Measure #234: Thoracic Surgery: Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)

2012 PHYSICIAN QUALITY REPORTING OPTIONS FOR INDIVIDUAL MEASURES: REGISTRY ONLY

DESCRIPTION:
Percentage of thoracic surgical patients aged 18 years and older undergoing at least one pulmonary function test within 12 months prior to a major lung resection (pneumonectomy, lobectomy, or formal segmentectomy)

INSTRUCTIONS:
This measure is to be reported each time a major resection of the lung is performed. This measure is intended to reflect the quality of services provided for patients undergoing lung resection. There is wide consensus that preoperative pulmonary function testing is a necessary step in evaluating and appropriately selecting patients with lung cancer for major anatomic resection. Preoperative pulmonary function testing also provides a standardized measure to compare patient and treatment outcomes in order to provide continuing quality improvement.

Measure Reporting via Registry:
CPT codes and patient demographics are used to identify patients who are included in the measure’s denominator. The listed numerator options are used to report the numerator of the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data. Do not report this measure via claims.

DENOMINATOR:
All patients aged 18 years and older undergoing major anatomic lung resection

Denominator Criteria (Eligible Cases):
Patients aged ≥ 18 years on date of encounter
AND
Patient encounter during the reporting period (CPT): 32440, 32442, 32445, 32480, 32482, 32484, 32486, 32488, 32503, 32504, 32663, 32666, 32669, 32670, 32671, 32672

NUMERATOR:
Patients who had a pulmonary function test performed within 12 months prior to a major anatomic lung resection

Numerator Options:
Pulmonary function test performed within 12 months prior to surgery (3038F)

OR
Documentation of medical reason(s) for pulmonary function test not being performed within 12 months prior to surgery (3038F with 1P)

OR
Pulmonary function test not performed within 12 months prior to surgery, reason not otherwise specified (3038F with 8P)

RATIONALE:
Evaluation of lung function for patients having thoracic surgery, for patients having thoracotomies, for patients having surgery in which the chest is opened and in patients with respiratory disease, eg esophagectomy, lung excision or resection is vital to determine what treatment is needed, safe and effective. Evaluation of lung function for patients being considered for lung cancer resection is critical to assessing suitability for resection and prediction of post-operative lung function. Review of the 5000 lobectomies recorded in the current STS General Thoracic Database identified a significant gap with respect to preoperative pulmonary function testing; it was missing in 22% of patients undergoing resection for lung cancer. Remediation of this process gap should improve quality by reducing inappropriate selection of high-risk patients for surgery.

CLINICAL RECOMMENDATION STATEMENTS:
“Lung function tests were considered to be appropriate for patients undergoing spinal surgery, for ASA grade 3 patients having thoracic surgery, for patients having thoracotomies and for surgery in which the chest is opened in patients with respiratory disease, e.g. esophagectomy, lung excision or resection (Chest, 2003)
ASA grade 3 - A patient with severe systemic disease
ASA grade 4 - A patient with severe systemic disease that is a constant threat to life
Preoperative tests: The use of routine preoperative tests for elective surgery

In patients being considered for lung cancer resection, spirometry should be performed. If the forced expiratory volume in 1 second (FEV1) is >80% predicted normal or >2 L, the patient is suitable for resection including pneumonectomy without further evaluation. If the FEV1 is >1.5 L, the patient is suitable for a lobectomy without further evaluation. Level of evidence, fair; benefit, substantial; grade of recommendation, B. (National Institute for Clinical Excellence, 2003)

In patients being considered for lung cancer resection, if either the FEV1 or DLCO are < 80% predicted, postoperative lung function should be predicted through additional testing. Level of evidence, fair; benefit, substantial; grade of recommendation, B. (National Institute for Clinical Excellence, 2003)