**British Thoracic Society**
**Outpatient Management of Pulmonary Embolism Audit**
**National Audit Protocol and Instructions**
**September 2021**

**Aims and Objectives**

The aim of the BTS audit programme is to drive improvements in the quality of care and services for patients with respiratory conditions across the UK. The BTS Audit of Outpatient Pulmonary Embolism Management in the UK seeks to identify where improvements can be made in this area to align practice to BTS Quality Standards and other guidance.

**National Audit Period and Scope:** The audit should be overseen by a consultant respiratory physician. It is anticipated that a respiratory trainee and other healthcare professionals will assist with data collection.

**National Audit period:** 1 September 2021- 31 October 2021
**National Data entry period:** 1 September 2021- 31 December 2021

**Inclusion Criteria:**

- A patient who has been managed on an outpatient PE pathway, as defined by a formalised pathway whereby patients with confirmed PE are discharged home on the same day as diagnosis. Patients with suspected PE may be discharged home following initial assessment to subsequently return to hospital for definitive investigation.

- Patients who have been managed on an outpatient PE pathway may be included in this audit if their attendance date falls within 1 September 2021-31 October 2021. Data collection and entry will take place 1 September 2021- 31 December 2021.

- **Diagnosis and procedure codes:**
  Cases of outpatient managed pulmonary embolism can be identified using the below ICD10 codes but please check with your coding department whether any other codes may be used. We understand that some coders will use a variety of diagnostic codes.

  Acute PE = I26
  Acute PE without acute cor pulmonale = I26.9
  Acute PE with acute cor pulmonale = I26.0

**Exclusions:**

- Patients who develop a PE during a hospital admission.
- Patients who were diagnosed with an incidental PE on CT imaging performed for another reason.
- COVID-19 related cases

**Audit Standards**
See Appendix 1 for further details.

**Methodology:**
Data should be collected retrospectively from patient notes and can be entered directly onto the BTS audit website. Alternatively, data collection sheets are provided to help with data collection but data must be entered online – paper/pdf returns cannot be accepted.
You should aim to enter all eligible cases. If it is not possible to enter all eligible cases you should try to ensure that there is no bias in selection e.g. by including consecutive cases. Please note that if low numbers of cases are entered, comparisons with the national data may be less reliable.

Please also complete one Part 2 questionnaire per hospital.

**Accessing the BTS Audit Tools**
Data should be entered onto the secure online data collection tool via the BTS audit system: https://audits.brit-thoracic.org.uk/. User registration is required (log in details should not be shared), and each hospital must complete a registration form confirming which staff should have access to the data entry for this audit.

The Outpatient PE audit appears under the list of audit tools and is organised into two parts. Click the link on "Outpatient Management of Pulmonary Embolism" or "Outpatient Management of Pulmonary Embolism Part 2" and then click on the Period Name "1 September 2021- 31 December 2021 (national audit period)" and then "Add a new record" to access the data entry screens.

You can save the record you are working on and return to it at any point. When you have completed data entry please click "Commit" to submit your data to the database. At this point you can see the record but will not be able to edit the contents further.

**Analysis and Reporting**
Audit participants can generate local reports from the audit system which present their institution's data as a comparison to the national dataset, and reports comparing data from different audit periods. Click the 'Reports' link on the audit system home page, then select the type of report and the relevant audit period(s) from the links at the bottom of the reports page.

The national dataset is reviewed by the BTS clinical audit lead and a summary report providing an overview of the findings of the audit will be produced approximately six months after the close of the audit. An outlier review will also be undertaken and the outcomes from this may also be published.

Third parties may apply for access to data entered for this audit in accordance with the BTS Data Access Policy and may publish material using the audit data.

**NHS England Quality Accounts List**
The national version of this audit is on the 2021/22 List and will be reported in the English Trusts' Quality Accounts.

**Contact**
Any queries should be sent to: audittools@brit-thoracic.org.uk or 020 7831 8778.

**Appendix 1**

The standards used in this audit are:

The 2020 BTS Quality Standard for the Outpatient Management of Pulmonary Embolism: https://www.brit-thoracic.org.uk/quality-improvement/quality-standards/pulmonary-embolism/

The 2018 BTS Guideline for the Initial Outpatient Management of Pulmonary Embolism: https://www.brit-thoracic.org.uk/quality-improvement/guidelines/pulmonary-embolism/

The 2019 NCEPOD Review *Pulmonary Embolism: Know the Score:* https://www.ncepod.org.uk/2019pe.html

The 2016 NICE Quality Standard *Venous thromboembolism in adults: diagnosis and management:* https://www.nice.org.uk/guidance/qs29

**Standards**

| **Part 1 Dataset Audit Questions** | **Part 2 Dataset Audit Questions** | **Standard** | **Ref** |
|---|---|---|---|
| 1.7, 1.8 | 1.2, 1.3 | Patients managed via an outpatient pathway should undergo radiological investigation for the diagnosis or exclusion of acute PE within 24 hours of presentation. | BTS QS1 |
| 1.7, 1.8, 1.9 | | People with suspected pulmonary embolism should be offered an interim therapeutic dose of anticoagulation therapy if diagnostic investigations are expected to take longer than 1 hour from the time of first clinical suspicion. | NICE QS29 NCEPOD |
| 1.12, 1.12a | 1.5 | All patients with confirmed acute PE or on an outpatient pathway for suspected acute PE should have their clinical risk assessed including the use of a validated risk score (PESI, sPESI, Hestia) | BTS QS2 NCEPOD |
| | | If PESI/sPESI are used, then clinical exclusion criteria should also be used. | BTS OP Guidelines |
| 1.13, 1.14, 1.16 | | In patients with low risk stratification score but with evidence of dilatation of the right ventricle on CTPA, a high sensitivity troponin or NT-proBNP/BNP should be measured prior to discharge/ | BTS OP Guidelines |
| 1.15, 1.17 | 1.1 | Outpatient management on a standardised pathway should be offered to all patients with suspected or confirmed acute PE who satisfy clinical risk and exclusion criteria. | BTS QS3 NCEPOD |
| 2.1 | | Patients with confirmed PE being treated in the outpatient setting should be offered treatment with either LMWH and dabigatran, LMWH and edoxaban or a single drug regime (apixaban or rivaroxaban)/ | BTS OP Guidelines |
| 2.2 | | All patients managed via an outpatient PE pathway should be reviewed by a senior clinical decision-maker prior to going home. | BTS QS4 |
| 2.3, 2.4 | 1.8 | All patients managed via an outpatient PE pathway should receive verbal and written information containing details of potential complications of the disease process, its treatment and a point of contact. | BTS QS5 NCEPOD |

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|---|---|---|---|
| 2.5 | 1.9 | Patients undergoing outpatient management following diagnosis of an acute PE should have an initial review within 7 days of discharge. Subsequent follow-up by a senior clinician with a special interest in PE should take place within a formal pathway. | BTS QS6 |