

Unmatched Emergency Care

Expert staff, state-of-the-art facility and efficient processes set Avera McKennan apart

BY DONNA FARRIS, AVERA MCKENNAN WRITER/EDITOR

What makes great for Emergency Medicine? While one Emergency Room may have expert staff, and another a state-of-the-art facility, Avera McKennan has both, along with precision processes for optimal efficiency. Together, these three factors in the Avera McKennan Emergency Department add up to unmatched emergency care in this region.

Avera McKennan is the only hospital in the state and region to have emergency physicians who are all residency trained and board-certified in emergency medicine, on site 24/7.

An innovative facility, newly constructed in 2007, was designed for state-of-the-art technology, staff efficiency and patient-friendliness.

And a LEAN project in 2005 honed staff processes, cutting door-to-doctor time to an average of 20 minutes, and length of stay to just under two hours.

"We are set apart by having all board-certified, residency-trained physicians. Add that to our special design and processes in our ED, and it's very unique, with only one or two other facilities in the country with a similar design or patient flow model. Here at Avera McKennan, you're going to get some very fast, very efficient, very good care," said Dr. Donald Koziak, medical director of the Avera McKennan Emergency Department.

Careflight: An ICU on wings

No matter where patients experience critical injuries or illness throughout the Avera region, they deserve the same access to critical care. Yet some are many hours away from tertiary care in Sioux Falls.



That's why the Careflight team stands ready to transport patients to Avera McKennan as quickly as possible.

Francie Miller, assistant vice president for Emergency Services at Avera McKennan, was instrumental in developing the Careflight program in 1986. In fact, she and her husband, Steven, manned the aircraft, she as the nurse and he as paramedic.

"We started Careflight based on what we saw – many of our most critical patients didn't have the same access to care," Miller said.

Rural ambulance teams are often volunteer squads who are trained to provide only basic life support. In the same way, rural hospitals do not have the staffing or equipment resources to support critical care patients.

The Careflight rotor wing and fixed wing aircraft are literally airborne Intensive Care Units, staffed by professionals highly trained in critical care.

"For critical patients, often the difference between life and death depends on getting here within a crucial time window. We rely on Careflight to make that happen," said Lisa Lindgren, Avera McKennan Emergency Department nurse manager.

The program has two aircraft – rotor wing (or helicopter) and fixed wing – both to support the flight volume and accommodate different needs.

The helicopter normally flies within a 125-mile radius of Sioux Falls. However, it offers "door-to-door" service to facilities with a helipad, and can land at the scene of accidents.

The fixed wing can fly at higher speeds and greater distances. A ground transport unit, also equipped for critical care, takes patients to and from the airport in support of the fixed wing unit. The fixed wing was added to the program in 2003, with a new plane acquired in 2008.

Careflight averages 1,200 flights a year, or about three per day. Approximately 5 percent of the volume involve scene flights to accidents,

AVERA EMERGENCY CARE...BY THE NUMBERS

15,000	25,000	20 minutes	2 hours	5 minutes	1,200	No. 1	No. 1
square footage devoted to Emergency Care at Avera McKennan	patients seen each year in the Emergency Department	average "door-to-doctor" time for patients after arriving in the ED	average length of stay in the ED	time frame in which all chest pain patients receive an EKG after arriving in the ED	Careflight flights per year	diagnosis in the ED: abdominal pain	condition for Careflight patients: cardiac issues

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the other 95 percent are transports from area hospitals. “Ninety-nine percent are critical patients who need to get to a tertiary care center,” Lindgren said. The small remaining percentage involves other miscellaneous patient transports.

Each Careflight core crew includes a flight nurse, paramedic, captain and/ or pilot. Specialized support staff join the team for certain calls, including respiratory therapists, neonatal nurse practitioners in the case of a neonatal transport, or a maternal registered nurse in the case of an OB transport.



More than just a fast way to get patients to the hospital, Careflight is an extension of the critical care unit and Emergency Department, said Mindy Laffin, a flight nurse for over 10 years.

“If patients are on maximal medical therapy, a ventilator, or require intubation or multiple IV drugs, we can continue that care,” Laffin said. A transport ventilator, sophisticated monitoring equipment and external pacemaker are among critical care equipment on board. Staff are trained in advanced techniques, such as intubation. “We always have the ability to contact our medical control,” Laffin added.

“We make every effort to stabilize patients before transport, but sometimes, time is of the essence,” Laffin said. “A badly injured patient doesn’t need me as much as he needs a trauma surgeon.”

As opposed to a ground ambulance crew, the Careflight team sees more critical patients, stays with them longer, and often steps in to stabilize patients that small rural hospitals are not equipped to care for, said Brian Erickson, lead paramedic.

Between flights, Careflight teams help in the Emergency Department or elsewhere in the hospital, or conduct training to stay sharp on key skills, Erickson said.

Careflight is accredited by CAMTS, the Commission on Accreditation of Medical Transport Services, which in itself requires meeting stringent criteria. “But we want to stay above and beyond what they’re requiring,” Erickson said.

The right care – fast

Crowded waiting rooms and chaotic, cluttered hallways portrayed in Hollywood ERs simply is not the reality for ED patients at Avera McKennan.

With a patient flow process inspired by a NASCAR pit crew, patients are surrounded by a flurry of care as soon as they arrive at the ED, just as crews surround the race cars when they enter the pit.

After a brief triage and patient identification process, patients are taken to a private room, where a registered nurse and physician conduct a joint assessment.

It is only after the patient’s pain has been controlled, blood has been drawn, and tests have been ordered that a registration staff member goes to the bedside to collect personal data. Not only is this more efficient, it sends patients a message that their care is more important than payment.

Specialized bedside carts are brought to the patient, instead of the patient being taken to a specialized room. This means less waiting, and less movement for patients.

If a patient presents with serious injury, chest pain or stroke symptoms, staff launch specific care protocols to save lives.

A matter of minutes

“For the most critical patients, minutes often determine outcome,” said Francie Miller, assistant vice president for Emergency Services at Avera McKennan. “A critical case should not surprise anyone. We want to have all resources readily available.”

Avera McKennan is designated as a Level II Trauma Center, based on its capability to care for critically-injured patients. This means that teams such as trauma surgeons, neurologists, anesthesia and diagnostic imaging are at the ready. “It’s all based on getting the key people in quickly to care for that patient,” said Lisa Lindgren, ED nurse manager.

In the case of chest pain, patients within five minutes undergo an EKG – the primary diagnostic tool for myocardial infarction, or heart attack. If a heart attack is detected, a STEMI (ST-elevation myocardial infarction) protocol strives to get that patient to the cardiac catheterization lab for balloon angioplasty in 90 minutes or less.

Because 85 percent of muscle damage in a heart attack happens in the first two hours, this protocol ensures that life-saving, muscle-saving treatment happens within that “golden hour.”

Patients presenting with stroke symptoms are immediately sent to radiology for a CT scan, with results back within 45 minutes. This helps physicians to hit the three-hour window after the onset of stroke symptoms in which intervention with clot-dissolving medications is most effective.

Nothing is typical in emergency room care. A seemingly slow day can immediately ramp up to a disaster code, for example, after a bus accident results in multiple injuries.

Yet there are those common cases. “Our No. 1 diagnosis is abdominal pain,” Lindgren said. That’s followed by chest pain at No. 2, and behavioral health issues at No. 3.

“Seasonally, we see a lot of influenza and strep throat. Our busiest time is often after 7 p.m. when the acute care clinics are closing,” Lindgren said. During the summer, sprains, strains and lacerations associated with outdoor activity are more common.

The ED averages 25,000 patients per year, with 10 percent growth expected. Daily counts can range from 60 patients to a record number of 102.

‘I just want to see the doctor’

“What patients want is to get in, get their care and get out,” Miller said. One patient perhaps communicated it best by saying, “I just want to see the doctor.”

“We found ways to cut five minutes here, seven minutes there, so the overall length of stay is down,” Dr. Koziak said. “For most patients, their time in the ED doesn’t start until they get to see the physician. We wanted to figure out a way to facilitate getting patients from the door to the doctor. Our average of around 20 minutes is phenomenal for emergency medicine across the country,” he said.

Because emergency room visits are always unplanned, patient satisfaction is a challenge. Yet patient satisfaction scores have risen from averages in the 50th percentile to the 90th percentile on a 100-point scale. “What makes patients the happiest is to get in and out as quickly as possible,” Lindgren

said. Privacy is another concern, addressed in the new ED layout. Because the new center is literally designed for patient privacy, away from the busyness of emergency care, Lindgren said many patients comment that they feel like the only patients there.

Unique design centers on the patient

When it came time to update its emergency facility, Avera McKennan easily could have built a “new and improved” version similar to other typical Emergency Rooms across the nation.

But through a LEAN project launched in 2005, Emergency Department staff began to ask the question, “What would be the epitome of great patient care?” said Bonnie Murtha, ED Resource RN and LEAN team member.

The answer became an Emergency Department design that was anything but typical. Because front-line emergency staff, including nurses and physicians, had a large hand in designing the facility, the final plan includes many unique features that promote staff efficiency as well as patient friendliness.

“We were able to take the best design and the best processes and end up with this outcome,” Miller said.

The \$8 million project increased ED square footage from less than 10,000 to 15,000.

Sixteen private patient rooms are accessed by a perimeter track hallway, with an additional four rooms in an adjacent area.



“IN PLANNING OUR CENTER, WE VISITED MANY EDS, AND BELIEVE OURS IS VERY UNIQUE IN THE MIDWEST.”
-FRANCIE MILLER, ASSISTANT VICE PRESIDENT FOR EMERGENCY SERVICES AT AVERA MCKENNAN

The hallway, primarily for patients and their families, is brightly lit with glass looking to the outside. Family-friendly features include private consultation rooms, a meditation room, Internet café and large waiting room – with a special area just for families with children.

Physicians and nurses operate in and out of a Medical Staff Core, in a central area separate from the patient hallway. Each patient room has two doors, one from the patient hallway, and one from the Staff Core. This allows patients to experience privacy, away from the busyness of emergency care. All phone calls, test scheduling and data gathering take place “behind the scenes.”

Rooms are universal in design for the treatment of any illness or injury. Three rooms are specially designed for extensive critical care and trauma resuscitation.

Some emergency rooms are designed specifically for specialization. “All the current literature supports not specializing,” Miller said. That’s because patient load is always an unknown. One day, five or more pediatrics patients may come in at the same time, for example, in the case of a school bus accident. The universal room concept ensures that a room is available for each critical patient.

The new ED is the result of many ideas from many people. “Through listening to our patients and the input of experienced staff, we made an environment that is very patient-centered,” Miller said.

ER with all board-certified or board-eligible physicians is in the Twin Cities area.

“Because as a group of physicians we are trained in like, we practice very much the same. Emergency medicine is highly guidelines-driven and protocol-driven,” Dr. Koziak said.

In 2008, all flight staff and resource nurses in the ED are gaining specialty certification, and other staff are encouraged to pursue the same goal. Currently, 45 percent of the ED nursing staff are certified.

“It’s specialty training in what we do every day, and is one more thing that puts us above the other health care providers in our area,” Lindgren said.

A collaborative effort

Emergency care at Avera McKennan has been a continual evolution, like many services in health care. “We’re very fortunate in that we have a lot of collaboration between nurses, physicians, hospital leadership, and ancillary services who all put the patient at the center,” Miller said. “How do we safely, efficiently provide care to that patient?”

Excellent emergency care includes the best evidence-based practices, but goes beyond that, Miller said. “Availability of services is a huge piece. If you’re a patient having a heart attack, you need life-saving care right away.” It doesn’t matter what other emergencies are taking place at the same time.

“A big part of rendering high quality care is to take all pieces and make the equation work for the patient,” Miller said. “We have a very collaborative spirit in this organization to ensure that kind of care for ED patients. There can’t be any barriers.”



Emergency as a specialty

Emergency medicine has evolved as its own specialty. “There are things you see in emergency medicine you don’t see in any other field,” Dr. Koziak said.

Full-time physician coverage, rather than coverage by rotating physicians, began in 1982 when Avera McKennan contracted

with a physicians group to provide emergency services.

In 2004, Avera McKennan switched to employing ED physicians who were all residency trained in emergency medicine, and board-certified or board-eligible. The closest

