

## National Minimum Data Set for Thoracic Surgery and Lung Cancer Surgery

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Presented to SCTS 2004 and at subsequent meetings of the Thoracic Surgical Forum with a mandate to continue the project.

Please e-mail questions to  
Richard Page, Consultant Thoracic Surgeon, Liverpool Heart and Chest Hospital, Thomas Drive, Liverpool L14 3PE  
E-mail Address - [richard.page@lhch.nhs.uk](mailto:richard.page@lhch.nhs.uk)  
Phone – 0151-6001456

### The Ground Rules and Guiding Principles

The data can be collected

- within a Dendrite environment
- or on Tomcat
- or by any suitable local arrangement
- or onto an Excel spread sheet (as supplied herewith)
- or configured as an Access database locally.

A hospital IT system should enable users to capture case numbers and dates of birth, admission, procedure and discharge without double entry.

There will be great advantages in using a user-friendly front end such as Dendrite because the straight listing in the spread sheet is potentially confusing. However any practiced data handler will find the spread sheet approach easy to deal with once the fields are understood.

The “unit of entry” is an operative episode but this may include more than one procedure. Thus if the patient has any combination of

- bronchoscopy/mediastinoscopy/lung resection
- VATS/thoracotomy

the individual procedures are recorded and can be retrieved but are within the operative episode.

Most entries will be “1” for the item if applicable (e.g. lobectomy done as a named operation, steroid therapy, PET scan carried out). There is no need for “0” or “N”.  
Numeric values (e.g. % predicted FEV1, weight) should be entered directly. If a date is required enter DDMMYYYY.

### Data definitions

1. Centre identification. *Enter as text or as pre-defined code. This should be an automatic part of a local system.*
2. Surgeon identifier. *Consultant surgeon GMC number. Required for revalidation issues.*
3. NHS number. *Enter as 10 digit number with no spaces or import from hospital PAS. This will enable tracking to death certification.*
4. Hospital number. *Until we all use NHS numbers this will be needed to send back to you cases for data verification etc. Enter in local format or import from Hospital PAS.*
5. Post code. *This has two purposes. One is that you know where your cases come from. The other is that any secondary use for research will allow us to link to deprivation indices.*
6. Date of Birth. *Enter as DDMMYYYY or import from Hospital PAS. Used to calculate age in years at surgery by subtracting from Date of Operation.*

7. Sex. *M or F*
8. Date of Operation *Date on which primary procedure takes place – enter as DDMMYYYY. This dataset is built around a surgical procedure.*
9. Time of operation. *Refers to time operation commences. Enter in 24-hour format e.g. 1335.*
10. Date of surgical referral (DDMMYYYY)
11. Date of first surgical assessment (DDMMYYYY)

### **Operative priority**

Select a single choice (*Enter “1”*) from

12. Elective – *booked admission for surgery.*
13. Urgent – *decision to operate on next available list*
14. Emergency – *operation arranged outside scheduled lists*

### **Surgical strategy**

Reasons for the operation taking place. There may be more than one, so enter “1” to each that applies.

15. Diagnostic - *to diagnose the condition*
16. Staging or assessment – *to stage a neoplasm or to assess the progress of the condition*
17. Therapeutic – *to cure, alleviate or palliate*

More than one is allowed, for example:

- Mediastinoscopy – maybe diagnostic and/or staging
- VATS pleural biopsy and talc pleurodesis – diagnostic and therapeutic
- Thoracotomy, frozen section of nodes and tumour, and lobectomy – diagnostic, staging and therapeutic

### **Pathological category**

This is the pathological category (based on what used to be called the “surgical sieve”) of the aetiology of the condition for which surgery is being performed. It includes specific commonly occurring thoracic diagnoses. The field should be entered at the time of surgery and revised as necessary in the light of information from pathology at the time of discharge. Multiple answers are allowed. Enter “1” to all that are applicable

18. Congenital
19. Trauma/accident
20. Primary cancer lung (*known or probable*)
21. Upper GI cancer
22. Mesothelioma
23. Other primary thoracic malignancy
24. Malignant disease other (*secondary, recurrent or metastatic*)
25. Carcinoid
26. Benign neoplasms
27. Empyema (*include all aetiologies of pleural sepsis*)
28. Parenchymal lung disease (*as the pathology of interest – not comorbidity*)
29. Vascular lesion
30. Pneumothorax
31. Pleural effusion
32. Other (*write in*)

An example of a multiple entry would be an empyema where the initiating problem was trauma (stabbing for example). Both are worth retrieving to count trauma and to count empyema so enter both. The data analyst can recognise that the operative episode was single.

**Procedure type**

Multiple entries are appropriate if performed in the same session. Select the options that best describe the operation as a whole – if there was more than one procedure, enter each. The data analyst can see that they are part of a single operative episode. Enter “1” if applicable

33. Endoscopy (bronchoscopy/oesophagoscopy +/- biopsy)
34. Endoscopy (bronchoscopy/oesophagoscopy + any other procedure)
35. Drain insertion
36. Other minor procedure (of the scale of node biopsies)
37. Mediastinoscopy and/or mediastinotomy
38. Other intermediate procedure (of a similar order of magnitude to a rib resection)
39. VATS
40. Thoracotomy
41. Median sternotomy
42. Other major incision

**Primary organ/System targeted**

Select the main target organ(s) of the operation. This is an anatomical list  
More than one may be entered (e.g. lung and trachea/main bronchi for bronchoplastic lung resections) but coincidental surgery, such as chest wall if that is purely the route of access, or main bronchus division for a simple pneumonectomy will not be helpful in data analysis. Enter “1” if applicable

43. Aorta and/or great vessels
44. Chest wall
45. Diaphragm
46. Lung
47. Mediastinum
48. Oesophagus
49. Pericardium
50. Pleura
51. Thymus
52. Thyroid
53. Trachea and/or main bronchi
54. Other

**Named operations**

Select the procedure(s) performed at this operation. Thus pleural biopsy and pleurodesis can both be entered. This is not a comprehensive list but is designed to capture the commonest and most well-defined operations. Enter “1” if applicable

55. Lobectomy/bilobectomy (any indication)
56. Lobectomy/bilobectomy (complex) with chest wall resection, airway resection etc
57. Pneumonectomy (any indication)
58. Sub lobar lung resection wedge or segmentectomy
59. Mediastinoscopy/mediastinotomy
60. Pneumothorax surgery (any technique)
61. Lung volume reduction
62. Bullectomy
63. Pleurodesis
64. Pleural biopsy (any technique)
65. Decortication
66. Upper GI resection (any)
67. Hiatus hernia surgery (any)
68. Pectus surgery
69. Sympathectomy
70. Thymectomy for myasthenia
71. Thymectomy for thymoma
72. Thyroid surgery

73. Bronchoscopy
74. Oesophagoscopy
75. Chest drain insertion
76. Other (enter text)

### **Pre-operative Risk Factors**

Although previously required only for lung cancer resections, we feel that this information is useful for all thoracic procedures. If available it should be entered for all procedures.

#### **Pulmonary:-**

77. Measured FEV1
78. % Predicted FEV1
79. Measured FVC
80. % Predicted FVC
81. Diffusion capacity (% predicted KCO)
82. Never smoked (*Enter "1" if applicable*)
83. Pack years
84. Dyspnoea score. *Grade 1 = dyspnoea on strenuous exercise, 2 = when hurrying or walking uphill, 3 = Walks slower than contemporaries on level ground because of breathlessness or has to stop for breath when walking at own pace, 4 = Stops for breath after walking about 100 meters or after a few minutes on level ground, 5 = Too breathless to leave the house or breathless when dressing or undressing*
85. COPD. *FEV1/FVC ration <0.7 after bronchodilator therapy*

#### **Non Pulmonary:-**

86. Height. *Patient's height in centimetres – enter as whole number.*
87. Weight. *Patient's weight in kilograms – enter to one decimal place.*
88. Urea (mmol/L)
89. Creatinine (µmol/L)
90. Hb (g/dL)
91. Insulin dependent diabetes
92. Ischaemic Heart Disease
93. Cardiac failure
94. Previous Stroke
95. Steroid therapy
96. Anticoagulation with warfarin or equivalent therapy
97. Performance status (ECOG)
98. ASA Grade American Society of Anaesthetists grade
99. Previous cancer of history. *Includes cancers treated many years previously. But does not include non-melanoma skin cancer or premalignant conditions such as cervical dysplasia or Barrett's disease.*
100. Hypertension. *Treated, or higher than 140/90 on more than one occasion*
101. Peripheral vascular disease. *Carotid occlusion or > 50% stenosis; previous or planned surgery on abdominal aorta, limb arteries or carotids*
102. Alcoholism
103. Hyperlipidaemia. *Treated, or current or previous cholesterol > 5.2 mmol/l.*

#### **Lung Cancer Surgery**

104. Is this operation a resection for primary lung cancer? Enter "1" for yes or leave blank for no. If the answer is 'No' proceed to Discharge section. If the answer is 'Yes' please answer the specialised questions for lung cancer surgery. Omit where data is not available. Do not estimate. If the data is too incomplete to analyse it is better that we know that.

#### **Pre-Operative primary lung cancer diagnostic staging tests**

Enter "1" if applicable (i.e. if the test has been carried out as part of pre-operative staging)

105. CT
106. MRI
107. PET

108. Pre-operative tissue diagnosis made (by any method e.g. bronchoscopy, CT guided core biopsy or FNA, EBUS etc). Enter "1" for yes, leave blank for no.

#### **Primary lung cancer histological diagnosis**

Update after surgery if it changes. This is not an audit of the preoperative diagnostic accuracy. The definitive histology is what we need. Enter "1" if applicable

109. Small cell  
110. NSCLC  
111. Squamous  
112. Adeno  
113. Undifferentiated  
114. Bronchoalveolar  
115. Other or further information (*write in*)

#### **Primary lung cancer preoperative staging**

116. T stage  
117. N stage  
118. M stage

#### **Primary lung cancer neoadjuvant therapy**

Enter "1" if applicable

119. Chemotherapy preop  
120. Radiotherapy preop

#### **Primary lung cancer surgical resection performed**

Combinations are allowed to make up pneumonectomies, or lobectomy plus part of adjacent lobe. Enter "1" to all that are applicable.

121. Frozen section taken for diagnosis  
122. Frozen section for staging  
123. Left upper lobe  
124. Left lower lobe  
125. Right upper lobe  
126. Middle lobe  
127. Right lower lobe  
128. Sublobar resection (*whether wedge or segment*)

#### **Primary lung cancer pathological (post-op) TNM staging**

129. T stage  
130. N stage  
131. M stage

#### **Discharge data**

132. No complications *Enter "1" if applicable. If the patient suffered any complications then leave blank*  
133. Date of ITU Readmission. *Only include admissions because of complications as opposed to the elective use of ITU or HDU after surgery.*  
134. Date of Discharge from ITU. *As above*  
135. IPPV. *Enter "1" if applicable. Again only applies to complications as opposed to elective ventilation as part of primary surgery.*  
136. Air leak >7 days. *Enter "1" if applicable*  
137. Infection requiring extension of hospital stay. *Enter "1" if applicable*  
138. Return to theatre within the same admission. *Enter "1" if applicable. Do not include suction bronchoscopy or insertion of chest drain*  
139. Date of Discharge/Transfer/Death  
140. Death. *Enter "1" if applicable*