Background The TIME2 Trial[1], a randomised clinical trial comparing indwelling pleural catheter (IPC) with talc pleurodesis for malignant pleural effusion, included a prospective economic analysis.
Methods 106 patients at 7 UK medical centres were randomly assigned to IPC or talc pleurodesis following chest drain insertion and followed at biweekly, monthly and q3month intervals for one year or until death. Costs associated with the drain insertion, follow up drainage, and adverse events were captured during the trial. Costs for outpatient and inpatient visits, diagnostic imaging, nursing and doctor time were derived from the NHS reference costs and University of Kent's Unit Costs of Health and Social Care 2011. Procedure supply costs were obtained from the manufacturer. The number of quality adjusted life years (QALYs) was determined by adjusting patient survival by the utility weight obtained from the EQ5D questionnaire at each follow up period. Cost effectiveness was calculated over the duration of the trial given that most patients died during the 1 year follow up (14% alive at 1 year). Confidence intervals were calculated using bootstrap analysis.
Results Average cost in the IPC group over the trial period was £3087(3504) versus £2892(2706) in the talc pleurodesis group with a mean cost difference of £195(95% CI -1072 to 1463). Average QALY in the IPC group was 0.354(0.29) and 0.328(0.3) in the talc group with a mean QALY difference between groups of 0.026 (95%CI -.08 to. 138). The cost per QALY gained for IPC as compared with talc pleurodesis was £7390 at 1 year. Bootstrap analysis revealed substantial uncertainty around this estimate.
Conclusions There is no significant difference in cost or QALYs between IPCs and talc pleurodesis. Although the predictions are subject to substantial uncertainty, the probability that IPCs may be cost effective compared with talc pleurodesis is moderately high (60%) using a threshold of willingness to pay of £20,000/QALY.

REFERENCES

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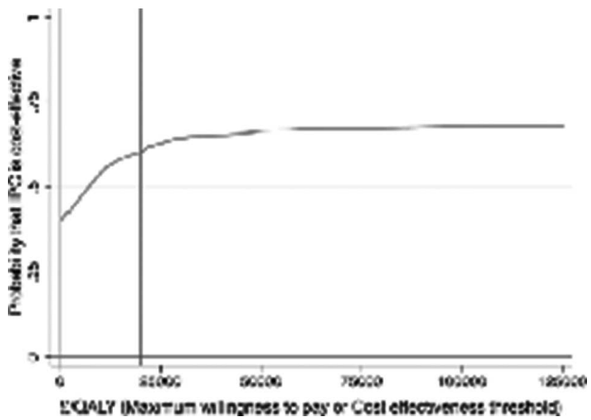

Abstract S79 Figure 1.

S80 POST-THORACOSCOPY LUNG RE-EXPANSION: PILOT DATA USING DIGITAL SUCTION DEVICE

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Introduction Current practice for diagnostic only thoracoscopy varies from day-case procedures to routine overnight stays. Radiographic evidence of lung re-expansion and underwater seal evidence of lack of on-going air leak are required before patient discharge. Use of a digital suction device which accurately measures air leak may allow earlier identification of lung re-expansion and hence earlier discharge.

Patients pleurodesed at thoracoscopy are admitted for 3–4 days, however the presence of trapped lung preventing re-expansion after thoracoscopy reduces the chance of successful pleurodesis, and measurement of air leak with a digital device may allow prediction of trapped lung.
Aim To determine whether initial air leak measurement can predict trapped lung and whether use of digital device can reduce time to chest radiograph post thoracoscopy.
Methods Data was prospectively collected (November 2012 to May 2013), on patients undergoing thoracoscopy in a specialist respiratory centre. Post-procedure, the "air leak" was measured using a digital suction device (Thopaz, Medela UK), and time to chest radiograph (CXR) was compared to LAT in the preceding three months.
Results 32 patients were investigated. Results were non-normally distributed so non-parametric analysis was undertaken. Median initial flow rate post-thoracoscopy was 108ml/min. Nine (28%) had trapped lung: median air flow rate was significantly lower in this group 45ml/min (IQR 39–118ml/min) vs 118ml/min (IQR 75–179ml/min), using Mann-Whitney U Test ($p = 0.01$). Those with trapped lung had larger effusions drained during procedure: 1739ml vs 1332ml ($p = 0.48$).

Fourteen (44%) patients were successfully managed as day-cases with the digital suction device: mean time to CXR was 2.1 hours (SD 1.1); less than the 8 preceding day-case thoracoscopies (mean 2.9, SD 1.6 hours) ($p = 0.2$).
Conclusion This pilot data suggests that digital air flow measurement has the potential to predict which patients are likely to have trapped lung and lack of air leak, and may potentially identify the group of patients in which to use indwelling pleural catheters. Use of the device may also allow earlier identification of full re-expansion, earlier CXR and hence more rapid discharge home.

S81 A RANDOMISED CONTROLLED STUDY COMPARING THE OUTCOMES OF PLEURAL NURSE PRACTITIONER VERSUS DOCTORS TRAINED TO PERFORM PLEURAL PROCEDURES FOR MANAGEMENT OF PLEURAL EFFUSIONS

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Background Following the National Patient Safety Agency alert in the UK thoracic ultrasound (TUS) is strongly recommended for all pleural procedures. This places strains on clinical service delivery. The role of the Nurse Practitioner (NP) in this setting is not established. We undertook a randomised control study to test the hypothesis that a Nurse Practitioner trained to Royal College of Radiologist level 1 TUS and in performing pleural procedures independently is equivalent to doctors trained in undertaking pleural procedures.
Method In this prospective ethically approved un-blinded non-inferiority study we assessed pleural procedures as carried out by a Nurse Practitioner (Group A) in comparison with doctors