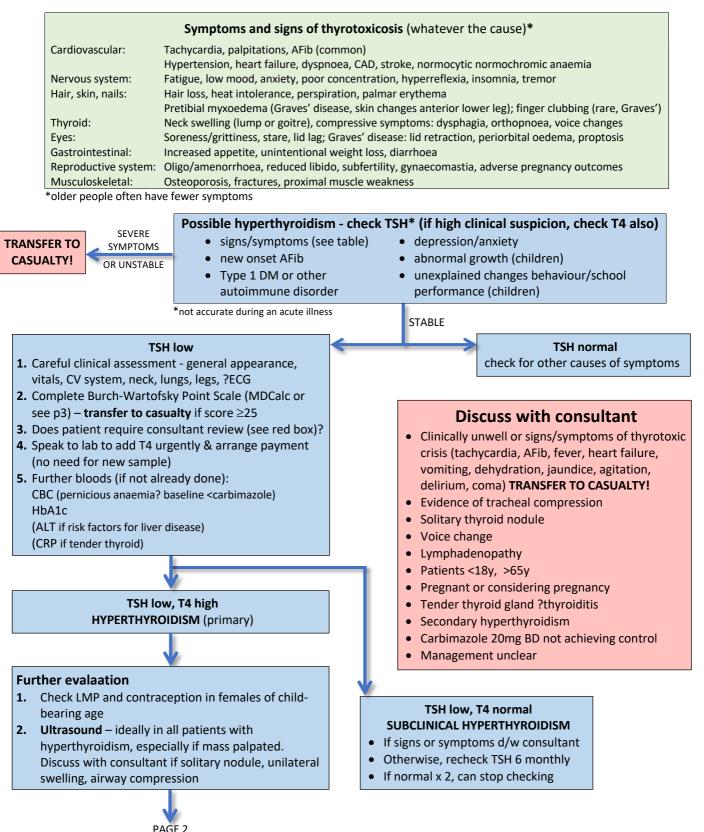


## Kijabe Hospital Guidelines

#### Hyperthyroidism & thyrotoxicosis

- Thyrotoxicosis refers to ALL causes of excess circulating thyroid hormone (T3 and/or T4)
- Hyperthyroidism (increased secretion of thyroid hormone from the thyroid gland) is the main cause of thyrotoxicosis. Causes are Graves' disease (most common, associated with other autoimmune conditions), multinodular goiter and toxic adenoma
- Other causes of thyrotoxicosis are drugs (excess thyroxine, amiodarone, lithium) and rarer causes e.g. thyroiditis
- Lifetime risk is 1% in males and 2% in females and increased in patients on HAART
- Untreated thyrotoxicosis is associated with osteoporosis and raised mortality





### Kijabe Hospital Guidelines

Initial management: If no worrying features on ultrasound and no other red flags, can treat initially in OPD

- 1. Commence betablocker to control symptoms: initially propranolol 40mg 3-4 times daily
- 2. Start carbimazole 10mg BD (contraindication liver disease; ensure highly effective contraception in woman of childbearing age)
- 3. Review in 1-2w if very tachycardic (> 110) to titrate up betablocker, target pulse 90bpm (propranolol max dose 320mg). Do not check TSH/T4 until 6w
- 4. Review at 6w and check TSH, T4 (if cost of tests is a problem, prioritise T4 at this stage). Adjust carbimazole dose as per table below
- 5. Discuss long-term management options

#### Long-term management - 3 options:

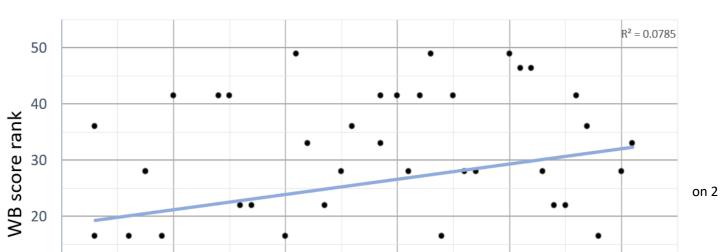
Carbimazole	<ul> <li>Use in initial stages and consider for long-term management if no indications for surgery (most likely to work if mild, uncomplicated Graves' disease):</li> <li>1. Check TSH, T4 every 6w and adjust carbimazole dose until TFTs normal*:</li> <li><i>if still hyperthyroid (low TSH, high T4)</i> increase the dose of carbimazole slightly (e.g. 15mg BD) and review in 6w. If not controlled at 20mg BD, discuss with consultant before increasing dose further (max 30mg BD)</li> <li><i>if partial response (low TSH, normal T4)</i> continue with current carbimazole dose, review in 6w</li> <li><i>if normal thyroid function (normal TSH, normal T4)</i> reduce carbimazole dose by 30-50% until at maintenance dose (usually 5-15mg/day)</li> <li>Once normal thyroid function, check TSH every 3m</li> <li>Consider taper to stop carbimazole if thyroid function normal at 18 months</li> <li>Once stopped, check TSH in 6w, then every 3m for 1y</li> <li>Longterm monitoring – annual TSH</li> </ul>	Major side effects: Agranulocytosis (5 in 1000): advise all patients taking carbimazole to get an urgent CBC and stop medication if they develop a sore throat, fever or mouth ulcers Hepatotoxicity Pancreatitis (rare) Teratogenic – ensure highly effective contraception in women of child- bearing age
Surgery	Often preferred in Kijabe due to the cost of monitoring with medical management About KSh 100,000 for surgery Refer to general surgery Continue with medical management while waiting for surgery, aiming for normal T4 pre-op If total thyroidectomy (Graves, multi-nodular goitre) - need lifelong levothyroxine afterwards (annual TSH once stable) If hemithyroidectomy (e.g. toxic nodule) will require post-op monitoring and annual TSH longterm	Leaves a scar Small risk of surgical complications (recurrent laryngeal nerve palsy, hypoparathyroidism – 4-6%)
Radioactive iodine	First-line recommendation for Graves' in many countries Available in Nairobi, but expensive (need thyroid uptake scan first - 40-45k; then radioactive iodine - 200k) Discuss with consultant Results in euthyroidism or hypothyroidism in 70-90% Longterm monitoring – TSH every 6m	Contraindicated in pregnancy and breastfeeding and pregnancy must be avoided (6m women, 4m men) after treatment Must avoid close contact wth children or pregnant women for 3w afterwards Can worsen Graves' eye disease





# **Burch-Wartofsky Scoring system**

	Thermoregulatory dysfunction	points	Gastrointestinal-hepatic dysfunction	points
	Temperature °C		Manifestation	
	37.2-37.7	5	Absent	0
	37.8-38.2	10	Moderate (diarrhea, abdominal pain, N&V)	10
vent	38.2-38.8	15	Severe (jaundice)	15
	38.9-39.4	20		
	39.5-39.9	25		
	$\geq 40$	30		
	Cardiovascular	points	CNS disturbance	points
	Tachycardia (bpm)		Manifestation	
	100-109	5	Absent	0
	110-119	10	Moderate (delirium, psychosis, extreme lethargy)	20
	120-129	15		
	130-139	20	Severe (seizure, coma)	30
	≥ 140	25		
	Atrial Fibrillation		Precipitating event	points
	Absent	0	Status	
	Present	10	Absent	10
	Congestive cardiac failure		Present	0
	Absent	0	Total score	
	Mild	Mild5Total scoreModerate10>45 Thyroid stormSevere2025-45 Impending storm		
	Moderate			
	Sovere			



Rank WB score vs Rank fT4