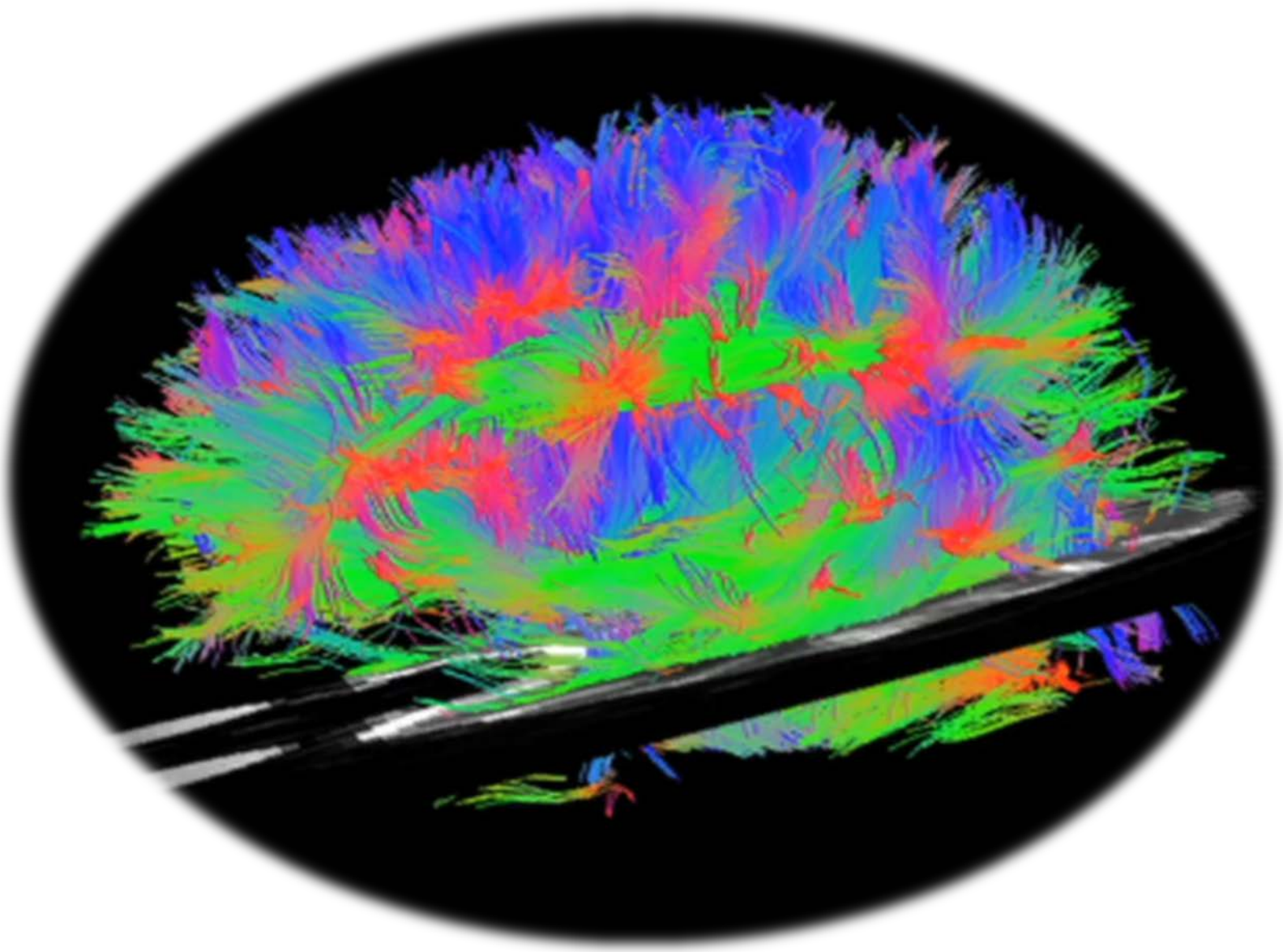


# Recovers

Winter 2016

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Newsletter of the Stroke Recovery Research Center  
COBRE (Center of Biomedical Research Excellence) in Stroke Recovery



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Medical University of South Carolina



## Inside Recovers

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The Medical University of South Carolina was awarded a major grant from the National Institutes of Health (NIH) to support the development of a Center for Biomedical Research Excellence (COBRE). This award (P20GM109040) is part of the Institutional Development Award (IDeA) program administered by the National Institute of General Medical Sciences (NIGMS).

Visit: <http://www.nigms.nih.gov/Research/CRCB/IDeA/Pages/default.aspx>  
to learn more about the IDeA program

# Technology Highlight

## The Stroke Recovery Research Center has added a new motion capture laboratory.

Motion capture laboratories use a number of cameras to take a rapid series of pictures tracking movement in three dimensions. In addition to measuring movement, Electromyographic (EMG) data is collected to provide measures of the electrical signals in muscles during movement. By measuring motion and muscle activity during function, investigators can quantify the behaviors that may return as a result of new connections created in the brain through neuroplasticity. Neuroplasticity is the process in which experiences reshape the neural pathways in the brain. By measuring plasticity and studying the behaviors that promote brain plasticity researchers at the Stroke Recovery Research Center can guide and individualize rehabilitative therapies following a stroke.

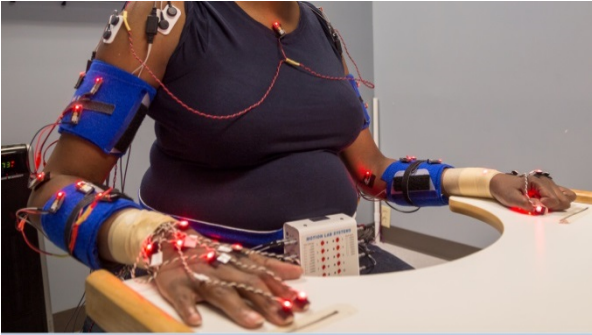


## The recovery process is unique for each stroke survivor.

Stroke is a type of brain injury caused by the damage to brain tissue as the result of bleeding during a hemorrhagic stroke, or the loss of blood flow following a blood clot in the brain, known as an ischemic stroke. The damage to the brain caused by a stroke can affect physical function, speech, and cognition, thus impacting a stroke survivor's daily activities and lifestyle. 73% of stroke survivors will recover with some long-term disability. The recovery process is unique for each survivor, thus individualized rehabilitation is required.



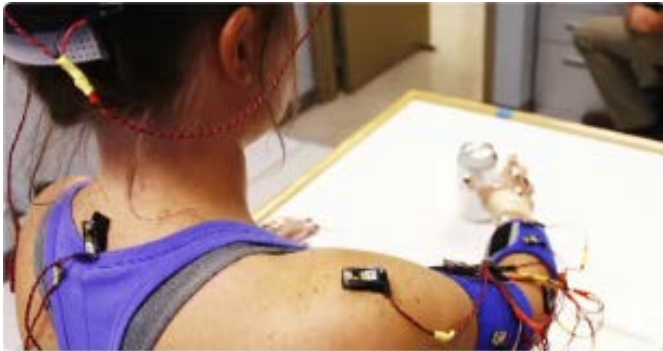
# 3D Motion Capture



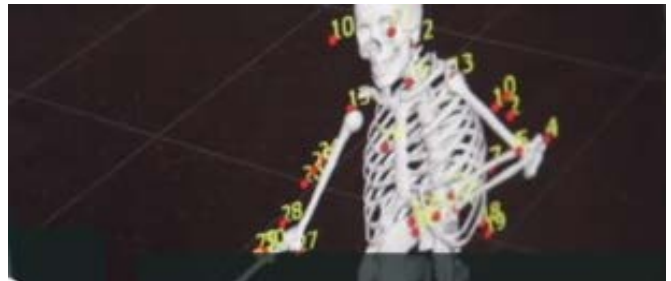
Movements post-stroke are altered and performed differently than prior to stroke. Researchers often must determine if the behavior they observe is an impairment (deficit in motor control) limiting successful task performance, or a compensation (emergence of a new motor control strategy) that enables successful task performance. The Stroke Recovery Research

Center's motion capture laboratories allow a unique analysis of movement to inform individualized therapy approaches, improving outcomes following a stroke.

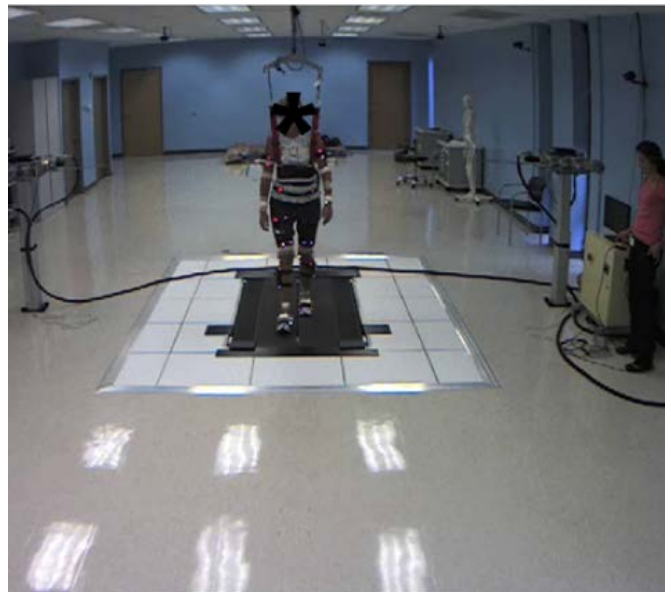
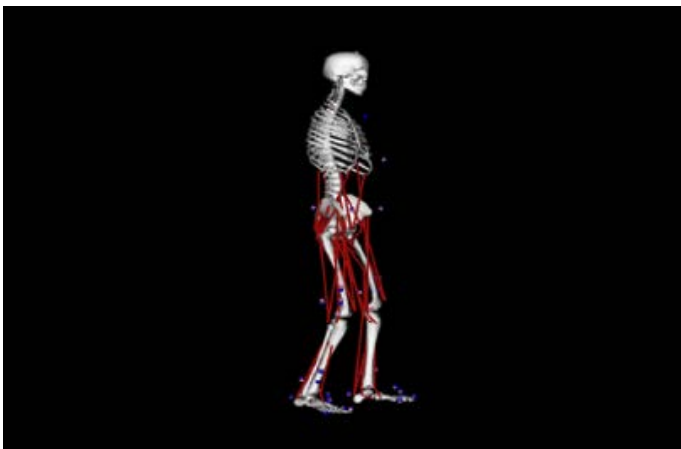
LED lights are placed on the body, strategically positioned to study an individual's movement, and create a digital model for the movement.



During reaching tasks, 44 lights are used to capture the movement.



During walking, 65 lights are placed on the body to measure movement.



# Study Highlight

## Treating Depression and Enhancing Locomotor Recovery Post-stroke

[+ Save](#)

**Date Added**  
January 5th, 2016

**Keywords**  
[Depression](#), [Exercise](#), [Stroke](#)

**Institution**  
MUSC

**PRO Number**  
Pro00031382

**Researcher**  
[Chris Gregory](#)

**Summary**  
In this project, we will assess the effects of aerobic exercise training (AET), repetitive transcranial magnetic stimulation (rTMS) or their combination on symptoms of depression as well as walking function in persons following stroke. Both of these treatments are known to be beneficial for treating depression in individuals without stroke, though neither has been adequately studied post-stroke. Furthermore, substantive studies show that exercise improves post-stroke walking function, thus offering a way to study the effects of depression on response to rehabilitation following stroke.

**Recruitment Contact**  
Aaron Embry  
843-792-8198  
[embry@musc.edu](mailto:embry@musc.edu)



Through research, new discoveries are made possible

Cresearch.org is the South Carolina Research Studies Registry designed specifically to help people, like you, locate search studies in which to participate.

Search Studies:

stroke recovery

GO



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Browse all Researchers



Visit: [www.SCresearch.org](http://www.SCresearch.org)

or

call **(843)792-1589**

To learn more about the 27 stroke recovery research studies currently available at the Stroke Recovery Research Center.

# New Team Member

Recruitment Coordinator  
Holly Boggan



We welcome our newest member in the Clinical and Translational Tools and Resources (CTTR) Core, Holly Boggan! By coordinating outpatient recruitment efforts for the Stroke Recovery Research Center's Registry for Stroke Recovery, RESTORE, Ms. Boggan serves as the primary point of contact for the Center's non-acute recruitment efforts. Through her role, Ms. Boggan informs stroke survivors of the opportunities available to them in stroke recovery research, provides education on the Center and RESTORE, and oversees the consent process for RESTORE enrollments. This position is expected, through its outpatient recruitment efforts, to provide a large pool of participants within RESTORE for investigators to query for study participation. This population of stroke subjects will meet the recruitment and retention needs for current investigator projects, as well as prepare the Center for its projected growth in stroke recovery research.

In addition, she is developing community outreach activities designed to enhance the Center's mission and vision. These activities include working with collaborating facilities, building relationships with local physicians and clinicians, and attending local support group meetings.

Welcome to the team!

## February is Heart Month

### Make Blood Pressure Control *Your* Goal

This American Heart Month, the Centers for Disease Control and Prevention (CDC) and [Million Hearts®](#) –a national effort to prevent 1 million heart attacks and strokes in the United States by 2017—are encouraging Americans to know their blood pressure, and if it's high, to **make control their goal**.

To learn more visit: <http://www.cdc.gov/features/heartmonth/>





# Young Stroke Survivors Support Group

Definitions of “young” survivors vary. MUSC’s *Young Stroke Survivors Support Group* (YSSSG) welcomes members, regardless of age, who are experiencing trouble returning to work, caring for other family members, maintaining independence and social ties, managing new medical conditions, or finding available resources. This support group is dedicated to helping each other through the unique challenges of a young stroke survivor. Please join us if you have suffered a stroke, need help or feel like you can offer help to others, or are a healthcare provider interested in supporting our members. Meetings alternate between get-togethers at Charleston area restaurants and learning sessions at St. Francis Hospital.

**See you at the next meeting!!**

**WHEN: Tuesday, March 8th at 6:30 p.m.**

**WHERE: Ms. Rose’s, 1090 Sam Rittenberg Blvd, Charleston, SC 29407**



For more information  
or to have your email address added  
to our mailing list,  
contact Holly at 843-792-1728 or  
[bogganhl@musc.edu](mailto:bogganhl@musc.edu)

Join the conversation at our Facebook Group page:  
[www.facebook.com/groups/YoungStrokeSCharleston](https://www.facebook.com/groups/YoungStrokeSCharleston)



# The Poetry of the Brain

## Keep your body and mind active!

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4	14		13							16		3		17					6	5				2	

T B A D T A T  
 6 26 24 14 19 4 1 10 1 9 18 1 13 24 19 6 26 4 10 6 26 24  
 K Y , O U T T M D B Y D ,  
 9 16 2 7 17 19 20 5 6 6 26 24 3 9 1 13 24 14 2 9 1 13 24  
 T O T O T O T A ,  
 6 26 24 17 10 24 6 26 24 17 6 26 24 19 18 1 23 23 22 17 10 6 4 1 10  
 T A A D Y O U B D .  
 18 1 6 26 24 4 9 24 4 10 13 2 17 5 14 24 9 1 13 24  
 M Y D K O  
 24 3 1 23 2 13 1 22 16 1 10 9 17 10

Puzzle by the Dana Alliance for Brain Initiatives

## Upcoming Events

**Friday, February 26<sup>th</sup>**

Center on Aging Research Day  
MUSC Center on Aging  
Charleston Marriott

**Tuesday, March 8th**

Young Stroke Survivors  
Support Group Meeting  
Ms. Rose's, West Ashley

**Tuesday, April 12th**

Young Stroke Survivors  
Support Group Meeting  
St. Francis Hospital

**Celebrate Brain  
Awareness Week:  
March 14-20, 2016!**

Visit <http://www.dana.org/BAW/>  
to learn how to join the global  
campaign to increase public  
awareness of the progress and  
benefits of brain research.





# **STROKE RECOVERY RESEARCH CENTER**

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[www.musc.edu/srrc/](http://www.musc.edu/srrc/)

