

Approaches in Critical Care

a publication for trauma and critical care professionals

Bedside Ethics

■ Three Minnesota Case Reports

Complex decision-making in a patient with sickle cell disease

Defining medical futility:
Withdrawing medical support
from a pediatric patient

Intracranial abscess in a
Jehovah's Witness patient
with an unrepaired tetralogy
of Fallot

■ EMS Perspectives Ethics on the street

■ Critical Care Profile Martha McCusker, MD, FACP, chair of Hennepin's biomedical ethics committee



Dear Readers:

For me, the most difficult part of medicine is the ethical questions that linger in my head long after a patient has left my care. I remember one of the first times a case kept me up at night questioning whether we'd done the right thing.



I was on the night shift as a new emergency physician when a man smashed his Corvette into a brick wall in a failed suicide attempt. When his car burst into flames, his body was burned beyond recognition. The medics had assumed he was dead when they heard him moaning. They transported him to the stabilization room at Hennepin, amazed that he was still alive. The only place we could find to place an intravenous line was a quarter-sized circle of skin on the top of his foot. The skin of his chest had burned and shrunk to the point that he could not expand his chest wall muscles. He was slowly suffocating.

We questioned ourselves: What was humane treatment for this suffering man who was bound to die? We could not intubate him because we could not open his scarred-down mouth or move his contracted jaw muscles to obtain an airway view. Should we perform a cricothyroidotomy to help him breathe or only provide pain medication? How much and how often should we give? How should we talk to the family and what should we say? In the end, we gave him pain medication and cut through the eschar of his chest wall to allow him some lung expansion and help him breathe. I told his family that I didn't think they would want to remember him the way he currently looked and that his injuries were incompatible with life. Was I right to suggest this and possibly deprive them of a last visit with their loved one? For thirty long minutes we administered pain medications until he drew his last breath. The family chose not to view his body. Did we do the right thing? Would I do it differently today?

The theme of this issue is bedside ethics. All case reports in this issue end not with concrete lessons but with questions. An ethicist contributes a discussion on each case report and, in our profile article, a prominent local ethicist talks about how an ethics consultation can help medical professionals frame their discussions.

The theme for our next issue will be traumatic brain injury. If you have an interesting case study you'd like to contribute, see the author's guidelines on the *Approaches in Critical Care* Web site at www.hcmed.org/approaches. We'd love to hear from you.

Sincerely,

A handwritten signature in white ink that reads "Michelle Biros".

Michelle H. Biros, MD, MS
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Hennepin County **Medical Center**
Every Life Matters



Approaches in Critical Care

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Approaches in Critical Care

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Case Reports

- 2 Complex decision-making in a patient with sickle cell disease
Charles Bruen, MD and Martha L. McCusker, MD, FACP
- 6 Defining medical futility: Withdrawing medical support from a pediatric patient
Guruprasad Mahadevaiah, MD, Andrew Kiragu, MD, FAAP, and Catherine Duncan, MAT
- 7 Intracranial abscess in a Jehovah's Witness patient with an unrepaired tetralogy of Fallot
Jon B. Cole, MD and Catherine Duncan, MAT
- 10 **Critical Care Profile**
Martha McCusker, MD, FACP, chair of Hennepin's biomedical ethics committee
- 12 **EMS Perspectives**
Ethics on the street
- 15 **Calendar of Events**
- 17 **News Notes**

To submit an article

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Bedside Ethics: Three Case Reports

When difficult ethical issues arise at Hennepin County Medical Center, the biomedical ethics committee brings together health care professionals, the patient, family members, and other parties involved in the case. Committee members help advise the team by providing a historical perspective, defining a range of ethical options, and offering a foundation for the decision-making process.

The following three case reports describe unique challenges to clinical teams attempting the most clinically and ethically sound care. Each includes an ethics discussion from a Hennepin ethics committee member.



noted progressive right-sided weakness and numbness that began with tingling in his right hand about four days prior, followed by right-arm weakness. He stated that his speech had been slurred when he tried to say certain words. About three to four days prior to presentation, he developed chest pain that worsened with deep inspiration or with coughing. On the night prior to his ED presentation, he began vomiting and having diarrhea. On the day of his ED visit, he reported having two episodes of non-bloody vomit, multiple episodes of non-bloody stools and aching in his shoulders and back, which was consistent with previous SCD. His fiancé had noticed left-sided facial drooping about two days prior.

In the past, this patient's sickle cell syndrome had required hospitalizations three or four times per year. He had not seen his primary hematologist in over two years. His medical records indicated poor compliance with medications and many missed appointments. His previous stroke presented as right-sided weakness and was accompanied by pericardial effusion requiring a subxiphoid pericardial window procedure. The patient had visited the ED and had been hospitalized multiple times for seizure-like symptoms but his workup had not demonstrated epileptiform activity. The neurology team considered pseudoseizures highly likely. The patient reported suffering from frequent migraine headaches but did not report taking prophylactic or breaking medications.

On physical exam, his vital signs were BP 114/67, pulse 47, respirations 16, temperature 36.2° C (oral), and SpO₂ 100%. He was very uncomfortable and tearful, occasionally groaning in pain and requiring frequent redirection to attend to the examination. His chest wall was very tender to palpation over the anterior chest and the tenderness was most pronounced over the sternum. The cardiovascular, pulmonary, and abdominal exams were normal. His neurological exam demonstrated slightly

Complex decision-making in a patient with sickle cell disease

Case report by Charles Bruen, MD
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Ethics discussion by Martha McCusker, MD,
FACP, Chair, Biomedical Ethics Committee
Hennepin County Medical Center

Case report

A 26 year-old African-American male with documented hemoglobin S beta thalassemia variant sickle cell disease (SCD) presented to Hennepin's emergency department (ED) with right-sided weakness and chest pain. His medical history included seizures and a stroke at age 16, presumably due to SCD, at which time he underwent an exchange transfusion. In the ED, he complained of a headache that had been present for about a week. He also



decreased facial sensation on the left, most pronounced over V2 distribution. He had a left-sided facial droop with loss of nasolabial fold. He had weakness noted during forehead and lower facial movements. His muscle strength was normal on the left. On the right, he was unwilling to perform shoulder abduction. He had strength of 3/5 in biceps, wrist flexion/extension, thumb abduction, and grip, with a tendency of more distal muscles to be weaker. His right lower extremity strength was 3+/5 in hip flexion, 4/5 for knee extension/flexion, and 5/5 with ankle dorsal/plantar flexion. Sensation was intact to light touch throughout on the left but substantially decreased on right and his toes were down-going. There was generalized tenderness to palpation of muscles, which was most pronounced in the lower extremities.

Emergency physicians were extremely concerned about the possibility of a sickle cell stroke. Hematology evaluated the patient in the ED and began preparations for emergent exchange transfusion. Neurology also was consulted; on their exam, no objective weakness was noted. His repeated exams were inconsistent. On direct exam, for example, he had weakness of his right arm and leg but was able to easily stand from a sitting position and was able to use both hands to unzip his pants. A head computed tomography (CT) scan was performed, which was negative for acute pathology.

Laboratory evaluation did not show any signs of hemolysis. Because of these observations, there were questions about whether his symptoms were physiologic. However, the decision was made to proceed with aggressive treatment.

The patient was admitted to the medical intensive care unit and underwent an exchange transfusion within three hours. Post-exchange, his hemoglobin S decreased from 71% to 24%. During his hospitalization, his physical exam was inconsistent. On one day, he reported feeling weak on the right side of his face but, on the following day, he reported symptoms on his left. Repeated exams were consistent for flattening of his left nasolabial fold. He was observed to easily perform activities such as getting out of bed and holding his phone with his right arm but, on formal exam, he had 2-3/5 strength of his entire right side. His inconsistent examination never normalized and he continued to complain of weakness. He was eventually discharged from the hospital with prescriptions for hydroxyurea, folic acid, Percocet, and hydroxyzine. He was lost to follow-up.

Discussion

Stroke in patients with SCD usually involves large vessels in the arterial circulation, especially the internal carotid and the middle cerebral arteries. In the setting of certain high-risk, acute arterial occlusions,

such as cerebrovascular accident, transient ischemic attack, acute coronary syndrome, multi-organ damage or retinal artery occlusion, an exchange transfusion is indicated. With an exchange transfusion, sickle cells are rapidly replaced with normal cells. Exchange transfusion provides many benefits. It increases the patient's hemoglobin, dilutes the concentration of hemoglobin S with hemoglobin A, and provides red blood cells (RBCs) that have longer circulating half-lives and do not sickle. Transfusion suppresses the patient's own erythropoiesis, reducing the production of sickle RBCs.

Exchange transfusion usually is performed using an automated apheresis machine that replaces one to two patient RBC volumes with donor RBCs. Exchange transfusions have been associated with adverse neurologic sequelae, such as seizures and increased intracranial pressure, so this alternative is reserved for the most refractory cases. A serious type of hemolytic transfusion reaction called hyperhemolytic syndrome can occur during SCD transfusion. In this syndrome, a patient's hemoglobin falls instead of rises after transfusion. Both the patient's own RBCs and the transfused RBCs are destroyed even though the transfused RBCs are cross-match compatible and no new alloantibodies are detectable at the time of transfusion. Less serious but more common side effects also may occur with exchange transfusion, such as a transfusion reaction, infection, citrate toxicity, air embolus, line infection, iron overload, and/or volume overload.

“...the cause of the patient's complaints was far from certain. Several possibilities, including a sickle cell stroke, a seizure, and a migraine with neurologic sequelae, needed to be considered. It also was possible that there was no underlying organic disease.”

The nature of the relationship between the emergency physician and patient often results in difficult ethical dilemmas. They are unfamiliar with each other and decisions need to be made in a timely manner, often without the benefit of predefined guidelines. For

this patient, emergency physicians were forced to make a timely decision in the face of incomplete and uncertain information. In addition, the well-ingrained stroke care mantra of “time is brain” added pressure on the health care team to make their decisions as quickly as possible. In this case, the treatment (transfusion) as well as the potential pathology (stroke) both carried potential adverse risks to the patient. The long-lasting effects of an untreated stroke could devastate the patient and his family, while a decision to proceed with an exchange transfusion requires allocation of considerable resources in both money and time.

When the clinical scenario is well-defined, i.e. in a “textbook case,” the potential benefits of exchange transfusion are considered greater than the risks. In this case, the cause of the patient's complaints was far from certain. Several possibilities, including a sickle cell stroke, a seizure, and a migraine with neurologic sequelae, needed to be considered. It also was possible that there was no underlying organic disease.

In this situation, the emergency physicians, in conjunction with the specialists, decided to proceed with the procedure. Did the health care team make the right decision? Would they make the same decision again? Would another health care team have made different choices?

Ethics discussion

In many medical settings, physicians can allow situations to play out over time. Emergency physicians usually are the exception. Conditions such as strokes are potentially devastating and the physician often must make the best possible decision as quickly as possible, based on which facts are readily at hand.

Many ethical dilemmas in medicine involve one or more of four basic ethical concepts:

- ▶ Beneficence (the health care provider's obligation to act in the best interest of the patient)
- ▶ Nonmaleficence (physicians' obligation to refrain from providing ineffective or harmful treatments)
- ▶ Autonomy (the innate right of the patient to make choices affecting his life and welfare free of coercion)
- ▶ Justice (treating like patients alike and ensuring the socially just allocation of goods in a society)

Several ethical principles were involved in this case. The concept of beneficence, e.g. acting in the best interest of the patient, supports care that is thought to help the patient. The concept of nonmaleficence demands that care is only offered if the likelihood of benefit is greater than the likelihood of adverse



events. While it's important to note that much of the clinical evidence for exchange transfusion is based on the pediatric population, exchange transfusion clearly is an ethically appropriate intervention.

There is another issue in this case, however. The patient had a history of poor adherence to recommended therapies and unusual symptoms (pseudo-seizures), which were more readily explained by psychosomatic processes than by pathophysiology. In other words, this is the kind of a patient often thought of as “difficult.”

In his 1998 book, *Progress in Pain Research and Management*, Ballas reviews evidence that even “exemplary” patients with SCD are often thought of as difficult and accused of malingering and/or drug-seeking. Reasons for this may include physicians’ misunderstanding of the complexity of the disease and physiological responses to sickle cell medications. Racism also has been discussed as a potential factor since SCD most often occurs in patients with African, Mediterranean, Middle Eastern, or Indian heritage. Ballas posits that acting on such stereotypes violates the principle of nonmaleficence because of the potential harm that can result from impugning a patient’s integrity and reputation based on unfair generalizations.

The principle of justice demands that similar cases be addressed in similar ways. If physicians would

have provided the treatment to a more “compliant” patient with a similar presentation, then justice and fairness demand the same for all similar cases. Again, with the time pressures involved, offering the treatment was an ethically appropriate action.

It is unclear if the one neurologic finding that persisted throughout the course, the left-sided nasolabial fold droop, was new at the time of this event or had been present on previous examinations. This knowledge may have made physicians more comfortable with the need for the treatment but the effort involved in locating it may have demanded more time than thought prudent in the face of a potentially devastating neurologic event. This reflects back on the critical role time plays in a case like this.

Over thirty years ago, in his classic *New England Journal of Medicine* article, “Taking Care of the Hateful Patient,” Groves described several patterns of patient behavior—such as the inconsistent reporting of symptoms and noncompliance that this patient demonstrated—that still try the souls of physicians. He succinctly pointed out that when physicians identify their own reactions to such behavior they can more easily set aside their feelings, focus on the clinical data, and strive toward providing the optimal care that all patients deserve. ■

Defining medical futility: Withdrawing medical support from a pediatric patient

Case report by Guruprasad Mahadevaiah, MD and Andrew Kiragu, MD, FAAP
Department of Pediatrics
Hennepin County Medical Center

Ethics discussion by Catherine Duncan, MAT
Chaplain and Ethics Lead, Biomedical Ethics Committee
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Case report

Despite being in a rear car seat, a two year-old girl sustained multiple trauma injuries when the car in which she was riding was broadsided by a delivery truck that was traveling at a high rate of speed. There was significant intrusion of metal and debris into the passenger cabin on the patient's side and a prolonged extrication was necessary. The patient was unresponsive and had agonal respirations at the scene. She was intubated before transportation to a nearby hospital. At that facility, she required re-intubation when her initial endotracheal tube was noted to be in the esophagus. Intra-osseous access was established due to difficulty obtaining venous access. She received mannitol and was loaded with fosphenytoin. Several CT scans were done. Her head CT scan showed diffuse cerebral swelling, a fracture of the right temporal bone involving the carotid canal, and occipital and parietal bone fractures. She had subdural, subarachnoid and intra-ventricular hemorrhages. Her body CT showed bilateral pulmonary contusions and a complex splenic laceration.

She was transferred to Hennepin, a Level 1 Trauma center, for definitive neurosurgical evaluation and management. In the ED, she was hemodynamically unstable with a pulse of 130 beats per minute and a systolic blood pressure of 60 mmHg palpated. Her focused assessment with sonography in trauma (FAST) exam showed free fluid in her abdomen. She was taken emergently to the operating room where she had a ventriculostomy catheter placed. An exploratory laparotomy was performed but did not reveal any major source of bleeding. Her blood pressure improved with volume resuscitation. A cerebral angiogram was done and was negative for carotid vascular injuries. She was subsequently taken to the pediatric intensive care unit (PICU) for ongoing management.

Her PICU course was long and complicated. She initially had significant problems with intracranial hypertension (ICH). She was treated with 3% hypertonic saline (HTS) to keep sodium levels between 145 and 155 mEq/L. Spikes of ICH were managed with 23%

HTS. When her ICH resolved, her ventriculostomy catheter was clamped and subsequently removed. The HTS was stopped after two weeks of therapy. Nutrition was provided, initially as total parenteral nutrition and then through a transpyloric feeding tube. A gastrostomy tube later was placed. She remained on mechanical ventilation for three weeks. Her course was complicated by a ventilator-associated pneumonia that was treated with a 10-day course of ceftriaxone. She eventually was able to tolerate a ventilator wean and extubation.

“Brain magnetic resonance imaging of the patient showed severe diffuse axonal injury of the brainstem, mid-brain area, and cerebellum as well as evidence for profound anoxic injury of her basal ganglia, occipital lobes, and left frontal lobe.”

Overall, the patient's neurologic status remained very concerning. There was significant worry about the severity of her brain injury due to the trauma of the motor vehicle accident as well the anoxia from her prolonged extrication and esophageal intubation. Sedation and analgesia were weaned in order to facilitate her neurologic exam. She had spontaneous eye opening but was cortically blind. She had no verbal output, had a dense left-sided hemiparesis, and had no purposeful movements. Her clinical examination was consistent with her being in a vegetative state. As defined by Fenichel in 2001 in *Clinical Pediatric Neurology*, the term vegetative state is used to describe patients who are in a state of wakefulness without cognition. It is a form of eyes-open unconsciousness with loss of cognitive function and awareness of the environment but preservation of sleep-wake cycles and vegetative functions such as respiration, digestion, and growth. There are multiple etiologies for a vegetative state, including anoxia/ischemia and traumatic brain injury.

Brain magnetic resonance imaging of the patient showed severe diffuse axonal injury of the brainstem, mid-brain area, and cerebellum as well as evidence for profound anoxic injury of her basal ganglia, occipital lobes, and left frontal lobe. There was also mild

diffuse cerebral swelling. She had two electroencephalography studies, including one done off sedation, which showed severe diffuse cerebral dysfunction.

Discussion

Over the course of her hospitalization, multiple care conferences were organized to discuss her care management and update her family. Long-term prognosis was discussed with her family and the health care team. About four weeks after her admission, the decision was made to switch her code status to do not resuscitate/do not intubate (DNR/DNI). Her condition did not improve over the following two weeks and, after additional discussions were held with parents, she was placed in hospice care in the same hospital.

After further discussions about her grim neurological prognosis among the medical staff, her immediate family, and her extended family, the decision was made to withdraw all medical support, including nutrition. Comfort care with lorazepam and morphine was continued as needed. One week after withdrawal of medical support, the patient died. The family declined autopsy and referral for organ or tissue donation.

Medical personnel involved in the case discussed many ethical questions, such as: What were the ethical concerns regarding medical futility in a pediatric patient in a vegetative state? What were the ethical considerations regarding withdrawal of medical support, including nutrition and hydration? What should be the role of an ethics expert or an ethics committee in a case such as this one?

Ethics discussion

The issue of medical futility often generates ethics consultations because the concept of medical futility remains complicated. For nearly every medical condition on record, there are examples of surprise improvements in patient status or even “miracle” cures. Sometimes, medical professionals and family members disagree about whether treatment may benefit the patient. With the exception of the Texas Advance Directives Law, federal and state laws do not provide explicit conditions defining a hospital’s obligations when discontinuing medical intervention and do not help define a fair process by which to settle disputes about the futility of care. Physicians are required to follow the standard of care in the community and, if providing treatment falls outside this standard of care, they are not obliged to continue.

In the case of the two year-old girl, the issues are more complex because the patient has not reached a stage of development allowing her to express preferences for care. Also, children at this age have more

physiologic reserve and more time may be needed to assess prognosis.

For patients like this one who cannot aliment orally, artificial nutrition and hydration (ANH) can provide food and fluid. Ethicists generally look at ANH as another form of medical care and withdrawal of ANH is within the range of ethically appropriate options of care in select patients. This is not a universally held belief; family members and the care team may consider other factors, including religious and cultural beliefs, as they approach this issue. With children who have not achieved decisional capacity, additional concerns may arise.

As Diekema described in the July 2009 *Pediatrics*, the American Academy of Pediatrics has recently published a report from its bioethics committee addressing the issue of ANH care. The authors describe ANH as appropriate if the benefits outweigh the burdens for a child. If the benefits do not outweigh the burdens of the interventions, withdrawal of ANH is ethically acceptable. This course of action is consistent with the Federal Child Abuse Prevention and Treatment Act. The authors cite evidence that most Americans would not want ANH if they themselves were in a persistent vegetative state. In addition to other considerations, they argue that subjecting children (though not legally independent) to treatment that does not offer benefit can be considered as a form of age discrimination. In this case the benefits of ANH do not outweigh the burdens and withdrawal of ANH is within the range of ethically appropriate options given the patient’s persistent vegetative state without hope for any meaningful recovery. ■



“The family and patient confirmed that under no circumstances was she to receive any blood products, even if it meant her death.”

Intracranial abscess in a Jehovah’s Witness patient with an unrepaired tetralogy of Fallot

Case report by Jon B. Cole, MD
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Ethics discussion by Maxine Slobof, MA, CCC-SLP, F-ASHA
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Hennepin County Medical Center

Case report

A 30 year-old woman presented to the ED of a Twin Cities area hospital complaining of malaise, myalgia, and congestion. She was a Jehovah’s Witness with a history of unrepaired tetralogy of Fallot. A few days earlier, she had been seen at an urgent care facility and placed on ciprofloxacin for these symptoms but entered the ED because over the last three days she had developed a progressively worsening headache, lethargy, and vomiting. An ED urinalysis, serum electrolytes, and troponin were all normal. A complete blood count (CBC) was normal except for a markedly elevated hemoglobin of 23.5 mg/dL. An electrocardiogram revealed normal sinus rhythm with a first-degree heart block. In preparation for a lumbar puncture, the ED physician ordered a head CT scan, which returned remarkable for a posterior fossa mass suggestive of brain abscess. He prepared to transfer her to a hospital with neurosurgical capabilities.

The patient had received previous health care at a tertiary care hospital (hospital #1) but her family reported some perceived negative interactions with staff at that facility over their desire to have no blood transfusions and refused to return to that facility. Another hospital (hospital #2) was contacted but refused to accept the patient; the facility was uncomfortable handling the potential intra-operative course of this complicated patient because their cardiologists

had minimal experience managing congenital heart disease. Hennepin then was contacted and an emergency physician accepted the transfer. The family consented to transfer because they believed Hennepin would be more sympathetic to their views regarding transfusion. Prior to transfer, two peripheral intravenous lines and a Foley catheter were placed.

On arrival to Hennepin, the patient was in minimal acute distress. Her vital signs were: temperature 36.3° C, pulse 140, BP 87/38, respirations 22, and SpO₂ 80% on mask O₂. She was alert and oriented x 3; she had difficulty answering complex questions and had a normal cranial nerve exam. Cardiovascular exam was notable for a 3/6 holosystolic murmur; she had significant clubbing and peripheral cyanosis. Her airway was patent and she had no respiratory distress. Her abdominal exam was normal. Neurosurgery was present on her arrival and determined that she needed an urgent craniotomy. The family and patient confirmed that under no circumstances was she to receive any blood products, even if it meant her death. Cardiology also was consulted. The attending cardiologist and neurosurgeon determined that the patient would benefit from a specialized cardiac anesthesiologist familiar with congenital heart disease, which Hennepin did not have. The family at this time, despite their earlier concerns, expressed a desire to transfer the patient to hospital #1, as earlier in the week a physician there had accepted the patient into his clinic. A significant amount of time (approximately 45 minutes) was spent arranging a transfer.

In the meantime, the neurosurgery team determined the patient would benefit from a ventriculostomy to monitor intracranial pressure (ICP). The family and patient consented and the neurosurgery chief resident placed a ventriculostomy in the ED. The initial ICP was 82 mmHg. Fifty milliliters of cerebrospinal fluid (CSF) were drained, with a drop in ICP to the

20s. Shortly thereafter, the patient's ICP rebounded back to the 60s. An additional 10 milliliters of CSF were drained, with another drop in ICP to the 30s. Two grams of ceftriaxone were given intravenously. Within 60 seconds, the patient's neurological exam deteriorated. She became unresponsive with decerebrate posturing. Her ICP rose to 110. Bag-valve mask ventilation was begun. A quick cranial nerve assessment during mask ventilation revealed no corneal reflexes with fixed and dilated pupils. She was intubated and transported to the CT scanner where a repeat head CT demonstrated a large subdural hematoma with midline shift and signs of herniation. This was believed to be a complication of the ventriculostomy. Neurosurgery transported the patient directly to the operating room (OR) while the chief emergency medicine resident and attending neurosurgery and cardiology physicians met with her family to discuss the extremely poor prognosis of the patient. After a brief private moment, the family elected to make the patient comfort care status. The patient was transferred from the OR to the surgical intensive care unit (SICU) without any intervention. Her ventriculostomy was removed and she was extubated. She died shortly thereafter.

Discussion

This case presented multiple medical and ethical dilemmas. First was the refusal of blood products by a critically ill patient who needed a risky surgical procedure that often involves significant bleeding. This case was further complicated by the patient's cyanotic congenital heart disease, which would make any operative intervention more complicated and risky--particularly given that transfusion was not an option. Her tetralogy of Fallot remained unrepaired because of the family's desire to avoid blood transfusion when the patient was a child. The situation was further complicated by the emergent nature of her posterior fossa brain abscess, where a space-occupying lesion can cause significant neurologic morbidity or even death in a relatively short time period.

The neurosurgeons knew the patient needed an operation as soon as possible but wanted to do it in the safest manner possible and deemed that a ventriculostomy would be temporizing until she could get definitive care. Yet, a complication of the procedure ultimately led to her death, which arguably could have been prevented by a surgical intervention that the family refused.

Health care team members grappled with many questions after the case. Was the risk of delaying the operation for transfer to another facility worth the potential benefit of another specialist? When transfer was

chosen as the option, was the temporizing measure of a ventriculostomy worth the risk of the procedure? Under what circumstance should the wishes of the patient be overridden by medical professionals?

Ethics discussion

This case illustrates the tension between two significant ethical principles: autonomy and beneficence. This adult and presumably decisional woman clearly expressed her desire to follow the dictates of her faith. Her history of declining blood products during previous episodes of care confirms the authenticity of this refusal of a specific type of medical treatment. There is general acceptance of a patient's right to autonomy in this circumstance.

In this case, delay in treatment seems to have resulted from the family's initial reluctance to accept care in hospital #1, which was an instance of respecting the patient's right to choose the site of care. The patient's prognosis was dismal. Deferring definitive treatment was fraught with the high risk of herniation and death. The ventriculostomy offered a chance at buying time, an option consistent with the principle of beneficence. When a complication developed, the patient's wishes precluded further pursuit of treatment.

The physicians in this case were forced to walk the proverbial ethical tightrope between respecting patient autonomy and doing everything medically possible to benefit a patient in need. Medical personnel constantly face this battle between opposing ethical concerns, i.e, what the patient wants vs. what is judged to be medically best for the patient. In this particular instance, medical staff appears to have vigorously pursued the goals dictated by both ethical principles. ■

Suggested Readings/Bibliographies for Case Reports

Ballas SK. Ethical issues in the management of sickle cell pain. *American Journal of Hematology*. 2001; 68(2):127-32.

Diekema DS et al. Forgoing medically provided nutrition and hydration in children. *Pediatrics*. 2009;124:813-822. Originally published online Jul 27, 2009: DOI: 10.1542/peds.2009-1299

Fenichel, GM. *Clinical Pediatric Neurology: A Sign and Symptoms Approach*. 4th edition. Philadelphia, Penn: W.B. Saunders Company; 2001.

Groves JE. Taking care of the hateful patient. *N Eng J Med*. 1978; 298(16):883-887.

Information Center for Sickle Cell and Thalassemic Disorders. The Stroke in Sickle Cell Disease page. Available at: <http://sickle.bwh.harvard.edu/stroke.html>. Accessed September 11, 2009.

Platt OS. Prevention and management of stroke in sickle cell anemia. *Hematology Am Soc Hematol Educ Program*. 2006;54-57.

Switzer JA, Hess DC, Nichols FT, Adams RJ. Pathophysiology and treatment of stroke in sickle cell disease: Present and future. *Lancet Neurology*. 2006; 5(6):501-12.

Q and A with Martha McCusker, MD, FACP



Martha McCusker, MD, FACP

In her role as the chair of Hennepin's biomedical ethics committee, geriatrician Martha McCusker has consulted on a diverse array of cases where medical professionals, family members, or patients have questioned how to proceed with the most ethically appropriate care. McCusker answered questions for this article about the bioethics field and her role in ethics consultations at Hennepin.

How does one become a bioethicist?

There are multiple ways. All of us at Hennepin have gotten involved in bioethics by a process of self-education and self-directed professional development. There are also academic ways to go about it, with formal research and training. There is no uniform approach or credentialing process. And people come from all different disciplines.

What led you to become involved in ethics consultations?

In medicine it's often hard to figure out technically what's the proper thing to do but it can be exponentially difficult in terms of the individual patient in front of you. People come in with all sorts of challenges – poor health conditions, lack of insurance, lack of access to health care, differences in cultural, ethnic, and spiritual backgrounds. Providing care is complicated by those other factors that I didn't learn about in medical school. As a geriatrician, a large part of my practice deals with people at the end of their lives. I've found I really need something to guide my thinking, some philosophical underpinnings to help guide me to the best thing to do.

What are the qualities of a good bioethicist?

Someone who is not afraid of ambiguity, who is comfortable with uncertainty, because ethical decision-making is not a

predictable, linear process. Someone with communication skills that allow them to listen and process and hear between the lines, understand the nuances of each patient and his or her world. Someone who can step back and analyze in a more dispassionate way because emotions sometimes are not helpful to working out a problem. For example, it's easy to get caught up in small successes in medicine—improving oxygen levels a little bit, improving renal function—but it's harder to step back and ask what the true impact is that we're making on a patient's functional well-being. A good bioethicist is someone who knows where to find information by consulting with colleagues at other institutions and by researching in reputable journals and other publications. Last, a good bioethicist works at having a network of local cultural brokers who can help with cross-cultural communication and information.

“...it's easy to get caught up in small successes in medicine—improving oxygen levels a little bit, improving renal function—but it's harder to step back and ask what the true impact is that we're making on a patient's functional well-being.”

What happens during an ethics consultation?

It starts with a phone call, which can come from anyone—a family member, a patient, a nurse or physician or other medical professional. We do a chart review and talk to

interested parties, including patients and family members, and then facilitate a meeting to try to help craft an ethically appropriate plan of care. We may follow up or not depending on how things play out.

How has the modern field of bioethics evolved?

The modern development of the field had a lot to do with end-of-life care and neonatal care in the late 1960s and early 1970s. Medicine was coping with the fact that we were doing a better job at keeping people alive, which prompted other questions like, at what neonatal age should we try to resuscitate and offer support to a baby? What were the benefits and burdens of treatment at the other end of life?

Soon, ethics questions arose in growing medical fields, like reproductive technology and transplantation. In the 1960s and 1970s, the patients' rights movement took off and patients' rights became better defined. Beauchamp and Childress published their seminal ethics textbook, *Principles of Biomedical Ethics*, in the seventies as well, and many others followed. All these developments contributed to the field of clinical ethics consultation, and as the practice of ethics consults grew, there was a growing desire to define some of the essential actions and behaviors that could help providers consider all the ethical angles of a patient's care. It wasn't until 1998 that the American Society for Bioethics and Humanities published "Core Competencies for Health Care Ethics Consultation," a formal set of voluntary guidelines for those in the field.

Is there a particular case that sticks in your memory from early in your history of doing ethics consultations? What did you learn from it?

There was a woman living in a nursing home because of disability from mental health problems. Her physical health was pretty good but she was delusional. She developed head and neck cancer and she didn't want it to be treated. For me, that was an astonishing thing. We didn't think we could cure the cancer but we were pretty sure we could reduce the suffering from the symptoms. We could relieve the burden of airway obstruction, erosion, bleeding, and pain. The question came up: did the patient really have the capacity to understand the consequences of her decision? The surgical team wasn't certain; they wondered whether this was ethically appropriate and whether we should work on getting a guardian. After much discussion with her and her family members and medical team, we all concluded the patient really did possess decisional capacity and understood the consequences would be more suffering and earlier

death. In my medical practice, it reminded me that although I technically may have the ability to cure a particular condition in X percentage of cases, and I may not understand why a patient isn't accepting that help, the patient has that right.

What are the biggest misconceptions about bioethicists or ethics committees?

First, we don't want people to think of us as the ethics police—that we're out there to say you did something bad. We aren't there to review care or find fault. Second, sometimes the reverse happens in that people come to us wanting our blessing or endorsement of a plan of care. That's not quite what we do either. We don't "sign off" on plans of care but we are there as a supportive, advisory service to the hospital community. ■

"...we don't want people to think of us as the ethics police—that we're out there to say you did something bad."



EMS Perspectives: Ethics on the Street

by Robert Ball, EMT-P
Hennepin Emergency Medical Services
Hennepin County Medical Center

“Adams, et al, in a 1992 Annals of Emergency Medicine article, found that ethical conflicts arose in 14.4% of paramedic responses.”

Many people associate the term “biomedical ethics” with those rare, headline-making cases where patients or family members wish to cease care when treatment could save a life or want to continue medical treatment when there is no hope for a good outcome. While these cases may be newsworthy, the reality is that ethics is something we practice every day.

Merriam-Webster's dictionary defines the word “ethic” as, “the discipline dealing with what is good and bad and with moral duty and obligation.” Adams, et al, in a 1992 *Annals of Emergency Medicine* article, found that ethical conflicts arose in 14.4% of paramedic responses, with a range of issues—from informed consent to treatment of minors to resource allocation—making regular appearances in a typical EMS professional's day.

In an article originally published in October 2007 in *EMS Magazine*, biomedical ethicist Craig M. Klugman uses several real and hypothetical examples to demonstrate something I've noticed in my own twenty years as an EMS professional: that the ethical issues in the prehospital environment

are unique and require their own interpretation of basic biomedical ethical principles.

Review: Biomedical ethics

Ethical decisions in medicine often involve one or more of the following concepts: beneficence (providing care that helps the patient), nonmaleficence (doing no harm to the patient), autonomy (patients' limited right to self-governance), and justice (treating like patients alike and fairly distributing scarce resources). For example, the idea of informed consent speaks to a patient's right to autonomy when they are lucid, competent decision-makers. Beneficence is the foundation of Minnesota's law requiring medical professionals to provide care if they happen onto an emergency when they are off-duty.

Klugman provides many scenarios in which these ethical principles can play out differently in the lives of EMS providers. For example, an EMS professional typically has much less time to assess whether a patient is lucid and competent enough to provide informed consent. Also, according to a 2004 *Journal of Emergency Medical Services* article authored by Maggione,

Minnesota is one of only two states that include EMS providers in the list of medical professionals who must provide care in an emergency; in the rest of the U.S., EMS providers provide their own interpretation of beneficence if they happen upon a person in need of health care.

In my career as a paramedic, I've found that certain ethical scenarios play out more often, each with their own unique challenge to EMS professionals.

The ethics of medical futility

You've been dispatched to one "unconscious." On arrival, you find a middle-aged man on the floor. His wife is standing near him crying. As you begin your ABC assessment, you find that you can't move his head or neck. You notice livor mortis. His skin is room temperature. You find out from his wife that she came home after several hours away from the house and found him this way. Simply put, the man is dead.

Such a case seems quite simple; rare would be the EMT or paramedic that would even attempt resuscitation in the face of such obvious futility. Instead, we would look to the woman and offer a tender, heartfelt, "I'm sorry. He's dead. There's nothing we can do to help him." From there, we typically would assist her in coping with something that she probably feared but couldn't quite accept when she called 911. We would notify coroners or medical examiners. We may assist her with calling relatives, clergy, or others who will take over helping where we cannot.

However, if we change the age of the patient from a middle-aged man to that of an infant, and the location from a floor to a crib, our reaction may be different. The net result is the same--a dead loved one. However, in the second case, many of us would add the chaos and violence of a futile resuscitation and prolong the wait for those resources the survivors will need to cope.

Even cloudier is the patient in cardiac arrest who may be viable. According to Vukmir, the U.S. rate for survival to discharge from an out-of-hospital cardiac arrest is under 10%. The odds dictate that you will probably be telling these family members that their loved one has died. Of course, we do our best to provide excellent care but at some point either the patient is dead or they are not. Often, we in the field are left to make that determination even when we are consulting with a physician by radio or phone because we are the ones actually seeing and touching the patient. We are the ones who paint the picture that drives the decision-making of others.

"Sometimes, a good biomedical ethicist needs to be able to step back from the emotion surrounding a patient's immediate circumstances in order to provide the best possible care and support to the patient and family. However, knowing this fact rarely makes a removed state of mind any easier to achieve."

In this issue's Critical Care Profile on page 10, Hennepin biomedical ethics committee chair Martha McCusker, MD discusses the paradox of how, sometimes, a good biomedical ethicist needs to be able to step back from the emotion surrounding a patient's immediate circumstances in order to provide the best possible care and support to the patient and family. However, knowing this fact rarely makes a removed state of mind any easier to achieve.

In the case of cardiac arrest, there is a technique I've used that seems to have made the experience easier for family members. I am a firm believer that loved ones of a patient in cardiac arrest should be allowed to remain nearby during the resuscitation unless they are belligerent or violent. I've often positioned them in a manner that allows them an escape to another room in case they feel overwhelmed. I make a point of talking to the family a few times during the incident. Such "visits" can take less than a minute but they help the family understand what's happening and sometimes shed a little more light on the situation for me. It also paves the way for the difficult talk of the patient's death. On those cases where there is a return of pulse and the patient is being transported, perhaps it makes those moments a little more positive while still preparing the family for the fact that the patient isn't out of the woods yet.

In the case of the belligerent bystanders, it may be wisest to either employ the assistance of the police or transport the patient simply to ensure your own safety. However I would caution that the line between being understandably upset and belligerent is a fine one. Running to the ED without providing a reasonable chance at resuscitation must be a choice of last resort.



The ethics of resources

It's a busy day and you've just treated a complicated patient, transported her to an ED, and given report to the ED staff. Do you remain out of service to complete the entire chart or do you make yourself available to take the next call--a call where the outcome may well be affected by the response time of the next closest unit?

The simple version of the ethics of resources can be seen when examining the concept of triage--something that is taught in every EMT and paramedic class and practiced in every mass casualty incident (MCI) drill. Triage (from the Old French *trier* or "to sort") is to sort patients by acuity. In civilian MCIs, the green patients (requiring the least care) are often treated and transported last. In fact, they may be transported by methods other than ambulance (such as a bus). Triage is performed every day in emergency departments, where the most acutely ill patients are seen first, regardless of when they arrive. Even in EMS, some level of triage often occurs in the dispatch center as a routine minor-illness call may wait while an ambulance is reassigned to an emergency call.

But is it as simple as that? Not always. Like everyone, EMS has limited resources. Our mutual aid providers also have limited resources. When you combine that with the occasional day that taxes all of our resources, there often is some additional triage that needs to occur to preserve our resources.

Some would argue that your responsibility for the first patient in the above scenario doesn't end until the documentation is complete. Medicine and EMS as professions have certainly emphasized this as part of the norm. We've all had continuing education on documentation that emphasizes the fact that it's a legal document, and that "if it isn't charted, it isn't done." Certainly, the ED staff members prefer to have the printed chart, since once EMS professionals leave, the chart is the record of everything you told them in report, including what may have missed, or what may have been too long to list verbally (such as medication lists).

However, examining the system as a whole, charting may well be a "green" situation, while responding to a person six blocks away who is choking (compared to a 15-mile response from a mutual aid provider) would certainly appear to be more of a "red" case. Like the "green" MCI patient, the charting must be completed but can probably wait in comparison to managing an actual emergency patient. When it's busy on the streets, it's the patient that hasn't seen you yet that needs you the most. While such a situation isn't optimal, the ethical use of resources means doing the greatest good for the most people.

Ethics is a topic that is often bandied about and treated as a broad theoretical set of ideals about right and wrong. In medicine, ethical care is less about theory as it is about daily practice. And as EMS professionals, one of the joys and challenges of our field is the unique set of challenging, ethics-based decisions we must make every time we start our shift. ■

Bibliography

- Adams JG et al. Ethical conflicts in the prehospital setting. *Annals of Emergency Medicine*. 1992; 21(10):1,259-1,265.
- Klugman CM. Why EMS needs its own ethics. *EMS Magazine*. Oct 2007; updated July 2008. The EMS Responder page. Available at [http://www.emsresponder.com/print/EMS-Magazine/Why-EMS-Needs-Its-Own-Ethics/1\\$6382](http://www.emsresponder.com/print/EMS-Magazine/Why-EMS-Needs-Its-Own-Ethics/1$6382). Accessed on September 16, 2009.
- Maggiore WA. What's your duty? When your legal obligation starts & where it ends. *Journal of EMS*. 2004; Oct 29(10);86-93.
- Vukmir RB. Survival and outcome from prehospital cardiac arrest. *The Internet Journal of Rescue and Disaster Medicine*. 2004;4(1). Available at <http://www.ispub.com/ostia/index.php?xmlFilePath=journals/ijrdm/vol4n1/survival.xml>. Accessed September 30, 2009.

To register for a course, visit www.hcmc.org and click on "Professional Education and Training." For questions or additional information, contact Susan Altmann in Medical Education at Hennepin County Medical Center at (612) 873-5681 or susan.altmann@hcmcd.org unless another contact person is provided. Classes are at Hennepin County Medical Center unless otherwise indicated. Many courses fill quickly; please register early to avoid being wait-listed.



December

December 1, 2, and 3 _____
Emergency Medical Technician refresher courses

December 2 and 4 _____
Advanced Cardiac Life Support Renewal, for Hennepin staff only

December 9 _____
Heartsaver AED

December 7 _____
Advanced Cardiac Life Support Renewal

December 10 _____
Advanced Cardiac Life Support Renewal, for Hennepin staff only

January

January 8 _____
Cardiopulmonary resuscitation, for MDs

January 11 _____
Pediatric Advanced Life Support Renewal

January 13 _____
Advanced Cardiac Life Support, for experienced providers

January 19 _____
Advanced Cardiac Life Support Renewal

January 20 _____
Trauma Nursing Core Course Renewal

January 25, 26, and 27 _____
Emergency Medical Technician refresher courses

January 28 and 29 _____
Advanced Trauma Life Support

February

February 3, 4, and 5 _____
Emergency Medical Technician refresher courses

February 5 _____
Cardiopulmonary resuscitation, for MDs

February 9 _____
Advanced Cardiac Life Support Renewal, for Hennepin staff only

February 10
Advanced Cardiac Life Support Renewal, for Hennepin staff only

February 11
Basic Life Support, for Hennepin staff only

February 12
Heartsaver AED

February 17
Advanced Cardiac Life Support Renewal

February 22
Advanced Cardiac Life Support Renewal, for experienced providers

March

March 1, 2 and 3
Emergency Medical Technician refresher courses

March 4
Advanced Cardiac Life Support Renewal

March 5
Cardiopulmonary resuscitation, for MDs
Advanced Cardiac Life Support
Advanced Cardiac Life Support Renewal

March 9 and 10
Advanced Pediatric Life Support

March 11
Basic Life Support, for Hennepin staff only

March 15 and 16
Advanced Trauma Life Support

March 17
Cardiopulmonary resuscitation, for MDs
Emergency Medical Technician refresher course
Pediatric Advanced Life Support

March 18
Emergency Medical Technician refresher course
Pediatric Advanced Life Support
Pediatric Advanced Life Support Renewal

March 19
Emergency Medical Technician refresher course

March 22-31
Emergency Medical Technician refresher courses

March 23
Advanced Cardiac Life Support Renewal

March 24
Advanced Cardiac Life Support
Advanced Cardiac Life Support Renewal

April

April 1-9
Emergency Medical Technician refresher courses

April 2
Cardiopulmonary resuscitation, for MDs

April 12-16
First Responder

April 13
Basic Life Support, for Hennepin staff only

April 14
Advanced Cardiac Life Support Renewal, for Hennepin staff only

April 20
Advanced Cardiac Life Support Renewal, for Hennepin staff only

April 21
Cardiopulmonary Resuscitation, for MDs
Advanced Cardiac Life Support, for Hennepin staff only

April 26
Basic Life Support

April 27
HeartSaver AED

April 30
Advanced Cardiac Life Support Renewal, for experienced providers



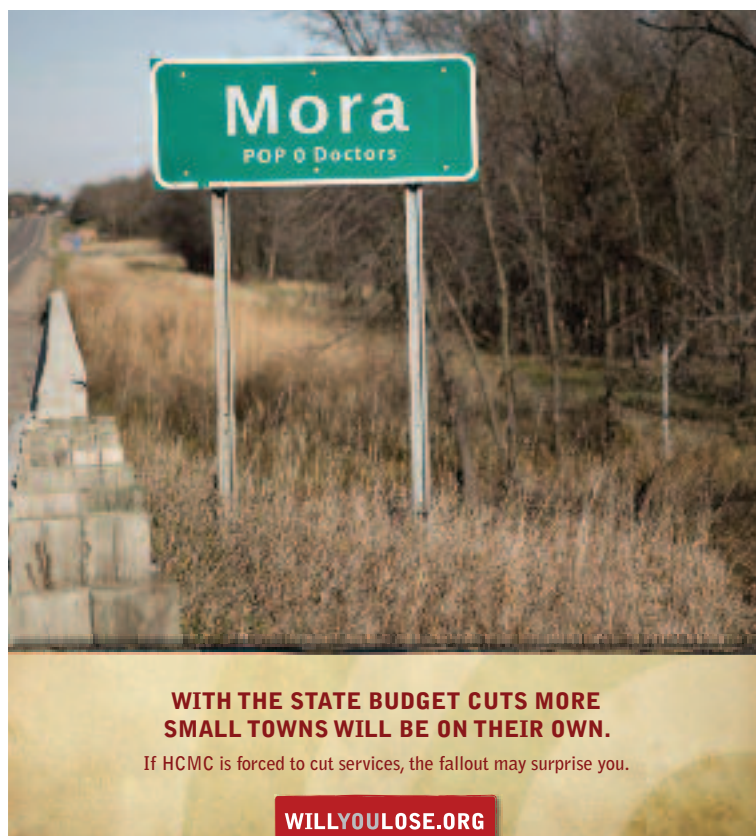
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News Notes



New campaign exposes what GAMC funding cuts mean for Minnesota

This year, two legal concepts—Minnesota’s constitutional clause requiring a balanced state budget and the law that requires public hospitals to serve patients who can’t pay—collided when Minnesota governor Tim Pawlenty used a process called unallocation to cut the General Assistance Medical Care (GAMC) program. The GAMC program, which serves 35,000 Minnesotans with incomes under \$8,000 per year, provides funds to hospitals for a portion of that uncompensated care.

The elimination of GAMC has forced “safety net” hospitals around the state to wrestle alone with uneasy questions: Should they turn away patients at their doors? Eliminate other care services, like poison control centers or emergency preparedness services? Find ways to pass costs onto consumers who are insured?

For Hennepin, the loss is severe, with \$43 million in funding lost for 2010 and \$50 million for 2011. That represents ten percent of the medical center’s operating income. Regions Hospital in St. Paul also faces a significant loss of funding.

To educate the public about the kinds of Hennepin programs that could disappear if funding isn’t reinstated in 2010, Hennepin Health Foundation has launched the “Will you lose?” campaign. Vulnerable programs to be highlighted include:

- **Teaching programs.** Teaching programs at Hennepin prepare future physicians and provide clinical training experiences for nurses and many other allied health professionals.
- **Critical care services.** Services like the burn center, hyperbaric oxygen chamber, and poison control center care for patients from across the state.
- **Emergency preparedness.** As the backbone of Minnesota’s emergency preparedness system, Hennepin faces difficult choices between services for the poor or services for those in acute crises.

The “Will you lose?” campaign, which is funded by the new Hennepin Health Foundation, launched in mid-November. Real patient stories, mock newscasts, and an interactive map are being used to help citizens learn more about the cuts and what they can do to restore GAMC coverage.

For more information visit www.willyoulose.org. There, you can join an action e-list, share a story about Hennepin’s impact on patients, or contribute to support the campaign. As the 2010 legislative session draws closer, a full legislative action center will be added to make it easy to contact legislators and governor on this issue.

WILLYOULOSE.ORG



New chief executive officer named at Hennepin

Arthur Gonzalez, DrPH, has been named the new chief executive officer of Hennepin County Medical Center.

“We are confident that in Art Gonzalez we have a CEO who will provide outstanding leadership and be a great fit for Hennepin,” said Mark Bernhardson, board chair of Hennepin Healthcare System, Inc., the public subsidiary corporation of Hennepin County that operates Hennepin County Medical Center. “He has a long and distinguished career in hospital management and has led a variety of public, for-profit, not-for-profit, faith-based, and teaching hospitals during his 35 years of service.”

Gonzalez has a doctor of public health degree with an emphasis in health services organization and administration from the University of Texas and a master of science degree in healthcare administration from Trinity University. He is board-certified in healthcare management by the American College of Healthcare Executives. Most recently, Gonzalez was president and CEO of Tri-City Healthcare District, a public health care system in Oceanside, California for 10 years. In addition to Tri-City Medical Center, he has served as the chief executive officer of Schumpert Health System in Shreveport, Louisiana; St. Joseph Hospital in Fort Worth, Texas; and Kino Community Hospital in Tucson, Arizona.

“Hennepin is a special place with a special mission,” said Gonzalez. “We are fortunate to have a sophisticated governing board and the strong support of Hennepin County. Hennepin also benefits from a highly skilled and dedicated medical staff that shares the hospital’s commitment to quality and service. I believe Hennepin has the foundation to face the current challenges and thrive in the future.”

Annual Gallup poll confirms nurses are perceived to be the most honest and ethical

Nurses again received top scores from Americans participating in Gallup’s annual Honesty and Ethics poll. In results released for the 2008 poll, 84% of Americans rated nurses’ honesty and ethical standards as “high” or “very high.” The other two medical professionals included in the poll, pharmacists and physicians, were rated positively 70% and 64% of the time, respectively.

Nurses have topped the rankings every year but one since they were added to the poll in 1999; the exception was 2001, when firefighters were included on the list and the poll took place shortly after the September 11 terrorist attacks.

Results are based on telephone interviews conducted in November 2008 with 1,010 U.S. adults and have a 95% confidence rating with a margin of sampling error of plus or minus three percentage points.

Hennepin makes *U.S. News Best Hospitals* list



For the 13th consecutive year, Hennepin County Medical Center has been ranked in *U.S. News’s America’s Best Hospitals* publication. Hennepin’s expertise in the specialty of kidney disease (ranked 49th) was recognized.

Out of more than 4,800 hospitals across the country evaluated, only 174 are included in the final rankings in 16 specialties. Hennepin County Medical Center has been ranked in various specialties every year since 1997. The data-driven rankings are based on factors including reputation among board-certified physicians, mortality rate, technology, patient safety and available specific patient services.

In the area of kidney disease, Hennepin provides diagnostic and treatment services for patients with all types of kidney disease and diabetes and is nationally recognized for renal research. The hospital was home to the first kidney transplant center in the Upper Midwest and has been recognized as one of the top three transplant programs in the nation by the University Health Consortium.



Approaches editor-in-chief elected to the Institute of Medicine

Michelle Biros, MD, Hennepin emergency department physician and editor-in-chief of Hennepin's *Approaches in Critical Care*, was elected to the Institute of Medicine (IOM) of the National Academy of Sciences.

Institute of Medicine membership is awarded to those who have contributed significantly to medical sciences, health care, and public health. It is considered one of the highest honors in the fields of health and medicine. Founded in 1970, the institute's mission is to serve as adviser to the nation to improve health. Over the years, the institute has become recognized as a national resource for independent, scientifically informed analysis and recommendations on health issues.

Biros is one of 65 newly elected members; the IOM currently has 1,610 active members. Elected members volunteer their time to IOM committees, boards, and other activities.

In addition to her work at Hennepin, Biros is a University of Minnesota Medical School professor and vice chair of research in the University's Department of Emergency Medicine. She is the past editor-in-chief of the nationally renowned publication, *Academic Emergency Medicine*.

Twin Cities hospitals limit visitors due to H1N1

In early November, Twin Cities hospitals jointly announced changes in visiting policies to help curb potential spread of the flu. The restrictions, which could

last for the duration of the flu pandemic, took effect at Hennepin, North Memorial, and all Allina, Fairview, and HealthEast hospitals. Under the restrictions:

- Children under the age of five are not allowed to visit patients.
- Visitors under age sixteen are not allowed unless they are immediate family members.
- Visitors with a fever, cough, cold, sore throat, runny nose, vomiting, or diarrhea should not visit.
- Visitors are asked to wash their hands or clean them with alcohol foam before entering and after leaving a patient's room.

Compassionate exceptions may be considered on a case-by-case basis. For a full list of the new restrictions at Hennepin, visit www.hcmc.org. Current updates on the pandemic can be found on the Minnesota Department of Health Web site at health.state.mn.us or at the Centers for Disease Control at flu.gov. Information also is available by calling the Minnesota Flu Line at 1-866-259-4655.

NETT network enrolls patients

The Minnesota hub of the Neurological Emergencies Treatment Trials (NETT) network currently is enrolling patients into two clinical trials. The ALIAS (albumin in acute ischemic stroke) trial is underway at three Minnesota hospitals and three more hospitals are preparing to participate. So far, the national NETT network has enrolled 100 ALIAS patients. Three of these have come from Minnesota.

The second trial, called the RAMPART (rapid anticonvulsant medication prior to arrival) trial, compares the efficacy of intravenous lorazepam with intramuscular midazolam in a blinded fashion for the out-of-hospital treatment of status seizures. The Hennepin paramedic system was chosen to begin this trial; the possibility of incorporating other EMS systems is being explored. Enrollment began in July after an extensive community consultation regarding the exception from informed consent (EFIC) guidelines needed for patient enrollment. The national NETT network has enrolled 120 RAMPART patients thus far with 15 of them being from Minnesota.

A third trial called ProTECT will begin in the spring and will evaluate progesterone for moderate to severe traumatic brain injury. This study will involve patients presenting or transferring to Level 1 trauma centers. Eligible patients will be screened upon arrival and attempts to contact legally authorized

representatives will continue for one hour. If no one can be found to provide prospective consent, the patient will be enrolled using the EFIC guidelines. "Opt-out" bracelets are available for those who would prefer not to be enrolled in the event of head injury. A progesterone bolus will be given over one hour and a maintenance drip will continue for a total of 96 hours.

For additional information, visit the NETT network Web site at nett.umich.edu or Minnesota NETT hub Web site at sitemaker.umich.edu/minnesota.



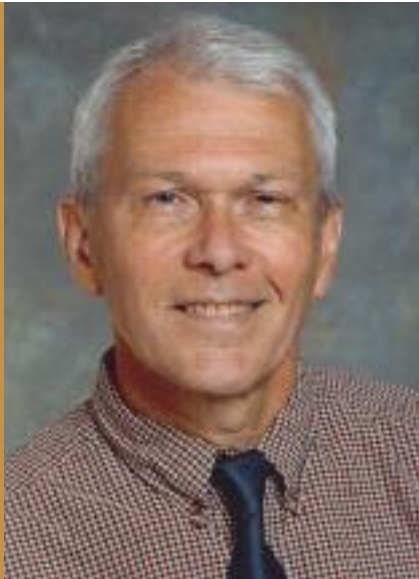
New partnership provides more books to children

A new partnership between the Timberwolves and Hennepin County Medical Center is raising funds for children's books to be given away in Hennepin's ED, outpatient clinics, and other locales.

Timberwolves mascot Crunch has commandeered a retired Hennepin ambulance and is soliciting dollar bills in exchange for the opportunity for the donor to add his or her signature to the outside of the vehicle.

Funds will benefit Hennepin's Children's Literacy Program, which has distributed nearly 100,000 books to children.

Visit hcmc.org/read to learn more or make a donation.



Medical director named for Hennepin Stroke Center

David Anderson, MD, has been named the medical director of the Hennepin Stroke Center. Anderson is the head of the neurology department at University of Minnesota Medical School in addition to being a practicing neurologist.

Hennepin Stroke Center, a Joint-Commission-certified Primary Stroke Center, is one of the top centers in the U.S. in "door-to-IV-tPA" times (the time it takes for a patient to receive intravenous, clot-busting tissue plasminogen activator when experiencing an ischemic stroke) and features a state-of-the-art catheterization lab where interventional neurologists perform minimally invasive procedures that can halt or sometimes reverse stroke damage.

For more information

To download additional resources for critical care clinicians, please visit the *Approaches in Critical Care* Web site at www.hcmc.org/approaches.

There, you'll find:

- ▶ An electronic version of *Approaches in Critical Care* that you can email to colleagues
- ▶ Links to biomedical ethics resources on the Web
- ▶ Hennepin protocols for critical care/trauma events such as brain injuries and strokes
- ▶ Free stroke care materials, including patient and EMS provider education materials



Hennepin County **Medical Center**

Every Life Matters



This issue's cover shows a detail from the late eighteenth-century painting "Hippocrate Refusant Les Presents D'Artaxerces" by French painter Anne-Louis Girodet de Roussy-Trionson. The painting shows Hippocrates turning down gifts for his services as a physician. The graphic depiction of the Oath of Hippocrates is the oath adopted in 1949 by the Third General Assembly of the World Medical Association in London. The oath, first conceived around the fifth century B.C., has changed over time, with Christians removing references to "pagan gods" and other versions eliminating references to slaves and abortion. The current oath has been in use since 1964.

