

UC San Diego Medical Center Expands Neonatal Intensive Care Unit to Address Rising Numbers of Premature Babies and Multiple Births

April 03, 2008 |

On April 2, 2008, UC San Diego Medical Center-Hillcrest celebrated the opening of an expanded Neonatal Intensive Care Unit (NICU) designed for the 24-hour specialized care of premature infants and newborns with complications. Nine licensed beds have been added to the existing 40-bed unit to increase the number of infants who can receive Level III neonatal intensive care from 780 newborns per year to more than 900. The \$2.6 million dollar project is the first of a series of initiatives to expand and improve women's and infant's services at UC San Diego Medical Center.



Supervisor Ron Roberts acknowledges UCSD Medical Center for its critical role in caring for the region's women and infants.

"One in eight babies across the U.S. is born prematurely. Here in San Diego we have seen a sustained increase in the number infants needing intensive care for more than five years now,"

said Neil Finer, M.D., director of the Division of Neonatology at UCSD Medical Center. “By expanding our services, we can treat more of these fragile infants to help ensure healthy outcomes.”



Frank Mannino, M.D., and Jan Hebert, R.N., cut the ribbon on the expanded neonatal intensive care unit at UC San Diego Medical Center.

Every year, more than 3,000 babies are born at UCSD Medical Center-Hillcrest, the only academic medical center in San Diego, and the only hospital with the combination of a regional Level III NICU and a labor and delivery service on the same floor. The Level III designation is given by California Children’s Services to hospitals that have the equipment and staff to handle very complicated births. Level III hospitals care for babies who are delivered before 32 weeks gestation, or who have serious illnesses or abnormalities requiring intensive care before, during, or after delivery.

Of the 780 infants cared for in the NICU each year, more than 90% are born at UCSD Medical Center, a regional center of excellence for high risk pregnancies. Because of its expertise in fetal care, genetics, minimally invasive in-utero fetal surgery, and radiology, families with complicated births are referred to UCSD Medical Center and arrive from throughout the region including Imperial County, Riverside, Los Angeles, San Bernardino, Orange County, and beyond.

The new 1,795 square-foot unit facility was designed by Childs Mascari Warner Architects and built by Turner Construction. The space blends a bright family-centered atmosphere with the most current newborn technology available. Families may personalize their space and rest by their infant's bedside. A 'Parent Resource Room' offers internet access and educational materials. Each of the nine private patient areas can accommodate one critical infant, or be used by up to three less acute babies, allowing for the co-bedding of multiples.



Infants born in multiples are co-bedded at UCSD Medical Center, a practice which improves infant health.

About UCSD's Infants

"Small babies born under 28 weeks may be with us for up to three months. Those with multisystem problems may be here as long as 6 months. The smaller the baby, the longer the time they and their families will be in the unit," said Finer. "The expanded NICU will be used primarily for premature babies who are stabilized beyond their acute needs but still require specialized feeding care and nutrition."

Babies born at less than 25 weeks gestation, sometimes weighing less than 16 ounces, require intensive respiratory, pulmonary and nutritional care. Minute to minute attention is required to prevent neurological damage and possible malnutrition in infants whose internal organs have not yet fully developed.

"In the seventies, a premature baby weighing less than 3 pounds had a 50% chance of surviving," said Jan Hebert, R.N., nurse manager for the NICU. "The application of new research findings and current technology has changed the picture dramatically. Today, the survival rates of these infants are 90% or better."





Nancy Coate, Executive Director of the March of Dimes, presents Jan Hebert, R.N., with a plaque made by infants who have graduated from intensive care units.

Premature Birth: A National Trend

The U.S. has one of the highest pre-term birth rates in the world with 12% of babies being born before 37 weeks gestation, according to the Centers for Disease Control. According to the March of Dimes, premature births have been escalating steadily over the past two decades. In 2005, more than 525,000 infants were born prematurely, the highest number ever reported for the U.S. The rate of premature birth increased almost 35 percent between 1981 and 2005 (9.4 to 12.7 percent).

Thomas Moore, M.D., professor and chairman of the Department of Reproductive Medicine at UC San Diego Medical Center cites advanced artificial reproductive technologies and shifts in maternal age as reasons for the increasing numbers of premature and multiples births in the region.

“The reason that the birth rate in the U.S. is generally flat but NICU admissions are rising is the advancing age of mothers at delivery and increasing use of artificial reproductive technologies which produce multiple fetuses,” said Moore. “While new technologies have brought fertility to thousands of families who otherwise would not have their own children, the proportion of premature infants has risen to 12% of all births, largely due to multiple gestations of twins, triplets and more.”

Moore also points to the nationwide epidemic of obesity as a significant risk factor for newborns who need complex intensive care.

“We are also seeing an epidemic of maternal obesity and gestational diabetes,” noted Moore. “Babies of mothers with gestational diabetes are several fold more likely at birth to have

respiratory problems, blood glucose regulation problems, and bilirubin issues, all of which requires NICU management, even if only for 1-3 days.”

Training for Neonatologists

Key to properly caring for these fragile infants is the advanced medical training of UC San Diego’s health care practitioners. Fourteen pediatrics residents from across the U.S. receive training at UCSD Medical Center every year, the only place in the region where doctors can train to become a neonatologist. The UCSD NICU is also one of the most active in the state of California for clinical research with more than 15 active clinical trials to date.

The NICU’s largest current research effort is the national SUPPORT Trial funded by the National Institute of Child Health and Human Development. Finer, the principal investigator of the multi-center trial, is comparing two methods of early respiratory support for extremely premature infants and attempting to determine the appropriate oxygen levels needed by such infants. The UCSD Neonatal Program is also evaluating early nutritional interventions, and expanding the role of ultrasound of the heart and bowel to assist in the care of very compromised newborn infants.

“Every day we look for ways to develop better evidence-based treatments for the care of premature infants. We ask ourselves, ‘What is the best way to assist the baby’s breathing and to maintain appropriate oxygen levels? What is the best way to feed the baby and to optimize the use of maternal breast milk and prevent disease?’” said Finer. “This is truly 24-hour care for the tiniest and most delicate of humans.”

About Women and Infant Care at UCSD

The UC San Diego Medical Center labor and delivery service, specializing in high-risk pregnancies, and the NICU, are nationally recognized centers of excellence providing the highest level of care available for pregnant women and newborns. UCSD Medical Center became accredited as a Baby Friendly Hospital in 2006; one of a handful of academic hospitals to achieve this prestigious award.



All mothers at UCSD Medical Center, A Baby Friendly Hospital, are encouraged to breast feed their infants.

Baby Friendly Hospitals support and promote breastfeeding as the preferred method of infant nutrition. In efforts to extend this support of human milk nutrition to the smallest, most vulnerable infants, UCSD is launching a nutrition program called SPIN, Supporting Premature Infant Nutrition. The new program is focused on the provision, analysis, and research of human milk to improve nutritional and neurodevelopmental outcomes in preterm babies. The program is the first of its kind in the United States.

In July 2008, hundreds of families whose infants have graduated from the NICU will reunite with the staff of UC San Diego Medical Center. The annual "Little Grad Picnic" in Mission Bay Park brings together families throughout California whose children enjoy a celebration of life and friendship.

[Watch a video of the newly expanded UCSD NICU](#)

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