SILENT INDUCTION: Piloting a novel noise reduction strategy in the Operating Room

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Introduction & Background

- In the 1960s, noise restrictions were strictly enforced by hospitals internally by nurses and externally with street signs declaring "hospital-quiet zones."[1]
- Recent literature shows that the average noise levels in operating rooms (OR) are greater than federal limits for occupational noise exposure and frequently exceed those considered a hazard to health.[2]
- Excessive noise has been shown to increase staff member stress, fatigue, distraction, ineffective communication which can lead to medical errors and increase patient anxiety levels.[3]
- The induction phase (when a patient is initially put to sleep) was identified as a critical time to reduce ambient noise.[3]

Objectives

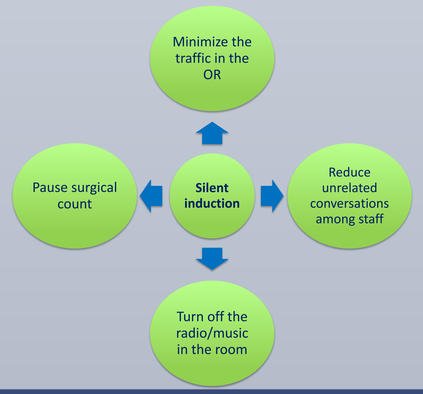
The objectives of my Fellowship included:

1. Conduct an internal and external environmental scan.
2. Increase awareness among surgical staff on the effects of operating room ambient noise on patients and staff.
3. Implement "silent induction" - a small feasibility pilot of a noise reduction strategy during induction.

Improvements/ Innovations

- Developed an awareness raising poster
- Held information sessions for OR staff members regarding the sources and potential harms of ambient noise.
- Developed a "silent induction" strategy in collaboration with OR team
- Implemented the strategy in the operating room
- Collected feedback from patients and staff regarding their experiences with silent induction

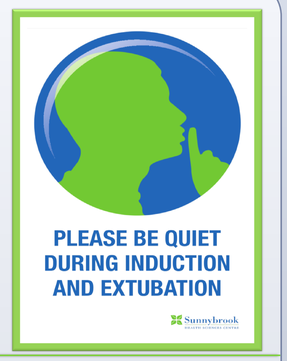
"Silent Induction" Strategy



Results

Awareness raising

- Poster was developed in collaboration with the OR team and displayed throughout the department.
- Information sessions held for 90 staff members
  - Nurses, respiratory therapists and personal support partners (55)
  - Anesthetists, anesthesia fellows and residents (35)
- Information was also shared at a staff meeting and at morning rounds (rounds attended by residents, fellows and surgical staff).



Implementation of the "silent induction" strategy

- "Silent induction" strategy was implemented with 22 operating room cases from the following services: general surgery, obstetrics/gynecology, urology, orthopedics, vascular, and ENT.
- In 16 cases the "silent induction" was led by the TAHSNp Fellow and in 6 cases it was implemented by 6 other OR nurses.
- In all cases, the "silent induction" was implemented collaboratively with the anesthetist.
- The most challenging part of the implementation was to keep the OR quiet when there were many people in room.

Staff and patient feedback

- 30 staff provided feedback on the "silent induction" implementation via survey.
- A large majority of staff reported that implementing the "silent induction" strategy was feasible and important for both patient and staff safety.

"Some of the anesthetists appreciate when nurses ask for the noises to be reduced, its very helpful to get their support"

"It was incredible! Can we do it all the time in all rooms?"

- Challenges reported by staff during implementation of "silent induction" included:
  - Many people in the room
  - Some members of the interdisciplinary team were unfamiliar with the pilot (new residents and fellows)
  - Some members of the interdisciplinary team don't respect the new concept of silent induction.

- All 22 patients involved in the "silent induction" pilot were phoned at home 1 week after surgery.
- All patients reported that they were not disturbed by the noise in the OR

"My experience was as good as you can get, the staff were very attentive. The room was very quiet, nothing to improve"

- Additional feedback from patients identified new areas for improvement:

"Seeing so many people in the OR made me scared. I didn't expect to see so many people. I thought maybe my situation is so complicated that my surgeon needed extra help during my surgery"

"It would be nice to know that the surgical staff had some kind of interaction before the surgery. The fact that they are going to work together for the first time in my surgery made me feel anxious especially when they were shaking hands over me, like I wasn't there, I felt invisible "

Project Impact & Plan for Sustainability

- This pilot project showed that implementing a noise reduction strategy in the OR is feasible.
- Plans for sustainability include: the implementation of noise champions and embedding "silent induction" awareness into current educational days and communication forums (rounds, meetings).

Future Recommendations

- Implement the "silent induction" strategy on a larger scale and formally evaluate it.
- Address additional areas for improvement identified through this pilot including how to minimize the traffic in the OR and exploring the ideal "briefing" strategy in the OR.

References

1. Jonathan D. Katz. Noise in the operating room. *Anesthesiology* 2014; 121:894-8.
2. Donna A. Ford. Speaking up to reduce noise in the OR. *AORN Journal* 2015;102:85-89.
3. Way TJ Long A, Weinhing J, et al. Effect of noise on auditory processing in the operating room. *J Am Coll Surg*. 2013;216(5):933-938.

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