Well-being Progress at Stanford: How labeled surgical caps bring the human element to the OR

In the sterile environment of the OR, making personal connections can be challenging and seem secondary to the task at hand—but evidence suggests that teamwork enhances the quality of surgical care. To foster such collaboration, a multidisciplinary team led by Sara Goldhaber-Fiebert, MD, Becky Wong, MD, and Aussama Nassar, MD, MSc, FACS, FRCSC, evaluated the impact on teamwork and belonging when adding individuals’ names and roles to their required head coverings in the OR. After a large-scale, year-long quality improvement study involving Stanford Health Care clinicians, Wong et al. are sharing their findings in an article published today in JAMA Network Open.

Proof of Principle

As anesthesiologists, Drs. Goldhaber-Fiebert and Wong, along with trauma surgeon Dr. Nassar, all know the importance of communication in the OR, where teamwork is vital, every second counts, and multiple specialties must work together seamlessly. Surgical team members must use the names of several people they may have just met, while faces are hidden behind masks and IDs are often not visible, all while executing complex surgical procedures requiring intense focus and time pressures. Research shows that communication failures in the OR occur in a third of team exchanges and contribute to inefficiency, team tension, and procedural errors.

Pilot Program

After hearing about initiatives to promote use of surgical caps labeled with names and roles from a social media campaign called the #TheatreCapChallenge in 2017, Dr. Goldhaber-Fiebert and the InterCEPT (Interprofessional Communication Education Program on Teamwork) team piloted the concept during operating room simulation sessions. It resonated. Obstetric colleagues at Stanford Medicine Children’s Health subsequently collaborated with the team to conduct a pilot study with C-Section patients. They saw positive results. Labor and Delivery team members in the intervention group used names more often and missed communications less often.

“The [labeled cap] project is a great asset to promoting teamwork in the OR,” said Chair of Surgery Mary Hawn, MD, FACS, who has championed the initiative at Stanford from the onset. “We have many changes in personnel throughout the case and the cognitive load of remembering everyone’s names at the OR time out is a challenge, given all the other important issues. It’s nice to be able to glance up [at the labeled cap] and call someone by their name.”

System-wide expansion

Clinicians, patients, and families appreciated the benefits brought about when surgical caps labeled with names and roles were worn during the pilots. Yet Dr. Goldhaber-Fiebert and the team knew that a systematic, institution-level initiative with rigorous evaluation was needed to assess their impact and potentially provide the evidence for labeled caps to become standard practice. Dr. Goldhaber-Fiebert brought together a team for the Clinical Excellence Leadership Training (CELT) quality improvement program to create a large, interprofessional study of the impact of labeled caps in perioperative areas. She recruited Drs. Wong and Nassar, along with InterCEPT Program Manager Teresa Roman-Micek, BS, CHSOS, and Interventional Platform Education Manager Ling Chen, MSN, RN, CNOR, to together drive the effort across interprofessional teams, ensuring that every role category was included. As with any new concept, hurdles did arise, including infection control concerns, the need to consider inclusivity and provider adoption for all hair types, and different expressions of individuality. With support from Stanford Health Care and departmental leaders, the team explored and addressed each
challenge with frontline clinicians and perioperative leaders.

In the initial study, 967 members of the adult hospital’s general OR teams received labeled caps between July 2021 and June 2022 with participants representing a range of specialties, including nursing, technologists, surgeons, and anesthesiologists. Ultimately, 80% of physicians reported that the caps substantially improved teamwork, with 79% saying they improved connection with their teammates. These study findings also have implications for equity and inclusion. Results show improvement in use of names and correct identification of roles with the introduction of labeled caps were both larger among women than the baseline disparities between men and women. As one surgery fellow said in her survey response, “[As] a woman of color, the caps have been extremely affirming for my role as a fellow surgeon in the OR. It reduces the cognitive fatigue and underlying anticipation of being mistaken for a different role.”

Continuing Progress
Today many surgical and procedural departments across Stanford Medicine are in various stages of rolling out thousands of labeled surgical caps and the initiative was recently recognized with an ISP Star Award from Stanford School of Medicine, Stanford Health Care, and Stanford Children’s Health.

“The use of labeled caps improves the patient experience by bringing clarity on the roles and names of the people giving them care during procedures and strengthening communication across team members to further enhance patient safety,” said Chief Administrative Officer for Clinical Operations Sam Wald, MD, MBA. “Additionally, the true connections that team members build when using one another’s names rather than job role alone enhances interprofessional performance, which benefits both patients and clinicians alike.”

The initiative also is gaining traction outside of Stanford, with requests for implementation advice from many institutions. Recently, the American Society of Anesthesiologists even dedicated a booth to labeling surgical caps at their annual meeting. For more information on how to offer these labeled caps on your team, contact Teresa Roman-Micek. With publication of the evidence of the impact of labeled surgical caps in JAMA Network Open, it is anticipated this work at Stanford Medicine will be widely adopted by healthcare organizations around the world.

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