The ‘No-Test’ Scenario

A SYNDROMIC APPROACH TO COVID-19

Dr Olivia Farrant 1*, Lt Col Dr Stephen Sevallie 2, Dr Dan Youkee 3, Dr Mary Bunn 4, Dr Hannah Dabrowski 5, Dr Arthur Clegg 6

1. Infectious Diseases volunteer, Kings Sierra Leone partnership *olivia.1.farrant@kcl.ac.uk
2. Case Management Pillar Lead, Sierra Leone COVID-19 response
3. Clinical Research Fellow, Kings Sierra Leone Partnership
4. Palliative Care specialist, Connaught Hospital, Sierra Leone
5. Infectious Diseases/Microbiology Registrar, Guys and St Thomas’ hospital, London
6. Infectious Diseases/Microbiology Registrar, University College Hospital, London
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Rationale

As the coronavirus pandemic spreads, there is likely to be limited availability of diagnostic tests for COVID-19 in low-income settings, with demand outstripping supply during a potential surge in cases with critical and severe illness. In this instance, a move to syndromic management of patients with febrile respiratory illness could be adopted to reduce mortality through broad treatment approaches, diagnosis and management of other highly prevalent conditions which can present similarly to COVID-19 and early recognition of the deteriorating patient to enable timely intervention and transfer to a higher level of care if available.

Our aims for this approach are to preserve treatment beds for those with severe illness, and those likely to have a positive outcome. This will require strict triage procedures, treatment approaches and discharge policies that can be standardised nationally.

Scope of document:
For dissemination to all healthcare facilities where suspected COVID-19 patients are likely to present. It is meant to be used in a setting where routine laboratory investigations, COVID-19 specific investigations and radiology are not available – with a focus instead on the clinical presentation of the patient. This clinical assessment does not necessarily need to involve medical personnel with advanced examination skills – it can also be carried out by an experienced nurse, community health officer or similar. This guideline is designed to act as a guide for clinicians and nursing staff, checklists and posters can be printed out and used to optimise patient management. This should not replace specific case management standard operating procedures but should instead provide a more condensed guide to those working in health facilities.

Principles of a syndromic approach
The assumption for the ‘no-test’ scenario is that if this were to occur, there would be no way to distinguish COVID-19 from other conditions presenting in the same way, i.e. ‘acute respiratory illness’ (ARI). In this scenario, there would be the formation of ARI wards or facilities who would receive patients with a clinical syndrome of fever, cough and breathlessness. These ARI wards or facilities would only admit patients with a moderate or severe illness, to reserve treatment beds only for those severely unwell. The approach to patients on these ARI wards would need to reflect the epidemiology of the region – with common causes of breathlessness being considered and addressed in the approach. There is a brief guide to these included in this document but this is by no means exhaustive.

This approach would differentiate severity primarily based on oxygen requirement, with a proposed ‘traffic light’ system applied to all patients at triage to decide on treatment destination. This categorisation is flexible, and clinicians can also determine patients as severe based on overall clinical condition, underlying co-morbidities and risk of deterioration. All ‘red’ patients would be cared for in an ARI facility where oxygen supply is more robust. ‘Amber’ patients will have a lower oxygen requirement and will be cared for in an ARI facility. ‘Green’ patients are those with no oxygen requirement. These patients will be clinically assessed and given treatment according to the likely underlying aetiology. They will be given advice about home care, the symptoms of severe COVID-19 and when to re-present to a health facility in the case of deterioration.

Weaved into this syndromic approach will be guidelines for how to approach patients who are severely hypoxic and unlikely to have a positive outcome. This type of patient is colour-coded as
If we identify this patient early in the process, we can focus more on symptom alleviation using pharmacological and non-pharmacological therapies to make them as comfortable as possible. It also means that scarce resources such as oxygen and beds in ARI facilities are reserved for those more likely to survive, which will save more lives in the long-term. In many countries, there is a tendency to hope for improvement, and reluctance to acknowledge deterioration, dying and the need for end-of-life care. Available care aimed at cure should be continued whilst there is possibility of cure and facilities are available, but there is a need to consider the ethical basis for each individuals’ care, bearing in mind dignity and respect for the patient and not doing harm (non-maleficence); and the appropriate use of limited resources (justice). Guidelines for clinicians about how to make these decisions, and guidance for nurses about how to care for patients who may not survive is included in this document.

The threshold for moving to the ‘no-test’ scenario is in phase 3 of the COVID-19 epidemic- when there is confirmed community transmission and containment strategies become unfeasible in many low-income settings. The threshold indicators would be those related to isolation beds and patients presenting to isolation facilities, as this is where the bottleneck lies in the system when there is a lack of tests. These could include:

- Isolation bed occupancy of >80% over a 3-day period
- A delay in dissemination of test results of >24 hours for 3 consecutive days
- Number of patients presenting that meet case definition > number of isolation beds in a given area for 3 consecutive days

Limitations
This approach would place COVID-19 negative and positive patients together in a health facility. Every attempt would be made to prevent nosocomial transmission of COVID-19 and this is discussed in this document. In addition, to prevent the spread of Tuberculosis in the facility, suspected TB cases will be kept separate from other patients in these facilities. If a patient is confirmed as at risk from the screening questions, or if they are HIV positive with a cough of any duration, they will be cared for in a separate area until their GenXpert result is available.
Summary assessment and management of Acute Respiratory Illness

Identified as Acute Respiratory Illness from screening (see form):

- 2 or more of:
  - Fever >37.5°C
  - Shortness of breath
  - Cough
  - Oxygen saturations <96% on air

NB: Clinicians to be aware that older people and those immunosuppressed (e.g. diabetes) may present with atypical symptoms such as fatigue, reduced alertness, reduced mobility, diarrhoea, loss of appetite, delirium, and absence of fever

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<table>
<thead>
<tr>
<th>All patients: Initial assessment</th>
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<tbody>
<tr>
<td><strong>NURSING:</strong></td>
</tr>
<tr>
<td>Vital signs assessment and early warning score</td>
</tr>
<tr>
<td>Malaria RDT</td>
</tr>
<tr>
<td>HIV test (if HIV status unknown or negative previously)</td>
</tr>
<tr>
<td>Random blood glucose</td>
</tr>
</tbody>
</table>

| **CLINICIAN**                   |
| History and examination         |
| If HIV negative: Weight loss? Night sweats? Cough >2 weeks? |
| If HIV positive: Cough of any duration? |
| Send sputum for GenXpert for M. TB if yes to above screening questions |
| Severity assessment – see below |
| Admission vs discharge based on severity assessment |

Severity assessment:

- **RED PATIENT** SpO2 <90% on air, likely to survive – ADMIT
- **AMBER PATIENT** SpO2 90-94% on air – ADMIT
- **GREEN PATIENT** SpO2 >94% on air (no oxygen requirement) – DISCHARGE HOME with advice
- **PURPLE PATIENT** SpO2 <90% on air and unlikely to survive

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<table>
<thead>
<tr>
<th>Summary management: admitted patients</th>
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</thead>
<tbody>
<tr>
<td>Oxygen – aim SpO2 &gt;94% in critical illness, &gt;90% if stable and not pregnant adult patient</td>
</tr>
<tr>
<td>IV fluids if signs of dehydration (see ‘Cardiovascular’ section of deterioration poster)</td>
</tr>
<tr>
<td>IV broad spectrum antibiotics if signs of severe sepsis (see deterioration poster)</td>
</tr>
<tr>
<td>Thromboprophylaxis</td>
</tr>
<tr>
<td>Monitor urine output</td>
</tr>
<tr>
<td>Maintain adequate nutrition</td>
</tr>
<tr>
<td>If HIV test reactive – complete HIV inpatient checklist and manage according to national guidelines</td>
</tr>
<tr>
<td>If GenXpert Mycobacterium TB positive – follow national TB guidelines for management</td>
</tr>
<tr>
<td>Consider alternative diagnoses and include in your treatment approach</td>
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</tbody>
</table>
Process Map: Patient flow at a health facility

1. Patient presents to facility
2. Screening form completed
3. Acute Respiratory Illness? (see definition)
   - Yes
     - Transfer to 'Isolation Triage'
     - Triage by nursing staff
     - Clinical assessment with traffic light system
       - Red
         - *If able - put patient on oxygen to maintain SpO2 >94%*
         - Admit to ARI facility
         - Risk of TB? (see screening questions)
           - Separate from other patients and await result of MTB GenXpert
     - Amber
         - Admit to ARI facility
         - Risk of TB? (see screening questions)
           - Separate from other patients and await result of MTB GenXpert
   - No
     - Continue to normal health facility triage
     - Triage by nursing staff
     - Clinical assessment with traffic light system
       - Green
         - Discharge home with advice
       - Amber
         - Admit to ARI facility
         - Risk of TB? (see screening questions)
           - Separate from other patients and await result of MTB GenXpert
       - Red
         - *If able - put patient on oxygen to maintain SpO2 >94%*
         - Admit to ARI facility
         - Risk of TB? (see screening questions)
           - Separate from other patients and await result of MTB GenXpert
COVID-19 Screening Form

<table>
<thead>
<tr>
<th>Name of screener:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Telephone no. of screener</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td>Time:</td>
</tr>
<tr>
<td>Patient name:</td>
<td></td>
</tr>
<tr>
<td>Date of birth/age:</td>
<td></td>
</tr>
<tr>
<td>Hospital ID Number:</td>
<td></td>
</tr>
</tbody>
</table>

For completion by screener:

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Yes □</th>
<th>No □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature: Is it &gt;37.5°C or history of fever?:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cough, a new continuous cough which means coughing a lot for more than an hour or having 3 or more coughing episodes in 24 hours:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortness of breath?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen level: Is it &lt;96%?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do they have 2 or more of: fever, shortness of breath, Oxygen level &lt;96%, cough?</td>
<td>Yes □</td>
<td>No □</td>
</tr>
</tbody>
</table>

If yes:
1. Give the patient a mask
2. Move the patient to the Isolation Triage for further assessment

Outcome (please circle): REQUIRES ISOLATION DOES NOT REQUIRE ISOLATION
Isolation Triage Process

Outcome 1: 100% of patients are seen by a nurse within 15 minutes of arriving at facility

Outcome 2: Blood pressure, heart rate, temperature, respiratory rate and oxygen saturations measured for every patient by nurse during initial assessment

Outcome 3: Nurse to calculate Early Warning Score (EWS) score from observations for every patient

Outcome 4: Nurses to triage patients based on SLEWS score and escalate as necessary

** If able and resources allow – nursing staff should immediately put patient on oxygen if their SpO2 is <90%**

Outcome 5: All patients have a malaria RDT performed

Outcome 6: All patients have an HIV RDT performed if their HIV status is unknown

Outcome 7: All patients have a random blood glucose performed

<table>
<thead>
<tr>
<th>Example Early Warning Score</th>
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<tbody>
<tr>
<td>Score</td>
</tr>
<tr>
<td>Respiratory Rate</td>
</tr>
<tr>
<td>Oxygen saturations</td>
</tr>
<tr>
<td>Temp</td>
</tr>
<tr>
<td>Systolic BP</td>
</tr>
<tr>
<td>Pulse</td>
</tr>
<tr>
<td>AVPU</td>
</tr>
</tbody>
</table>

| 0-4 | Continue with routine observations, routine clinical review |
| 5+ OR SpO2 <90% | INFORM DOCTOR IMMEDIATELY FOR REVIEW |
Clinical Assessment at Isolation Triage

Initial assessment:

Outcome 1: Clinician to assess every patient within 30 minutes of arrival
Outcome 2: Clinician to take a full history and examine the patient
Outcome 3: All patients asked the following screening questions
  o If HIV negative: Have you had weight loss, night sweats or a cough for > 2 weeks?
  o If HIV positive: Do you have a cough?
Outcome 4: If yes to any of the above questions, patient should have a sputum sample taken and sent for GenXpert testing
Outcome 5: All patients to have a documented ‘traffic light’ severity assessment written at the front of their patient record

Severity assessment:
Red – oxygen saturations <90% on air, positive outcome likely
Purple – oxygen saturations <90% on air, positive outcome unlikely
Amber – oxygen saturations 90-94% on air
Green – oxygen saturations >94% on air

Outcome 6: All red patients to be put on oxygen immediately and admitted/transferred to an ARI facility
Outcome 7: All purple patients to be admitted to a bed and best supportive care initiated, with a focus on alleviation of symptoms
Outcome 8: All amber patients to be admitted/transferred to an ARI facility

Clinical assessment will conclude with a decision about admission vs discharge home. This will be based on:
- Oxygen requirement, severity of illness
- Clinical frailty (see clinical frailty poster)
- Presence of one or more of known risk factors for rapid deterioration and increased mortality:
  o Older age (> 60 years)
  o Cardiovascular disease, diabetes mellitus, chronic lung disease, cancer and cerebrovascular disease
  o Smoking

Outcome 9: All green patients to be given a likely diagnosis, provided with a prescription for treatment if required, and discharged home with advice on self-isolation
Requirements for ‘Red’ and ‘Amber’ patients

Acute Respiratory Illness facilities
In some countries this will be a designated COVID-19 facility. In others this will be a ward in a pre-existing health care facility. These facilities will only accept ‘red’ and ‘amber’ patients who have a severe illness and require the highest level of care. There should be a focus on upscaling oxygen capacity at these facilities, a far-reaching intervention that will be sustainable well into the future. See the ‘alternative causes of breathlessness’ part of this document for clinicians to consider when a patient is admitted.


1. **Oxygen**: if flow rates adequate maintain saturations >94% in critical illness, or if not >90% in stable, non-pregnant patients
2. **Positioning**:
   a. High supported sitting: put bed upright if able and get patient to sit UP. This will enable more sufficient chest expansion and reduce alveolar dead space
   b. Prone positioning – if patient able and tolerates. If obese patient consider a pillow under the chest to allow decompression of abdominal contents.
      i. On front for 30 minutes – 2 hours
      ii. On right side for 30 minutes – 2 hours
      iii. On left side for 30 minutes – 2 hours
3. **Fluid management**: if signs of shock, systolic blood pressure <90, tissue hypoperfusion give 250-500ml STAT fluid bolus within 15-30 minutes of arrival and re-assess need for further boluses.
   a. Cautious fluid management required – aggressive fluid therapy may worsen oxygenation
4. **Antibiotics**: IV broad spectrum antibiotics for all patients admitted in septic shock within 1 hour of arrival
5. **Steroids**: Updated 6th July 2020 with the RECOVERY trial results – dexamethasone oral or IV 6mg OD for 10 days for patients requiring oxygen (see below*)
6. **Thrombosis**: All patients to receive thromboprophylaxis
7. **Nutrition**: Encourage if patient able, consider PPI if patient severely unwell to prevent GI ulceration
8. **Urine output**: catheterise if severely unwell
   a. Monitor urine output in catheterised patients
   b. Monitor urine output in non-catheterised patients by measurement of urine in measured bucket/jug
9. **Pre-existing medical conditions.** Continue normal treatment if the patient is taking, unless there is a contra-indication

Other:
   a. **Malaria**: If RDT positive, severity assessment (see treatment poster), treat according to algorithm
   b. **HIV**: If RDT positive or known HIV
      i. Complete HIV inpatient checklist (see below)
      ii. Bloods for CD4 count and viral load –free under Global Fund budget
iii. Consider prescribing anti-retroviral medication according to national guidelines
iv. Consider high-dose co-trimoxazole with folinic acid supplementation if PCP likely, or prophylactic dose if not
v. Fluconazole prophylaxis
c. **TB:** If GenXpert positive and no signs/symptoms of TB meningitis – start TB treatment according to national guidelines
d. **Delirium:**  
   i. Address underlying causes of delirium: hypoxia, infection, constipation, urinary retention, acute pain  
   ii. Haloperidol, low dose benzodiazepines if patient at risk to themselves
e. **Psychosocial support**
f. **Symptom alleviation**  
   i. Non-pharmacological interventions – distraction, cooling, calming orientation  
   ii. Low dose morphine sulphate 5mg modified release PO for breathlessness  
   iii. Low dose diazepam for anxiety

*Update 6th July – dexamethasone has been shown to reduce mortality in the RECOVERY trial. Mortality reduction greatest in ventilated patients, currently uncertain how this translates to a low-income setting. When prescribing steroids monitor for:

- Hyperglycaemia
- Hypernatraemia
- Hypokalaemia
- Signs of adrenal insufficiency after stopping corticosteroids, which may have to be tapered.
- Strongyloides stercoralis hyperinfection with steroid therapy - diagnosis or empiric treatment should be considered in endemic areas if steroids are used.

**Amber patients**
If there is a high suspicion of COVID-19 as the cause of symptoms, then antibiotics are not recommended in moderate disease. However, if there is a clinical suspicion of bacterial pneumonia - cough productive of white, yellow, green sputum, then consider oral antibiotics if able to swallow. Other management is the same as ‘red’ patients according to need and clinical presentation.

**Prevention of nosocomial transmission of COVID-19 and other infections**
Patients cared for in ARI facilities will be a mixture of negative and positive cases. They should therefore be cared for in bed spaces that are at least 2m apart. There should ideally be plastic sheeting or another physical barrier between beds that is easily cleaned with disinfectant. Patients should use buckets to go to the toilet and not leave their bed space for any reason, until they are discharged. Ideally a separate set of vital signs equipment should be used per patient. If this is not possible, vital signs equipment will need to be decontaminated between each patient use. When patients become asymptomatic towards the end of their illness, they could be cohort cared for away from patients with more active respiratory illness to prevent re-infection.
Patients that are identified as suspected TB from the assessment process will be cared for away from other patients. Suspect TB cases are defined as HIV negative patients who have had weight loss, night sweats or a cough for >2 weeks, or HIV positive patients who have a cough of any duration.
Purple: Symptom relief and best supportive care for patients who are unlikely to survive

To make the decision among those most unwell with suspected COVID-19 about who is likely to survive and who is not, will be incredibly challenging for clinicians. However, it is imperative that these decisions are made early, as there is a real opportunity to intervene to offer holistic symptom management and psychosocial support, rather than subjecting them to invasive medical care and lengthy, uncomfortable transfers to other facilities.

Clinical decision-making of patients who are unlikely to survive

This decision will be based on a variety of indicators but should consider:
- Co-morbidities
- Degree of frailty – see the Appendices for frailty indicators
- Severity of presenting illness
  - Severity of hypoxia
  - Conscious level

Treatment:
It is important to mention that all symptom-control options are applicable to all patients with COVID-19, not just those who are unlikely to survive.

Non-pharmacological

All patients need to be treated with kindness and reassurance, particularly as they have been separated from their families and usual supports, and are being nursed by staff in PPE, which is frightening. Strategies to keep patients comfortable:
- Checking for reversible causes of agitation and confusion, such as urinary retention, constipation, pain, dehydration, and resolving these where possible
- Positioning (such as sitting upright and leaning forwards to help breathlessness), relaxation techniques, cooling by use of wet cloth or flannel
- Oral fluids for cough and fever
- Calm surroundings with appropriate lighting
- Explanation, re-orientation and counselling
- Distraction, e.g. with music/radio

Pharmacological

<table>
<thead>
<tr>
<th></th>
<th>First-line</th>
<th>Second-line</th>
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<tbody>
<tr>
<td>Breathlessness and</td>
<td>Morphone Sulphate Tablets MR (MST modified release) PO 5mg 12 hourly (Max</td>
<td>Morphone sulphate immediate release (IR) 2-5mg, 2-4 hourly PRN</td>
</tr>
<tr>
<td>cough</td>
<td>15mg 12 hourly)</td>
<td></td>
</tr>
<tr>
<td>Fever and rigors</td>
<td>Paracetamol 1g 4-6 hourly, maximum 4g/24hours (↓ dose to 15mg/kg per dose if weight ≤50kg)</td>
<td>Paracetamol 1g PR 4x/day OR by IV infusion over 15mins</td>
</tr>
<tr>
<td>Anxiety and</td>
<td>Diazepam 2-10 mg orally, 8-12 hourly</td>
<td>Diazepam 2-5mg PR, SL or BUC 8-12 hourly PRN</td>
</tr>
<tr>
<td>agitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delirium</td>
<td>Haloperidol 500micrograms- 1mg oral 8 hourly PRN</td>
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</table>
Home isolation advice for ‘Green’ Patients

This would be for ‘green’ patients – those with symptoms of an acute respiratory illness, with no oxygen requirement. These patients may have other diagnoses highlighted from their initial assessment that require treatment, such as malaria. See the alternative causes of breathlessness guidance below in this document. Prescriptions will be provided for patients to take at home and will be advised about care measures, in addition to those specific for COVID-19.

<table>
<thead>
<tr>
<th>NB: mild COVID disease – antibiotics NOT recommended</th>
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<tbody>
<tr>
<td>Symptomatic treatment such as antipyretics for fever and pain, adequate nutrition and appropriate rehydration</td>
</tr>
<tr>
<td>SAFETY NET: If they develop any worsening symptoms (such as light headedness, difficulty breathing, chest pain, dehydration, etc.), they should seek urgent care</td>
</tr>
</tbody>
</table>

Self-isolation advice
Self-isolate at home (not leave the house) for 7 days
Other people in your household must not leave the house for 14 days
Ask people who are delivering food/supplies to leave them outside the door and not interact with you
Advice regarding warning signs of deterioration and when to re-present to a health facility

Living with someone from a vulnerable group:
If you live with someone who is aged 65 and over, who is pregnant, who has a diagnosed long-term health condition (see below) then if possible, they should move somewhere else in the 7 days after you are seen at the health facility.

If this is not possible then you should:
- Keep 2m away from them at all times
- Use a different bathroom if possible
- Do not share towels
- Do not use the kitchen at the same time
- Do not share a bed
- Decontaminate surfaces such as tabletops, door handles using a detergent several times a day

Examples of long-term conditions:
Asthma, COPD, heart failure, chronic kidney disease, diabetes, high blood pressure, hepatitis, HIV, sickle cell disease
Discharge criteria

In the absence of testing the following criteria for discharge should be adopted:

- In an ARI facility—patients can be safely discharged when they are clinically well with no oxygen requirement
- According to WHO guidelines this is when a symptomatic patient is 10 days after symptom onset, plus at least 3 days without symptoms
- Provide a package of discharge that will include advice on infection prevention and control (social distancing of at least 1.5m, cough etiquette, handwashing) adequate nutrition, and psychosocial counselling to both patients and family members.
- Integrate all patients to their community to prevent stigma regarding admission to a COVID-19 treatment facility
Consideration of alternative diagnoses

INFECTIONOUS CAUSES OF FEVER/SHORTNESS OF BREATH/COUGH

**Dengue virus**
Presentation: fever, sore throat, coryzal symptoms, rash, myalgia, arthralgia, conjunctivitis
Look for: shock, bleeding, decreased consciousness, thrombocytopenia
Requires:
- Early recognition of shock
- Close monitoring of BP, pulse, urine output and capillary refill time.
- Fluid replacement if in shock with 10-20ml/kg/hr crystalloid until condition stabilizes
- Early recognition of fluid overload and to slow fluid replacement

**Typhoid fever**
Presentation: fever, confusion, cough, abdominal pain, constipation, shock, sepsis
Requires:
- Early recognition of complications such as small bowel perforation, ulceration
- Treatment with fluoroquinolones or 3rd generation cephalosporin

**Leptospirosis**
Presentation: fever, headache, myalgia, conjunctiviral suffusion
Look for: history of fresh-water exposure
If severe can cause an aseptic meningitis/encephalitis, renal failure, hepatitis, respiratory distress
Treatment: 3rd generation cephalosporin, doxycycline, erythromycin

**Viral haemorrhagic fever – Ebola, Lassa, Marburg, Yellow fevers**
Presentation: fever, headache, myalgia, fatigue, conjunctivitis, nausea, vomiting, abdominal pain, sore throat, retrosternal chest pain
If severe: epistaxis, gum bleeding, haematemesis, melaena, bruising
Requires:
- Rehydration

NON-INFECTIONOUS CAUSES OF BREATHLESSNESS/COUGH

Consider pulmonary causes:
Do they have asthma? COPD? Is there a history of smoking? Do they have wheeze on auscultation of the chest? Have they had chest pain? Could this be a blood clot (PE) or a pneumothorax? Are breath sounds equal bilaterally?

Consider haematological causes:
Do they have a family history of sickle cell disease? Is there a history of painful crises? Is there a history of bleeding? Have you asked about menorrhagia?

Consider cardiac causes:
Do they have swollen legs? A swollen abdomen?
Is there a raised JVP? Gallop rhythm on auscultation of the heart sounds? Displaced apex beat?
Have they had a history of chest pain? Could they have had a heart attack?
Is there an irregular pulse?

Consider abdominal causes:
Is there abdomen swollen? Are they jaundiced? Do they have an enlarged liver? Is there signs of chronic liver disease? Is their urine output low? Is there a history of chronic kidney disease? Are they itching from uraemia?
Appendix 1: Poster - Signs of deterioration

General
- Extreme lethargy
- Dizziness
- Decrease urine output
- Not eating and drinking
- Sunken eyes, low skin pinch

Respiratory
- Shortness of breath
- Blue discoulouration of extremities/lips
- Grunting/wheeze
- Stridor
- High respiratory rate
- Low oxygen saturation

Cardiovascular
- Delayed capillary refill
- Weak pulse
- Cool extremities
- Low blood pressure
- High heart rate

CNS
- Confusion
- Irritability
- Weakness
Appendix 2: Malaria inpatient management algorithm

Malaria Treatment Flow Chart for Hospitals

If signs and symptoms consistent with severe malaria do not await malaria RDT/blood film result before initiating treatment

If no signs and symptoms of severe malaria and a negative RDT/blood film do not start anti-malarials

Alternative treatments for severe malaria:
1. Artemether IM-Loading 3.2mg/kg followed by 1.6mg/kg daily
2. Quinine IV-Loading 20mg/kg followed by 10mg/kg 8 hourly

Alternative treatments for non-severe malaria:
1. If unable to tolerate Artemether-Lumefantrine consider Artesunate with Amodiaquine 100/270mg as alternative
2. 1st trimester pregnancy - Oral quinine and Clindamycin
3. 2nd and 3rd trimester pregnancy continue with Artemether-Lumefantrine

Further management:
1. Use dosage chart
2. Doctors to determine frequency of monitoring
3. Treathypoglycaemia
4. Check for malnutrition: record Z-score if <5 years. Caution with fluids in malnutrition
5. Doctors to determine maintenance fluids/feeds
6. Do not give bolus iv fluids for shock unless the cause is gastroenteritis
7. If Hb 5 g/dl transfuse 20ml/kg whole blood urgently
8. Treat co-infection if signs present

Fever >37.5 or history of fever & no obvious cause of infection

Carry out malaria RDT/Blood film

IF NO SIGNS OF SEVERE MALARIA DO NOT TREAT AND DISCUSS WITH SENIOR

POSITIVE

NO

YES

Signs of severe malaria
- Prostration (unable to walk/sit without support or drink/breastfeed)
- >2 convulsions in 24 hours
- Altered consciousness
- Blood Sugar <2.5mmol/L
- Hb <5.0g/dL (or PVC 15%)
- Shock (compensated or decompensated)
- Increased work of breathing where pneumonia is unlikely

Initiate ARTEMESUNATE 2.4mg/kg IV/IM at 0,12,24 hours

Patient has had minimum of 3 doses artesunate, resolution of symptoms and tolerating oral medication?

Initiate ARTEMETHER/LUMEFANTRINE (AL) 80/480mg (co-artem 4 tablets) BD for three days
Appendix 3: HIV Inpatient Checklist

Please complete for all patients with a positive HIV test

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>Hospital ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team: ART/HTS code</td>
<td>Occupation:</td>
<td>Ward</td>
<td></td>
</tr>
<tr>
<td>Date of Discharge/death:</td>
<td>Outcome of admission: Discharge/death/ DAMA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To be completed on admission

➔ Send sample for CD4 □ Date requested: □ Result:

Admission details

Presenting complaint:
HIV 1 □ HIV 2 □ HIV 1+2 □ New diagnosis □ Previously diagnosed □ → if so complete next section

HIV details and support services

Date diagnosed: Site of usual care: Date of last clinic attendance:
Previous CD4 & date: Previous VL & date:
ART: Current regimen:
- Adherence (review yellow book): Good□ Intermittent□ Treatment interrupted (defaulter) □ No book□
➔ Prescribe current ART unless reason to stop □ Reason if not prescribed:
➔ Prescribe co-trimoxazole 960mg tabs OD unless high-dose indicated □ Reason if not prescribed:
Support: Family support□ Member of support group□ Destitute□ Self □
HIV status of partner: Positive( ) Negative( ) Unknown( )

TB status

If not already on TB treatment is the TB symptom screen: Positive □ Negative □ (see above)
➔ Xpert / AFB (circle one) result: Positive □ Negative □ Not done □ Date result available:
CXR required: Y □ N □ Date requested:
- Result: Date result available:
- Outcome: TB diagnosed □ → start TB treatment. Date: Regimen:
  TB excluded □ → consider IPT □ and consider other OI □

Evaluation for possible opportunistic infections – for further management details consult EM guidance

Neurological symptoms: Headache□ Weakness Focal□ General□ Visual problems□ Dysarthria □ Syncope□

Signs and symptoms of meningitis? Y □ N □ Focal neurological deficit? Y □ N □ GCS: E V M
- Result: Date result available:
- Outcome: Presumptive diagnosis of CM □ → start IV Fluconazole 1200mg OD □
  No presumptive CM □ → start Fluconazole 800mg OD and consider other neurological OI

General examination:
Skin rash □ Enlarged lymph nodes □ Oral thrush □ Leg swelling □

GI signs/symptoms: Vomiting □ Dysphagia □ Abdominal pain □ Diarrhoea□ Jaundice□ Oral candidiasis□

Dermatological signs/symptoms: Scabies□ Rash□ KS □ Shingles□ Others(specific):

GU signs/symptoms: Discharge □ Blister/ulcer□ Dysuria □ Others (specify):

ART prescriptions

Starting ART: Start ART now □ Details of ART regimen: Date started:
- OR Start ART later □ Reason to defer: Target start date: (when starting, then complete)
  Details of ART regimen: Date started:
Continuing ART: Continue regimen □ Substitute within 1st line regimen □ Start 2nd line ART □
New regimen indication: Treatment failure□ Side effects□ Other: New ART regimen: Date started:

Completed by: Name: Signature: Designation: Date:
Appendix 4: Clinical frailty scale

Clinical Frailty Scale*

1. Very Fit — People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2. Well — People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

3. Managing Well — People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4. Vulnerable — While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed up”, and/or being tired during the day.

5. Mildly Frail — These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6. Moderately Frail — People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

7. Severely Frail — Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8. Very Severely Frail — Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. Terminally III - Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In moderate dementia, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In severe dementia, they cannot do personal care without help.


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