

News

Journal Club

Hello PRN-BC! It's the beginning of spring (for some of us anyway)!

In this issue Carmen Sima, PhD Candidate in the UBC Rehabilitation Sciences Graduate Program, presents an article on the impact of aerobic exercise training on heart function in COPD. Carmen was also recently featured on the Providence Health Care news website here: <http://phcnews.ca/news/carmen-sima-phd-candidate-pulmonary-rehabilitation-research-laboratory>.

We also showcase an innovative post-pulmonary rehabilitation exercise program that has been developed by clinicians in Cranbrook, B.C. as part of the Interior Health BreatheWell initiative.

And please consider following us on Twitter [@UBCPulmRehabRes](https://twitter.com/UBCPulmRehabRes). This is an easy and fast way to hear about latest updates in lung-related research, health initiatives, and clinical care in BC, Canada, and worldwide!

Yours truly,
Pat Camp, PT, PhD

Assistant Professor, UBC Department of Physical Therapy
Clinician Scientist, UBC
Head, St. Paul's Hospital Pulmonary Rehab Clinic

Research Corner

Canadian Pulmonary Rehabilitation Survey

We are excited that the first paper of the Canadian Pulmonary Rehabilitation Survey is due to be published in the *Canadian Respiratory Journal*! Many of the pulmonary rehabilitation programs in British Columbia took part in this survey, which generated a lot of important information on how programs are structured, what are the characteristics of the participants, what outcome measures are used, and are the learning needs of the health care professionals involved.

There will be additional papers published on other aspects of the survey information in the coming months as well.

After this paper is published, the Canadian Thoracic Society COPD Clinical Assembly (of which I am a member) will be sending out reports that offer a provincial versus Canada comparison. These reports will be helpful to compare the differences in how we offer pulmonary rehabilitation here in BC versus the rest of the country, and may highlight areas of improvement. Webinars will be planned for members of the Canadian Thoracic Society and the Canadian Respiratory Health Professionals. For health care professionals who are not members, we'll plan a PRN-BC webinar as well.

Current PR Research Studies at UBC

Below is a selection of studies related to exercise, knowledge translation, or best practices in PR currently underway at UBC:

Exercise Physiology and Mechanisms of Dyspnea

1. The evolution of exertional dyspnea in mild-to-moderate CF (Guenette)
2. Acute effects of supplemental oxygen on dyspnea, exercise tolerance and respiratory neural drive in interstitial lung disease (Guenette)
3. The effects of traffic-related air pollution in smokers at risk of developing COPD (Guenette)

Pulmonary Telerehabilitation

1. Mandatory components of pulmonary telerehabilitation (Camp)
2. Pulmonary telerehabilitation in BC First Nations— what is the burden of lung disease and physical limitation in these communities? (Camp)

Exercise and Activity During Acute Exacerbations of COPD

1. What are the limitations in mobility during AECOPD? (Camp)

Aerobic exercise training improves right- and left ventricular systolic function in patients with COPD. Brønstad E, Tjonna AE, Rognum Ø, Dalen H, Heggli AM, Wisloff U, Ingul CB, Steinshamn S. *COPD: Journal of Chronic Obstructive Pulmonary Disease* 2013; 10: 370-376.

Exercise training which is the central component of pulmonary rehabilitation programs has been shown to increase aerobic capacity in patients with COPD with subsequent improvements in exercise tolerance and health related quality of life. However, the effects of exercise training on aerobic capacity depend largely on patient's cardiac function at the onset of training and exercise intensity. Despite COPD patients are subject to increased risk of cardiovascular diseases, there is scarce evidence in the literature about the relationship between cardiac function, training intensity and aerobic capacity in these patients.

In this study, the authors aimed to investigate the effects of moderate continuous training (MCT) and high intensity aerobic interval training (AIT) on systolic ventricular function, aerobic capacity, and endothelial function in patients with COPD. Seventeen stable COPD patients were randomly assigned to either AIT (10 patients) or MCT (7 patients). All training consisted of supervised "uphill" treadmill walking, three days/week for 10 weeks. To make the protocols isocaloric, patients in the MCT group exercised continuously at ~70% of peak heart rate for 47 minutes, while AIT group exercised in 4-minute intervals at ~90% of peak heart rate separated by 3 minute active pause at ~50% of peak heart rate for 38 minutes. Seventeen age and sex matched healthy individuals served as reference group for the baseline echocardiographic measurements.

The main findings of this study were that (1) untrained COPD patients had impaired left and right ventricular systolic function (i.e. lower stroke volume and ejection fraction) compared to healthy controls, (2) aerobic exercise capacity (VO₂ peak) and resting systolic cardiac function (i.e. stroke volume, end-diastolic volume, and ejection fraction) improved after both AIT and MCT in COPD patients; (3) exercise program also gave significant reduction in resting heart rate but not resting blood pressure, (4) higher exercise intensity did not have additional effects on cardiac function or aerobic capacity in COPD patients.

This study emphasizes that exercise training in COPD patients has important effects on resting cardiovascular function, and these effects can be achieved with both moderate and high intensity training.

Submitted by Carmen Sima, PhD. Candidate - Rehabilitation Sciences, UBC Pulmonary Rehabilitation Research Laboratory

PR Tweets & Blogs

We are now on Twitter! [@UBCPulmRehabRes](https://twitter.com/UBCPulmRehabRes) or <https://twitter.com/UBCPulmRehabRes>

**@FNHA (First Nations Health Authority)**

"What are your Health Goals?" - Watch the latest [#BeefyChiefs #StepUp](#) video here!:

[@FNHC](https://www.youtube.com/watch?v=3mH6NbYXLRU...)

UBCPulmonary Rehabilitation Research Laboratory Blog

Interprofessional Clinical Education and Pulmonary Rehabilitation: An Idea Whose Time Has Come?

<http://blogs.ubc.ca/pulmrehabresearch/2015/01/23/interprofessional-clinical-education-and-pulmonary-rehabilitation-an-idea-whose-time-has-come>

Program Leaves COPD Clients in Good Shape

People with respiratory illnesses are walking together in Cranbrook – and feeling great. These avid walkers are exercising on their own as a follow-up to Interior Health’s Pulmonary Rehabilitation Program that taught them the benefits of fitness as they cope with a chronic condition. “It’s a really satisfying feeling to see former clients self-managing their illness, and in a way that makes them feel so much better,” said Respiratory Therapist **Jaime Lowry**. Jaime and Physiotherapist **Leah Taranger** run the 12-week rehab program twice a week for two hours for East Kootenay residents with a chronic respiratory condition.

The program is an extension of Breathe Well, which is designed for people with moderate to severe chronic obstructive pulmonary disease (emphysema and chronic bronchitis). The first program took place over the winter. The second began on May 26. The class is limited to a maximum of 12 clients so each person gets individual attention from the therapists. “We do walking, resistance exercise, and then an education session, which includes a review of respiratory medications, how to cope with shortness of breath, and how to use the COPD action plan,” said Jaime. “There is a lot of teaching involved because until recently there have been very few resources available to patients with chronic lung conditions, especially in small communities like ours.

Best of all, the feedback at the end of the first session was overwhelmingly positive. “They really enjoyed it,” she said. “They wished that it went longer and there is still a large group of participants walking together on those same days at the same time.” By timing their walks to coincide with the exercise portion of the rehab program, they are also able to get their vitals checked, which provides an extra sense of security.

Most important, the client’s quality of life went up in every category on the Chronic Respiratory Questionnaire, which each participant is asked to answer. It includes a series of respiratory-based questions about the person’s quality of life. The education sessions opened other options for the clients as well, with information provided about different community resources and other exercise programs. “The responses to the questionnaire demonstrated the enthusiasm our clients developed as a result of the rehab program,” said Jaime.



RT Jaime Lowry and PT Leah Taranger

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The Interior Health Authority
Communication

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Events, Resources & Opportunities

Upcoming Events

Canadian Respiratory Conference

April 23-25 2015 Ottawa, Ontario
http://crc.lung.ca/crc/home-accueil_e.php

American Thoracic Society International Conference

May 15-20 2015 Denver, Colorado
<http://conference.thoracic.org/2015/>

COPD

June 5-5 2015 Rosemont, IL
<http://www.copdconferencesusa.org/>

American Association of Cardiovascular and Pulmonary Rehabilitation September 1-12, 2015 Washington, DC

<http://www.aacvpr.org/EventsEducation/FutureDatesandLocations/tabid/860/Default.aspx>

Events, Resources & Opportunities

Motivational Interviewing – What is it?

You might have heard this term used a lot nowadays in health care. It is also a hot topic at conferences, with workshops and seminars devoted to the topic. But what is it, and how can it be used in PR? Motivational Interviewing, or MI, is a ‘collaborative conversation style’ that can be helpful when an individual is adopting a new behavior, such as exercise. There are many resources available for health care professionals. One website (suggested by Annelies Ravensbergen, who leads the Sunshine Coast Pulmonary Rehabilitation Program) is the Centre for Collaboration, Motivation & Innovation: www.centrecmi.ca. Check it out! And watch out for more resources on how it can be implemented in PR.

Pulmonary Rehabilitation Programs in BC

Check out the directory at
<http://prll.rehab.med.ubc.ca/bc-pr-network/>
Password = pulmonary

Do you have a journal article, event, or newsletter topic that you would like to share with other members of the BC PRN? Please email Ashley Kirkham at ashley.kirkham@hli.ubc.ca

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