

April 13, 2010

2010-04-13: Hockey and lab research proves to be the right mix

Greg St. Martin
Northeastern University

Recommended Citation

St. Martin, Greg, "2010-04-13: Hockey and lab research proves to be the right mix" (2010). *News@Northeastern*. Paper 560.
<http://hdl.handle.net/2047/d20001803>

This work is available open access, hosted by Northeastern University.

Hockey and lab research proves to be the right mix



Dylan Wiwchar performs a breathing test as Prof. Lawrence Cahalin looks on. Photo by Lauren McFalls

April 13, 2010

As a member of the Northeastern men's hockey team, senior Dylan Wiwchar found himself in a unique position. Not only was the **physical therapy** student interested in studying innovative breathing exercises that strengthened inspiratory muscles — those that are used in inhaling — but he also had a direct link to his teammates, who became the test subjects.

His “power play” ultimately paid off.

Five players participated last fall in the high-intensity exercises after hockey practice, twice a week for 30 minutes. The program involved a player first inhaling as hard as possible from a specialized tube three times for between 20 and 30 seconds each. The tube was hooked up to a laptop, which instantly displayed biofeedback so the player could see exactly how hard he was breathing each time. For the subsequent breathing intervals, the player had to maintain a level equal to 80 percent of his hardest inhale — a rate that could be monitored on the computer screen.

Wiwchar's physical therapy professor, **Lawrence Cahalin**, first approached him about performing the experiment, dubbed the Test of Incremental Respiratory Endurance. The exercises target the diaphragm and accessory muscles such as the scalene and sternocleidomastoid muscles.

Inspiratory muscle training, Cahalin said, has been used successfully with athletes in running, cycling and rugby, but he and Wiwchar collaborated to test it for the first time with hockey players.

The results amounted to a “hat trick” of sorts. The players' inspiratory capacity, maximum oxygen consumption and skating performance all increased, Wiwchar said. The players also reported recovering better and breathing more efficiently, while some even asked to continue the program once it was over.

“After only six weeks, we saw some pretty significant results,” said Wiwchar, adding the benefits of breathing exercises for athletes can be easily overlooked compared to traditional training on the ice and in the weight room.

In follow-up research, Cahalin said he expects to delve more deeply into how players recover in skating tests following the experiments, and he hopes to obtain specially designed shirts that can measure heart and respiratory rates.

The project earned an **outstanding undergraduate student research award** at the Northeastern Research & Scholarship Expo in March. The research will also be presented in May at the Boston Hockey Summit and Basketball Symposium, where professional and college coaches among others converge to learn about new and innovative training techniques.

“It's nice to apply something to the sport I love to play and my future profession,” Wiwchar said.

For more information, please contact Greg St.Martin at 617-373-5463 or at g.stmartin@neu.edu.

Archives

The following news stories and features are available. For information about older content, please contact University Communications and Public Relations at (617) 373-5471.

2010

- [January](#)
- [February](#)
- [March](#)
- [April](#)
- [May](#)
- [June](#)
- [July](#)
- [August](#)
- [September](#)
- [October](#)
- [November](#)
- [December](#)

Share



3 likes. [Sign Up](#) to see what your friends like.