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Making a difference: A Look into the Surgical Intensive Care/ Trauma Unit at UCSD

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The trauma phone rings and nurses and trauma technicians stand on alert. Trauma surgeons are paged and at the ready. That call signals the pending arrival of someone who has been critically injured and is in need of immediate and potentially life-saving care. The sickest patients come by air or ground ambulance, while some walk in or are dropped off by friends, family or the police.

The Surgical Intensive Care/Trauma Unit at the University of California San Diego Medical Center is a dynamic, fast-paced and high-acuity unit, providing state of the art care to San Diego County's sickest patients. It is here that we treat complex, life-threatening trauma, multiple organ transplant recipients, and severe, complicated surgical illnesses. We are here and ready 24 hours a day, 365 days a year and are prepared for whatever and whomever comes through our doors.

The trauma bay at the University of California, San Diego Medical Center, is adjacent to the Surgical Intensive Care Unit, unlike those typically housed within Emergency Departments. It is staffed by specially trained SICU nurses, and is just steps away from the operating rooms. This allows for faster and more efficient treatment with unparalleled access to lifesaving personnel and

resources. The most common causes of traumatic injury are motor vehicle crashes, falls, and assaults. The trauma team is composed of an attending surgeon, two surgical or emergency medicine residents, two trauma nurses, a trauma technician, respiratory therapist, x-ray technician and medical students. The team's goal is to evaluate, diagnose and stabilize the patient as quickly as possible.

When the San Diego Trauma System began in 1984, UCSD saw 40-50 trauma patients per month. Over the last 25 years this service has grown 500% and now sees more than 200 trauma patients per month. Despite the huge increase in patient volume, mortality rates for these patients have fallen from 8% to 2.4%. These tremendously improved outcomes are the result of the ongoing research and dedication of UCSDMC staff.

SICU Then and Now

This year marks the 25th anniversary of UCSD's official designation as a Level I trauma center and is the 20th year of the current SICU/Trauma unit. At its inception, trauma was housed in a small corner unit on the 5th floor. We are fortunate to have some of the original trauma nurses still working in the SICU today. When asked about the early years in the old unit, Claire Egan, RN, stated, "It was small and specialized, fun, and a great crew to work with." Regarding the change to the new unit, and changes over the years, Egan continued, "The change was difficult. But you deal with it, you may grumble a little, but you make a success out of it."

At that time, small ICUs of various other surgical specialties were on other floors throughout the hospital. In April, 1989, those specialties came together and formed what we now know as 2W SICU/Trauma. The current SICU is a 20-bed, fast-paced unit in which nurses provide specialized care to some of San Diego County's sickest patients.





As stated by Dr. Jay Doucet, Medical Director of the SICU, “I view the intensive care units as being at the core of the Medical Center’s mission. This is where care is given to the most severely ill patients, where excellent care, innovation, education and technology really come together to save our patients’ lives and health. The care given in the ICUs provides a leading example of the quality care values of the entire Medical Center. The Surgical ICU is the largest of the ICUs and integrates the Trauma Center as well. It deals with the severely injured as well as those with serious illnesses undergoing major surgery. The SICU uses a truly multidisciplinary approach with dedicated nurses, physicians, pharmacists, social workers, technicians and therapists. Among the members of a large, highly specialized SICU team, the largest part of the care

is provided by the Critical Care Nurses. The SICU CCNs are highly skilled and very experienced. I believe they are the heart of the unit and I remain impressed by their dedication, skill and caring attitude. Their attitude and communication abilities are the glue that binds the SICU team together. It doesn’t take anyone new to the SICU very long to realize they are the ones keeping these patients alive and safe from moment to moment. No surgeon can take credit for any success in a critical case without acknowledging our irreplaceable Critical Care Nurses.”

Surgical Specialties

Surgical specialties found within the SICU include trauma, transplant, neurosurgery, vascular surgery, general surgery, cardiothoracic surgery, otolaryngology, orthopedics, ortho-

spine and plastic surgery. SICU nurses are exceptionally trained and specialized in the care of the critically ill surgical patient and take great pride in the wide range of skills and knowledge they possess. The staff also find it very rewarding to be involved in the care of a critically ill patient and to see them progress and heal as a result of tireless hours of unwavering care. A particularly challenging patient is the transplant recipient who requires vigilant and finely tuned care.

Transplant

Liver transplant patients, with their multiple co-morbidities, critical conditions and tenuous immune systems pose a special challenge to the SICU staff. Liver transplantation began at UCSDMC in 1993 and the program continues to grow, with over 450 liver transplant surgeries since that time. Nurses in the SICU have become very specialized in the care of these patients, often the most sick and requiring the most complex care. Candidates for liver transplantation are those with end-stage disease resulting from viral hepatitis, liver cancer, biliary, alcoholic or cryptogenic cirrhosis, acute liver failure or auto-immune disorders. Liver transplantation typically requires 6-10 hours in the operating room and an average ICU stay of 3-4 days. These times may vary depending on the severity of the patient’s pre-transplant illness as well as any postoperative complications. Care of a transplant patient involves balancing the fine line between infection and rejection and giving specialized and detail-oriented care to the very precious gift of life a new organ provides. A liver transplant recipient recently visited the SICU and shared that the nurses so inspired her that she chose to get an education in social work and leave behind her former life of substance abuse.

Receiving the call that an organ is available is undoubtedly exciting for the individual and family who sometimes have waited years for the opportunity of a transplant. However, the organ comes at a price and the moment can be bittersweet; for often,



A Trauma Patient's Story



Marvil Alfaro, 27, was in his last semester at UCSD when he became a trauma patient at UCSD Medical Center. He was involved in a rollover motor vehicle

accident which brought him to the trauma resuscitation room and later the SICU.

"I don't remember too much initially, just glimpses of faces, friends and family," Alfaro said. "I was told that I was on medicines and sedatives."

His workup revealed a spinal compression fracture, a broken rib, a closed head injury and lacerations to his face and head. The patient commented on the good care he received from the nursing staff.

"They did a great job considering my injuries," mentioned Alfaro. "Whatever I needed, they were there."

After a seven-day stay at UCSD Medical Center, Alfaro was discharged. He wore a neck brace during the rest of his six-week recovery, after which he was able to return to his classes.

When asked about where the hospital could have improved, Alfaro stated, "Nothing could have been done better."

Alfaro is a mechanical engineering major and will graduate in June, despite a setback in classes as a result of the accident. After graduation, he plans to relax for a couple of months before applying for a job.

in order for one person to receive an organ, another's life was lost. In a unit where traumatic brain injury is all too common, the nurses of the SICU have become very familiar with this end of the organ donation spectrum as well. Nurses play an integral role in caring for the patient and supporting the family during this time of crisis.

Lifesharing

Based upon very specific assessment criteria, when a patient has suffered a life-threatening injury and is comatose, the bedside nurse is responsible for alerting Lifesharing, a non-profit organization dedicated to the lifesaving and life-enhancing benefits of organ and tissue donation. The Lifesharing Procurement Coordinator reviews the patient's information to determine if they are an appropriate candidate for donation, and works closely with the staff to determine when and if the time is right to approach the family. Once brain death has been confirmed and the family has given consent for the donation of their loved one's organs, the nurse, under the guidance of the Procurement Coordinator, begins to ready the patient for donation. Tests are completed, vital signs are meticulously maintained and the donor's specific information is entered into a national database in order to locate matching recipients. Often one individual's donation saves many lives. In 2008, UCSD nurses cared for 16 donors with both organs and tissues donated.

Nurses Moving Forward

Nurses are drawn to UCSD, and more specifically to the SICU, for various reasons. While some use their experience in the SICU as a solid foundation to further their careers, others are drawn by the adrenaline of working in such a fast-paced environment. Most will tell you they chose UCSD for the opportunity working in a teaching facility provides, both for personal growth and the high standard of patient care. All will agree that UCSD's commitment to nursing excellence makes them proud to be a part of our unit and organization.

Sara Couch, RN, a SICU and trauma nurse, shared her reason for joining the unit, "As a nursing student at SDSU I did a clinical rotation at UCSD and absolutely loved it. I loved the hospital, the people and especially the diverse patient population and the high level of care they required. In addition to challenging patient care, I loved the SICU for its nurses. They were so friendly and helpful and I was so impressed with their skill and expertise. I could only hope that one day I could be that nurse too. I was thrilled to be hired on as a new-graduate nurse in the SICU's critical care intern program and have loved the 5 years I've worked here. The experiences, skills and knowledge I've gained are just what I was looking for when I became a nurse and I continue to learn and grow every day that I spend in the SICU."

Fulfilling Our Mission

This is an exciting time for UCSD, as we continue on our journey toward Magnet designation. As an organization, we strive daily for excellence in the areas of People, Service, Quality, Finance, Growth and Innovation and as a unit we continue to meet and exceed those goals. The nurses of the SICU are dedicated to providing and continually improving quality care for our patients.





FASTHUGS Care Model

Ensuring better patient outcomes

- m**outh care - to prevent VAP
- F**eeding - are nutrition needs met?
- A**nalgesia - is pain controlled?
- S**edation - is sedation adequate?
- T**hromboembolic prophylaxis - does the patient have Lovenox ordered and SCDs on?
- r**estraints - is the patient safe?
- H**ead of bed ≥ 30 degrees - to prevent aspiration
- U**lcer (stress) prophylaxis - is a PPI ordered?
- G**lucose - is blood glucose under control and within target range?
- g**ut - is gut being fed? Is patient having regular bowel movements
- S**kin care - does the patient have skin breakdown? Is he at risk?

People

The experience and education of UCSD's SICU nurses is both vast and varied. Of the nearly 100 nurses on staff, 49 hold CCRN certification. Thirty six are trained as trauma nurses with 42% of SICU nurses holding TNCC certification. Twenty three nurses have a degree in another field; some are master's-prepared. Several of our staff are currently enrolled in programs to advance their degrees, at both the bachelor's and master's degree levels.

Service

Patient satisfaction scores are continually on the rise as we incorporate new methods, practices and procedures into the care of our patients. We strive to be not only compassionate and caring but to provide holistic and culturally-sensitive care to our diverse patient population.

Finance

Our nurse managers are committed to meeting the constraints of the annual budget while striving to provide the SICU and trauma unit with the state-of-the art equipment and resources we need to provide the most up-to-date care to our patients. All staff members are invited to provide input



when it is time to order new equipment and make improvements to the unit.

Growth

Plans are in place to expand the trauma bay in coming years. This will allow the trauma service to accept and care for more patients, giving San Diego County's patients better access to life-saving treatments.

Innovation

As a university-based facility, UCSD Medical Center takes pride in providing state-of-the art, research-driven care. Our methods and practices are evidence-based and continually under review. Our protocols are proven by research and implemented in the care of every patient. An example of the evidence-based care we deliver our patients is the use of the FASTHUGS acronym, modified to mFASTrHUGGS for our purposes and goals in the SICU (see Box 1). By following this care model for all patients, we ensure that all basic needs are met, in areas that are often overlooked. This ensures better patient outcomes overall.

As part of our ongoing commitment to excellence in the SICU, we have formed several committees dedicated to advancing our practice, educating our

peers and ensuring overall improvement in patient care standards. Committees address such issues as safety, safe patient handling, evidence-based practice, quality control and improvement, peer education, and end of life care.

The SICU/Trauma unit at UCSD exemplifies the mission and core values shared by the greater Medical Center community. The nurses and staff of SICU/trauma are committed to providing the highest quality of care to patients with a broad range of traumatic injuries and surgical needs. They are proud to be a part of the fast-paced, high-acuity unit and know that their hard work and dedication really matter. As best stated by Egan, "It's great to make a difference in someone's life every day you go to work."

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