THE UNITED REPUBLIC OF TANZANIA

STANDARD TREATMENT GUIDELINES AND ESSENTIAL MEDICINES LIST

MINISTRY OF HEALTH AND SOCIAL WELFARE
FOURTH EDITION
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FOREWORD

The Standard Treatment Guidelines (STG) and the National Essential Medicine List for Tanzania (NEMLIT) was first published in 1991. The fourth edition includes new sections on symptoms and syndrome. The STGs have been updated and are consistent with current national guidelines for diagnosis and management of common diseases. The guidelines also reflect changes in the management of various diseases including asthma and hypertension following recommendations from WHO and experts from international medical associations and agencies. There have been improvements in the format of treatment regimens, showing more clearly the classification of medicines by level of health care within the treatment guidelines, and not just in the NEMLIT.

The STG and NEMLIT aims at providing health practitioners with standardized guidance in making decisions about appropriate health care for specific conditions found in Tanzania. By using STGs, prescribing practices can be rationalized and patient outcomes can be improved while making optimum use of the limited resources for medicines. The NEMLIT attached to the STG retains its purpose of identifying medicines that are considered essential for the treatment of common disease conditions in Tanzania. The medicine list is in line with the World Health Organization (WHO) recommendations under Tanzania conditions. It follows the principles and concepts of essential medicines so as to simplify the management of medicines supply and support a streamlined logistics system.

This set of tools is meant to be a guide for quick reference and its recommendations are valid for most presentations of the conditions covered. Nevertheless, clinical judgment and experience will always prevail for adjustment of treatment in individual cases when necessary.

This new edition of STGs provides Medicines and Therapeutics Committees (MTCs) at our health institutions an opportunity to strengthen their role in improving therapeutics and management of medicines in practice. MTCs are requested to promote the concepts of evidence based selection of medicines and cost-effective treatment protocols and facilitate STGs to be applied in their specific practice settings, translating and incorporating into local guidelines, formularies and in-service training programmes.

The Ministry's policy is that all public and private health workers in Tanzania will promote and adhere to these Standard Treatment Guidelines, and that prescribing, purchasing, labeling and dispensing of medicines should be by generic names as much as possible, and consistent with the level classification in the STGs and NEMLIT.

It is my hope that all health workers in Tanzania will find this document a useful tool in management of patients' illinesses.

Hon. Dr. Hussein Mwinyi (MP)
MINISTER FOR HEALTH AND SOCIAL WELFARE

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ACTING - PERMANENT SECRETARY

HOW TO USE THE DOCUMENT

The guideline covers chapters of common diseases in Tanzania. Most chapters start with a title, a brief description of the topic, common clinical signs and symptoms of each disease, the diagnosis and differentials, investigations, treatments and supportive care. The document comprises the national Essential Medicines List (NEMLIT) which will be used in the public health facilities. The medicines will be used to treat the majority of public health problems and they should be available to health facilities at all time. The guideline also makes provision for referral of patients to higher health facilities.

The indices for all medicines used are found at the back of the guide book, together with the information on how to report the adverse drug reactions. All health care workers are encouraged to report suspected adverse drugs reactions (ADR) when the reaction is potentially serious or clinically significant. The guideline also, makes provision for referral of patients to higher health facilities see the referral form. The last pages of the guideline contain annexes, references as well as the Essential Medicines List.

It is important to remember that the recommended treatments provided in this document are evidence, clinically approved and are in consistent with the already existing WHO guidelines.

Comments that aim to improve these treatment guidelines will be appreciated all the time and the form for that purpose is appended.

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Figure 1: Hypertension Management flow diagram

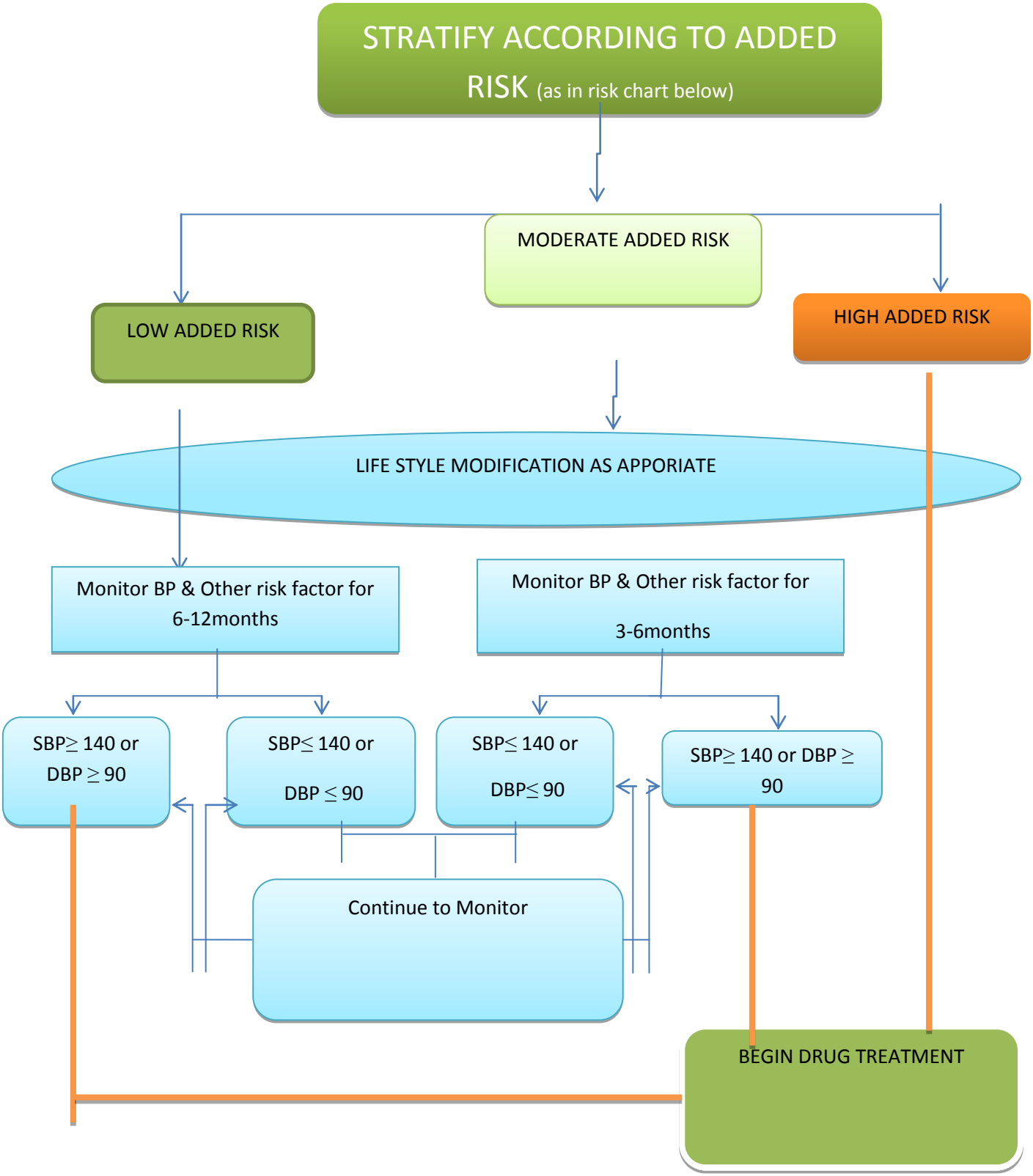

Table 7: Major Risk factors, Target Organ Damage and Associated Clinical Condition

Major Risk factors	Target organ damage	Associated Clinical condition
Level of SBP & DBP Smoking Dyslipidemia • Total Cholesterol < 5mmol/l or • LDL >3.0mmol/l or • HDL < 1mmol/l men, <1.2mmol/l women Diabetes Mellitus Family history of premature Ischaemic Heart Disease/Coronary Artery Disease Men <55 years, Women <60years Waist Circumference – Abdominal Obesity Men ≥ 102cm Women ≥ 88cm	Left Ventricular Hypertrophy based on the ECG Micro-Albuminuria: Albumin/Creatinine ratio 3 - 30mg/mmol Slightly elevated Creatinine Men 115 - 133µmol/l Women 107 – 124µmol/l	Coronary Artery Disease Heart Failure Chronic Kidney Disease Albumin Creatinine ratio >30mg/mmol Stroke or Transient Ischaemic Attack Peripheral Vascular Disease Advanced retinopathy Haemorrhage, or Exudates Papilloedema

Treatment
Objective:
Achieve and maintain the target BP: In most cases the target BP should be: systolic below 140 mmHg and diastolic below 90 mmHg. **Achieve target BP** in special cases as: In diabetic patients and patients with cardiac or renal impairment, target BP should be below 130/80 mmHg; Prevent and treat associated cardiovascular risks such as dyslipidemia and lifestyle modification

Non – pharmacological therapy
Lifestyle modification:

- Weight Reduction; Maintain ideal body weight BMI 18.5 – 24.9kg/m²
- Adopt DASH* eating plan; Consume a diet rich in fibre - fruits, vegetable, unrefined carbohydrate and low fat dairy products with reduced content of saturated and total fat
- Dietary Sodium; Reduce dietary sodium intake no more than 1000mmmol/l (2.4gm sodium or 6gm sodium chloride
- Physical Activity; Engage in regular activity such as a brisk walking at least 30min/day most days a week
- Stop using all tobacco products
- Moderation of alcohol consumption; Limit consumption to no more than 2 drinks per day in men and no more than one drink per day in Women and light person

**DASH – Dietary Appropriate to Stop Hypertension*

Pharmacological therapy

First line treatment without compelling indications:

Low Dose Thiazide diuretics + Potassium sparing e.g. Bendroflumethiazide 2.5 -5mg/d, Hydrochlothiazide 12.5 -25mg/d + Spironolactone 25mg daily.

Second line treatment with compelling indications:

Compelling indications	**Drug class**
Angina	• ß-blocker **or** Long acting calcium channel blocker
Prior or Post-myocardial infarct	• ß-blocker **and** ACE inhibitor •If s-blocker contraindicated: Long acting calcium channel blocker eg verapamil
Heart failure For volume overload:	• ACE inhibitor **and** Carvedilol • Diuretics – Spironolactone Furosemide
Left ventricular hypertrophy (confirmed by ECG)	ACE inhibitor or ARB
Stroke: secondary prevention	Hydrochlorothiazide or Indapimide **and** ACE inhibitor
Diabetes Mellitus	ACE inhibitor or ARB, usually in combination with diuretic
Chronic kidney disease	ACE inhibitor, usually in combination with diuretic
Isolated systolic hypertension	Hydrochlorothiazide **or** Long acting calcium channel blocker
Pregnancy	Methyldopa or Hydralazine (**Avoid ACEI/ARB tetratogenic)**
Prostatism	alpha-blocker
Elderly	CCB

Recommended Medicines for Treatment of Hypertension

S/N	**CLASS**	**DRUG**	**DOSAGE**
01.	Thiazide Diuretics	Bendroflumethiazide	5mg once daily
		Hydrochlothiazide	12.5mg daily
02.	Loop Diuretics	Furosemide	40mg- 80mg daily
		Torasemide	2.5mg – 5mg daily
03.	Potassium Sparing Diuretics	Spirinolactone	25mg once daily
		Eplerenone	25mg once daily
04.	Central Adrenergic Inhibotor	Methylodopa	250mg 12hrly

		Clonidine	50µg 8hrly
05.	Beta Blockers • Non selective • Selective • Alpha& Beta blockers	 Propranolol Atenolol Metoprolol Carvedilol	 80mg 12 hrly 50 – 100mg once daily 100mg 12hrly 12.5 -25mg daily
06.	ACE Inihibitors	Captopril	12.5mg- 25mg 12hrly
		Enalapril	5- 20mg daily
	ARB's	Losartan	50 -100mg daily
07.	Calcium channel blockers –CCB	Nifedipine SR	10- 20mg 12hrly
		Amlodipine	5 – 10mg once daily
08.	Direct Vasodilators	Hydralazine	25mg twice daily

Referral
Referral is dynamic and patients can be referred up to a specialist or down to PHC when controlled. Consultation without referral may be all that is necessary.
Referrals are indicated when:

- Resistant (Refractory) Hypertension
- All cases where secondary hypertension is suspected
- Complicated hypertensive urgency/emergencies
- Hypertension with Heart Failure
- When patients are young (<30 years) or blood pressure is severe or refractory to treatment.

Resistant (Refractory) Hypertension
Hypertension that remain >140/90mmHgdespite the use of 3 antihypertensive drugs in a rational combination at full doses and including a diuretic. Consider all correctable causes of refractory hypertension, before you refer.

Hypertensive urgency
Symptomatic severe hypertension BP DBP >110 mmHg and/or 180mmmHg with evidence of Target Organ Damage or grade III/IV Retinopathy with no immediate life-threatening neurological or cardiac complication such seen in emergencies

Note; All patient hypertensive urgency should be treated in hospital

Treatment goal to lower DBP to 100mmg slowly over 48 -72 hour this can be achieved with two oral agents preferably

- Long acting Calcium Channel Blocker
- ACE Inhibitor use in low dosage initially
- Beta Blocker
- Diuretic – Thiazide or Loop diuretics Furosemide beneficial in renal insufficiency & pulmonary oedema and potentiate above other classes

Hypertensive Emergency
A marked elevated blood pressure systolic BP ≥ 180mmHg and/or a diastolic BP ≥130mmHg **associated with life threatening situations** one or more of the following:

- Unstable angina/Myocardial Infarction

- Hypertensive Encephalopathy e.g. severe headache, visual disturbances, confusion, coma or seizures which may result in cerebral haemorrhage
- Acute left ventricular failure with severe pulmonary oedema (extreme breathlessnessat rest)
- Excessive circulating catecholamines: e.g. phaeochromocytoma – rare cause of emergency; food or drug interaction with monoamine oxidase inhibitors
- Rapidly progressive renal failure
- Acute aortic dissection
- Eclampsia and severe pre-eclampsia

Treatment goal require immediate lowering of BP usually with parental therapy preferably Intravenous agents as infusion with strictly monitoring of haemodynamics in high care depended unit or intensive care unit in the hospital
Preferable intravenous drugs are

- Nitroglycerin (glyceryl trinitrate)
- Hydralazine or Dihydralazine

5.0 HEART FAILURE

5.1 Acute Heart Failure (AHF) or Decompansated Acute Heart Failure (DAHF)

AHF defined as rapid or gradual onset of signs & symptoms of heart failure that result on urgent unplanned hospitalization or Emergency Medicine Department visits. The Clinical Signs & symptoms are significantly life threatening.

If the above features occurs in patient diagnosed with structurally heart disease categerlize as **Decompansated Acute Heart Failure (DAHF).**

The cause and immediate precipitating factor(s) of the AHF must be identified and treated to prevent further damage to the heart.

Causes

- Decompensation of pre-existing chronic Heart Failure eg Cardiomyopathy, Peripartum Cardiomyopathy
- Acute Valvular Regurgitation – AR, MR 2º endocarditis, rupture of chordae tendinae
- Worsening pre-existing Valvular Disease– MS MR AR AS
- Severe Aortic Stenosis
- Hypertensive crisis
- Acute Coronary Syndrome - NSTEMI/STEMI, RV infarction, Mechanical complication of ACS
- Acute arrhythmias – VT /VF AF/flutter or other SVTs
- Acute Severe Myocarditis
- Aortic Dissection - Acute/chronic
- Pericardial Effusion with Cardiac temponade