Quality & Patient Safety

Newsletter

IN THIS ISSUE

ABOUT THE NEWSLETTER

"By providing important and relevant information to healthcare providers, this Newsletter aims to enhance communication of quality and patient safety information, raise awareness of reported adverse events and maintain an ongoing link to all the medical departments of the National Guard Health Affairs (NGHA) facilities. "

Riyadh   Jeddah   Al Ahsa   Al Madinah   Al Dammam

Improving Patient Safety through Simulation: Integrating High-Fidelity Human Patient Simulation in Nursing Training Programs

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Introduction

Ensuring patient safety and enhancing the quality of healthcare delivery requires multidisciplinary efforts at several levels. The ultimate goal of patient care remains to be the promotion of health and the prevention of illness, with the concept of "No Harm".

The quality and effectiveness of training is not limited to the content of the programs, rather it is related to its relevance to the practices in the clinical areas. The mode of delivery of such programs remains to be a major component in the success of achieving the desired outcomes.

While the nursing profession, as other healthcare professions, continues to be in an evolution (Valiga, 2013), the National League for Nursing (NLN) recommends increasing more educational practices' innovation

(Fluharty et.al., 2012). The (NLN) has been working toward the encouragement of increasing more innovation in educational practices for more than 10 years (Fluharty et.al., 2012). Nursing education and training takes place in the context of the larger society where the profession continues to be in an evolution (Valiga, 2013). On the other hand, many of the current nursing curricula still preparing nurses as they did more than 20 years ago using methods that could be referred to as "antiquated" (Jeffries, 2005).

With time, demands to improve the quality of care are rising and the demand on healthcare professionals (HCPs) continue to become more complex (Koerner, 2003; Long, 2004), while technology use is becoming more common than ever.

The Institute of Medicine (2003) asked for healthcare educational reform to emphasize on patient safety. In response

to this call, Quality and Safety Education in Nursing (QSEN) initiative defined quality and safety and knowledge, skills, and attitudes necessary to achieve the competencies (QSEN, 2011). Assessing these competencies without compromising patient safety and assessing performance away from actual clinical setting are problems nursing trainers/educators face every day. Coping with the current health care environment necessitates clinical education to be up-to-date not only in knowledge but also with the processes to safely disseminate and apply it to clinical practice.

The Theory Practice Gap

Matching the theoretical knowledge and textbook descriptions of clinical situations with the reality of practice has always been an ongoing problem faced by members of the nursing

profession and is commonly referred to as the "Theory-Practice Gap" (Scully, 2011).

There are many issues that affects nurses' preparedness for the clinical areas. Communication skills with patients and other HCPs, critical thinking, and decision making are some of the examples that trainers find difficulties in assessing away from bed side.

The newly hired staff, especially with first time exposure to the new setting, experience issues with anxiety, stress, self-confidence, and coping with the new environment. Both the trainees and the trainers have a great concern about patient safety. Fear to harm patients at first exposure or when performing tasks for the first time remains to be the main objective to have hands-on training that imitates real life scenarios.

Literature is rich in evidence supporting the value of resources and technologies to fill the gap between the theory and practice gap. Learners are found to be better equipped and trained with experiential instruction. Experiential learning is very essential for nursing training. Experiential learning can occur through computer and virtual reality, simulations, case studies, interactive videos, and hands-on direct patient interactions or experiences (AACN, 2015). The more involvement in learning, the more the learning becomes profound.

Introducing high-fidelity

human patient simulators HFPS into nursing training could play a role in closing the Theory Practice Gap. Such change in the trends of nursing education and preparations of nurses will have many positive implications at different levels.

High-fidelity Human Patient Simulators (HFPS)

One of the methods to manage the gap between theory and practice is to use of a more realistic, yet controlled practice environment through high-fidelity human patient simulators (Wilson et al., 2005).

The literature defines simulation as a near representation of an actual life event, which can be presented through different methods such as computer software, case studies, written clinical scenarios, live actors, role playing, games or manikins (Bearnson and Wiker, 2005).

Scenario-based simulation, using the concept of virtual reality, is an effective method that could be used by nursing educators to meet the student' learning needs and develop their skills and competencies (Koerner, 2003).

As to HFPS (manikins), have many humanistic features as breathing, blinking, verbally responding and even bleeding, sweating, which create a level of realism that allows learners to involve themselves in patient care. These computerized manikins offer many complex

scenarios and services for students as well as for instructors to enable them to better evaluate their students (Spunt et al., 2004).

Evidence based practice related to the HFPS has become an essential component of the contemporary nursing education (Bremner et al., 2008). The evidence based practice approach related to the HFPS led the healthcare service to use it as a teaching strategy for healthcare professionals. Training through simulation is meant to enhance the health professionals' skills while minimizing much harm to patients (Jeffries, 2007).

Research Evidence

Research studies have proven that technology could play a major role in the hospital-based education and training. Recent studies support the use of clinical simulation to enhance nursing education. Simulation-based learning, for instance, is being used to compliment the real-world clinical experience (Chee 2013).

The use of simulation as an educational intervention to teach patient safety competency is well documented in the literature. Organizations such as, the Institute of Healthcare Improvement, the Joint Commission the Institute of Medicine (IOM), and the Agency for Healthcare Research and Quality recognize simulation and recommend its use to improve patient safety (Strouse, 2010).

A meta-analysis review of the available evidence by McGaghie et al. (2010) determined that simulation based medical education with deliberate practice is superior to traditional clinical education in achieving specific clinical skill acquisition goals. Deliberate practice students gain expertise in psychomotor skills and the ability to integrate them into clinical practice (Chee 2013). A study by Wolfgram and Quinn (2012) showed that students who have participated in clinical simulation scored higher in skill and showed more comfort and confidence.

Deborah L. Weatherspoon and Wyatt (2012) have found that simulation has positively enhanced clinical judgment skills in senior nursing students. Bauman et. Al. (2013) have applied a pilot study on nursing students and highlighted the role of virtual clinical simulation in improving communication skills.

The literature has also shown the role of learning through simulation in improving self-confidence (Bremner et al. (2008), satisfaction (Alfes, 2011), reducing anxiety, improving the level of knowledge, and clinical performance (Liaw et al., 2011) enhancing the ability to take appropriate patient care decisions, acquiring new skill… which all supports the safety and quality of health patient care.

Why adopt High-Fidelity Human Patient Simulators (HFPS)?

Adopting simulation will have several impacts at different levels in the practice environment. From the educational and staff training perspective, introducing simulation as a tool for delivering clinical education will affect the current nursing training/ education process. Simulation is expected to deliver a more efficient knowledge when compared with the traditional lecture (Cant and Cooper, 2009). The use of HFPS was found to improve clinical reasoning, critical thinking, and knowledge acquisition (Lapkin et al. 2010).

Simulation offers new ways of assessing trainees by using debriefing techniques using computerized-video assisted methods.

HFPS allows learners to apply knowledge and enables them to repeatedly practice skills in a safe environment without the fear to harm patients.

Computerized HFPS, offer many complex scenarios and services for students as well as for instructors to enable them to better evaluate their students (Spunt et al., 2004).

HFPS is a helpful intervention to strengthen the connection between theory and practice (Morgan, 2006). Training using High Fidelity HPS main aim is to ensure patient safety and the quality of nursing healthcare delivery.

In summary, the desired outcomes expected from using HFPS are all related to the patient safety and the quality of nursing healthcare delivery. It includes, but not limited to:

- Minimizing anxiety when training

- Improving trainee's self-confidence in learning and in applying skills in the clinical area

- Promoting critical thinking and decision making

- Enhancing the trainers' and trainees' satisfaction with simulation

- Increasing the flexibility and efficiency of methods used for KSA assessment

- Enhancing effective competency assessment without compromising patient safety

- Reducing the adaptation period and supervised practice

- Enhancing the efficacy and quality of care delivered

An Evidence-Based Practice Model

According to Stokowski et al. (2010) change is imminent in the healthcare system and with change comes opportunity to become more involved in health policy and advocacy than ever before.

Several models could be utilized or adopted to address the adoption of HFPS in a hospital setting. According to Rosswurm & Larrabee (1999), "Evidence-based practice is more likely to occur in practice settings that value the use of new knowledge and provide resources to access that knowledge".

The model introduced by Rosswurm & Larrabee (1999) could be suitable to be adopted in the practice setting for simulation projects. Such model has been derived from theoretical and research evidence-based practice literature, research utilization, and change theory. It contains all the components and steps needed to do a change in practice and to maintain such change.

A simulation project can follow the model's six steps:

1. Assess need for change in practice

2. Linking the current problems with the recommended alternatives and to the expected outcomes

3. Support current proposed change with literature and best available evidence

4. Design and formulate the plan for the change including needed changes in the current policies and guidelines

5. Implement and evaluate change in practice

6. Integrate and Maintain Change in Practice

Conclusion

The theory-practice gap is one of the most important issues in the nursing practice. Simulation moves learning process from theoretical conceptualization into active experimentation or "learning by doing".

Utilizing HFPS in nursing training have shown to play a major role in closing this gap while ensuring learner's satisfaction, equipping them with more self-confidence and less stress/anxiety and improving their knowledge, skills and attitudes.

Adopting HFPS in nurses training is another evidence of placing patient safety and quality at the forefront of practice. Closing the theory and practice gap through simulation will keep the nurses equipped with adequate skills for the field which will eventually be reflected on patient safety and quality of care delivered. Such will maintain nurses playing the key role in promoting higher standards of healthcare (Reed, 2008).

References:
Available upon request

Culture of Just, Culture of Accountability: Be Ready To Stop The Blame Game

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Stop
The Blame Game!!!

For healthcare organizations to become highly reliable, these things are required**:** leadership commitment, building an organizational culture that supports high reliability, and adapting the tools of robust process improvement. At MNG-HA, we are committed to these goals in order to achieve high quality care, and we believe at the center of them is promoting a safe and just organizational culture.

What comes to mind when you think about the term "just culture"? Consider the following dilemma: two nurses picked the wrong IV medication for their patients. One dose reaches a patient, causing him to go into shock, and the other is caught at the bedside few seconds after the initial administration by a second nurse resulting in no harm to the patient. Do we treat these nurses in the same way? Do we blame the first nurse? If we blamed the first nurse, did we solve the problem?

If you think about these two scenarios, from system perspective and resolutions, there is no real difference between them. The only difference is that the patient was lucky enough in the second scenario that a second nurse caught the error at a very early stage of commencing the medication. This is a typical example of a healthcare dilemma that might be addressed with the philosophy of a Just Culture.

For more than a decade now, MNG-HA leadership continued to embrace a just culture knowing its huge implications on improving patient safety and delivering high quality of care. On January 2016, and after a lot of collaborative efforts, MNG-HA formalized in writing the Just / Accountability Culture policy (APP 436-05). It has established the policy and procedures that set the organization`s expectations in employing a **Just Culture** in managing patient safety events and determining fair and consistent courses of action toward staff involved in such events and to promote an atmosphere of trust among all employees. We urge all employees to familiarize themselves with this new APP and to recognize their Roles and Responsibilities in promoting a **Just Culture.**

A Just Culture recognizes that individual practitioners should not be held accountable for system failings over which they have no control (latent errors); for example, improper supervision of juniors, inadequate staff to cover the service, and poor quality of equipment or devices. A Just Culture also recognizes that individual errors (active errors) represent predictable interactions between human operators and the system in which they work. However, in contrast, a just culture does not tolerate conscious disregard of clear risks to patients, misconduct or reckless behavior, such as falsifying a record, deliberate violation of professional duties despite repeated reminders to follow safe practices. MNG-HA APP: 1436-05, JUST / ACCOUNTABILITY CULTURE set the line To Stop The Blame Game and to ensure that patient safety events and dilemmas such as the one mentioned in the beginning of this article are treated fairly and consistently using a systematic framework. According to this APP, any reported safety event will be assessed objectively and analyzed using a systematic approach based on three (3) classifications of behaviors/actions. The three (3) behaviors/actions are as follows;

1. **Human Error:** A slip, lapse or mistake; unintended error and a product of a current system design that often fails to consider the impact of the human factor

2. **At-Risk Behavior:** A choice; risk not recognized, risk of deviation deemed minimal or believed justified

3. **Reckless:** Intentional risk taking; knows risk associated with action but consciously disregards risk.

Ensuring and promoting a fair and **Just Culture** is fundamental to improving safety culture and is underpinning a high quality of care. When error happen, there can be a rush to blame and punish. But a just culture environment can help get the root of the problem, whether it is the worker deliberately contributing to the error, or the system providing inadequate support to the staff needs. This can help workers feel empowered to report and solve problems and prevent errors, instead of being afraid. I conclude by quoting Dr. Lucian Leape, a member of the Quality of Health Care in America Committee at the Institute of Medicine and adjunct professor of the Harvard School of Public Health, stated that the single greatest impediment to error prevention in the medical industry is "that we punish people for making mistakes." Leape (2009).

References:
1- Mark R. Chassin, Jerod M. Loeb. *The Ongoing Quality Improvement Journey: Next Stop, High Reliability*. Health Aff April 2011 vol. 30 no. 4 559-568
2- MNG-HA APP: 1436-05, JUST / ACCOUNTABILITY CULTURE

Role of Drug Packaging & Labeling in Medication Errors: Use of Color

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There are an estimated 900,000 recorded adverse events in the National Health Service (NHS) in the UK every year. Improvements to the design of medicine packaging could reduce this figure at the same time also improving medication compliance. It is estimated that a third of medication errors are caused by confusion over packaging and labeling instructions. Attention to graphic design on medicine packaging can enhance patient safety.

Both consumers and healthcare professionals (HCPs) use product packaging and labeling to select the correct medication and dose. HCPs are taught to read labels at least three (3) times: when obtaining a drug package, when using it, and when returning it to stock or discarding an empty package. Poor labeling and packaging frequently contribute to medication errors.

Packaging design should take into account the needs and capabilities of the widest possible range of potential users, and in particular older and partially sighted users, and how they interact with the medicine in the home. It should also consider the needs of HCPs and, in particular, how they identify, classify and differentiate between medicine packages.

Confirmation bias plays a role in product mix-ups. Errors are often induced by familiarity with procedures and materials, coupled with the innate tendency of humans to perceive confirming evidence more readily than disconfirming evidence. People tend to see what is familiar or what they want to see, rather than what is actually there. If a drug has very distinctive packaging, the potential for mix-ups is slight. If several products have similar packaging, or if labeling is hard to read, the potential for error involving confirmation bias increases. Especially in suboptimal working conditions, drug look-alikes can cause HCPs to overlook important information.

It is not enough to caution HCPs to be more careful. It is human nature to identify items by color, shape, type font, symbols used, and other such characteristics. To a drug company, its name and corporate identity may be the most important information on the label, but most important to practitioners is clear identification of the product name and strength. Manufacturers can improve the readability of drug labeling and packaging in a number of ways, one of the most important is the use of color.

Using color

Color can help correctly identify, classify and differentiate between medicines. At the practice level, a yellow highlighter can be used to draw attention to important label information such as the drug concentration or the total volume in a vial. However, relying totally on color to do this can lead to mistakes. This is because colors look different in different lighting conditions; people have different perceptions of color; and color blindness means some people see colors differently.

If a single color is used for a whole range of medicines it can be difficult to identify a specific product. This is compounded if medicines with similar names are stored next to one another. If a patient is prescribed a number of medicines with the same color packaging, there is an increased chance of them taking the wrong one.

Color coding

Color coding is the systematic application of color to aid in classification and identification. A color coding system allows people to memorize a color and match it to a function. The effectiveness of color coding systems depends on the users' ability to remember what each color means and excessive reliance on memory increases the likelihood of mistakes. However, creating a shortcut for identifying a medicine without having to read the label can lead to mistakes. No color coding system could differentiate between all medicines on the world market. Furthermore, clinicians or patients with color blindness may misidentify color-coded products.

Color coding can contribute to errors that would not happen without it. The system may contribute to errors if HCPs confuse similar appearing products in the same class.

The use of color-coded, user applied labels in areas such as the operating room (OR), where a small number of drugs are used in an enclosed environment by a small number of individuals who are well trained and familiar with the system is supported. However, color codes on commercial vials and ampoules of High Alert Medications would be dangerous.

Color differentiation

Color differentiation is the recommended method. It uses color to make features on a packet stand out or to help distinguish one item from another. The chosen color is not associated with a particular feature. It is important that there is no pattern in the color scheme. In contrast to color-coding systems, with color differentiation the color is not used as a standard code for classifying and identifying products. The idea is that color helps the user efficiently find and select a medication – before carefully reading the label for verification.

Color matching

Color matching has been used to reduce the risk of error. A medical device may have a blue plug that attaches to a blue receptacle and a yellow plug that attaches to a yellow receptacle, but the colors have no special meaning beyond matching one item with another.

Problems with the use of color

Color should not draw attention away from the name and strength of the drug. Other variables such as type font and layout of labeling must also be considered. The variety of discernible colors available for commercial use is limited. Subtle distinctions in color are poorly discernible unless products are adjacent to each other.

A single variable such as color should never be relied upon to prevent errors. Factors such as the amount and size of text on a product label, the corporate logo, the shape and size of the fonts and logos, and the background can make containers look similar and distract from label reading.

Labeling, packaging, and nomenclature issues play a role in many reported medication errors, but the pharmaceutical industry can be slow to respond when such problems are identified. Labeling and packaging problems might occur less frequently if HCPs' input were considered in label, package design and the use of color. Nurses, physicians and pharmacists looking at the actual package in their work environment would be far more likely to discover problems than would designers sitting at desks.

A thought: If all products had identical black-and-white labels and were packaged in the same size and shape, careful reading of the labels would be the only way to differentiate them; however, this is not likely to happen, but perhaps it would reduce the error potential.

Participative Patient Monitoring During Moderate Sedation & Analgesia Procedures: The Role of the Registered Nurse (RN)

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As one of the largest Joint Commission International (JCI) accredited organizations in the Middle East, MNG-HA continues to prioritize patient safety by striving to become a High Reliability Organization (HRO). High Reliability Organizations go beyond standard patient safety objectives and soar to new heights in the delivery of appropriate, effective and efficient patient centered care.

MNG-HA's journey to HRO brings the topic of moderate sedation and analgesia to the forefront and places particular emphasis on the role of the Registered Nurse on patient safety issues and the prevention of adverse health outcomes during moderate sedation procedures.

Advancements in medical technology continuously pave new horizons for the application of anesthesia services in both, hospital and outpatient procedures. Traditionally, only anesthesia professionals possessed the knowledge, skills and, certification to administer moderate sedation (also known as procedural sedation); this is changing rapidly both locally, and in the international medical arena.

Currently, many non-anesthesiologists such as physicians, dentists and registered nurses participate in the management of patients receiving moderate sedation and analgesia in the MNG-HA. Patients and healthcare professionals often prefer moderate sedation for quick and less invasive procedures traditionally done under general anesthesia.

As the use of moderate sedation gains popularity for diagnostic tests and invasive therapeutic interventions, nurses find themselves in a unique position to enhance patient safety through diligent patient monitoring and effective interdisciplinary communication. In this article, we will take a brief look at moderate sedation and analgesia focusing on what you need to know to monitor your patient and ensure his or her safety during the procedure.

What is moderate sedation and analgesia?

To understand moderate sedation, we must first grasp the concept of sedation itself. Sedation should be thought of as a continuum of states that ranges from anxiolytics to general anesthesia. Healthcare teams decide where along this continuum they want the patient to be in order to achieve the best therapeutic effect while minimizing adverse side effects.
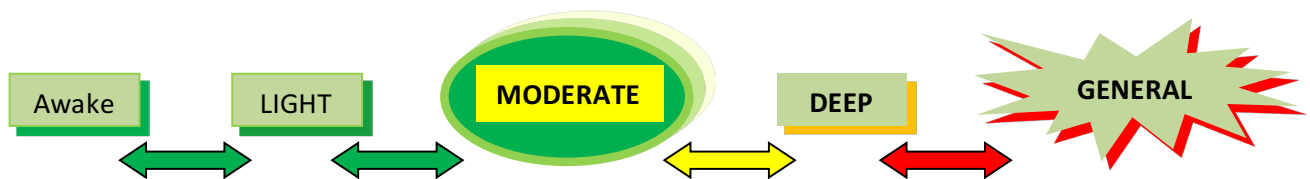
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Fig. 1-Sedation is a Continuum: Awake patients slide along the continuum to the intended level of sedation and slowly return to their baseline level of consciousness as the effects of the medication subside. Sedation levels range from light (conscious) to general anesthesia (unconscious patient likely requiring interventions to maintain respiratory and cardiovascular function).

Consequently, think of moderate sedation as a medically controlled, medication induced decreased level of consciousness in which the patient consistently, and throughout the entire procedure, maintains a patent airway and adequate ventilation, responds purposefully to verbal commands with or without physical stimulation, and maintains normal cardiovascular function.

Sedation is often accompanied by analgesics to manage discomfort levels during invasive procedures patients may find painful. Sedation alone will not provide analgesia.

Moderate sedation and analgesia...what's the point?

Procedural sedation often involves the use of benzodiazepines to address anxiety and opioids for pain management with two benefits in mind: 1) patients are able to tolerate procedures because they feel less anxious, are comfortable and, pain free; and 2) in pediatric patients or uncooperative adults, moderate sedation and analgesia helps control patient behavior where movement restriction is necessary.

What is all the fuss about?

Have you ever heard of the "synergistic effect" of medications? This is a term used to describe the combined effect of two or more medications which when given together, have a greater effect on the patient than if given individually. Benzodiazepines and opioids produce such a synergistic effect. This is concerning when we consider the fact that both classes of medication may produce an excessive depressive effect on the central nervous system (e.g., loss of consciousness - LOC) resulting in depression of respiratory and cardiovascular functions which may lead to hypoxia, hypoxic brain damage, cardiac arrest, and the "Big D" (death).

Our biggest concern as the healthcare team managing the patient under moderate sedation is that our patient may inadvertently become over-sedated (slip into deeper levels of sedation than intended) increasing the potential for respiratory depression, bradycardia and hypotension. Drug-induced respiratory depression and airway obstruction are considered to be the primary causes of morbidity in sedated patients.

Table 1-Adverse effects of Benzodiazepines & Opioids	
Benzodiazepines	**Opioids**
-over sedation -respiratory depression -inadequate ventilation -hypotension -bradycardia	-over sedation -respiratory depression -inadequate ventilation -hypotension -bradycardia

To further complicate matters, research suggests that sedatives and analgesics may blunt the compensatory mechanism of the autonomic nervous system decreasing the patient's ability to counteract medication effects. On the other hand, if sedation and analgesia is inadequate during an invasive and painful procedure, the patient may develop a potentially harmful autonomic stress response resulting in tachycardia, hypertension, and agitation.

As you can see, it all comes down to the ability of the care team to strike a balance in which adequate sedation and analgesia is achieved while avoiding potential adverse effects.

Predicting the response of a specific patient to sedative and analgesic medications is not always possible. Consequently, early recognition of deterioration manifested by cardiac and respiratory depression is absolutely essential to mitigate potential adverse patient outcomes. As a member of the multidisciplinary team, RNs play a pivotal role in the assurance of patient safety through diligent patient monitoring and early recognition of the signs and symptoms of deterioration.

Patient monitoring during moderate sedation procedures

In the MNG-HA, monitoring standards for patients undergoing moderate sedation procedures performed by non-anesthesiologists are specified by the administrative policy and procedure (APP) 1433-31 entitled "Sedation by Non- Anesthesiologists".

The procedure done under moderate sedation may be divided into three stages in which patient safety is emphasized through the role of the RN: **1) pre-procedure/sedation stage:** the nurse gathers essential baseline patient clinical information including vitals sign, sedation level, pain score and electrocardiogram (ECG), against which she will compare subsequent readings, **2) intra-procedure/sedation stage:** where the RN will monitor the patient's clinical data every five minutes on a 1:1 nurse-patient ratio, and **3) post-procedure/sedation phase:** where the RN continues the monitoring regimen of the intra-procedure stage until the patient satisfies discharge criteria and clinical data consistently maintain pre-procedure values.

Significant changes in physiologic parameters must be communicated to the physician immediately. These include the following:

Table 2-Monitoring Parameters for Pediatric & Adult Patients Undergoing Procedural Sedation				
Patient Category	**Blood Pressure**	**Systolic Blood Pressure**	**Heart Rate**	**Respiratory Rate**
Adult (older than 14 years of age)	Greater than 160 mm/Hg systolic or greater than 90 diastolic	Less than 90 mm/Hg	Greater than 120 or less than 40 beats per minute	Greater than 30 or less than 8 breaths per minute
Pediatric (from 2 - 14 years of age)	Greater than 140 mm/Hg systolic or greater than 80 diastolic	Less than 90 mm/Hg	Greater than 140 or less than 60 beats per minute	Greater than 30 or less than 12 breaths per minute
Pediatric (less than 2 years of age)	Greater than 120 systolic or greater than 80 diastolic	Less than 80 mm/Hg	Greater than 150 or less than 70 beats per minute	Greater than 30 or less than 14 breaths per minute

| Table 3-Discharge Criteria Post Moderate Sedation Procedures: Aldrete Sedation Score		
Activity	Moves 4 extremities on command	2
	Moves 2 extremities on command	1
	Moves 0 extremities on command	0
Respiration	Able to breathe and cough freely	2
	Dyspnoea, shallow or limited breathing	1
	Apneic	0
Circulation	BP±20 mmHg of pre-sedation level	2
	BP±20 -50mmHg of pre-sedation level	1
	BP±50 mmHg of pre-sedation level	0
Consciousness	Fully awake	2
	Arousable on calling	1
	Not responding	0
Color	Normal	2
	Pale, dusky, blotchy, jaundice, other	1
	Cyanotic	0
TOTAL SCORE	**MUST BE GREATER THAN 8**	

The RN must diligently monitor the patient's clinical data with a focus on the respiratory, cardiovascular, and nervous systems in order to communicate changes such as: drops in oxygen saturation levels below 90%, dyspnea, apnea, or hyperventilation, the need for assistance to maintain airway patency, diaphoresis, and the inability to rouse the patient. In addition, the RN must ensure proper pain assessment and communicate findings in a timely manner to facilitate patient comfort during the procedure.

It's all about assessment, recognition & escalation

As members of the multidisciplinary team, RNs play a fundamental role through participative monitoring of patients during moderate sedation and analgesia procedures. Participative monitoring is a lot more than simply completing required documentation; it refers to the state of being actively involved in the assessment and timely communication of critical patient related findings to facilitate immediate, adequate, and effective interventions. Patient outcomes are highly dependent upon the role of the RN in the "Patient Safety Chain" depicted.

Fig. 2-The Patient Safety Chain
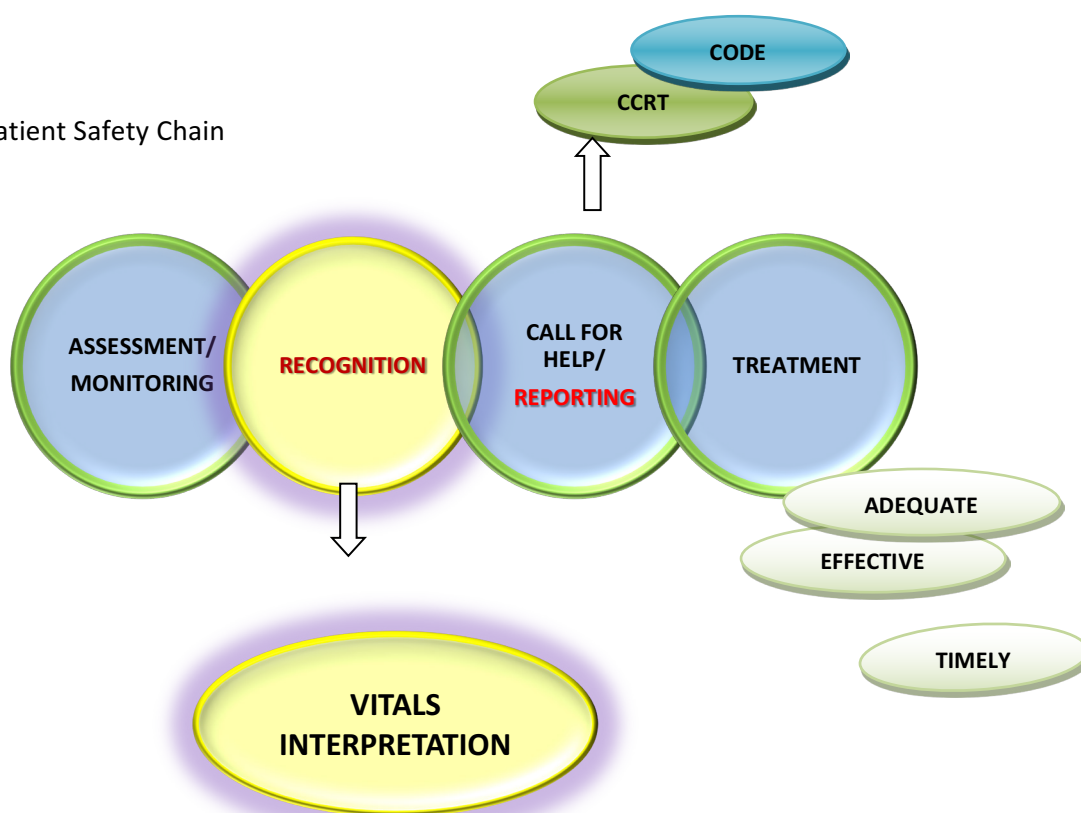
RNs must be able to "rescue" patients who fall into deeper levels of sedation than intended. Rescuing patients involves careful assessment and monitoring leading to early recognition of signs and symptoms of deterioration, escalation, and early activation of emergency response teams for urgent treatment and stabilization.

Mindfulness is essential. Nurses must purposefully and actively engage themselves in their practice. Intentionally being present in the moment heightens the nurse's awareness of the patient, of the team, and the general context during the procedure.

Mindfulness is the opposite of mindlessness. Mindlessness is a state of scattered attention and awareness that leads to errors and compromises in patient safety. Through mindfulness nurses practice deep listening, enhancing their attentiveness and their ability to identify and respond to the efficient, effective, and safe patient-centered care through the act of being present in the moment with one focus, one purpose; the patient himself.

But outward mindfulness alone will not save patient lives or decrease the incidence of adverse outcomes associated with moderate sedation procedures. In order to recognize a deteriorating patient, nurses must first be able to interpret patient data and link it to the hemodynamic condition of the patient. A delay in recognition results in a delay in reporting which in turn, leads to poor patient outcomes.

The ability to interpret this data is reliant upon the nurse's level of knowledge, skill, and experience. Inward mindfulness is therefore, extremely important. Nurses must identify professional challenges and actively seek out opportunities to fill gaps in knowledge and skill so that they may gain experience while practicing safely.

Inward mindfulness also encompasses becoming aware of self-limiting behaviors, attitudes, and fears that stand in the way of enacting the role of the patient advocate. As a 24-hour service, nurses see patients from admission straight through discharge and are therefore, in the best position to gain a thorough understanding of the patients' behavior and clinical pattern, all of which aids in the identification of signs and symptoms of deterioration.

Nurses must find their voice, muster courage, trust their instinct, and escalate patient related concerns both, during, and after the moderate sedation procedure. Acts of advocacy include but are not limited to: bringing the physician's attention to the downward trend in the patient's vital signs during and after the procedure, ensuring the provision of adequate analgesia during painful treatments, communicating the need to stop the procedure to further assess the patient to ensure his/her safety, activating the critical care response team (CCRT) when appropriate, and ensuring that the patient has satisfied the Aldrete score and vitals have returned to baseline before he or she is discharged.

Colleagues, make no mistake, when it comes to patient safety during moderate sedation and analgesia procedures, your role as patient monitor and advocate makes you the most important person in the room. Patients and their families are relying on you.

The I in the word TEAM

The principles of HRO emphasize team dynamics as a focus to ensure patient safety. Within high reliability organizations, multidisciplinary teams sedating patients for procedures communicate effectively, acknowledge and appreciate one another's expertise, and share responsibility and accountability for ensuring patient safety.

A silent procedure is a dangerous procedure (much like a silent Code Blue is a dangerous Code Blue). Purposeful, controlled, two-way communication between members of the team is essential. Nurses must volunteer patients' clinical data to the physician immediately upon identification of a downward trend instead of waiting until the patient satisfies emergency team criteria. The objective is to avoid a CCRT call, avoid a Code Blue. This is the principle of patient rescue.

Working as part of a high reliability team means that each individual practices according to his/her level of expertise. Nurses must ensure that in all aspects of their role during moderate sedation procedures (from documentation and assessment to monitoring and discharge) they function according to and are limited by the scope of practice of the profession.

Patient safety is a shared responsibility. All team members are accountable according to the specifications of the governing administrative policy. Team members must invest themselves in their role within the team through mindful active participation to guarantee a cohesive approach to patient safety during the administration of sedatives and analgesics. The journey to becoming an HRO is one filled with exciting challenges which require all healthcare professionals to defy personal and professional barriers to patient safety. For nurses, this means a conscientious approach to participative patient monitoring and interdisciplinary communication.