

## Session Title

### **The Brain and Heart Connection: Understanding Neurologic Injuries and Cardiac Arrhythmias in Patient Care**

#### Speakers:

Caitlyn Anderson, PT, DPT, NCS, GCS

Connie Kittleson, PT, DPT

#### Session Description:

During this session, attendees will learn about the known prevalence and etiologies of cardiac arrhythmias, including common arrhythmias like atrial fibrillation, that may follow acquired neurologic injuries. Literature review and best practice discussions based on available evidence will focus on patients who have had a stroke, anoxic or traumatic brain injury, or a spinal cord injury. Additional content will be presented regarding common chronic and/or neurodegenerative diseases such as Multiple Sclerosis and Parkinson's Disease and their relation to cardiac arrhythmias or dysfunction. Clinical practice guidelines for patients with neurologic injuries will be reviewed through case studies to emphasize the necessary blending of best cardiovascular and neuromuscular physical therapy management for complex patients.

Attendees who will benefit most from this session will be those working in medically complex and/or cardiovascular acute care, inpatient rehabilitation, home health, and outpatient environments where patients with acquired and chronic neurologic injuries or disease are commonly seen and continuous cardiac monitoring may not be present. Examination and intervention strategies across the continuum of care will be presented using case examples and small/large group discussion. Lastly, the effect of cardiac arrhythmias on long-term brain function and health will be explored.

#### Objectives:

At the end of this presentation, attendees will be able to:

- Discuss prevalence and potential etiologies of cardiac arrhythmias in neurologic and medically complex populations
- Identify cardiovascular examination and intervention monitoring strategies to implement in patients following neurologic injuries and/or in patients who have a chronic neurologic disease at risk for cardiac arrhythmias
- Discuss long-term neurologic impairments associated with cardiac arrhythmias
- Critically evaluate current evidence-based guidelines for neurologic populations to apply to patients with cardiac arrhythmias with history of injury or disease

What will be the clinician/educator takeaways/skills that can be utilized immediately?

Relevant knowledge, screening, examination, and intervention skills to apply to neurologic populations with current cardiac arrhythmias, or who

are at risk for developing cardiac arrhythmias. Clinicians and educators will gain a deeper understanding through case study application of populations most at risk to develop arrhythmias and what long-term impairments may be in these populations. The major takeaway from this session is aimed at promotion of best, holistic physical therapy practice in patients with both cardiovascular and neuromuscular disease and/or injury.

#### Speaker Bios:

**Connie Kittleson, PT, DPT**, (she/her) graduated with a bachelor of Science degree in Zoology from the University of Wisconsin-Madison, a Master's degree in Physical Therapy from Marquette University and a Doctorate in Physical Therapy from Concordia University Wisconsin. She has practiced in acute and critical care for over 25 years and has lectured on acute and critical care topics for physical therapy programs, healthcare systems, and state conferences. She currently teaches Cardiopulmonary Physical Therapy at the University of Wisconsin-Milwaukee. Together with Sandy Baatz, PT, she wrote the Chapter on Laboratory Values for the most current edition of Dr. Boissonnault's text Primary Care for the Physical Therapist. She is also a Past President of APTA Wisconsin and continues to serve on a variety of committees for the chapter.

**Caitlyn Anderson, PT, DPT, NCS, GCS** (she/her) graduated from University of Nebraska-Lincoln with a degree in Dietetics before obtaining her Doctorate in Physical Therapy from Northwestern University in Chicago, IL. She has been a practicing physical therapist in neurologic, cardiopulmonary, and medically complex inpatient environments including the intensive care unit and emergency room for 10 years. Currently, she teaches in cardiopulmonary and neurologic content areas as a faculty member at the University of Utah DPT program. Caitlyn has presented and spoken at local, state, and national conferences, within healthcare organizations, and has held several APTA conference leadership positions in acute care and neurology sections. Her research interests include quality improvement and exercise dosing in medically complex patients, interprofessional education, and acute care simulation in education. Most importantly, Caitlyn's hobbies include adventuring with her 2 Great Danes, Maggie and Frida, glitter, and tattoos.

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