



Children's Health

A publication for those who support children's health research, education, and care at University of Minnesota Amplatz Children's Hospital

A place of their own

Amplatz Children's Hospital's new children-only emergency department delivers exceptional care with a unique mission

When University of Minnesota Amplatz Children's Hospital opened the doors of its emergency department for the first time on April 30, the breakthrough pediatric medicine offered there became easier to find.

The brand-new hospital, located on the University's Riverside campus, now has a welcoming and easy-to-find emergency department dedicated solely to children. Amplatz Children's Hospital's former setup as a "hospital within a hospital" on the University's East Bank campus meant that all patients needing emergent care—whether children or adults—entered through one set of emergency department doors at University of Minnesota Medical Center, Fairview.

The culture of the new emergency department reflects the entire hospital's attention to family-centered care and to delivering the very best experience for children. "There's nothing in here that isn't state-of-the-art," says Anupam Kharbanda, M.D., research director for the Division of Pediatric Emergency Medicine.

Treatment spaces are large enough that parents can stay by their child's side. Children and adolescents with behavioral or mental health needs have a room specially designed to help them feel safe. And two fully equipped trauma bays allow

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Photo by David Sherman



A space designed just for kids helps emergency department physicians such as Anupam Kharbanda, M.D., make children feel more comfortable.

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'Little red wagons' inspire one family to adopt a room
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A place of their own *(continued from cover)*

emergency staff to care for the most severely ill or injured children.

“Being able to influence emergency pediatric care for the better—perhaps around the world—through our work at Amplatz is what it means to be part of the University of Minnesota,” says assistant professor Tom Hellmich, M.D., who joined the Department of Pediatrics’ emergency medicine team after 18 years practicing locally elsewhere. “That opportunity inspires me to be a better physician and educator.”

Setting the standard

Leading-edge emergency facilities demand leading-edge emergency care. The gold standard today is “evidence-driven.” In the emergency department, this means following carefully researched protocols that provide consistent, proven treatments in a fast-paced environment. Many of those protocols are designed at academic hospitals like Amplatz.

“We want to ensure that all children in the ED get the same excellent care for their particular injury or illness,” says Ron Furnival, M.D., co-director of the Division of Pediatric Emergency Medicine. “Evidence-driven care allows us to do that. For example, if a child comes in with diabetic ketoacidosis, we’ve designed a protocol

that nurses can get started immediately that is the same for every patient, every time.”

Furnival believes that being part of an academic medical center gives the emergency department a distinct advantage when designing these protocols. Here physicians are responsible for educating residents and medical students, so they must be attuned to the latest research—and may have conducted some of it themselves.

Kharbanda, for instance, explored ways to evaluate children with possible appendicitis without automatically ordering a CT scan. The result of his work is an online evaluation tool for physicians that suggests a course of action for the child. This method can be shared with emergency departments around the country.

“Designing evidence-driven care protocols can be time-consuming,” says Kharbanda. “But the University supports its physicians in this work and holds to the larger vision of improving care for everyone.”

Better care for all children

Combining teaching and research with first-rate innovative care is the essence of academic medicine. Sharing the knowledge gained in these pursuits is its mission—and it sets Amplatz

Amplatz Children’s Hospital Emergency Department

By the numbers

8

state-of-the-art ED treatment rooms with space for parents to stay with their children

46

percent increase in ED patients since the new facility opened in April

100

percent of our ED physicians who are board-certified or board-eligible in pediatric emergency medicine

Mark Roback, M.D., and Ron Furnival, M.D., co-direct the Division of Pediatric Emergency Medicine in the University of Minnesota’s Department of Pediatrics.



Photo by Scott Strebbe

Children's Hospital's emergency department apart from the pack.

According to Mark Roback, M.D., who co-directs the Division of Pediatric Emergency Medicine with Furnival, 90 percent of children in the United States are seen in emergency departments not connected to a children's hospital.

"It's important that we take care of the patients we have at Amplatz, but it's just as important for us to be involved in making sure that children, regardless of where they are seen, receive a similar level of care," he says. "That's the responsibility of academic medicine."

Access to excellence

Since Amplatz Children's Hospital's new emergency department opened its doors, it has seen a 46 percent increase in patients over the combined pediatric visits to the two University of Minnesota Medical Center emergency departments on its Riverside and East Bank campuses during the same timeframe last year.

Children arrive at the emergency department with a myriad of emergencies: everything from head injuries to stomach aches to complications from bone marrow transplants. They come from the city and the suburbs, from the Dakotas and from Amplatz's new Riverside neighborhood, with its Somali, East African, Vietnamese, Central American, and Mexican families.

These children not only have 24-hour access to the expertise of pediatric emergency medicine physicians, but also to those trained in other subspecialties, like pediatric ophthalmology, dentistry, and infectious diseases.

"Our job—and what we love—is to take care of children," says Roback. "No matter what brings them to us, our emergency department and the entire hospital will serve them with unmatched care."

A family support system

Rich Kaplan, M.D., M.S.W., was deliberate about the words he chose when he named the University of Minnesota's Center for Safe and Healthy Children five years ago.

"The goal of the center is to keep children safe and to support families so they can raise healthy kids," says Kaplan, who also founded the center and is one of only two physicians in Minnesota (and one of fewer than 200 in the United States) board-certified in child abuse pediatrics.



Quiet spaces in University of Minnesota Amplatz Children's Hospital such as this family lounge give parents of ill children a place to reflect and relax during stressful times.

Photo by Jim Bovin

Kaplan works closely with the physicians at University of Minnesota Amplatz Children's Hospital's emergency department, a group he calls "the best in the state." That group, along with Kaplan and pediatric trauma surgeons at the hospital, designed a strict protocol to follow when an injured child comes into the emergency department.

If there is not "a clear, corroborated mechanism of injury," meaning the cause of the child's injury is in question, Kaplan says, or if the child has significant injuries and is under two years old, the center receives a call.

But when possible, Kaplan prefers to be proactive and reach out to families before any child suffers maltreatment.

"We really want to help families so they don't fail, rather than wait until they do fail and then call in child protection," he says. "That's the old model."

The family-centered culture and quiet spaces at Amplatz Children's Hospital provide a place for Kaplan and members of his staff to meet with families under stress, many of them with critically or chronically ill children, in a nonthreatening way.

"One thing families feel they're not allowed to do is to say how awful and hard it is to have a sick child," he says. "We try to give them permission to say that and then find them support."

To learn how you can support the Center for Safe and Healthy Children, contact Courtney Billing at 612-626-1931 or c.billing@mmf.umn.edu.

Harnessing crucial cells to save lives

It has been more than 40 years since University of Minnesota physicians performed the world's first successful pediatric bone marrow transplant, and researchers here have never stopped trying to find better ways to secure long and healthy lives for children who have cancer.

Physician-scientist Heather Stefanski, M.D., Ph.D., echoes the dedication of her colleagues past and present when she says of her young patients, "I have to make life better for them."

Today two major research efforts are exploring how to manipulate immunity-boosting T-cells—before and after an umbilical cord blood or bone marrow transplant—to save a child's life.

Helping the body do its job

When a child receives a blood or marrow transplant, immune system T-cells play a central role. These sophisticated cells are educated as youngsters in the thymus—the "T" in T-cell—and develop into mature T-cells ready to protect the body against invaders.

Heather Stefanski, M.D., Ph.D., is conducting research focused on boosting children's immune systems after a blood or marrow transplant.

Photo by Richard Anderson



One of the things to guard against after a transplant is graft-versus-host disease (GVHD), which occurs when T-cells in the graft (the transplanted blood or bone marrow) attack the patient's body (the host) as "foreign."

Bruce Blazar, M.D., director of the University's Clinical and Translational Science Institute, wants to find a way to thwart GVHD by boosting a child's supply of a type of cell called regulatory T-cells, whose job is to suppress fellow T-cells if they become too aggressive.

Growing regulatory T-cells in a lab is difficult, but Blazar's research—supported by the National Institutes of Health (NIH), Leukemia and Lymphoma Society, and Children's Cancer Research Fund—has replicated these cells in vitro up to 50-million-fold compared with only 70-fold previously. In animal models and limited human trials, University studies have shown that fortifying the body with these cells before a transplant is effective against GVHD.

"The ability to deliver such large quantities of these cells to patients before they undergo transplantation significantly reduces the chances of graft-versus-host disease," says Blazar.

John Wagner, M.D., director of the University's Blood and Marrow Transplantation Program, is now evaluating the promise of Blazar's work through a clinical trial.

No time to spare

If overactive T-cells in the graft pose a threat to the child, not having enough T-cells in the host—the child's body—can be lethal.

"Until a year after a transplant, children don't have enough of their own T-cells," says Stefanski, an assistant professor of pediatrics in the Division of Hematology, Oncology, and Blood and Marrow Transplantation. "Our patients can be cured of their leukemia and yet die from a common cold."

Stem cells in the transplanted blood or marrow will, over time, develop into a child's own

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Honoring leaders in pediatric cancer research

Two pioneering University of Minnesota pediatric cancer researchers will be recognized for their tireless dedication to children on October 28 at the University's McNamara Alumni Center.

John H. Kersey, M.D., and Mark E. Nesbit Jr., M.D., will receive the University of Minnesota Medical Alumni Society's Harold S. Diehl Award for lifetime achievement, granted to individuals who have made outstanding contributions to the Medical School, the University as a whole, and the community.

As founding director of what is now known as the Masonic Cancer Center, University of Minnesota, Kersey has not only proven himself as a compassionate doctor and researcher but also as a skillful listener who excels at bringing people together to work toward a common goal. The forward-thinking Kersey, a 1964 Medical School alumnus, also led the medical team that performed the world's first successful bone marrow transplant for treating lymphoma. Since he stepped down as Masonic Cancer Center

director in 2007, he has returned to the lab to pursue his lifelong research into the causes of and cures for acute leukemia and lymphoma.

Described by his peers as an astute clinician, researcher, teacher, and advocate, Nesbit is a pioneer in the treatment of acute leukemia. His work has set the standard of care for children who have leukemia—one that has been used as a model for treating other pediatric and adult cancers as well. Nesbit, who completed his residency and fellowship training at the University of Minnesota in the 1960s, also served as the first board chair of Children's Cancer Research Fund, a nonprofit organization that has invested nearly \$60 million in pediatric cancer research at the University.

Mark E. Nesbit Jr., M.D. (left), and John H. Kersey, M.D.



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protective T-cells, but these patients cannot afford to wait that long, Stefanski says. To better defend children against infections in that critical first year, she is looking for a way to augment their immune systems with young T-cells.

Working under an NIH project grant secured by Blazar and Wagner, Stefanski is growing these cells in her lab until they are strong enough to be delivered to a child. The hope is that enough of them will then migrate to the child's thymus and grow more quickly into protective T-cells.

In a year or two, Stefanski believes she'll be ready to transplant umbilical cord blood into mice and then introduce enough budding T-cells to prevent life-threatening infections. If her methods are successful, a human clinical trial may be possible in five years.

"One of the most heartbreaking aspects of my job is when a child dies because of an overwhelming infection due to the transplant," she says. "We do everything we can, and it's still not good enough. This is unacceptable to me and the reason that I'm doing my research."

'Little red wagons' inspire gift

Looking back, Marcy Betcher thinks the seeds that would later grow into her family's support for University of Minnesota Amplatz Children's Hospital were planted back in 1997 at the sight of little red wagons.

As Marcy waited for a hematology appointment at University of Minnesota Medical Center, Fairview, she saw a brigade of volunteers bringing young cancer patients to the clinic in colorful Radio Flyer wagons.

"I was so touched by it all—the wagons, the clown who came in to entertain the children while they waited for their blood tests," Betcher says. "And the fact that the University let it happen so these kids could have a piece of

normalcy during a difficult time."

Fast forward to 2011, when the new University of Minnesota Amplatz Children's Hospital opened with dozens

of Adopt A Rooms, special rooms designed to make the hospital a little more like home. Adopted rooms give sick children more control of their environments and provide more amenities for their families.

After hearing about the Adopt A Room program, Betcher remembered the cheer that the little red wagons had brought to the children she saw years ago—and she saw Adopt A Rooms providing that cheer on a larger scale. Plus, sponsoring a room fit perfectly with her and her husband's convictions.

"Family giving is important to us," says Randy Betcher. The family also believes that giving back to the community is important in its own right, he adds.

Marcy and Randy Betcher also want to instill this value in their children, Andrew, age 14, and Kira, age 10, whom they adopted from Korea.

Now the Betchers have given generously to adopt a room at Amplatz Children's Hospital—a room they named "Andrew and Kira's Room."

"You don't get an opportunity to make a big difference in people's lives like this every day," Randy says. "This is our chance to do that."

*The Betcher family
(from left): Marcy, Andrew,
Randy, and Kira*



Many thanks to our current Adopt A Room sponsors

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Our goal is to find sponsors for all 96 patient rooms in University of Minnesota Amplatz Children's Hospital. To learn how you or your company can adopt a room, visit www.uofmhope.org/adoptaroom or contact Elizabeth Patty at 612-625-6136 or e.patty@mmf.umn.edu.

Save the date

WineFest No. 17

Mark your calendars for WineFest No. 17—A Toast to Children’s Health on May 11 and 12, 2012. This year’s featured artist is Jimmy Reagan, a budding painter and Mendota Heights resident who has autism.

Since its inception, WineFest has raised more than \$9 million for children’s health research, education, and care at the University of Minnesota. Watch for more information at www.thewinefest.org.

Artwork by Jimmy Reagan



Dawn of a Dream

Saturday, November 5
The Depot, Minneapolis

Join us for this 31st annual black-tie event, which benefits Children’s Cancer Research Fund, a decades-long supporter of pediatric cancer research at the University of Minnesota. For more information, visit www.childrenscancer.org/dawnofadream.

Dave Lee’s Gutter Bowl

Friday, February 17
Brunswick Zone XL, Brooklyn Park

WCCO Radio presents this annual bowling tournament, which benefits the Dave Lee’s Gutter Bowl Adopt A Room at University of Minnesota Amplatz Children’s Hospital. Watch for more information at www.uofmhope.org.

Take a page from the Vikings (Fitness) Playbook



Help your kids start the school year off right with these tips from the Vikings Fitness

Playbook, a tool using offensive and defensive plays from childhood obesity experts at the University of Minnesota and supported by the Minnesota Vikings and Vikings Children’s Fund.

- Punt the junk. Limit the high-fat, high-sugar foods you eat.
- Tackle your thirst. Choose water instead of juice or soda.
- Pass the fruits and vegetables. Fill half of your plate with these power foods.

Find the entire booklet, which is meant to help kids stay active and eat well throughout the year, at z.umn.edu/playbook.

Winning CF team helps keep Kyle on the ice



Something wasn't right with Kyle Schwendemann. He came back from an ice fishing trip with pale skin and purple lips, recalls his mother, Melissa. She knew his cystic fibrosis was behind it.

Cystic fibrosis is a hereditary disease that causes thick mucus to accumulate in a person's lungs and sinuses. The disease also makes it difficult for the body to absorb nutrients from food.

Kyle, who was diagnosed when he was 3 months old, was no stranger to University of Minnesota Amplatz Children's Hospital. His cystic fibrosis landed him there a couple of times every year, even though he has kept up with his therapies, which include taking a handful of vitamins and enzymes daily and wearing his lung-clearing chest compression vest three or four times a day.

But he was in good hands. Thanks to research conducted at the University over the last 50 years, the life expectancy for patients of the

Minnesota Cystic Fibrosis Center is a full decade longer than the national average.

The University is also the birthplace of the widely used chest compression vest, invented and perfected by pioneering physician-scientist Warren Warwick, M.D., who recently retired after five decades as a leader in his field.

So when Kyle checked into the hospital in March 2009 to have a part of his right lung removed—the part where mucus kept getting stuck, causing most of his hospitalizations—his family knew he was in the right place.

Since recovering from that surgery, 14-year-old Kyle is back on skates where he belongs.

"Kyle is a hockey player first, a young man with cystic fibrosis second," says Terri Laguna, M.D., Kyle's pulmonologist at Amplatz Children's Hospital. "Since his surgery, he has spent more time on the ice and less in the hospital."

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