

The effective dose of Thorax low dose protocol assessment computed tomography for screening with lung cancer compared with Thorax routine examination.

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**BACKGROUND:** Lung cancer is considered the leading cause of death worldwide, most patients with this type of cancer is a smoker or former smoker for more than a year, with the minimal smoking history 30 pack / year. Computed tomography of the low dose is used to screen for lung cancer, having great importance in cancer centers, assisting in the diagnosis and in reducing mortality of these patients. The term "low-dose" is used because the effective average estimated dose to the whole body utilized in the largest study ever conducted by The National Lung Screening Trial (NLST) is 1.5 mSv versus 7 mSv for chest routine.

**HYPOTHESIS:** Assess whether the effective dose of Thorax low dose protocol is actually less than the examination of chest routine, for use in the screening of lung cancer.

**METHODS:** Prospective study that evaluated 42 patients of both sexes, aged 31-78 years, weight 52-135 kg. A group of 20 patients underwent the examination of computed tomography (CT) using routine protocol 22 patients underwent CT scan using low-dose protocol (low dose).

**RESULTS:** Of the 42 assessed examinations, the age of patients was 31-76 years (mean = 59.68 +/- 6.88 years) to low dose and 45-70 years (mean = 56.95 +/- 12.38 years) for routine. The average effective dose calculated in the low dose examinations was 1.1268 versus 5.7380 msv msv routine protocol. The CT scan of low dose consistent with the literature for lung cancer screening, indicating lowest effective dose in patients undergoing lung cancer of screening. Suggesting that the dose reduction in tests enable the diagnosis of primary lesions and patient follow-up, without subjecting it to excessive doses of radiation, thus preventing secondary injuries.