

European Respiratory Society Annual Congress 2012

Abstract Number: 885
Publication Number: P409

Abstract Group: 1.13. Clinical Problems - Other

Keyword 1: Pleura **Keyword 2:** Treatments **Keyword 3:** Health policy

Title: Pleural drain management – A clinical practice improvement project

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Body: Introduction: An audit performed in Year 2010 at Flinders Medical Centre showed significant number of complications with intercostal chest drain insertion and management, with only 28% of patients being complication free. Aims and Objectives Our mission was to reduce the incidence of complications associated with management of pleural drains, in respiratory unit at Flinders Medical Centre, by 80% within 6 months. Methods We used validated tools, introduced by Deming, Shewart, Juran et al, customized to the health environment to tackle this problem. We assembled a team and undertook diagnostics. This included brainstorm sessions, cause and effect diagram and prioritized problems using a pareto graph. We then designed interventions and evaluated the outcome. Results

Audit :Pre and Post project

Complications	Audit 1	Audit 2
Drain falling out	2/14 (14%)	0
Tubing disconnected	1/14 (7%)	0
Tube kinked	2/14 (14%)	2/16(12.5%)
Issues with suction/UWSD	1/14 (7%)	0
Ongoing air leak	2/14 (14%)	0
Subcutaneous emphysema	2/14 (14%)	0
Severe Pain	4/14 (28%)	0
Secondary infection	1/14 (7%)	0
Inadequate anchoring suture	1/14 (7%)	0

We found that the three main issues impacting on pleural drain management was a lack of protocol, lack of patient information and Nursing education. This was followed by targeted intervention. Already available

protocol was reviewed and customized to our local setting. A formal patient information sheet was adapted from British Thoracic Society and American Thoracic Society guidelines. A nursing education session was undertaken and a continuous refresher course was set-up. Documentation sticker was prepared. Subsequently a re-audit was performed, which showed a reduction of complications from 72% to 12.5%.