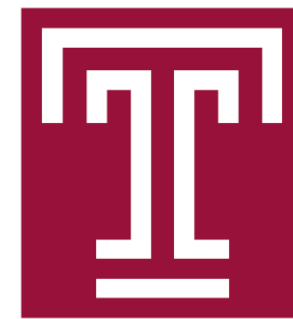




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The “James Reason” Swiss Cheese Model and Examples To Prevent Errors In The Mammography Workplace



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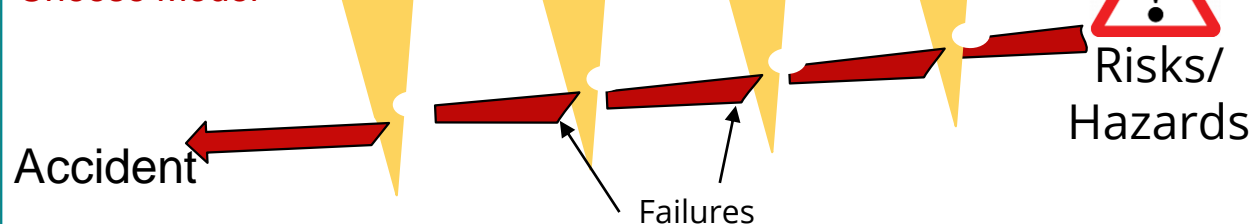
Purpose

- Discuss the James Reason Swiss Cheese Model and its applicability to the mammography department.
- Recognize common errors and vulnerabilities in the mammography workplace and elaborate on a few examples.
- Review strategies to prevent errors and enhance patient safety in mammography using the James Reason Swiss Cheese Model.

Background

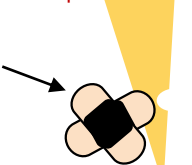
- Originally developed in the field of aviation safety, the James Reason Swiss Cheese Model provides a valuable framework for understanding and correcting errors.
- The James Reason Swiss Cheese Model hypothesizes that most failures occur through deficiencies at a variety of levels called “holes”.
- Levels include organization, supervision, preconditions, and the error itself.
- Mammography plays a pivotal role in early breast cancer detection, making it crucial to maintain high standards of quality and safety in this section of the radiology department.

“James Reason” Swiss Cheese Model



On biopsy day, tech and radiologist communicate and compare to prior US. Error is found. Accidental biopsy of the wrong lesion is prevented.

Radiologist doesn't notice there are two separate lesions or scan the patient himself



Report is dictated with incorrect information.

Ultrasound tech doesn't specify locations on US or speak directly to radiologist

Two adjacent breast lesions with similar appearance are seen.

Results and Examples

- Common errors include missed diagnoses, documentation issues, and communication breakdowns.
- Mammography departments utilize a complex network of physicians, technicians, and nurses to obtain and interpret images using multiple modalities. If not maneuvered with care, this network can be vulnerable to mistakes and result in errors. This emphasizes the importance of proper communication among team members.
- Errors can occur when labelling ultrasound images, which can cause confusion for the interpreting physician, or a future physician employed to perform a biopsy. Technical mistakes should be corrected immediately when discovered.
- Not all mammographers utilize standardized BI-RADS terminology, which can cause difficulty if the subsequent study is read by a different radiologist. Standardized language can prevent confusion and errors.

Conclusions

The Swiss Cheese Model in the mammography department can enhance patient safety by helping to understand how accidents occur. This can be employed to prevent or mitigate potential future errors. As a result, this method will optimize breast cancer screening, safety, and reliability, which will maximize the quality of mammography services.

References

- Wiegmann DA, Wood LJ, Cohen TN, Shappell SA. Understanding the "Swiss Cheese Model" and Its Application to Patient Safety. J Patient Saf. 2022 Mar 1;18(2):119-123.
- Graves, K. Systems Approach Error [Internet]. 2018 [cited 2024 March 21]. Available from <https://accelerate.uofuhealth.utah.edu/improvement/systems-approach-to-errors> Approach to Error (utah.edu)