

# The Quarterly

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“I hope my contributions to Healthy Design, from an engineering perspective, generate change and enhance patient health, similar to how medical advancements have changed my own life.”  
-Nate Gariepy

## Employee Spotlight

Meet Nate Gariepy, Product Development Engineer.

Healthy Design’s youngest hire has roots in New England. A recent graduate from The University of Vermont with a degree in Mechanical Engineering, Nate has already proven himself as an innovator with a keen attention to the rigor of testing for verification and validation.

From birth, Nate endured a metabolic disorder which during his youth was alleviated by a revolutionary new drug that was approved by the FDA. This had a tremendous impact on him and as he got older, it motivated him to choose a career in the medical field which would incorporate his love of engineering.

You can find Nate giving the Intro and Wrap Up in the ‘How To’ Video! When he’s not staying late to finish a project, Nate enjoys a competitive men’s hockey league.



Nate relaxing at home in New England.



It’s action time! Nate Gariepy proving his skills are honed on the ice as well as in Solidworks!

## Did You Know? [WatchTikTok](#)



- Two out of three patients in ICUs get delirium
- Healthy Design’s **Exersides Refrains System** was developed to help reduce occurrences of delirium in hospitalized patients
- **Delirium** is not a disease but a syndrome with multiple causes
- The condition can be a **medical emergency** associated with increased morbidity and mortality rate

## In the News

### Innovator of the Year

Vermont's Center for Economic Development in the [Rutland Region](#) awarded Marie Pavini MD FCCM FCCP the Innovator of the Year award this Fall. Dr. Pavini was spotlighted for developing local jobs as well as attracting outside talent into the region.

An Assistant Professor of Research at The University of Vermont College of Medicine and a Clinical Assistant Professor of Critical Care at The New England College of Osteopathic Medicine, Dr. Pavini continues to use her skills to improve the medical field.

## [Award Video](#)



Marie Pavini MD receiving the 2021 Innovator of the Year award in Vermont.

## ICU Heroes Awards coming up in Puerto Rico!

The Society of Critical Care Medicine's (SCCM) 2022 conference will be held in San Juan, Puerto Rico in February. As part of the THRIVE Patient & Family Committee's initiative to call awareness to Post-Intensive Care Syndrome, the 2022 ICU Heroes will be revealed and interviewed.

Dr. Pavini will again have the honor of interviewing the ICU patients and

families. She will also be at the Exersides™ booth in the Exhibit Hall for all who wish to stop by for a selfie with SimRichard!

Post-Intensive Care Syndrome (PICS) is a devastating condition that can result from delirium which can be caused by immobility (restraints) and sedation. PICS clinics are available in select areas throughout the country to help patients cope.



[Patients and Families | SCCM](#)

[Watch Interview](#)

*"Post-Intensive Care Syndrome (PICS) is a devastating condition that can result from delirium which can be caused by immobility (restraints) and sedation."*

## Over the Summer

This past summer, Healthy Design worked on projects with Interns from Champlain College, The University of Vermont and Bennington College to further development of ExerGames™, a VideoTherapy platform for intubated/restrained patients.



Mike Rosen PhD led our interns in the innovative ExerGames™ project.



These guys put the FUN in FUNctionality!

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## NIH Grant to Support Novel Device to Improve ICU Care, Safety

The NIH's National Institute on Aging (NIA) has awarded a grant expected to total **\$3.4M** over two years to Healthy Design Ltd. Co., maker of the Exersides™ Refrains™ System, a new technology that precludes physical restraint of ICU patients, to prevent delirium, dementia, agitation, immobility, and Post-Intensive Care Syndrome (PICS), especially relevant during the COVID pandemic.

Healthy Design, founded by Marie T. Pavini MD FCCM FCCP, offers a more practical approach to preventing dislodgement of vital tubes and lines in this patient population. The new device allows patients to move their arms and hands to reduce agitation and the resulting need for additional sedation, while providing a system of protection to help patients avoid inadvertently dislodging

critical ventilator tubing and IV catheters.

*Research reported in this publication was supported by the National Institute on Aging of the National Institutes of Health under Award Number SB1AG073026. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.*



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## SCCM Northeast Chapter Webinar: Delirium

The Society of Critical Care Medicine's (SCCM) Northeast Chapter had its Fall webinar in late September. Brenda Pun DNP, RN from Vanderbilt CIBS Center (Critical Illness, Brain Dysfunction, and Survivorship) and Marie Pavini MD FCCM FCCP, Assistant Professor of Research at The University of Vermont College of Medicine and C4 at Healthy Design

were the guest speakers for this digital venue.

The *Intensive Care Unit Delirium Management and Prevention* virtual webinar showcased important facets of this topic which are currently in the global spotlight.

Dr. Pun presented pharmacologic options while Dr. Pavini reviewed non-pharmacological approaches to the

reduction and prevention of delirium in the ICU setting.

Both speakers agreed that less sedation and increased mobilization are keys to reducing the incidence of delirium. This emphasis would allow improved patient animation and cognition in the hopes of improving longer-term outcomes.

*“Both speakers agreed that less sedation and increased mobilization are keys to reducing the incidence of delirium.”*

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## A Few Good Mentions

ICU Rehab Network  
[ICURehabNetwork.org](http://ICURehabNetwork.org)

Oacis

[OACIS Clinical Programs and Quality Improvement Projects | Pulmonary & Critical Care Medicine \(hopkinsmedicine.org\)](http://OACIS.Clinical.Programs.and.Quality.Improvement.Projects.Pulmonary.&Critical.Care.Medicine.hopkinsmedicine.org)

ICU Liberation  
[ICU.Liberation.SCCM](http://ICU.Liberation.SCCM)

CIBS  
[The CIBS Center Overview \(icudelirium.org\)](http://The.CIBS.Center.Overview.icudelirium.org)

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"...where common sense  
meets healthcare..."



**We're on the Web!**  
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## A Message from C4 (*Chief Culture Change Catalyst*)

Dear Fellow Patient Safety & Mobility Advocates,

As a critical care physician and active member of an international patient and family advocacy council I am all too familiar with the risks patients face upon entering the healthcare system.

Post Intensive Care Syndrome (PICS) has a tremendous impact on all of our lives, and we must bring real awareness and action to address this debilitating condition.

I would like to call your attention to The Patient and Families Section of our website. This page provides information about PICS and the Exersides Refrains that we developed with support from the National Institutes of Health (NIH) and various experts in healthcare and business.

It is through my personal experience that I was spurred to not only become an advocate but to use my knowledge and expertise to develop a viable and holistic alternative to today's extreme usage of physical restraints and often overuse of chemical restraints.

Please help us end the inhumane methods of patient restraint that many of us have either witnessed or experienced. We can start this process by combining our efforts to spread awareness to help regulatory bodies recognize Post-Intensive Care Syndrome as a Hospital Acquired Condition (HAC).

Yours truly,

*Marie T. Pavini MD FCCM FCCP*

## Fall in Vermont

