No Interruptions Please

Impact of a No Interruption Zone on Medication Safety in Intensive Care Units

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PRIME POINTS

- Nurses are primarily responsible for medication safety in intensive care units.
- National initiatives are calling for an increase in medication safety.
- Use of No Interruption Zones around medication preparation areas was derived from the "sterile cockpit rule" of the aviation industry.
- During medication preparation, a No Interruption Zone could decrease interruptions and enhance safety.

Clinical Scenario

Mr N, a 55-year-old man, was admitted to the intensive care unit (ICU) for hypotension due to sepsis. Despite fluid replacement, his condition remained hemodynamically unstable, so treatment with vasopressors was started. At the central medication area, the nurse preparing an intravenous infusion of norepinephrine (Levophed) was interrupted by another nurse. After finishing the conversation, the nurse could not remember if she had placed 4 mg or 8 mg of norepinephrine into the 250-mL bag of normal saline. A nurse knows remixing a new bag is the safest solution, but also considers other dilemmas such as admitting to a medication error, charging the patient twice for the same medication, or taking extra time to start over. How frequently does this clinical scenario occur in the ICU? Do interruptions during the critical task of medication preparation contribute to medication errors?

CE Continuing Education

This article has been designated for CE credit. A closed-book, multiple-choice examination follows this article, which tests your knowledge of the following objectives:

1. Define medication error and describe the implications of these events for critical care nurses
2. Identify common causes of medication errors
3. Discuss the concept of the sterile cockpit and its application and implementation in the health care setting

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In the technologically advanced environment of the ICU, nurses play a central role in the maintenance of patient safety. Although safety encompasses many processes and personnel, nurses have the primary role in safe administration of medications, which is recognized as a nurse-sensitive outcome.[1] Critical care nurses work with a multitude of potent and lifesaving medications that paradoxically can pose a

considerable risk for injury and harm when some errors that are common in critical care units occur.[2-4] Besides the pharmacokinetics being responsible for injury and harm, other sources of harm resulting from medication errors include the level of nurse experience, shift worked or time of day, lack of computerized orders, and distractions and interruptions.[2,5] In ICUs, distractions and interruptions are common, and evidence-based practices are needed to minimize medication errors. One practice that may have potential to reduce medication errors due to interruptions is the No Interruption Zone (NIZ), modeled after the aviation industry's sterile cockpit rule.[6] In this article, we report the results of a pilot study to evaluate the effect of an NIZ on interruptions during medication preparation in the ICU.

Review of the Literature

Medication Errors: Definitions and Incidence

The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as follows:

> any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use. [7]

In an extensive review of medication safety in the ICU, Kane-Gill and Weber[2] defined medication errors as preventable mistakes or a deviation in planned action and reported a median of 105.9 medication errors per 1000 patient-days in adult ICUs, with a range of 1.2 to 947 errors per 1000 patient-days. Rothschild and colleagues[3] reported that 78% of serious adverse events in a medical and coronary ICU were due to medication errors. Medication errors occur at a mean rate of 19% in hospitalized adults[8] and remain the fourth leading cause of sentinel events, according to the Joint Commission.[9]

Causes of Medication Errors

Multiple factors contribute to medication errors, including nurse's workload,[10] time of day,[5] experience level,[5,11] transcription errors, and system deficiencies.[5,12,13] Kane-Gill and Weber[2] reported that most medication errors in critical care settings occur during the prescribing and administering phases of medication delivery. In a mixed methods study[14] of the effect of interruptions on nurses' cognitive work, medication administration took up 17% of the nurses' time and each nurse averaged 30 interruptions per shift. Performance level failures that accounted for medical errors in a medical and coronary ICU were due to inattention or failure to carry out intended actions in patient care.[3] The authors of a multinational ICU safety initiative reported that sentinel events related to medication administration occurred at a rate of 35% in those patients who experienced unintended events.[4]

Most medication errors are commonly attributed to system failures, with distractions as a contributing factor.[5,12] Although interruptions were not specifically examined, Manojlovich and DeCicco[15] reported that communication between nurses and physicians was a small but significant predictor of perceived medical errors, and it can be extrapolated that interruptions during communication could contribute to error rates. In a French study, Tissot and colleagues[16] reported that

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interrupted workflow during medication administration was a contributing factor to the 6.6% error rate in medication administration.

Strategies to Reduce Medication Errors

Evidence exists to support the use of specific strategies or processes to reduce the incidence of medication errors. Computer-based order entry by prescribers has reduced medication errors in the ICU due to misinterpretation of a clinician's handwriting or verbal orders, with 1 study[17] in a pediatric ICU showing a 99% reduction. Errors involving administration of the wrong medication or to the wrong patient were reduced by 60% after the implementation of barcodes to match each patient's electronic order and other medical information.[18] In addition to these electronically based strategies, the use of satellite pharmacies and unit-based pharmacists improved safety by reducing floor stock, a potential source of medication error.[2] Participation of a unit-based pharmacist in ICU rounds resulted in a 66% reduction in adverse drug events.[19]

As noted, system failures or deficiencies often account for medication errors and interruptions during the preparation of medications. The NIZ has been recommended as a strategy by the Institute for Safe Medication Practices, a nonprofit North American organization dedicated to the prevention of medication errors. The NIZ is fashioned after the aviation industry's "sterile cockpit rule." The Federal Aviation Administration in 1981 enacted policies that prohibit nonessential tasks and communications by aircraft personnel during flight operations below 10 000 feet, where the activities of takeoff and landing are complex and must occur within a short period.[6,20] Distractions and interruptions resulting in omissions or inappropriate actions during flight operations accounted for 72% of 76 reported airline incidents.[21] This adherence to the sterile cockpit rule minimizes distractions during critical periods of flight operations and improves airline safety.[21]

In various quality improvement projects, the NIZ has been adapted to the hospital setting. At Sentara Leigh Hospital in Norfolk, Virginia, 2 symbols were used to create an NIZ: large signs posted above medication carts and flooring with red tile borders. During a 3-year period, these innovations were communicated to staff, and improvements in medication preparation were noted.[22] In a similar example, a Kaiser hospital in California modified the NIZ and required nurses to wear a bright yellow vest or sash when preparing and dispensing medications. In that 2-phase pilot study, nurses wore a construction style orange vest and medication errors were reduced 47% in a 5- to 6-month period. In subsequent feedback, nurses suggested changing the color to yellow and allowing nurses to choose between a vest or a sash. In a 30-day follow-up period, medication errors were reduced 20%. The vest/sash was implemented systemwide, bringing about significant culture change in nurses' ability to pass medications more efficiently and think more clearly.[23]

Theoretical Framework

Medication errors remain a serious concern despite the increased attention they have received. Applying the principles for a sterile cockpit approach, as suggested by the Institute for Safe Medication Practices, during critical steps in the process of medication administration may provide new insights to address this issue. The conceptual background for this study comes from high-reliability theory, which recognizes that the work in some organizations, such as hospitals, is complex and risky and depends on coordination, communication, differentiation, and accountability.[24] Safety arises from effective coordination among team members who must necessarily depend on each other. The interconnectedness of each member's work and decisions becomes cohesive through communication and feedback.

Errors can occur anywhere along a sequential continuum of processes, so systems must be in place to identify weak links that can lead to dangerous results. Having a way of thinking that supports continuous adjustments can improve systems before they break down and result in catastrophic events. High-reliability theory suggests that organizations focus on identifying where and how mistakes can be made and then implement responses, such as the NIZ, that improve system functioning.[24,25]

Interruptions during medication administration in ICUs are one example in which high-reliability theory would suggest that systems be identified to avoid errors. Limiting interruptions during medication preparation in the ICU appears to be an effective strategy to improve safety and reduce the risk of errors. Because we found no evidence supporting whether an interruption-free zone in the ICU is effective in

promoting medication safety, we conducted this pilot study.

Study Methods

Purpose and Study Question

The purpose of this pilot study was to evaluate the effect of an NIZ on the number of interruptions that occurred during the critical task of medication preparation in a medical ICU and a surgical ICU. The research question was, Does the implementation of an NIZ decrease the number of interruptions during medication preparation?

Study Design and Setting

This quasi-experimental pilot study used observational methods to compare the number of interruptions in medication preparation before and 4 weeks after the creation of the NIZ. The study took place in 2 ICUs: a 20-bed medical ICU and a 20-bed surgical ICU in a 947-bed tertiary academic medical center in the Midwest (University Hospitals Case Medical Center, Cleveland, Ohio). The 2 ICUs are configured so that the ICU beds are along each of the 4 perimeter walls. Each ICU has 5 decentralized medication carts and 1 central medication preparation area that is located in the center of the unit.

Operational Definitions

For the purpose of the study, the following definitions were used:

- Occurrence: each time a nurse prepares a medication for administration at one of the medication preparation areas.
- Interruption: a break in continuity of complete focus on the task of preparing medication. An interruption could be a verbal or nonverbal cue from another individual prompting the nurse to give a verbal or nonverbal response. A nonverbal interruption could be characterized as a nurse becoming distracted by some event outside the medication area such as bedside walking rounds. An interruption can be initiated by the nurse him/herself or by another individual. A nurse can interrupt him/herself by losing focus on medication preparation and initiating conversation with another person or by losing awareness of their medication preparation. Examples of observable self-interruptions include attending to an alarm, noticing nearby events, or retrieving patient and medication information.
- ICU activity: represents the dynamic workflow of the ICU, including census, admissions, transfers, and discharges.
- Critical events: any significant event in the ICU that requires immediate attention from the health care team (eg, self-extubation or cardiac arrest).

Methods

After approval was obtained from the institutional review board, the principal investigator attended a nursing staff in-service training session in which nurses were told that a patient safety initiative was going to occur. In addition, flyers announcing the patient safety initiative were placed in each nurse's unit mailbox. The research team requested permission from the institutional review board for direct-care nurses to be blinded to the actual purpose of the study so as to avoid introducing bias.

An ICU staff nurse was chosen as the data collector because she was known to the ICU staff and had research experience. The data collector was trained by the primary investigator in event observation during medication preparation and about the study protocol, which included the number of observation times, the length of the observation period, and the events to be observed (occurrences, interruptions, critical events, and unit activity). Hash marks on the data collection form were used for counting events. The data collector was instructed to make notes of other events or situations that occurred during the observation period that might influence the study findings. To observe all medication preparation areas, the data collector sat in a central location where all areas could simultaneously be observed. Minor position changes

Errors can occur anywhere along a sequential continuum of processes, so systems must be in place to identify weak links that can lead to dangerous results.

Figure 1 No Interruption Zone created by placing red duct tape around all areas where medications are prepared.

were made when staff obstructed the data collector's view. The distance between the data collector and the medication preparation area was from 6 to 30 feet.

If the data collector was asked questions by the staff, she was instructed to respond with a general description of a patient safety initiative focusing on documenting practice issues such as handwashing, aseptic technique, and proper needle disposal. Before the start of data collection for the study, a 1-hour observational practice session was conducted to identify potential problems with the data collection tool and observation protocol. After the 1-hour practice session, additional descriptive variables (eg, admission discharges) were added to the data collection tool in order to gather more comprehensive data. No other problems occurred, and no other changes were made to the protocol.

Protocol

Data collection occurred in 3 phases. In phase 1, approximately 1 week after the study was introduced to the nursing staff, nurses were observed preparing medications at both the central and decentralized medication areas in 2-hour intervals during 2 peak periods of medication preparation in each ICU (for a total of 8 hours). Peak medication times were identified by the nurse manager of both units as being from 8 AM to 10 AM and from 4 PM to 6 PM.

After baseline data were collected, the NIZ (phase 2) was created by placing red duct tape around each of the 5 decentralized medication carts and the central medication preparation area (Figure 1). In the morning, before the red duct tape was placed, the ICU clinical nurse specialist trained the nursing staff about the NIZ. To allow the staff to become accustomed to the NIZ, a 3-week run-in period was used to minimize the newness of the NIZ and staff members' response to the newly created NIZ.

During the fourth week after the NIZ was created (phase 3), following the same protocol as used in phase 1, we collected observational data on medication administration occurrences and interruptions, critical events, and ICU activity. At the end of data collection, the nursing staff was debriefed on the actual purpose, scope, and intent of the study, and they were told the results at the end of the study.

ICU Sample

During all 3 phases of the study period, the ICU activity was similar. The mean ICU census was 17.3 before implementation of the NIZ (SD, 2.32) and 16.0 (SD, 2.07) after implementation of the NIZ. Similarly, during the observation periods before the NIZ was implemented, there were 4 admissions of patients, 5 discharges, and 1 critical event. After the NIZ was implemented, there were 3 admissions of patients, 3 discharges, and 0 critical events.

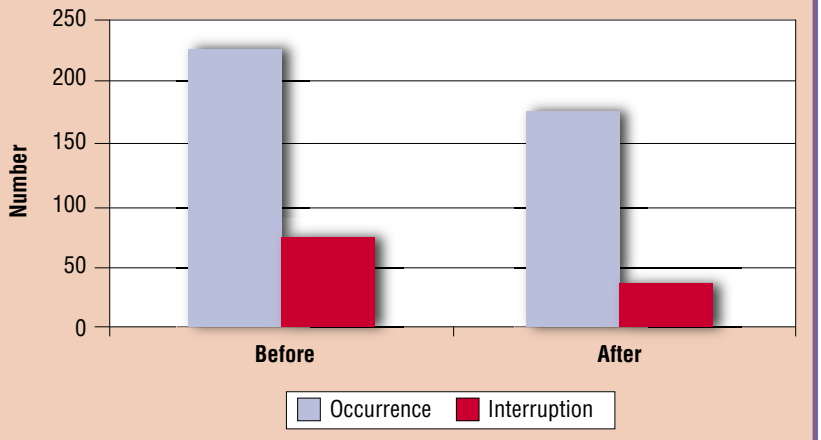

Figure 2 Total numbers of interruptions and occurrences before and after implementation of No Interruption Zone.

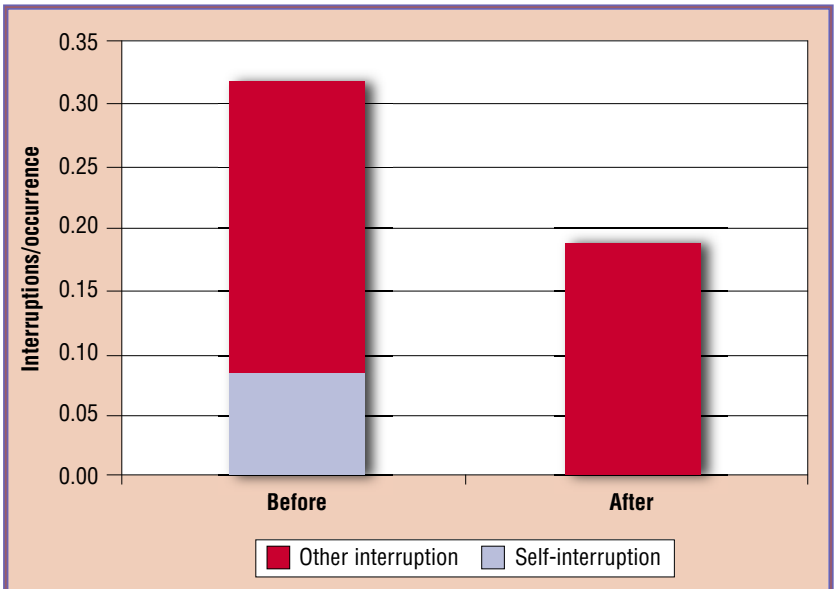

Figure 3 Interruptions per occurrence initiated by self or others before and after implementation of No Interruption Zone.

Results

Before implementation of the NIZ, we counted a total of 218 occurrences (mean, 27.25; SD, 6.23; range, 9-49) and 76 interruptions (mean, 9.50; SD, 6.23; range, 1-19; Figure 2), with 73.6% categorized as interruptions initiated by others (n = 56) and 26.4% (n = 20) categorized as self-interruptions. After implementation of the NIZ, we counted a total of 179 occurrences (mean, 22.38; SD, 12.09; range, 14-50) and 37 interruptions (mean, 4.63; SD, 3.70; range, 0-11), with 100% of interruptions categorized as interruptions initiated by others (Figure 3). During data collection both before and after implementation of the NIZ, non-nurse interruptions were noted to originate from clinical partners, radiology and pharmacy technicians, respiratory therapists, secretaries, family, and physicians.

To standardize the metric to compare interruptions to occurrences before and after implementation of the NIZ, a percentage was calculated by dividing the number of interruptions by the total number of occurrences (Figure 3). Before the NIZ was implemented, the percentage of interruptions was 31.8% (SD, 11%) and after the NIZ was implemented, the percentage was 18.8% (SD, 10%), a 40.9% decrease. A 2-tailed independent *t* test showed a statistically significant difference between interruptions before and after implementation of the NIZ ($t = 2.40$, $df = 14$, $P = .03$). To assess the clinical importance of this change, an effect size was calculated to be 1.3. (Effect size refers to the size of the difference between scores. It is one way to assess whether statistical significance is useful or clinically important. An effect size of 1.3 is considered to be a large difference.)

Two findings in this study were unanticipated. During the 16 study observations, 27 pharmacy deliveries were made to the medication areas. Likewise, several conversations about medication preparation occurred between a nurse preceptor and an orientee. Neither of these findings was included as an interruption because it was not clear whether a true interruption had occurred.

Discussion

Medication errors are a significant cause of morbidity and mortality in hospitalized patients.[26] In ICUs where medications comprise a significant proportion of a patient's treatment regimen and where medication preparation and

administration are primarily nursing functions, evidence-based interventions are needed.

The NIZ is a way to implement the policies associated with the sterile cockpit into the health care setting. In an ICU environment, where patient care is complex and uncertain, distractions and interruptions during medication preparation can affect medication safety by creating errors in any 1 of the 5 "rights" of medication administration (the right medication, the right dose, the right time, the right patient, and the right route).[5] This pilot study is the first to report on the effectiveness of the NIZ in critical care. After a 3-week period, a significant decrease (40.9%) in interruptions had occurred. These results, although preliminary, suggest a beneficial effect of an NIZ on decreasing interruptions during the critical task of medication preparation. Whether this decrease in interruptions is sustainable over time needs further investigation.

Other Findings

Although the responsibility for medication preparation and administration resides primarily with nurses, physicians and respiratory therapists were observed in several instances to be retrieving medications inside the NIZ (8 by respiratory therapists and 1 by a physician). This is an example of the complex systems in which medication administration is embedded. It is presumed that quality health care is best delivered within a team approach. Caution is warranted, however, in that without communication and coordination, the team approach may also contribute to error-prone conditions. Thus, including all health care professionals in any comprehensive education for any medication safety initiative enhances its chance for success.

Another incidental finding from this study involved a situation that may affect medication safety that has not been described before. When a nurse is new to an ICU, for a while, he or she discusses and validates medications with a preceptor before administering them to the patient. These discussions usually occur in the middle of the NIZ. During data collection, conversations between a preceptor and an orientee about medication preparation occurred twice but were not counted as interruptions. Similar to the airline industry, where only relevant conversation occurs when flying at less than 10 000 feet, the purpose of the NIZ is to eliminate conversation and activities unrelated to medications. Yet it remains unclear how necessary, medication-related conversations should occur safely in the NIZ. Further, when more than 1 nurse is in the NIZ, a necessary conversation for one nurse may be a distraction for another nurse. Practices such as these that have unclear contexts need further examination.

Pharmacists have a significant role in the prevention of medication errors.[19] Interestingly, system factors that involve the role of the pharmacy in the act of dispensing medications may in fact be a contributing factor to medication errors. In the setting in which this study took place, the pharmacy delivers medications to the ICU every hour from 6 AM to 10 PM and then every 2 hours from 10 PM until 6 AM. During data collection, the data collector noted that pharmacy personnel waiting to refill patient medication bins did not actively interrupt the nurse preparing medications. However, they were most likely noticed in the background, and could be a factor in the nurse's losing concentration, feeling rushed or otherwise distracted. In the current pilot study, the potential interruption was unexpected, unaccounted for in the design, and therefore not counted as an interruption.

During the debriefing, enthusiastic comments regarding the usefulness of the NIZ and ideas for reconfiguration of the NIZ were made. Nurses' positive anecdotal reports supported their increased awareness of medication safety and the need to remain focused while preparing medications. Several nurse practitioners and nurse managers also made comments such as, "I used to go right up to someone at the medication cart; now I wait until they are finished and leave the box [NIZ] before I approach them." A surgeon commented on the importance of the project and recommended the use of an NIZ during induction of anesthesia in the operating room.

NIZ Layout

Several issues came up that require further consideration in a larger study than this pilot study. Red duct tape was used to create the NIZ. It was chosen because it was "attention getting" and inexpensive but was not labor intensive to implement. Duct tape, however, may not be the ideal tool for maintaining the NIZ. Over time, the red tape became worn and lost its striking clean physical appearance. Additionally, the NIZ "moves" when

the medication carts are moved. In future studies, the use of a red mat, a red flashing light, or other signage may be more suitable for preserving the functional and aesthetic appearance of the NIZ.

Patterns of medication administration must be assessed before the boundaries of the NIZ are determined. In this pilot study, the zone included an area around the medication counters but did not stretch far enough to include the medication refrigerator. Including all medication-related workspace would have allowed a more comprehensive picture of occurrences and interruptions related to all routes of medications.

NIZ Practice Change

Despite the dramatic change in interruptions after the NIZ was implemented, when a new practice is introduced, ongoing education with reinforcement is one way to "cement" the practice. The study findings shed some light on the need to include not only nurses but all persons who have a role in medication safety within a complex system. In changing practice, time is also needed for staff engagement. Although consistency in a NIZ protocol is essential for widespread recognition, the culture of an individual unit may have to be considered during implementation to enhance the chances of success of an NIZ. Each nurse must take personal accountability for preserving the NIZ as a place for focus during the critical task of medication preparation; in doing so, each nurse will be part of the force that transforms nursing practice and improves patients' safety.

dotmore

To learn more about patient safety issues, read "Competence and Certification of Registered Nurses and Safety of Patients in Intensive Care Units" in the *American Jounral of Critical Care,* March 2009;18:106-113. Available at **www.ajcconline.org**.

Limitations

This study was conducted in 2 ICUs and therefore the findings may not be generalizable to other ICUs or general medical-surgical units. This was a pilot study and observation sessions and hours were limited to 1 week of data collection both before and after NIZ implementation and by the availability of the data collector. The nature of observational research lends itself to additional limitations. The data collector did not know what the nurse was thinking or if he/she was distracted or interrupted with thoughts other than medication preparation. A follow-up interview could clarify the nature and scope of self-interruptions. We were unable to control for certain types of interruptions such as overhead pages, pharmacy deliveries, and alarms.

Although staff did not have any knowledge of being observed by the data collector, implementing the NIZ may have increased their awareness of medication preparation, possibly accounting for at least part of the differences in the data from before to after implementation of the NIZ. Further studies with a longer run-in time and measurement of data across several time points after implementation of the NIZ would provide greater information about the patterns of effects of the NIZ over time.

Implications for Future Research

The results of this pilot study suggest that an NIZ can reduce interruptions during medication preparation. The study design could be expanded to include observation of medication preparation on general medical-surgical units and during all shifts to determine if reductions in interruptions would be similar to the reductions seen in this pilot study. CCN

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None reported.

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CE Test

Test ID C103: No Interruptions Please: Impact of a No Interruption Zone on Medication Safety in Intensive Care Units

Learning objectives: 1. Define medication error and describe the implications of these events for critical care nurses 2. Identify common causes of medication errors 3. Discuss the concept of the sterile cockpit and its application and implementation in the health care setting

1. According to The Joint Commission, medication errors in hospitalized adults occur at what mean rate?
a. 9%
b. 19%
c. 29%
d. 39%

2. In order to meet the definition of a medication error, an event must include which of the following criteria?
a. Caused by a health care provider
b. Associated with a prescription medication or product
c. Preventable
d. Potentially harmful

3. Of the multiple processes and/or strategies shown to reduce the incidence of medication errors, which one resulted in a 99% reduction?
a. Implementation of barcodes to match each patient's electronic order
b. Computer-based order entry by prescribers
c. Use of satellite pharmacies
d. Participation of a unit-based pharmacist in intensive care unit (ICU) rounds

4. Which of the following organizations has recommended the use of a no interruption zone (NIZ) during medication preparation?
a. Institute for Safe Medication Practices
b. The Joint Commission
c. The Federal Aviation Administration
d. Agency for Healthcare Research and Quality

5. How was the data collector instructed to respond if she were questioned by staff about the purpose of the study?
a. She was instructed not to speak with staff or answer questions, but refer them to a member of the research team instead.
b. She was instructed to tell staff that she was documenting events relating to medication preparation, but provide no other details.
c. She was instructed to tell staff that she was documenting ICU activity and workflow, including census, admissions, transfers, and discharges.
d. She was instructed to give staff a general description of a patient safety initiative focused on documenting practice issues.

6. What was an unanticipated finding in this study?
a. Pharmacy deliveries to medication areas after implementation of the NIZ occurred frequently.
b. Pharmacy deliveries to medication areas were scheduled to avoid peak medication times after implementation of the NIZ.
c. Interruptions due to retrieval of medications by physicians decreased after implementation of the NIZ.
d. Interruptions due to retrieval of medications by physicians increased after implementation of the NIZ.

7. Which of the following statements regarding medication errors is true?
a. Most medication errors are commonly attributed to heavy nurse workloads, with nurse inexperience considered a contributing factor.
b. Most medication errors are commonly attributed to nurse inexperience, with heavy nurse workloads considered a contributing factor.
c. Most medication errors are commonly attributed to distractions, with system failures considered a contributing factor.
d. Most medication errors are commonly attributed to system failures, with dis tractions considered a contributing factor.

8. What was the purpose of the study discussed in this article?
a. To evaluate the effect of an NIZ on the number of medication errors that occurred in an ICU
b. To evaluate the effect of an NIZ on the number of adverse drug events that occurred in an ICU
c. To evaluate the effect of an NIZ on the number of interruptions that occurred during medication preparation in an ICU
d. To evaluate the effect of an NIZ on the number of medication-related communications between physicians and nurses that occurred in an ICU

9. Which of the following was included in the study design specifically to avoid introducing bias?
a. Selection of an ICU nurse with research experience as the data collector
b. Collection of date in 3 phases
c. Exclusion of non-nurse professionals from the observations
d. Blinding direct-care nurses to the study purpose

10. According to the definitions used for data collection purposes in this study, a cardiac arrest that occurred while a nurse was preparing medication would be documented/counted in which category?
a. Occurrence
b. Interruption
c. ICU activity
d. Critical event

11. Which of the following is most likely to result in preservation of the NIZ as a place for focus during the critical task of medication preparation?
a. Ongoing education for ICU staff
b. Personal accountability of each nurse
c. Consistency in an NIZ protocol
d. Inclusion of all applicable disciplines and team members in development of an NIZ protocol

Test answers: Mark only one box for your answer to each question. You may photocopy this form.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
❑a	❑a	❑a	❑a	❑a	❑a	❑a	❑a	❑a	❑a	❑a
❑b	❑b	❑b	❑b	❑b	❑b	❑b	❑b	❑b	❑b	❑b
❑c	❑c	❑c	❑c	❑c	❑c	❑c	❑c	❑c	❑c	❑c
❑d	❑d	❑d	❑d	❑d	❑d	❑d	❑d	❑d	❑d	❑d

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Objective 3 was met	❑	❑
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My expectations were met	❑	❑
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