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STANDARD TREATMENT GUIDELINES

AND

ESSENTIAL MEDICINES LIST

FOR LESOTHO

2005

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MINISTRY OF HEALTH & SOCIAL WELFARE

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## Acknowledgments

Production of this inaugural edition of the National Standard Treatment Guidelines (STGs) and Essential Medicines List (EML) for Lesotho is a result of hard and selfless work by a group of individuals. It is not possible to mention the names of all the people who contributed towards the development and production of this document.

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## FOREWORD

The Government of Lesotho through the Ministry of Health and Social Welfare is committed to providing quality health care services to all Basotho. This can effectively be achieved by developing and implementing structured systems encompassing, among others, provision of competent health care professionals who will render basic health care services to the nation, as well as equitable access to these health care services at costs affordable to the Basotho. Provision of essential medicines is one of the key strategies of this goal.

This concept is enshrined in the National Medicines Policy (NMP) of Lesotho. It is indeed very gratifying to note that an important milestone towards achieving the objectives of the NMP has been reached. It is thus up to all the stakeholders in the provision of health to the nation to ensure that the other objectives of the NMP, closely intertwined with provision of good quality and affordable essential medicines are fulfilled. Of particular importance here is rational use of the available medicines, which entails rational prescribing and dispensing.

The STGs and EML have been produced through an extensive consultative process. They therefore represent a consensus of opinion of experts in the health field. They also take into account the current economic climate in the country as well as the Lesotho setting, and hence, are appropriately adapted to address our unique challenges.

Let us all as stakeholders commit to the provision of quality health care to the Basotho through efficient management of the limited supplies of medicines available to us. I therefore petition all health workers in Lesotho to use these STGs and EML to rationalize the selection and use of medicines.

May God bless you all.

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Dr M Phooko

Hon. Minister of Health and Social Welfare

# TABLE OF CONTENTS

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## CHAPTER 1: INTRODUCTION

<b>1.1.</b>	<b>GENERAL REMARKS ABOUT THE USE OF STANDARD TREATMENT GUIDELINES .....</b>	<b>14</b>
<b>1.2.</b>	<b>FORMAT UTILISED IN THE DEVELOPMENT OF THE STANDARD TREATMENT .....</b>	<b>14</b>
	<b>GUIDELINES .....</b>	<b>14</b>
1.2.1.	GENERAL REMARKS .....	14
1.2.2.	DIAGNOSTIC CRITERIA .....	14
1.2.3.	TREATMENT GUIDELINES .....	15
1.2.5.	KEY INVESTIGATIONS .....	15
1.2.6.	COMMENTS .....	15

## CHAPTER 2: NOTIFIABLE DISEASES

<b>2.1.</b>	<b>IMMUNISATION SCHEDULE.....</b>	<b>16</b>
<b>2.2.</b>	<b>TETANUS PROPHYLAXIS SCHEDULE .....</b>	<b>17</b>

## CHAPTER 3: TREATMENT GUIDELINES FOR SICK CHILDREN

<b>3.1.</b>	<b>MEASLES .....</b>	<b>18</b>
<b>3.2.</b>	<b>DIPHTHERIA.....</b>	<b>19</b>
<b>3.3.</b>	<b>PERTUSSIS (WHOOPING COUGH) .....</b>	<b>20</b>
<b>3.4.</b>	<b>TETANUS .....</b>	<b>21</b>
<b>3.5.</b>	<b>RABIES .....</b>	<b>22</b>
<b>3.6.</b>	<b>TYPHOID FEVER.....</b>	<b>23</b>
<b>3.7.</b>	<b>POLIOMYELITIS.....</b>	<b>24</b>
<b>3.8.</b>	<b>MUMPS .....</b>	<b>25</b>
<b>3.9.</b>	<b>RUBELLA (GERMAN MEASLES) .....</b>	<b>26</b>
<b>3.10.</b>	<b>CHOLERA .....</b>	<b>26</b>
<b>3.11.</b>	<b>PLAGUE .....</b>	<b>27</b>
<b>3.12.</b>	<b>VIRAL HAEMORRHAGIC FEVER .....</b>	<b>27</b>

3.13. MALARIA.....28

**CHAPTER 4: RESPIRATORY CONDITIONS**

1. CHEST PAIN .....29

2. COMMON COLD AND INFLUENZA.....30

3. BRONCHITIS .....32

4. ASTHMA .....33

5. PNEUMONIA.....35

6. PNEUMONIA IN CHILDREN.....37

7. PULMONARY TUBERCULOSIS .....39

**CHAPTER 5: CARDIOVASCULAR CONDITIONS**

1. ACUTE BREATHLESSNESS/DYSPNOEA .....45

2. HEART FAILURE.....47

3. HEART FAILURE IN CHILDREN.....48

4. PULMONARY EMBOLISM.....49

5. RHEUMATIC FEVER.....50

6. INFECTIVE ENDOCARDITIS .....52

7. PERICARDITIS.....53

8. CYANOTIC HEART DISEASE IN THE NEWBORN.....55

9. CONGENITAL HEART DISEASE IN ADULTS.....55

10. CARDIAC ARHYTHMIAS/DYSRHYTHMIAS.....56

4. **For Supraventricular Tachycardias**

- ♣ Non pharmacological measures as above
- ♣ Propranolol 10-40mg orally 4 times daily **OR**,
- ♣ Atenolol 50-100mg daily **OR**,
- ♣ Verapamil 40-120mg 3 times daily **OR**,
- ♣ Digoxin 0.25 –0.5mg daily
- ♣ Warfarin 2.5-5mg adjusted per INR

5. **For Ventricular Tachycardias**

- ♣ Cardioversion
- ♣ Lignocaine 50-100mg IV or infusion and follow with
- ♣ Amiodaron 200mg orally daily

6. **Heart Block**

- ♣ Atropine 0.6-1.2mg IV as a bolus dose **OR**,
- ♣ Adrenaline 5ml IV of 1:10 000 solution **OR**,
- ♣ Isoprenaline 0.5-5 micrograms per minute
- ♣ Refer for pacemaker

10.3 **Key Investigations**

- ECG;                      -Urea/electrolytes;                      -Thyroid function test
- Digoxin level;        -Lipid Profile;                      -Blood sugar
- ASOT-titre

**11 HYPERTENSION**

Hypertension is a major risk factor for stroke and myocardial infarction. It is usually asymptomatic, so screening is a vital component of management. Blood pressure has a skewed normal distribution within the general population. It is therefore impossible to define “hypertension”. The convention is to select a value above which risk is significantly increased, and the benefit of treatment is clear-cut. A figure of 160/100mmhg is usually quoted. For many years diastolic pressure was considered to be more important than

systolic pressure. However recent evidence indicates that systolic pressure is the most important determinant of cardiovascular risk.<sup>1</sup>

In the vast majority of cases (up to 95%) the cause is unknown. This is the so-called “essential hypertension”. In the remaining 5% of cases where a cause can be determined there are usually three categories of causes: renal disease, endocrine disease and “others”

### 11.1 DIAGNOSTIC CRITERIA

A diagnosis of Hypertension is made if the blood pressure is elevated above normal on three (3) separate occasions. In adults, a systolic pressure greater than 140mmHg or a diastolic pressure greater than 90mmHg fulfill the criteria. As stated above, hypertension is usually asymptomatic, except in cases of “malignant” hypertension. It is therefore **always necessary to undertake a full examination of the cardiovascular system and to check for retinopathy**. In the same vein, it is also necessary to assess the patient for features of a secondary cause, and to also check for end-organ damage (proteinuria and/or retinopathy), which can provide clues about the severity and duration of hypertension as well as the prognosis thereof.

### 11.2 TREATMENT GUIDELINES

#### 11.2.1 Community Level Interventions

1. Promote early detection and encourage the adoption of “healthy lifestyles”( Stop smoking, lose weight, do regular physical exercise, avoid excessive alcohol intake)
2. Restrict salt intake
3. Stress the importance of taking medications **as prescribed**
4. **Refer suspected cases/defaulters**

#### 11.2.2 Health Centre Level Interventions

1. Reinforce non-pharmaceutical interventions as outlined above
2. **Medication (for mild hypertension)**
  - ♣ Hydrochlorothiazide (HCTZ) 12.5mg orally, daily
  - ♣ If control not satisfactory after one (1) month, increase dose of HCTZ to 25mg daily
  - ♣ If control still not satisfactory after three (3) months, then refer to hospital
  - ♣ Refer all cases with a **systolic pressure >160mmHg or**

**Diastolic >100mmHg**

#### 11.2.3 Hospital Level Intervention

1. Reinforce non-pharmacological management as described above

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<sup>1</sup> See Oxford Handbook of Clinical Medicine, 4<sup>th</sup> Edition, and Page 300.



## 2. Medications<sup>2</sup>:

- ♣ Atenolol 50-100mg daily **OR**,
- ♣ Propranolol 40-80mg daily **OR**,
- ♣ Captopril 12.5-25mg daily **OR**,
- ♣ Hydralazine 25-50mg daily
- ♣ If control is not achieved with a combination of two drugs, it may be necessary to add a third drug such as Nifedipine 5-10mg 3 times daily
- ♣ In severe cases IV therapy may be instituted with Dihydralazine 10mg IV or Frusemide 40-80mg.

### 11.3. Key Investigations

- |                    |                  |                           |
|--------------------|------------------|---------------------------|
| -Chest X-ray;      | -ECG;            | -Urea and Electrolytes    |
| -Urine Microscopy; | -Echocardiogram; | -Full Blood Count and ESR |
| -Blood sugar;      | -Lipid profile;  | -Fundoscopy               |

### 11.4. Treatment of Hypertension Occurring in the Presence of Other Medical Conditions

N.B Therapy normally will be initiated at the hospital level

#### 1. Diabetes Mellitus

- ♣ HCTZ 12.5mg daily **OR**,
- ♣ Indapamide 2.5mg daily **OR**,
- ♣ ACE-inhibitor (captopril) 12.5mg once daily **OR**,
- ♣ Nifedipine 10-20mg once daily

#### 2. Heart Failure

- ♣ Frusemide 20-40mg daily **PLUS**,
- ♣ Captopril 12.5 –25mg once daily

#### 3. Renal Failure

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<sup>2</sup> The convention is to start with drugs of proven benefit i.e., thiazides or  $\beta$ -blockers. Calcium-channel blockers and ACE-inhibitors can be considered next

- ♣ Frusemide 20-40mg once daily **and/or**
- ♣ Captopril 12.5-25mg once daily **and/or**,
- ♣ Verapamil 40-70mg once daily

#### 4. **Coronary Artery Disease (CAD)**

- ♣ Atenolol 50-100mg daily **OR**,
- ♣ Captopril 12.5-25mg once daily **OR**,
- ♣ Verapamil 40-80mg once daily

#### 5. **Pregnancy induced hypertension**

- ♣ Refer to chapter II on obstetrics and gynaecology.

## 12. MALIGNANT HYPERTENSION

### 12.1. **DIAGNOSTIC CRITERIA**

This refers to severe hypertension (e.g. systolic pressure >200mmHg, diastolic pressure >~~(120)~~130mmHg) in conjunction with bilateral retinal haemorrhages and exudates; papilloedema may or may not be present. Common symptoms are headache and visual disturbances. The danger with this condition is that it may precipitate acute renal failure, heart failure, or encephalopathy all of which constitute hypertensive emergencies and require urgent treatment.

### 12.2. **TREATMENT GUIDELINES**

Most patients can be managed with oral therapy, except for those with encephalopathy. The main aim with treatment in this condition is to achieve a controlled reduction in blood pressure over days, **not hours**. It is critical to avoid sudden drops in blood pressure, as cerebral auto-regulation is poor, with a resultant rise in the risk for stroke.

#### 12.2.1. **Community level intervention**

Refer immediately

#### 12.2.2 **Health centre level intervention**

Refer without delay

#### 12.2.3 **Hospital level intervention**

All patients suspected of having this condition are to be admitted to hospital for management thereof.

1. Bed rest

## 2. Medications

- ♣ Frusemide 40-80mg twice daily, orally
- ♣ Nifedipine 10-20mg 8-hourly
- ♣ Hydralazine 25-50mg 8-hourly
- ♣ Atenolol 50-100mg twice daily, orally

## 3. For Encephalopathy

- ♣ The main aim should be to reduce blood pressure to approx. 110mmHg over a period of 4 hours
- ♣ Dihydralazine 10mg IV every 10-15 minutes **PLUS**,
- ♣ Frusemide 40-80mg IV 8-hourly

### 12.3. Key investigations

- |               |                         |                |
|---------------|-------------------------|----------------|
| -ECG;         | -Echocardiogram;        | -Lipid profile |
| -Blood sugar; | -Urea and electrolytes; | -Fundoscopy    |

## 13 PULMONARY OEDEMA

### 13.1 DIAGNOSTIC CRITERIA

Left Ventricular Failure (occurring either post-MI or secondary to Ischaemic Heart Disease) is the most common cause. Other cardiac causes include mitral stenosis, arrhythmias, and malignant hypertension. Non-cardiac causes, though rare, still occur. These include allergic reactions (e.g. IV contrast agents), fluid overload (usually iatrogenic secondary to excessive IV fluid infusion), smoke inhalation, acute respiratory distress syndrome (trauma, sepsis, post-op), infection, carbon monoxide poisoning, amniotic fluid embolus, SLE, and drug overdose (Aspirin, Glue).

The main symptoms associated with this condition are dyspnoea, paroxysmal orthopnoea, and pink frothy sputum. The patient usually presents in distress, pale, sweaty and with a rapid pulse and respiratory rate. JVP is usually raised and there is an accompanying wheeze (the so-called cardiac asthma) and “fine lung crackles”.

### 13.2 TREATMENT GUIDELINES

N.B This is a medical emergency diagnosed and managed at hospital level.

1. Treatment should be begun **BEFORE** investigations are initiated.
2. Sit the patient up