



## SHP Student Interns for Research and Scholarly Activities Application of Project Proposal Form

### Instructions:

Please fill out the form and return via email to Michele Sisco ([mcoral@shp.rutgers.edu](mailto:mcoral@shp.rutgers.edu)) by **March 25, 2024**. Please fill each box to the right of each required field. If you are sending attachments, please ensure your contact information is added to all your forms.

### Faculty Contact Information:

Date submitted:	3/22/24
Faculty Name:	Richard Ferraro
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### Project Detail:

Project Title: (56 characters max)	Measuring muscle performance, function and quality of life in patients with chronic kidney disease.
Hypothesis:	<ol style="list-style-type: none"> <li>1. Establish the concurrent validity of the IMTP to accepted clinical measures of functional performance and their relationship to QoL and frailty. <ol style="list-style-type: none"> <li>a. We hypothesize that measurements derived from IMTP testing (peak force and rate of force development) will better correlate with QoL and frailty than standard clinical tests.</li> </ol> </li> <li>2. Establish how muscle performance changes during chronicity of CKD. (i.e., does IMTP discriminate among stages of CKD?). <ol style="list-style-type: none"> <li>a. We hypothesize that muscle performance will be poorer with increasing severity of CKD.</li> </ol> </li> <li>3. Determine if muscle performance measures predict declines in frailty and QoL over a six-month observation period <ol style="list-style-type: none"> <li>a. We hypothesize that people with the poorest muscle performance will experience the greatest declines in frailty and QoL.</li> </ol> </li> </ol>
Description: (Include design, methodology, data collection, techniques, data analysis to be employed, evaluation and interpretation methodology for research component)	<p><u>Participants</u></p> <p>Adults with chronic kidney disease (stages 3 and 4) up to 80 in each group will be recruited for participation. We will record the sub-staging of stage 3 (A vs. B) and explore differences between those stages. The Nephrology Department at University Hospital is a large, academic practice. The practice volume of Dr. Kaplan is about 35 individuals with CKD stage 3 or 4 per week, or about 150 per month. Over a 3-month period, this is likely to be between 300 and 400 unique patients who will</p>

	<p>be eligible for participation. If we encounter issues with recruitment, we will expand our testing to include patients from other nephrologists in the practice.</p> <p>We will exclude those patients with stage 5 CKD due to the highly variable nature of their physical presentation and the issues with testing around dialysis schedules. We will not pursue patients with stage 1 or 2 CKD as these patients are routinely followed by primary care and not nephrology.</p> <p><u>Physical Performance and Patient Self-Reported Function Measures</u></p> <p>We will complete comprehensive testing at both baseline and follow-up time points. Physical testing will include measures of total body strength and power (IMTP); Gait Speed (4m Walk Test); Muscle Strength (Grip Strength); Muscle Power (5x Sit to Stand); and self-reported physical activity [International Physical Activity Questionnaire (IPAQ)]. We will also measure waist and hip circumferences which are related to mortality and sarcopenia.</p> <p>Participants will self-report on quality of life by completing standardized measures of frailty (Fried Frailty Index), quality of life [Medical Outcomes Study Short-Form 12 (SF-12)], and sarcopenia (SARC-F Screening Tool).</p> <p>Participants will also self-report their nutrition status by completing the Malnutrition Screening Tool, Diet Quality: Rapid Eating Assessment of Participants (REAP) Diet Screener, and the USDA Six-Item Food Insecurity Questionnaire. These measures will allow us to explore the interaction of nutrition and physical performance on quality of life.</p> <p>Lastly, as University Hospital serves a diverse, urban population, we will collect information on Social Determinants of Health (e.g. income, education level, food insecurity) which have been shown to contribute to function in CKD.</p>
<p><b>Specific Student Responsibilities:</b></p>	<p>The responsibilities of the summer intern student will be some or all of the following: Prepare all outcome measures/lpads for participant use during data collection, help prepare and perform in-service to medical staff in Dr. Kaplan’s UH nephrology office. Initial data collection and processing should it begin in Summer 2024. Help develop any participant intake forms and consent forms needed for study.</p>
<p><b>Start / end date of project:</b></p>	<p>June 2024-August 2024 (Subject recruitment and data collection will continue past this date into 2025 but summer intern responsibilities will be in this timeframe).</p>

**Educational**

<p><b>WHAT OTHER EDUCATIONAL OPPORTUNITIES ARE AVAILABLE TO STUDENTS?</b></p>	<p>n/a</p>
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(e.g., journal club, seminars, clinic, rounds) <b>WHERE DO YOU PLAN TO PRESENT OR PUBLISH THE FINDINGS WITH THE STUDENT?</b> (e.g., national or state meetings, newsletter or journal, SHP poster day)	We intend on presenting our findings on multiple levels including here at RU (SHP faculty research day), state conference and Combined Sections Meeting in Houston, Texas in 2025 or Philadelphia in 2026.
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**CHECK ALL APPROPRIATE BOXES BELOW AND PROVIDE REQUESTED INFORMATION.**

This project is:  **clinical**     laboratory     behavioral     survey     educational

Other: please specify \_\_\_\_\_

This project involves the use of human subjects (including chart review, retrospective studies and questionnaires).

**Pending**     Approved     IRB Protocol Number \_\_\_\_\_

***IRB approval must be obtained by June 2024***

 PT, DPT, PhD.

\_\_\_\_\_  
Signature of Department Chair

March 22, 2024  
Date

OR-For internal use

**Form: (1)**

**Reviewed date:** \_\_\_\_\_

**Date processed on website:** \_\_\_\_\_