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Control/Tracking Number: 2023-SF-3331-ACS

Activity: Scientific Forum

Current Date/Time: 3/2/2023 9:42:19 AM

Speech Communication Interference: Surgical Team Requests And Impact On Patient Safety

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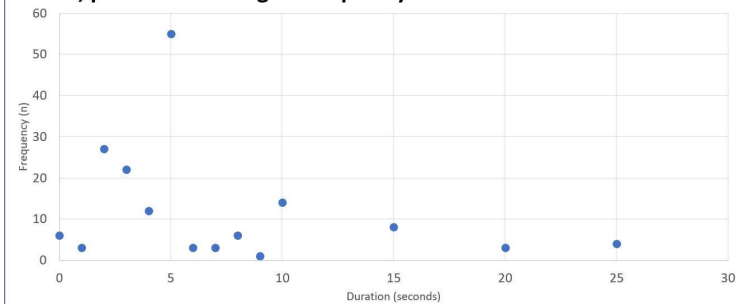
Abstract:

Introduction: Communication is frequently disrupted in the OR, raising safety concerns. We used a Speech Communication Interference (SCI) instrument to measure the frequency, impact, and causes of these events.

Methods: 70 surgeries were directly observed, primarily in general surgery. SCI events were defined as "*group discourse that is disrupted according to either the participants within the exchange, the goals of the communication, or the physical and situational context of the exchange*". Case delays were timed, and contextual factors identified, supported by post-surgery interviews, which also identified events that had occurred at critical moments. Notes and interviews were analyzed thematically.

Results: We observed 173 SCI events in 70 surgeries (mean 2.47). They most commonly involved the surgical attending (55.5%), OR Circulating nurse (48.0%), surgical resident (40.5%), and scrub tech (40.5%). The majority (74.6%) of SCI events occurred during another patient-related task. 39.3% (68) SCI events occurred at a critical moment. (Table) 167 events (96.5%) caused a delay (mean 5 seconds). (Figure) Inter-rater agreement was >88%.

Figure 1: Case Delays caused by Speech Communication Interference events, plotted according to Frequency and Duration



Note: Scatterplot showing frequency of case delays in all Speech Communication Interference events. There were 6 case delays > 25 seconds.

Post-surgery interviews confirmed miscommunication and distractions. Attention was diverted most commonly by loud noises (e.g. suction), conversations, or multitasking (e.g. using the EHR). Successful strategies for recovery included repetition, or deferment until the competing tasks were complete.

Conclusion: Communication interference may have patient safety implications, and most often arise from conflicts with other case-related tasks, machine noises, and other conversations. Reorganization of workflow, tasks and communication behaviors could reduce SCI events and improve surgical safety and efficiency.

Contexts and Frequency of Speech Communication Interference Events

Receiver Multitasking	129 (74.6%)
-performing case-related task	122 (70.5%)
-performing non-case-related task	7 (1.6%)
Concurrent Loud Noise	66 (38.2%)
-loud machines	55 (31.8%)
-loud conversations	11 (6.4%)
Concurrent Overlapping Conversation	15 (8.7%)
-case-relevant	9 (5%)
-case-irrelevant	6 (3.4%)
Receiver Not Paying Attention	7 (3.9%)

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