

Bouffants vs. Cloth Surgical Caps in the Prevention of Infection

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INTRODUCTION

- The purpose of this Evidence-Based Practice Project is to gather information from previous studies in order to find out what practice is most effective in preventing infections acquired in the Operating Room during surgery and provide the information that will allow Sioux Center Health to better their practices and provide a safe surgical environment for both patients and operating room staff.
- SSIs (Surgical Site Infections)
 - An infection in the body originating at a surgical site that arises no more than 30 days following a surgical procedure
 - Caused by what?
 - Endogenous infection
 - Exogenous infection
- PPE (Personal protective equipment)
 - Bouffant vs Cloth Caps
 - Laundering system
- Prevention of postoperative infection
- Who will this impact?
 - Sioux Center Health
 - Surrounding community
 - Other agencies/organizations
- Questions to answer
 - Which surgical hats are at higher risk for causing operating room acquired infections?
 - Which hats are best in terms of sanitation and protection from bacteria?

MATERIALS & METHODS

- Literature Review - 10 Articles Utilized
 - Key Terms
 - Surgical cap, surgical hat, surgical headgear, surgical headwear
 - Cloth hat, disposable hat
 - Infection, post-operative infection, surgical site infection
 - Infection prevention, best practice
- Johns Hopkins Appraisal System
 - To determine the quality of evidence
 - Five Evidence Levels
 - Our evidence = Levels I, II, and III
 - Three Quality Ratings
 - Our evidence = mostly good quality



Single-ply polypropylene bouffant CAP 100CT. Medline At Home. (n.d.). Retrieved March 2, 2022, from <https://athome.medline.com/en/single-ply-polypropylene-bouffant-cap-100ct-cri1004z>

VS.



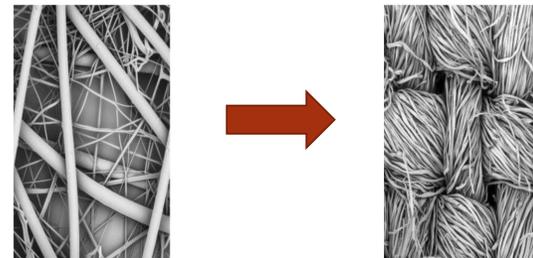
Surgical caps scrub caps. surgicalcaps.com. (n.d.). Retrieved March 2, 2022, from <https://surgicalcaps.com/collections/surgical-caps>

RESULTS

- “Therefore, finding ways to reduce surgical site infections is of the utmost importance, both for patient care and for optimal resource use within hospital systems” (Markel et al., 2017, p. 573).
- Studies we found had some varied results...
 - Cloth hats recommended as best practice
 - Not enough data was found to make a firm recommendation for cloth cap usage
 - Differences between hats weren't statistically significant

“Bouffants were more permeable and had greater microbial shed than skull caps” (Wills et al., 2020, p. 327).

Some studies found that using antimicrobial fabric and an adequate laundering system would create a superior option compared to the disposable cap options (Kothari, 2018)



Markel, T. A., Gormley, T., Greeley, D., Ostojic, J., Wise, A., Rajala, J., Bharadwaj, R., & Wagner, J. (2017). Hats off: A study of different operating room headgear assessed by environmental quality indicators. *Journal of the American College of Surgeons*, 225(5), 573-581. doi: 10.1016/j.jamcollsurg.2017.08.014.

CONCLUSIONS

- Based on our research we recommend the use of cloth surgical caps over the use of disposable bouffant style surgical wear. We also recommend the implementation of a laundering system to maintain sterility with cloth cap usage.
- Potential further areas of research:
 - Microbial fabric use
 - Continued comparison of different surgical gear
 - Best laundering system that first OR needs.



Contact or visit US, Sioux Center Health. (2021, April 19). Retrieved March 2, 2022, from <https://www.siouxcenterhealth.org/contact/>

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GAPS & LIMITATIONS

- Limitations of the Articles
 - Retrospective in nature
 - Inability to generalize results
 - Small Sample Size
 - Outside Variables
 - Quality of evidence
 - Could be improved with high quality evidence