## FORM 1 CENTER DEMOGRAPHY

<table>
<thead>
<tr>
<th>Type of hospital:</th>
<th>□ University/academic</th>
<th>□ Non-university</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital capacity:</strong></td>
<td>_ _ _ _ Beds</td>
<td></td>
</tr>
<tr>
<td><strong>Type of ICU:</strong></td>
<td>□ Closed</td>
<td>□ Open (non-ICU doctors may write orders)</td>
</tr>
<tr>
<td>** ICU specialty:**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical:</td>
<td>□ Cardiac/cardiothoracic</td>
<td>□ Transplantation</td>
</tr>
<tr>
<td>Medical:</td>
<td>□ Cardiac</td>
<td>□ Neurologic</td>
</tr>
<tr>
<td>Mixed:</td>
<td>□ Medical/surgical</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td>□ Please specify ........................................</td>
<td></td>
</tr>
</tbody>
</table>

Are the following techniques available in your ICU?:

<table>
<thead>
<tr>
<th>High flow nasal oxygen</th>
<th>□ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Echocardiography done by ICU team</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Invasive monitoring (any, including but not limited to CVP and arterial lines)</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Invasive mechanical ventilation</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Non-invasive mechanical ventilation</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Intermittent renal replacement therapy (dialysis)</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Continuous renal replacement therapy</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>ECMO (VV and/or VA)</td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

Number of ICU admissions in 2016 (approximate): ---

Total no of staffed ICU beds (on the day of the study, excluding HDU beds): _ _ _ _ beds

Is there a high dependency unit (HDU) in your hospital? □ Yes □ No
If yes, how many beds? ........... beds

Does your unit admit pediatric patients? □ Never □ Sometimes □ Often □ Always

Do you have access to:
Infectious diseases specialists/clinical microbiologist: □ 24/7 □ just during the week □ no
Is there a pharmacist assigned to the ICU team (at least part time) □ Yes □ No

Can you perform the following microbiological cultures in your ICU?

<table>
<thead>
<tr>
<th>Blood</th>
<th>□ Never □ Sometimes □ Often □ Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory secretions (qualitative)</td>
<td>□ Never □ Sometimes □ Often □ Always</td>
</tr>
<tr>
<td>Respiratory secretions (quantitative)</td>
<td>□ Never □ Sometimes □ Often □ Always</td>
</tr>
<tr>
<td>Urine</td>
<td>□ Never □ Sometimes □ Often □ Always</td>
</tr>
</tbody>
</table>

Are you able to perform the following?

| Blood gas analysis within 1 hour of ICU admission | □ Never □ Sometimes □ Often □ Always |
| Blood lactate within 1 hour of ICU admission | □ Never □ Sometimes □ Often □ Always |
| Any antibiograms | □ Never □ Sometimes □ Often □ Always |

**Do you have the following antimicrobials available?**

<table>
<thead>
<tr>
<th>Antimicrobial</th>
<th>□ Never □ Sometimes □ Often □ Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piperacillin/tazobactam</td>
<td>□ Never □ Sometimes □ Often □ Always</td>
</tr>
<tr>
<td>Echinocandins</td>
<td>□ Never □ Sometimes □ Often □ Always</td>
</tr>
<tr>
<td>Tigecycline</td>
<td>□ Never □ Sometimes □ Often □ Always</td>
</tr>
</tbody>
</table>

**Antibiotic monitoring:**

Do you monitor antibiotic levels?

- for aminoglycosides □ Never □ Sometimes □ Often □ Always
- for vancomycin □ Never □ Sometimes □ Often □ Always
- for beta-lactams □ Never □ Sometimes □ Often □ Always
- for voriconazole □ Never □ Sometimes □ Often □ Always
- for echinocandins □ Never □ Sometimes □ Often □ Always
Form 2 Patient enrollment

<table>
<thead>
<tr>
<th>Center</th>
<th></th>
<th></th>
<th></th>
<th>Patient</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

Date of hospital admission: __/__/____ / 201_  
Dd  mm  yyyy

Date/time of ICU admission: __/__/____ / 201_  __/__/____ (24 h clock)  
Dd  mm  yyyy  h  /min

Age: ___ yrs

Sex: □ Male □ Female

Weight (estimated or measured): ___ kg  Height (estimated or measured): ___ cm

Type of admission: □ Medical  
□ Surgical □ Elective □ Emergency  
Site(s) of surgery: __/__/____ /____

□ Trauma

Admission source:  
□ Other hospital  
□ ER  
□ OR/recovery  
□ Hospital floor  
□ Other, please specify: ........................................

Primary ICU admission diagnosis (most likely reason for ICU admission): see list

Secondary diagnoses (other concomitant diagnoses): see list

Comorbidities:  
□ COPD  
□ Liver cirrhosis (CHILD B or C)  
□ Non-insulin dependent diabetes  
□ Insulin dependent diabetes  
□ Heart failure (NYHA III-IV)  
□ HIV infection  
□ Chronic renal failure  
□ Immunosuppressive therapy (including corticosteroids)  
□ Chemotherapy/radiotherapy  
If yes, within the last 6 months □ or more than 6 months ago □

□ Solid cancer  
If yes, Active □ Complete remission for < 5 years □ Complete remission > 5 years □

□ Hematologic cancer  
If yes,  
□ allogenic stem cell transplantation □ autologuous stem cell transplantation  
□ acute leukemia □ lymphoma □ other □

□ Known metastatic cancer
**Center** | | | **Patient** | | |
| Core body temperature (min) | _ _ _ | (max) | _ _ _ °C |
| Heart rate (min) | _ _ _ | (max) | _ _ _ bpm |
| Systolic blood pressure (min) | _ _ _ | (max) | _ _ _ □ mmHg □ KPa |
| Mean arterial pressure (min) | _ _ _ | (max) | _ _ _ □ mmHg □ KPa |

**Vasoactive agents**

| | | | | |
| Norepinephrine | Yes | No | if yes, dose (max) | _ _ _ | µg/kg/min |
| Dopamine | Yes | No | if yes, dose (max) | _ _ _ | µg/kg/min |
| Epinephrine | Yes | No | if yes, dose (max) | _ _ _ | µg/kg/min |
| Dobutamine | Yes | No | if yes, dose (max) | _ _ _ | µg/kg/min |
| Vasopressin | Yes | No | if yes, dose (max) | _ _ _ | U/min |
| Other vasopressors | name | dose | unit |
| Other inotropes | name | dose | unit |

**Respiratory rate**

| | | | |
| Respiratory rate (min) | _ _ | (max) | _ _ bpm |
| PaO₂ (min) | _ _ | (max) | _ _ □ mmHg □ KPa |
| Concurrent FiO₂ (min) | _ _ | (max) | _ _ % |
| PaCO₂ (min) | _ _ | (max) | _ _ □ mmHg □ KPa |
| Arterial pH (min) | _ _ | (max) | _ _ |
| Serum HCO₃ (if no ABGs) (min) | _ _ _ | (max) | _ _ _ mmol/L |

**Leukocytes**

| | | | |
| Leukocytes | (min) | _ _ _ | (max) | _ _ _ 10³/mm³ |
| Platelets | (min) | _ _ _ | 10³/mm³ |
| Hemoglobin | (min) | _ _ _ | (max) | _ _ _ □ g/dL □ mmol/L |
| Hematocrit | (min) | _ _ _ | (max) | _ _ _ % |
| Total bilirubin | (max) | _ _ _ | □ mg/dL □ µmol/L |
| Blood lactate | (max) | _ _ _ | mmol/L |
| Blood urea | (max) | _ _ _ □ mg/dL □ mmol/L |
| Blood creatinine | (min) | _ _ _ | (max) | _ _ _ □ mg/dL □ µmol/L |
| Serum potassium | (min) | _ _ _ | (max) | _ _ mmol/L |
### Serum sodium

<table>
<thead>
<tr>
<th>(min)</th>
<th>(max)</th>
<th>mmol/L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Urine output

<table>
<thead>
<tr>
<th></th>
<th>mL/24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Estimated Glasgow Coma Score (worst, prior to sedation/anesthesia)

- Eyes (1-4)  
- Verbal (1-5) 
- Motor (1-6)  

### Actual Glasgow Coma Score (worst, under sedation/anesthesia)

- Eyes (1-4)  
- Verbal (1-5) 
- Motor (1-6)  

### Interventions (on study day)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>High flow nasal oxygen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPAP/non-invasive ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invasive mechanical ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracheostomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central venous catheter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulmonary artery catheter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other cardiac output monitoring devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous renal replacement therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECMO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### End-of-life decisions

Is there a documented decision (received on or before the study day) not to resuscitate (DNR) or to withhold/withdraw life-sustaining measures

<table>
<thead>
<tr>
<th>Decision</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withhold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdraw</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Form 3b Study day variables - Infection data

<table>
<thead>
<tr>
<th>Is the patient receiving prophylactic antibiotics: □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>if yes, Code: ---/---/---</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does the patient have an infection? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF YES,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infection</th>
<th>Site (see codes)</th>
<th>Infection #1</th>
<th>Infection #2</th>
<th>Infection #3</th>
<th>Infection #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Definite □ Probable □ Possible</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>□ Definite □ Probable □ Possible</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>□ Definite □ Probable □ Possible</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>□ Definite □ Probable □ Possible</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mode of acquisition</th>
<th>Isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ community-acquired □ hospital/health-care associated □ ICU acquired</td>
<td>_ / _ / _</td>
</tr>
<tr>
<td>□ community-acquired □ hospital/health-care associated □ ICU acquired</td>
<td>_ / _ / _</td>
</tr>
<tr>
<td>□ community-acquired □ hospital/health-care associated □ ICU acquired</td>
<td>_ / _ / _</td>
</tr>
<tr>
<td>□ community-acquired □ hospital/health-care associated □ ICU acquired</td>
<td>_ / _ / _</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Therapeutic antibiotic(s) (see codes)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Did this patient receive selective digestive decontamination (SOD or SDD)? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did this patient receive chlorhexidine bodywashing? □ Yes □ No</td>
</tr>
<tr>
<td>Did this patient receive mupirocin nasal prophylaxis? □ Yes □ No</td>
</tr>
</tbody>
</table>

*Several microorganisms can be registered per infection
<table>
<thead>
<tr>
<th>Is the patient still alive in the ICU on Nov. 12 (if admitted on Sept 13\textsuperscript{rd}) or Nov. 13 (if admitted on Sept 14\textsuperscript{th}), 2017</th>
<th>□ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF NO,</td>
<td></td>
</tr>
<tr>
<td>Date/time of ICU discharge</td>
<td>_ _ / _ _ _ _ / _ _ (24 h clock)</td>
</tr>
<tr>
<td>Day / month</td>
<td>h / min</td>
</tr>
<tr>
<td>Discharged from the ICU to:</td>
<td></td>
</tr>
<tr>
<td>□ Intermediate unit</td>
<td>□ Other ICU</td>
</tr>
<tr>
<td>□ Other hospital/ Long term facility</td>
<td>□ Other ………………</td>
</tr>
<tr>
<td>□ Dead</td>
<td></td>
</tr>
<tr>
<td>If dead, was the death preceded by a decision to withhold/withdraw life-sustaining treatment?</td>
<td></td>
</tr>
<tr>
<td>Withhold</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Withdraw</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Has the patient been discharged from the hospital before Nov. 12 (if admitted on Sept 13\textsuperscript{rd}) or Nov. 13 (if admitted on Sept 14\textsuperscript{th}) 2017</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>IF Yes,</td>
<td></td>
</tr>
<tr>
<td>□ Alive □ Dead</td>
<td></td>
</tr>
<tr>
<td>If dead, was the death preceded by a decision to withhold/withdraw life-sustaining treatment?</td>
<td></td>
</tr>
<tr>
<td>Withhold</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Withdraw</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Date of hospital discharge/</td>
<td>_ _ / _ _</td>
</tr>
<tr>
<td>Day / month</td>
<td></td>
</tr>
<tr>
<td>Last available Glasgow Coma Scale score before discharge or death</td>
<td></td>
</tr>
<tr>
<td>Eyes (1-4)</td>
<td>Verbal (1-5)</td>
</tr>
</tbody>
</table>
Instructions to complete the CRF

All forms should be completed on paper and then submitted electronically via the secured internet-based platform. Participants should register online via our webpage (www2.intensive.org/EPIC3/home.asp). Providing a valid email address is mandatory to facilitate correspondence during the study. Please inform us of any changes in your email.

Center Demography (Form 1)
This form should be completed and submitted electronically within one week after the study date. Where several ICUs are participating from the same hospital, each ICU must complete and submit a separate form.
- Type of ICU: Please indicate whether your ICU is open (non-ICU doctors can write orders) or closed (only ICU doctors can write orders).
- ICU specialty: Please classify your ICU according to the majority type (>60%) of patient admitted. Other specialties can be listed if necessary.
- Staffed ICU beds: This refers to the number of beds normally available for admissions; i.e. beds blocked for any reason (staff shortages, technical problems, etc…) are not to be counted.

Enrollment (Form 2)
This form consists of patient demographics.
- Center nr.: Center number provided by the coordinating center.
- Patient nr.: Patient number provided by the coordinating center.
- Date/time of admission: The format day/month/year should be used, time given using the 24 hour clock
- Age: Patient’s age (in years) on the day of the study
- Weight: Patient’s weight (in kg) on the day of the study
- Height: Patient’s height (in cm) on the day of the study
- Type of admission: Surgical - defined as having surgery in the week preceding ICU admission. Elective surgery is defined as surgery scheduled > 24 hours in advance and emergency surgery as that scheduled within 24 hours of operation. Trauma is defined as an ICU admission directly related to, or as a complication of, a traumatic event in the 30 days preceding ICU admission. “Trauma” and “surgical” should be selected as type of admission if a trauma patient has undergone surgery. All other admissions are considered medical. Codes for site of surgery are listed separately (up to 3 sites are possible)
- Admission source: Only one choice is possible, but a free text option is available if needed.
- Primary diagnosis: The main reason for admission to the ICU. Only one primary diagnosis should
be entered (see codes).

- **Secondary diagnoses:** Defined as associated acute conditions on admission. Up to 3 secondary diagnoses are possible (see codes). If there are no relevant secondary diagnoses, please leave blank.

- **Comorbidities:** Chronic diseases present prior to ICU admission. More than one can be chosen according to the following definitions:
  - **Metastatic cancer:** Metastases proven by surgery, computed tomography or magnetic resonance scan, or any other method.
  - **Hematologic cancer:** If yes, select appropriate box.
  - **HIV infection:** HIV positive patients with clinical complications such as *Pneumocystis carinii* pneumonia, Kaposi's sarcoma, lymphoma, tuberculosis, or toxoplasma infection.
  - **Chronic renal failure:** Defined as either chronic dialysis dependent renal failure or history of chronic renal insufficiency with a serum creatinine > 3.6 g/dL (300 µmol/L).
  - **Immunosuppression:** Administration within the 6 months prior to ICU admission of corticosteroid treatment (at least 0.3 mg/kg/day prednisolone for at least one month) or other immunosuppressant drugs, severe malnutrition, congenital immunohumoral or cellular immune deficiency state.
  - **Chemotherapy/radiotherapy:** If yes, select within or more than 6 months prior to ICU admission.

**Study day variables (Form 3)**

These data will be used to calculate APACHE II, SAPS II and SOFA scores on the study day (13th September, 2017). This form should be submitted within one month after the study date, i.e., before October 13. If values are collected retrospectively, missing values should be left blank.

- **Center nr.:** Center number provided by the coordinating center.
- **Patient nr.:** Patient number provided by the coordinating center.
- **Min** refers to the lowest value and **max** to the highest value in the 24 hour-period. Both min and max values are required when indicated. If only one value has been recorded in the 24 hour-period, it should be noted in both fields (min & max).
- Please choose the **appropriate unit** when applicable.
- **Vasopressor doses** are calculated in µg/kg/min (except for vasopressin).
- In patients without respiratory support, FiO₂ can be estimated using the provided guidelines (listed separately at the end of this document).
- **PaO₂** and **FiO₂** should be recorded simultaneously and the lowest value during the day is reported. In absence of respiratory support, use the provided guidelines to estimate the FiO₂ and/or PaO₂. Artifacts should be avoided (transient decrease during pneumothorax……etc).
- If the patient stays for less than 24 hours (admitted or discharged during the day), the **urine output** should be estimated for the 24 hour period (for example, if the patient dies after 8 hours and had 500 ml of urine during his/her ICU stay, the urine output would be 1.5 L).
- **Continuous renal replacement therapy** refers to any forms of continuous renal therapy (CVVH, CVVHD, etc.) whereas intermittent **hemodialysis** refers to iterative hemodialysis.
Record the three components of the "estimated" **Glasgow coma score** (last pre-sedation GCS) and **the actual GCS on sedative/anesthetic agents**. If the patient cannot verbalize (eg, endotracheal tube, tracheostomy, …) you should indicate for the verbal component what you feel the verbal response would be if the patient could verbalize.

- **Infection** should be defined as definite, probable or possible as per the international sepsis forum definitions (Calandra and Cohen 2005).

- Please introduce the appropriate code for the site of infection, antibiotic(s), and microorganism(s). Only microorganisms considered to be pathogenic should be included with the most relevant microorganism for each site of infection recorded.

- Hospital-acquired infections are those evident at least 48 hours after hospitalization. Health-care-associated-infection refers to infections in a patient who meets any of the following criteria: 1. Received intravenous therapy at home; received wound care or specialized nursing care through a health care agency, family, or friends in the 30 days prior to hospital admission patients whose only home therapy was oxygen use were not included), 2) Attended a hospital or hemodialysis clinic or received intravenous chemotherapy in the 30 days prior to hospital admission, 3) Had been admitted to an acute care hospital for 2 or more days in the 90 days prior to hospital admission, 4) Resided in a nursing home or a long-term care facility. ICU acquired infections are defined as those occurring at least 24 hours following admission to the ICU.

**Follow-up (Form 4)**

The follow-up period is until hospital discharge or for 60 days (i.e., Nov. 12 for patients admitted on Sept 13 and Nov 13 for patients admitted on Sept 14) if the patient has not already been discharged. For patients discharged before 12/13 Nov follow up ceases at hospital discharge. Patients discharged alive from the hospital before 60 days will be considered as alive on the 60th day. This form should be completed and submitted before Dec. 15.
Codes

I Site of Surgery

100 Neurosurgery:
101 Cerebrovascular accident: neurosurgery for intracranial hematoma or other non-traumatic accident (hemorrhage, aneurysm)
102 Intracranial tumor: neurosurgery for any type of tumor primary or secondary
103 Spinal surgery
104 Ear, nose and throat surgery
105 Maxillo-facial surgery
106 Other

200 Thoracic surgery:
201 Pneumonectomy or lobectomy
202 Pleural surgery: includes all surgery on pleura either for tumor or pneumothorax
203 Lung transplantation
204 Other

300 Cardiac surgery:
301 Valvular, without CABG: all surgical treatments of valvulopathies without coronary surgery
302 Valvular with CABG: valvular repair with coronary surgery.
303 CABG without valvular repair:
304 Other: pericardial effusion, congenital anomaly, ventricular aneurysm, neoplastic disease, vena cava clipping/filter.
305 Heart transplantation
306 Heart & lung transplantation
307 Major aortic surgery: includes all surgery on aorta for dissection, atheroma, aneurysm.
308 Carotid endarterectomy: includes all surgery on the carotid artery
309 Other major vascular surgery: includes all surgery on intra thoracic or intra-abdominal vessels
310 Peripheral vascular surgery: includes all surgery on non-intracranial, non-intrathoracic, non-intraabdominal vessels, either arteries or veins with or without by-pass graft
311 Other

400 Renal-urinary tract:
401 Renal surgery
402 Urological surgery

500 Digestive:
501 Upper gastrointestinal surgery (up to and including the jejunum)
502 Lower gastrointestinal surgery
503 Biliary tract: surgery of gallbladder and/or biliary tract
504 Liver: partial hepatectomy, portal-systemic shunt surgery
505 Liver transplantation
506 Pancreas

600 Metabolic:
601 Endocrine surgery (thyroid, adrenal, pancreas etc)

700 Ob/gyn
701 Obstetric surgery: Cesarean section; surgery for ectopic pregnancy, peri or post partum hemorrhage, intra-uterine death
702 Gynecological surgery: surgery on uterus, ovaries, cervix uteri, genitalia
800 Trauma
801 Brain: surgery for subdural, epidural, intracerebral hematoma or skull fracture
802 Thorax: surgery of intra-thoracic organs (either cardiac, respiratory or digestive tract) and vessels.
803 Abdomen
804 Limb

900 Skin and soft tissue surgery
901 Surgery for necrotizing fasciitis
902 Burns surgery
903 Other skin or soft tissue surgery

II Diagnoses

000 Surveillance/monitoring only

100 Neurological:
101 Coma, stupor, obtunded patient, vigilance disturbances, confusion, agitation, delirium
102 Seizures
103 Ischemic stroke
104 Spontaneous intracranial hemorrhage
105 Focal neurological deficit (hemiplegia, paraplegia, tetraplegia) of other origin
106 Intracranial mass effect
107 Meningitis/encephalitis
108 Non-traumatic subarachnoid hemorrhage
109 Other

200 Respiratory:
201 ARDS: Syndrome of inflammation and increased permeability associated with clinical, radiological and physiological abnormalities: arterial hypoxemia resistant to oxygen therapy (PaO2/FiO2 < 300 mmHg) and diffuse bilateral radiological infiltrates without signs of cardiac failure (or increased left-sided filling pressures)
202 Acute respiratory failure on chronic pulmonary disease: Chronic pulmonary disease could be obstructive or restrictive
203 Pneumonia
204 Other

300 Cardiovascular:
301 Out-of-hospital cardiac arrest: Needing cardiopulmonary resuscitation (CPR) prior to admission to ICU. CPR must include chest compression, defibrillation or cardiac massage.
302 In-hospital cardiac arrest: Needing cardiopulmonary resuscitation (CPR) prior to admission to ICU. CPR must include chest compression, defibrillation or cardiac massage.
303 Shock: Defined as a systolic blood pressure (SBP) <90 mmHg or a drop in SBP of >40 mmHg from baseline with presence of organ hypoperfusion (altered cutaneous perfusion, oliguria, encephalopathy, lactic acidosis) requiring the use of vasopressor agents.
304 Coronary artery syndrome
305 Hypertensive crisis
306 Major arrhythmia
307 Cardiac failure without shock (left, right or global)
308 Endocarditis/myocarditis
309 Other

400 Renal:
401 Pre-renal (or functional) renal failure
402 Obstructive renal failure (post-renal)
403 Organic acute renal failure
404 Pyelonephriis
405 Other

500 Hematological:
501 Hemorrhagic syndrome
502 Coagulopathy including severe thrombocytopenia and/or increase in prothrombin lime and/or APTT.
503 Severe hemolysis
504 Other

600 Digestive/Liver:
601 Bleeding: Either upper or lower gastrointestinal tract
602 Acute abdomen: Related to infection, ischemia, perforation, inflammation, either upper or lower gastrointestinal tract. Excludes severe pancreatitis
603 Severe pancreatitis
604 Liver failure: hepatic failure inducing metabolic disturbances and/or encephalopathy
605 Other

700 Metabolic:
701 Acid-base and/or electrolyte disturbance
702 Hypo and hyperthermia
703 Hypo and hyperglycemia (includes diabetic coma)
704 Hypo/hyperthyroidism
705 Other

800 Ob/gyn:
801 Eclampsia
802 Peripartum bleeding
803 Other peripartum complication
804 Other obstetric problem
805 Gynecological problem

900 Trauma
901 Brain
902 Thorax
903 Abdomen
904 Limb
905 Polytrauma
906 Burns without surgery

IV Site of infection

1 Respiratory
2 Abdominal
3 Blood stream
4 Renal
5 Skin
6 Catheter-related
7 Genito-urinary
8 Central nervous system
9 Other
V Microorganisms

Gram-positive
101 Staphylococcus aureus, unknown sensitivity/resistance
102 Staphylococcus aureus sensitive to methicillin (MSSA)
103 Staphylococcus aureus resistant to methicillin (MRSA)
104 Staphylococcus aureus resistant to linezolid
105 Staphylococcus aureus vancomycin-intermediate or resistant (VISA)
106 Staphylococcus coagulase negative (epidermidis, haemolyticus, …), unknown sensitivity/resistance
107 Staphylococcus coagulase negative (epidermidis, haemolyticus, …) sensitive to methicillin
108 Staphylococcus coagulase negative (epidermidis, haemolyticus, …) resistant to methicillin
109 Streptococcus D group (Enterococcus faecalis, faecium), unknown sensitivity/resistance
110 Streptococcus D group (Enterococcus faecalis, faecium) vancomycin sensitive
111 Streptococcus D group (Enterococcus faecalis, faecium) vancomycin-intermediate or resistant (VRE)
112 Streptococcus, A, B, C, G group
113 Streptococcus pneumoniae, unknown sensitivity/resistance
114 Streptococcus pneumoniae resistant to macrolides
115 Streptococcus pneumoniae sensitive to macrolides
116 Streptococcus, others
117 Cocci Gram +ve, others
118 Neisseria meningitidis
119 Moraxella (Moraxella catarrhalis, Moraxella spp)
120 Listeria monocytogenes
121 Neisseria gonorrhoeae
122 Bacillus Gram +ve, others (Bacillus cereus, Bacillus spp, Corynebacterium spp, Lactobacillus, Rhodococcus equi, Nocardia spp, other)

Gram-negative
201 Escherichia coli, unknown sensitivity/resistance
202 Escherichia coli sensitive to beta lactams (including 3rd generation cephalosporins)
203 Escherichia coli resistant to beta lactams (including 3rd generation cephalosporins)
204 Escherichia coli resistant to carbapenems
205 Enterobacter (any type)
206 Klebsiella, unknown sensitivity/resistance
207 Klebsiella (any type) sensitive to beta lactams (including 3rd generation cephalosporins)
208 Klebsiella (any type) resistant to beta lactams (including 3rd generation cephalosporins)
209 Klebsiella resistant to resistant to carbapenems
210 Proteus or Providencia (any type)
211 Salmonella (any type)
212 Serratia
213 Citrobacter
214 Pseudomonas aeruginosa, unknown sensitivity/resistance
215 Pseudomonas aeruginosa sensitive to carbapenems
216 Pseudomonas aeruginosa sensitive to beta lactams (including 3rd generation cephalosporins)
217 Pseudomonas aeruginosa resistant to carbapenems
218 Pseudomonas aeruginosa resistant to beta lactams (including 3rd generation cephalosporins)
219 Pseudomonas, other
220 Acinetobacter, unknown sensitivity/resistance
221 Acinetobacter sensitive to carbapenems
222 Acinetobacter resistant to carbapenems
223 Stenotrophomonas maltophilia
224 Campylobacter - Helicobacter - Brucella
225 Haemophilus (influenzae or other)
226 Enterobacteria, other (Yersinia spp, Shigella spp, other)
227 Any Gram-negative resistant to colistin
228 Gram -ve, other
**Anaerobes**
301 Clostridium (Clostridium difficile, Clostridium perfringens, Clostridium spp, Actinomyces, Propionibacterium)
302 Anaerobe cocci (Peptococcus, Peptostreptococcus, Veillonella)
303 Bacteroides (Bacteroides fragilis, Bacteroides melaninogenicus, Capnocytophaga, Fusobacterium spp…)
304 Anaerobe, other

**Other organisms**
401 Mycobacteria (tuberculosis or others)
402 Chlamydia
403 Rickettsia
404 Mycoplasma (Mycoplasma pneumoniae or hominis, Rochalimeae spp, Bartonella spp)
405 Legionella pneumoniae

**Fungi**
501 Candida albicans, unknown sensitivity/resistance
502 Candida albicans sensitive to azoles
503 Candida albicans resistant to azoles
504 Candida tropicalis, unknown sensitivity/resistance
505 Candida tropicalis sensitive to azoles
506 Candida tropicalis resistant to azoles
507 Candida glabrata, unknown sensitivity/resistance
508 Candida glabrata sensitive to azoles
509 Candida glabrata resistant to azoles
510 Candida krusei, unknown sensitivity/resistance
511 Candida krusei sensitive to azoles
512 Candida krusei resistant to azoles
513 Candida kefyr, unknown sensitivity/resistance
514 Candida kefyr sensitive to azoles
515 Candida kefyr resistant to azoles
516 Candida parapsilosis, unknown sensitivity/resistance
517 Candida parapsilosis sensitive to azoles
518 Candida parapsilosis resistant to azoles
519 Candida guilliermondii, unknown sensitivity/resistance
520 Candida guilliermondii sensitive to azoles
521 Candida guilliermondii resistant to azoles
522 Candida dubliniensis, unknown sensitivity/resistance
523 Candida dubliniensis sensitive to azoles
524 Candida dubliniensis resistant to azoles
525 Aspergillus
526 Fungi, other (Cryptoccus neoformans, Histoplasma spp…)

**Viruses**
601 Influenza A
602 Influenza B
603 HSV I or II
604 CMV
605 Others

**Parasites**
701 Plasmodium falciparum, Pneumocystis carinii, Toxoplasma gondii...

801 Mixed Flora

**V Antibiotics**
### Cephalosporins
- 11 Cefazolin
- 12 Cefuroxime
- 13 Ceftazidime
- 14 Ceftriaxone
- 15 Cefepime/cefpirome
- 16 Other cephalosporin

### Penicillins
- 21 Benzyl penicillin
- 22 Ampicillin
- 23 Amoxy + clavulanate
- 24 Pipera + tazo
- 25 Oxa/cloxa/flucloxacillin
- 26 Other penicillin

### Carbapenems
- 31 Imipenam
- 32 Meropenem
- 33 Etrapenem
- 34 Doripenem
- 35 Others

### Other beta-lactams
- 41 Temocillin
- 42 Aztreonam
- 43 Other

### Aminoglycosides
- 51 Amikacin
- 52 Tobramycin
- 53 Gentamicin
- 54 Other

### Quinolones
- 61 Ciprofloxacin
- 62 Levofloxacin
- 63 Other

### Glycopeptides
- 71 Vancomycin
- 72 Teicoplanin
- 73 Other

### Macrolides
- 81 Erythromycin
- 82 Other (clarithromycin, etc)

### Other antibiotics
- 91 Metronidazole
- 92 Cotrimoxazole
- 93 Oxazolidinone (Linezolid)
- 94 Lipopeptide (Daptomycin)
- 95 Tigecycline
- 96 Other

### Antifungal
1 Fluconazole
2 Amphotericin B
3 Ampho lipid formulation
4 Echinocandins
5 Voriconazole
6 Other

200 Antiviral
201 Highly active antiretroviral therapy (HAART)
202 Oseltamivir
203 Zanamivir
204 Aciclovir
205 Ganzaciclovir
206 Amantadine
207 Other
Appendix

A) Conversion tables

1 Estimating PaO₂ from a given SO₂

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<th>SO₂ (%)</th>
<th>PaO₂ (mmHg)</th>
<th>pKa</th>
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</table>

2 Estimating FiO₂

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<th>Method</th>
<th>O₂ flow (l/min)</th>
<th>Estimated FiO2 (%)</th>
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<tr>
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<td>6</td>
<td>44</td>
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<tr>
<td>Nasopharyngeal catheter</td>
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<td>40</td>
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<tr>
<td></td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Face mask</td>
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</tr>
<tr>
<td></td>
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</tr>
<tr>
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<td>7-8</td>
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</tr>
<tr>
<td></td>
<td>&gt;8</td>
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<td>Face mask with reservoir</td>
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<tr>
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