# The impact of colleague peer-review on the radiotherapy treatment planning process in the radical treatment of lung cancer.

**Descriptor:**

To provide quality assurance of the treatment planning process in curative treatment of lung cancer by ensuring that complex radical radiotherapy plans are peer reviewed by consultant colleagues.

**Background:**

Research has shown that deviation from radiotherapy protocols is associated with increased risks of treatment failure and increased mortality [1, 2, 3].Advanced radiotherapy techniques permit accurate delivery of radiotherapy to lung tumours thus increasing the possibility of geographic miss. One source of error is the accuracy of target volume (TV) delineation. There has been shown to be variability in target volume delineation by radiotherapists and peer review of plans is a method of improving the quality and consistency of complex plans for all patients.

## The Cycle

**The standard:**

Regional agreed standard

**Target:**

Less than 10% of treatment plans should be modified by CPR

## Assess local practice

**Indicators:**

Percentage change in treatment paradigm, target volume delineation, prescription dose tumour and critical organ tolerances

**Data items to be collected:**

Treatment indication changed?GTV changed?CTV changed?PTV changed?Dose Volume Histogram review:Mean Lung DoseLung V20/18Oesophageal V50Spinal cord PRVDVH accepted?Dose prescription changed?

**Suggested number:**

3-5 per week

**Suggestions for change if target not met:**

Ensure attendance at peer review meeting to improve quality of radiotherapy plans.

**Resources:**

Requires dedicated time during working week for consultants and treatment planning staff to meet. Also provides invaluable educational resource for trainees.

**References:**

1. 1. Ohri N, Shen X, Dicker AP, Doyle LA, Harrison AS & Showalter TN. Radiotherapy protocol deviations and clinical outcomes: a meta-analysis of cooperative group clinical trials. Journal Natl Cancer Inst 2013; 105: 387-3932. Weber DC, Tomsej M, Melidis C & Hurkmans CW. QA makes a clinical trial stronger: evidence-based medicine in radiation therapy. Radiother Oncol. 2012 Oct;105(1):4-8. doi: 10.1016/j.radonc.2012.08.0083. Peters LJ, O'Sullivan B, Giralt J, Fitzgerald TJ, Trotti A, Bernier J, Bourhis J, Yuen K, Fisher R & Rischin D. Critical Impact of radiotherapy protocol compliance and quality in the treatment of advanced head and neck cancer: results from TROG 02.02. JCO 2010 Jun 20;28(18):2996-3001

**Editor's comments:**

initial learning curve with more time needed to review plans at the beginning but this is quickly speeded up with experience and practice.

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