

# Mindfulness for medication safety

Break the cycle of rushing and multitasking.

By Marianne L. Durham, DNP, RN, CPPS

**THE SAME MINDFULNESS** we practice for our health and self-care can be translated into a safety strategy. (See *Mindfulness defined*.) Brief mindfulness interventions, which can help you manage your reactions to stressful situations, are associated with reduced anxiety and errors, and improved team relationships, employee engagement, and quality and safety. This article

describes a mindfulness strategy implemented to reduce errors in medication preparation and administration.

## Medication errors

During a typical hospital shift, nurses spend a great deal of time managing medications—checking lab values; reviewing orders with providers; locating, preparing, and double-checking medications; providing patient and family education; assessing patients; administering medications via multiple routes; and documenting and monitoring effects. Medication management complexity can increase with patient acuity, an individual nurse's patient assignments, and medication number and risk level (for example, I.V. opioids, insulin, heparin, and chemotherapy are high-risk medications).

Given this complexity, patients experiencing an average of one medication error per day, as reported by Aspden and colleagues and the Institute of Medicine, isn't surprising. Many of these errors go unrecognized, even by the nurse, and most don't result in harm. Common human factors that can result in administration errors include rushing, multitasking, and functioning on autopilot. Nurses interviewed in a medication safety pilot study conducted by Durham and colleagues said they usually were rushing when a near miss or actual error occurred. (See *Medication errors and the human factor*.)

## Role of mindfulness in medication safety

We need to shift from valuing perceived efficiency over safety. For example, in some healthcare settings, "no interruption zones" are created near medication preparation areas, and nurses are empowered to not respond to interruptions from others when they're focused on medication preparation. Although



## Mindfulness defined

Simply stated, mindfulness, which is learned via meditative exercises, is paying attention without judgment to what's happening in the current moment. Mindfulness-based stress reduction, developed by Jon Kabat-Zinn, PhD, at the University of Massachusetts Medical School, is the most well-known intervention. The 8-week program focuses on teaching students how to attend to body sensations such as the breath to bring their attention back when the mind wanders. Variations of the program have been used to:

- treat substance abuse and depression
- foster healthy eating
- improve firefighters' well-being.

safety systems are important to help prevent errors, unexpected events can occur that even the most stringent systems, policies, and procedures can't catch.

Mindfulness strategies can prepare nurses for unexpected events and help them achieve reliable outcomes. They'll expect error and be vigilant for it, hoping to learn and improve, and they'll report near misses so they can be analyzed for future prevention. Consider Captain Chesley "Sully" Sullenberger III. He followed protocols but also used cognitive awareness as part of his decision-making when he landed his plane in the Hudson River after both engines were disabled by a bird strike; all 155 people aboard survived.

Mindfulness practices help us switch from operating on autopilot to being aware and taking a thoughtful approach to clinical decision-making and error interception. This state of awareness, coupled with safeguards such as barcode medication administration and independent double checks for the highest risk medications, can reduce preventable error.

To help promote mindfulness as a standard practice, preceptors and nurse leaders can model the strategies for students and demonstrate that they're a valued behavior.

### Teaching nurses a brief mindfulness strategy

As part of Durham's pilot study, 99 acute and critical care nurses were taught a brief strategy to help them focus on one breath as part of medication safety. The strategy was taught in 30-minute small-group sessions via a meditation exercise. Using elements from Kabat-Zinn's mindfulness-based stress-reduction program, participants were trained to perform an awareness scan of their body from head to feet and then focus on the sensation of the breath. With that training as the foundation, nurses were instructed to focus on one breath just before preparing medication and again before administering it to help them be fully present for the tasks. Some scholars describe being fully present as "watchfulness" or "a lucid awareness of each experience that presents itself." The goal of this cognitive state of sustained attention is to help improve nurses' awareness and behaviors to improve patient safety outcomes. (See *Mindfulness checklist*.)

When the nurses were first approached about the pilot mindfulness strategy, some



## Medication errors and the human factor

Human factors associated with medication errors include rushing, multitasking, and running on autopilot.

### Rushing

Systems such as hard stops in barcode medication administration and the electronic health record are designed to safeguard patients and clinicians, but they can't prevent a nurse who's rushing from inadvertently grabbing and delivering a look-alike medication. And nurses who are in a hurry may choose to skip safety steps such as scanning a medication or a patient ID. Time pressure can exist in any setting; for example, when a nurse is administering medications to a patient and a transporter says the patient has to leave immediately for a scheduled procedure or when multiple vaccinations need to be administered within a 15-minute time slot to children in a clinic.

### Multitasking

Multitasking is a highly prized skill that many nurses would agree is central to their job; however, it is a risk to patient safety. Nurses may not be aware of the risk of error when, for example, they discuss a patient with the provider while preparing medications. Medication administration complexity requires that it be a single task respected by coworkers and supported by nurse leaders.

### Autopilot

Administering medications without being fully aware if it's appropriate for the patient—autopilot—is difficult to identify. Consider airline pilots. An article in *The Wall Street Journal* describes how their skills decrease with the use of the autopilot function and increase with the amount of time spent flying manually. An overreliance on automation is linked to crashes by pilots reacting after an emergency rather than taking proactive action to avoid it. Similarly, nurses may use barcode scanning and trust that it's correct but still draw up and administer the wrong dose of the medication if they aren't paying attention.



## Mindfulness checklist

As part of a medication safety pilot study conducted by Durham and colleagues, a mindfulness checklist was implemented for use with each medication administered to a patient. The checklist is located on the automatic dispensing cabinet in a “no interruption zone” for preparation and on the mobile workstation for medication administration.

The first step on the checklist has a red dot to signal the beginning of the preparation process:

- **STOP** and focus on one breath.
- While fully aware and present, review the medications against the electronic health record and decide whether they make sense for that patient right now; this is a mini medication safety check.
- Prepare the medications, using single tasking.

The next step is in the patient room:

- **STOP** and focus on one breath.
- Scan the ID attached to the patient and perform other system checks to verify the five rights of medication administration (right patient, right drug, right dose, right route, and right time). Ask questions such as, Is the dose correct based on weight and condition? Is the route accurate? Is time a consideration for the medication or condition?
- Expect and intercept error.

Adapt the checklist to key behaviors for the setting. For example, nurses in an ambulatory setting may use a flag system for medication reminders; pulling a flag prompts a mindful response.

were concerned that it would add more work. However, the strategy involves focusing on only one breath, and nurses were reminded that breathing is something they're already doing.

### Break the cycle

Mindfulness practices can help increase nurses' awareness and cognition and help break

the cycle of rushing, multitasking, and running on autopilot. If we approach medication errors as a common reality, mindfulness may help us detect and prevent them, improve the system, and remain vigilant for the unexpected. **AN**

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