Message from the Medical Director
Michael Sise, M.D., FACS

The San Diego County Trauma System marks its 25th anniversary in 2009. Scripps Mercy Hospital was there at the beginning in 1984 when San Diego organized its emergency medical services to identify critically injured patients at the scene and transport them to one of six trauma centers, bypassing local hospitals. The results have been dramatic — with San Diego County leading the country in the organization and delivery of the highest possible quality care for the injured.

Scripps Mercy Hospital’s trauma team remains dedicated to carry on that proud tradition of quality and commitment. We hope you will enjoy this review of Scripps Mercy Hospital’s Trauma Services and its many facets.

All of the trauma team members are proud to be part of the Scripps Mercy family, and we look forward to the next 25 years of serving our community.

ABOUT THE TRAUMA SERVICE AT SCRIPPS MERCY HOSPITAL

Scripps Mercy Hospital is an American College of Surgeons Committee on Trauma (ACS-COT) verified adult level I trauma center and a private teaching hospital affiliated with the University of California, San Diego (UCSD) and the Naval Medical Center San Diego (NMCSD).

Under the direction of Trauma Medical Director Michael Sise, M.D., FACS and Trauma Program Director Dorothy Kelley, R.N., MSN, CEN, NE-BC, the Trauma Service evaluates more than 2,500 trauma patients annually. Scripps Mercy’s care of the injured begins in the trauma room in the Emergency Department and involves every aspect of our hospital, including a newly dedicated trauma floor with an ICU, telemetry and medical/surgical bed capability. In addition to residents and interns from the
The History of San Diego County’s Trauma System

San Diego’s trauma system is considered one of the finest in the country, and Scripps Mercy Hospital has played an integral role since its inception. It began in 1982 when the local Hospital Council commissioned an assessment on the need for a trauma system in San Diego. The resulting report, known as the Amherst Study, revealed that 46.9% of trauma patients studied received suboptimal care and that 21.2% of the deaths were either frankly or potentially preventable.

In 1984, the trauma system was approved by the San Diego County Board of Supervisors. A subsequent, more stringent study examined the outcome changes before and after instituting the trauma system. It revealed that before implementation, the care of major trauma victims was suboptimal in 32% of the cases with preventable deaths at 13.6%. After the system was in place, the number of patients who received suboptimal care dropped to 4.2%, and preventable deaths dropped to 2.7%.

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<th>Before</th>
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<td>Suboptimal Care</td>
<td>32%</td>
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<td>Preventable Death</td>
<td>13.6%</td>
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Scripps Mercy has an active research program based in the Trauma Service and also collaborates with UCSD on a variety of clinical studies. Led by Beth Sise, J.D., R.N., MSN, CPNP, the research program is staffed by two full-time research assistants. Ms. Sise also directs the Trauma Service’s injury prevention programs, which currently target the problems of substance abuse, falls among older adults and suicide.

In addition to his duties as trauma medical director, Dr. Sise is a member of the executive committee of the National American College of Surgeons Committee on Trauma, a member of the Board of Managers of the American Association for the Surgery of Trauma and a member of the Board of the American Trauma Society. He is also a faculty member of the Navy’s Emergency War Surgery Course in San Diego, which prepares military surgeons for service in the Middle East.

Naval Medical Center San Diego General Surgery and Emergency Medicine Programs, the Trauma Service includes dedicated advanced practice trauma nurses, who assist with all trauma evaluations and resuscitations, and trauma nurse practitioners, who provide an organizational influence throughout the trauma team.
Message from the Director
Dorothy Kelley, R.N., MSN, CEN, NE-BC

As we look back at the past 25 years of the San Diego Country Trauma System, we have been confronted by many changes, including [then] Mercy Hospital joining the Scripps Health system. Our trauma center has grown and evolved from a community hospital level II trauma center to a county-designated and American College of Surgeons level I trauma center, the highest designation available, marking a commitment to deliver care to the injured and to provide research, injury prevention and graduate medical education programs.

Scripps Mercy Hospital’s Trauma Service involves multiple disciplines. To provide optimal care and promote positive outcomes, the Trauma Service collaborates with many providers and specialists from the scene of an injury to the acute care setting, through discharge and on to rehabilitation centers. Representatives from all disciplines come together as a team to provide immediate, comprehensive, expert and compassionate care.

Two years ago, we opened a dedicated trauma care unit on the 10th floor of the hospital. Since that time, more than 5,000 patients have received outstanding care by these multidisciplinary team members.

Special thanks to everyone who has dedicated their time, resources and expertise to provide quality care and promote positive outcomes for all of our patients.

TRAUMA CENTERS TODAY

Today the San Diego County Trauma System includes six trauma centers. These are definitive care facilities that provide a spectrum of care for all injured patients. They are regulated under California Code of Regulations, Title 22, Division 9, Chapter 7. They also undergo a verification process every three years whereby the American College of Surgeons Committee on Trauma evaluates each center for the resources needed at various levels of facilities to provide optimal care.

Aside from having acute care responsibilities, level I trauma centers are teaching hospitals that have the responsibility for conducting research and providing injury prevention programs and system leadership. Level II trauma centers are often the most prevalent in a community and, together, manage a majority of the patients. Level III and IV centers serve communities that do not have immediate access to a level I or a level II institution. San Diego’s trauma system comprises two level I centers (including Scripps Mercy Hospital) and four level II trauma centers.

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<tr>
<th>San Diego County Trauma Centers</th>
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<td>Palomar Medical Center</td>
<td>II (Adult)</td>
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<tr>
<td>Rady Children’s Hospital &amp; Health Center</td>
<td>II (Pediatric)</td>
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<td>Scripps Memorial Hospital La Jolla</td>
<td>II (Adult)</td>
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<td>Scripps Mercy Hospital</td>
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<tr>
<td>Sharp Memorial Hospital</td>
<td>II (Adult)</td>
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<tr>
<td>UCSD Medical Center</td>
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Injury is a leading cause of death in the U.S., and trauma centers play a significant role in reducing the impact of injury by participating in injury prevention efforts. To do so, we must analyze the frequency and risks for injury within the community, and then implement and evaluate the effectiveness of selected prevention programs.

Ideally, trauma center activities in injury prevention should also involve research and injury surveillance, which is why my job as director of injury prevention and research is an ideal combination. It involves working together with local community groups, governmental agencies, schools, state and national organizations, and private foundations to lessen the morbidity and mortality of trauma, often assuming a leadership role.

In 2008, Scripps Mercy focused its injury control efforts on the growing problems of falls among older adults, suicidal behavior and substance abuse, especially alcohol. It is a privilege to serve the community in a role that is truly rewarding and worthwhile.
TRAUMA REGISTRY:
Patient and Injury Data

Source: Scripps Mercy Hospital’s Trauma Registry

Trauma Admissions (2003 – 2008)

Trauma Patients Evaluated (2003 – 2008)

Trauma Activations and Consults (2003 – 2008)

Patient Gender (2003 – 2008)
Trauma Research Team (l to r): Robert Sise, MBA, MPH, research assistant; Steven Riccoboni, B.A., research assistant; Beth Sise, J.D., R.N., MSN, CPNP, director of injury prevention and research; and Dan Sack, B.A., research manager.
COMMUNITY BENEFIT

Trauma centers are important community resources. Aside from the patient care services they provide, these centers are sources of information, expertise and leadership in preventing and treating serious injury. Community outreach programs are an integral part of Scripps Mercy Hospital’s Trauma Service and are designed to improve trauma outcomes and prevent injury through public and professional education.

The major components of the Trauma Service’s outreach program include public awareness and injury-prevention education and professional education through conferences, lectures and visitation programs, a few of which are highlighted in this section.

Senior Fall and Injury Prevention. Scripps Mercy’s Trauma Service is represented on the San Diego Fall Prevention Task Force, which seeks to reduce falls and their devastating consequences in San Diego County, by educating older adults and their caregivers about the dangers of falling, a leading cause of injury and death in this age group. The Trauma Service also hosts a bimonthly AARP driver safety program at the hospital.

This program is an eight-hour driver improvement course, specially designed for motorists age 50 and older, which helps drivers refine existing skills and develop safe, defensive driving techniques.

Every 15 Minutes. The Every 15 Minutes program is a popular one for San Diego County high schools because it forces teens to think about their decisions on alcohol and understand the impact these decisions have on their families, friends and community. Scripps Mercy Hospital has been a valued partner as the participating emergency and trauma center, a role it has played 24 times since its first event in April 2000. By the end of 2008, Scripps Mercy Hospital’s doctors and nurses reached an estimated 25,000 11th and 12th graders at participating schools.
Suicide Prevention. Scripps Mercy’s Trauma Service has a leadership role in the Community Health Improvement Partners’ Suicide Prevention Work Team. The work team seeks to reduce suicide, now a leading cause of non-natural death among all ages combined in San Diego County. Their recent publication, “Suicide in San Diego County: 1998 – 2007,” available at www.sdchip.org, filled a void for much-needed surveillance data on the problem of suicide in San Diego in a format that is understandable and informative. The work team also co-sponsored two workshops in 2008 (one for professionals and one for parents and community members) on identifying and managing teens needing help for mental health disorders.

Trauma Nurse Training Programs. Principles of trauma care are introduced to nurses countywide through two ongoing courses taught by faculty that include Scripps Mercy’s trauma nurse specialists. Offered six times in 2008, Trauma Nurse Core Curriculum is a two-day educational program designed for nurses who require an advanced curriculum in caring for trauma patients. Trauma Orientation is a one-day educational program designed for nurses who provide care to trauma patients in the resuscitation phase. In this program, patient assessment, diagnostic tests and management are presented and discussed. Offered twice in 2008, Basic Trauma Orientation is a one-day educational program designed for nurses who provide care to trauma patients in the resuscitation phase. In this program, patient assessment, diagnostic tests and management are presented and discussed.
Who’s on First: Scripps Mercy’s Trauma Team

Scripps Mercy’s Trauma Service is led by a trauma medical director and a trauma program director. Additional staff at the trauma center includes a variety of personnel.

**Trauma Medical Director.** The trauma medical director is one of the attending trauma surgeons and is responsible for directing the overall operations of Scripps Mercy Hospital’s Trauma Service.

**Trauma Attending Surgeons.** These specialists are board certified in surgery and surgical critical care. They provide full-time, in-house coverage for all aspects of care for the injured. They are responsible for supervising all residents’ activities. The trauma attending surgeon is the “captain of the ship” and should be immediately informed of any major changes in the status of the trauma patients or of any administrative issues on the service. The trauma attending surgeon covers the service 24 hours beginning each day at 8 a.m.

**Trauma Program Director.**
The trauma program director is a full-time registered nurse who is responsible for the development, implementation and evaluation of the trauma program. The trauma program director has overall accountability for the organization and coordination of the services and systems necessary for a multidisciplinary approach to trauma care.

**Trauma Graduate Medical Education and Quality Improvement Director.**
This part-time position is fulfilled by a physician who coordinates all aspects of residency training and education on the Trauma Service. This physician also assists in developing practice guidelines and implementing the Trauma Service’s quality improvement program.

**Trauma Administration (l to r):** Lynn Hansen, administrative coordinator; Linda Yamamoto, R.N., BSN, MBA/HCA, PHN, LNC, trauma nurse registrar and PI coordinator; Dorothy Kelley, R.N., MSN, CEN, NE-BC, director, trauma services; Bonnie Lutz, CSTR, trauma registrar; and Liz Devin, PI coordinator
Trauma Patient Care Management. The trauma patient care manager and assistant manager are responsible for the day-to-day operations of the 10th Floor trauma care unit and supervise, coordinate, evaluate and improve the delivery and quality of patient care.

Trauma Clinical Nurse Specialist. The trauma CNS is a full-time leadership position whose primary focus is to advance expert nursing practice. This individual leads education, research and performance improvement activities.

10th Floor Leadership (l to r): Renada Rochon, R.N., MSN, assistant patient care manager; Donna Cahill, MSN, R.N.-B.C., CNS, CEN, HTP-A, clinical nurse specialist; Brian McCord, R.N., CCRN, patient care manager; and Dorothy Kelley, R.N., MSN, CEN, NE-BC, program director

Injury Prevention and Research Director. The director of research and injury prevention is responsible for the Trauma Center’s activities in injury prevention and research.

Trauma Research Manager. The research manager facilitates all research projects and is responsible for data analysis.

Trauma Nurse Practitioners. The nurse practitioners are vital resources who provide valuable clinical input. They work with the trauma case manager and social worker to expedite discharge planning.

Trauma Nurse Practitioners (l to r): Misty Kline, CCRN, MSN, ACNP-BC; Karri Carlson, CCRN, MSN, ACNP-BC; Amy Stalnaker, CCRN, MSN, ACNP-BC; and Barbara Lome, MSN, ACNP-BC
Trauma Social Worker. 
This licensed clinical social worker provides crisis intervention and counseling to patients and families, as well as referrals to community resources. This individual also works with agencies to identify patients, find family members and develop necessary reporting to law enforcement and protective services.

Trauma Case Manager. The full-time trauma nurse case manager assists in trauma patient discharge planning and case management. This manager works with the trauma nurse practitioners to address any issues or changes in patient status to expedite discharge planning.

Trauma Nurse Team Leaders. 
The trauma nurse team leaders respond to every code trauma and are responsible for nursing care throughout the resuscitation and diagnostic phase of care.

Trauma Nurse Registrar/ Performance Improvement Coordinator. This full-time nurse assists the trauma program director in maintaining the Trauma Service’s quality improvement program.

Trauma Registrar. The trauma registrar maintains the trauma patient data registry.

Trauma Nurse Team Leaders (l to r): Krissy Simon, R.N., BSN; Mark La’Haye R.N., BSN, CEN; Donna Woodall, R.N., MSN, CCRN; Teri Nolan, R.N., BSN, CCRN; Lindsay Willard, R.N., BSN; and Jennifer Bilotti-Azevedo, R.N., BSN (Not pictured: Lornna Hopping, R.N.)
Traumatic injury represents a serious public health challenge for San Diego County. In 2005, 9,777 patients were admitted to designated trauma centers in the county. By 2025, that number is expected to increase to more than 12,000.*

**What Is Trauma Care?**

- Trauma refers to any severe (life- or limb-threatening) injury caused by sudden physical force, such as motor vehicle accidents, firearm assaults and falls.

- Trauma is the leading cause of death in America for people age 44 and younger. Each year, more than 140,000 Americans die, and approximately 80,000 are permanently disabled due to traumatic injuries.

- A trauma system is a coordinated system of care in which a specific number of hospitals in a geographic region are designated as trauma centers, with the medical specialists, technology and equipment needed to treat severe injuries. In a trauma system, designated centers include triage experts who work by phone to direct emergency responders in the field to the nearest trauma center if needed (or if not, the nearest emergency room).

- San Diego County’s trauma system includes five adult trauma centers (Scripps Mercy Hospital, Scripps Memorial La Jolla, Palomar Medical Center, Sharp Memorial Hospital and UCSD Medical Center) and one pediatric trauma center (Rady Children’s Hospital).

* The San Diego County Health Care Safety Net Study, 2006, The Abaris Group
Scripps Mercy Hospital’s Trauma Research Program

As a busy level I trauma center, Scripps Mercy Hospital has the robust clinical basis necessary to conduct effective research. The Trauma Research program focuses on the evaluation, resuscitation and management of critically injured patients. The realm of research covers both an analysis of the center’s own experience in trauma care as well as collaboration in national multi-center studies. Surgical and emergency medicine residents are actively involved in trauma research activities. Research drives improvements in patient care and outcomes in Scripps Mercy’s Trauma Service program.

Studies recently conducted at Scripps Mercy by the Trauma Research team include the advanced radiologic imaging for central nervous system trauma, management of chest injuries, early airway management following injury, and alcohol and drug use as root causes of injury. Through scientific presentations and publications, Scripps Mercy Hospital is nationally known for its evidence-based advances in these important areas.

Scripps Mercy’s Trauma Service is a major contributor in multi-center studies, including the trial of blood substitutes and hypertonic saline in resuscitating critically injured patients. The research program participates in the National Highway Traffic Safety Administration’s Crash Injury Research Engineering Network study of the impact of vehicle crash dynamics on occupant injuries. It also contributes data to the National Trauma Data Bank, a national resource for research.

The Trauma Research program’s clinical research clerkship program provides hands-on research experience for selected pre-med students. These future physicians learn how to critically review the medical literature, analyze data, prepare research abstracts, author manuscripts and present study findings at national scientific meetings. Their experience enriches their application to medical school and helps create the clinical researchers of the future.

Future directions for the Trauma Research program include bringing home the lessons from the war in Iraq and Afghanistan to civilian trauma centers, analyzing practice guidelines for the treatment of traumatic brain injury and improving the management of hemorrhagic shock.

FROM THE GENEROSITY OF OUR COMMUNITY

Over the years, funding for the expansion and modernization of Scripps Mercy Hospital’s Trauma Center has been made possible in part by generous donations from San Diego area philanthropists. In autumn 2009, Scripps Mercy will begin an expansion of its Trauma Center from two smaller bays to three spacious bays that will be 75% larger than the current space. This additional area will allow up to six patients to be treated simultaneously and will enable the trauma suite to be equipped with the most advanced trauma technology.

For information on how you can support Scripps Mercy’s Trauma Center, please contact the Mercy Hospital Foundation at 619-686-3836.
1. A study to correlate crash data: matching human injuries with vehicular damage [M. Sise] IRB No. M01-007
2. The role of decompressive craniectomy for treatment of traumatic brain injury in a level I trauma center [M. Sise] IRB No. 004863
3. Patterns in the use of intubation in trauma patients at a level I trauma center [M. Sise] IRB No. 004618
5. Adoption of 1:1 transfusion strategy at a level I trauma center: obstacles and opportunities [M. Sise] IRB No. 004919
6. Modern management of abdominal trauma at a level I trauma center [M. Sise] IRB No. 004957
7. The role of damage control resuscitation in the perioperative treatment of patients undergoing emergent repair of ruptured abdominal aortic aneurysms [M. Sise] IRB No. 004981
8. Surveys in support of screening, brief intervention and referral to treatment (SBIRT) [M Sise] IRB No. MER 004950
10. ROC: hypertonic resuscitation following traumatic injury [M. Sise] IRB No. MER 06-4337
11. Venous thromboembolic disease in trauma [M Sise] IRB No. 08-9005
12. Comorbidities and injury: implications and impact on outcomes in trauma patients [M. Sise] IRB No. 08-9011
13. Trauma peer review and the ability of a trauma service to problem-solve and learn durable lessons [M. Sise] IRB No. 09-5141

PUBLICATIONS
5. “Case Presentation.” Trauma Conference, Department of Surgery. Cedars-Sinai Medical Center. 2008, Sept; Los Angeles, CA.
6. “Shock and Awe’ on the Trauma Service.” Grand Rounds, Department of Surgery. Cedars-Sinai Medical Center. 2008 Sept; Los Angeles, CA.
8. “Mass Casualty Triage.” Disaster and Mass Casualty Management Course. UCSD Medical Center. 2008 May; San Diego, CA
9. “Factor VII: Early, Late or Not at All.” 15th Annual USC Trauma/Critical Care Symposium. 2008 May; Pasadena, CA.
10. “Bringing Home the Lessons of the War to Civilian Trauma Centers.” Scripps Mercy Base Hospital Conference on Trauma Perspectives. 2008 Jun; San Diego, CA.
14. “Factor VII: Early, Late or Not at All.” 15th Annual USC Trauma/Critical Care Symposium. 2008 May; Pasadena, CA.
15. “Vascular Trauma.” War Surgery Course. Naval Regional Medical Center. 2008 Feb; San Diego, CA.
17. “Urgent Intraoperative Surgical Consult.” Trauma, Critical Care and Acute Care Surgery 2008. 2008 Mar; Las Vegas, NV.
Established in 1890 by the Sisters of Mercy, Scripps Mercy Hospital serves the San Diego and Chula Vista communities. With 700 licensed beds, more than 3,000 employees and 1,300 physicians, Scripps Mercy Hospital is San Diego’s longest established and only Catholic hospital. With two campuses, Scripps Mercy Hospital is the largest hospital in San Diego County and one of the 10 largest in California.