Cooper University Health Care

Cooper Bridges

A publication for nurses and healthcare professionals

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CUSTOM MEDICATIONS:

An Examination of GENOTYPING for Drug Therapy

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Professional Calendar

UPCOMING ANNUAL CONFERENCES:

- **Annual Medical-Surgical and Oncology**
  November 1, 2012
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- **Achieving Excellence through Evidence: Applying Research and Evidence**
  December 3, 2012
  7:45 a.m. to 3:00 p.m.
  Crowne Plaza Cherry Hill, NJ

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From the Chief Nursing Officer

Dianne S. Charsha RN, MSN, NEA-BC, NNP-BC • SVP Patient Care Services, Chief Nursing Officer

This is an important year for the Cooper Nursing Team. Five years ago, the direct-care nursing team decided to embrace the Magnet Journey by adding to our Nursing Vision Statement. In August, we submitted our ~600 pages, with ~1500 attachments, application to the Magnet Nursing Review Team. I have recently been notified that our application has scored in the range of excellence, and we will receive a site visit on February 12, 13, 14, 2013. A Magnet site visit validates, verifies, and amplifies compliance with the application components

Why Magnet?

Magnet is not an award but is recognition of nursing excellence. Less than 10% of U.S. Hospitals earn Magnet Designation from the American Nurses Credentialing Center (ANCC). While on the Magnet journey, our nurses at the unit, division and organizational level have worked to improve nursing care delivery to enhance quality and safety. Our desire for Magnet designation has lead to some exciting changes in nursing practice here at Cooper. Our nursing team has had the opportunity to advance their education, acquire certifications and explore increasing challenges. Nursing evidence-based practice approaches have been encouraged and unit-based research initiatives supported.

An engaged nursing staff enhances nurse satisfaction reduces turnover and attracts talent to join our team. In addition to attracting nurses, Magnet designation is recognized by the informed public as an excellent place to receive care. This journey has been of great benefit to the individual nurse, our patients and our organization.

As you read through this edition of *Cooper Bridges*, you will find articles on cutting edge clinical care, preventing harm, enhancing the nursing assessment process to improve patient safety and a reflection on Oncology Nursing.

I'm proud of who we have become and all of your accomplishments. We have been successful on our journey.

Dianne S. Charsha RN, MSN, NEA-BC, NNP-BC
SVP Patient Care Services, Chief Nursing Officer

Email comments to **charsha-dianne@cooperhealth.edu**

Cooper Bridges Mission Statement:

"To communicate and educate nurses and healthcare professionals to foster excellence in the delivery of patient care."

Cooper Nurses interested in authoring an article for a future edition of *Cooper Bridges* may obtain submission guidelines by contacting: **Yhlen-kathleen@cooperhealth.edu**

CARE DELIVERY

Transcatheter Aortic Valve Replacement: The Novel Alternative Approach to Aortic Valve Replacement

Janet A. Tridente, RN, BSN, CCRN

In elderly patients, aortic stenosis (AS) is often caused by the buildup of calcium from the blood on the leaflets of the aortic valve. Over time the leaflets become stiff causing the heart to work harder, eventually, increasing the risk of heart failure. Calcified AS, if left untreated, carries a high mortality rate within the first 2 years of symptom onset (Leon et al., 2010). Degenerative AS is the most frequent acquired heart valve disease, occurring in 4.6 % of adults aged seventy-five years or older and is the most common indication for valve surgery. However, it has been reported that about one third of patients are considered inoperable due to unacceptable risks (Salinas, Moreno, & Lopez-Sendon, 2011).

Aortic valve replacement (AVR) is the "gold-standard" for the treatment of severe AS (Bavaria, et al., 2011). Conventional AVR has consistently resulted in excellent results in extending patient's lives and improving quality of life (Bavaria, et al., 2011). Increased age is typically associated with co-morbid conditions, such as diabetes, peripheral and cerebral vascular disease, renal disease and respiratory dysfunction. Unfortunately, these problems increase surgical risk and thereby preclude the expected benefit from the traditional AVR procedure. Until recently, surgical AVR has been the only effective treatment for adults with symptomatic severe AS.

New Innovations in Care

Nurses are in the forefront of a paradigm shift in medical technology as their patient population may now include the patient with a Transcatheter Aortic Valve Replacement (TAVR). The TAVR procedure is a viable option that has emerged as a less invasive treatment for symptomatic patients for whom traditional AVR is fraught with risks that outweigh the benefits.

The first implant in man was reported by Cribier et al. in 2002 using an equine valve (McRae, Rodger & Bailey, 2009). In November of 2011, the Food and Drug Administration approved the use of the Edwards Sapien Aortic Heart Valve, a bovine pericardial valve inserted percutaneously via the transfemoral site for patients who are not candidates for traditional valvular surgery for AS (Riley, 2011). Currently, the transapical approach is not FDA approved in the US. Connradi et al. (2012) reported that a controlled, randomized trial showed TAVR was effective in reducing all-cause mortality in patients deemed inoperable compared to the best non-surgical therapy. Additionally, use of TAVR has been associated with a decrease in operative morbidity and mortality as it avoids the need for cross clamping, cardiopulmonary bypass and a sternotomy.

Procedure

The transfemoral AVR approach involves insertion of a 22Fr or 24Fr sheath (dependent upon the valve size to be used) into the femoral artery. A balloon valvuloplasty is then performed in an effort to increase the size of the valve. Subsequently, under fluoroscopic and transesophageal guidance, the prosthetic valve, encased within a stainless steel stent, is positioned over a guidewire and travels retrograde from the femoral artery through the aorta and is positioned within the aortic annulus (fibrous ring of the native aortic valve) and then deployed with an inflatable balloon (Figure 1).

The transapical AVR is placed through a 5-8 cm anterolateral left thoracotomy typically in the 6th intercostal space. The pericardium is then opened, and a small transapical incision of the left ventricle is made to accommodate the delivery catheter. This transcatheter procedure does not require removal of the native aortic valve and the new valve is held in place by the stent. Contrast medium is used with angiography to ensure correct positioning of the new valve across the aortic annulus. The Edwards Sapien valve requires rapid right ventricular pacing of the heart during deployment so that cardiac output is decreased and the likelihood of migration of the new valve is greatly reduced. Currently, the procedure is limited to a bioprosthetic valve.

Postoperatively, the patient is transferred to the Intensive Care Unit where they are closely monitored. The critical care nurses at Cooper University Hospital (CUH) are the first in the state of New Jersey to provide care for patients who have undergone an implantation of a percutaneous aortic valve. The major difference with this patient population includes the higher risk for major vascular complications and an increased risk of stroke, therefore requiring frequent neurological and neurovascular assessments. Some of the indications and contraindications are listed in Tables 1 and 2 respectively. Much of the focus for the care of the patient who has undergone a TAVR depends on the co-morbid conditions of these patients. On post-op day 2 or day 3 the patient is transferred to the cardiac telemetry unit for several days where they remain monitored while increasing their activities until discharge.

Advantages

TAVR advantages include avoiding the inherent risks associated with cross clamping a heavily calcified aorta and the cardiopulmonary bypass which include stroke, bleeding, impaired

Figure 1 (left to right) Deployment Catheter, Deployment Catheter with Balloon Inflated and the Edwards Sapien Transcatheter Valve

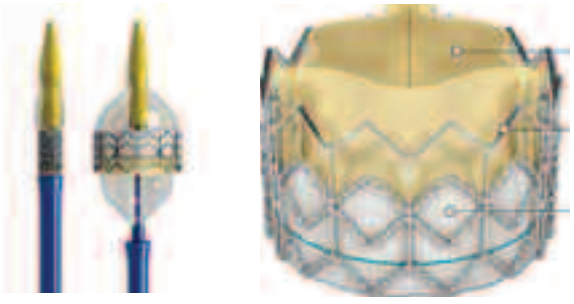

TABLE 1 Indications for Transapical and Transcatheter Aortic Valve Replacement

Severe, symptomatic aortic stenosis as defined by the American College of Cardiology/American Heart Association Guidelines
Estimated operative mortality rate for standard aortic valve replacement according to established risk guidelines that exceeds benefit
Severe ascending aortic calcification
Severe damage or deformity to the chest that precludes a sternotomy
Patient's willingness to comply with follow up evaluations

Edwards Lifesciences (2012). Reprinted with permission

TABLE 2 Contraindications for Transapical and Transcatheter Aortic Valve Replacement

Patients who have an aortic valve that is not calcified
Patients who have less than three leaflets on the valve
Patients with an abnormal growth, infection, or blood clot on the aortic valve
Severely calcified or tortuous vessels that would preclude the advancement of the delivery catheters (transfemoral approach)
Aortic annulus size that cannot accommodate the prosthetic valve
Recent bleeding that would preclude the use of heparin or antiplatelet therapies

McRae, et al., (2009). Reprinted with permission

renal and lung function as well as avoiding the need for a sternotomy.

Complications

Although the patient population is carefully selected after an evaluation to assess suitability; vessel dissection, pseudoaneurysm, bleeding and thrombus can be complications, as well as myocardial perforation and cardiac tamponade. Additionally, calcified material can be embolized during placement. Al-Attar et al. (2009) found that the most serious complications of TAVR were vascular complications related to femoral access. Gurvitch et al. (2011) found that TAVR outcomes improve with evolution of the deployment equipment and improved patient selection in addition to procedure volume. Overall complications rates are low. However, the focus remains to improve the procedural adverse events including vascular injury and stroke.

Leon et al. (2010) noted the clinical outcomes in the Partner trial with a randomized group of 358 patients who were not suitable candidates for surgery and compared the TAVR population and the standard therapy, including balloon valvuloplasty, for AVR. The TAVR population revealed a higher risk of major vascular complications (16.2% versus 1.1%) and an increased risk in stroke (5% versus 1.1%). However, in the same study, after 1 year, the rate of death from any cause (30.7 versus 49.7) and the rate of cardiac symptoms (19.6 versus 41.0) were lower in the TAVR group.

According to Motloch, et al. (2012), atrial arrhythmias, with atrial fibrillation the most common form, occurs in half of all patients undergoing the traditional AVR. Onset of atrial fibrillation after cardiac surgery usually occurs on the second or third postoperative day and is associated with increased mortality, a higher risk of stroke and an increased hospital stay. However, Motloch's (2012) study found no atrial fibrillation was observed after transfemoral TAVR.

Discussion

The first TAVR procedure performed at CUH occurred in January 2012 using the Edwards SAPIEN heart valve. The procedure occurred in the hybrid operating room under general anesthesia by a multidisciplinary staff including interventional cardiology, cardiothoracic surgeons, anesthesia and nursing. Nursing care for the patient undergoing a TAVR is evolving as we implement this new therapy and as expected, nurses have a critical role in patient outcomes. The multidisciplinary approach that has been developed to support patient care will provide the framework for future developments in nursing management. Future studies are needed to determine if the patient population for the TAVR can be extended to include patients with a lower risk profile.

Email comments to **tridente-janet@cooperhealth.edu**

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CARE DELIVERY

Preventing Complications from Hypothermia in the Operative Patient

Deborah Cutrona, RN, BSN, CCRN

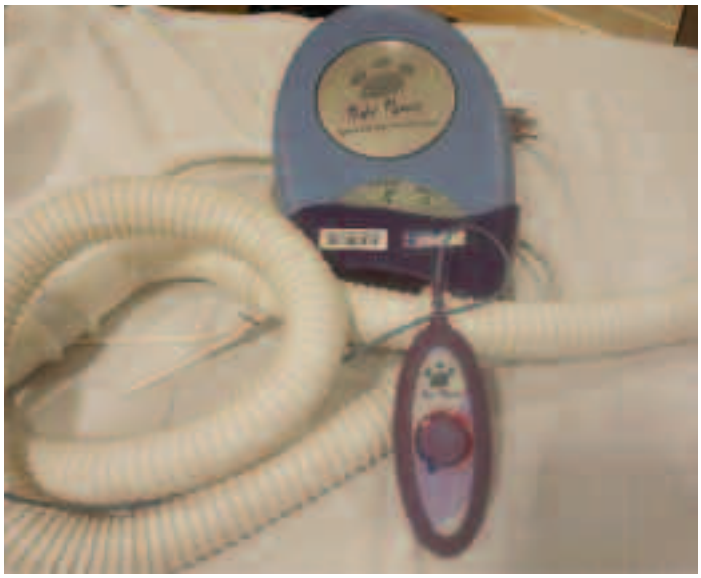
Inadvertent postoperative hypothermia remains a frequent but preventable complication among surgical patients (Pikus & Hooper, 2010). Seventy percent of postoperative patients, over 14 million cases annually, suffer from hypothermia, caused by a combination of anesthetics preventing thermal homeostasis and the cold operating room(OR) environment (Augustine, 1990). Temperature assessment and nursing interventions are therefore of the utmost importance in the surgical setting with the goal of keeping the patient "comfortably warm" with a temperature between 36.5° C (97.7°F) and 37.5° C (99.5°F) (National Institute for Health and Clinical Excellence [NICE], 2008). To prevent hypothermia, patient warming modalities begin in the preoperative phase and continue as the patient moves through the operative phase and recovery process. Understanding the body's thermal regulation system, potential complications and prevention methods ensures effective immediate treatment, improved outcomes and a decreased length of stay.

Temperature Homeostasis

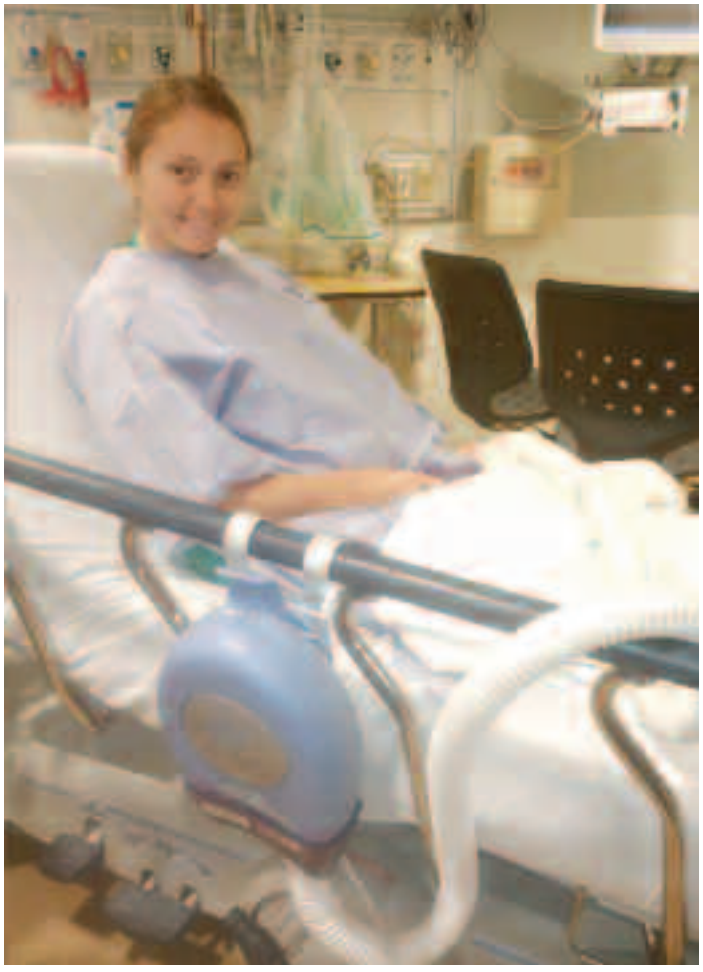
The hypothalamus regulates body temperature through heat production and loss via central and peripheral temperature sensors located on the skin, spinal cord, viscera and the hypothalamus. Both behavioral and physiologic responses have a role in maintaining temperature (Good, Verble & Norwood, 2006). For example, asking for a blanket or putting on more clothing is a behavioral response to feeling cold. Physiologic responses, such as shivering, are part of the autonomic nervous system, so many of these responses are involuntary (Fiedler, 2001). The body loses heat through 4 mechanisms: convection, radiation, conduction and evaporation. In the perioperative setting, 90% of heat is lost through convection, evaporation and radiation (Galvao, Marck, Sawada, & Clark, 2009). The skin is the most common source of heat loss in the surgical patient. Body heat lost through convection is directly related to the skin prep for operative procedures. In radiation heat loss, energy radiates from warmer objects to cooler ones, so uncovered skin leads to a decrease in the patient's body temperature. Conduction heat loss occurs from lying on the cold operating room table. Patients with large open wounds or incisions of the abdomen or thorax are also at increased risk for heat loss through evaporation (Fiedler, 2001).

Causes of Postoperative Hypothermia

Usual causes of inadvertent postoperative hypothermia include: cold OR suites, drapes saturated with blood, administration of unwarmed IV fluids, medication-induced vasodilatation, decreased metabolic rate, anesthesia-induced impairment of the hypothalamic thermostat, exposure and irrigation of open incisions and heat loss from the lungs due to artificial airways (Good et al., 2006). Rapid vasodilatation from general anesthetic agents, heat distribution and the inactivation of the central thermoregulation system also contribute to heat loss.



Bair Paws Equipment



Model wearing the Bair Paws Gown

During the first 30 minutes after induction of general anesthesia the core body temperature can decline 0.5˚ C to 2˚ C (Hynson, Sessler, Moayeri, McGuire & Schroeder, 1993). A decrease in core temperature activates the body's heat conversion center in the hypothalamus producing shivering, vasoconstriction and increased metabolism in response to a need to warm the body. Hypothermia is defined as a core body temperature of lower than 36˚ C (96.8˚ F) and is clinically evident in a patient with shivering, peripheral vasoconstriction and piloerection (goose bumps) (American Society of PeriAnesthesia Nurses [ASPAN], 2001). Shivering is an important symptom as it can increase heat production by up to 500% and in doing so increase metabolic rate and oxygen demands (Fiedler, 2001, p.485).

Complications of Hypothermia

Lack of an assertive treatment of hypothermia, particularly in the elderly or patients compromised by systemic disease, could have grave results. Hypothermia has been associated with serious post anesthetic complications, including myocardial infarction, congestive heart failure, respiratory failure, re-paralyzation, re-narcotization, stroke and bleeding (Feroe & Augustine, 1991). Good et al (2006) identified the most common complications of inadvertent hypothermia (see Table 1).

Preventing Hypothermia

Research supports the benefits of maintaining the patient's temperature throughout the perioperative pathway (Scott & Buckland, 2006). Prevention starts with assessment, monitoring and intervention until temperature is within the normal range for the patient. Multiple re-warming modalities are described in the literature: warm blankets, socks, warm environment, circulating warm water blankets, warmed fluids and blood products, and forced-air warming devices (ASPAN, 2001). Most forced-air warming devices come in the form of blankets or gowns. The latest innovation in forced-air warming is the Bair Paws Flex™ gown, which is a comfortable garment designed to warm the patient before, during and after surgery. According to Jami Collins, senior product manager for Arizant Healthcare, "It's not just a gown; it's a patient warming and satisfaction tool" (Arizant Healthcare, 2009, p. 1). Other preventative measures are humidifying anesthetic circuits, and warmed oxygen and anesthetic gases (Good et al., 2006).

TABLE 1 Complications of Inadvertent Hypothermia

- Increased energy expenditure
- Shivering/increased oxygen consumption
- Increased mortality, particularly in patients >55 years of age
- Decrease in the immune responses
- Increased risk for a cardiac event
- Increased bleeding, transfusions and coagulopathy
- Dysfunctional coagulation cascade
- Increased surgical site infections
- Decreased medication metabolism
- Slow healing times

Summary

Anesthetic-induced impairment of thermoregulatory control and cool OR environments may be the most common cause of post-operative hypothermia. ASPAN has created guidelines and treatment modalities in an attempt to monitor, treat and prevent post-operative hypothermia. Deviation from the standard of care has ethical and legal implications that range from an adverse outcome for the patient to undue financial burden to the institution providing the care. The cost of perioperative complications from inadvertent hypothermia is estimated to be between $2,500 and $7,000 dollars per patient (Welch, 2002). Failure to treat post anesthetic hypothermia is beginning to be recognized as a potential cause of action for malpractice suit in the presence of an adverse anesthetic outcome (Welch, 2002). Implementing and following through on policies with regard to the measurement and documentation of patient temperatures is imperative. The ultimate goal of reducing complications, effectively restoring normothermia and enhancing patient comfort are at the forefront of our patient's successful recovery.

Email comments to **Cutrona-deborah@cooperhealth.edu**

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RESEARCH / EBP

Custom Medications: An Examination of Genotyping for Drug Therapy

Matthew R. Dering, RN, BSN, CEN, CCRN

Individual genotyping is currently one of the fastest growing sectors of biomedical research. Since the release of the Human Genome Project in 2000, rapid advances have been made in the study of using genetic markers to determine host susceptibility to medication effectiveness versus toxicity (Weiss et al., 2008). Is this the wave of the future? Some may consider this "brave new world" material, but aren't we already headed there? An overview of medication genotyping, its foundation and its clinical application will be presented. One must keep in mind that no single aspect such as a patient's genetic marker susceptibility or resistance can or should be the sole basis for selection of the medication regimen. Rather, appropriate provision of drug therapy must be derived from a thorough investigation processed by the combined evidence of clinical presentation, family history and review of current literature.

Background

An understanding of the genotyping process helps one to weigh the benefits versus the potential ramifications of tailoring medications to genetic information. Genetic research has its roots in the work of early scientists, such as Gregor Mendel, a German friar whose work with pea plants would come to be the foundation of future modern genetic work. Mendel's work was synthesized along with Darwinian natural selection theories and further developed into describing the way genetic traits are passed or not passed onto an organism's offspring (O'Neal, 1998). In its most basic form, the genotype is an organism's full hereditary material. Although it may not be completely expressed, the genotype can be passed on to a person's offspring. The phenotype is the person's expressed or observed properties such as body shape, development and behavior and generally ends with the death of the organism.

The genotyping of drugs or pharmacogenetics is based on the theory that humans have a genetically variable "chemical individuality." These variants can be used to explain the lesser or fuller extremes of metabolic reactions to drugs (Brockmoller & Tzvetkov, 2008). The relationship between drug metabolism and the organisms transporting enzymes affects the way the patient responds to a drug either in a favorable or desirable way. The way these enzymes are created and function is transcribed in the code of the genotype. Drug genotyping research seeks to use this information to cater pharmacotherapeutics to the individual and to prevent adverse effects related to altered morphology of the metabolizing enzymes. For example, it is strongly suggested that cytochrome (CYP) P-450 abnormalities affect the metabolism of many drugs and can make them hepatotoxic (Tarantino, Dario Di Minno & Capone, 2009). These abnormalities can affect the way a person either therapeutically or adversely responds to a medication. Currently, genetic markers are used extensively to augment breast cancer management and for chemotherapy and radiation treatments (Tarantino, Dario Di Minno & Capone, 2009). Individual genotyping also holds promise in the ability to positively affect the way patients with chronic hypertension respond to their antihypertensive medications (Kardia et al., 2007).

"In this realm, genotyping could be useful as practitioners would be able to use pre-emptive diagnostics and dose-adjust based on genetic based enzymatic and bioavailability considerations."

Sustainability

There is no disputing that genotyping has proven its place in medical science as a valid contribution. Genetic variations can be linked to the development of certain disease states. Most current pharmacological research studies now include a pharmacogenomic component. Recommendations have been made in the medication development community to take into consideration the many proven benefits genomic biomarkers can potentially possess (Brockmoller & Tzvetkov, 2008). Genotyping has demonstrated its usefulness in treating patients who are refractory to other therapies and those who have had adverse drug effects. This allows drug dosage adjustments to be selected based on the pharmacogenetic data. The research itself has also been able to generate genetic data to screen out study subjects who could be potentially harmed by Phase II trial drugs in which the benefit has not yet been proven (Brockmoller & Tzvetkov, 2008). Genomic screening reduces time and cost in drug and treatment development and makes clinical trials safer for the participants (Surendiran, Pradhan & Adithan, 2008). Lab tests are routinely ordered to check blood concentration levels of drugs like aminoglycoside antibiotics and anti-epileptics. They are also ordered to monitor parameters of effectiveness such as in anticoagulants. In this realm, genotyping could be useful as practitioners would be able to use pre-emptive diagnostics and dose-adjust based on genetic based enzymatic and bioavailability considerations (Kirchheiner et al., 2004). Prescribing drugs based on genetic information can directly impact patient safety in regards to side effects. For example, in patients with the alleles of genes CYP2C9 and VKORC1 it has been proven that they require lower doses of warfarin, avoiding a potentially unsafe elevation of INR and it is now listed on the medications drug label for clinicians (Lee, Nam, Kim & Kim, 2007).

Implications of Genotyping for Drug Effectiveness

In clinical practice the patient is examined using a review of systems and a plan of care is developed based on facts. Previous clinical experience and training are also factors in patient assessment.

An individual's phenotype also needs to be considered when considering the ramifications of genomic pharmacology. Theorists and proponents of phenotype philosophies dictate nature versus nurture, and this must be considered when genotyping is used for medication development. For instance, the thrifty phenotype as described by Hales, Barker and subsequent evolutionary models associate current health status and developmental plasticity (Wells, 2007). That is, organisms are a product of their environments and early experiences dictate later outcomes whether positive or negative. Using this theory, it could be argued that the phenotype, not the genotype may be a more accurate predictor of drug effectiveness. If the drug is developed for those populations having desirable development (good prenatal health, good postnatal nutrition) versus those who were raised in low socioeconomic status their phenotypes not genotypes could unpredictably affect the reaction of the patient to the drug. Furthermore, one medication may not work the same in every patient. Most patients with chronic illnesses take multiple medications. How might these affect the outcomes of genetically prescribed medications?

A great deal of responsibility lies in the hands of the drug developer to meet requirements for pharmacogenetic testing. The target population must be adequately and diversely tested to ensure a random sample is obtained. They must conform to standards of testing and uniform interpretation. Consideration also must be taken in the monetary cost of development. Because of the enormous cost associated with research, are the drugs going to be affordable to the populations they are being developed for?

Ethical considerations are involved in the study of individual genotyping. In the genetic context, non-discrimination seems extremely difficult as racial and ethnic groups could have variable phenotypes (Weiss et al., 2008). Would drug development be based on ancestral linkage or actual current phenotypes? How far should the clinician go as far as interviewing the patient of their ethnicity? The intermixing of ethnicities could produce even more confusion and limit the usefulness of genetic test results.

Individual genotyping has proven its place in the development of pharmacotherapeutics. Current recommendations for a multidisciplinary approach and patient centered care can help guide the healthcare practitioner in the diagnosis and treatment of patients. Genotyping as a mainstream way to prescribe and monitor drug effectiveness is not without controversy. Given the current status of the healthcare system it will be interesting to see what this research will yield in the next ten years. At the present time, this information should be used along with sound clinical judgment, and depending on the individual, used as another tool to give appropriate patient centered care.

Email comments to **dering-matthew@cooperhealth.edu**

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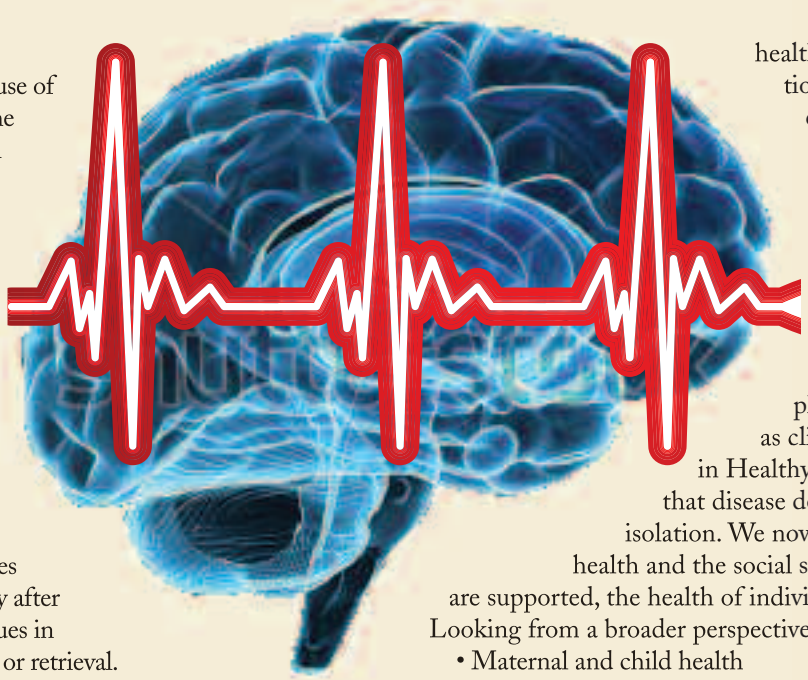
RESEARCH / EBP

Acute Ischemic Stroke: 2012 Update

Carol Pulley, RN, MSN, CPHQ

Background



Stroke is the third leading cause of death in the United States and the primary cause of disability. Taken together, heart disease and stroke are among the most widespread and costly health problems today, accounting for more than $500 billion in health care expenditures and related expenses in 2010 alone (Healthypeople 2020). The good news however, is that the evaluation and treatment of acute stroke has advanced in recent years giving the care team new options when a patient arrives at the emergency room door early after symptom onset. Research continues in both brain imaging and clot lysis or retrieval. However, despite promising advances, prevention remains the best option of all.

Statistics do not convey the impact from a disease because we do not always see real lives in the numbers. The prevalence of stroke is perhaps better understood through the experiences of famous individuals. For instance, when examining the history of American presidents through the lens of illness and death, the prevalence of stroke is apparent. According to Jones & Jones (2006), 11 out of 43 presidents have been affected by stroke, with 4 occurring while in office. In the 20th century, all but 3 presidents who served, died of either cerebrovascular or cardiovascular disease.

When examining the influence of stroke risk factors, one can again look to an example among well-known people to understand the human cost. A recent example, Luther Vandross, a popular R&B singer who won 8 Grammy awards before he died at age 54, two years after suffering a devastating stroke. Vandross was a man with a golden voice who lived with the risk factors of hypertension, diabetes, a family history of diabetes, a chronic battle with obesity and also, as an African American, a likely hereditary risk for stroke as well. When he had his stroke at age 52, he was the last living child out of four in the Vandross family. Incredibly, "Diabetes took the life not only of his father when Luther was 8 yrs old but also his brother in 1992 and his sister Patricia in 1993. Ann, another sister, suffered a fatal asthma attack in 1999" (Sinclair, 2003). Sadly, his mother, not only outlived her husband, but lost all 4 children to treatable conditions.

Risk Factors

There are multiple risk factors that increase a patient's likelihood of having a stroke but the bigger issue is the element of time and duration related to these risk factors. Identifying unhealthy behaviors and conditions at an early age before changes in heart and blood vessels have occurred is an important preventive step, yet how many 12 year olds have early chronic disease risk assessments?

Perhaps the notion of risk itself is also oversimplified. Both in our practice as clinicians and also as noted in Healthy People 2020, one finds that disease does not necessarily occur in isolation. We now know that when the health and the social structure of communities are supported, the health of individuals is also nurtured. Looking from a broader perspective, the issues instead may be:

- Maternal and child health
- Access to educational opportunities
- Availability of healthy foods, physical education, and extracurricular school activities
- Access to safe and walkable communities
- Access to healthy foods
- Quality of working conditions and worksite health
- Community support and resources
- Affordable, quality health care

Stroke Systems Statewide

What has changed regarding stroke treatment? Actually, quite a bit has changed, with efforts gaining momentum in this most recent decade. In New Jersey, the systems of stroke care were examined and a new plan for the entire state was implemented in 2004 through the NJ Stroke Act. The goal of this plan is to provide access for every NJ resident to appropriate stroke care within 30 minutes. This lead to the establishment of a wheel-like system of hubs and spokes with comprehensive stroke centers serving as the hubs and primary stroke centers as the spokes. Each primary stroke center screens patients with acute stroke symptoms for eligibility to treat with the thrombolytic therapy using the drug, tissue plasminogen activator (tPA). Tissue plasminogen activator is an enzyme that catalyzes the conversion of plasminogen to plasmin. Since plasmin is an enzyme in blood that degrades fibrin clots, the administration of tPA accelerates clot disintegration.

Every primary stroke center must have a relationship with a comprehensive center, which is a hospital that has the capability to perform neurovascular intervention in acute stroke. This enables efficient transfer of stroke patients to a higher level of care when endovascular treatments are indicated. Through certification by the state, a requirement of the Stroke Act, all stroke centers

demonstrate that appropriate stroke teams are in place, that patients with stroke are cared for in a stroke unit or in specific beds designated for stroke care and staff who care for patients with stroke are educated to manage stroke patients. In addition, the Emergency Medical System (EMS) is involved in this plan by transporting patients with symptoms of stroke to hospitals certified as stroke centers.

Options for Acute Stroke Intervention

In addition to improved systems of care throughout the state, stroke treatment took a leap forward in the 2000s as well, giving birth to new tools for acute stroke treatment. Today, when assessing a patient for acute stroke intervention, a key element of the assessment is to establish when the patient was "Last Known Normal". This term refers to the last time when either the patient or someone else saw the patient in his/her usual state of health. Currently, patients who arrive within 7 hours of "Last Known Normal" are considered for acute intervention. For those patients who arrive outside this window of time or who are unsure of the time of symptom onset, it is unfortunately considered too late for intervention. This however, may change as the trend may likely evolve to determine treatment based on imaging results rather than strictly time.

Tissue Plasminogen Activator (tPA)

The use of tPA as a thrombolytic for treatment of acute ischemic stroke in selected patients was first approved by the Federal Drug Administration (FDA) in 1996. The initial window of opportunity to give tPA was 3 hours from the onset of stroke symptoms. However, in 2009 the American Heart Association (AHA) recommended extending this time frame to 4.5 hours (Del Zoppo, Saver, Jauch, & Adams). This extension has been incorporated into AHA guidelines and is followed in practice, but has not yet received an expected FDA approval. It is important to note that the additional 3 to 4.5 hour frame does not apply to every patient because the risk for bleeding from tPA into a damaged brain increases as the time without oxygen increases, there are additional contraindications for patients within the later time window. For example, a patient arriving within the 3 to 4.5 hour window who is over 80 years old, or who is on an anticoagulant regardless of INR, does not meet eligibility criteria for tPA administration. In general, intravenous thrombolysis with tPA is considered the first line of treatment for acute ischemic stroke and remains the standard of care for patients who arrive within the appropriate time window.

Intra-arterial Thrombolysis

Intra-arterial (IA) thrombolysis is indicated for treatment of selected patients with major stroke of less than 6 hours duration and is considered an appropriate alternative for patients who have contraindications to intravenous thrombolysis, such as recent trauma or surgery (Meyers et al, 2009). Unlike tPA, IA thrombolysis requires the patient to be at a comprehensive stroke center where both appropriate imaging and neurointerventionalists are available. With continued advancement in intra-arterial catheters used for mechanical clot extraction, use of IA thrombolysis has declined.

Intra-Arterial Clot Extraction:

The first neurovascular catheter was approved by the FDA in 2006. These catheters are inserted through the groin and advanced into the affected artery of the brain to retrieve a clot and restore brain perfusion hopefully improving patient outcomes after stroke. An area of promise in acute stroke treatment today involves the use of endovascular catheters that enable the neurointerventionalist to extract a clot blocking downstream flow (Meyers et al, 2009). The time window for endovascular procedures stretches to 8 hours, and sometimes even longer based on angiography and perfusion imaging, enabling intervention to be performed for some patients who arrive after the tPA window, as well as for patients with large vessel occlusions for which tPA has proven unsuccessful. Endovascular procedures require the patient to be at a comprehensive stroke center where both appropriate imaging and neurointerventionalists are available.

A variety of medical devices have been used in the past decade to extract these thrombi from blocked intracranial arteries. The Merci Retriever (Concentric Medical, Mountain View, CA) as the first, was approved by the FDA in 2006, for patients with acute ischemic stroke who were not candidates for tPA or who had failed intravenous tPA therapy. Research continues as newer and alternative types of catheters and stents aimed at clot retrieval and reversal of atherosclerotic occlusions are being developed and studied. More recently, catheters have been developed with the ability to deploy stents into intracranial vessels; some of these catheters have retrievable stents, that is, after the stent is place, both the stent and the clot are retracted and removed. Clot extraction is a significant addition to the acute stroke treatment arsenal because often patients experience a blockage not caused by a blood clot, or a clot that is too large for tPA to effectively lyse. However, thrombolytics and catheters can only help if patients arrive with viable brain tissue remaining in the area affected (the penumbra). Once brain tissue is permanently damaged from inadequate arterial blood supply there is no purpose for intervention. Success depends on the vessel, the location, the patient and most importantly, time from symptom onset to intervention.

Imaging:

There would be a large gap in the discussion of emergent treatment in stroke if we excluded what we learn through imaging. Understanding the etiology of symptoms, the time trajectory of pathology and other information crucial to managing a case would largely be a guessing game without the assistance of imaging studies. These too have evolved in recent years and continue to evolve today. In fact, in early studies in the use of tPA, there was no attempt to determine the site, the presence of a vascular occlusion, the degree of tissue injury, or the amount of tissue at risk for further injury. The goal was simply to establish that the cause was likely ischemia, and that the ischemic episode was of a short enough duration that permanent brain injury had not already occurred (Latchaw et al, 2009). With the option to perform endovascular clot retrieval or lysis, imaging during the early patient assessment takes on great importance. The information gleaned through imaging is critical to the decision of whether to intervene or not.

Today, imaging in suspected acute stroke should address 4 essential issues (Latchaw et al, 2009):

1. The presence of hemorrhage
2. The presence of an intravascular thrombus that can be treated with thrombolysis or thrombectomy
3. The presence and size of a core of irreversibly infarcted tissue
4. The presence of hypoperfused tissue at risk for infarction unless

flow is restored

Beyond performing the standard Computed Tomography (CT), there is strong rationale for vascular imaging at the time of the initial imaging study to triage the patient to the best therapy and to determine prognosis even if the patient presents within the 3-hour window (Adams et al, 2006). However, one caveat is that the priority remains to ensure timely administration of tPA; thus imaging should not interfere with the patient's ability to receive tPA. The standard of care for patients who arrive by 3 hours from last known normal is to receive thrombolysis unless there are contraindications. A neurointerventionalist cannot promise success through endovascular procedures. Withholding tPA to rush to an endovascular procedure might put a patient at a disadvantage.

What do imaging procedures tell us? The full spectrum of imaging in stroke cannot be easily described in a few simple paragraphs. However, we can summarize some key tests used to address the four goals noted above for early management of acute stroke. Not every institution has the ability to perform all imaging sequences. Thus, being prepared to treat stroke as an organization also involves attention to radiology as a key ingredient: assessing what imaging is necessary and what imaging capability is available.

1: Establishing the presence of hemorrhage:

Both CT and Magnetic Resonance Imaging (MRI) are equally effective in demonstrating the presence of a hemorrhage in the brain. This is the first important piece of information needed when treating the acute stroke. Presence of blood will exclude the patient from receiving thrombolytic therapy. Most hospitals use the CT because it is faster and many patients often fail to complete an MRI due to significant anxiety and claustrophobia.

2: The presence of an intravascular thrombus:

If there is no bleed, the next information the neurologist is interested in is two-fold: is there an area of occlusion in the blood vessels supplying the area of ischemia and is there viable brain tissue left to salvage. This area, the penumbra, is an area of brain tissue that is suffering from ischemia but the damage is not yet irreversible.

Computed Tomographic Angiography (CTA) or Magnetic Resonance Angiography (MRA) can both be used to effectively elicit the presence of a vascular occlusion. Both studies require an infusion of contrast material. If a CT is being used to identify hemorrhage, likely a CTA will be used to obtain the vascular information. If an MRI is being used in the emergent period to identify hemorrhage then likewise an MRA may be used to provide the vascular information.

3. Infarcted tissue

The MRI is much better than CT at showing very early ischemia. Neurologists may order a specific MRI sequence, called Diffusion-Weighted Imaging (DWI), which is able to detect ischemic brain lesions almost immediately after a vascular occlusion. This is not the only test sequence that can show ischemia but is one of the standard tests employed. There is a variety of MRI imaging sequences that a neurologist will use to study a variety of potential ischemic and hemorrhagic sequelae such as the effect on various brain fluids: blood and cerebral spinal fluid, their circulation and edema. Both CT and MRI scanning sequences can be used to identify irreversibly infarcted tissue but the MRI is more sensitive to early changes.

4. Hypoperfused Tissue (Penumbra):

Perfusion studies done with CT or MR (CT Perfusion or MR Perfusion) are used to identify whether there is a potential ischemic penumbra and both of these tests also require a bolus of contrast. When a blockage has been found on CTA/MRA if there is no remaining penumbra to be salvaged and only permanently damaged brain is identified; further intervention with endovascular techniques is futile.

One of the most important and critical aspects of treating acute stroke is time. Until the community reacts to the first symptoms of stroke just as they do to the first symptoms of acute myocardial infarction (AMI), much of what is available for stroke treatment is not indicated when arrival is too late. Just as in AMI, there is a narrow window of opportunity to salvage the brain when acute stroke occurs. Calling 911 as soon as possible remains a key ingredient for stroke treatment.

The other critical aspect of time is in regards to prevention. It's not a wise plan to initiate prevention at age 50. Therefore we should consider cardiovascular risk assessments and promote healthy lifestyles at a young age. The most effective solutions to decrease stroke rates may come from those who embrace public health concepts, for preventing heart disease and stroke will likely require a broad array of interventions. According to Kirschner's One City, Two Worlds (2010), "…health care is inextricably linked to psychosocial, social, and environmental issues…" Education about risk factors will always be important, but when the social and physical environment nestles residents within unhealthy influences, it is more difficult for a community to develop a pattern of healthy living. Access to healthy foods, physical activity, safe and walkable communities, and affordable, quality health care all play a critical role in lessening the impact of this disease.

Email comments to **pulley-carol@cooperhealth.edu**

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RESEARCH / EBP

Saving Lives: Suicide Assessment and Prevention

Carole-Rae Reed, RN, PhD, APRN-BC

Nurses are often confronted with patients who are suffering from illnesses or injuries that could have been prevented. It can be upsetting when the patient inflicts his or her own injury as in a suicide attempt. Nurses in acute care hospitals are in a prime position to prevent suicide. More than 374,000 people are treated in emergency departments (ED) for self-inflicted injuries each year. In 2008, 163,000 people were hospitalized for self-inflicted injury. (Centers for Disease Control National Center for Injury Prevention and Control WISQUARS, n.d; CDC, n.d.). There are far more attempts at suicide than actual deaths by suicide. These attempts often result in serious injury or permanent disability (CDC, n.d.).

Nurses who work in acute care hospitals need to be aware that suicide is a primary concern in caring for their patients. Suicide was one of the top five most frequently reported sentinel events to The Joint Commission since reporting began 1995. Close to a quarter of inpatient suicides occurred in non-behavioral health units of general hospitals such as, medical or surgical units, ICU, oncology, telemetry or the ED (The Joint Commission, 2010). According to the Joint Commission (2010) "…general hospital patients who are suicidal, attempt suicide after admission more rapidly and with fewer threats or warnings than suicidal psychiatric inpatients" and that "…suicide attempts within the general hospital environment were more violent (hanging, jumping or gunshot) than those on psychiatric units" (¶6). They recommend that hospitals take steps to identify patients at risk for suicide in order to reduce risk and prevent suicide (The Joint Commission, 2010). The Joint Commission made suicide screening and prevention one of their 2010 Safety Goals. Nurses are critical to achieving this goal.

Cooper University Hospital (CUH) developed an interdisciplinary task force to develop and implement a comprehensive, hospital-wide suicide screening and prevention program in response to the Joint Commission National Patient Safety Goals. The task force consists of direct care nurses, nurse educators, nurse managers, psychiatrists, risk managers, information technology personnel, social workers and regulatory officials. Other experts are asked to attend as the need arises, such as food and nutrition specialists.

The task force reviewed the evidence to ensure that all screening and interventions are evidence based. The Columbia Suicide Severity Rating Screen (C-SSRS) is widely used in a variety of inpatient and outpatient settings. Its reliability and validity in assessing suicide risk is well established. C-SSRS only takes a few minutes to administer. The Joint Commission (2011) pointed out that "suicide risk typically cannot be determined by a simple yes or no finding" and involves levels or gradations of risk (p. 3). The Joint Commission (2011) recommended that the required risk assessment address the following for variables: thoughts, plans, means, and ability, all of which are evaluated in the C-SSRS (Posner et al, 2011; 2007). Using the C-SSRS will help identify those patients who are at high risk for suicide. It may reduce the use of one to one observation for those who may be having suicidal thoughts but are not at high risk. This was the experience at Reading Hospital, where the C-SSRS was used for hospital-wide screening (Pumariega et al., 2011).

The CUH task force adopted the C-SSRS to be completed as part of the nursing admission assessment in the electronic medical record for all patients 12 years old or over admitted to an inpatient unit, ED, or the Clinical Decision Unit (CDU). The maximum number of questions that could be asked is six. The patient's risk level is electronically calculated based on the answers entered. Order sets and best practice alerts (BPA) based on the calculated level of risk are generated. Interventions for risk level one or two are simply to give patients information about community resources. The maximum risk levels (4 and 5) involve constant 1:1 observation, an environmental safety check and consults to

Uniform Definitions for Self-Directed Violence

The Centers for Disease Control and Prevention (CDC) proposed the following surveillance definitions to avoid confusion in terminology and "improve communication among researchers, clinicians, and others working in this important area" (2011, p. 11). Nurses should be familiar with the correct terminology and use it in all pertinent communication and documentation.

Term	CDC Definition
Self-directed violence	Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. Does not include behaviors such as parachuting, substance abuse, tobacco use or other risk taking activities.
Non-suicidal self-directed violence	Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. There is no evidence whether implicit or explicit of suicidal intent.
Suicidal self-directed violence	Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. There is evidence whether implicit or explicit of suicidal intent.
Suicide	Death caused by self-directed injurious behavior with any intent to die as a result of the behavior.
Suicide attempt	A non-fatal self-directed potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury.
Interrupted self directed violence– by self or other	**By other:** Person takes steps to injure self but is stopped by another person prior to fatal injury. The interruption can occur at any point during the act such as after the initial thought or after onset of behavior. **By self:** (also called "aborted" suicidal behavior) Person takes steps to injure self but is stopped by self person prior to fatal injury.
Aborted suicide attempt	Person takes steps to injure self by is stopped by self from starting the self-injurious act before the potential for harm has begun.
Other suicidal behavior including preparatory acts	Acts or preparation towards making a suicide attempt but before potential for harm has begun. Includes anything beyond verbalization or thought such as assembling a method (buying a gun, collecting pills) or preparing for one's death by suicide (writing a note, giving things away).
Suicide	Death caused by self-directed injurious behavior with any intent to die as a result of the behavior.

Adapted from:
Crosby, A., Ortega, L., & Melanson, C. (2011). Self-directed violence surveillance: Uniform definitions and recommended data elements, Version 1.0. Atlanta, Georgia: Centers for Disease Control and Prevention, National Center for Disease Control and Prevention. Retrieved 8-21-2012 from http://www.cdc.gov/violenceprevention/pdf/Self-Directed-Violence-a.pdf

Unacceptable Terms

The CDC provided the following list of terms that are unacceptable for describing self-directed violence. Nurses should avoid using these terms in communication and documentation.

Unacceptable Term	Rationale	Alternate Term
Completed suicide	Implies achieving a desired outcome whereas most would view this event as undesirable	**Suicide**
Failed attempt	Gives a negative impression of the person's action implying an unsuccessful effort at achieving death	**Suicide attempt Suicidal self-directed violence**
Nonfatal suicide	Contradictory term: Suicide indicates a death while the term "non-fatal" does not	**Suicide attempt**
Parasuicide	Formerly used to refer to self-directed violence whether or not person had intent to die	**Suicidal self-directed violence OR Non-suicidal self-directed violence**
Successful suicide	Implies achieving a desired outcome whereas most would view this event as undesirable	**Suicide**
Suicidality	May simultaneously refer to both suicidal thoughts and suicidal behavior which are different and should be addressed separately	**Suicidal Thoughts AND/OR Suicidal Behavior**
Suicide gesture Manipulative act Suicide threat	Each gives a values judgement with a pejorative or negative impression of the person's intent. Usually used to describe non-fatal self-directed violence	**Non-suicidal self-directed violence OR Suicidal self-directed violence**

Adapted from:
Crosby, A., Ortega, L., & Melanson, C. (2011). Self-directed violence surveillance: Uniform definitions and recommended data elements, Version 1.0. Atlanta, Georgia: Centers for Disease Control and Prevention, National Center for Disease Control and Prevention. Retrieved 8-21-2012 from http://www.cdc.gov/violenceprevention/pdf/Self-Directed-Violence-a.pdf

psychiatry and social work, among other interventions. Risk level 3 requires collaborative decision making between the nurse and psychiatrist to further determine risk level as 2 (low) or 4 (high).

Despite the usefulness and accuracy of C-SSRS, it is just a screening tool. The interventions that actually prevent suicide in those at high risk must come from the healthcare team, especially nurses. Identification of risk is only the first step in prevention. Psychiatric/ behavioral health units are "suicide proofed" by design while medical, surgical, ED, and other hospital units abound with tubing, instruments and other items that could be used in attempting suicide (Bostwick & Lineberry, 2009). This involves ridding the patient room of potentially dangerous objects such as plastic bags unnecessary tubing and equipment. The CUH policy and BPA contain an environmental checklist to help nursing staff ensure a safe environment. A safety tray containing only finger foods and no soda cans or other dangerous objects is part of the order set for high risk patients. The patient is to be on one to one observation with specific guidelines that the patient be visible and accompanied at all times outlined. A separate checklist for the one to one observer is provided on which patient behavior is also noted, such as agitation or social withdrawal. The one to one observer's role is to keep the patient safe and to alert staff as necessary. The method used in 75% of hospital inpatient suicides reported to the Joint Commission between 1995 and 2005 was hanging in a bathroom, bedroom or closet; 20% jumped from a roof or window (Tishler & Reiss, 2009). Therefore, one to one observation plus environmental safety precautions are essential in prevention.

Identification and observation of patients at high risk are critical steps in prevention. However, it cannot be assumed that a patient will improve in the absence of treatment. That is why a psychiatric consult is mandatory in order to further assess the patient and treat the underlying cause of the suicidal thinking. A social work consult as soon as risk is identified helps ensure that adequate post hospitalization care and treatment or transfer to a behavioral health facility can be arranged in a timely fashion. The social worker also provides additional support to the patient and family. Ongoing nursing assessment is essential to detect changes in behavior. Patient and family teaching are also indicated but patient confidentiality must be maintained.

Other institutions have adopted various methods of suicide prevention and screening. Catawba Valley Medical Center created a suicide prevention care pathway following an interdisciplinary failure mode effects and criticality analysis. They recommend a bundled approach consisting of assessment, consultation and collaboration, environmental safety, and patient and family education, all of which the CUH initiative addresses (Baumgarrner & Haygood, 2009). Another general hospital developed a suicide prevention plan that utilized a suicide risk screening tool requiring nurses to rate patients on 15 separate items on a score of 0-6, and calculate a risk score. This is followed by specific interventions including securing a safe environment, removing belongings, providing a safety tray and providing resource information to the patient and family at discharge (Maclay, 2012). These interventions are similar to those at CUH, but the C-SSRS has fewer questions and takes less time to complete.

Although the C-SSRS screening is part of the nursing admission assessment, nurses should be alert for warning signs at all times throughout the admission. While it is difficult to predict suicide and there is not a great deal of evidence re: risk factors in hospital patients, Tishler and Reiss (2009) noted "it is important to be alert for risk in three patient groups on general units: (1) patients recovering from a suicide attempt who are not admitted to a psychiatric unit; (2) patients who are experiencing delirium and/or dementia that is associated with agitation and impulsivity; and (3) patients who are overwhelmed by their chronic or newly discovered medical illnesses." Hopelessness, and/or verbalization of wishing to die are other indications that further assessment is needed. Even if the patient is not suicidal, major depressive illness may be present. Treatment is essential. The nurse should notify the physician of patient behavior that is of concern and ask for further evaluation and a psychiatry consult. The C-SSRS may be used at any time during admission: paper copies with scoring instructions are available on each unit and within the Suicide Prevention and Screening Policy. Patients with delirium or dementia may not be able to respond accurately to questions.

Suicide and suicide attempts have far reaching health consequences. People who survive suicide attempts may have severe and /or permanent disabilities. Nurses have a major role in identification and prevention of suicide in acute care hospitals. Suicide risk assessment should be high on every nurse's list of patient care assessment and education priorities.

Email comments to **reed-carole-rae@cooperhealth.edu**

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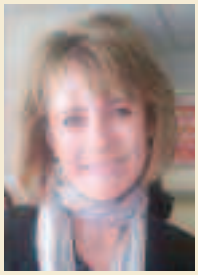
(continued on page 16)

PATIENTS / FAMILIES / COMMUNITIES

REFLECTIONS

Zofia Kapron, RN, Staff Nurse N/S9



For the last 6 years I have been working as an oncology nurse and have had the privilege to care for a very special group of patients and their families. Before I came to Cooper I worked as a certified hospice home health aide and was asked many times "how can you work for hospice?" My answer was and always will be: "hospice is not about dying; hospice is about living your life as peacefully and comfortably as possible until the very end." At that time I believed that I was caring for patients who were going through their most emotionally challenging phase in life, but when I became an oncology nurse, I realized that their struggle began with devastating news, with the news of "you have a cancer."

Previously I only saw the final days of hospice patients' lives, not realizing what most of them went through. It is beyond our imagination how devastating the news of being told "you have cancer" can be to a person. Many of us, as caregivers, witness these moments daily. When diagnosed with cancer, patients may suddenly feel stripped of their identity, family and professional roles, plans and dreams may need to be postponed or worse, they are gone forever. The fear of the unknown takes over. Hope is all that is left and even that can be challenged in so many ways. A cancer diagnosis by itself is devastating, but more frightening can be the prognosis. After many rounds of chemotherapy, radiation, surgical procedures, CAT scans, MRIs, relapses, ups and downs of physical, emotional and spiritual distress the outcome is not always positive. While some patients make adjustments to their newly affected lives, others are saying goodbye to their loved ones. Patients know intuitively that they are not going to make it and are often afraid or simply unable to talk about it. Someone has to put it into words. We as caregivers have to find a gentle, compassionate, and honest way to deliver this devastating news to our patients and their loved ones, all the while trying to soften the blow of the inevitable emotional devastation. As you can imagine, it is not an easy task to accomplish.

At the present time I am taking an Ethics class and in one of the assigned readings I found a quote on the topic of speaking honestly to patients about dying. Here are the words of a patient expressing how he would like the physician to tell him the bad news.

> *"He would tell you gently: now, we are going to do everything in our hands so you feel better; however, we will not stop you from dying, but the 2 or 3 days you have left should be happy, and don't think about leaving because maybe it won't happen." Patients and their families want to preserve hope to the very last moment. And hope is always present – just in different forms.*

During my past 6 years working at Cooper, mostly as an oncology nurse, there is not one person who did not leave an overwhelming expression of courage, hope, love and appreciation, but also tears and sadness, loss and devastation. It is impossible to mention them all, but I want to share my experience with two special people I had the privilege to accompany during the most difficult time in their lives. One of them is my dear friend and coworker and the other person is her husband. Steve was our patient for the last few months of his life. He was diagnosed with a chronic condition and underwent every possible and available treatment trying to live as productive and happy a life as possible. Steve was a person with a gentle heart and a huge smile. He was a natural comedian and entertained the staff with jokes and comical performances all the time. He was also a loving husband, a father and a grandpa. Usually, he was a person who was eager to return back to work as soon as he was discharge from the hospital, but after a while hospitalizations were becoming more common and lengthy and as the time went on, the progression of his condition and other health complications did not give him much hope for recovery.

Steve and his wife were told that they had run out of treatment options and that their best bet would be the hospice care. I remember how devastated my friend was upon hearing the word "Hospice." Steve and his wife were not ready to accept it, even though the physicians who were involved in Steve's care were the ones whom this couple trusted unconditionally. Thankfully, Mark Angelo MD, Barbara Sproge MSN, RN, OCN and Christopher Deitch MD delivered the news in the most compassionate and gentle way. That day I was assigned to take care of Steve. I was devastated myself to see the toll of physical and emotional suffering the last few days had left on him and his wife. I knew we had to have that difficult conversation. I asked Steve what it was that he was most afraid of. He looked at his wife with tears in his eyes and he said that the hardest part of all is losing his wife. We were all crying and hugging each other. That moment opened the door to conversation for all of us, but mostly it helped Steve to open up and share his emotions, which he was keeping hidden for quite a while. I could see the transformation from rejecting the news to accepting the option of hospice care. I spent a lot of time in his room during those few days; my coworkers were helping me out with my other patients so that I could be there for Steve and his wife. We all realized how much time we need to dedicate to our patients when they get the most devastating of news but we also realized that it's impossible is to dedicate that amount of time to all of them, even though they all deserve that. I feel privileged and honored to have had a chance to be with Steve and his wife in the hospital room as well as in their home where he passed away.

So how does this affect my life? I love deeper and I love more. I do not take anyone or anything for granted, I cry without embarrassment, laugh, and scream in the car to release frustration. I pay higher water bills because I take increasingly longer showers. I watch comedies only, hike, garden, adore my grandchildren, take pride in my children, and pet the cat and the dog. I take pleasure in simple things. I work hard; I have no time to waste. I have my priorities in order, and take one day at the time like I preach to my patients. It works, because I love my life.

Email comments to **kapron-zofia@cooperhealth.edu**

Cooper
University Health Care

c/o The Cooper Health System
3 Executive Campus, Suite 240-B
Cherry Hill, New Jersey 08002

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Professional News

CERTIFICATIONS:

Danielle Ballak RN-BC
Medical Surgical Nursing Certification

Tim Kane RN CEN ACD
Certification in Emergency Nursing

Cecilia Polimeni, RN, PCCN
Certification in Progressive Care Nursing

DEGREES:

Lori Schemeley, RN, BSN
received her BSN degree from Grand Canyon University.

PRESENTATIONS:

Sharon K. Byrne DrNP, APN, NP-C, AOCNP, CNE
Addressing Breast, Cervical, and Colorectal Cancer Related Health Disparities: Cancer Education and Screening in Underserved Asian Indio Women within Southern New Jersey. National Institute of Health 2012 Summit on the Science of Eliminating Health Disparities, October 31 – November 3, 2012. Gaylord National Resort and Convention Center, National Harbor

Deborah E. Schoch, RNC, PhD(C) IBCLC, CCE, CPST,
Gretchen Lawhon, PhD, RN, FAAN,
Linda Wicker RN, MSN, CCRN,
Giselle Yecco, APN-BC
Poster presentation *"An Interdisciplinary and Multi-Departmental Education Program Toward Baby Friendly Hospital Designation"* accepted to the Academy of Breastfeeding Medicine 17th Annual International conference held October 11–14, 2012, Chicago, IL.

Suicide Assessment and Prevention *(continued from page 14)*

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