

COURAGE KENNY RESEARCH

Fall 2021

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NOVEMBER 30, 2021

Welcome to the Fall issue of our quarterly newsletter. In our newsletter we aim to share news about what is happening with some of our research studies and our ongoing collaborations with Courage Kenny Rehabilitation Institute clinicians, leaders, and staff with you. Read on for selected highlights of our strategic goals, studies in development, current studies, and dissemination.

Top stories in this newsletter



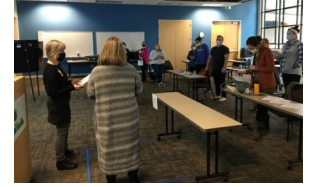
Our strategy for the future



Studies in development



Current study



Recent dissemination

Our strategy for the future



Courage Kenny Research Staff

We received applications from many highly qualified therapists from 15 different Courage Kenny Rehabilitation Institute (CKRI) locations who are interested in our new Research Therapist one year appointment pilot program. These appointments will provide opportunities for CKRI clinicians to work alongside Courage Kenny Research (CKR) staff as we contribute to rehabilitation research. Please watch for an exciting announcement in December highlighting the two therapists who will be joining us in 2022 as we advance our strategy for the future.

We also are pleased to welcome Marie Meyer, MA, CCC-SLP to our team as a Research Project Specialist to help us continue to expand our work.

Studies in development



Minnesota Regional Spinal Cord Injury Model Systems

In May of this year, AH/CKRI partnered with the University of MN, Mayo, Regions/Health Partners, Hennepin County Medical Center, and community spinal cord injury (SCI) advocacy groups to develop a federal grant to be designated as one of 14 U.S. spinal cord model systems of care that receive 5-year research funding from the U.S. Department of Health and Human Services National Institute on Disability, Independent Living, and Rehabilitation Research. This collaborative effort was led by Drs. Leslie Morse and Kim Monden of the University of MN and was selected for funding. The name of our collaboration is the Minnesota Regional Model System of Care and it represents an extraordinary achievement for MN rehabilitation researchers and an important opportunity to expand innovation and new knowledge development in the service of people with SCI who live in MN, North/South Dakota, and Wisconsin.

The overarching goal of the model systems program since it was developed in 1970 is to provide improved care and outcomes for people living with SCI. It is based on research that demonstrated an advantage to

Minnesota Regional Spinal Cord Injury Model Systems (cont'd)

providing comprehensive versus fragmented SCI care. For more information about the Spinal Cord Injury Model System, visit <https://mskctc.org/about-model-systems/sci>

Over the next 5 years, CKRI/CK Research will be involved in collecting data on all new traumatic SCI patients beginning with admission to inpatient rehabilitation and then for years of follow-up. We will also be involved in an across-institution randomized control trial to evaluate use of brivaracetam to reduce neuropathic pain in chronic SCI and in a cross-sectional, observational study to determine whether or not meeting SCI Physical Activity Guidelines is associated with health-related and psychosocial outcomes.

We are very appreciative of our CKRI and AH partners who contributed to the grant development process and who will continue to advance this work in the coming years. This includes (but is not limited to!) Jennifer Theis, Carrie Shogren, Jamie Duhamel, Krista Swatfager, and Dr. Amanda Miller from CKRI; Mike Fulcher, Sarah Pederson, and Dr. Victor Melendez from AH Research Administration.



Psychological well-being after COVID-19

A team of rehabilitation and mental health researchers and clinicians, led by Dr. Mary Radomski, are conducting a study to further her work related to purpose in daily life after a health-related transition. The study title is: Contributions of daily activity, mental health, and purpose in life to psychological well-being after COVID-19.

People who were hospitalized with COVID-19 are at-risk for mental health concerns and purpose-related existential distress. Having a sense of purpose in life has a moderating role on mental health and contributes to physical and psychological well-being. Therefore, it is important to understand the prevalence of mental health and existential concerns in this population and evaluate whether or not these issues can be addressed via a Zoom-based purpose in life renewal intervention called Compass Course. In order to contribute to the scientific literature and to inform service development within Allina Health/Courage Kenny, a team of rehabilitation and mental health researchers and clinicians received funding in June 2021 from the Abbott Northwestern Hospital Foundation to conduct a study with 2 aims described below. In addition to Courage Kenny Research staff, the study team includes Drs. Jennifer Rademacher and Mary Beth Lardizabal (Allina Health Mental Health and Addiction Services), as well as OTs Mattie Anheluk, Sharon Gowdy Wagener, and Joette Zola.

Aim 1 - Conduct an online survey of a convenience sample of people who were hospitalized at AH hospitals with COVID-19 in the past 12 months to obtain preliminary data about the prevalence of potential purpose-related existential distress in this population.

Aim 2 - Provide a purpose renewal intervention to 4 groups of adults who were hospitalized with COVID-19 and collect multi-modal data to characterize baseline, posttest, and follow-up status in terms of mental health, resilience, daily activities, purpose in life as well as COVID-19 sequelae. We will use a mixed methods prospective pretest-posttest design to collect quantitative data from questionnaires and ecological momentary assessment and qualitative data from interviews.

We hope to conduct the online survey in January 2022, after which we will begin recruiting participants for the intervention part of the study.

Current study



Using wearable sensors in the clinic to measure function after mild traumatic brain injury

Dr. Maggie Weightman's study entitled, Clinical implementation of wearable sensors to measure dual-task motor function in individuals with mild traumatic brain injury (mTBI), has moved into the data collection phase since our last newsletter.

This study, which aims to translate research for use in the clinic, has been funded by grants from the State of MN Office of Higher Education SCI/TBI and the Abbott Northwestern Hospital Foundation. CKRI PTs, who have joined CKRC as Research Therapists for this study, have been trained in the use of wearable sensors and are assisting with recruiting and testing participants. The wearable sensors are used during data collection study visits to measure subtle components of gait and turning beyond the standard gait speed measures commonly used in the clinic. These sensors have been used in Dr. Weightman's previous research and they are intended to identify the subtle deficits that people experience after a mTBI that may limit their ability to return to their desired activities and prevent further injury.

Recently the study team met to share ideas and discuss further potential use of the wearable sensors. They are pictured here and include CKRI PTs Lindsay Dahling (Hastings Outpatient), Laura Richardson (Richfield Sports and Physical Therapy), Lynnette Leuty (Abbott Northwestern Hospital Outpatient), and Amanda Burtraw (United Hospital Outpatient) along with CKRC staff Patrick Michielutti, Dr. Weightman, Ginger Carroll and Dr. Laurie King from Oregon Health and Science University who is serving as a consultant to the team. The study Research Therapist PTs are recruiting patients within their clinic to participate in the study to look at instrumented outcomes in addition to the care that they would typically receive. We anticipate that 3 of the 4 clinics will be conducting data collection by the end of the year.

Recent dissemination



Courage Kenny Research Meets Practice

Multitasking Assessment for Executive Dysfunction – Front Desk Duty Test
Dr. Mary Radomski, Ginger Carroll, and Kristina Kath from CKR along with Research Therapists Amy Meyers and Mattie Anheluk were excited to re-launch our Research Meets Practice series aimed at sharing what we learn in research with CKRI clinicians.



We enjoyed spending a Saturday morning at the Allina Commons with a very engaged and enthusiastic group of 13 CKRI occupational and speech therapists who received free CEUs for attending. During our time together, we discussed executive dysfunction that often goes undetected after a person experiences a mild stroke or concussion and the functional challenges that they represent. The Front Desk Duty Test is a performance-based multitasking assessment for executive dysfunction that was designed and researched by a team at Courage Kenny Research led by Dr. Mary Radomski. Since high level cognitive deficits aren't typically detected with standard pen and paper tests, having a validated performance-based test available is an advantage for helping people who have these deficits. Research Meets Practice attendees had the experience of observing the test being administered, practiced scoring, and discussed ways to implement it in their practices.

Courage Kenny Research Meets Practice (cont'd)

CKRI occupational therapists Brie Somlai (Golden Valley), Alisa Kocian (Stillwater), and Brian Reichert (United Hospital) will join Amy Meyers (Mercy Hospital) and Mattie Anheluk (Abbot Northwestern Hospital) as Front Desk Duty Test Champions to provide training to colleagues and set up the test at their sites. One of the attendees said, "I'm really excited to use this. It will help support collaboration between OT & PT. The way this has been 'packaged' makes it very realistic and functional to bring into a clinical setting."

Watch for information about more Courage Kenny Research Meets Practice opportunities in the future!

Carroll GL, Radomski M, Halsten J, Meyers A, Rabusch S, Takimoto R, Kreiger R. Front Desk Duty Multitasking Test After Mild Stroke: Preliminary Reliability and Validity. *Can J Occup Ther.* 2020 Dec;87(5):372-381.



Shut Up Legs! Injury and Pain Response in Club-Level Cyclists Poster Presentation

Dr. Chris Leisz presented her research findings at the American Academy of Physical Medicine and Rehabilitation 2021 annual conference in November. Stop by the Courage Kenny Research Center to see her poster.

Title:
Shut Up Legs! Injury and Pain Response in Club-Level Cyclists: a qualitative study

Presenter:
Marie C. Leisz, DO

BACKGROUND

Our initial quantitative demographic study, "The Club-Level Cyclist Injury, Pain and Performance" confirmed what we saw clinically, that cyclists had high prevalence for chronic injury and pain, but generally did not reduce training time or volume and were reluctant to seek medical treatment. They also had difficulty describing symptoms and under-reported their injuries. "Shut up legs!" - a phrase used by a legendary pro-cyclist, Jens Voigt, perfectly described their ability to tolerate high pain levels without stopping training. This follow-up qualitative study sought to discover how and why cyclists tolerate pain and the reasons they are reluctant to seek medical treatment.

METHODS

- Cyclists were recruited from a bike shop in St. Paul, MN, that hosts organized rides and sponsors a club-level (non-professional) cycling team. Semi-structured interviews were conducted with a saturation sample of 10 cyclists, exploring about cycling experience, cycling-related injury, and treatment sought. Our interviews focused on how cyclists perceived and responded to pain they experienced on and off the bicycle.
- A phenomenological framework was used to guide methodology and analysis. Themes were identified from within the transcripts.

RESULTS

Pain during rides	Yes	n
Duration of pain during rides	< 1 day	2
	1-3 days	2
	> 3 days	2
	No response	2
Source of cycling-related pain	Overuse injury	2
	Traumatic injury	2
	No response	2
Participants in whom pain prevents daily activities	Yes	1
	No	1
	No response	1

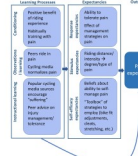
CONCLUSION
We feel this research is important because this knowledge has enhanced our ability to communicate more efficiently and effectively with these athletes to obtain a more clear and concise injury history and improve treatment recommendations.

Club-level cyclists seem to have a **unique perception, acceptance of, and response to pain.**

Table 1. Participant characteristics and cycling history

Characteristic	n
Age, median (range)	39.2 (29-55)
Sex	
Female	8
Male	8
Race	
White	10
Other	0
Ethnicity	
Hispanic	1
Non-Hispanic	9
Non-response	0
Cycling history	
Years	2
Hours/week	2
Cycling	2
Track	2
Cyclo-cross	2
Road	2
No response	1
Median speed (mph)	
Hours/week	18.7 (22)
Hours/week on previous club	40.0 (22)
Club professionally? Yes	0
No	2

Figure 1. Model of pain experience in cyclists



Marie-Christine Leisz, MEd
Miriah Dalquist, Emily Saville

AllinaHealth
COURAGE KENNY
REHABILITATION
INSTITUTE

Courage Kenny Research Staff

- Mary Vining Radomski, PhD, OTR/L - Director
- Ginger Carroll, MS, OT/L, CPPM - Project Manager
- Kristina Kath, BS - Research Specialist
- Max Klaiman, BA - Clinical Research Regulatory Specialist
- Robert Kreiger, PhD - Senior Scientific Adviser
- Marie Meyer, MA, CCC-SLP - Research Project Specialist
- Margaret M. (Maggie) Weightman, PT, PhD - Senior Scientific Adviser, Physical Therapist

Contact Us:

ckresearch@allina.com

(612) 863-3291