

# CovidSurg

## Blue Phase Appendix

CovidSurg was set up rapidly to match the urgency of the SARS-CoV-2 pandemic. In those initial stages of the pandemic little was known about the impact of COVID-19 on surgery. To address these uncertainties the CovidSurg protocol noted that the data items collected in the study might evolve over time, accordingly to global knowledge.

Data from the first 1000 patients has been analysed and submitted for publication, showing a significant detrimental impact of SARS-CoV-2 infection on surgical outcomes. Based on this analysis and on feedback from our collaborators, we have refined the way some data points are collected and we added clarifications to the protocol in this appendix.

In order to help you identifying the documents related to this phase of the study, we coloured their background in blue.

### WELCOME TO THE BLUE PHASE OF COVIDSURG!

This appendix includes:

- Protocol clarifications
- Data points that were retired from REDCap
- Data points that were slightly changed to improve data quality

### WHAT IS REQUIRED FROM YOUR TEAM?

- You do not need to seek a new study approval. The Blue Phase is a direct continuation of the original CovidSurg and only introduces small changes. There is no identifiable data being collected.
- Effective immediately, retired data fields should not be collected for any patients. These data fields have been hidden on REDCap.
- If your team included patients in the first CovidSurg paper, those records are now locked (unable to be edited) and don't need to be updated.
- All the remaining records are not locked and need to be updated (patients not included in the first CovidSurg paper). These records are not locked so we kindly ask you to update all your records on your REDCap that you are able to edit (as those patients will only be included in the next papers).



## PROTOCOL CLARIFICATIONS

### Patient inclusion / exclusion:

- **Percutaneous procedures** (e.g. insertion of central venous catheters, interventional radiology procedures) should be **excluded**.
- **Bedside procedures** (e.g. in the intensive care unit, unless due to the pandemic operations are routinely being performed in the intensive care unit that would normally be performed in theatre) should be **excluded**.

### Index procedure definition:

- If a patient undergoes **multiple surgeries before** their SARS-CoV-2 diagnosis, then the index operation should be taken as the first operation that took place in the 30 days preceding SARS-CoV-2 diagnosis.
- If a patient undergoes **multiple surgeries after** their SARS-CoV-2 diagnosis, then the index operation should be taken as the first operation they had after SARS-CoV-2 diagnosis (this operation should be within 7 days of SARS-CoV-2 diagnosis in order for the patient to be eligible for inclusion).

## REDCAP CHANGES

### DATA POINTS RETIRED

AVPU (consciousness level)	This was found to be non-informative for most patients. Glasgow Coma Scale (GCS) will continue to be collected specifically for neurosurgery patients.
Arterial blood gas (ABG) measurements	This has been unavailable for >70% of patients. None of the ABG components will be collected in the future (PaO <sub>2</sub> , PaCO <sub>2</sub> , lactate, bicarb).
Albumin	This has been unavailable for >30% of patients.
Urea	This has been unavailable for >20% of patients.
Creatinine	This has been unavailable for >20% of patients.
SpO <sub>2</sub> and FiO <sub>2</sub>	A separate data field records the preoperative level of respiratory support. This has been found to be easier to accurately complete than SpO <sub>2</sub> / FiO <sub>2</sub> .

### NEW DATA POINTS INTRODUCED

Designation of non-covid wards, theatres, ICUs	The role of 'cold' or 'clean' hospitals is a key area of uncertainty in current practice. We will collect granular data to directly address this.
SARS-CoV-2 diagnosis	The role of pre- and peri-operative testing is a key area of uncertainty in current practice. Data fields relating to SARS-CoV-2 diagnosis have been redesigned to collect more granular data which will allow deeper analysis.
Body mass index (BMI)	There is emerging evidence suggesting that obesity is a major risk factor for poor outcomes in COVID-19. BMI will be collected as a categorical variable.
HIV infection	It has been proposed that human immunodeficiency virus (HIV) co-infection may complicate COVID-19
Preoperative delay	One of the most frequently entered patient groups are patients with hip fractures. Preoperative delay is known to be an important risk factor in these patients, as well as in other emergency patients. This will be collected as a categorical variable.
BCG vaccination status	There is weak evidence to suggest that previous Bacillus Calmette–Guérin (BCG) vaccination may be associated with better outcomes in COVID-19.
Data lock	This has been added as the final data point on the REDCap form. This will allow you to confirm that a patient is eligible and has completed 30-day follow-up. Any patients who are not eligible for any reason can be flagged for deletion using this field.

Patient REDCap ID: \_\_\_\_\_

Month of operation in 2020: Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | not stated

Age: 0-4w | 4-52w | 1-9y | 10-16y | 17-19y | 20-29y | 30-39y | 40-49y | 50-59y | 60-69y | 70-79y | 80-89y | 90y+

Weight (children only): \_\_\_\_\_ Kg

Sex: Female | Male

ASA Grade: 1 | 2 | 3 | 4 | 5

BMI:

☐ Underweight (<18.5)

☐ Normal/healthy weight (18.5-24.9)

☐ Overweight (25-29.9)

☐ Moderately obese (30-34.9)

☐ Severely obese (35-39.9)

☐ Very severely obese (≥40)

Comorbidities:

☐ Current smoker

☐ Asthma

☐ Cancer

☐ Chronic Kidney Disease (Moderate/Severe)

☐ COPD

☐ Congenital abn (cardiac)

☐ Congenital abn (non cardiac)

☐ Congestive heart failure

☐ Dementia

☐ Diabetes Mellitus

☐ HIV infection

☐ Hypertension

☐ Myocardial Infarction

☐ Peripheral Vascular Disease

☐ Stroke/TIA

☐ Other: \_\_\_\_\_

BCG/Tuberculosis(TB) status

Vaccine - <15yrs ago | Vaccine – 15>yrs ago | TB diagnosis <15yrs ago | TB diagnosis >15yrs ago | Close contact with individual with known TB <15yrs ago | Close contact with individual with known TB >15yrs ago | No previous BCG vaccine/TB exposure | BCG vaccination/TB exposure unknown

Urgency of surgery:

Immediate | Urgent | Expedited | Elective

Findings at admission:

☐ Abdominal pain

☐ Dyspnoea

☐ Cough

☐ Diarrhoea

☐ Fatigue

☐ Fever >38C

☐ Haemoptysis

☐ Myalgia

☐ Nausea/vomiting

☐ Sputum

☐ Other: \_\_\_\_\_

Last available data from before surgery:

Resp rate: \_\_\_\_\_ rpm Heart rate: \_\_\_\_\_ bpm

Systolic BP: \_\_\_\_\_ mmHg Diastolic BP: \_\_\_\_\_ mmHg

Tests performed to investigate SARS-CoV-2 status:

	CT (neg)	CT (pos)	Swab (neg)	Swab (pos)
4-7 days prior surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-3 days prior surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Day of surgery (preop)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After surgery (during index admission)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After discharge from index admission (within 30 days of surgery)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How was SARS-CoV-2 confirmed?

☐ Positive swab – result received before surgery

☐ Positive swab – result received after surgery

☐ CT scan of chest confirming COVID-19 – before surgery

☐ CT scan of chest confirming COVID-19 – after surgery

☐ Clinical diagnosis/chest X-Ray – before surgery

☐ Clinical diagnosis/chest X-Ray – after surgery

Pre-op investigations:

Haemoglobin: \_\_\_\_\_ g/L WCC: \_\_\_\_\_ 10<sup>9</sup>/L CRP: \_\_\_\_\_ mg/L

Pre-op x-ray:

☐ Not performed

☐ Yes- normal

☐ Yes- abnormal

Pre-op chest CT:

☐ Not performed

☐ Yes- normal

☐ Yes- consolidation

☐ Yes- ground glass opacity

☐ Yes- pulmonary infiltration

☐ Yes- other abnormality

Management

Time from admission to operation (pre-op delay)

<6 hrs | 6-23 hrs | 24-47 hrs | 48-71 hrs | 72+hrs

Primary organ/system operated: \_\_\_\_\_

Anaesthesia: Local | Regional | General

Surgical diagnosis: \_\_\_\_\_

Procedure completed: \_\_\_\_\_

Environment in which patient cared for:

Operative theatre: Designated COVID theatre | Designated non-COVID theatre | No designation for theatre

ITU: Designated COVID ITU area | Designated non-COVID ITU area | No designation for ITU

Postop ward: Designated COVID ward | Designated non-COVID ward | No designation for this ward

Treatment

Did patient receive NSAIDs?

No | Yes- before admission | Yes- after admission | Both

Patient received during index admission?

☐ Antibiotics

☐ Antivirals

☐ Quinine/derivative

☐ Corticosteroids

☐ IV Immunoglobulins

☐ Interferon

☐ IL-6 blocker

Antiviral (name & dose): \_\_\_\_\_

Corticosteroid (name & dose): \_\_\_\_\_

Renal dialysis during index admission?

No | Yes but not at 30 days after surgery | Yes and ongoing dialysis at 30 days after surgery

Pre-op respiratory support:

☐ None

☐ Low-flow O2

☐ High-flow O2

☐ Non-invasive ventilation

☐ Invasive vent

☐ ECMO

Post-op respiratory support:

☐ None

☐ Low-flow O2

☐ High-flow O2

☐ Non-invasive ventilation

☐ Invasive vent

☐ ECMO

Duration of post-op mechanical ventilation:

1-23h | 24-47h | 48-71h | 72-167h | 168h+

Outcomes

Mortality:

☐ Died (on table)

☐ Died (on day 0-7)

☐ Died on day 8-30

☐ Alive (in hospital)

☐ Alive (other hospital)

☐ Alive (at rehab)

☐ Alive (at home)

Re-operation: Yes | No

Post-op ICU: ☐ No ☐ Planned ☐ Unplanned from theatre ☐ Unplanned from ward

Complications:

☐ Acute kidney injury

☐ Acute respiratory distress syndrome (ARDS)

☐ Anastomotic leak

☐ Bleeding req. transfusion

☐ Cardiac arrest req. CPR

☐ Coma for >24hr

☐ Deep Vein Thrombosis

☐ Graft/prosthesis/flap fail

☐ Myocardial infraction

☐ Pneumonia

☐ Pulmonary embolism

☐ Respiratory failure

☐ Sepsis

☐ Septic shock

☐ Stroke/TIA

☐ SSI superficial

☐ SSI deep

☐ SSI organ/space

☐ Urinary tract infection

☐ Wound dehiscence

Total length of stay: \_\_\_\_\_ days

# CovidSurg Data Completion Guide

## INTRODUCTION

- The following pages will guide you through data entry for CovidSurg. Please complete all fields that appear on each REDCap record. In order to provide high quality data to inform the global surgical community, it is essential that all data is as complete as possible.
- Please note, we are using the same REDCap project for both CovidSurg and CovidSurg-Cancer studies for which patients may be eligible for either or both. Therefore, if a patient is included in both studies (CovidSurg and CovidSurg-Cancer) you may see slightly different cancer-specific fields.

- To help you ensure that your data is complete, we will intermittently send 'data completion request' emails. A spreadsheet will be attached to the email you receive. In this spreadsheet:
  - Each case entered from your centre is on a separate row.
  - The first column indicates the REDCap ID number that can be used to identify the patient on the REDCap database.
  - Each column in the spreadsheet relates to a different critical data item. The guide below indicates how the headings on the columns the spreadsheet match to data fields on the online REDcap database.
  - If 'missing' is written in a cell, this denotes this specific data item is missing for that patient.
- Please examine each case/row and note the missing fields per case.
- To enter any missing data on to the online REDCap database:
  - Log into REDCap
  - Selected the CovidSurg project
  - Navigate to 'Add/ Edit Records' in the left hand side menu under 'Data Collection'.
  - Under the 'select record' dropdown list, select the record ID you need to edit

## BASELINE INFORMATION FORM

Spreadsheet Field Label	REDCap Field and Notes
Month	Month operated This is the patient was operated. If your centre does not have approval to submit information on the month of operation, please select "not stated".
Age	Patient age
Sex	Patient sex
ASA	ASA at time of surgery Full definitions are available from: <a href="https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system">https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system</a>
BMI	<p>Body mass index (BMI)</p> <div> <p>Body mass index (BMI)</p> <p>* must provide value</p> <ul style="list-style-type: none"> <li><input type="radio"/> Underweight: BMI &lt; 18.5</li> <li><input type="radio"/> Normal (healthy weight): BMI 18.5-24.9</li> <li><input type="radio"/> Overweight: BMI 25-29.9</li> <li><input type="radio"/> Moderately obese: BMI 30-34.9</li> <li><input type="radio"/> Severely obese: BMI 35-39.9</li> <li><input type="radio"/> Very severely obese: BMI ≥40</li> </ul> <p>Online calculator: <a href="https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm">https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm</a></p> <p>reset</p> </div> <ul style="list-style-type: none"> <li>Please select the appropriate BMI category</li> <li>This may be calculated with the formula: <math>BMI (kg/m^2) = mass (kg) / (height(m))^2</math></li> </ul> <p>An online BMI calculation is also available from: <a href="https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm">https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm</a></p>
Comorbidity	<p>Co-morbidity</p> <div> <p>Co-morbidity (tick all that apply)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Current smoker</li> <li><input type="checkbox"/> Asthma</li> <li><input type="checkbox"/> Current cancer diagnosis</li> <li><input type="checkbox"/> Chronic kidney disease (moderate/severe)</li> <li><input type="checkbox"/> Chronic obstructive pulmonary disease (COPD)</li> <li><input type="checkbox"/> Congenital abnormality - cardiac</li> <li><input type="checkbox"/> Congenital abnormality - non-cardiac</li> <li><input type="checkbox"/> Congestive heart failure</li> <li><input type="checkbox"/> Dementia</li> <li><input type="checkbox"/> Diabetes mellitus</li> <li><input type="checkbox"/> Human immunodeficiency virus (HIV) infection</li> <li><input type="checkbox"/> Hypertension</li> <li><input type="checkbox"/> Myocardial infarction</li> <li><input type="checkbox"/> Peripheral vascular disease</li> <li><input type="checkbox"/> Stroke/ TIA</li> <li><input type="checkbox"/> Other (including other lung disease)</li> </ul> <p>Please confirm that this patient has no comorbidities</p> <p>* must provide value</p> <p><input type="radio"/> This patient has no comorbidities</p> <p>reset</p> </div> <ul style="list-style-type: none"> <li>Tick <b><u>all</u></b> boxes that apply</li> <li>If the co-morbidity you would like to enter is not listed, tick 'other (including other lung disease)' and a free text box will appear to enter the relevant details.</li> <li>An option for HIV infection is now available</li> <li>If the patient has no co-morbidities, please confirm by selecting the option 'This patient has no comorbidities' on the data field immediately below the list of comorbidities. This field will only show if no comorbidities have been ticked.</li> </ul>



TB	<p>Bacillus Calmette-Guérin (BCG) / tuberculosis status (tick all that apply)</p> <div> <input type="checkbox"/> BCG vaccine - last vaccinated less than 15 years ago  <input type="checkbox"/> BCG vaccine - last vaccinated 15 or more years ago  <input type="checkbox"/> Tuberculosis - diagnosed less than 15 years ago  <input type="checkbox"/> Tuberculosis - diagnosed 15 or more years ago  <input type="checkbox"/> Close contact with an individual known to have tuberculosis under 15 years ago  <input type="checkbox"/> Close contact with an individual known to have tuberculosis 15 or more years ago  <input type="checkbox"/> No previous BCG vaccination or TB exposure  <input type="checkbox"/> BCG vaccination and TB exposure history unknown </div> <p>Bacillus Calmette-Guérin (BCG) / tuberculosis status (tick all that apply)</p> <p>More than one option can be selected. Tick <b>all</b> boxes that apply</p> <p>If the BCG vaccination and TB exposure history is unknown please select the last box 'BCG vaccination and TB exposure history unknown'</p>																														
Urgency	<p>Urgency of surgery</p> <p>Full definitions are available from: <a href="https://www.ncepod.org.uk/classification.html">https://www.ncepod.org.uk/classification.html</a></p> <p><i>For patients in CovidSurg-Cancer this will appear on the 'management' form.</i></p>																														
Baseline_Sx	<p>Symptoms on hospital admission</p> <div> <input type="checkbox"/> Abdominal pain  <input type="checkbox"/> Breathlessness (dyspnoea)  <input type="checkbox"/> Cough  <input type="checkbox"/> Diarrhoea  <input type="checkbox"/> Fatigue  <input type="checkbox"/> Fever (&gt;38 celsius)  <input type="checkbox"/> Haemoptysis  <input type="checkbox"/> Myalgia  <input type="checkbox"/> Nausea/vomiting  <input type="checkbox"/> Sputum  <input type="checkbox"/> Other </div> <p>Symptoms on hospital admission (tick all that apply)</p> <p>Please confirm that this patient had no symptoms at the time of admission</p> <p><small>* must provide value</small></p> <p><input type="radio"/> This patient had no symptoms at the time of admission</p> <p><small>reset</small></p> <ul style="list-style-type: none"> <li><b>This is only collected for emergency patients.</b></li> <li>Tick all symptoms that may apply.</li> <li>If the symptom you would like to enter is not listed, tick 'other' and a free text box will appear to enter the relevant details.</li> <li>If the patient had no symptoms at the time of admission, please confirm by selecting the option 'This patient had no symptoms at the time of admission' on the data field immediately below the list of symptoms. This field will only show if no symptoms have been ticked.</li> </ul>																														
	<p>Please mark which tests were performed to investigate SARS-CoV-2 status, their timing, and the result</p> <p>Please mark which tests were performed to investigate SARS-CoV-2 status, their timing, and the result</p> <table border="1"> <thead> <tr> <th></th> <th>CT thorax scan (negative for SARS-CoV-2)</th> <th>CT thorax scan (positive for SARS-CoV-2)</th> <th>Swab (negative for SARS-CoV-2)</th> <th>Swab (positive for SARS-CoV-2)</th> </tr> </thead> <tbody> <tr> <td>4-7 days before surgery</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>1-3 days before surgery</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Day of surgery - preoperative</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>After surgery, during index admission</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>After discharge from index admission, within 30 days of surgery</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p>Select each test used to investigate SARS-CoV-2 status and its result from the columns, then choose the time frame in which it was performed from the rows.</p>		CT thorax scan (negative for SARS-CoV-2)	CT thorax scan (positive for SARS-CoV-2)	Swab (negative for SARS-CoV-2)	Swab (positive for SARS-CoV-2)	4-7 days before surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1-3 days before surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Day of surgery - preoperative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	After surgery, during index admission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	After discharge from index admission, within 30 days of surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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After discharge from index admission, within 30 days of surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											

	You may select more than one option. Please select <b>all</b> apply.
Diagnosedhow	<p>How was SARS-CoV-2 infection confirmed (tick all that apply)</p> <div> <input type="checkbox"/> Positive SARS-CoV-2 swab - result received before surgery  <input type="checkbox"/> Positive SARS-CoV-2 swab - result received after surgery  <input type="checkbox"/> CT scan of the chest confirming SARS-CoV-2 - result received before surgery  <input type="checkbox"/> CT scan of the chest confirming SARS-CoV-2 - result received after surgery  <input type="checkbox"/> Clinical diagnosis or chest x-ray - suspected before time of surgery  <input type="checkbox"/> Clinical diagnosis or chest x-ray - suspected after time of surgery </div> <p><b>How was SARS-CoV-2 infection confirmed (tick all that apply)</b>  * must provide value</p> <ul style="list-style-type: none"> <li>Please confirm how SARS-Cov-2 infection was confirmed.</li> </ul> <p>You may select more than one option. Please select <b>all</b> that apply</p>
<b>Last Available Data From Before Surgery (E.G. Recorded In Anaesthetic Room Pre-Anaesthetic Induction)</b>	
Resp	Respiratory Rate (breaths per minute)
HR	Heart rate (beats per minute)
SBP DBP_2	<p>Systolic Blood Pressure (mmHg) Diastolic blood pressure (mmHg)</p> <div> <p><b>Systolic blood pressure (mmHg)</b> * must provide value</p> <div> <input type="text"/> </div> </div> <div> <p><b>Diastolic blood pressure (mmHg)</b> * must provide value</p> <div> <input type="text"/> </div> </div> <ul style="list-style-type: none"> <li>Please ensure that these are entered the correct way round (i.e. the systolic blood pressure should be greater than the diastolic blood pressure)</li> </ul>

**CONTINUE TO NEXT PAGE FOR THE PREOPERATIVE INVESTIGATIONS FORM**

## PREOPERATIVE INVESTIGATIONS FORM

Spreadsheet Field Label	REDCap Field and Notes
Haemo	Haemoglobin (g/L) <ul style="list-style-type: none"> <li>• Please ensure to enter the recorded haemoglobin in g/L.</li> <li>• The normal range will be approximately 110-170 g/L.</li> <li>• If your lab reports haemoglobin in g/dL (normal range 11-17 please multiply this value by 10 to get the value in g/L)</li> </ul>
WBC	White cell count (10 <sup>9</sup> /L)
CRP	C-reactive protein (mg/L)
<b><i>Chest imaging before surgery</i></b>	
CXR	Preoperative chest x-ray
Chest_CT	Preoperative computed tomography (CT) scan of the chest <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <p><b>Preoperative computed tomography (CT) scan of the chest</b>  <i>(please tick all that apply)</i></p> <p><i>* must provide value</i></p> <ul style="list-style-type: none"> <li>• More than one option can be selected. Please tick all that apply.</li> <li>• If a CT scan was not performed tick 'not performed' only.</li> </ul> </div> <div style="width: 35%; background-color: #f0f0f0; padding: 10px;"> <input type="checkbox"/> Not performed  <input type="checkbox"/> Yes - normal  <input type="checkbox"/> Yes - consolidation  <input type="checkbox"/> Yes - ground glass opacity  <input type="checkbox"/> Yes - pulmonary infiltration  <input type="checkbox"/> Yes - other abnormality               </div> </div>

**CONTINUE TO NEXT PAGE FOR THE MANAGEMENT FORM**



## MANAGEMENT FORM

Spreadsheet Field Label	REDCap Field and Notes
Preopdelay	<p>Time from admission to operation (preoperative delay)</p> <ul style="list-style-type: none"> <li><b>This field will only appear for emergency patients.</b></li> <li>This is the time for hospital admission to start of surgery in theatre.</li> </ul>
Anaesthesia	<p>Anaesthesia type</p> <ul style="list-style-type: none"> <li>Please tick all that apply if more than one type of anaesthesia was used</li> </ul>
Indication2	<p>Surgical indication</p> <div> <div> <p><b>Surgical indication</b></p> <p><small>* must provide value</small></p> </div> <div> <p><input type="radio"/> Benign disease</p> <p><input type="radio"/> Malignant disease (cancer)</p> <p><input type="radio"/> Obstetrics</p> <p><input type="radio"/> Trauma</p> <p><a href="#">reset</a></p> </div> </div> <div> <p><b>Surgical diagnosis/ indication</b></p> <p><small>This field is <b>OPTIONAL</b> in case you wish to give additional details</small></p> <div></div> <p><a href="#">Expand</a></p> </div> <ul style="list-style-type: none"> <li><b>This field will not appear for patients who are also included in CovidSurg-Cancer.</b></li> <li>Please select the most appropriate option for surgical indication.</li> <li>If you want to add further details or clarification of the surgical diagnosis, enter this information in the 'surgical diagnosis/ indication' free text field</li> </ul>
Surgical_procedure	<p>Surgical procedure completed</p> <div> <p><b>Main surgical procedure completed - please select closest matching procedure</b></p> <p><small>If no appropriate procedures are listed, please enter free text below</small></p> <p><small>Procedures are listed by organ/ system operated.</small></p> <p><small>Please note that this list is searchable by keyword.</small></p> <div> <div></div> <div></div> </div> </div> <div> <p><b>Surgical procedure completed</b></p> <p><small>This field is <b>OPTIONAL</b> in case you wish to give additional details</small></p> <div></div> <p><a href="#">Expand</a></p> </div> <ul style="list-style-type: none"> <li>Please choose the closest matching surgical procedure from the drop down menu.</li> <li>If more than one procedure was performed, enter the primary procedure only</li> <li>Please used the 'surgical procedure completed' field to add further details or clarification of the procedure</li> </ul> <p><b>For patients who are also included in CovidSurg-Cancer, this field will appear a little differently.</b></p>

Please mark what environment the patient was cared for

Please mark what environment the patient was cared for

(One selection allowed per column)

Designated COVID treatment area (only COVID patients treated there)

Designated non-COVID treatment area (only non-COVID patients treated there)

No designation for this area (either COVID or non-COVID patients can be treated there)

Operating theatre

\* must provide value

reset

Intensive care unit (leave blank if not applicable)

reset

Postoperative ward

\* must provide value

reset

Choose the most appropriate column for the treatment area then select it's location (operating theatre, ICU or ward) from the rows.

One selection is permitted per column

CONTINUE TO NEXT PAGE FOR THE COVID-19 TREATMENT FORM

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## COVID-19 TREATMENT FORM

Spreadsheet Field Label	REDCap Field and Notes
NSAIDs	<p>Did the patient receive non-steroidal anti-inflammatory drugs (NSAIDs) - any agent, any dose</p> <ul style="list-style-type: none"> <li>Please select the most appropriate option for any NSAID at any dose given</li> </ul>
Treatments	<p>At any point during the index hospital admission did the patient receive</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p style="text-align: right;"> <input type="checkbox"/> None of the treatments listed below  <input type="checkbox"/> Antibiotics  <input type="checkbox"/> Antivirals  <input type="checkbox"/> Quinine or derivative  <input type="checkbox"/> Corticosteroids  <input type="checkbox"/> Intravenous immunoglobulins  <input type="checkbox"/> Interferon  <input type="checkbox"/> IL-6 blocker         </p> </div> <p><b>At any point during the index hospital admission did the patient receive</b>  <small>* must provide value</small></p> <ul style="list-style-type: none"> <li>Please tick all COVID-19 treatments listed. Tick as many as apply.</li> <li>Options should be ticked regardless of the specific drug/dose administered.</li> <li>Options should be ticked if the patient received them at any point in the 30 days following surgery.</li> <li><i>If none of the treatments listed were given, tick 'None of the treatments listed below'.</i></li> </ul>
Dialysis	Renal dialysis - at any point during the index hospital admission
Respsupport	Preoperative respiratory support
Respsupport2	<p>Postoperative respiratory support</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p><b>Preoperative respiratory support</b>            (please tick all that apply)  <small>* must provide value</small></p> <p style="text-align: right;"> <input type="checkbox"/> None  <input type="checkbox"/> Low-flow supplemental oxygen  <input type="checkbox"/> High-flow supplemental oxygen  <input type="checkbox"/> Non-invasive ventilation  <input type="checkbox"/> Invasive mechanical ventilation  <input type="checkbox"/> Extracorporeal membrane oxygenation (ECMO)         </p> </div> <ul style="list-style-type: none"> <li>Please select the type of respiratory support given after the patient left the theatre recovery.</li> <li>Please take particular care to note patients who received non-invasive ventilation, invasive mechanical ventilation, or extracorporeal membrane oxygenation, as these are the key secondary outcomes.</li> <li>If ventilation was received, a separate field will appear underneath, titled "Duration of preoperative invasive mechanical ventilation or ECMO". Please indicate how long the patient received ventilation or ECMO</li> </ul>

**CONTINUE TO NEXT PAGE FOR THE SURGICAL OUTCOMES FORM**

## SURGICAL OUTCOMES FORM

Spreadsheet Field Label	REDCap Field and Notes
Mort7	<p>Outcome at 30 days after surgery</p> <p><b>Outcome at 30 days after surgery</b> * must provide value</p> <p> <input type="radio"/> Died - on-table  <input type="radio"/> Died - on days 0-7 after surgery  <input type="radio"/> Died - on days 8-30 after surgery  <input type="radio"/> Alive - remains admitted in hospital  <input type="radio"/> Alive - transferred to another hospital  <input type="radio"/> Alive - discharged to a rehabilitation centre  <input type="radio"/> Alive - discharged home         </p> <p><b>Please ensure this field is completed as accurately as possible as this is the primary endpoint of the study.</b></p>
Reop	<p>Re-operation or re-intervention</p> <p>This includes any re-operation or re-intervention, including interventional radiology, endoscopy, or surgery.</p>
ICU	<p>Postoperative intensive care admission</p> <p>We are interested in timing of intensive care admission relative to the index procedure. If a patient returned to the ward after the index procedure, but subsequently was reoperated and went to intensive care from theatre at the end of the reoperation, this should be recorded as “unplanned from ward”.</p>
Day_Complications	<p>Complications (if any)</p> <p> <input type="checkbox"/> Acute kidney injury  <input type="checkbox"/> Acute respiratory distress syndrome (ARDS)  <input type="checkbox"/> Anastomosis leak  <input type="checkbox"/> Bleeding requiring transfusion  <input type="checkbox"/> Cardiac arrest requiring CPR  <input type="checkbox"/> Coma &gt;24 hours  <input type="checkbox"/> Deep vein thrombosis  <input type="checkbox"/> Graft/ prosthesis/ flap failure  <input type="checkbox"/> Myocardial infarction  <input type="checkbox"/> Pneumonia  <input type="checkbox"/> Pulmonary embolism  <input type="checkbox"/> Sepsis  <input type="checkbox"/> Septic shock  <input type="checkbox"/> Stroke/ cerebrovascular accident  <input type="checkbox"/> Surgical site infection - superficial or deep  <input type="checkbox"/> Surgical site infection - organ space  <input type="checkbox"/> Urinary tract infection  <input type="checkbox"/> Wound dehiscence  <input type="checkbox"/> Other complication         </p> <p><b>Please confirm that this patient did not have any postoperative complications</b> * must provide value</p> <p> <input type="radio"/> This patient did not have any postoperative complications         </p> <p> <input type="checkbox"/> Please tick all complications that occurred within 30 days of surgery whether directly related to the original operation or not.  <input type="checkbox"/> Please take particular care to note <b>pneumonia</b> and <b>ARDS</b> as these are the key secondary outcomes.  <input type="checkbox"/> If a complication occurred that is not listed, select ‘other complication’ and a free text field will appear to enter the relevant details  <input type="checkbox"/> If the patient did not experience any complications, please confirm by selecting the option ‘This patient has no comorbidities’ on the data field immediately below the list of possible complications. This field will only show if no complication have been ticked.         </p>
Hosp_Stay	<p>Total length of postoperative stay</p> <ul style="list-style-type: none"> <li>Please enter the total length of postoperative stay up to the 30th postoperative day., counting the day of surgery as day 0</li> <li>If the patient was re-admitted within this 30 day period, please only include the length of stay during the index/ first admission</li> </ul>

<p>Datalock2</p>	<p>Data lock- please update this field once the patient has reached 30-days post surgery</p> <div><p><b>Data lock - please update this field once the patient has reached 30-days post surgery</b></p><p><small>* must provide value</small></p><div><div><input type="radio"/> This patient is eligible for inclusion and has reached 30-days post-surgery</div><div><input type="radio"/> This patient is eligible for inclusion but has NOT yet reached 30-days post-surgery</div><div><input type="radio"/> This patient is NOT eligible for inclusion and should be deleted</div></div></div> <ul style="list-style-type: none"><li>• Please pay particular attention to this field as it is crucial to ensuring appropriate case inclusion</li><li>• If a suspected or clinically diagnosed COVID patient’s investigations come back as negative at any time during the 30 day period, they are no longer eligible for inclusion in CovidSurg. Please select the last option in this case</li></ul>
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