

**MONTRÉAL
SACRÉ-CŒUR
HOSPITAL
FOUNDATION**

CREATION OF A NEW RESEARCH CHAIR



**ACADEMIC CHAIR IN
ADVANCED MONITORING
IN INTENSIVE CARE**



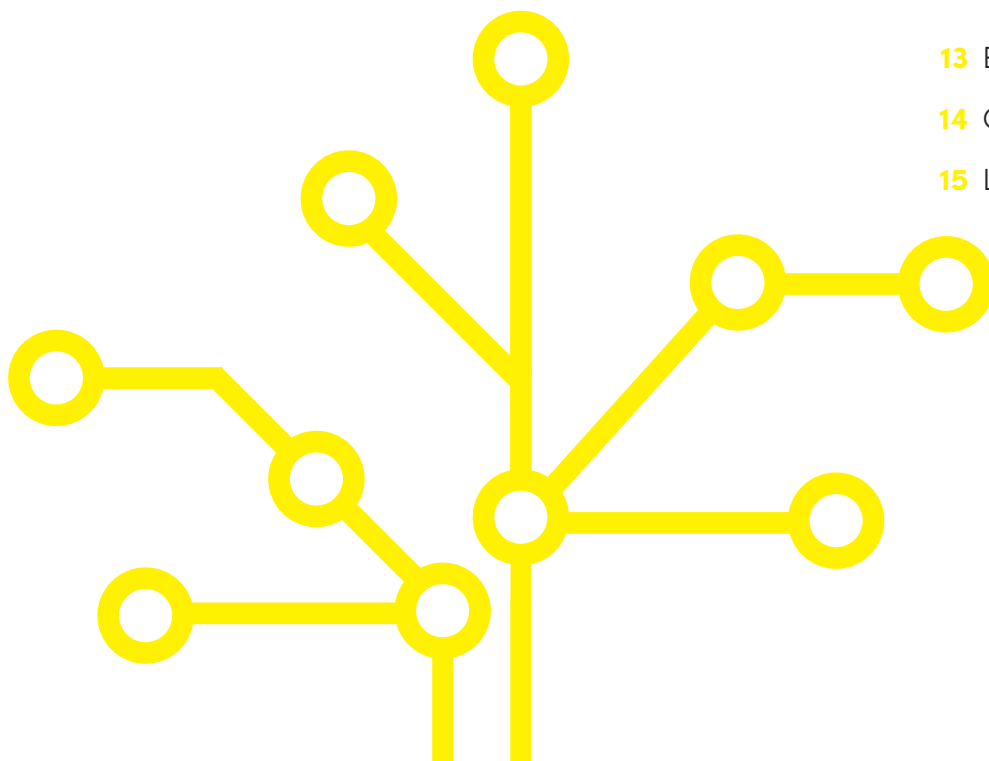


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A WORD FROM THE CRITICAL CARE PHYSICIANS

“ Our commitment: A \$500,000 participation from the critical care physicians.

This Chair will support a program of innovation, outreach and cutting-edge care for the benefit of our patients and critical care medicine.

Your support and involvement are essential to carrying out this innovative project and the advancement of critical care knowledge. Your contribution is greatly appreciated.

”



Dr. Patrick Bellemare,
pulmonologist and
intensive care physician

SACRÉ-CŒUR, A BIG HOSPITAL WITH A BIG HEART

It's simple. At Sacré-Cœur, there are experts in every discipline who care for people with great kindness. Our dedicated specialists and researchers are leaders in their field and their reputation extends beyond our borders. At Sacré-Cœur, **the teams transform lives through their expertise, innovation, research, passion and, above all, their big hearts.**



AN IMPORTANT UNIVERSITY HOSPITAL



WITH AN IMPRESSIVE NUMBER OF INTERVENTIONS PER YEAR



THE REFERENCE FOR 2 MILLION PEOPLE

Sacré-Cœur Hospital receives victims of severe accidents and complex cases from all over Western Quebec, as well as patients from the North of the Island of Montreal.



RESEARCH: REAL HOPE FOR THE ADVANCEMENT OF CARE

Did you know that there are close to 200 researchers at the Montreal Sacré-Cœur Hospital, assisted by more than 300 university students who conduct research in **three areas**?

NEUROPHYSIOLOGY

This group of researchers is particularly interested in sleep.

CHRONIC DISEASES

This sector includes researchers in respiratory health, cardiovascular health and renal diseases.

TRAUMA AND ACUTE (CRITICAL) CARE

These researchers focus their research on the evaluation and development of strategies for the treatment and prevention of trauma.



WHAT ARE THE ADVANTAGES OF CREATING A CHAIR?

The creation of a Chair marks a long-term commitment to invest time and money in the advancement of an area of excellence.

The work of a research chair includes:

- A very high level of scientific progress
- Improved research training
- A significant increase in innovation and knowledge transfer
- Increased influence on the international scene
- An exceptional contribution to the improvement of patient care and treatment
- Stable and unwavering support for innovation and excellence in critical care

There are 17 existing research chairs linked to the CIUSSS du Nord-de-l'Île-de-Montréal Research Centre. Many of the researchers are also active physicians who have their practices at Sacré-Cœur. Their research enriches the knowledge of the care teams.

INTENSIVE CARE: A CLINICAL AND ACADEMIC HUB OF OUR INSTITUTION

The Intensive Care Unit is a multi-specialty unit and a nerve centre of the Montreal Sacré-Cœur Hospital where the most vulnerable patients, whose health status is the most unstable or at risk, converge.

In addition, Sacré-Cœur is home to **the only trauma centre of the Université de Montréal's Integrated Health Network**, which receives the most seriously injured patients (car accidents, serious falls, etc.).

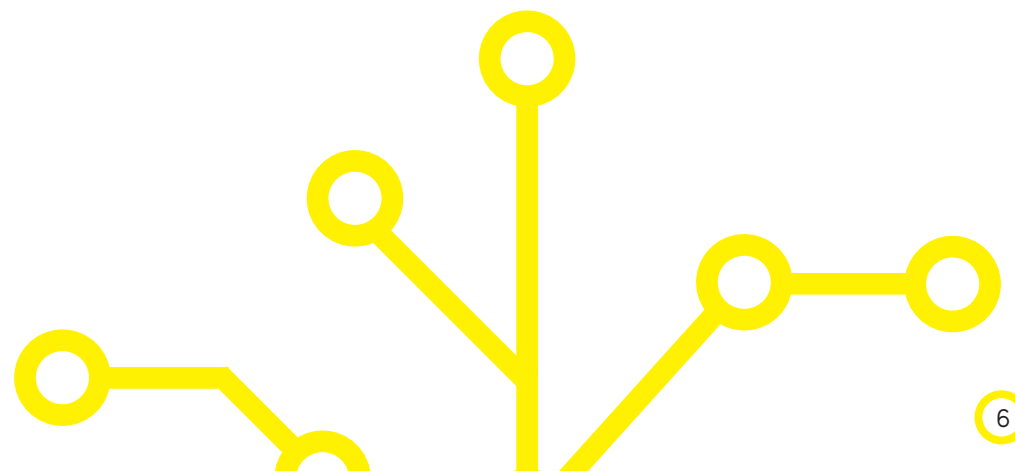
Within our institution are four specialized critical care units, three of which have a teaching unit. In addition to its expertise in all areas of critical care, the team has developed a unique expertise in organ donor maintenance in the wake of an innovative pilot project for a donor centre.

The medical team and its partners from various professions (pharmacists, nurses, perfusionists, respiratory therapists, etc.) share their expertise to handle complex cases. **This synergy has propelled a gain in recognition in many critical care sectors** and the team is committed to pursuing its mission of excellence.

It is because of its dynamism and adaptability that **the Sacré-Cœur team has been designated and established as a leader in the fight against COVID-19**, while maintaining its core missions, particularly in trauma.

HERE ARE THE KEY SKILLS AND EXPERTISE THAT MAKE SACRÉ-CŒUR STAND OUT:

- Critical care is a clinical and academic hub.
- It is the only tertiary trauma centre of the Université de Montréal's Integrated Health Network.
- It brings together 14 specialists in critical care, a discipline in which they have acquired subspecialized training, and they all have a tangible academic commitment.
- The team is highly skilled in several areas: Advanced cardiopulmonary support, advanced neuromonitoring for neurologically injured patients, specific support for spinal cord injuries, organ donor maintenance medicine, etc.
- It is the tertiary and quaternary trauma referral centre for a catchment area of 2 million people.
- It is the centre of expertise and reference within our CIUSSS.
- Sacré-Cœur has three critical care medicine teaching units and 160 internships for resident students.
- Research in monitoring, advanced cardiopulmonary support, tele-medicine and critical care pharmacotherapy is flourishing.
- The critical care research team is very active and has been involved in the publication of 120 manuscripts in the last three years.



NEUROMONITORING AND SACRÉ-CŒUR

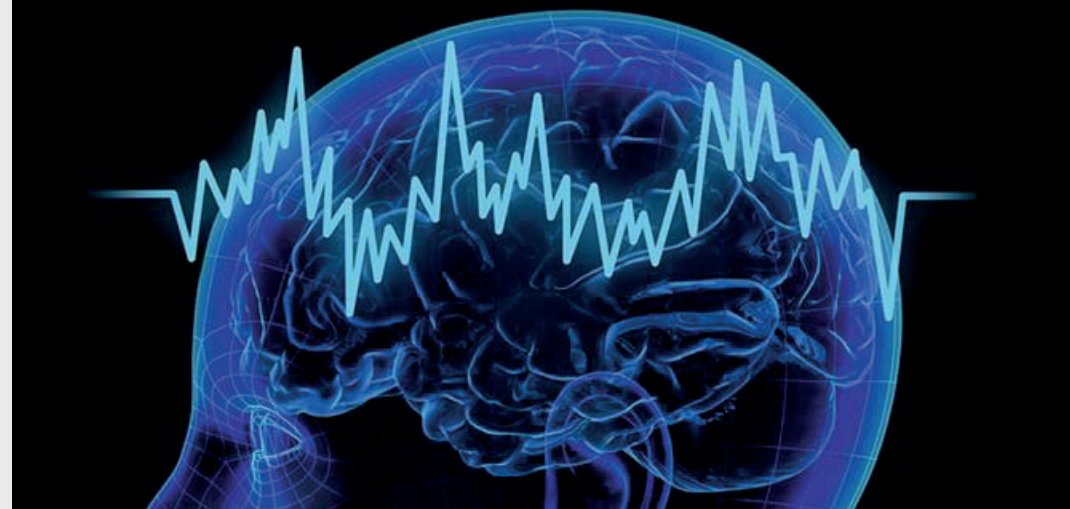
What is neuromonitoring? It is a set of measurements of neurological parameters and functions, including the oxygenation of brain tissue and the detailed analysis of results after a traumatic brain injury.

Sacré-Cœur's leadership role in this field is undeniable. You will understand the extent of this role through these three aspects:

 **Clinical expertise**

 **Training**

 **Research**



CLINICAL EXPERTISE

The Montreal Sacré-Cœur Hospital has specialized in advanced neuromonitoring since 2009 and has acquired the most extensive expertise in Canada in invasive cerebral oxygenation measurement. The Neuro ICU team is constantly looking for new technologies to improve the care of neurocompromised patients. It has been a pioneer in the use of many of these technologies, paving the way for many other units in Quebec. This expertise allows for the personalization of therapies adapted to each individual. The innovative approach of Sacré-Cœur's Neurological Intensive Care Unit has been recognized by the *Institut national d'excellence en santé et services sociaux (INESSS)*. The Neurological Intensive Care team has been invited to all Quebec and Canadian universities to teach this expertise. Sacré-Cœur is without a doubt a leader in this field in Quebec.

TRAINING

The expertise developed by all those involved in neurological intensive care (nurses, neurosurgeons, critical care physicians) has led to the creation of CENA: *Centre d'expertise en neuro-monitoring avancé*.



This training centre is designed to offer to a multidisciplinary team wanting to start, improve or become experts in the field of neurological intensive care the opportunity to receive training adapted to their needs. This initiative is unique in North America and is already recognized by the industry.



The teaching is done by a multidisciplinary team under the direction of **Dr. Francis Bernard**. In addition, Dr. Bernard has contributed to the reputation of the Sacré-Cœur Hospital by being named a Fellow of the Neurocritical Care Society for the quality of the clinical advances, the teaching provided and the quality of research at the Hospital. This training team also contributes to the institution's reputation by having been invited to give numerous conferences at various national and international events.

RESEARCH

The development of clinical expertise in advanced neuromonitoring has provided fertile ground for the development of research associated with neurotraumatology. Collaboration with local researchers and universities in Quebec and Canada has fostered the implementation of research projects involving critically ill patients in neurological care. The ability to study these patients is in itself innovative and places the Sacré-Cœur Hospital in a select group of centres worldwide capable of conducting such projects. In fact, Sacré-Cœur is the only Canadian centre participating in a major U.S. National Institutes of Health (NIH) study on the use of cerebral oxygenation in the treatment of head trauma (BOOST-3). The Sacré-Cœur team has a central role as an expert consultant.

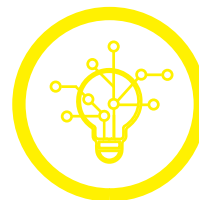
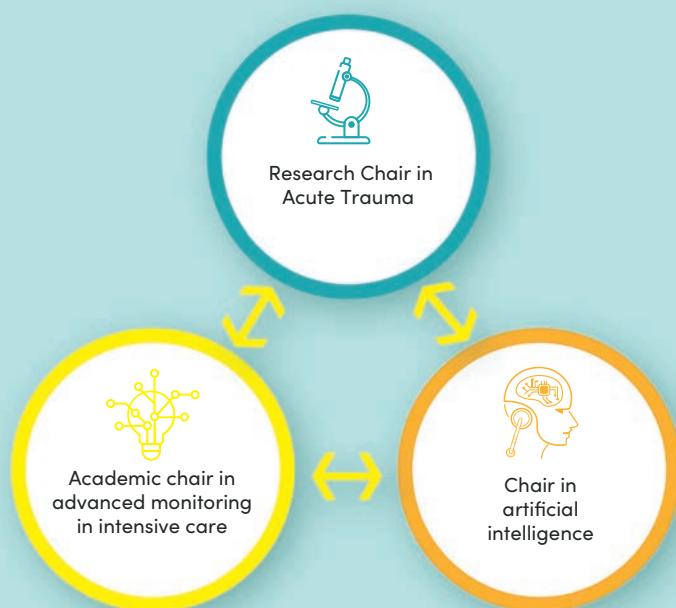
The various areas of research interest supported by the Neuro ICU include but are not limited to: Sleep, pain, assessment of consciousness and coma emergence, advanced neuromonitoring to modulate individualized therapy, neurological prognostication, management of delirium/agitation/confusion, brain stimulation, early physical activity for spinal cord injury recovery, and the impact of therapeutic clowning. All of this gives hope to patients and their families. It demonstrates that it is possible to advance knowledge in the field of neurological intensive care to continue to greatly improve quality of life.



THE CREATION OF A STAR TRIO

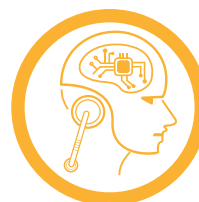
By establishing **the Caroline Durand Foundation Chair in Acute Trauma** at the Université de Montréal in February 2017, it was the beginning of a beautiful journey that has led, among other things, to the development of innovative therapeutic approaches to improve the potential for short-, medium- and long-term recovery from severe trauma.

The work of this chair in acute trauma has inspired two major and promising projects: **The creation of an academic chair in advanced monitoring in intensive care and a research chair in artificial intelligence.** The emancipation and maturation of the critical care program depends on the creation of these two new chairs.



THE NEW ACADEMIC CHAIR IN ADVANCED MONITORING IN CRITICAL CARE

The purpose of the Academic Chair in Advanced Monitoring is to support the collection and valorization of physiological data generated continuously in the intensive care unit. The abundance of quality data will feed the Chair's team in artificial intelligence, which will be able to combine its expertise with that of the intensive care researchers. This will encourage the development of innovative intersectoral projects. The Academic Chair will make it possible to take advantage of the strengths of intensive care, but also to support the hosting of graduate students and international fellows on a regular basis. It will promote innovation and the influence of critical care at Sacré-Cœur, a leader in acute care in Quebec.



THE NEW CHAIR IN ARTIFICIAL INTELLIGENCE

Thanks to the use of artificial intelligence, particularly in traumatology, one of Sacré-Cœur's major specialties, it will be possible to offer individualized care, according to the particularities of each patient admitted to the traumatology program.

More concretely, all the data collected throughout the patient's care, that is to say from ambulance transport to the end of rehabilitation follow-up outside the walls of our hospital services, will be integrated into a shared database in order to allow the algorithms specific to artificial intelligence to make predictions on the patient's life and care trajectory.

“ **Artificial intelligence requires an abundance of quality data, and this is a major goal of the Academic Chair in Advanced Monitoring project. The pandemic context is a flagrant example of the relevance of linking artificial intelligence to human judgment for the rapid resolution of research and clinical issues, in relation to a resource pool that is not unlimited.** ”

- Dr. Louis De Beaumont, clinical neuropsychologist,
regular researcher and holder of the Caroline Durand
Foundation Chair in Acute Trauma at the Université de Montréal

**TOGETHER, THESE THREE CHAIRS COULD VERY WELL
BECOME A STAR RESEARCH TRIO AND SHINE ON THE
INTERNATIONAL SCENE.**

Why? One need only look at the subspecialization of Sacré-Cœur's critical care teams, which include both intensive care and intermediate care units, and the leadership and commitment they demonstrated during the COVID-19 pandemic. It's a guarantee of success! These teams have been training for 20 years to provide exceptional care and they give 110% each and every day.



RESEARCHERS WILL BE ABLE TO LEAVE THEIR MARK THANKS TO ADVANCED MONITORING!

The new Academic Chair in Advanced Monitoring in Critical Care will allow several researchers to shine and ensure that the Sacré-Cœur intensive care team remains **on the path of excellence that it has so well established.**

Two researchers in particular will benefit greatly from the creation of this Chair. It will create a rich and reliable clinical data pool, as well as recruit graduate students to support the research projects of these two talented researchers.



DAVID WILLIAMSON, PHD

David Williamson is also a clinical pharmacist in the Intensive Care Unit of the Montreal Sacré-Cœur Hospital and a full clinical professor in the Faculty of Pharmacy of the Université de Montréal. He is a *Fonds de recherche du Québec-Santé* scholar and his research program focuses on sedation, agitation, delirium and analgesia in the intensive care unit, particularly in the head injury population.

He has authored over 90 scientific publications in peer-reviewed journals including *Chest*, *Intensive Care Medicine*, and *Drugs*.



DR. YIORGOS ALEXANDROS CAVAYAS

A young clinical researcher working at the Montreal Sacré-Cœur Hospital for the past 3 years, Dr. Yiorgos Alexandros Cavayas can attest to the attractiveness of the great expertise developed in intensive care. After completing his post-doctoral medical studies in critical care, Dr. Cavayas continued his research training at the Université de Montréal, the University of Leicester in the United Kingdom and the University of Toronto. His research during his training focused on the neurological complications of patients with severe acute respiratory failure undergoing extracorporeal membrane oxygenation, a technique used in resuscitation commonly known as ECMO. Dr. Cavayas' work has led to several publications, including in the prestigious *American Journal of Respiratory and Critical Care Medicine*.

THANK YOU FOR SUPPORTING THE GOALS OF THE CRITICAL CARE TEAM

Help us form our winning research trio to continue on the path of excellence and advancement of care. The critical care physicians are committing to \$500,000. **Let's support them and team up with them to create this academic chair in advanced critical care monitoring.**



**ACADEMIC CHAIR IN
ADVANCED MONITORING
IN INTENSIVE CARE**

\$5 MILLION FOR THE CREATION OF THIS NEW CHAIR

EXPERTISE WORKS MIRACLES

The teams at Sacré-Cœur are recognized for their remarkable work, their kindness and the quality of care they provide. The Foundation **receives many messages from patients or their families in recognition of the care they receive.** Sometimes their time at Sacré-Cœur was particularly meaningful, as in these stories.

A SECOND LIFE FOR KALLY

“On June 23, 2016, I arrived at Sacré-Cœur in pitiful condition with little chance of survival. Thanks to the hospital staff, I can enjoy the miracle you gave me by giving me a second life. Thank you all — especially Dr. Bellemare — to whom I hold a very special place in my heart. Always listening to the big and the smallest boo-boos at all times, as if I were his own daughter.”

– Kally

“An infinite thank you to all of you who have taken such good care of my daughter Kally. In the sky, there is a star for each of you that shines at night to remind me of what you have accomplished. No words are beautiful enough to express my gratitude to Dr. Patrick Bellemare. What an incredible human being!”

– Francine, Kally’s mother

THE INTENSIVE CARE TEAM GAVE HER BACK HER SON

“

On August 4, 2020, my life was turned upside down. My 25-year-old son was in a serious car accident and was transported in critical condition to Sacré-Cœur around 2:00 am. The prognosis was very poor, very little chance of survival... His best friend died in this accident.

I arrived around 6:00 a.m. in the intensive care unit where the doctors met me. I can't tell you the respect and admiration I have for the intensive care team who saved my son, without any judgment. I can tell you about their humanity, their availability, their professionalism, which was shown by the specialist, Dr. Giguère, the critical care physicians, Dr. LeGuillan, Dr. Brunette and Dr. Bellemare, but also by the nurses, the orderlies, the young man in housekeeping, the people in outpatient radiology and the many others thereafter in neurology.

Today, my son is with his little 2-year-old daughter, he is handicapped, but will overcome this... And I have my son back...

”

– Marie-Alice, mother of the patient and nurse at the Albert-Prévost Mental Health Hospital for 32 years



OUR FOUNDATION: 46 YEARS OF ACHIEVEMENTS

The sole mission of the Montreal Sacré-Cœur Hospital Foundation is to provide financial assistance to the Hospital in carrying out its projects. Since its creation in 1976, the Foundation has donated more than:

\$85 MILLION

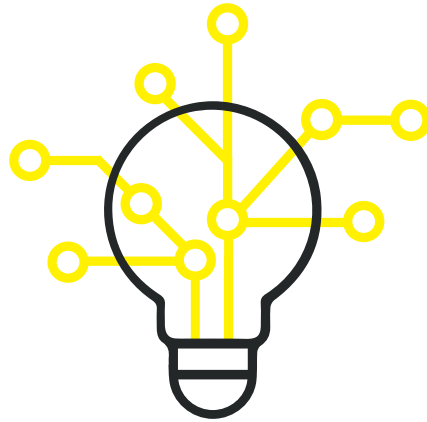
**OF THIS AMOUNT, OVER \$23 MILLION HAS BEEN INVESTED
IN RESEARCH AND TEACHING.**

Right page | The new building that houses the Integrated Trauma and Critical Care Centre, Endoscopy, and the Mother-Child Unit. A major project to which the Foundation contributed \$12.4 million.

Major research achievements supported by the Foundation:

- Construction of the Research Centre (and its phase 2)
- Construction of the sleep laboratory and purchase of equipment
- Construction of the Centre for Advanced Studies in Sleep Medicine
- Upgrading of the Research Centre
- Support for the creation of research chairs:
 - Chair in Spinal Trauma
 - Research Chair in Orthopedics
 - Research Chair in Schizophrenia
 - Chair in Cardiovascular Health
 - Research Chair in Acute Trauma
- Creation of research grants
- Fellowships
- Support for new researchers and research teams
- Creation of a learning and clinical simulation laboratory





TEAMING UP IN THE PURSUIT OF EXCELLENCE

**CONTACT US TO MAKE A CONTRIBUTION
OR IF YOU HAVE ANY QUESTIONS:**

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[CLICK HERE](#)**

Thank you !



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