

# NEONATOLOGY IN THE FACE OF GLOBAL EMERGENCY SITUATIONS

Dr.Gill

As Neonatologists charged with the care and protection of neonates in our units, we must be aware of the issues that become involved in managing those infants in situations where we have no choice but to seek ways to get them out of harm's way. The experience with Hurricane Katrina in August of 2005 has made us keenly aware of many of those issues.

On August 29, 2005, the Neonatologists in the major NICUs in the New Orleans area prepared to hold in place for the Category IV hurricane that was approaching us out of the Gulf of Mexico. We trusted the Hurricane Preparedness Plans that were in place in our hospitals and expected to simply have enough personnel in our units to provide the care for the infants until the Hurricane had passed and relief personnel could come relieve us in three to five days. We were assured that we had enough fuel to keep our emergency generators running, and that we had sufficient supplies, food and water to sustain us for such a period.

At Tulane Medical Center, we had a census of 28 babies, 14 on ventilators. Most of the families of our babies lived outside the New Orleans area since we were one of the large transport centers for our area. We assembled two shifts of nurses, respiratory therapists, NNPs, and house staff to enable the provision of care using 12 hour shifts. During the actual passage of the Hurricane through our city, things remained at the normal expected level of activity, and by the evening of the 29<sup>th</sup>, our hospital was at its normal level of function, and we felt that we had "dodged the bullet" of an adverse hit by the hurricane. I went to bed at 11:00 pm thinking that we would be able to be relieved within the next 24 hours. Little did we know that as the Hurricane passed north and east of the city, the counterclockwise winds pushed the water of Lake Ponchartrain back into the drainage canals that are used to empty water out of our city after rainfalls. The storm surge of the water put stress on the levee system along those canals which started a leak. That leak quickly became a complete breach of the levee, and water started pouring out of the canals into the city.

I was awakened at 1:30 in the morning on Aug. 30 to be told that there had been breaches in the levees and that we had six inches of water in the first floor of the hospital and that it was expected to rise to somewhere between four and six feet in depth. It was expected that we would lose our primary power supply within four hours and that our emergency generator on the first floor was in danger of flooding.

I was the most fortunate of the Neonatologists in the city that had remained in place for the Hurricane, in that upon hearing that information, I called our helicopter vendor for neonatal transports who was located outside of New Orleans at 2:00 am and informed him of our dilemma. He immediately began to dispatch helicopters to our hospital to the heliport atop our parking garage. At 6:00 am at daylight, the first two of the helicopters arrived. By 2:30 pm that afternoon, all 28 of my babies were transported out to a hospital in Lafayette, LA with one congenital heart baby going to Arkansas Children's Hospital and two post-op congenital heart babies going to Texas Children's Hospital.

The Neonatologists in two of the other larger units in the city were not as fortunate. They had no access to immediate helicopter transport, and were forced to continue to care for those babies until they could be helicoptered out on Friday, four days later. At the unit at the Medical Center of Louisiana at New Orleans (aka Charity Hospital), they had no power, no water, no toilet facilities, and no heliport to get help. They actually had to deliver a 25 week premie using flashlights, give surfactant replacement and hand bag the baby until it could be transported out two days later. At another hospital, the heliport on the roof was only accessible by climbing a narrow metal stairway outside the building since the elevators were inoperative with no power. Ground transport was impossible with four to six feet of water everywhere in the city.

Lessons Learned:

1. Evacuation plan: Mode: Ground when possible, Helicopter when necessary
  - Destination: where will your babies go that can meet their needs?
  - Personnel: Will your NICU nurses go with the babies?
  - Medical Records: electronic vs paper record; will they go with the baby; how do you get them back?
2. Credentialing of Personnel at the evacuation sites to help provide care for the babies
3. Equipment needs for the transported babies
4. Parental notification and followup access to their babies

You need to make contingency plans if such a misfortune should befall your unit.