Mammography Repeat and Rejection Analysis – Quality Assurance Program in Regional Hospital in Hong Kong

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INTRODUCTION

Technical repeats of mammogram caused increased radiation exposure to patients. We therefore established regular quality assurance program to ensure the standard of performance in our center. We aim to regularly evaluate the total number of repeat-rejected mammograms, reasons that caused most repeat-rejections and compare with our previous results for interval assessment.

AIM

According to the Mammography Statement published by the Hong Kong College of Radiologists on 25 August 2015, there should only be technical repeats of **<3% of the total images taken**.

METHOD

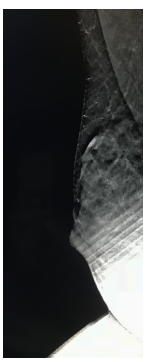
- Retrospective data collection was obtained from the Hologic Selenia Dimensions Mammography System by our chief mammographer from January 2018 to June 2018.
- The results were compared with the previous cycle performed in July 2017 to November 2017.

Month	Total exposures	Repeat-rejects	Percentage
Jan 2018	874	4	0.5%
Feb 2018	680	9	1.3%
Mar 2018	817	2	0.2%
Apr 2018	735	11	1.5%
May 2018	849	9	1.1%
Jun 2018	741	9	1.2%
Total	4696	**44**	**0.9%**

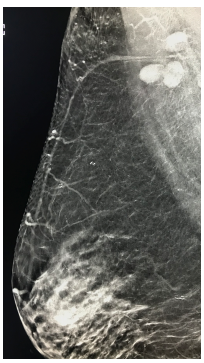
RESULTS

- Total **4696** mammograms in the 6-month period (January 2018 to June 2018) were included.
- There were **44** repeat-rejections, translating into an average repeat-rejection rate of **0.9%**.
- This is well within the <3% target recommended by the Hong Kong College of Radiologists and most international guidelines.

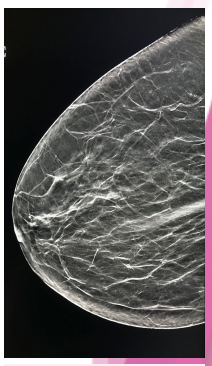
Reasons for repeat-rejects	No. of cases	Percentage of total
Positioning	16	36.4%
Patient Motion	9	20.5%
Artifacts	7	15.9%
X-ray Equipment Failure	9	20.5%
Wire Localization	3	6.8%
Total	44	100%



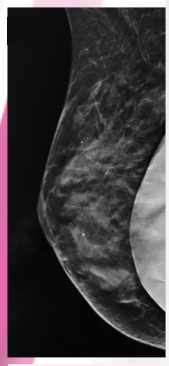
Patient Motion



Positioning



Artifact (Skin Fold)



Artifact (Implant)

- Comparing with the previous cycle performed in late 2017, where the repeat-rejection rate was 1.6%, **interval improvement** was noted. The variations between monthly percentages were also **less** compared to previous results (0.2% to 1.5% versus 0.6% to 2.8% in previous cycle).
- The most common reasons for repeat-rejects was patient positioning, patient motion and x-ray equipment failure. More information is required to reveal the underlying cause.

We believe that regular mammography repeat and rejection analysis is an effective means to continuously improve and maintain the performances of our center.