clinical training in areas such as renal replacement therapy, transesophageal echocardiography, or bronchoscopy.

A preliminary analysis of a critical care fellowship survey being conducted by Dr. Gunnerson and Dr. Huang shows that 40% are willing to accept emergency physicians. This represents an increase from the response in a 1999 survey. As more opportunities materialize, the influx of emergency physicians to the house of critical care will benefit the respective specialties, as well as critically ill patients. We encourage all interested emergency medicine residents to pursue advanced training in critical care, in whatever program they feel best meets their individual career goals.

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In reply:

We are happy that our article has prompted comments from people as well respected as Dr. Rogers, Dr. Grenvik, and Dr. Fink. We are, of course, very familiar with the multidisciplinary model at the University of Pittsburgh. Many critical care physicians nationwide would long to work in an academic Department of Critical Care. We also recognize that their fellowship program accepts residency-trained emergency physicians as fellows. There are some differences, however, between their program and ours.

The program at the University of Pittsburgh accepts applications from emergency physicians. We have 4 slots dedicated only to emergency physicians. We believe this aspect is unique to any critical care fellowship. We do not fill those slots if we do not have suitable applicants. Their fellowship is a combination of medical and surgical rotations. Ours is a purely surgical critical care training program. Our emergency medicine fellows have the opportunity to be leaders on a high-volume trauma team, which we also believe is unique to our fellowship. The volume at the R Adams Cowley Shock Trauma Center allows both surgical and emergency medicine fellows to develop significant experience in the resuscitation and ongoing care of critically injured patients, without compromising resident education.

It is our opinion that, in the future, there will be a cadre of physicians whose academic and patient care mission will be to provide care to critically ill and injured patients. This physician pool will include surgeons, anesthesiologists, internists, and emergency physicians. The scope of critical care practice may well be broader than in the past. There is a real shortage of physicians necessary to provide the myriad of services necessary to provide comprehensive care to critically ill and injured patients. For instance, anesthesiologists and interventional radiologists are currently in short supply. We believe that the intensivist may well provide more comprehensive care in the future.

Critical care training for emergency physicians makes absolute sense. We embrace all of the sentiments articulated by the group from the University of Pittsburgh and fervently hope that many other critical care training programs will not only accept emergency physicians, but dedicate spots to them.

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Mild Hypothermia in Resuscitation: A Historical Perspective

To the Editor:

The interesting review article on therapeutic mild hypothermia by Inamasu and Ichikizaki1 (August 2002; article #123697) correctly points out many therapeutic potentials. I would like to clarify some historic features of hypothermia research.

Protective-preservative hypothermia (during the insult) was pioneered in the 1950s.2 Resuscitative hypothermia (after the insult) lay dormant between the 1960s and 1980s, probably because of management difficulties, arrhythmias, coagulopathy, and infection associated with moderate hypothermia (28°C to 32°C [82.4°F to 89.6°F]), a level then believed necessary for hypothermia to
be beneficial. The recent revival of therapeutic hypothermia was born of trials, not for traumatic brain injury, but rather for cardiac arrest. In the early 1980s, the University of Pittsburgh group (Brader, Gisvold, Leonov, and Safar), disappointed with drug trials for cerebral resuscitation after cardiac arrest, revived research into moderate hypothermia in dogs. The benefit achieved was modest. In 1987, at a meeting of clinical-death-oriented researchers in Pittsburgh, PA, Hossmann presented improved electroencephalogram recovery in cats after global brain ischemia when mild hypothermia had occurred accidentally; and Safar discovered benefit from preservative (intra-ischemic) accidental mild hypothermia (33 °C to 36 °C [91.4 °F to 96.8 °F]) in post–cardiac arrest outcome data in dogs. This was followed between 1988 and 1994 by 5 outcome studies in dogs that documented, for the first time after normothermic cardiac arrest, no-flow of 10 to 12 minutes and, with long-term intensive care, the ability of mild resuscitative (postischemic) hypothermia (which is simple and safe) to reduce brain damage and to normalize functional and histologic outcome after 11-minute cardiac arrest. The latter is important because average urban mobile ICU ambulance response times are approximately 8 minutes. Simultaneously and independently, researchers in Miami, FL, Lund, Sweden, and Detroit, MI, found mild hypothermia to mitigate histologic damage and various deleterious mechanisms in rodent models of cerebral ischemia. It was the dog outcome data that led to the positive randomized clinical outcome studies in Europe and Australia published in The New England Journal of Medicine in February 2002. Cardiac arrest intensive care outcome studies in dogs are rarely quoted, although they are clinically more realistic than studies in rodents and scientifically more controllable than randomized clinical trials. Only after the documentation of mild resuscitative hypothermia effects on outcome after prolonged normothermic cardiac arrest was the revival of hypothermic strategies adopted by traumatic brain injury researchers. The first positive clinical study of mild hypothermia after traumatic brain injury, by Marion et al., preceded by a positive outcome study in dogs of traumatic brain injury simulation with temporary epidural brain compression, which showed that control of intracranial pressure in traumatic brain injury may sometimes require moderate (not just mild) levels of hypothermia.

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In reply:

My fellow author and I sincerely thank Dr. Safar for providing important and informative commentary on our article.

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Hopelessly Complex

To the Editor:

“Hopelessly Complex” is the title of the lecture that I give to our residents about documentation guidelines. The article (#123692) by Bentley et al in the September 2002 issue of Annals highlights this problem. I agree with their concern that it is unfair for the Office of Inspector General to prosecute providers for billing infractions unless they can show consistency in chart reviews. However, the current