The Eyes of Horus: Guardian of the Night Pharmacy

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Horus was the hawk-headed god of ancient Egypt who still stands guard over temples and pyramids. Legend has it that during a series of violent family upheavals, Horus lost both of his eyes and was rendered unable to protect his family. However, his appeals to the gods for release from his blindness were answered and his eyesight was restored and fortified. His right eye was replaced with the sun, and the moon became his left eye. With this celestial combination, Horus has endured in stone and in legend over the millennia. He is sometimes said to represent the triumph of light over darkness and of truth over error.

You will likely handle or write a vestige of Horus thousands of times during your career. For Horus is also a symbol of health, and depictions of his left eye have evolved into the Rx symbol that is used on every prescription filled today.

The vigilance of Horus may be instructive for developing pharmacy safety systems, as his two discrete vantage points reflect the day–night organization and separation of care in most U.S. hospitals. Though many of the strategies for preventing and correcting medication mishaps are devised and applied in university hospitals and large medical systems that enjoy 24-hour pharmacy services, their solutions do not always apply to smaller hospitals that struggle to maintain pharmacist coverage for fractions of the day. In fact, constant and immediate pharmacist availability is the exception to the rule, as only 12% of U.S. hospitals provide “24/7” coverage.1

A focus with Horus’ lunar eye—his pharmacist’s eye—is especially appropriate because the risks and resources of overnight hospital care can vary widely from the optimal array of services available during the day. Like many industries, health care services tend to be truncated after dark. Ancillary duties are curtailed, staff support is reduced to a minimum, and back-up procedures that were built during the daytime thin out and become porous. Human performance sinks into the doldrums of the circadian cycle, and indifference crests; people are not designed to remain awake and functional at these hours. At the same time, the few patients who are awake tend to be critically ill and in need of the highest level of professional attention. The combination of high-risk patients and suboptimal human performance by health care workers can have catastrophic results. It’s no coincidence that the “accidents” at Chernobyl, Three Mile Island, Valdez, and Bhopal all resulted from human errors of omission in the late hours of night. Credentialing inspections and performance improvement conferences do occur under Horus’ sunny gaze, but in order to pre-empt error, they must take into account the exigencies of nocturnal care.

With an expanding emphasis on implementing uninterrupted safe medication practices by national safety organizations, accreditation organizations, health care providers, and the public, the importance of continuous pharmacist involvement and supervision over medication practices in hospitals is now the expectation, not the exception. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires a pharmacist’s review of each prescription or order for medication (TX. 3.5.2) and also requires that “a safe system is available for the provision of pharmacy services when the pharmacy is closed” (TX 3.5.4).2 However, JCAHO requirements have, in the past, appeared to abridge state laws that prohibit the entry of non-pharmacy personnel into pharmacies, thereby setting up a series of “Catch-22s” whereby hospitals must provide pharmacy services when those who traditionally performed the overnight pharmacy functions are barred from doing so. JCAHO has since clarified this issue somewhat and has affirmed that the safest solutions involve inhibiting all after-hours pharmacy incursions. But little guidance exists regarding how best to provide daytime quality with nighttime resources.

One way in which rural and community hospitals can extend pharmacy services in the absence of pharmacists is to employ automated dispensing machines. These devices are most effective when they control the types and amounts of medications dispensed and automatically track medication flow so that any errors or diversion can be immediately detected and addressed. Process interventions like these are strengthened with the application of instruments that confirm identities (for example, automated dispensing units that simultaneously record a biometric [i.e., a fingerprint] while someone unlocks a medication tray) and random post-event audits that confirm agreement and documentation of drug reviews prior to dispensing.

Unfortunately, the expense of such sophisticated systems can outstrip the constrained budgets of small hospitals. Under

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these circumstances, redundancy procedures (for example, a log documenting medication review and approval by two nurses before a drug reaches the patient) rise in importance. When process improvements seem out of reach, teams must increase their reliance on the training and enforcement of content. However, overreliance on content control frequently becomes an authoritarian venture, as coercive schemes and a culpability culture typically follow. Coupled with this is a tendency in small hospitals and medical systems to underestimate risk and to cultivate the illusion that community relations are a reliable buffer against litigation. An opposing assessment may be more protective of a rural or community hospital’s future, because smaller hospitals are usually less well equipped to absorb liability claims. These reasons alone may justify investing in error-resistant process innovations and improvements.

The foundation of all safety systems is reducing exposure to potentially harmful agents. To minimize errant nocturnal exposures, P&T committees can “front-load” safety by developing an overnight formulary that determines which drugs are so urgently needed that they may bypass a pharmacist’s pre-dispensing review. Medications administered in this fashion should be limited to clinical situations in which the patient would suffer unduly if a dose were withheld until a pharmacist became available. In the absence of an “urgent formulary,” a confirmatory telephone call to the prescribing physician may be necessary to ascertain which drugs can be delayed until morning. Of course, for emergency situations, hospitals should always have a pharmacist on call who can quickly and competently clarify and verify any concerns about medications.

The on-call and urgent formulary are iterative systems. Each formulary variance or unanticipated pharmacist summons should be critically analyzed with the goal of designing techniques for averting deviations and integrating improvements into the after-hours medication-management plan.

These systems are just one layer of protection against medication errors and harm to patients. They require refinement and reinforcement to fit the specific needs of different types of hospitals and to have lasting effects on patient safety. Hospitals and health systems can take a lesson from the legend of the ever-vigilant Horus—day or night, there is never a time to close your eyes to patient safety.

REFERENCES