ON HER TOES

As a researcher, clinician, mentor, and educator, Renee Stapleton, M.D., Ph.D., is always in action.
Renee Stapleton, M.D., Ph.D., keeps a treadmill peak in the corner of her office. But her colleagues, research collaborators, medical students and residents know that she hardly needs a machine to augment the effort she puts into all the dimensions of her daily work. “People can’t really be triple threats any more—they’re just too hard,” says Polly Parsons, M.D., E.L. Amidon Professor and Chair of Medicine. To Parsons, who is also the current president of the American Thoracic Society (ATS), a “triple threat” is someone who is simultaneously at the top of their field as clinician, teacher, and researcher. “It would seem impossible to be truly exceptional in all three areas. But Renee is.”

Marc Moss, M.D., Roger S. Mitchell Professor of Medicine at the University of Colorado School of Medicine and immediate past president of the ATS, goes on to further refine: “Renee Stapleton is a quadruple threat. She’s a great clinician, teacher, researcher—and a great person. You would want Renee to care for your relative, teach the person who will be your future doctor, and perform studies that are funded with precious research dollars,” Moss says.

There are plenty of accolades in support of that praise. Stapleton—a pulmonologist and critical care physician at the University of Vermont Medical Center and associate professor in the Department of Medicine—won the 2014 Jo Rae Wright Award for Outstanding Science from the ATS, which recognizes a rising star in academic pulmonary and critical care medicine. She was also presented with the 2018 Larner College of Medicine Faculty Award in Research Mentorship. She has been named co-chair of the ATS women’s advisory committee and chair-elect of its critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its advisory committee and chair-elect of its named vice-chair of the ATS’s scientific critical care assembly, the largest among its.
Stapleton had her own model. “I’ve known and very open about being a mom,” says she do it?” way.

At present, that program, which occupies about 75 percent of Stapleton’s working hours—and will only increase in the spring as additional grants go getting—addresses end-of-life issues and communication, novel therapies in critically ill patients including exercise and nutrition, and a new innovative restraint device. Stapleton’s most recent RO1 application scored in the sixth percentile; she collaborates with not only colleagues locally, but researchers nationwide. She is principal or co-principal investigator on several multi-center randomized trials. The just-underway NEXIS trial will look at the use of cycle ergometry and amino acid supplementation in people with acute respiratory failure who are on a ventilator. It’s a collaboration with researchers at Harborview, Johns Hopkins, and Wake Forest School of Medicine. Together with co-PIs Benjamin Suratt, M.D., and Michael Toth, Ph.D., from UVM, and Wake Forest’s Clark Files, M.D., Stapleton has also received a separate ROI to work through the biologic mechanisms of the intervention, because there’s evidence exercise reduces inflammation not only at the local level, but systemically—even in the lungs. The cycling often happens passively, especially early in the intensive care unit days when you need to be more sedated, on an ergometer that fits around the foot of the bed, but there have been some surprises.

“We have a whole algorithm we go through,” she says. “If patients cycle actively during enough of each increment, then we can ramp up the resistance and the speed,” says Stapleton. “If they do it passively, then we follow a separate part of the algorithm. It turns out that a large percentage of folks you think are not awake at all do end up cycling actively a fair number of minutes during a cycling session.” The next step may be a multinational study of four arms: usual care, amino acid supplementation, exercise, and supplementation plus exercise. In another arena, Stapleton and colleagues at UVM, in addition to other two centers—Harborview and the Medical University of South Carolina—are looking at communication intervention in palliative care for older hospitalized patients and their families. They began recruiting participants in 2016, and are in the process of adding a fourth site because recruiting participants is challenging.

Somehow more offset for Stapleton is work she’s doing as part of an R42 grant, which supports research and development projects between small businesses and research institutions. Marie Pavini, M.D., F.C.C.P., a Rutland Regional Medical Center intensivist, approached Stapleton with a new restraint she developed for use in the ICU. Because the standard bilateral wrist restraints tend to make patients more agitated and in need of additional sedation, leading to longer ICU stays, Pavini came up with a restraint that uses an adjustable rod and a hand enclosure, so patients can move their arms but not reach their mouths or necks and put them at risk of self-removal of breathing tubes and large intravenous lines. That study has begun with a small pilot program at UVM to test the feasibility of the device; if all goes well, Stapleton, Pavini, and Johns Hopkins’s Dale Needham, M.D., Ph.D., will begin a three-center trial next spring.

Meanwhile, the study of zinc in the ICU; the next step is a cohort study of some 800 people at four sites to determine which patients would most benefit from therapeutic doses. Baron has data showing that lower zinc levels lead to a higher likelihood of developing ARDS, along with ventilator-induced lung injury, but that in mouse models, supplementation with zinc has resulted in a quicker recovery and better outcomes, including less injury from the ventilator.

Though she’s so often the one in charge, Stapleton is quick to credit others. “My mentors did an excellent job of being my village, and helping me realize that this research career path met my needs for being of service and fulfilling one’s civic duty, of simultaneously being able to take care of patients, which I still love and is the root of everything that we do. But the research piece is really intellectually satisfying. Your brain is never on hold.” She decided to add on a master’s in epidemiology, and then a Ph.D., and joined the faculty in Seattle before being invited by Parsons in 2007 to come to UVM to conduct research in the ICU.

“She is actively involved in her kids’ lives, and very open about being a mom,” says Parsons, noting Stapleton serves as a model to all of her mentees and colleagues who, like Parikh, juggle full work lives and parenting.

Stapleton had her own model. “I’ve known since I was 10 that I was going to get a medical degree.” That stemmed largely from my love of my childhood pediatrician. She was in her 60s when I was a kid seeing her, and the love of my childhood pediatrician. She was Stapleton worked behind the scenes to get the date of Parikh’s scheduled presentation to the Vermont Lung Conference moved one day ahead to have practice sessions and not on small details like spelling errors and slide formatting. At least as important to Parikh at the time, Stapleton helped her personal assistant daughter solo while her husband was in Connecticut, Parikh was at times overwhelmed by her commitments to research and her work. Stapleton worked behind the scenes to get the date of Parikh’s scheduled presentation to the Vermont Lung Conference moved one day ahead to have practice sessions and not on small details like spelling errors and slide formatting. At least as important to Parikh at the time, Stapleton helped her personal assistant daughter solo while her husband was in Connecticut, Parikh was at times overwhelmed by her commitments to research and her work. Stapleton worked behind the scenes to get the date of Parikh’s scheduled presentation to the Vermont Lung Conference moved one day ahead to have practice sessions and not on small details like spelling errors and slide formatting. At least as important to Parikh at the time, Stapleton helped her personal assistant daughter solo while her husband was in Connecticut, Parikh was at times overwhelmed by her commitments to research and her work. Sampack worked behind the scenes to get the date of Parikh’s scheduled presentation to the Vermont Lung Conference moved one day ahead to have practice sessions and not on small details like spelling errors and slide formatting. At least as important to Parikh at the time, Stapleton helped her personal assistant daughter solo while her husband was in Connecticut, Parikh was at times overwhelmed by her commitments to research and her work. Sampack worked behind the scenes to get the date of Parikh’s scheduled presentation to the Vermont Lung Conference moved one day ahead to have practice sessions and not on small details like spelling errors and slide formatting. At least as important to Parikh at the time, Stapleton helped her personal assistant daughter solo while her husband was in Connecticut, Parikh was at times overwhelmed by her commitments to research and her work. Sampack worked behind the scenes to get the date of Parikh’s scheduled presentation to the Vermont Lung Conference moved one day ahead to have practice sessions and not on small details like spelling errors and slide formatting. At least as important to Parikh at the time, Stapleton helped her personal assistant daughter solo while her husband was in Connecticut, Parikh was at times overwhelmed by her commitments to research and her work.