

Ruducing the X-RAY Routine Examination Retake Rate by PDCA

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Purpose:

Radiation dose has always been a topic of concern to the public, routine x-ray examination is currently one of the most commonly used medical equipment to assist diagnosis in medical examinations. Reducing the retake rate can decrease unnecessary radiation doses received by patients. This study used the PDCA quality improvement method to analyze and improve the retake rate and promote the quality of medical services.

Methods:

This study collected about 110,000 routine x-ray examination images from January to December 2020, we obtained the retake rate and the most of reasons for retake by statistical analysis(Fig.1), then used the PDCA quality improvement plan to analyze and improve.

Results:

The average retake rate was 6.79% from January to December 2020 by statistical analysis(Fig.2), and the top three retake reasons were the lack of image field, incorrect position and the patient was unstable (restlessness). PDCA was performed separately quality improvement plan(Fig.3); after that the retake rate from January to March 2021 were 5.62%, 5.54% and 4.99%, respectively(Fig.4).

Conclusion:

Based on the analysis results of the image quality team, a PDCA quality improvement plan was carried out for the retake rate problem. After the implementation, the retake rate has been significantly improved. The undergraduate will continue to monitor the image quality and improve the professional technical capabilities of radiographer to improve medical services quality, and can also reduce unnecessary radiation doses received by patients.

Relevance to HPH:

Providing correct medical images to reduce the rate of misdiagnosis, and reduce unnecessary radiation exposure, and reduce the risk of cancer is a very important issue. Therefore, image quality monitoring is even more important, thereby improving the quality of medical services and health promotion.

Retake Rate Diagram

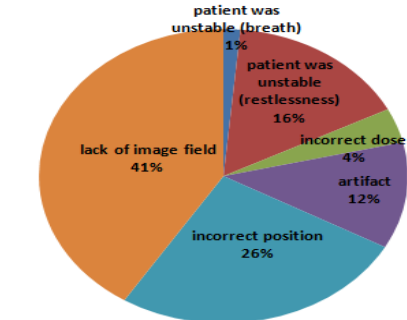


Fig.1 2020 Routine Examination Retake Reasons Diagram

PDCA 改善一般 X 光檢查三讀五對的異常事件

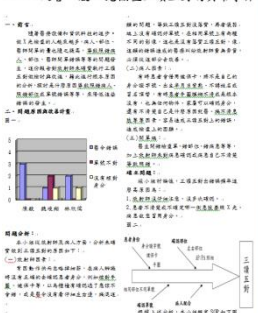


Fig.3 PDCA

Routine Examination Retake Rate

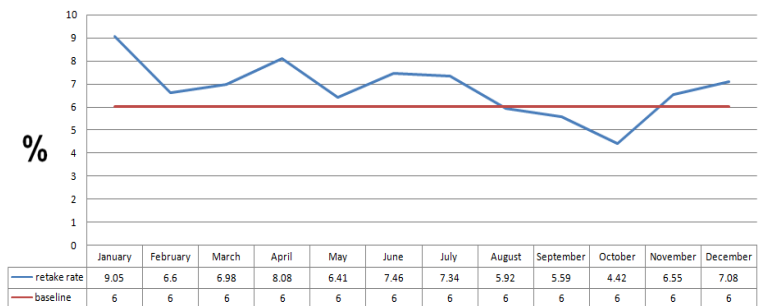


Fig.2 2020 Routine Examination Retake Rate

Routine Examination Retake Rate

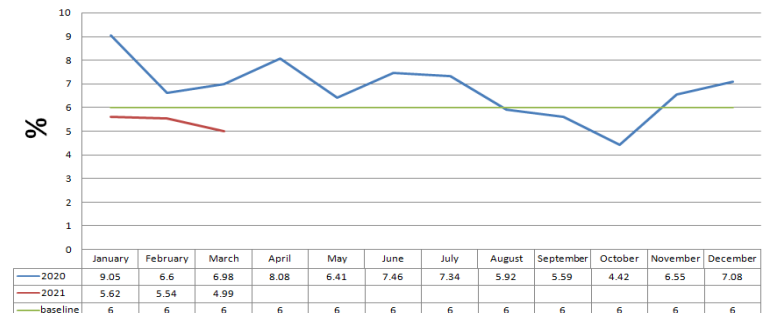


Fig.4 2020/2021 Routine Examination Retake Rate