



## Color-coded chaos

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At Meriter and St. Mary's hospitals, pharmacists put pink labels on bags of epidural drugs to warn that they should be given near the spine, not in the arm.

At UW Hospital and Madison's Veterans Hospital, the warning stickers on epidural bags are yellow.

Meriter and St. Mary's use yellow stickers for the opposite reason - for drugs to be given intravenously, or in the arm.

Epidural tubing at each hospital is yellow.

The color confusion at the Madison hospitals doesn't end there. Stickers on bags of drugs to be delivered intrathecally - closer to the spine than an epidural - are green at Meriter. At UW, they are red. At the Veterans Hospital, they are pink. St. Mary's doesn't use such labels.

Similar discrepancies can be found at hospitals around the country.

For nurses and doctors who work at more than one hospital, keeping track of the colors can be a challenge. But the haphazard system continues, at least in part, for fear of making it even worse.

"We have talked about changing this, but we can't figure out a way to do it without causing massive confusion," said Mimi Levinson, a drug information specialist at Meriter.

The Madison Patient Safety Collaborative, a joint effort among the city's health-care organizations that began in 2000, is considering standardizing the colors of warning stickers at the hospitals, said Kendra Jacobsen, collaborative administrator.

The proposal comes in response to the death last year of Jasmine Gant at St. Mary's. Nurse Julie Thao mistakenly gave Gant an epidural drug in her arm, even though a pink warning sticker was on the epidural bag. Thao was supposed to give Gant penicillin in her arm.

Jacobsen said getting the hospitals to use the same colors won't be easy.

"Whoever has to switch, it will be a huge undertaking," she said. "How do you get everybody's brains to switch?"

The collaborative has also discussed placing foil around epidural tubes or bags to set them apart from IV systems, Jacobsen said.

Warning stickers can reduce errors, but such alerts are not as effective as "forcing functions," equipment solutions that make it nearly impossible to commit errors, said Patricia Brennan, a

UW-Madison professor of industrial engineering who studies patient safety.

A forcing function that would prevent tubing misconnections such as the Gant case: Creating different connectors for different kinds of tubing. Some officials have proposed this.

Such connectors could be better than warning stickers or other alerts, Brennan said.

"Doctors and nurses are bombarded by alerts," she said. "They get alert fatigue."

Meanwhile, some hospitals are standardizing the colors of another kind of alert: patient wristbands.

Two years ago, at an unidentified hospital in Pennsylvania, a nurse mistakenly put a yellow wristband on a patient. At some hospitals, that means blood should not be drawn from that arm. But at that particular hospital, it meant "do not resuscitate."

The patient, who required resuscitation, nearly died before someone noticed the mistake, according to a report from Pennsylvania's Patient Safety Authority.

Patient-safety advocates discovered that most hospitals in Pennsylvania use blue wristbands for "do not resuscitate." But some hospitals used blue wristbands to indicate that patients are prone to falls, are allergic to latex, wear pacemakers or have diabetes, among other things.

Pennsylvania hospitals are unifying wristband colors, starting with blue for "do not resuscitate."

The Milwaukee Patient Safety Collaborative has started a similar effort in southeastern Wisconsin. Jacobsen said Madison hospitals, which also use colored wristbands, might join in.