The Five Rights: Not the Gold Standard for Safe Medication Practices

Beginning in nursing school, every nurse learns about the “Five Rights” of medication administration: the right patient, drug, time, dose, and route. Unfortunately, adherence to the Five Rights is sometimes regarded as the gold standard for safe medication practices. Yet many errors, including lethal ones, have occurred in situations in which nurses firmly believed they had verified each of the Five Rights.

The Five Rights focus on individual performance rather than the reliability and safety of systems. While the Five Rights are essential goals, they do not address the human factors and system-based causes of errors. Therefore, they do not stand alone in the effort to prevent medication errors.

Further, the Five Rights offer little procedural guidance on how to meet these goals. For example, how does a nurse check the right dose of a newer medication if the drug reference texts on the unit are several years old or if a pharmacist is not readily available? How does a nurse providing care in a psychiatric facility’s outpatient clinic identify the right patient if name bracelets are not used? Without adequate systems in place to help nurses achieve the goals of the Five Rights, errors can and do happen.

The Five Rights focus on individual performance, whereas safe medication practices require a combination of multidisciplinary efforts and reliable systems. Thus, despite nurses’ best efforts, the use of error-prone abbreviations, ambiguous drug labels, lack of effective double checks, inadequate staffing patterns, poorly designed medical devices, illegible handwritten orders, and many other system issues can contribute to a practitioner’s inability to accurately verify the Five Rights.

The Five Rights do not take into account the significant role human factors play in errors. The term “human factors” refers to the study of the interrelationships between humans, the tools they use, and the environments in which they work. For example, nurses who select the wrong medication with a label or package similar to the correct drug may honestly think that they read the label to verify the right drug correctly; however, they did not see it correctly. Human factors researchers call this confirmation bias.

As we gain experience, we develop images in our minds of the items we work with every day. When we go to select a familiar item, we are sometimes unable to see evidence that indicates the wrong product has been selected. Instead, we see only what we intend to find, especially if enough characteristics match the image in our mind. This kind of human factors variable, among many others, can contribute to errors when our minds make corrections for what our eyes are seeing.

While the Five Rights may represent a standard clinicians try to live up to, they are not the most practical tools for preventing medication errors. PA-PSRS has received over 220 medication error reports in which “failure to follow the Five Rights” was indicated as the cause of the error, or in which the recommendation for system improvement was for the nurse to be more careful in adhering to the Five Rights. The number of reports grows to over 1,100 if one includes reports that state the recommendation for error reduction is to educate and counsel the practitioner to be more careful.

Focusing on these “solutions” makes it easier for individual performance to be the target of remediation and correction without targeting the systems problems. Managers may correct nurses for not following the Five Rights without recognizing and addressing the human factors and system-based causes of errors. Licensing bodies may follow suit, perpetuating the myth that the Five Rights are the only things needed to prevent errors.

Instead of focusing on those closest to the error, consider the alternative model of shared accountability, in which we translate our concern for patient safety into effective system-based solutions. True improvement in the safety of healthcare will not occur without invest-
tigating beyond the Five Rights for the system-based causes of errors and implementing more effective types of error reduction strategies (see Table 1).

Items at the top of the list in Table 1, such as forcing functions and computerization, are more powerful strategies because they focus on systems. The tools in the middle attempt to fix the system, yet rely in some part on human vigilance and memory. Items at the bottom, such as education, rely on individual performance and will likely be ineffective when used alone.

### Table 1. Rank Order of Error Reduction Strategies

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<thead>
<tr>
<th>Error Reduction Strategy</th>
<th>Leverage</th>
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<tr>
<td>Forcing functions and constraints</td>
<td>High</td>
</tr>
<tr>
<td>Automation and computerization</td>
<td></td>
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<tr>
<td>Standardization and protocols</td>
<td></td>
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<tr>
<td>Checklists and double check systems</td>
<td></td>
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<tr>
<td>Rules and policies</td>
<td></td>
</tr>
<tr>
<td>Education / Information</td>
<td>Low</td>
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Notes
The Patient Safety Authority is an independent state agency created by Act 13 of 2002, the Medical Care Availability and Reduction of Error (“Mcare”) Act. Consistent with Act 13, ECRI, as contractor for the PA-PSRS program, is issuing this newsletter to advise medical facilities of immediate changes that can be instituted to reduce serious events and incidents. For more information about the PA-PSRS program or the Patient Safety Authority, see the Authority’s website at www.psa.state.pa.us.

ECRI is an independent, nonprofit health services research agency dedicated to improving the safety, efficacy and cost-effectiveness of healthcare. ECRI’s focus is healthcare technology, healthcare risk and quality management and healthcare environmental management. ECRI provides information services and technical assistance to more than 5,000 hospitals, healthcare organizations, ministries of health, government and planning agencies, and other organizations worldwide.

The Institute for Safe Medication Practices (ISMP) is an independent, nonprofit organization dedicated solely to medication error prevention and safe medication use. ISMP provides recommendations for the safe use of medications to the healthcare community including healthcare professionals, government agencies, accrediting organizations, and consumers. ISMP’s efforts are built on a non-punitive approach and systems-based solutions.