maintenance personnel
Regulatory officers for human and animal research
Clinical and preclinical laboratories (Appendix C)
Common use research equipment (Appendix D)
Veterinary medical unit (VMU) (Appendix C)
Three research centers: the Brain Rehabilitation Research Center (BRRC, Appendix E), the Center of Innovation on Disability and Rehabilitation Research (CINDRR, Appendix F), and the Geriatric Research, Education and Clinical Center (GRECC, Appendix G)

Human Research Protection
All protocols involving human subjects and using VA resources must be submitted to the Human Research Protection Program (HRPP) office, regardless of funding or source of funding. Protocol packets must include mandatory VA forms as well as the IRB packet (protocol, introductory questionnaire, and informed consent form). HRPP personnel will assure that VA-specific paperwork is correctly completed and will provide detailed advice to investigators on changes in the IRB packet that will maximize speed of IRB approval. VA paperwork has been continuously modified in an effort to minimize redundancy with IRB forms. Protocol packets must be approved by the VA Research Office and the VA Privacy and Information Security Officer before being submitted to the IRB.

Laboratory Research
All research protocols must be submitted to the Subcommittee for Research Safety (SRS) Office. Submission packets must include mandatory VA forms as well as the required SRS forms. SRS personnel will assure that VA-specific paperwork and required safety trainings are correctly completed, and will also provide detailed advice to investigators on any changes that will facilitate SRS approval.

Animal Research
All research protocols involving animals must be submitted to the VA Institutional Animal Care and Use Committee (IACUC) Office. Submission packets must include mandatory VA forms as well as the required IACUC forms. IACUC personnel will assure that VA-specific paperwork is correctly completed and will provide detailed advice to investigators on any changes that will facilitate IACUC approval.

VA Research Service Statistics
Total research funding: $11M
79 investigators
177 active protocols
128 funded protocols (74% VA, 17% NIH, 4% industry, 5% other government and academic)

Off-Site Research
In general, it is intended that VA research be conducted on VA premises. Partial or full off-site waivers are granted by ORD if clear and sufficient justification is provided (e.g., participant populations unavailable locally; key equipment or lab infrastructure available only at the university). Given the complexity of preclinical research, it is accepted that some investigators

may have to maintain separate laboratories at the VA and the university. In general this can be readily accommodated.

Appendix A. North Florida Foundation for Research and Education

Grant Facilitators

For VA Investigators

NFFRE
North Florida Foundation for Research and Education

Type of Grant	Type of Grant
VA-funded • Career Development Award • Merit Review (MR) • Research Enhancement Award Program (REAP) • Quality Enhancement Research Initiative (QUERI) • Cooperative Studies Program - VA Award (CSP) • Special Research Initiatives • Deployment Health Research Initiative • Middleton Award • Nursing Research Initiative • Rehabilitation Research grants • Health Services Research grants	**Non VA-funded** • Pharmaceutical and device companies • Professional associations (American Heart Association, etc.) • Private foundations (Christopher Reeve Foundation, etc.) • Other VA Nonprofit Foundations • NIH, DoD, and other non-VA federal grants • State grants • Private charitable awards • Cooperative Studies Program utilizing VA and industry funding (CSP)
Contact: **Helen Vaillancourt, Acting Administrative Officer** VA Research Service (151B) 14-101 (352) 548-6069 Helen.vaillancourt@va.gov	**Contact:** **Holly Morris, MSN, RN, CCRC, CHRC** **Executive Director** North Florida Foundation for Research and Education, Inc. 1601 SW Archer Rd (151) Gainesville FL 32608 (352) 548-6000 X5832 Holly.Morris1@va.gov

Services Offered by NFFRE:

- Personnel support and project staffing – Professional research and administrative staff including Research/Laboratory Assistants, Clinical Research Coordinators, and Research Nurses
- Regulatory support staff to assist with IRB and VA Research and Development Committee (HRPP, IACUC, Safety committees, etc.) submission and approval and ongoing reporting processes
- Grant management staff to assist with grants submission and overall grants administration, pre and post award
- Administrative support for industry and private clinical trial contracts, agreements, preparation of site budgets, and overall financial management of investigator research projects and other education projects
- Assistance with all aspects of staffing and study start up

Appendix B. Malcom Randall VA Medical Center Points of Contact

Malcom Randal VAMC Research Service:
http://www.northflorida.va.gov/Research/indexResearchers.asp

Office of Research and Development (ORD): http://www.research.va.gov/default.cfm

	Name	Phone	Email
Research Management			
ACOS Research	Stephen E. Nadeau, MD	(352) 548-6551	snadeau@ufl.edu
Acting Administrative Officer	Helen Vaillancourt	(352) 548-6069	Helen.Vaillancourt@va.gov
HRPP Administrator	Lisa Campbell	(352) 548-6000, x5310	lisa.campbell3@va.gov
Grant Administration			
Grant Submissions	Hattie Grant	(352) 548-6000 x4994	Hattie.Grant@va.gov
Grant Budgets	Kelle Roesner	(352) 548-6000 x4995	kelle.roesner@va.gov
Contracts/Supplies	Gabe Canales	(352) 548-6000 x4916	gabriel.canelas@va.gov
Contracts/Supplies	Heidi Parrish	(352) 548-6000 x3512	heidi.parrish@va.gov
Human Resources			
VA-Paid Appointments	Charisma Brown	(352) 548-6000 x6960	charisma.brown@va.gov
Without Compensation	Wanda Thomas	(352) 548-6000 x4204	wanda.thomas@va.gov
Human Research Submissions			
New Submissions	Lisa Campbell	(352) 548-6000 x5310	lisa.campbell3@va.gov
Ongoing/Renewals	TBA		
Laboratory Research Safety Submissions			
New/ongoing/renewal coordinator	Chris Johnston	(352) 548-6481	christopher.johnston1@va.gov
Interim Adjunct Coordinator	Bert Herrera	(352) 548-6481/ (352) 376-1611 x6489	humberto.herrera@va.gov
Animal Research Submissions			
New/Ongoing/Renewal Coordinator	Chris Johnston	(352) 548-6481	Christopher.Johnston1@va.gov
Interim Adjunct Coordinator	Bert Herrera	(352) 548-6481/ (352) 376-1611 x6489	humberto.herrera@va.gov
IACUC	Prodip Bose	(352) 376-1611 x5996	pkbose@ufl.edu
VMU	Prodip Bose	(352) 376-1611 x5996	pkbose@ufl.edu
Research Labs			

Lab & Equipment Support	Sheng-Ling Xia	(352) 376-1611 x6581	shen-ling.xia@va.gov
Key Committees			
R&DC	Mathew Morrow	(352) 374-6178	Matthew.Morrow@va.gov
RFSUS (space)	Floyd Thompson	(352) 376-1611 x5218	Thompson@mbi.ufl.edu
RBS (budget)	Scott Berceli	(352) 376-1611 x6470	bercesa@surgery.ufl.edu
SRS (Subcommittee on Research Safety	Kamal Mohammed	(352) 376-1611 x7446	kamal.mohammed@medicine.ufl.edu
North Florida Foundation for Research and Education			
Executive Director	Holly Morris	(352) 548-6000 x5832	holly.morris1@va.gov
Sr. Grants Specialist	Brenda Wise	(352) 548-6000 x5241	brenda.wise@va.gov
HR Specialist	Summer Cross	(352) 548-6000 x5268	summer.cross@va.go

Appendix C. VA Facilities and Infrastructure

Laboratories

Malcom Randal VAMC Research Service has ~25,000 sq ft of space for preclinical and clinical research in the medical center main building and 5,300 sq ft of animal research facilities in the veterinary medical unit (a separate building).

- Space for preclinical research: ~18,300 sq ft.
    - 90 rooms (14,800 sq ft) for labs and offices.
    - 22 rooms (3,500 sq ft) for common resource labs (see Appendix A for details).

- Space for clinical research: ~6,700 sq ft.
    - 17 rooms (4,300 sq ft) for patient interview.
    - 16 rooms (2,400 sq ft) for office/staff support.

Veterinary Medical Unit (VMU)
The VMU is an AAALAC accredited animal care facility. It has 24 rooms (5300 sq ft) that are temperature and humidity controlled 24/7:

- 2 rooms for animal surgery (290 sq ft)
- 1 room for after-surgery recovery (120 sq ft)
- 1 room for BSL II rat and/or mouse (130 sq ft)
- 1 room for SPF rat and/or mouse (270 sq ft)
- 2 rooms for rabbit (250 sq ft)
- 10 rooms for rat and/or mouse (1300 sq ft)
- 7 rooms for staff and support functions

The following equipment items are provided in the VMU and training for using any of them can be arranged:

- Biological Safety Cabinets (one BSL I and two BSL II)
- Telemetry System for small animals (with maximum 24 channels)
- Ultrasound Biomicroscopy (VisualSonics Vevo 2100; high frequency up to 40 MHz)
- PhysioSuite Rodent Physiological Monitoring System (pulse oximetry, heart rate monitoring, artificial ventilation, ETCO2, temperature monitoring, and homeothermic warming).
- Anesthesia machine (e.g., isoflurane vaporizer)
- Carbon dioxide apparatus for rodent euthanasia

Appendix D. Common Use Equipment

Equipment	Number
Autoclaves	4
Biological safety cabinet BSL II	2 (one in VMU; one on the 3rd floor)
Centrifuges	6
Cold rooms, 4˚, walk-in	4
Confocal microscope (Zeiss, 2 photon)	1
Confocal microscope (Zeiss, 1 photon)	1
Confocal microscopy imaging workstation	1
Cryostat (Leica)	1
Deionized water apparatus	2
Film developer (AGFA)	1
Flammable storage rooms	2
Fluorescent & X-ray imaging station	1
Fluorescent digital microscope	1
Freezers -20˚, walk-in -80˚	 1 6
HPLC system (Prominence)	1
Incubator, low temperature precision	1
Isotope counting (Beckman)	2
Laser microdissection (Zeiss PALM)	1
Micro-injection system (Eppendorff FemtoJet)	1
Micro CT ex vivo	1
Micro CT in vivo	1
MRI-rodent (7T, portable, cryogen-free)	1
Plate reader	2
Ratio imaging analyzer	1
PCR, Realtime (AB 7500)	1
Refrigerator for flammable material	3
Shaker incubator	1
Spectrophotometer (Shimadzu)	1
Telemetry system for small animals	1 (maximum capacity is 24 channels)
Ultrasound bio-microscope (Vevo 2100))	1

Appendix E. Brain Rehabilitation Research Center

The Brain Rehabilitation Research Center (BRRC) is dedicated to innovation and refinement of treatments to potentiate neural plasticity and neural network reorganization that will substantially improve motor, cognitive, and emotion functions affected by neurologic disease or injury. This mission is achieved through: 1) advancing the basic science of functional adaptation and neural plasticity; 2) integrating basic and applied research on neuroplasticity to better address clinically relevant scientific questions; 3) developing and refining potent and effective treatments, including behavioral treatments, based on principles of experience-dependent functional adaptation and neuroplasticity; theoretically motivated adjuvants, either neurobiological or neurophysiological; application and further development of advanced technologies (functional magnetic resonance imaging, diffusion tensor imaging, electroencephalography, functional near-infrared spectroscopy, transcranial magnetic stimulation), human motor performance assessment, and behavioral measurement to understand relevant impairments in CNS cognitive and motor function, predict recovery of function and response to treatment, measure outcomes, and elucidate neural mechanisms of response to experimental treatments.

The BRRC) is a 7,700 square foot facility housing research laboratories, investigator, and administrative offices. Each investigator has his/her own dedicated telephone, computer (a full array of Microsoft software) and connections to secured networks at both the VA and University of Florida. Internet connections within the VA and internet connections to the University of Florida allow full access to library facilities and shared software (e.g., MatLab, SPSS, and SAS). The BRRC also has research laboratories for treatment and therapy interventions, a conference room, and data storage facilities. In addition, the BRRC houses the VA/University of Florida Brooks Center for Rehabilitation Sciences Human Motor Performance Laboratory and a Transcranial Magnetic Stimulation laboratory.

The BRRC provides a participant recruitment infrastructure consisting of a database of individuals with stroke, spinal cord injury, or traumatic brain injury who are interested in referral for research participation. It provides therapists, engineers, IRB, statistical, and secretarial personnel to support its investigators. There are currently over 800 subjects in the database who have been screened by a neurologist, physical therapist, neuropsychologist, and speech pathologist. Typically, 2-3 subjects are screened on a weekly basis and added to the referral database. All database participants have given consent to be contacted for referral to ongoing or future research studies. The BRRC has tools available for assessment of upper extremity (UE) and lower extremity (LE) function, as well as protocols for various UE and LE rehabilitation interventions.

The BRRC has a structured program for investigators who have been awarded mentored grants in the VA's Career Development Program. All mentored investigators meet monthly for a brown bag lunch facilitated by the BRRC's Education Coordinator. In addition, the BRRC holds a Career Development Seminar each month in which a mentored grant awardee presents his/her research and the progress to date on the award, and discusses barriers and facilitators to that progress. This gives each CDA awardee an opportunity to discuss his/her research with fellow junior and senior investigators and receive valuable feedback.

<u>BRRC Transcranial Magnetic Stimulation (TMS) Laboratory</u>
The TMS Laboratory is housed within the BRRC. This lab is a 300 square foot dedicated suite containing state of the art transcranial magnetic stimulation equipment to study the neurophysiological substrates of rehabilitation-dependent recovery from stroke. The suite includes a computerized stereotaxic neuronavigation system (Brain Sight) that integrates

volumetric magnetic resonance imaging (MRI) scans with the TMS system. This allows for the precise localization of stimulation location on the cortex and ensures the reliability of repeated stimulation. The stimulation system includes a 70 mm Magstim coil, a Grass EMG recording apparatus, and computers dedicated to the collection and analysis of EMG responses and motor map topography. Further, the TMS lab provides a full time technician to run the laboratory and oversee all experimental procedures. Investigators have unlimited access to these facilities and to the expertise of the TMS team.

VA/University of Florida Human Motor Performance Laboratory

The primary focus of the 1,800 square foot Human Motor Performance Laboratory is the assessment of motor performance in individuals with injury, disease, or age-related changes in motor function. It is a joint VA/University of Florida laboratory that is housed in the BRRC. The laboratory is equipped with a VICON Motion Systems motion capture camera system, consisting of the VICON 612 data station with 8 active video channels and a 64 channel A/D board for analog signals. There are 10 1000 Hz M2 cameras (Digital CMOS M2 series cameras have a resolution of 1280 x 1024) with visible infrared variable intensity DST strobes. Software includes: VICON workstation, VICON polygon, VICON Body Builder, Plug-in Gait, Plug-in Modeler, VICON Real Time II, and a VICON Plug-in to export C3D data to Motion, Muscle, Joint, and Bone file (ASCII) to use with SIMM. The lab is also equipped with the materials necessary to complete UE or LE force measures and analyses. The laboratory houses a programmable Adept-six robotic arm, load cells to measure arm and finger/thumb forces, a platform for UE/LE stabilization, the Strength-Dexterity Test System, and a split-belt treadmill. The lab is equipped with a Konigsberg Instruments T42, 16-channel telemetry EMG system designed to transmit on a discreet carrier frequency set between 176 and 216 MHz. The lab also houses a Biodex for isokinetic strength testing. Biomedical engineers are employed to assist investigators in data collection and analysis.

BRRC Locomotor Training Laboratory

The Locomotor Training Laboratory is a 700 square foot lab dedicated to providing locomotor training 1) using a body weight support system and treadmill with manual assistance and 2) using an overhead body weight support system over ground with a 40' straight path and 90 degree turn with 10' straight path for persons with locomotor dysfunction. The lab also has a low mat for donning the body weight support harness and digital recording and editing capabilities.

BRRC Neuroimaging Research

Many BRRC investigators pursue research programs that include an imaging component, including anatomic magnetic resonance imaging (MRI), function MRI (fMRI), diffusion weighted imaging (DWI, including state of the art high angular diffusion imaging, HARDI), and magnetic resonance spectroscopy (MRS). There is a smooth operational interface and high bandwidth connectivity with University of Florida IT systems, including the supercomputer, HiPerGator. This interface is supported by a BRRC engineer.

University of Florida Advanced Magnetic Resonance Imaging and Spectroscopy (AMRIS)

Facility: AMRIS is a state-of-the-art nuclear magnetic resonance facility and is available for high-resolution solution nuclear magnetic resonance imaging, solid-state nuclear magnetic resonance imaging, microimaging, animal imaging, and human imaging. There are currently seven spectrometer systems, including a 750 MHz wide bore, an 11 T/40 cm bore horizontal animal imaging magnet, and a 3T, 60 cm clear bore human system. All of these systems are available to University of Florida affiliated scientists. AMRIS is located in the McKnight Brain

Institute of the University of Florida and was developed, in part, through a grant from the Department of Defense.

Appendix F. Center of Innovation on Disability and Rehabilitation Research (CINDRR)

The mission of the Center of Innovation on Disability and Rehabilitation Research (CINDRR) is to identify and develop strategies for improving inpatient and outpatient rehabilitation services, as well as the long term management of disability, including issues that impact family members, for Veterans of all ages**.** CINDRR's focused areas of research include (1) Innovative Rehabilitation: using technologies and innovative engagement strategies to improve Veterans' rehabilitation experiences and Veterans' outcomes, including but not limited to, function, safety, community (re)integration, quality of life (QOL), and access; (2) Rehabilitation Analytics: develop analytic systems and predictive analytics to proactively identify patients at risk for adverse events (informatics]); develop and test patient reported outcomes to increase engagement in care and evaluate outcomes of rehabilitation interventions (measurement); and (3) Implementation Research: shortening the time between evidence development and implementation into rehabilitation practice and policy, including but not limited to, rehabilitation programs and strategies, patient-reported outcome measures, and point of care decision support tools. CINDRR's primary goals include mentoring and preparing the next generation of rehabilitation outcomes researchers to assume leadership roles in Health Services Research & Development and fostering productive cross-center collaborations and VA operational and clinical partnerships to advance the science and practice of rehabilitation in the VHA.

CINDRR has an administrative core to assist investigators. This includes an administrative officer, budget analyst, grants coordinator, and dissemination coordinator. Established on Oct 1, 2013, this Center of Innovation is based at two sites (Gainesville and Tampa). CINDRR engages in research, demonstration projects, and program evaluations to identify, develop, and evaluate strategies for improving acute and outpatient rehabilitation services, as well as the long term management of disability, including issues that impact family members of Veterans. CINDRR's collaborators include 41 investigators across 26 VAMCs as well as investigators from the Center's affiliate Universities, the University of Florida and the University of South Florida. CINDRR senior core investigators are regularly consulted for their system-level expertise in statistical database analysis, healthcare costs and access, health-related quality of life, and healthcare practice evaluation. CINDRR is built on very strong cross-center collaborations and partnerships with national VA program offices, including the Office of Rural Health, the Office of Nursing Services, Geriatrics and Extended Care, Physical Medicine & Rehabilitation, and Rehabilitation and Prosthetics.

Appendix G. Geriatric Research, Education and Clinical Center

The GRECC has three missions: to improve care in clinical geriatrics, to provide education for providers in geriatrics, and to conduct research in aging and geriatrics. Research at the Gainesville GRECC spans the continuum from preclinical to implementation research in a variety of aging-relevant topics. Funded studies are ongoing in metabolism and hormone regulation; goal oriented treatment after acute hospitalization; patient safety and healthcare quality improvement; educating caregivers; preventing age-related physical disabilities; treating and preventing age-related cognitive disabilities; and self-management of chronic health care conditions.

Basic science focus: obesity, spinal cord Injury, and anabolic steroids.
Clinical focus: falls prevention, Alzheimer's disease, and traumatic brain Injury.
Rehabilitation focus: hormone replacement therapy.
Health services focus: falls and caregiver education.

The Gainesville GRECC has an Advanced Fellowship in geriatric research and we sponsor one new fellow per year in this 2-year program. The Advanced Fellowship provides clinicians starting a research career with 75% protected time for research with the goal of obtaining Career Development Award funding.