

Use of Color-Coded Wristbands Creates Unnecessary Risk

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Background

Over 450 Pennsylvania hospitals, ambulatory surgery centers and birthing centers are required to report to the Patient Safety Authority (PSA) any patient-related adverse events and near misses. The PSA developed the Pennsylvania Patient Safety Reporting System (PA-PSRS) to collect such reports, aggregate the data, and facilitate analysis. Since its inception in June 2004, over 300,000 reports have been reported to PA-PSRS.

Problem

PA-PSRS received a report in which clinicians nearly failed to resuscitate a patient who was incorrectly designated as DNR (do not resuscitate). A nurse incorrectly placed a yellow wristband on the patient. In that hospital, the color signified DNR. The nurse also worked at another hospital in which yellow signified “restricted extremity” (not to be used for phlebotomy or IV access).

Method and Results

PA-PSRS surveyed the Patient Safety Officers of all Pennsylvania hospitals and ambulatory facilities. One-third of these facilities (139) responded.

- 78% of the facilities used color-coded patient wristbands.
- There were no standard meanings among healthcare facilities for different colors.

Risk Reduction Strategies

- Limit the number of wristbands in use.
- Use only primary and secondary colors.
- Standardize the meanings of specific colors among healthcare facilities.
- Use brief, pre-printed descriptive text on wristbands.
- Educate patients/families of the purpose of all wristbands applied.
- Remove colored wristbands supporting community campaigns when patients present to the facility.
- Integrate wristband verification into change-of-shift nursing assessment.
- Develop policies/procedures defining wristband responsibility and authority to place wristbands on patients.
- Consider potential confusion between Broselow color-coding system for pediatric resuscitation and colored wristbands used in the facility.

Medical Information Commonly Communicated with Wristbands

Clinical Topic	Number (%) of Facilities Using	Dominant Color (% of Facilities Using)	Number (%) of Facilities Using Text/Symbols
Allergies	82 (76%)	Red (78%)	48 (56%)
Fall Risk	45 (42%)	Green (31%)	8 (23%)
Restricted Extremity	34 (32%)	Purple (27%)	8 (24%)
DNR Status	21 (19%)	Blue (52%)	4 (19%)
Blood Type/ Blood Bank ID	13 (12%)	Red (92%)	9 (69%)

Variety of Medical “Messages” and Colors Used on Patient Wristbands in Pennsylvania Facilities

Message \ Colors	Purple	Blue	Teal	Green	Red	Pink	Orange	Yellow	White
DNR									
Limited DNR									
Fall Risk									
Restricted Extremity									
Allergy (other than latex)									
Allergy to Latex									
Tape Allergy									
Procedure Site									
Blood Type/Blood Bank ID									
No Blood Products									
Outpatient or ER Patient									
Peds/Mother-Child Match									
Parent/guardian									
Similar Name									
Observation									
Isolation									
Elopement									
Pacemaker									
Anticoagulants									
Nothing by Mouth (NPO)									
Dietary Restrictions									
Diabetics									

Published Results

These results have been published in the *Patient Safety Advisory*, which presents de-identified information from PA-PSRS reports, lessons learned, and evidence-based risk reduction strategies. See the Patient Safety Authority Website for this and other related articles: www.psa.state.pa.us

Future Direction

- In response to this *Advisory* article:
- The Pennsylvania House of Representatives introduced a Resolution dealing with this issue.
 - The Patient Safety Authority is facilitating a work group of representatives from several states and national healthcare organizations to address standardization of color-coded wristbands.