

CRITICAL TIMES

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The best outcomes for our patients will come from seeking excellence in who we hire and choose to train in our institutions, and our ability as providers to work together. For physicians and others who do not meet expectations of knowledge and behavior, it's pretty clear what to do. When generally good providers don't interact in the most optimal manner, the presence of problem may be harder to describe. But something won't feel right. Probably the biggest inter-professional problem to conquer in the ICU (and probably elsewhere) is communication. Rather than waiting for some disaster to define deficiencies in communication, ICU nurses Sofya Morgan and Mellisa Lapierre have taken a proactive approach and surveyed both nurses and resident physicians regarding communication in the MSICU.; their results are presented here. While the findings echo those already published in the critical care literature, establishing a local data set removes the denial that that this is "someone else's problem," and should get us moving toward improving our own communication practices. Within a 24 hour period, up to three different nurses and three different doctors may share responsibility for a given patient. Keeping all of these people on the "same page" relative to the care plan is a huge challenge in health care. Empowering nurses to advocate for an evaluation or intervention as advocated by Morgan is an important part of maintaining seamless care. Another tool to facilitate "knowing the plan" is the "ICU goals sheet" discussed in a different article. Finally, the perspectives of the patient and family cannot

be neglected in discussions of communication. What does our report card look like on this front? Sandy Cardoza has selflessly waived her HIPAA rights to share with us some of her insights gained by being a patient; her hope is that in doing so, we can be more effective providers.

Improving Communication in the Medical-Surgical Intensive Care Unit -- Sofya Morgan, RN, CCRN

The goals of this leadership project were to analyze and improve problematic areas of communication among Medical-Surgical Intensive Care Unit (MSICU) providers. Existing communication patterns often have led to frustration, distrust and tension. A questionnaire directed toward communication issues was developed and distributed to the MSICU nursing staff and residents. Participations among the nursing staff and residents were one hundred percent and fifty percent, respectively. Impaired communication is perceived as a serious enough problem as to make the improvement of communication among caregivers a requirement of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO, National Patient Safety Goals, 2006). The questionnaire below was presented to MSICU residents and nurses.

Questionnaire for MSICU residents/RNs

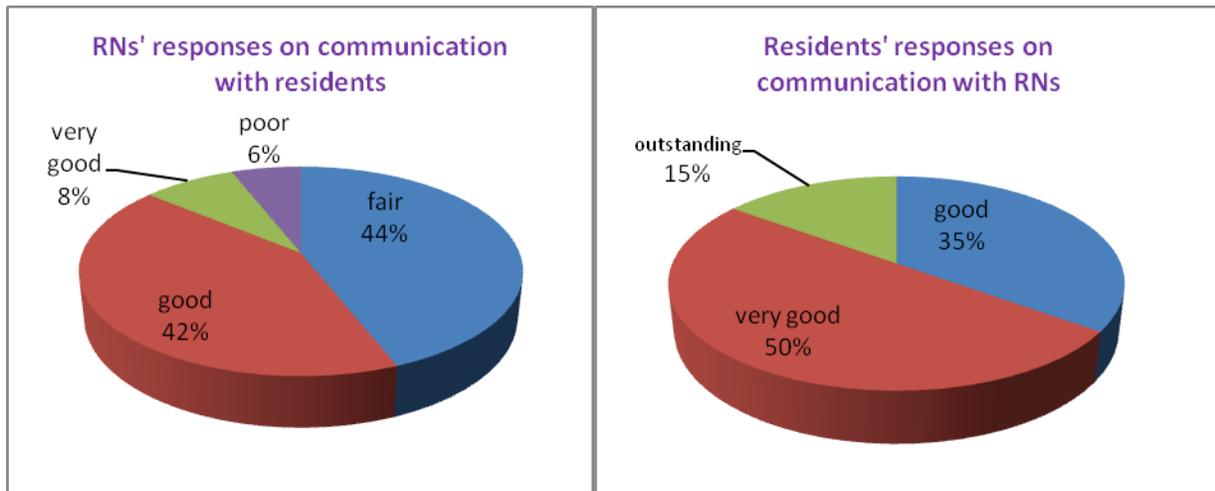
- Please circle your rating of communications with the MSICU nursing staff?
→ Poor Fair Good Very Good Outstanding
- How would you rate your communications with the MSICU attendings?
→ Poor Fair Good Very Good Outstanding
- How would you rate your communications with other primary services involved in patient care?
→ Poor Fair Good Very Good Outstanding
- Where and how we could improve?
- (Please feel free to give a specific examples, storytelling is strongly encouraged, totally anonymous, and will be used as a stepping stone to improve on a status quo).

Present communication patterns were addressed by the first three questions and analyzed using the Likert scale. The last question encouraged specific examples and “storytelling” for improvement purposes. Medical-Surgical ICU nursing staff participation was one hundred percent. Difficulties were encountered in obtaining equal number questionnaires from the MSICU residents due to increased workload, inability to find time to respond, and resident turnover. Forty questionnaires were distributed and only twenty were returned for analysis.

A comparison between specific comments from nurses and residents is presented in as follows.

<i>Residents</i>	<i>Nursing staff</i>
“would like to know abnormal lab results”	“would like to know results of MRIs, scans, and procedures I took my patient to”
“multiple interruptions during rounds and when we are working”	“Multiple requests for lab draws in preparation for rounds; requests for lactic acid and mixed venous on patients that have transfer orders to medical-surgical floors and are still in ICU due to the lack of beds”
“poor communication with CT service and surgical teams”	“Lack of perceiving situation urgency and necessary action. Example: asynchronous breathing on a ventilator with a response “we will discuss it during rounds”
“order placed in the computer 2 hours ago was not carried out”	“order placed in the computer was not communicated, found 2 hours later...”

Finally, comparisons between RNs and residents regarding quality of communication is presented.



As shown on the pie chart, 35% of the residents perceived communication with nursing staff as “good”, 50% as “very good” and 15% as “outstanding”. Areas of concern were multiple interruptions during rounds, poor communication with the primary service such as cardiothoracic, the desire to be expeditiously notified of abnormal lab values by the nursing staff, and the lack of carrying out orders placed in the computer. Of the nursing staff responses, communication was rated 44% as “fair”, 42% as “good”, 8% as “very good” and 6% as “poor”. Areas for improvement were identified as communication of the results about scans and procedures, elimination of unnecessary tests, urgency of required action, and communication of orders placed in the computer to a bedside nurse.

Practice recommendations

Practice recommendations were based on responses from the nursing staff and residents with the ultimate goal to establish a collaborative relationship. The main elements covered will be the SBAR (Situation, Background, Assessment and Recommendation) communication tool. SBAR is a tool, which is a standardized format of hand-off communications among caregivers creating a shared mental image of the patient condition. The critical care nurse is usually more experienced than a first year resident and more capable to suggest recommendations. To avoid frustrating responses such as “we will discuss it at rounds” from less experienced providers, patient care may be facilitated if a course of action is advocated by a nurse. It will allow the resident to see a potential danger of not addressing a problem, even if it involves getting advice from more senior staff. Recommendation based on observation and experience will promote collaboration and establish trust among the caregivers.

Communication inservices will become a part of the residents’ ongoing didactic series. Every month new group of residents receives their training within Medical-Surgical ICU. They come from different rotations and different hospital settings with different levels of preparedness and knowledge about the MSICU environment. Making a communication inservice part of their noon lecture series will introduce each group to the MSICU environment and procedures. The inservice will emphasize communicating orders placed in the computer to the bedside provider, reestablishment of daily goals, RN involvement in multidisciplinary rounds, as well as an update on test results and daily plans. Communication openness among team members is associated with the degree to which they understand patient care goals.

In presenting the ten rules for the 21st century healthcare system (see Table below), cooperation and transparency will be emphasized. Importance of the waste reduction rule will be stressed in application to unnecessary blood draws performed on the unit.

A team can accomplish more than each member individually and group function enhanced immeasurably when everyone is invested in a collaborative process. I would like to express a sincere gratitude to the entire MSICU nursing staff and participating residents for their involvement, suggestions, and commitment for the work they perform on a daily basis. An environment that encourages a sustainable process of improvement in interpersonal relations becomes a place where enhanced communication skills are expected.

Simple rules for the design of the 21st century healthcare system
(Institute of Medicine Committee on Auality Health Care in America)

Traditional Approach

- ⇒ Care is based primarily on visits
- ⇒ Professional autonomy drives variability
- ⇒ Professionals control care
- ⇒ Information is a record
- ⇒ Decision making is based on training and experience
- ⇒ “Do not harm” is an individual responsibility
- ⇒ Secrecy is necessary
- ⇒ The system reacts to needs
- ⇒ Cost reduction is sought
- ⇒ Preference is given to professional roles over the system

New Rule

- ⇒ Care is based on continuous healing relationships
- ⇒ Care is customized according to patients' needs and values
- ∩ The patient is the source of control
- ⇒ Knowledge is shared and information flows freely
- ⇒ Decision making is evidence based
- ∩ Safety is a system property
- ∩ Transparency is necessary
- ⇒ Needs are anticipated
- ⇒ Waste is continually decreased
- ⇒ Cooperation among clinicians is a priority

Full Circle: From ICU Charge Nurse to Open Heart Patient
Sandra Carzoza, RN

I am writing this article for several reasons, first because I think it will help share with many what I experienced going from the ICU charge nurse to an urgent open heart patient in less than 24 hours. This was, obviously, a life changing event. It has opened my eyes to what it means to be faced with your own mortality. It also reinforced how proud I am to work with the MSICU staff, our physicians, and all of our

multidisciplinary staff who make it possible to provide the exemplary care our patients deserve.

I am writing this exactly eight weeks from the day of my surgery. Now that I am further into my recovery I have had time to reflect on this experience and gain a better understanding of the challenges our patients and their families face. I am not going to name everyone involved in my care as you all

know who you are. I am eternally thankful to all of you and your expertise.

On March 24, 2010, I went to work like any other day. I remember waking up that morning and feeling extra tired. In fact, I'd been extra tired for the week prior to that. I chalked it up to my crazy schedule, working fulltime, caring for a four year old, etc. I was wrong. Shortly after our morning bed meeting I developed "heartburn". Although, in hindsight, it was anything but! This pain went on for an hour and a half and I tried to ignore it, all the while, feeling worse and worse. Finally, at approximately 11 am that day I asked one of our nurses to check my pulse, I thought it was slow. I was actually tachycardic but having tons of PVCs. I was quickly walked to our code bed and the next thing I knew I was being hooked up to a monitor, a 12 lead was being done, and our ICU Attending was in examining me. My chest pain was getting progressively worse and I was given nitroglycerin sublingually. Wow...what a feeling that gives! I'm not sure what was worse, the feeling of flushing and instant headache or the chest pain! Several of our nurses and two ICU Attendings were in with me when our cardiologist came in to check my 12 lead. I'm not really clear on the length of time that passed as there are definitely moments of both fogginess and clarity when one is in crisis. I clearly remember our cardiologist holding my hand and telling me that my pain did, indeed, look to be cardiac in origin. I remember starting to cry and was only thinking about my husband having to raise my son without me. I was terrified. I had just turned 40 years old and this simply shouldn't be happening to a 40 year old woman! It was at that moment

that I realized we only have only so much control over our mortality and that if my life were to end that day there was nothing I could do about it. I truly thought it was "game over".

I was told I would be going to the cath lab ASAP and once there was a plan in place it seemed that everyone became more focused on the task at hand. The critical care wheel was turning and we all knew what needed to be done (including myself). I think we can all vouch there is a time when we become focused and "get in the zone" so to say in the care of our patients. This is when we are at our best as critical care nurses and physicians. By this time I had started vomiting and everyone was focused on getting me to the cath lab.

I vaguely remember being wheeled to the cath lab and being prepped by the cath lab nurses (two of my good friends). I was quickly sedated and given medication to stop the vomiting. I remember thinking to myself, "just hold still, there's going to be a big needle in your groin", but after that I don't remember much until after the procedure. Shortly after the procedure, while I was still on the table, the cardiologist was showing me the film and explaining what was wrong. I was still pretty groggy but I remember in the middle of his explanation, the cath lab nurse said, "oh, there's Dr. Burdon". I had the awareness to think, "uh oh, something is going on here!" Dr. Burdon was then there explaining to my husband and I (my husband had arrived sometime during the cath) that I had an anomalous right coronary artery that was both kinked and being compressed as it coursed underneath my aorta and pulmonary artery. He said this was very

serious and I needed bypass surgery ASAP. I couldn't believe my ears but I knew by the look on his face he was serious. I was scheduled for bypass surgery the next day.

After my cardiac catheterization I underwent a 3D CT scan to confirm the problem and was admitted to IICU preoperatively. The length of time between my cath and CT may have been several hours, I really don't remember.

The next day was my surgery, and, although I was very nervous, I was also very thankful to have such excellent physicians operating on me and providing my anesthesia. I know we have a top notch cardiac program at the VA and I was thankful to be among family.

The next six days after surgery occurred in two distinct phases. The first 48 hours postoperatively I really don't remember much except for being extremely nauseated, vomiting frequently, and being in agonizing pain when I did vomit. It was hell to be honest and I think in my mind I went somewhere else to cope. I remember being encouraged to get up to a chair and thinking, "no way, are you people crazy? Do you have any idea what I just went through?" Of course, that was the patient side of me, the nurse side of me wouldn't have thought that!

At about the 48-hour mark postoperatively I cleared up and have distinct memories. After that I improved in my activity, nausea, and finally got moving. I was discharged on postop day 6. During this stay I remember many of the little things that I now know can make a difference with our patients. I'd like to share a few of these...it was often

things I never would have worried about as a nurse and I think we can all learn from it.

- Explain everything to our patients, especially during crises! I was terrified when I was having the bad chest pain but I also knew what was going on because of my experience and training. And, my physicians and nurses kept me apprised of what was going on and this helped immensely.
- Don't make assumptions on what you think is best or what you think a patient wants. Yes, sometimes we do know best, but there are also times when the only control a patient has is how his or her bedside table is set up, etc. Believe it or not, this makes a difference! I was in so much pain that it was difficult for me to pull the bedside table around so I wanted it a certain way so my water, etc. was within reach when I needed it. This was the only control I had at the time, respect that and remember that, even if it annoys you!
- Always think about positioning, etc. The MOST painful things for me with a sternal incision were being laid flat in bed to be pulled up and to be tilted or rolled in bed. These actions were necessary but also caused excruciating pain, especially when being pulled up to have an x-ray done! Ouch! Your chest literally fills like it's in half and that if it's not lined up it's going to come apart. This sensation is

there for several weeks after surgery!

- Sleep...what's that? Well, let's just say, I now know why our patients can get confused at night. I didn't sleep for more than 1-2 straight hours during my entire stay (except probably that first night after I was extubated). We all know an ICU is not a place to get sleep but I honestly think if I had to spend one more night after that 6th night I would have been sundowning too! There is just too much noise and stimulation, most of it from the monitors which is not really avoidable. That being said, I think our night crew did an excellent job of minimizing the noise and giving our patients the best possible chance of getting rest.
- Extubation...many of you are probably wondering, "what was it like to have an ETT"? To be honest, I don't really remember it! My first memory post-op is just before I was extubated and I remember the staff encouraging me to wake up (and I was thinking, "just leave me alone, can't you see I'm sleeping!"). I remember being told to take a deep breath and then was extubated. There was no pain or discomfort and I never consciously thought to myself, "wow, I'm intubated right now." I am VERY thankful that I was stable enough to be extubated about four hours after surgery and I strongly encourage our physicians to give our patients every chance to be extubated

early if clinically indicated. As new postop patients we really don't know if it's night or day so get over that feeling that you can't extubate someone after 6 pm! I had no idea what time it was until the next morning!

- WASH YOUR HANDS! Ok, I know I'm anal about this anyways, but our patients are in a very vulnerable position and we owe it to them to provide the best possible infection control interventions.

I hope you have found this both interesting and helpful. I can now say I've walked in our patient's shoes, literally. I wouldn't wish this on anyone, but at the same time, I am so thankful to be given a second chance at life and I am making the most of every moment. If it weren't for the incredible staff and physicians of the VA I wouldn't be here right now! I am still in the healing process in many ways, both mentally and physically. My type of coronary artery anomaly is extremely rare so there's really not a lot of research on it available. I am told I was lucky to have survived college sports and childbirth but you all know how ornery I am so this should come as no surprise. Thank you for taking the time to read this!

*Sincerely,
Sandy Cardoza, RN, MSN, CCRN, CNL
s/p CABG x 1 3/25/10
POD# 56*

Respiratory Care by Brad Wee Tom

What is MMV?

MMV is what I call an assessment mode. The key components of this mode is the set Tidal Volume and Respiratory rate, based on the patient's respiratory efforts can determine three different modes of ventilation.

1. Total mechanical ventilation-no spontaneous respirations
2. A combination of Volume Control and Pressure Support ventilation – for example, when the patient has spontaneous respirations but not enough to overcome the set mandatory minute ventilation.
3. Pressure Support Ventilation – here the patient has exceeded the set mandatory minute ventilation therefore is only using the set Pressure Support, PEEP and FiO₂ to ventilate and oxygenate.

When do you use MMV?

Typically MMV is initiated to check for the presence of spontaneous respirations, based on how the three factors listed above will determine if weaning is possible.

What should I monitor with MMV?

The graphics package, measured data and assessments are all invaluable with any mode but they become more important especially during weaning

because the combination will determine if extubation will be successful. The typical graphics to monitor are

- Pressure
- Flow
- V_t
- RSBI (Rapid Shallow Breathing Index=rate/V_t)
- CO₂
- Spontaneous respirations
- Spontaneous Minute Ventilations

When not to use MMV?

As a resting mode, if the patient's WOB is not corrected by increasing Pressure Support > 20cmH₂O then it is recommend to change to a mode that will guarantee rest and the mode that comes to mind is Assist Control not SIMV.

Can you extubate from MMV?

Yes, but typically the mode of choice is PSV (Pressure Support Ventilation). The reason for using PSV is if a patient does go apneic, an audible apnea alarm goes off and apnea ventilation is initiated to ensure safety, which then notifies the clinician by displaying the alarms on the screen. The alarm displays have to be reset by the clinician otherwise the patient is stuck in Apnea ventilation (CMV) therefore unable to use Pressure Support. The problem with MMV is if a patient does become apneic it will just revert back to the set rate and tidal volume without notifying the clinician. Overall, MMV is a great mode for assessing pt to spontaneous trials or weaning but does require careful monitoring since it can do 3 kinds of ventilations.

Communicating daily goals in the ICU

Geoff Lighthall

In soccer, it's clear when the team achieves a goal. 100,000 people go wild, players pile on to one another, and the Univision announcer makes a one-syllable word last at least 30 seconds. Too bad that doesn't happen in the ICU. Hey, I'll take off my shirt and wave it around for an extubation or a white count or creatinine that normalizes, wouldn't you? Or did anyone even know extubation was a goal? ICU patients can be so complicated that it's hard to sometimes know who is thinking what, what were the priorities, and was this the guy we wanted to give fluids to or was he supposed to get diuretics?? And amidst all of the academic banter, was there even plan discussed?

The ICU daily goal sheet is a tool designed to get the care teams to commit to a plan, make it known to all relevant parties, and provide a reference in case there are questions.

Mechanistically, one of the fellows summarizes the plan at the end of the daily rounds presentation and discussion, and lists the goals. Ideally, listing goals facilitates communication and streamlining of care. Interns who are asked to look at a patient should be able to quickly review what was discussed earlier and continue the plan if appropriate. A nurse should be able to keep physicians apprised of progress and provide additional advice based on the status of the patient and what was

supposed to be accomplished. The bottom line is that a written statement of goals is a great tool for everyone involved in a patient's care, and therefore should serve everyone, and be changed as needed to make sure it is serving everyone involved in the care of the patient.

In concept, the ICU goals sheet should provide a shopping list of things to do as well as a conceptual framework stating the key problems faced by each patient. As such, it should provide the proper balance between big picture issues and the order of interventions needed to fix the problems. My view is that the tool is incredibly valuable, currently under-used (especially by cross-covering house staff), and probably over-designed in its current form. This is not intended to be critical. To Dr. Gellars credit, we were one of the first hospitals in California to use such a tool. I just think that we have amassed enough experience with it to think about how to improve upon the process of communicating goals. I encourage everyone reading this article to go to a patient's bedside, look at the goal sheet, and ask whether it has helped you understand the patient or the current plan and how. If you think there is a way to improve care with a better design, you have to speak up. Otherwise, the goal sheet will never be able to reach its intended goal.