

# **Disinfection of the Radiologist Workstation and Radiologist Hand Hygiene; a Single Institution Audit**

Jeffrey Quon, John Ryan



# Disclosures



- Neither I nor my immediate family members have a financial relationship with a commercial organization that may have direct or indirect interest in the content.



# Outline

- Background
- Methods
- Results
- Discussion
- Conclusion



# Background



- Study published in the Journal of the ACR examined bacterial contamination of radiologist workstations<sup>1</sup>
  - Swabbed radiologist workstations (mouse and dictaphone) and nearby restroom doorknobs and toilet seats
  - Compared workstation vs. restroom colony counts
- **Results:**
  - Overall bacterial contamination of dictaphones and mice were significantly **higher than** nearby restrooms ( $57.8 \pm 49.0$  vs  $12.6 \pm 12.5$ ,  $P = .005$ ).
  - Bacterial counts were nearly completely eradicated following brief antiseptic cleaning
- **Conclusion:**
  - Bacterial contamination at the radiologist workstation is common
  - Simple cleaning can significantly reduce colonization
  - Good hand hygiene and disinfection practices should be implemented
  - Presumed implications on patient and radiologist health

# Purpose



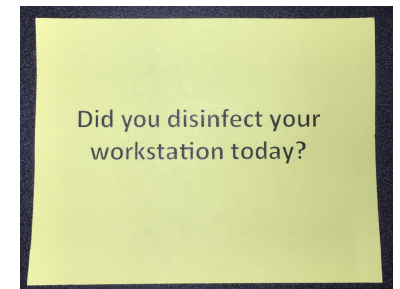
- To evaluate the workstation disinfection rates and hand hygiene habits of radiologists and trainees at shared departmental workstations, and to assess the impact of education and daily reminders on workstation habits.



# Methods



- Examine current radiologist hand hygiene and workstation disinfection practices at The Ottawa Hospital (10 question internet survey Jan 2014)
- Provide brief education regarding importance and proper technique (PowerPoint Presentation)
- Place placards at each workstation stating, "Did you disinfect your workstation today?"
- Repeat similar 10 question survey in March 2014
- Rates of hand washing *before* and *after* using the workstation were compared using a Chi-square test. Rates of workstation disinfection were compared using a Wilcoxon signed-rank test.
- Differences with  $p$ -values  $<0.05$  were considered statistically significant



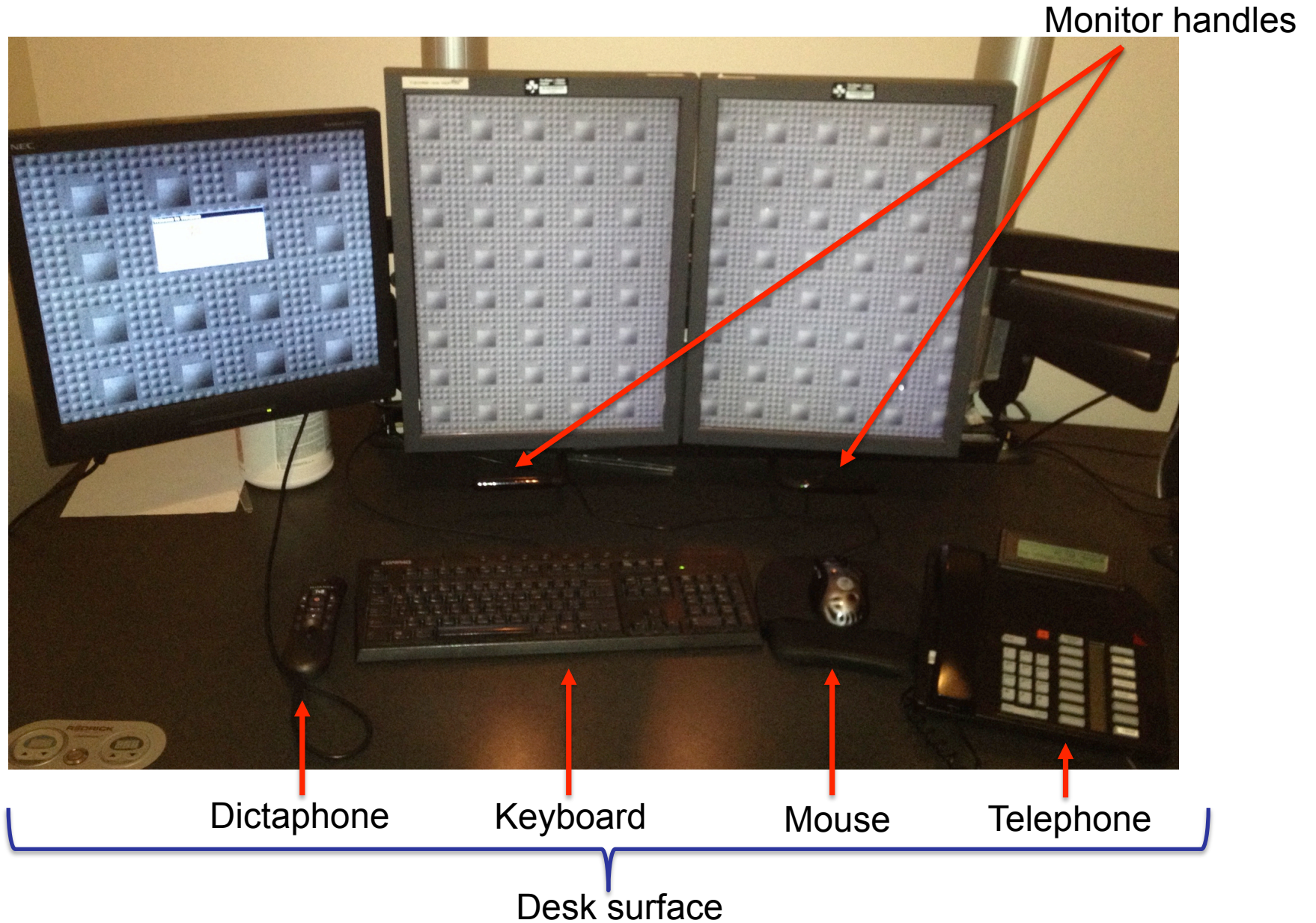
# Survey Questions



1. Please indicate your current position.
2. In the last 4 weeks, approximately how often have you disinfected your radiology workstation?
3. Which of the following did you include during workstation disinfection? (keyboard, mouse, dictaphone, telephone, desk surface)
4. Are disinfectant wipes readily available near your workstation?
5. Do you regularly wash your hands BEFORE working at the radiology workstation?
6. Do you regularly wash your hands AFTER working at the radiology workstation?
7. Which of the following do you do at the workstation regularly? (eat/drink)
8. Are you more likely to disinfect your workstation during cold/flu season?
9. Are hand sanitizer stations readily available near your workstation?
10. Have you received instruction on how to properly disinfect that radiologist workstation?



# What should you disinfect?





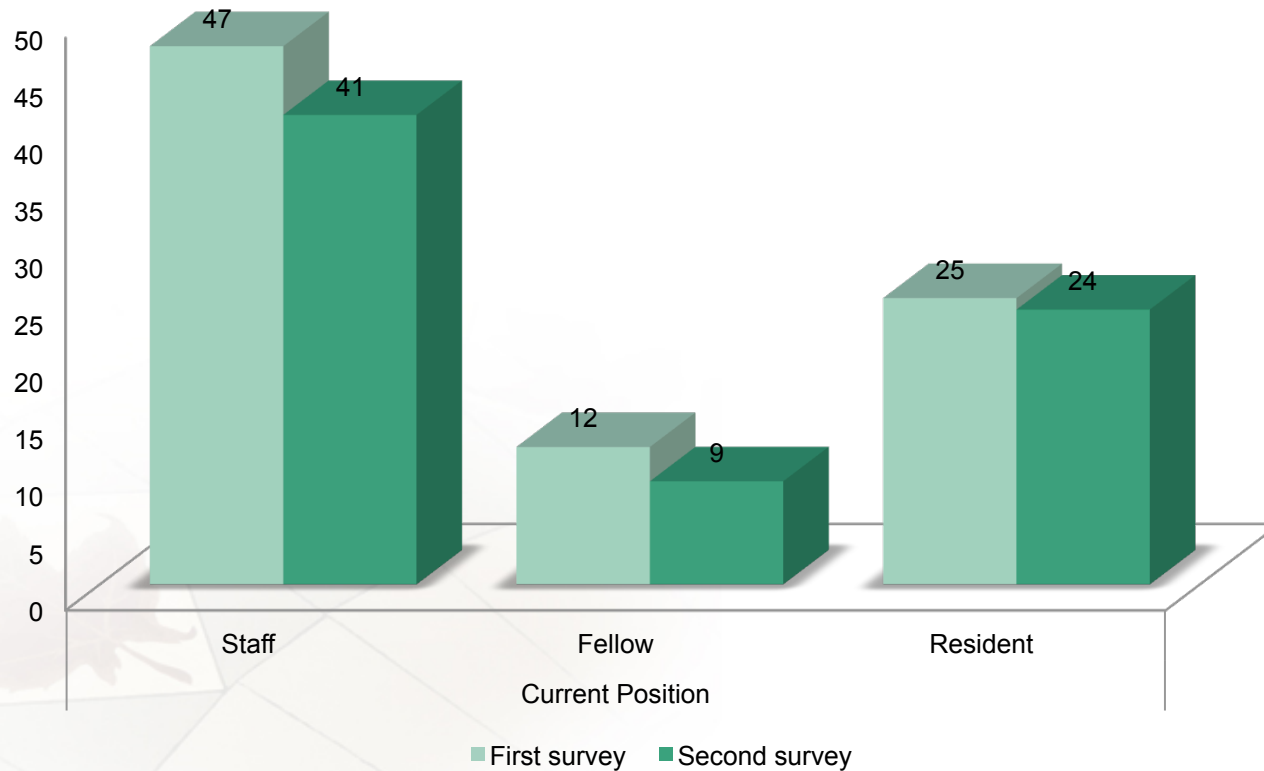


# RESULTS



uOttawa

# Number of respondents



uOttawa

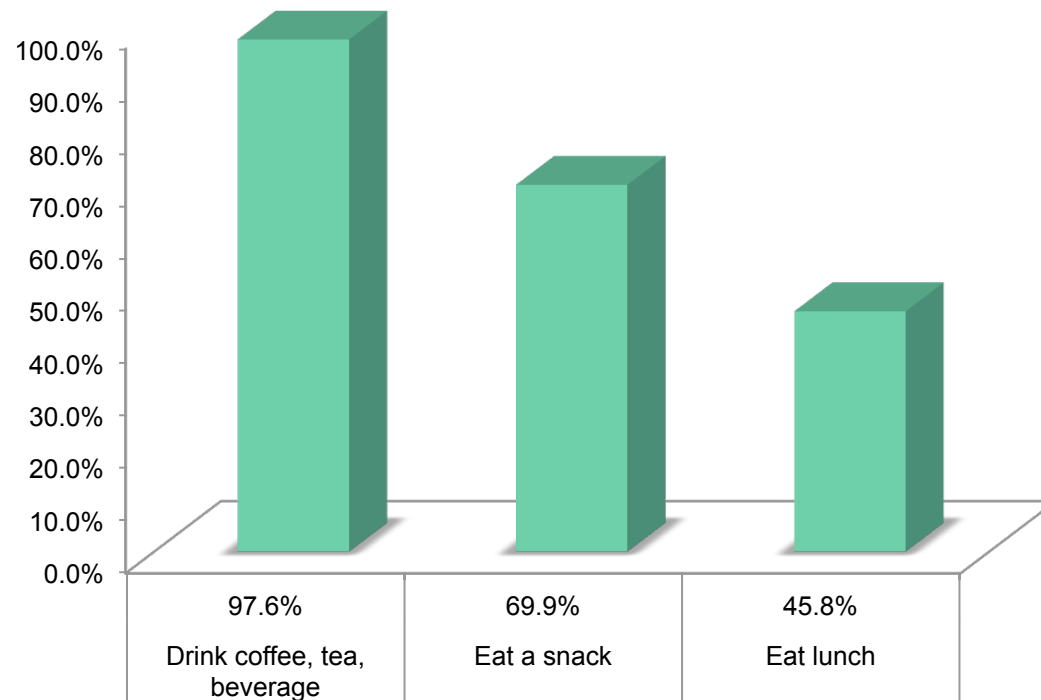
1<sup>st</sup> survey - 84 respondents

2<sup>nd</sup> survey - 74 respondents

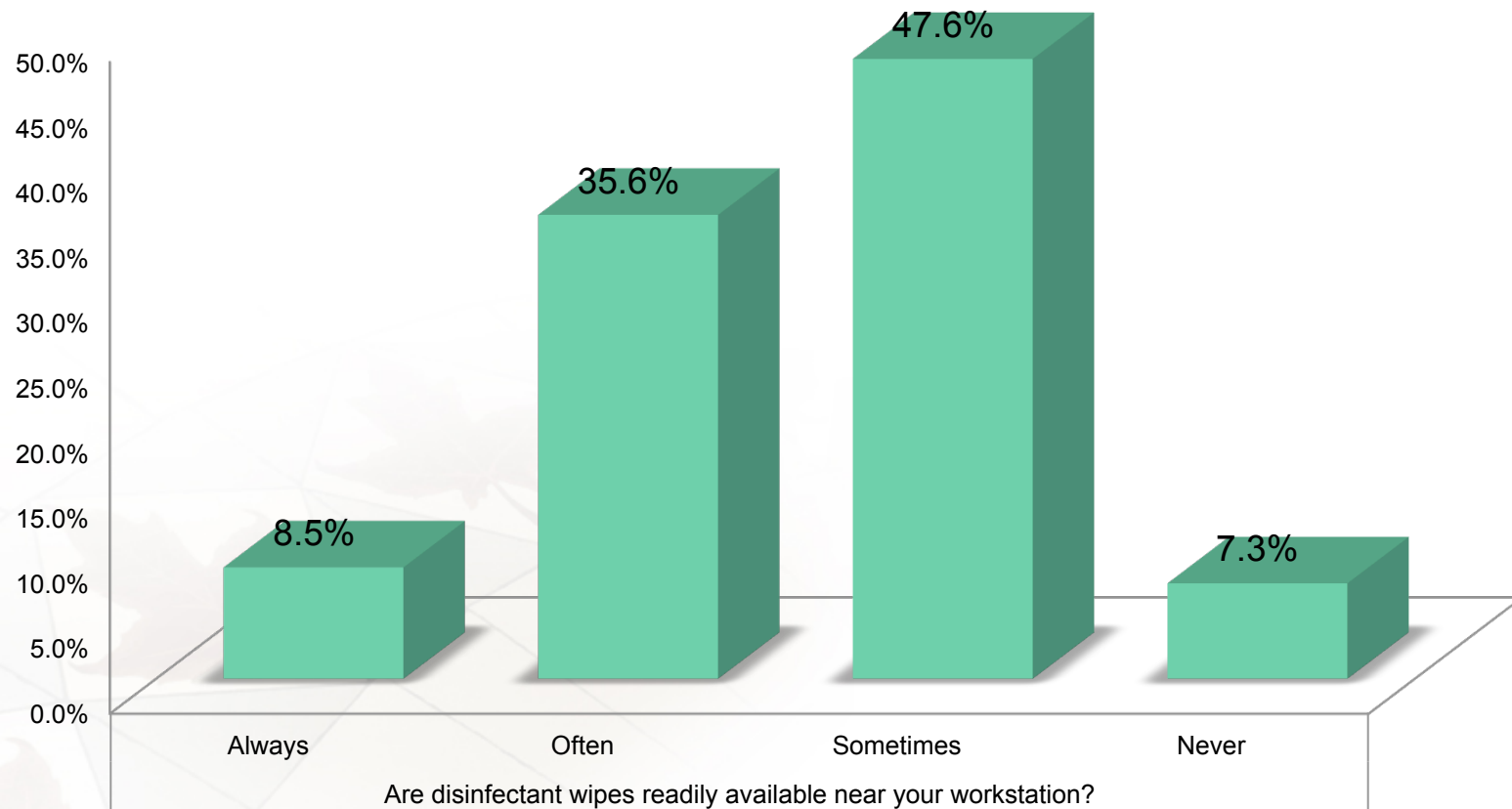
Have you received instruction on how to properly disinfect the radiologist workstation?

-Yes (0%); No (100%)

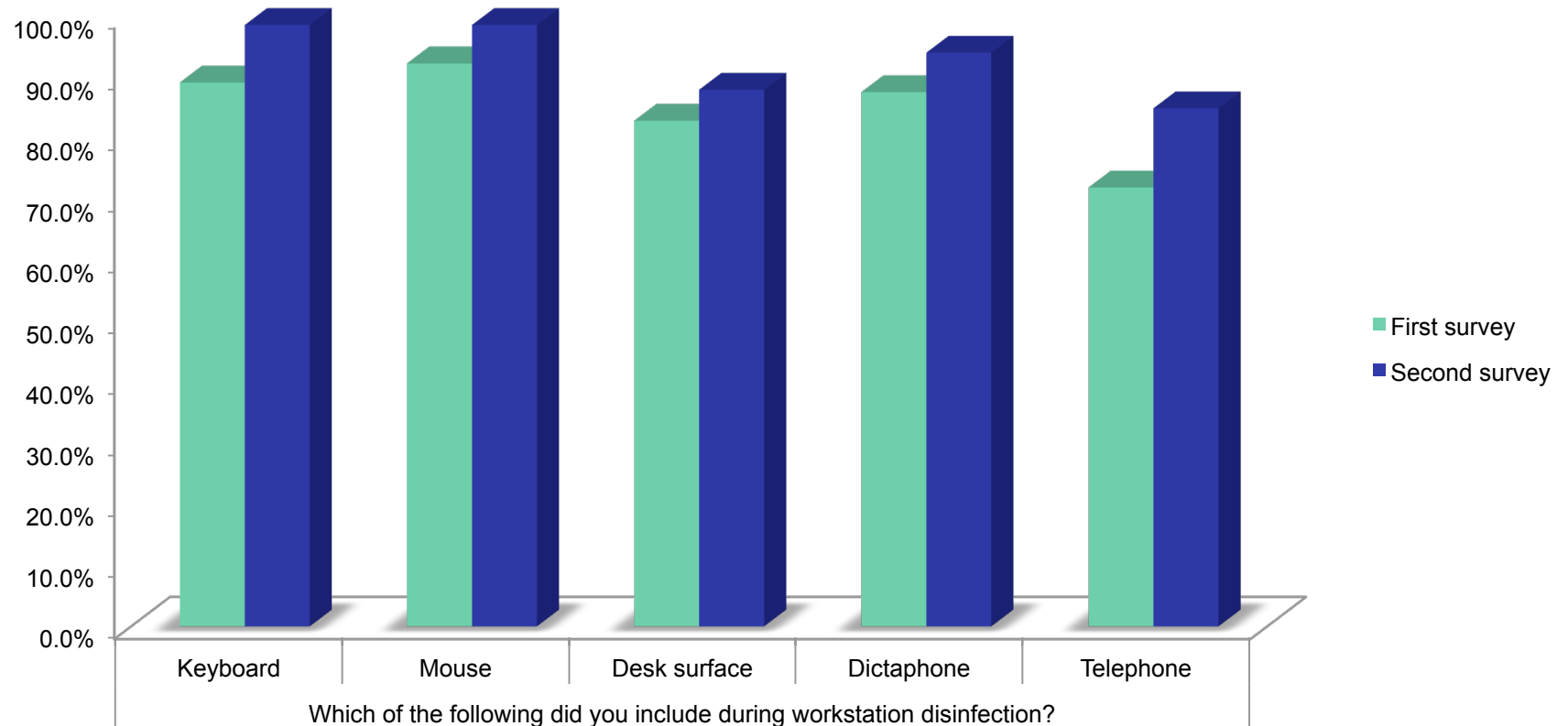
Which of the following do you do at the workstation regularly?



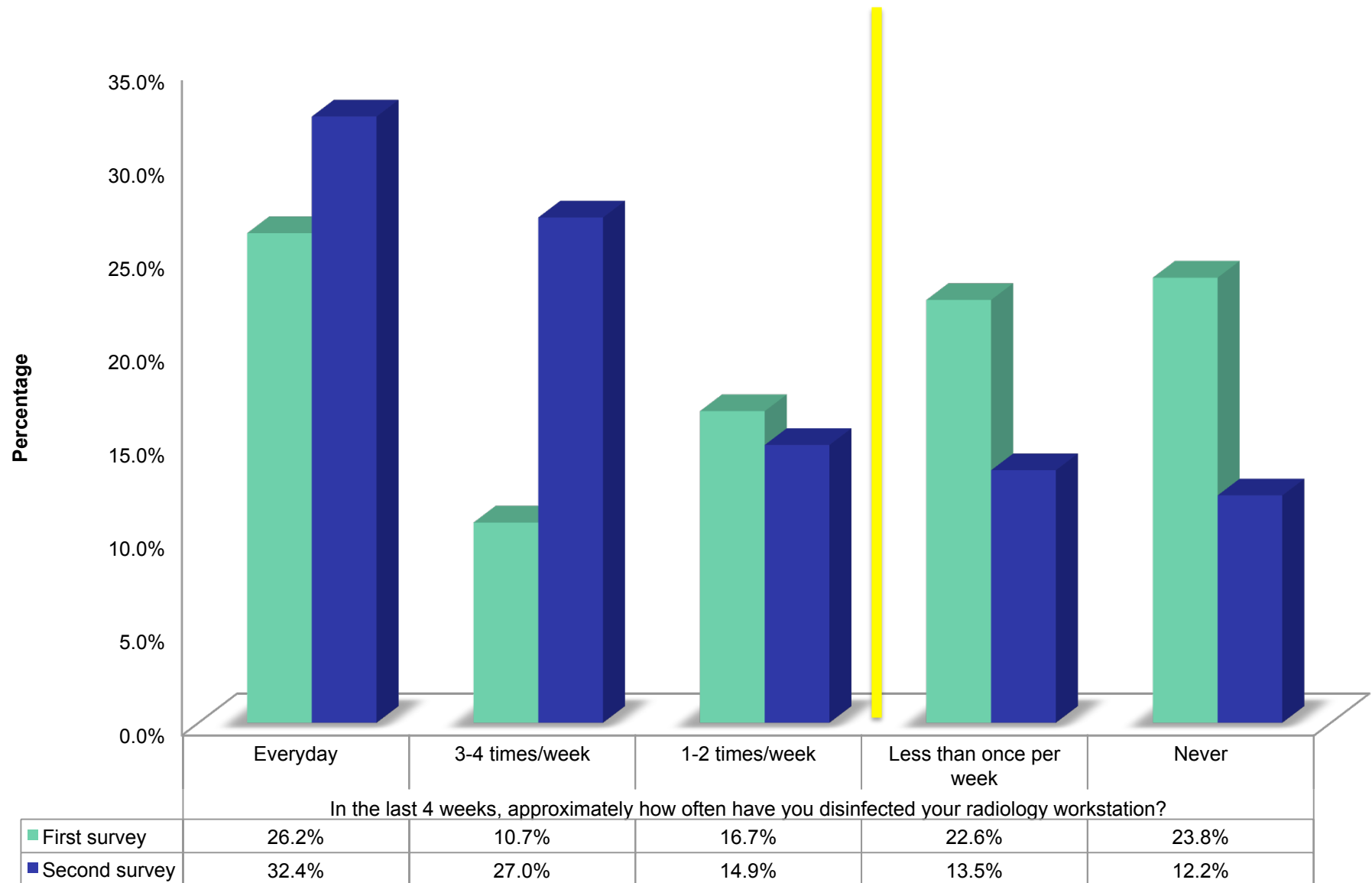
# Are disinfectant wipes readily available near your workstation?



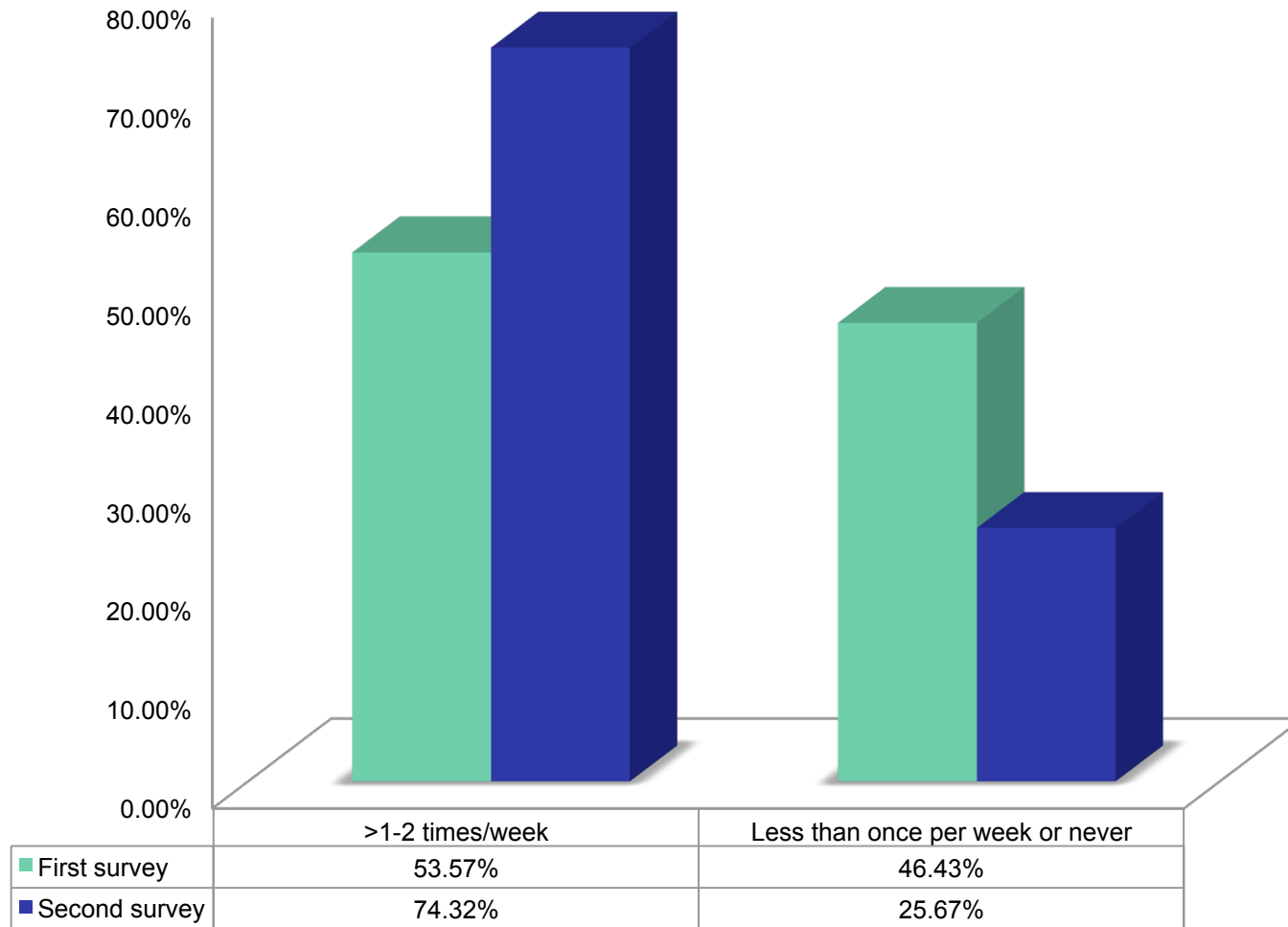
# Which of the following did you include during workstation disinfection? (choose all that apply)



# In the last 4 weeks, how often have you disinfected your radiology workstation?



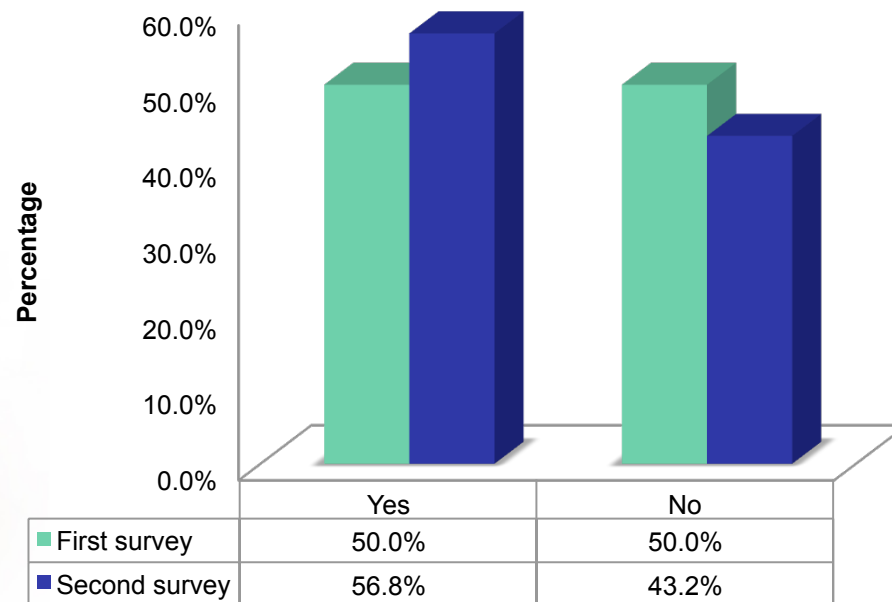
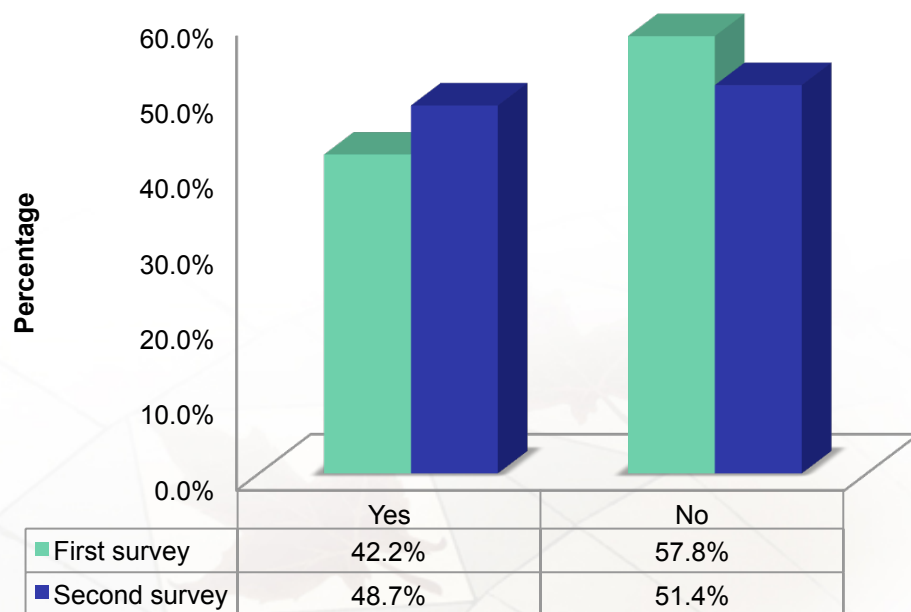
# Pooled results (p=0.01)





Do you regularly wash your hands BEFORE working at the radiology workstation?

Do you regularly wash your hands AFTER working at the radiology workstation?





## Did any of the interventions increase the likelihood of you disinfecting your workstation?



- PowerPoint only (**8.1%**)
- Placard only (**25.7%**)
- Both the PowerPoint and placard (**39.2%**)
- No effect because I disinfect my workstation all the time anyway (**13.5%**)
- No effect because I never disinfect my workstation (**13.5%**)



# Results Summary



- The percentage of participants who disinfect their workstations greater than once per week increased from 54% to 74% ( $p=0.01$ )
- The number who disinfect their workstation less than once per week or never decreased from 46% to 26% ( $p=0.01$ )
- Hand washing before working at the workstation increased from 42% to 49% ( $p=0.76$ ).
- Hand washing after working at the workstation increased from 50% to 57% ( $p=0.46$ ).



# Discussion



- Generated interest within the department
- Limitations
- Unclear if disinfection has any benefit
- Hand washing rates could be improved
- Damage to dictaphone or other equipment by the disinfectant wipes?



# Conclusion



- At our institution, the implementation of daily reminder placards at each workstation and the administration of an educational PowerPoint presentation improved the rate of radiologist workstation disinfection and showed a slight trend toward increasing hand-washing rates.

