

## Appendix B: NCAL Medical Center Reports



*Neonatal Simulation*

OR



*Emergency Room*

### **South Sacramento Simulation Center**

#### **Background**

Through simulation South Sacramento (SSC), is taking patient safety to the next level. It is a 166 bed, full service Medical Center and the first KP Level II Trauma Center, verified by the American College of Surgeons (ACS) in April 2010. Simulation is built into many aspects of the current trainings being offered. We introduced our simulation/conference/classroom in September 2008 with the Critical Events Team Train-the-Trainer class. It is located on the second floor of the clinic with a bridge landing attaching it to the hospital. It was an ideal location since both physician's and staff had easy access to the center.

Many individuals are responsible for the success of simulation in our institution. These experts include the following people: Chris Lima, RN, PHD, Director, Clinical Education; Deborah Ograd, RN, MSN Simulation Coordinator/ Tele Educator; Alex Locke, MD, OBGYN; Kristen Bicocca, MD, Pediatrics; Qasem Noori, MD, Anesthesia; Nancy Steger RN BSN, Clinical Educator; Kim Littleton, RN, NP, Perinatal Clinical Educator; Jennifer Ellis-Garcia, RN BSN, TPMG Clinical Educator; and Carolina Van Dalen, RN, BSN, Emergency Department Clinical Educator. A full complement of simulators are used in skills lab, ACLS, NALS, CETT, Trauma Passport Classes, Sepsis/ultrasound Central Line Insertion Class and an increasing number of other class offerings. SSC plans to expand into a new tower next year include a dedicated simulation lab.

#### **Objectives/Goals**

Desired goal testing through simulation all new units and/or services to delivery patients high quality, safe patient care & services, for staff to verbalize confidence in being able to care for patients in a new unit and for no adverse patient events post opening a new service.

#### **Approach**

As part of our trauma center designation, one particularly high risk/low volume patient type is Obstetrical Trauma patient. The case scenario run was a motor vehicular crash, 8 mo gestation, and death in same vehicle. Issues included care and resuscitation of mother, infant, and support of family members. The desired outcome was for the obstetric trauma care to be integrated, efficient and reflective of best practice.

Trauma OB Team, demonstrated the technical skills for the application and use of new equipment in the ED

and successfully implemented the process for requesting and transporting multiple units of blood for infusion from the blood bank to the ED and OR. The scenarios helped to develop a process to alert appropriate L&D staff to respond to the trauma obstetrical patient in the ED, evaluate the equipment and processes to safely monitor an obstetrical patient outside the perinatal unit, and practice good communication between the two specialties in the OR for conflicting priorities of care, e.g. C-Section or splenectomy first, patient

SSC recently opened the new Outpatient Surgery Services (OSS) building. A significant portion of that building is dedicated to a new Ambulatory Surgery Unit (ASU) and sterile processing department. Opening a new patient care space necessitates a critical review and analysis of potential risks and patient safety issues, e.g. work flows, new and updated equipment, new staff for increased patient volume and case types, fire, safety and disaster preparedness.

The new ASU staff was given a 5 day orientation to the new unit with an emphasis on patient and staff safety. Demonstrations, hands-on practice and multiple simulations were used to achieve these outcomes. Simulation events were staged and extensively debriefed. If a process change was made more practice was done. Key safety objectives addressed were calling a code (fire, code blue, etc.) identifying the new building and location workflows and using new intercom and phone systems.

Staff needed to successfully implement the evacuation process both in a lateral and horizontal method using specific equipment, identify fire compartments, locate and shut off gas during fire codes. Processes for rooming and discharging patients were identified and refined using new workflows from the pre/post and intra-operative areas. Demonstration and practice on how to use new and updated equipment were provided and new workflows for processing case carts to and from new sterile processing were addressed. Processes for notifying the PACU in an emergency for additional PACU staff to respond were simulated along with low volume high risk events such as Malignant Hyperthermia (adult and pediatric), ET Tube Fire, ECT fibrillation, and Code Blue events, and calling a Code Blue in the Operating Suite.

### **Status**

The Simulation lab is increasing the number of offerings available to staff and physicians. Multidisciplinary trainings for the entire team is the gold standard for simulation and one that is strongly endorsed at South Sacramento. Future plans included using the training template for CETT for Pediatric Emergency Assessment, Recognition, and Stabilization (PEARS) this summer to identify opportunities to improve response to pediatric emergencies. Also plan to start a new RN Grad Program and incorporate simulation in their training.

Perinatal services is initiating a region-wide and unit-specific education process for the prevention of birth injury including the use of drills and simulation for perinatal emergencies. This program will prepare nurses and providers for an emergency that occurs as the baby's head has delivered but the shoulders are stuck. Simulation allows for practice of emergencies, prepare best practice responses, and identify system issues in a no stress, safe environment.

### **Measurements**

SSC uses many measurements for success surveys measuring staff satisfaction, staff independent recall of training and competency evaluation. Since last year's Trauma/OB Drills, OB traumas have been reviewed using a debriefing form, to decipher if there are new opportunities for learning and application to practice. From the couple of cases during 2009-2010, all the OB trauma cases have gone well. There are no plans to repeat this specific event at this time, but the principles and techniques will be applied to the 2010's focus for Shoulder Code drills. Management continues at least weekly to evaluate necessary changes. Will reevaluate again at 6 months to see how staff are progressing in their new surroundings

The ASU opening was evaluated prior to opening and at one month. Both verbal and written evaluations reflect staff's satisfaction with training methods, content and training time provided by the organization. Follow-up with staff will occur again 6 months after the opening.

One measurement of success for in situ training is the identification of system glitches and the process for fixing them. Through the running of simulation of OB trauma drills the overhead and beeper pages initiation process was changed. Some of the best practices identified for communication, responsibilities of the roles in the trauma room personnel caring for obstetric patients were defined as well as responsibilities in the main OR and the ICU. Communication etiquette on delivering bad news to families was reviewed, the place and the communication strategies to be used. Other finding was the discovery there is no code key for the elevator if needed for an emergency. An additional finding was that processes needed to be in place for security to accompany the patient to the OR to prevent family from entering. The surgical department found the need to order OB instruments so the OB tech did not have to bring them down from L&D. OB created a portable fetal monitoring cart that could be readily transported to areas outside of OB with pertinent supplies for care.

For the ASU orientation simulations to the new unit, staff reporting they experienced successful training immediately after the 5 day training event at 98%. A resurvey at 30 days of staff found that the training was valuable by 100% of the staff with high retention rate and comments they wants more simulation training on a monthly basis.

Other findings included:

- Over head paging to ASU PACU was new. In order to not confuse the hospital operator with pages from the ASU PACU (versus the inpatient PACU) clear verbiage had to be created when calling a code to the hospital operator.
- During the simulation training, permanent placement of the Malignant Hyperthermia (MH) cart within the ASU center core was determined and permanent signage was hung that clearly visualized for the staff where the cart lived.
- Simulation training pointed to the need to spell out staff roles during a MH crisis. MH Role Cards were developed and staff has found this very useful.
- When PACU answers a call for assistance in the OR, the charge nurse sends two staff nurses; one to answer the call for assistance and one to assess and report back to charge nurse.
- Permanent location for evacuation equipment was identified through the simulation training.
- The patient flow was changed due to challenges being identified during the simulation training.
- During the simulation training it was also discovered that a change of patient flow for ECTs was needed.

### **Future**

The hospital leadership team has witnessed first hand the positive outcomes possible when using simulation as a method for preparing to move into a new unit or embarking on a new service line. SSC plans on using their experience with ASU and Trauma OB as a launching pad for planning the preparations to move into their new tower next year. Additionally, a RN New Grad Program, which will incorporate simulation for both assessment and time management practice, is scheduled for 2010. Sepsis training along with practice with Blue Phantom and ultrasound guided central line placement has also been a project for 2009-2010 in both ICU and anesthesia. Future trauma training and on going practice with new equipment is projected for the future at SSC. In August 2010, the ED will be opening three new Resuscitation Bays. The goal is to continue using simulation to train staff in this new area and plans has begun to developing practice resuscitation drills moving forward.

New programs, equipment and services provide the opportunity to use simulation techniques to increase staff practice time without putting patients at risk.