

CWSF 2016 - Montreal, Quebec



Nicolas Fedrigo

Core Temperature Control Glove

Challenge: Innovation

Category: Intermediate

Region: Vancouver Island

City: Victoria, BC

School: Claremont Secondary School

Abstract: The Core Temperature Control Glove is a revolutionary method of rapidly cooling core body temperature for physical performance benefits. This does so by assisting in the thermoregulation process. By applying low temperature and high pressure to the palm of the hand, the cooling glove encourages heat exchange through the specialized capillaries. By decreasing the core body temperature, the athlete has a faster recovery time.

Biography

I was inspired to design my Core Temperature Control Glove since I am a competitive swimmer interested in medical sciences. When athletes compete in a warmer pool, heat exhaustion and a slower recovery time becomes apparent. This is why I engineered my core body temperature regulator to create "colder pool" conditions for various sports. It does so by accelerating the thermoregulation process in the palm of the hand. There are multiple applications I plan on expanding my core Temperature control glove. It can be used with hot water to warm people with hypothermia, as well as athletes in cold weather sports. It could also decrease fevers by lowering the core temperature, or assist labour intensive employees in a hot environment through cooling. Finally, this device can help to treat a broken bone, sprain or post-operation ACL surgery by applying pressure with a combination of hot and cold circulating water to reduce swelling, and therefore decrease recovery time. This glove can remarkably enhance one's physical abilities. I did this project as a result of an inquiry I had, and so I would urge potential investigators to study what they have a passion for.

Awards

Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 000