

# **The Impact of Dragon Boat Racing on Cancer Survivorship**

**Cindy L. Carter, Ph.D.  
Hollings Cancer Center  
Medical University of South Carolina**

**NCI R03 CA128482-01**

# Project Team Members

- Cindy L. Carter, Ph.D. (Principal Investigator)
- Kathleen Cartmell, M.P.H. (Study Coordinator)
- Anthony Alberg, Ph.D.
- Elizabeth Garrett-Mayer Ph.D.
- Sterling Hannah
- Jim Tomsic
- Charlie Strange, M.D.
- Dena Garner, Ph.D.
- Chrissy Taylor
- Jill Nonemaker
- Todd Fox

# Physical Activity

- Currently nearly 10 million cancer survivors in the U.S.
- There is an emerging body of research suggesting that physical activity has a positive effect on quality of life following a cancer diagnosis.

(Courneya & Friedenreich, 1999; Dimeo et al., 1999).

# AHRQ Evidence Report

Positive and consistent effects on:

1. Vigor and vitality
2. Cardiorespiratory fitness
3. Quality of life
4. Depression
5. Anxiety
6. Fatigue/tiredness

(Holtzman et al., 2004)

- There is increasing evidence that physical activity may reduce risk of recurrence for some cancers.

# Physical Activity and Survivorship

- Improve both emotional and physical functioning
- Reduce negative mood and fatigue
- Increase functional capacity and physical fitness
- Improve muscular strength, body composition, hematological indices, sleep patterns

# Dragon Boating Program



# Dragon Boating

- Over 2,000 years old
- Originated in China
- One of the fastest growing sports in the world

# Dragon boating

- Team-oriented sport
- Provides informal social support
- Takes place outdoors on the water
- Focuses on the synchronized movements of team members, promoting cooperation and camaraderie among participants















# Aims

To determine the impact of participation on a dragon boat racing team on:

- 1) psychological well-being
- 2) physical well-being
- 3) overall quality of life

# Hypothesis

- Physical activity conducted within the context of social support of a dragon boat team contributes synergistically to improved overall quality of life.
- Collective experience of dragon boating likely enhanced by team sport factors such as cohesion, teamwork and the goal of competition and by paddling on the water creating greater feelings of inner peace and harmony.

# Methods

- 8-week dragon boat paddling versus 8-week walking program.
- Data collected before and after interventions to compare QOL and physical functioning outcomes.

# Participants

- Confirmed cancer diagnosis other than non-melanoma skin cancer
- Completed treatment at least 3 months prior
- Medical clearance to participate
- No current involvement with dragon boating

# Pre-Post Measures

## Physical Factors

Fatigue ↓

Aerobic Capacity ↑

Strength ↑

Perceived health status ↑

## Psychological Factors

Benefit-Finding ↑

Depression ↓

## Team Sport Factors

Social Support ↑

Cohesion ↑

Competition/Sense of Accomplishment ↑

Teamwork ↑

## Transpersonal Factors

Harmony ↑

Peace/serenity ↑

Connection w/ nature ↑

Unity ↑

Spirituality

- Demographic data
- Lifestyle characteristics
- Supplementary exercise
- Additional support group involvement

# Optional Body Fat Analysis

- Citadel Collaboration
- Bod Pod Assessment – Measures body fat composition (fat versus muscle)
- Requires separate pre-post assessment conducted at The Citadel



# Summary

- **novel, holistic approach to survivorship**
- could have broad implications for understanding how best to improve the post-diagnosis experience
- provide strong pilot data in support of a subsequent R01 submission.

