# Inaugural Joint Venture Rehabilitation Research Symposium

Monday, September 30, 2024 12:00 - 4:00 p.m.

Cleveland Clinic Main Campus TT-Bunts Auditorium 9500 Euclid Ave, Cleveland, OH 44195







## **A Welcome Note**

We are delighted to welcome you all to the Inaugural Rehabilitation Research Symposium hosted by the Joint Venture of the Cleveland Clinic and the Cleveland Clinic Rehabilitation Hospitals (CCRH). The Joint Venture, a partnership between the Cleveland Clinic and Select Medical aimed at providing high quality inpatient rehabilitation and long-term acute care to serve patients in the Northeast Ohio community, opened its first inpatient rehabilitation hospital in 2015. Headquartered in Cleveland, Ohio, the Cleveland Clinic is one of the largest hospital systems in the country that sees thousands of patients each year. Cleveland Clinic is a not-for-profit, multispecialty academic medical center that integrates clinical and hospital care with research and education. CCRH consists of three freestanding rehabilitation hospitals with locations serving the Western (Avon), Eastern (Beachwood) and Southern (Edwin Shaw) regions of Cleveland, Ohio. CCRH is a CARF accredited rehabilitation hospital that is dedicated to helping patients who have experienced strokes, traumatic brain injuries, spinal cord injuries, multiple traumas, amputations, orthopedic, neuromuscular and other related conditions.

In October 2019, the two partners formally executed a collaborative Master Research Collaboration Agreement between the Cleveland Clinic and CCRH to foster rehabilitation research. In December 2022, that agreement was further expanded upon to formally initiate the Pilot Research Grant Funding Program that provides research funds to clinicians and researchers who are interested in conducting rehabilitation research. As leaders of research for this Joint Venture, we are excited to share how our collaborative rehabilitation research program has grown in just a short amount of time. Eleven projects are approved for Pilot Research Grant Funding to allow clinicians to perform rehabilitation research within and across the CCRH rehabilitation hospitals and the academic medical setting of the Cleveland Clinic. Four additional projects are now in publication and data analysis stage. Eleven abstracts have been presented at both local and national scientific meetings. Extramural funding from the NIH, DoD and PVA has been awarded to joint venture clinicians and scientists.

All in all, the success of this research joint venture is a testament to the tireless efforts of many including Dr. Francois Bethoux, (Chairman of PM&R at the Cleveland Clinic), Dr. Emeka Okoro (Research Program Manager of CCRH), clinicians and researchers of CCRH and the Cleveland Clinic, Dawn Caraballo and Cassie Kendeigh (Neurological Institute), James Irwin (Chief Legal Counsel, Cleveland Clinic), Lindsey Boswell (VP & Senior Legal Counsel, Select Medical), Erin Strine (Communications and Branding, Select Medical), Jessica Crissman and Caitlin O'Brien (Department of BME from the Lerner Research Institute of the Cleveland Clinic), past and present CEOs of CCRH, Joint Venture Governing Board, and clinician and scientist leaders from other parts of Select Medical network (Dr. Steven Kirshblum and Dr. Bruce Pomeranz). Thank you for your support and dedication to advancing rehabilitation research, without you this would not be possible.

Today, September 30, 2024, marks the inaugural celebration of this Joint Venture for Research. We hope you enjoy this celebration as much as we have enjoyed putting this together for you! Join us in congratulating all the clinicians and scientists here today who will share their research achievements! Together we look forward to many more collaborative years of research to provide high-quality rehabilitation care to those we serve in our communities and nationwide.

Sincerely,

#### Ela Plow, PhD, PT

Director, Research, Cleveland Clinic Rehabilitation Hospitals (CCRH) Dept. of BME, Lerner Research Institute

Dept. of PM&R, Cerebrovascular Center, Neurological Institute, Cleveland Clinic

Gabrielle DeLauter, MPH

Director of Research Select Medical

## **Program**

12:00 - 12:40 p.m. Lunch and Group Photos

12:45 - 12:50 p.m.



Welcome Address François Bethoux, MD Cleveland Clinic

12:50 - 12:55 p.m.



Overview of the CCF/CCRH Joint Venture Research Program

Gabrielle DeLauter, MPH Select Medical

#### **Research Presentations**

#### 12:55 – 1:05 p.m.

# Exoskeleton Gait Training and Cardiovascular Intensity after Neurological Injury

A two-site (Cleveland Clinic Rehabilitation Hospital, Edwin Shaw and Baylor Scott & White Institute for Rehabilitation) prospective study to determine the effect of exoskeleton gait training on moderate-high cardiovascular intensity and rehab outcomes in stroke and spinal cord injury (SCI) patients. Debbie Hogue, PT, DPT is an experienced board-certified physical therapist.



**Deborah Hogue, PT, DPT**Cleveland Clinic Rehabilitation Hospital, Edwin Shaw

#### 1:05 - 1:15 p.m.

## **High Intensity Training and Functional Outcome Changes** after Stroke

A two-site prospective study to determine the effect of high intensity training on cardiovascular intensity and patient outcomes after stroke. Catherine Holt, PT, DPT, Angela Lindow, PT, DPT and Sarah Morgano, PT, DPT are board-certified neurologic physical therapists leading this research at Cleveland Clinic Rehabilitation Hospitals Avon and Beachwood.



Catherine Holt, PT, DPT
Cleveland Clinic Rehabilitation Hospital, Avon



Angela Lindow, PT, DPT Cleveland Clinic Rehabilitation Hospital, Beachwood



Sarah Morgano, PT, DPT Cleveland Clinic Rehabilitation Hospital, Beachwood

#### 1:15 - 1:25 p.m.

#### RCT Education for Acute/Subacute Clinical ReHabilitation after SCI (REACH) Project

A national educational intervention sponsored by Paralyzed Veterans of America to train and mentor clinicians on randomized control trials for acute/subacute rehabilitation after spinal cord injury. Teale Bennett, PT, DPT a board-certified physical therapist at Cleveland Clinic serves as the project's therapy manager.



Teale Bennett, PT, DPT Cleveland Clinic

#### 1:25 - 1:35 p.m.

#### Stroke Rehabilitation Research Participant Registry

A registry of stroke survivors from Cleveland Clinic Rehabilitation Hospitals interested in participating in current and feature research. It provides robust patient recruitment infrastructure required for stroke research. Morgan Widina, BSc, an experienced research technologist, is in charge of the registry.



Morgan Widina, BSc Cleveland Clinic

#### 1:35 - 1:45 p.m.

#### Predicting Patient Outcomes after Stroke Using Clinical Motor Assessment Tools

A prospective study among stroke patients to determine the appropriate motor assessment tools that will predict patient outcome at discharge and 90 days post-stroke. Elliot Barden, MOT, OTR/L is a board-certified occupational therapist at Cleveland Clinic. Teale Bennett, PT, DPT is a board-certified physical therapist at Cleveland Clinic.



Elliot Barden, MOT, OTR/L Cleveland Clinic



Teale Bennett, PT, DPT Cleveland Clinic

1:45 – 1:55 p.m. Panel Discussions/Questions

1:55 – 2:05 p.m. Break

#### 2:05 - 2:15 p.m.

## 30-day Readmission Risk Score and Acute Care Transfers for Patients in IRF

A retrospective study to determine the relationship between 30-day readmission score and acute care transfer for patients in rehabilitation facilities. Jessica Gumucio, CNP is a certified nurse practitioner at Cleveland Clinic and Cleveland Clinic Rehabilitation Hospital, Avon.



**Jessica Gumucio, CNP**Cleveland Clinic/Cleveland Clinic Rehabilitation Hospital, Avon

#### 2:15 - 2:25 p.m.

#### Post-Stroke Outcomes in IRF Relative to Therapy Intensity in Acute Care

A retrospective study among stroke patients to determine the relationship between patient outcomes at the IRF and therapy frequency at the acute care hospital. Virginia Sullivan, OTD, OTR/L is a board-certified occupational therapist at Cleveland Clinic. Kellie Keim, PT, DPT is an experienced board-certified physical therapist at Cleveland Clinic.



Virginia Sullivan, OTD, OTR/L Cleveland Clinic



Kellie Keim, PT, DPT Cleveland Clinic

#### 2:25 - 2:35 p.m.

#### Expiratory Muscle Strength Training (EMST) and Moderate-Severe Dysphagia in IRF

A prospective study to determine the effect of EMST on swallowing and airway protective functions in stroke patients with moderate-severe dysphagia. JoAnn Cabacungan, MS, CCC-SLP is an experienced boardcertified speech-language pathologist at Cleveland Clinic Rehabilitation Hospital, Edwin Shaw.



JoAnn Cabacungan, MS, CCC-SLP Cleveland Clinic Rehabilitation Hospital, Edwin Shaw

#### 2:35 - 2:45 p.m.

# Care of Parkinson's Disease Patients in Inpatient Rehabilitation

A retrospective study to determine the pattern of interventions among Parkinson's disease patients, relationship to management guidelines and effect on patient outcome in rehabilitation facilities. Robert Phillips is a board-certified physical therapist at Cleveland Clinic Rehabilitation Hospital, Edwin Shaw and professor in neurologic physical therapy at Franklin Pierce University's Goodyear Arizona Campus.



Robert Phillips, PT, PhD
Cleveland Clinic Rehabilitation Hospital, Edwin Shaw

#### 2:45 - 2:55 p.m.

#### **Cognitive Dysfunction and Falls Prevention**

A retrospective study of 1,225 patients admitted at Cleveland Clinic Rehabilitation Hospital, Edwin Shaw in 2021 to determine the effect of cognitive-executive dysfunction on falls risk. JoAnn Cabacungan is a board-certified speech-language pathologist at Cleveland Clinic Rehabilitation Hospital, Edwin Shaw. Deborah Hogue, PT, DPT is board-certified physical therapist at Cleveland Clinic Rehabilitation Hospital, Edwin Shaw.



JoAnn Cabacungan, MS, CCC-SLP Cleveland Clinic Rehabilitation Hospital, Edwin Shaw



**Deborah Hogue, PT, DPT**Cleveland Clinic Rehabilitation Hospital, Edwin Shaw

2:55 – 3:05 p.m. Panel Discussions/Questions

3:05 – 3:10 p.m. Break

#### 3:10 - 3:20 p.m.

#### Improving Spinal Cord Injury Rehabilitation Interventions by **Retraining the Brain**

A clinical trial to study effect of transcranial direct current stimulation (tDCS) on upper limb training outcomes in spinal cord injury patients. Ela Plow, PT, PhD is a physical therapist and rehabilitation scientist at Cleveland Clinic with years of experience in SCI and stroke rehabilitation. She is the director of research at Cleveland Clinic Rehabilitation Hospital.



Ela Plow, PT, PhD Cleveland Clinic

#### 3:20 - 3:30 p.m.

#### **Antimicrobial Stewardship Programs in Inpatient** Rehabilitation Facilities

A prospective study to determine the current antimicrobial stewardship practices and the effectiveness of antimicrobial stewardship program led by a pharmacist in reducing inappropriate antimicrobial use in rehabilitation facilities. Michael Chapple is board-certified dietician and a PhD student at Kent State University.



Michael Chapple, MS, RD COO, Regency Hospital Cleveland East

#### 3:30 - 3:40 p.m.

#### **Medication Adherence Scores and Targeted Medication Education among Stroke Patients**

A single blind randomized controlled trial to improve mediation adherence among stroke patients through targeted mediation education. Kristin Velovitch, PharmD is a board-certified pharmacist at Cleveland Clinic Rehabilitation Hospital, Beachwood. Isaac Sernoffsky, MA, CCC-SLP is a board-certified speech-language pathologist at Cleveland Clinic Rehabilitation Hospital, Edwin Shaw.



Kristin Velovitch, PharmD Cleveland Clinic Rehabilitation Hospital, Beachwood



Isaac Sernoffsky, MA, CCC-SLP Cleveland Clinic Rehabilitation Hospital, Edwin Shaw

#### 3:40 - 3:45 p.m.

# Cleveland Clinic/Cleveland Clinic Rehabilitation Hospital Pilot Research Grant Awardees (2024 Cycle)

The 2024 Cleveland Clinic/Cleveland Clinic Rehabilitation Hospital Pilot Research Grant was recently completed with the award of three new projects.

Dr. Emeka Okoro is the research program coordinator at Cleveland Clinic Rehabilitation Hospital. He holds an MBBS degree from Nigeria with significant experience in developing and leading research initiatives.



Emeka Okoro, MBBS

Cleveland Clinic/Cleveland Clinic Rehabilitation Hospital

#### 3:45 - 3:50 p.m.

#### Overview of Physical Medicine and Rehabilitation Research

Susan Linder, PT, PhD is a physical therapist and rehabilitation scientist at Cleveland Clinic with years of experience in neurorestoration and rehabilitation research. She is the director of research in the Department of Physical Medicine and Rehabilitation at Cleveland Clinic.



Susan Linder, PT, PhD
Cleveland Clinic

3:50 - 3:55 p.m.

Panel Discussions/Questions

3:55 – 4:00 p.m.

**Closing Remarks/Thanks** 

Dr. Fla Plow & Fmeka Okoro

### **Acknowledgements**

- Cleveland Clinic Rehabilitation Hospital Joint Venture Board
- Past and Present CCRH Leadership
- Cleveland Clinic/CCRH Research Committee
- · Cleveland Clinic, Law Department
- Select Medical, Law Department
- Cleveland Clinic, IRB
- PM&R Department, Cleveland Clinic
- BME Department, Cleveland Clinic
- Rehabilitation and Sports Therapy Department, Cleveland Clinic
- Office of Sponsored Research and Neurological Institute Grants Administration, Cleveland Clinic
- Communications & Branding Department, Select Medical
- Organizing Committee of the Inaugural Joint Venture Rehabilitation Research Symposium
  - Francois Bethoux, MD (CC, PM&R)
  - Jessica Crissman, MA (CC, BME)
  - Gabrielle DeLauter, MPH (Select Medical)
  - Emeka Okoro, MBBS (CCRH)
  - Ela Plow, PT, PhD (CC, BME, PM & R)
  - Erin Strine, MA (Select Medical)

