

Supplement 1. Required data fields - Glossary of Terms

This section provides a data dictionary for key terms in the required data fields where not self-explanatory. It also provides information on where will be best to find this data, shown in italics. Much of this data you can be collected after becoming familiar with the system. Some of it may be supported by input from the junior doctor(s) in your mini-team.

- **Your patient ID** (*notes*): Enter your patient ID here. Only you will have access to this secure field. If you don't have hospital IDs at your centre, enter an identifying number here that you can match to the patient (e.g. 1, 2, 3).
- **Patient age** (*notes*): The completed number of years and months should be entered. For paediatric patients <12 months, a field for the number of months will be available.
- **American Society of Anaesthesiologists score** (*take from anaesthetic chart, filed in notes*):
 - I: Normal healthy patient
 - II: Patient with mild systemic disease
 - III: Patient with severe systemic disease
 - IV: Patient with severe systemic disease that is a constant threat to life
 - V: Moribund patient not expected to survive without the operation
- **Time of hospital admission** (*direct observation, clinical notes, admission records*): This refers to the patient's first contact with hospital, whether that was through an Emergency Department or directly with surgical services.
- **Was a surgical safety checklist used?** (*direct observation, clinical notes*): This related to the WHO surgical safety checklist (or an equivalent team based surgical safety checklist).
- **Most senior surgeon present in operating room** (*direct observation, operation note*): Details entered here should relate to the most qualified or experienced surgeon who was physically present within the operating room (scrubbed or unscrubbed) for part or all of the operation.
- **Most senior anaesthetist present in operating room** (*direct observation, anaesthetic chart note*): In different parts of the world, many different professionals can give an anaesthetic and in some settings the operating surgeon may also administer the anaesthetic. Details entered here should relate to the most qualified or experienced anaesthetist who was physically present within the operating room for part or all of the operation. If the surgeon administered the anaesthetic, state "no anaesthetist",
- **Primary operation performed** (*operation note, filed in notes or on computer*): This should record the main procedure performed.
- **Was bowel resection performed?** (*direct observation, operation note, filed in notes or on computer*): If a complete portion of bowel (from oesophagus to rectum) was resected and the subsequent management (hand-sewn anastomosis, stapled anastomosis, stoma) should be recorded. A stapled anastomosis that is reinforced with hand-sewn sutures should be recorded as stapled. If no resection was performed, this should be coded as **no**.

- **Stoma formation** (*direct observation, operation note, filed in notes or on computer*): These are categorised in the main groups. If a mucous fistula type stoma is made in addition to any category, this does not need to be recorded.
- **Main pathology/indication** (*clinical notes, or operation note, filed in notes or on computer*): This should record the main cause leading to surgery.
- **Was a pulse oximeter used throughout surgery?** (*direct observation, anaesthetist, clinical notes*): If a pulse oximeter is used by anaesthetist or surgeon during the entire procedure, this should be recorded as **yes**. If not used, or used for only part of the procedure, this should be recorded as **no**.
- **Were prophylactic antibiotics used?** (*direct observation, operation note, drug chart, anaesthetic chart*): Prophylactic refers to antibiotics given either at induction, or during surgery but before opening of a contaminated space (e.g., before bowel resection).
- **Whole blood or blood product(s) used?** (*direct observation, operation note, drug chart, anaesthetic chart*): This question relates to use at any point in this hospital stay (pre-operatively on this admission, or intra-operatively or post-operatively on this admission). Whole blood use indicates transfusion of all (unseparated) blood components, often from an on-site donor. "Blood product(s)" refers to use of a separated blood component (e.g., packed red cells, fresh frozen plasma). Where both whole blood and blood products are used, state "whole blood".
- **Thromboembolic prophylaxis** (*drug chart, notes, direct observation*): Drug prophylaxis includes unfractionated heparin and low-weight molecular heparin. Mechanical prophylaxis includes use of stockings and intermittent pneumatic compression stockings intra-operatively.
- **24-hour peri-operative mortality** (*patient review*): This includes **intra-operative deaths**. This is the primary endpoint, investigators are expected to go to the ward and review each patient 24 hours after surgery to determine whether they are dead or alive. This must be completed for every patient.
- **30-day critical care admission** (*direct observation, notes*): A complication requiring unplanned critical care admission could be an intra-operative or post-operative complication. For this study, critical care refers to high dependency or intensive care units. High dependency care is typically for detailed observation, single organ support and carries a 1:2 nursing: patient ratio. Intensive care typically describes multiple organ support and a 1:1 nursing ratio. However, local definitions of critical care settings, which differ from this, are acceptable.
- **30-day peri-operative mortality** (*direct observation, computer, notes*): Defined as the number of all-cause deaths during operation or within 30 days of operation, or at the point of final discharge if out-patient mortality status unknown.
- **30-day re-intervention** (*direct observation, computer, notes*): This relates to surgical, endoscopic or radiological re-intervention, by Day 30. The entry field allows which method used to be specified.
- **Length of stay following surgery** (*notes*): The day of surgery counts as Day 0, and the day of discharge as a whole day, (e.g., staying from Monday to Friday counts as a 4-day length of stay and "4" should be entered).

- **Other complications** (*direct observation, computer, notes*): The occurrence any complication without the need for re-intervention, critical care admission or death should be recorded here, up to 30-days. These will be considered as minor complications and for their simplicity, a **yes/no** entry will be recorded. Examples include (but are not limited to): Surgical site infection treated with antibiotics, myocardial infarction treated medically, deep venous thrombosis treated with clexane, pneumonia or urinary tract infection treated with antibiotics, ileus, thrombophlebitis.

- **Anastomotic leak** (*direct observation, computer, notes, radiology systems, outpatients*): An anastomotic leak diagnosed clinically/symptomatically, radiologically, and/or intra-operatively. Enter **no** if an anastomoses was not performed.

- **Wound infection** (*direct observation, computer, notes, outpatients*): We advise adherence to the Centre for Disease Control's definition of surgical site infection [Horan TC, Andrus M, Dudeck MA: CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting. *Am J Infect Control* 2008, 36(5):309-332.], which is any one of:
 - (1) Purulent drainage from the incision
 - (2) At least two of: pain or tenderness; localised swelling; redness; heat; fever; AND the incision is opened deliberately to manage infection or the clinician diagnoses a surgical site infection
 - (3) Wound organisms AND pus cells from aspirate/swab

- **Intra-abdominal/Pelvic abscess** (*direct observation, computer, notes, radiology systems, outpatients*): Detected clinically/symptomatically, radiologically, or intra-operatively.

Supplement 2. UK ethics review

South East Scotland Research Ethics Service

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Date: 22/04/2014
Your Ref:
Our Ref: NR/1404AB12
Enquiries to: Alex Bailey
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Project Title: Determining universal processes related to best outcome in emergency abdominal surgery: an international evaluation

You have sought advice from the South East Scotland Research Ethics Service on the above project. This has been considered by the Scientific Officer and you are advised that, based on the submitted documentation (email correspondence, completed IRAS form - version 1.pdf, globalstudy_protocol_v6_0.pdf), it does not need NHS ethical review under the terms of the Governance Arrangements for Research Ethics Committees (A Harmonised Edition).

The advice is based on the following:

- *The project is an audit limited to using data obtained as part of usual care, but note the requirement for Caldicott Guardian approval for the use or transfer of person-identifiable information within or from an organisation*

If the project is considered to be health-related research you will require a sponsor and ethical approval as outlined in The Research Governance Framework for Health and Community Care. You may wish to contact your employer or professional body to arrange this. You may also require NHS management permission (R&D approval). You should contact the relevant NHS R&D departments to organise this.

For projects that are not research and will be conducted within the NHS you should contact the relevant local clinical governance team who will inform you of the relevant governance procedures required before the project commences.

This letter should not be interpreted as giving a form of ethical approval or any endorsement of the project, but it may be provided to a journal or other body as evidence that NHS ethical approval is not required. However, if you, your sponsor/funder feels that the project requires ethical review by an NHS REC, please write setting out your reasons and we will be pleased to consider further. You should retain a copy of this letter with your project file as evidence that you have sought advice from the South East Scotland Research Ethics Service.

Yours sincerely,

A handwritten signature in black ink that reads 'Alex Bailey'.

Alex Bailey
Scientific Officer
South East Scotland Research Ethics Service



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4 Chair: Mr Brian Houston
Chief Executive: Tim Davison
Lothian NHS Board is the common name of Lothian Health Board