





ABOUT

ICORD stands for **International Collaboration On Repair Discoveries.** ICORD researchers from many different scientific areas work together to look for ways to accelerate the search for cures for spinal cord injury (SCI) and investigate how to enhance the quality of life for people living with SCI.

ICORD is a research centre within the UBC Faculty of Medicine and Vancouver Coastal Health Research Institute.

ICORD research is funded by competitive research grants from federal, provincial, international and industry agencies.

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ICORD is part of the Blusson Integrated Cures Partnership, funded by the Rick Hansen Foundation. Announced in April, 2013, this collaborative partnership with the Rick Hansen Institute aims to identify cures for people with SCI.

Turn over to meet some of the ICORDians working at the Blusson Spinal Cord Centre



REHABILITATION RESEARCH





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Rehabilitation researchers at **ICORD** investigate how the brain and spinal cord work together to control movement and how different therapies can help to improve mobility after spinal cord injury. The overall goal of this research is to improve quality of life by improving movement.

Sensory function:

ICORD researchers are currently studying how sensory impairments after spinal cord injury affect walking function by developing new robotic assessment tools and training programs. They are also investigating the best methods of using wheelchairs and other assistive devices.

CLINICAL RESEARCH



Clinical researchers determine the safety and effectiveness of treatments, including pharmaceuticals and exercise, for people with spinal cord injury.

Cardiovascular Health: ICORD Researchers are currently working closely with physicians at the Spine Program and GF Strong Rehabilitation Centre to study cardiovascular health and disease risk for patients living with SCI.



DISCOVERY SCIENCE

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Discovery Science Researchers at ICORD investigate how cells respond after a traumatic spinal cord injury. In the discovery science laboratory, we can look at the effects of specific treatments on cells before they are used in patients.

nerve fibres transplanted cells ilesion (injury site) control sample

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Gene therapy and transplantation:

ICORD researchers are currently investigating therapies to regenerate lost nerve tissue after spinal cord injury. They use gene therapy to boost the ability of nerve fibres to grow after injury. This image shows nerve fibres (green) treated with gene therapy that are able to grow past a spinal cord lesion with the help of transplanted cells (red).

ENGINEERING RESEARCH





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Engineers at ICORD study spinal cord injury by designing devices to simulate what happens when injuries occur in people, and by measuring the response of the spinal column and spinal cord during simulated injuries. Engineering principals can also be applied do things such as create computer models of the spine and spinal cord or develop devices for injury prevention.

Neck response when bracing for impact: ICORD researchers are interested in whether our necks move differently when we are bracing for a crash or colliding with a player during sports. Researchers measured the posture of the spine and the muscle response of human volunteers when they braced for impact and when they were upside down. This information is needed since neck injuries often occur when people are bracing for impact or are upside down.



RESEARCHERS OUTSIDE THE BSCC

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There are many ICORD researchers whose main activities are at sites around the Lower Mainland and Vancouver Island, such as GF Strong Rehab Centre, UBC Point Grey Campus, Simon Fraser University, BCIT and the University of Victoria.

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ICORD researchers at Simon Fraser University are investigating fainting and brain blood flow. Some individuals with spinal cord injury have trouble controlling their blood pressure and experience dizziness in their daily lives. They are examining whether changes in brain blood flow contribute to these symptoms and what they might be able to do about it.



