NewYork-Presbyterian | COLUMBIA | COLUMBIA UNIVERSITY DEPARTMENT OF ORTHOPEDIC SURGERY

Perioperative Orthopedic Quality & Safety Newsletter

A Newsletter from the Columbia Orthopedics Quality Team

Happy Summer from the Columbia Orthopedics team! We are excited to continue sharing our perioperative quality updates and reading list for this quarter. Since our last issue, we have welcomed two Quality & Performance Improvement (QPI) fellows, Erin Butrico (2021-2022) and Chinenye E. Ezeh (current: 2022-2023), and a new fellow (Melanie Brown, 2023-2024) who will join the team in July of this year.

As the current fellow, Chinenye has been leading several quality and performance improvement initiatives across the hospital, including projects related to wrong site surgery, surgical site infections, blood ordering & testing, and perioperative efficiency improvement for total hip & knee arthroplasty procedures. Read below for more details on some of her projects and their impact on perioperative efficiency and patient safety!

- Columbia Orthopedics Quality Team

Dr. William N. Levine, Chairman, Orthopedic Surgery
Dr. Michael G. Vitale, Vice-Chair, Strategy & Quality
Chinenye E. Ezeh, Quality & Performance Improvement Fellow

Meet Our Quality & Performance Improvement Fellows!

Erin Butrico
(Past QPI Fellow: 2021-2022)

Erin obtained a Bachelor's degree in Psychology and French from Duke University, as well as a Master of Health Administration from Johns Hopkins University. Prior to joining our team, Erin worked at Deloitte Consulting in their Life Sciences practice. She now serves as a Project Manager in Operations at NewYork-Presbyterian Hospital.

Chinenye Ezeh
(Current QPI Fellow: 2022-2023)

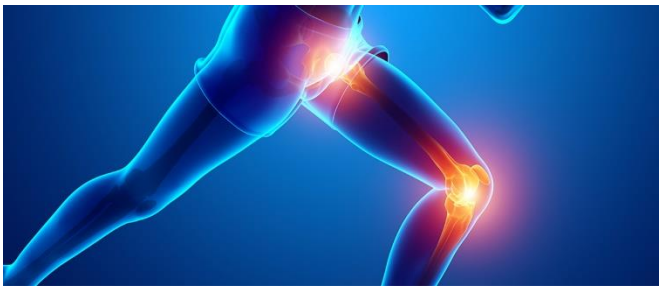
Chinenye obtained a Bachelor's degree in Global and Public Health Sciences from Cornell University, as well as a Master of Public Health in Healthy Policy & Management and Certificate in Infectious Disease Epidemiology from Columbia University. Before joining our team, Chinenye was an Operations Intern at the NewYork-Presbyterian Hospital/Weill Cornell campus as a part of her graduate studies. Upon completing her fellowship in July, Chinenye will serve as a Project Manager in Operations at NewYork-Presbyterian Hospital.

Melanie Brown
(Future QPI Fellow: 2023-2024)

Melanie obtained a Bachelor's degree in Human Development and Master of Health Administration from Cornell University. She will be joining the team as the new QPI Fellow in July!

Current Projects

CUSP Arthroplasty: Utilizing a Unit-Based Team Approach to Improve Perioperative Efficiency in Adult Hip and Knee Arthroplasty Procedures



The Comprehensive Unit-Based Safety Program (CUSP) is a quality and patient safety program developed by Johns Hopkin University and has been implemented across a range of healthcare settings. It aims to both identify and address opportunities for quality and patient safety improvement in accordance with the core principles of safety science.

Our hospital has adapted CUSP to target perioperative efficiency for pediatric spinal fusions, adult cardiac cases, and now adult total hip and knee arthroplasty procedures. Large bimonthly collaborative CUSP meetings involve senior hospital leaders, as well as leaders from the operating room, anesthesia, central processing & sterilization, scheduling, and frontline staff.

Additionally, several workgroups were created to target system stressors across the perioperative workflow and directly implement interventions to address them. Since the implementation of CUSP Arthroplasty in November of 2021, the team has experienced the following wins:

- Increase in first case on-time start rate from **45%** to **81%**
- Decrease in room turnover time from **49** minutes to **41** minutes
- Decreases in time for first case delays, anesthesia preparation, in-room patient preparation, operation, patient exit, and overall case length for both total hip and knee arthroplasty procedures.
- Improved team **communication** and **satisfaction**
- Shift in **team culture** that encourages staff to identify areas of improvement and engage in solution-driven discussions

Prevention of Wrong Site Surgeries

Although wrong site surgeries are rare intraoperative events, they are most common within the orthopedic surgical service and have devastating ramifications for patients and providers alike. Our department implemented a quality project focused on the prevention of near miss wrong site surgery cases. Primary project interventions included the following:

- Optimization of the electronic medical record (EMR) to create templates for procedure description that utilized plain language, which helps clarify laterality and procedure info
- Modified consent view that allows for laterality and procedure info to be visible while patient provides signature
- Standardization of surgical pre-operative notes to clarify procedure laterality and surgical site

This project also established an improved pre-operative patient verification process that requires two registered nurses (RNs) to verify with their initials that information across the consent form, history & physical (H&P), original case booking, and surgical site marking are consistent. The EMR was further optimized to allow RNs to view the consent form, H&P, and original case booking simultaneously on their computers to make this verification process easier and quicker to complete in the pre-operative unit. Since the implementation of this project in July of 2022, the number of near miss wrong site surgery cases in the orthopedic surgical service has dropped to zero.

Reading List

New England Journal of Medicine

A Novel Network-Based Metric of Surgical Team Consistency Opens Opportunities to Improve Hospital Performance and Care Value (Verhaegen et al.)

This study investigates the implementation of a network-based metric that measures orthopedic surgical team consistency and its link to both improved efficiency metrics and maintained quality of care.

Journal of Pediatric Orthopedics

A Comprehensive Unit-based Safety Program to Improve Perioperative Efficiency in Adolescent Idiopathic Scoliosis (Raman et. al.)

This study was conducted by our Orthopedics team and illustrated the effectiveness of the Comprehensive Unit-based Safety program (CUSP) in not only maintaining patient safety but also improving perioperative efficiency, especially for the pediatric orthopedic service line.