

Crary, Michael A.

*Department of Communicative Disorders
University of Florida College of Health
Professions*

*2001 Program
Investigator Initiated (2-year project)*

Project Title: Muscle composition and function for swallowing in head/neck cancer patients undergoing radiotherapy: a randomized trial of swallowing therapy

Project Summary: This study was a pilot level randomized clinical trial to evaluate the impact of muscles exercises on muscle composition and function in patients receiving radiation therapy (RT) in the treatment of head/neck cancer. As smoking is one of the dominant risk factors for head/neck cancer, this study has direct relevance to tobacco-related disease.

Fifty nine patients were randomized into one of three groups: active therapy, placebo therapy, and no therapy (standard medical care). Investigators were blinded to group assignment. Baseline evaluations of muscle composition (MRI of oropharyngeal muscles), function (swallowing ability), and related factors (nutritional status, salivary flow, taste and smell abilities) were completed prior to the initiation of RT. Subsequently, patients in the active or placebo therapy groups completed daily muscle exercises concomitant with RT. At the conclusion of RT and 6 months later, muscle composition and function were re-evaluated with the same tools.

This study was 'unblinded' in July, 2004 and the data analysis process was begun.

Project Successes: To date limited data has been analyzed and the researcher has prioritized the information on muscle composition. Current findings suggest that patients in the active muscle exercise group maintained better muscle composition than patients in the placebo group or the standard medical care group. Better muscle composition means less muscle wasting (atrophy), less fatty infiltration, and larger muscle mass. Preliminary findings also suggest that some aspects of function (for example, swallowing) were better preserved in those patients in the active therapy group.

If substantiated by further data analysis, these early findings are extremely important in the care of head/neck cancer patients treated with RT. These data suggest that early and concomitant therapy in the form of muscle exercise will result in preservation of muscle composition and daily functions of the head/neck muscle groups such as swallowing. Such an outcome would greatly impact current intervention strategies for these patients.

Publications from BRP funded research in Peer Reviewed Journals:

As the data analysis phase of this study has only recently begun, results have not yet been published.

Presentations from BRP funded research:

Carnaby GM, **Crary MA**. *Muscle composition preservation resulting from exercise during radiation therapy in patients treated for head and neck cancer*. Philadelphia, PA: American Speech and Hearing Association annual convention; November, 2004.