Convention ID: 100
Submitting author: Ms Kit Ngan LEUNG
Post title: Advanced Practice Nurse, Queen Mary Hospital, HKWC

**Strong Teamwork in Clinical Pathway of Primary Spontaneous Pneumothorax with Video-assistant Thoracoscopic Surgery to Minimize the Complications and its Recurrence Rate**

*LeungSKN(1)*  
*LauJMM(1), LiRWC(1), Outcome Management Team(1)*

**Keywords:**  
Teamwork  
Clinical pathway  
Video-assistant Thoracoscopic Surgery  
Primary Spontaneous Pneumothorax  
Post-operative complications  
Recurrence rate

**Introduction**  
Primary Spontaneous Pneumothorax (PSP) is now commonly treated with Video-assistant Thoracoscopic Surgery (VATS) stapled Bullectomy plus Chemical Pleurodesis surgery which is associated with lower recurrence rate than simple aspiration or chest drainage worldwide. However, its recurrence is often a challenging clinical problem. Thus, a clinical pathway (CP) has been implementing for PSP patients who had undergone Bullectomy plus Pleurodesis surgery since 2012. CP was a multidisciplinary care by means of collaborative teamwork approach through integration. The health care team included surgeons, anesthetists, nurses and other allied healthcare workers treated or cared patients independently, still shared a wide-aspect of professional information with the aim of improving health care outcomes. Meanwhile, the standardize practice with building resilience in individuals and in system were aimed for implementing evidence-based care processes. Based on the data reviewed which were reliability, validity and clinical importance, therefore not only a clear direction for the quality improvement but also the organizational performance was developed.

**Objectives**  
(1) To consolidate the collaboration of multidisciplinary care on VATS; (2) to minimize post-operative complications and recurrence rate; (3) to shorten hospital length of stay (LOS).

**Methodology**
The framework was developed a roadmap of CP, patient empowerment programs, pain control protocol and integrated patient documentation, called for professionals of different disciplines pooling their knowledge in the collaboration activities. The key elements depended on selecting target groups, setting standard, clarifying measurement, assigning responsibility and accountability. The new CP was conducted for PSP since the beginning of 2012. All patients suffered from PSP with VATS Bullectomy and Pleurodesis were recruited. A retrospective review and quarterly reports were identified the post-operative complications and the variances of CP. The risk factors for the recurrence of PSP were measured such as gender, age, body mass index (BMI) and co-morbidities.

**Result**
The CP had been applied in 138 patients during 2012-2014. The male to female ratio was 5:1, the mean age was 28±11.62 years. The complication rate was 14.6% (20 patients), which mainly related to persistent air-leak and chemical Pleurodesis was repeated in necessary. The total recurrence rate with surgical intervention or insertion of chest drain was 4.35% (6 patients). The mean of hospitalization was 5.25±3.31 days. The CP was significantly improved the clinical outcome and performance. However, a large-size pneumothorax with a persistent air leak is still a risk factor of its recurrence which was limited by patient advocacy. Besides, CP can consolidate the teamwork on the tasks with multidisciplinary approach. This synergy effect might force the combined contribution was far greater than sum of their individual contribution.