Neonatal Stabilization Scenarios, based on The S.T.A.B.L.E. Program Curriculum

The S.T.A.B.L.E. motto - “Improve Neonatal Outcomes with Education”

This has been the underlying idea behind the 16-year old, internationally recognized S.T.A.B.L.E. program. This has also been the driving force behind Dr. Kristine Karlsen for the last 30 years. As a neonatal nurse practitioner involved in neonatal care in a variety of settings, including transport, education, and clinical care, she has been passionate about delivering quality care to neonates.

The history of S.T.A.B.L.E.'s birth is rooted in neonatal transport. In 1984, after transporting a sick neonate, Dr. Kris Karlsen was approached by anxious nurses asking her to come back and provide education about what they had just encountered. “It seemed like a bit of preventative education could go a long way. It always seemed that I was providing ‘after-the-fact’ education, and I didn’t think that was effective or best for the baby,” said Dr. Karlsen.

That was the thinking behind what was to become The S.T.A.B.L.E. Program. Development of the curriculum was based mostly on intuition at first; Dr. Karlsen asked herself – What is it that we want for these babies? The answer came back a resounding – “We want the baby – stable.” Dr. Karlsen knew that the educational research had strongly proven that mnemonics were effective to aid retention and recall of learned information, especially during stressful circumstances. The mnemonic S.T.A.B.L.E. was then born.

The “S” is the Sugar and Safe Care module, which includes everything from why it’s important to withhold oral feedings to establishing IV access and normalizing and maintaining blood sugar. The “T” is for Temperature or the thermoregulation module, as prevention of hypothermia is critically important because of the known relationship of hypothermia to higher mortality and morbidity, especially for premature babies.

The next module is the Airway assessment and management module – the “A” in S.T.A.B.L.E. This module encompasses the various common respiratory illnesses the neonate could face, diagnosing and managing the patient’s oxygenation status, and recognizing and treating respiratory failure. The Blood Pressure module or “B” encompasses shock – recognizing and treating shock when the organs and tissues are not receiving an adequate flow of blood, which in turn deprives them of oxygen (carried in the blood) and allows the buildup of waste products. The “L” module focuses on neonatal infection and Lab Work and how to properly interpret them.

Lastly, there is the “E” module - Emotional Support for the family which provides important information for nurses and physicians to know how to best support families with a sick infant.
A seventh module - Quality Improvement - rounds out the S.T.A.B.L.E. education. This module reminds the caregiver to assess the impact of their care on the baby’s outcome.

In 1994, after Dr. Karlsen’s presentation of her Master’s work, and the presentation of her scientific research poster (a large document that can quickly and effectively communicate research) at the University of Utah, which focused on validating the S.T.A.B.L.E. content and evaluating participant’s acceptance of the S.T.A.B.L.E. curriculums, S.T.A.B.L.E. became a reality. Many outreach educators expressed the fact that they taught this stabilization information, but never in a one-day format and never in one program.

With almost 3500 Lead and Support Instructors (nurses, physicians, and respiratory therapists with newborn ICU experience) worldwide, S.T.A.B.L.E. has been implemented or taught in more than 45 countries. The program has been translated into Lithuanian, Latvian, Romanian, and Spanish with a Vietnamese translation in progress. Since 2003, the S.T.A.B.L.E. Program has donated more than $225,000 worth of manuals, reference card sets, and CDs to resource-limited countries. Dr. Karlsen is also currently working on

That was the power of the S.T.A.B.L.E. Program - a clear, concise approach to teaching a lot of information using a mnemonic to help students learn and retain information.

Officially launched in May 1996, S.T.A.B.L.E. was originally intended to be an outreach program, to serve the educational needs of community hospital neonatal and maternal caregivers. The program gradually expanded by the year 2000 to include newborn ICU caregivers, including in-house continuing education, and NICU orientations. By the late 2000’s, S.T.A.B.L.E. was embraced more and more by physicians, including family practice and pediatric residents. Since January 2001, over 253,000 students have completed the program.

S.T.A.B.L.E. now operates on several levels. There is outreach education where neonatal experts take the program to community facilities, and there is in-house continuing education of nurses, respiratory therapists, pediatric residents, neonatal transport team members, midwives, and nurse midwives. The S.T.A.B.L.E. Program learner/provider course is renewed every two years.

“If 253,000 people have completed S.T.A.B.L.E., and at least one time they’ve used that information to help a baby, then we’ve helped more than a quarter of a million babies in one way or another through this education. And I think that’s very powerful,” commented Dr. Karlsen.

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After Dr. Karlsen’s initial exposure to simulation at a transport conference at Children’s Mercy Hospital in Kansas City in 2008, Dr. Karlsen felt passionately that she had to incorporate simulation into the S.T.A.B.L.E. education platform. After comparing the neonatal simulators available at the time, she determined that Gaumard’s Newborn HAL® S3010 was exactly what she needed especially since he was tetherless. Dr. Karlsen appreciated the realism that allowed her to start her scenarios with a precipitous birth in the mother’s room, then have the team move the baby from the mother’s room to the resuscitation warmer, NICU, or stabilization bed.

The fact that Newborn HAL® is tetherless, along with other features, such as the capacity to insert IVs in 3 sites, the realistic umbilical cord, the airway sounds, capacity to display both pre- and post-ductal oxygen saturation on the vital signs monitor, and other important features necessary for neonatal stabilization, sold Dr. Karlsen on Newborn HAL® as the most appropriate simulator for the scenarios she was developing.

Available exclusively through Gaumard, the Neonatal Stabilization Scenarios project can be used on both Newborn HAL® S3010 and Premie HAL® S3009.

The Neonatal Stabilization Scenarios project, involves 4 neonatal patients; each patient experiences 3 different scenarios. When an infant is admitted to the NICU, he may start off with a particular set of problems and in 4 to 8 hours he may change and have a new set of problems. This may change again in hours or days depending on the scenario. Each scenario progresses in a logical way to reflect the problems and complications that may occur because of the infant’s history and diagnosis.

The first patient is a premature 32-week gestation (designed for Newborn HAL® S3010, but can also be run on Premie HAL® S3009) home birth, who comes into the emergency room requiring a full resuscitation. Dr. Karlsen then advances to 8 and 16 day old NICU scenarios. The second patient is a 36-week infant of a diabetic mother, with a host of problems beginning at 30 minutes of life. The third patient has 4 branching scenarios, beginning with a precipitous birth and prenatally undiagnosed congenital heart disease and gastroschisis (a birth defect in which an infant’s intestines protrude through a defect on one side of the umbilical cord). Lastly, the fourth patient is a term baby who is admitted to the emergency room at 5 days of life, born healthy, goes home and then returns to the hospital in shock, secondary to congenital heart disease.

Since June 2009, these scenarios were validated and critiqued all across the United States at various simulation centers by a panel of experts comprised of neonatologists, neonatal nurse practitioners, newborn ICU nurses, NICU clinical educators, neonatal respiratory therapists, and obstetric clinical experts (to critique the maternal side of the scenarios). The validation sessions included the actual running of the scenarios by neonatal caregivers who were not told of the scenario content. The last validation session was held in September 2011 in Akron, Ohio.
applicable), supporting lab values, photos of the baby to help participants better identify with the neonatal case and objectives and staging worksheets are also included. In addition, there are facilitator/instructor's CDs and DVDs to explain behavioral components of crisis resource management, debriefing, and simulator orientation for the instructor and student.

These new Neonatal Stabilization Scenarios were unveiled at the recent IMSH Meeting (The International Meeting on Simulation in Healthcare) in San Diego, California and the scenarios were met with incredible excitement and enthusiasm. Dr. Karlsen was at the meeting to explain the scenarios and contents of the guidebook.

S.T.A.B.L.E. is the most widely distributed and accepted neonatal education program to focus on the post resuscitation / pre-transport stabilization care of sick infants. In Dr. Karlsen's words - "If we can improve education surrounding neonatal care, then caregivers will be able to anticipate the baby's medical needs better. Then when problems arise, and they almost always do, caregivers will recognize the signs promptly and will take action to quickly and accurately treat the problem. This model of, Anticipate, Recognize, Act, and Reassess, is a core component of the behavioral aspect of the Neonatal Stabilization Scenarios training."

“Our goal is to improve the didactic component of post-resuscitation care, practice that care in the safe setting of simulation-based training, transfer that learning and practice to the clinical setting, and ultimately improve safety and outcomes for the baby and their family,” added Dr. Karlsen.

For more information on the S.T.A.B.L.E. program, visit [www.gaumard.com](http://www.gaumard.com)