Efficacy of modified physiotherapy program for patients following breast cancer surgeries at Tseung Kwan O Hospital

INTRODUCTION
Traditionally patients would start shoulder mobilization exercise immediately after breast cancer surgeries. Based on literatures, premature shoulder elevation before axillary drain removal might increase the risk of seroma formation. However, inadequate physiotherapy might lead to shoulder stiffness which would affect patient’s daily activities and delay the commencement of radiotherapy. As a continuous quality initiative, physiotherapy program for patients following breast cancer surgeries was modified in 2009 for preventing these known complications and facilitating early functional recovery.

OBJECTIVES
1. To assess the effectiveness of modified physiotherapy program on breast cancer surgery rehabilitation.
2. To reduce risks of upper limb complications after surgery.

METHODOLOGY
This study was a retrospective pre-and post-test study. All patients who underwent Modified Radical Mastectomy (MRM) and Breast Conserving Therapy (BCT) at TKOH would enter the modified 3 phases exercise program (Figure 1 to 3):

Phase I (drain-on): Protected shoulder rotation and unaffected joint mobilization
Phase II (drain-off): Shoulder mobilization
Phase III: Upper limb stretching and strengthening at week 4 to 6

Pre-operative physiotherapy with comprehensive assessments and education were conducted in the in-patient setting. After surgery, patients would receive Phase I exercises. Upon discharge, all patients were arranged to attend our newly established Physiotherapy Clinic (Post Breast Surgery) for continuation of Phase II and III exercises. The clinic also supported those early discharged patients for continuation of Phase I exercises in the out-patient setting. The seamless rehabilitation approach was listed in Table 1. Pain and scar management, postural correction, lymphoedema control, healthy lifestyle advice, home exercises were incorporated in different phases of program.

OUTCOME MEASUREMENTS
Numeric Pain Rating Scale (NPRS) and shoulder range were measured. Functional status was assessed by Shoulder Pain And Disability Index (SPADI). Outcomes were measured at T1 (week 1-2), T2 (week 2-4) and T3 (Week 4-6). Results of T1 and T3 were compared and analyzed.

RESULTS
From 7/2009 to 1/2010, 25 patients participated in the program. The demographic data of patients were listed in Table 2. After the program, NPRS and SPADI were reduced significantly by 82% (p=0.05) and 84.4% (p=0.01) respectively whereas the shoulder flexion and abduction ranges were improved by 33.7% (p=0.05) and 39.8% (p=0.05) respectively (Figure 5-7). There was no report of complication among all patients. Hospital stay was reduced by 28%.

CONCLUSION
The modified physiotherapy program proved to be safe and effective on improving shoulder function and support early patient discharge without complication.