Pietermaritzburg Department of Internal Medicine
uMgungundlovu Health District: KwaZulu-Natal

**Lethal Communicable Diseases Guidelines for PHC Clinic staff:**

In the uMgungundlovu District, a committee has been formed to prepare for a patient who presents with a possible Lethal Communicable Disease (LCD). LCDs in Southern Africa are likely to be of the following types:

1. Crimean-Congo Haemorrhagic Fever (CCHF)
2. SARS, which stands for Severe Acute Respiratory Syndrome and is caused by a coronavirus
3. Bird Flu, more correctly called Avian Influenza, caused by H5N1 influenza virus

Now that South Africa has more regular contact with the rest of Africa, it is possible for patients to present with other forms of Viral Hemorrhagic Fever (VHF) such as:

4. Marburg Fever
5. Ebola Fever
6. Lassa and Rift Valley Fever

CCHF is endemic to South Africa, although usually found in more arid parts of South Africa, such as the Northern Cape. There have been cases of CCHF in South Africa this year. A farmer from Hopetown in the Northern Cape recently presented with CCHF in Durban. Patients with CCHF have also been treated in the 1980s and 1990s at Edendale Hospital. The other 5 diseases mentioned (2-5) will usually occur in a patient who has recently returned from travelling by aeroplane in the rest of Africa or Eastern countries such as China – these diseases are not endemic to SA.

The LCD Committee, led by Dr Muller from Greys have been meeting regularly to prepare for a patient with CCHF or for an outbreak of Bird Flu: An Isolation ICU is being prepared at Greys Hospital; Guidelines have been distributed to doctors and protective equipment is being distributed to all health facilities. However, a patient with an LCD or with symptoms similar to an LCD may present at a clinic as recently happened at Gcumisa Clinic. The patient was transferred to Northdale Hospital and in fact proved not to have an LCD. However all the correct precautions and procedures were followed.

So, it is necessary for all primary care nurses, health workers and ambulance personnel in uMgungundlovu District to be aware of LCDs, especially CCHF. The main symptoms that should alert you to the presence of CCHF would be the following:

- Very sick patient with a flu-like illness
- High fever
- Petechial rash of the skin
- Bleeding from orifices
- History of exposure to ticks or birds

It is also necessary for clinics to have the necessary equipment to protect people in contact with the patient. CCHF and all LCDs are very infectious and are dangerous infections, even potentially fatal. All clinics are being provided with 2 Starter Packs that they should use to protect themselves from infection.
The Starter Packs contain the following equipment:

**Pack 1 disposable clothing:**
- 3 Disposable theatre-type gowns
- 3 face masks
- 2 boxes of un-sterile latex gloves
- 3 pairs of disposable overshoes
- 3 balaclavas
- 3 eye goggles
- 6 plastic bags – (worn over shoes)
- 3 plastic aprons

**Pack 2 disposable linen:**
- 2 sheets
- 1 draw sheet
- 3 pillow cases
- 1 duvet

**Pack 3:**
- 1 Box Biocide D
- 4 rolls masking tape

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**Crimean-Congo Haemorrhagic Fever (CCHF)**

**What causes CCHF?**
- CCHF is a viral illness - Nairovirus Group
- The infection is usually contracted by people in rural areas working with farm or domestic animals and animal body tissues. People can also contract CCHF from ticks – being bitten by the tick or by crushing the tick with the fingers. Once the index patient is infected, person-to-person infection can occur as CCHF is very infectious

**What are the clinical features of CCHF?**

**The following symptoms may occur:**
- Incubation period is 1-3 days after tick bite, up to a maximum of 9 days
- Starts with a flu-like illness
- Severe headache
- Muscle and joint pains
- Fever
- Bleeding tendency: Nose bleeds, vomiting blood, passing blood in the urine, pitch-black stools (malena)
- Mood changes
- Nausea and vomiting

**The following signs may be found:**
- High temperature (>38°C)
- Tachycardia
- Tender abdomen and liver area (right upper part of the abdomen)
- Bleeding tendency – bleeding into skin - petechial rashes, bruising in the skin, bleeding from other sites such as nose etc
• Red conjunctivae

What protective measures should you take?
If you suspect that a patient may have CCHF or another LCD, then take immediate steps to protect yourself and others from contact with the patient, especially the patient’s blood and body fluids. You should take the following steps once you think of CCHF:

• Wash your hands very well
• Call through the door for a Starter Pack
• Open the Starter Pack that each clinic should keep and put on the mask, gown, gloves, balaclavas, goggles, apron, overshoes and plastic bags that are worn over the shoes
• A far as possible, one person should look after the patient until they are taken to hospital by EMRS. Use the disposable linen and put it on the bed that the patient can be nursed on.

What you should do if you suspect a patient with CCHF?

• Do not panic – keep the patient with you in the consulting room
• Call the sister in charge – speak through the door and tell her why you think it is VHF
• If there is an examination couch, nurse the patient on the coach using the linen from the Starter Pack
• Do not let other staff or patients into the room – isolate the patient and use barrier nursing techniques
• Put on the protective equipment
• Sister-in-charge to phone the medical manager or other senior medical doctor at the local referring hospital to arrange admission. (NB: The policy is for the patient to be managed at the local District Hospital, where the relevant bloods will be taken. Once laboratory confirmation has been made after 24 – 48 hours the patient would be transferred to Greys Isolation ICU)
• Sister-in-charge to inform EMRS to arrange for them to transfer the patient to hospital. Inform EMRS that you think it is VHF and they will bring their own Starter Packs and possibly a special team and vehicle
• Inform the PHC Coordinator and CDC Coordinator at the District Office (8971000)
• Provide nursing care for the patient as necessary. Eg. Paracetamol for pain and fever, drip with Ringers Lactate if the patient has a low blood pressure (Systolic BP < 80)
• Once the ambulance arrives, clear the clinic and get the patient into the ambulance involving as few people as possible
• After the patient has been sent to hospital, put all linen, disposable or not, in double big plastic bags to be sent for incineration. The outer bag should be cleaned down with Biocide D. The room/s where the patient was in should then be thoroughly cleaned by the attending sister with Biocide D. If blood or body fluids were spilt then the floor of the room should be flooded for 2 hours with Biocide D. Further cleaning should then be done by the cleaner who should also wear full protective clothing from the Starter Packs. Any containers with blood or body fluids in it should also be put in the plastic bags and sent for incineration.
• Once all this cleaning has been done, the staff should place the uniforms (that they were wearing before putting on protective gear) in double autoclave bags and send them for autoclaving. If blood or body fluids were spilt on the uniforms it is best to double bag them and send them for incineration. The Department would later compensate the health worker for their uniform
Who can you ask for help if you suspect a patient has VHF?

It is best to speak to the medical manager or senior medical doctor at your referring hospital. However, if they are not easy to contact, you can phone the following doctors:

• Dr Muller at Greys 0825777115
• Dr Dawood at Greys 0826535786
• Dr Sirkar at Northdale 0823598846
• Dr Wilson at Edendale 0827867698
• Dr Kerry (DMO) 0834092881
• Dr Vanker (DMO) 0849654440
• Dr Govender (DMO) 0827794409

What signs of illness to look for at the clinic or community for contacts?

• Remember that other infections or illnesses can mimic VHF. VHF is rare in KZN
• Make a list of all the people who were in close contact with the patient. Eg. Staff nurse who did observations on patient, person who sat next to the patient in the queue etc.
• Twice daily temperature of contacts for 2 weeks after the contact. If a fever or other suggestive symptoms develop, then the person should be admitted for observation in an isolation ward
• Only very high-risk contacts (needle stick injuries from the VHF patient) should be admitted from the initial contact
• Once a patient is admitted to the referring hospital, bloods are sent to Gauteng for confirmation of CCHF. By 24 – 48 hours, the hospital will have made a definite diagnosis and the clinic will be informed whether they have been in contact with a definite case of VHF

The Other Viral Hemorrhagic Fevers

The other VHFs (Ebola, Lassa, Marburg Fever) may not necessarily present with the same features as CCHF – they will have been sick for several days and will be severely ill with bleeding from several sites and a hemorrhagic skin rash. Take the same precautions as outlined above with CCHF.

SARS and Avian Influenza

Patients with SARS and Bird Flu present with symptoms of flu, but go on to develop severe pneumonia (fast breathing, breathless, cyanosis, confusion). If a patient comes with these symptoms, then take a careful history of travel from another country within the last 10 days, especially from an Eastern country such as Thailand. Take the same precautions as outlined above with CCHF, especially hand washing. Use the same procedures - inform the referral District Hospital and EMRS and arrange for transfer of the patient to hospital. Put the patient on oxygen and give other supportive measures.


References:
3. Muller J Viral haemorrhagic fevers – Powerpoint presentation
4. Muller J. Management of viral haemorrhagic fever patients and contacts. April 2005