First, do no harm

U’s children’s hospital leads the charge for patient safety

Sameer Gupta, M.D., has a passion for tending to sick kids. A critical care physician at University of Minnesota Children’s Hospital, Gupta deals with tough situations every day, fighting diseases that have brought youngsters into the hospital—the scariest of places for worried parents. But what those parents don’t see is how hard Gupta works behind the scenes to prevent already sick kids from getting sicker—from what medical professionals call “hospital-acquired conditions.”

“Anytime you introduce a piece of plastic—an endotracheal tube, a catheter, a central line—into a human body, it becomes a nexus for infection,” says Gupta, explaining one source of hospital-acquired conditions. “Bacteria love to climb on anything they can find. Obviously, we want to keep sick kids from getting things like ventilator-associated pneumonia.”

Although nationwide about 7 percent of patients admitted to intensive care units suffer from ventilator-associated pneumonia, the U’s children’s hospital has reduced that number to zero because of a new protocol developed by Gupta and his team.

Additionally, rates of central line–associated blood stream infections in ICU patients have dropped significantly, and the hospital’s neonatal intensive care unit recently marked two years without a catheter-associated blood stream infection.

Other types of hospital-acquired conditions include continued on page 2
surgical site infections, pressure ulcers, medication errors, and falls.

“We know that there are things that happen in any hospital that are preventable,” says Abraham Jacob, M.D., who was named chief medical officer of University of Minnesota Children’s Hospital last year, “so our focus has been to implement and measure best practices to reduce preventable harm to zero. We feel that our sustained focus in these areas will produce the best outcomes for our patients, reduce health care costs, and fulfill our promise to patients and their families to keep them safe.”

Best practices

Jacob leads a patient safety initiative at University of Minnesota Children’s Hospital that is part of a broader collaboration that includes Gillette Children’s Specialty Healthcare, Mayo Eugenio Litta Children’s Hospital, and Children’s Hospitals and Clinics of Minnesota.

“We’ve acknowledged that we can raise the water for all ships with a united approach to safety,” Jacob says. “It gives us the opportunity to learn from other hospitals and share our successes around patient safety concerns.”

Gupta’s success with reducing ventilator-associated pneumonias, however, is by no means Gupta’s only project. Together with Jacob, Gupta facilitates a daily safety call, a conference call in which as many as 28 hospital units participate. During the call, they discuss any events that occurred in the previous 24 hours that may affect patient safety.

“We use that forum to resolve issues in a quick manner, to track trends across the hospital that you might miss in just looking at your own unit, and create initiatives to deal with those trends,” Gupta explains. “Basically, we’re identifying small problems so they don’t become big events.”

Working on preventing ventilator-associated pneumonias, however, is by no means Gupta’s only project. Together with Jacob, Gupta facilitates a daily safety call, a conference call in which as many as 28 hospital units participate. During the call, they discuss any events that occurred in the previous 24 hours that may affect patient safety.

“Communication is key to avoiding costly medical errors, says University of Minnesota Children’s Hospital chief medical officer Abraham Jacob, M.D. (right), here with fourth-year medicine-pediatrics resident Aaron Graumann, M.D.

Photo by Jim Bovin

To streamline that process, University of Minnesota Children’s Hospital has introduced a formal system for reporting errors or safety concerns. Staff members fill out a form documenting the concern—a patient’s bloodstream infection, a medication error, even something like discord among team members—and it gets addressed immediately in the daily call.

That approach has been so successful that the hospital is now looking to implement a patient safety team huddle every eight hours. “Even though we’re resolving many concerns quickly,” he says, “reviewing things every 24 hours often means we’re being reactive versus preventive, which is always our goal. We believe the every-eight-hour meetings will help accomplish that.”
A culture of safety

Gupta’s current research project focuses on effective ways to strengthen the workplace culture at University of Minnesota Children’s Hospital and beyond.

“It’s been shown that the culture of your inpatient unit is a strong predictor of patient safety,” Gupta says. “When you have good teamwork, you see decreased numbers of errors. So we want to develop specific techniques and procedures to help staff members build the strongest possible teams.”

Both Gupta and Jacob emphasize that the ongoing focus on patient safety is key to improving results for all patients.

“This needs to be job number one,” says Gupta. “I equate patient safety with immunizations: the more you can do to prevent harm from happening up front, the better the outcome.”

Adds Jacob: “[This hospital] can be very proud of its safety initiatives and outcomes over the past few years, and we celebrate those successes. But we won’t be satisfied until we get to zero preventable harm.”

The power of one

When 15-year-old Julia Berg died of massive internal bleeding at another hospital in 2005, the tragedy left her parents, Dan Berg and Welcome Jerde, and her sister, Hannah, reeling. But more bad news was yet to come: Julia’s death could have been prevented.

Suddenly Berg and Jerde found themselves not only grieving, but also coping with feelings of anger and frustration. To help make sense of it, they made a gift to establish the Julia Berg Memorial Lectureship at the University of Minnesota to educate doctors about patient safety issues.

“Young physicians are taught about safety,” says Jerde, “but there’s a flood of information that they’re trying to absorb. We thought we could offer a way, through Julia’s story, to personalize the issue of patient safety.”

In the four Julia Berg lectures to date, that is exactly what’s happened: John Andrews, M.D., associate dean for graduate medical education at the University, has introduced Jerde and Berg and then, showing Julia’s picture, told her story. Her presence is a palpable reminder of the very real devastation that comes when mistakes are made.

“One speaker used Julia as a touchstone, making general remarks about safety and then saying, ‘but let’s bring Julia back into the room,’” says Berg. “What we hope is that a percentage of those doctors listening will retain her image [and] remember her story, and that it will contribute to the mitigation of error in the future.”

Learn more about Julia at juliaberg.com, or contribute to the Julia Berg Memorial Lectureship fund at giving.umn.edu/giveto/juliaberg.
Rebuilding a spine
An innovative surgical procedure by a University physician gives a young girl better health—and a better life

If you think somebody who lacks backbone lacks gumption, you haven’t met Aulana Hulbert.

The 10-year-old Nebraskan girl doesn’t have the use of her legs but learned how to get around by walking on her hands. And all because she lacks a backbone—at least a complete one.

Born with no spine below her ribcage, Aulana is now getting one at University of Minnesota Children’s Hospital. The procedure, being performed in stages by David W. Polly Jr., M.D., allows her tiny torso to grow and make room for her internal organs. Only Polly, chief of spine surgery at the University of Minnesota, had ever performed the procedure.

Aulana’s condition, caudal regression, is a rare birth defect that impairs the development of the lower half of the body. Before surgery, Aulana’s ribs rested on top of her pelvis when she sat, which she could do only by continually pushing up with her hands.

“Her stomach and intestines and bladder were being squished, and she vomited and had bowel issues,” says Aulana’s mother, Rachel Hulbert.

Today Aulana is 3 feet tall. But her spine is 7 inches longer, and her torso—from the top of the thorax to the pelvis—is about 29 percent longer than a year ago, thanks to two surgeries by Polly and his team. Instead of the usual procedure, in which surgeons amputate the legs and use leg bone to make a new spine, Polly and his surgical team figured out a way to craft new spine using one of Aulana’s ribs, along with bone from a bone bank.

The donated bone is attached to the upper spine and the pelvis, so it constitutes the whole length of the graft.

Then, “we swing a rib down to it, leaving the rib’s blood vessels attached,” explains Polly, a professor in the Department of Orthopaedic Surgery and holder of the James W. Ogilvie Chair in Orthopaedic Spine Surgery. “The rib gives the graft a blood supply and provides cells. It should help her turn the graft into her own bone by replacing the donated bone’s crystalline structure and growing new blood vessels and bone cells.”

Aulana’s postsurgical life has definitely improved, her mother says.

“She’s only missed one day of school, for flu,” notes Rachel Hulbert. “Before, she missed one day a week.”

Aulana also finds it easier to sit up without pushing with her hands and to use a wheelchair, though her mother says she’s still faster on her hands.

But lengthening the spine also lengthens major abdominal blood vessels, which can only take so much stretch at a time. Therefore, bone must be added gradually; that means Aulana will need at least one or two more surgeries, Polly says.

Which is all right with Aulana’s mother.

“We’ve been happy with the results, and we trust in Dr. Polly,” she says.

And Aulana? “She’s ready to be taller.”
Not just for kids anymore

Young patients and their families motivate U researcher to keep pushing for long, healthy futures for those with cystic fibrosis

Though she’s competitive, Terri Laguna, M.D., didn’t mind when one of her 12-year-old patients “smoked” her in a 5K race last year.

That’s because, despite having cystic fibrosis (CF), Tanner—who also plays hockey—is obviously thriving. And nothing could make Laguna happier.

“He totally kicked our butts,” she laughs. “He was waving to us as we crossed the finish line.”

Laguna brings an athlete’s dedication, focus, and joy to her role as pediatric program director for the pioneering Minnesota Cystic Fibrosis Center. A softball shortstop and avid bicyclist, she traces her dedication to her own childhood health crises—Laguna nearly died after a particularly severe asthma attack landed her in intensive care at age 9—and finds her dedication constantly reinforced by the kids and families with whom she works.

“CF means medications every single day, multiple times a day, from the day you’re born,” Laguna says. “There’s no wiggle room. It’s such a time-consuming chronic disease.”

But thanks in part to groundbreaking research taking place at the Minnesota Cystic Fibrosis Center, the picture is getting brighter all the time.

“It used to be just a pediatric disease. That’s not the case anymore; we have 65-year-old grandmothers with CF here,” Laguna says. “I tell all our new families, ‘Your child is going to have a long and healthy life; it’s our job to help ensure that happens. It’s not going to be easy; you’re going to do medication and therapy every day. The investment you’re going to put into this is going to be huge.’ But there’s a lot of hope in the CF community now.”

Much of that hope comes from research, including clinical trials for the new drug Kalydeco, which has been approved for kids under age 6 with one specific CF mutation. The University is one of several sites for the trial.

Laguna relishes promoting the philanthropy that makes such trials possible. A recent benefit, the Votel Family Mid-Winter Gala—at which family and friends of 20-something Chelsea Votel gathered to learn and give—reminded Laguna how crucial fundraising is to her work.

“These events make you realize why you do what you do. It’s very powerful,” Laguna says. Votel is healthy: “She climbs mountains, she runs. A couple decades ago this wouldn’t have been possible . . . She never takes for granted the fact that she can breathe.”

One of Laguna’s own research interests is the search for a biomarker that could help doctors assess lung health in CF patients under age 6, who are too young to take a pulmonary function test. She’s finding evidence to suggest that the molecule desmosine, which helps hold the elastin of the lungs together, might provide valuable clues about the youngest CF patients—“who is going to be sicker, who we can treat earlier”—to help mitigate potential lung injury.

Laguna believes the time is near when children with CF “don’t have to think about this disease, don’t have to have it define who they are. It’s a very exciting time.”
Researchers and clinicians are turning to umbilical cord blood to treat a growing number of diseases

Previously discarded as medical waste, blood gathered from the placenta and umbilical cord after childbirth holds potential for treating deadly and debilitating diseases. Now, as more centers are beginning to collect and bank this valuable blood, University of Minnesota researchers and clinicians are at the forefront of developing its promise.

In Minnesota, a recent development will increase the amount of cord blood available for research and transplantation alike; last fall, the University announced a new partnership with the St. Louis Cord Blood Bank that will offer women giving birth at the University of Minnesota Medical Center the option of donating their umbilical cord blood. The donated blood either will be used for a stem cell transplant or for research, depending on the number of stem cells in it.

The increased availability of cord blood will make it easier for U experts to advance its therapeutic use not only for cancer but also for the next big frontiers in stem cell research, which could include control or eradication of autoimmune disorders like Crohn’s disease, ulcerative colitis, lupus, and type 1 diabetes, as well as the destruction of agents that sicken and kill by directly attacking the human immune system, like HIV/AIDS.

Read more about the therapeutic potential of umbilical cord blood at give.umn.edu/mb/lifeline.
A new but familiar name

The University of Minnesota Foundation announced in March that donor Caroline Amplatz had fulfilled her pledged gifts for pediatric care, education, and research early and was relinquishing naming rights to the University’s children’s hospital, creating an opportunity for another donor.

The hospital name will change from University of Minnesota Amplatz Children’s Hospital to University of Minnesota Children’s Hospital.

In 2009 Amplatz pledged the leading gift of $50 million to help build this state-of-the-art children’s hospital, which opened in May 2011. She later made an additional gift of $11.2 million to improve the hospital’s pediatric behavioral health facilities. She also pledged $1 million to support medical research through the Amplatz Scholars Research Award. Amplatz has fully satisfied all of these gift commitments.

Patients and visitors at the hospital building also may have noticed another new name: University of Minnesota Health. It’s a new brand representing a closer partnership of the University of Minnesota, University of Minnesota Physicians, and Fairview Health Services and their shared commitment to delivering the best possible care to patients. University of Minnesota Children’s Hospital is included under the University of Minnesota Health umbrella.

Leaders expect that better integration of care will not only improve the care experience for patients and families, but it will also make care delivery more efficient.

Dancing the night away

A group of University of Minnesota students lined up to copy the dance moves of 7-year-old Anders Waterworth at the no-sitting, no-sleeping Unlimited Dance Marathon on February 22 and 23. Combined with donations that students and student-athletes collected at 14 sporting events throughout the course of the academic year, the event raised more than $32,000 for University of Minnesota Children’s Hospital.

We’re almost there ...

Our Children’s Health Campaign is inspiring hope and improving the lives of seriously ill children and their families. So far we’ve raised $168 million—96 percent of our $175 million goal—through private gifts and fundraising events, funding vital advances in research and care.

Help us reach our goal by 2015. Make your gift today at uofmhope.org.

Champions for Children Celebrity Golf Classic

June 9, 2014
Windsong Farm Golf Club
Hosted by John Sullivan of the Minnesota Vikings
Visit uofmhope.org for more information.
As partnerships go, this one’s a slam dunk.

It began with a $100,000 gift last summer from Sport Ngin to build the Sport Ngin Sport Court alongside the Sullivan Playground on the front lawn of University of Minnesota Children’s Hospital. Today, Sport Ngin employees are so fired up about the Sport Court and what it might mean for young patients that they’re making a full-court press to host a monthly basketball tournament there.

“We can create brackets, and we have an iPhone app we can use,” says Anna Klombies, vice president for human resources at Sport Ngin, which specializes in web software and mobile apps for youth sports. “We’re so excited to use the technology we have to enhance kids’ experiences there.”

Slated to officially open in June, the rubber-surface Sport Court features an adjustable-height basketball hoop, a Four Square grid, and a “Nine Dot” grid where kids can practice dribbling and play other games, she says.

“Kids in wheelchairs can still get a lot of upper-body exercise from dribbling,” Klombies says. “I get so emotional when I think about what this place could mean for patients. Exercise and fresh air are so key to feeling and being healthy.”

Like all parents, Klombies hopes her children never need hospitalization. But if they do, she’s thankful to live near a “world-class institution” like University of Minnesota Children’s Hospital.

“It’s an amazing place,” she says. “Everyone is so engaged, so devoted and passionate—any small way we can help is an honor.”