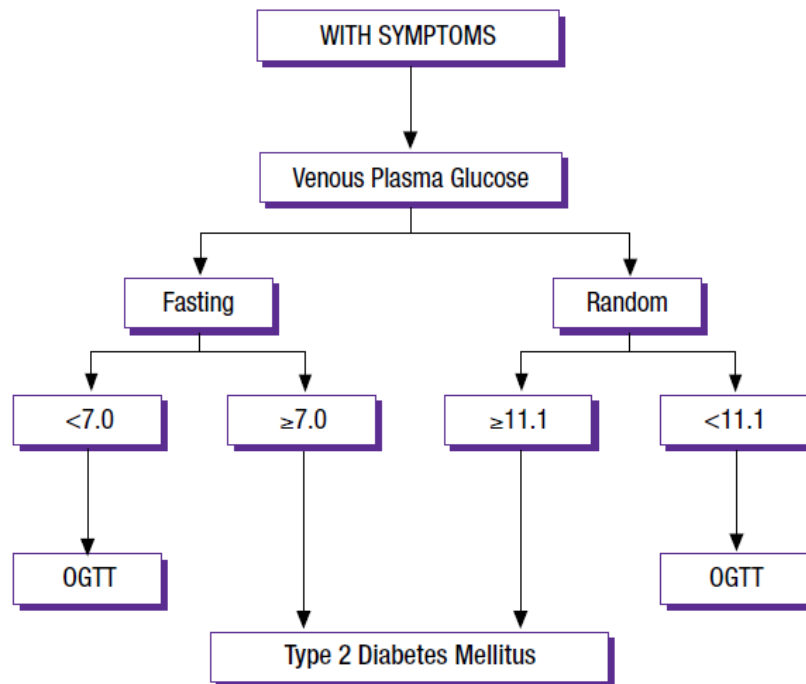
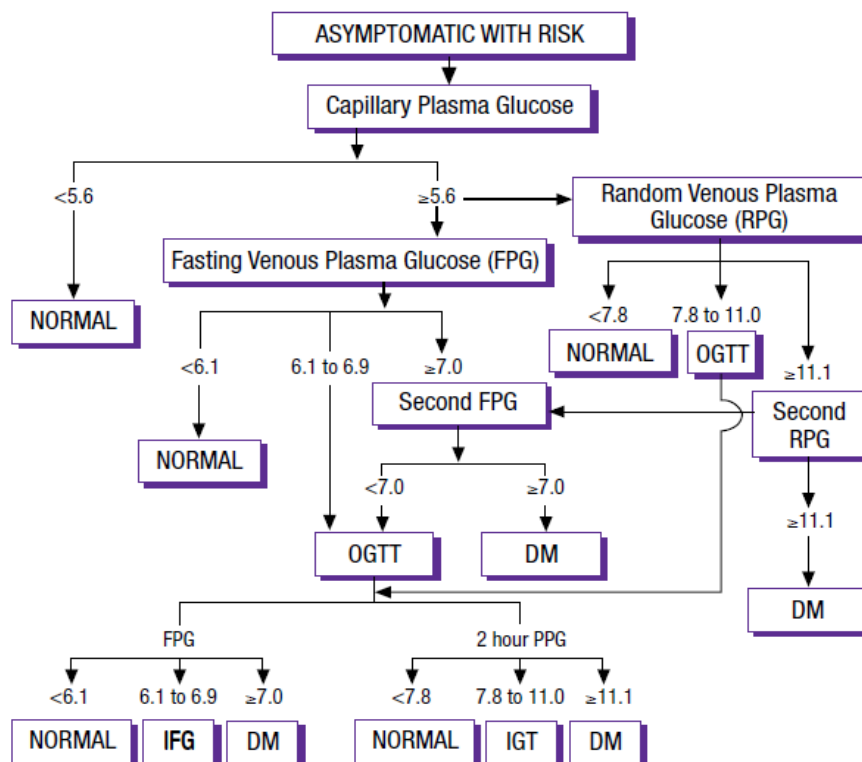


QR Klinik Kesihatan Setting, by Dr Gerard Loh
DM



- All values in mmol/L. Capillary whole blood reading is 12% lower than venous plasma glucose.



- If FPG ≥7.0 mmol/L or 2 hour PPG ≥11.1 mmol/L, repeat OGTT is required to make the diagnosis of diabetes
- All values in mmol/L. Capillary whole blood reading is 12% lower than venous plasma glucose.
- For diagnosis of T2DM, venous plasma glucose value is required.

3.2 Targets for Control

Table 3: Targets for Type 2 Diabetes Mellitus

	Levels
Glycaemic Control*	
Fasting	4.4 – 6.1 mmol/L
Non-fasting	4.4 – 8.0 mmol/L
HbA1c	<6.5 %
Lipids	
Triglycerides	≤1.7 mmol/L
HDL cholesterol	≥1.1 mmol/L
LDL cholesterol	≤2.6 mmol/L [#]
Exercise	150 mins/week
Blood Pressure	
Normal Renal Function ^{15, 16 (Level III)}	≤130/80 mmHg [§]
Renal Impairment/Gross Proteinuria	≤125/75 mmHg

Types of Insulin Regimes

- OAD agents + basal insulin or premixed insulin once a day
- Metformin + premixed insulin more than once a day
- Metformin + basal insulin + prandial insulin

Basal Insulin

s/c Insulatard/Humulin N - start 0.1 U/kg or 10U ON

FBS	Mx
< 4	Reduce 2U
4-6	Maintain Dose
8-12	Increase 2U
>12	Increase 4U

* switch to Biphasic insulin when total dose >25units or 0/4U/kg/day

Biphasic Insulin

s/c Mixtard 30/70 – start 0.4IU/kg/day : 2/3 prebreakfast, 1/3 predinner

Dosage

Formulation	Minimum Dose	Maximum Dose
Acarbose 50mg / 100mg tablet	Initial dose 50mg OD Usual dose 50mg – 100mg during main meals	Maximum dose 100mg TDS

Dosage

Formulation	Minimum Dose	Maximum Dose
Metformin 500mg tablet	Initial dose 500mg OD Usual dose 500mg TDS The side effects can be further reduced by taking it with food	Maximum dose 1000mg BD
Metformin retard 850 mg tablet (slow release formulation)	Initial dose 850mg OD Usual dose 850mg BD	Maximum dose 1700mg OM / 850 mg ON
Metformin extended release 500mg tablet	Initial dose 500mg OD	Maximum dose 2000mg OD
Glibenclamide and metformin fixed dose combination 1.25mg / 250mg tablet 2.5mg / 500mg tablet 5mg / 500mg tablet	Initial dose one 1.25mg / 250mg tablet OD or BD	Maximum dose two 5mg / 250mg tablets BD

Dosage

Formulation	Minimum dose	Maximum dose	Duration
Glibenclamide 5mg tablet	2.5mg OM	10mg BD	Long
Glibenclamide and Metformin Fixed Dose Combination 1.25mg / 250mg tablet 2.5mg / 500mg tablet 5mg / 500mg tablet	Initial dose one 1.25mg / 250mg tablet OD or BD	Maximum dose two 5mg / 500mg tablets BD	Long
Gliclazide 80mg tablet	40mg OM	160mg BD	Medium
Gliclazide MR 30mg tablet	30mg OM	120mg OM	Long
Glipizide 5mg tablet	2.5mg OM	10mg BD	Medium
Glimepiride 2mg / 3mg tablet	1mg OM	6mg OM	Long

Dosage of Antidiabetic Agents in Renal Failure ¹⁶

Generic Name	Usual Dose	Dose adjustment in renal failure		
		Mild (GFR 60 - 90ml/min)	Moderate (GFR 30 - 60ml/min)	Severe (GFR <30ml/min)
Sulphonylureas				
Chlopropamide	250mg od – 500mg od	Avoid	Avoid	Avoid
Glibenclamide	5mg od – 10mg bd	25-50%	Avoid	Avoid
Gliclazide	80mg od – 160mg bd	50-100%	25-50%	Avoid
Glimepiride	1mg od – 4mg od	100%	50%	Avoid
Glipizide	2.5mg od – 15mg od	100%	50%	Avoid
Others				
Acarbose	25mg tds – 100mg tds	50-100%	50-100%	Avoid
Exenatide	5mcg bd – 10 mcg bd	100%	100%	Avoid
Insulin	Variable	100%	75%	50%
Metformin	500mg bd – 1g bd	50%	25%	Avoid
Nateglinide	120mg tds	100%	100%	50-100%
Pioglitazone	15mg od – 30mg od	100%	100%	50-100%
Repaglinide	0.5mg tds – 4mg tds	100%	100%	50-100%
Rosiglitazone	4 – 8 mg od	100%	100%	50-100%
Sitagliptin	100mg od	100mg	50mg	25mg

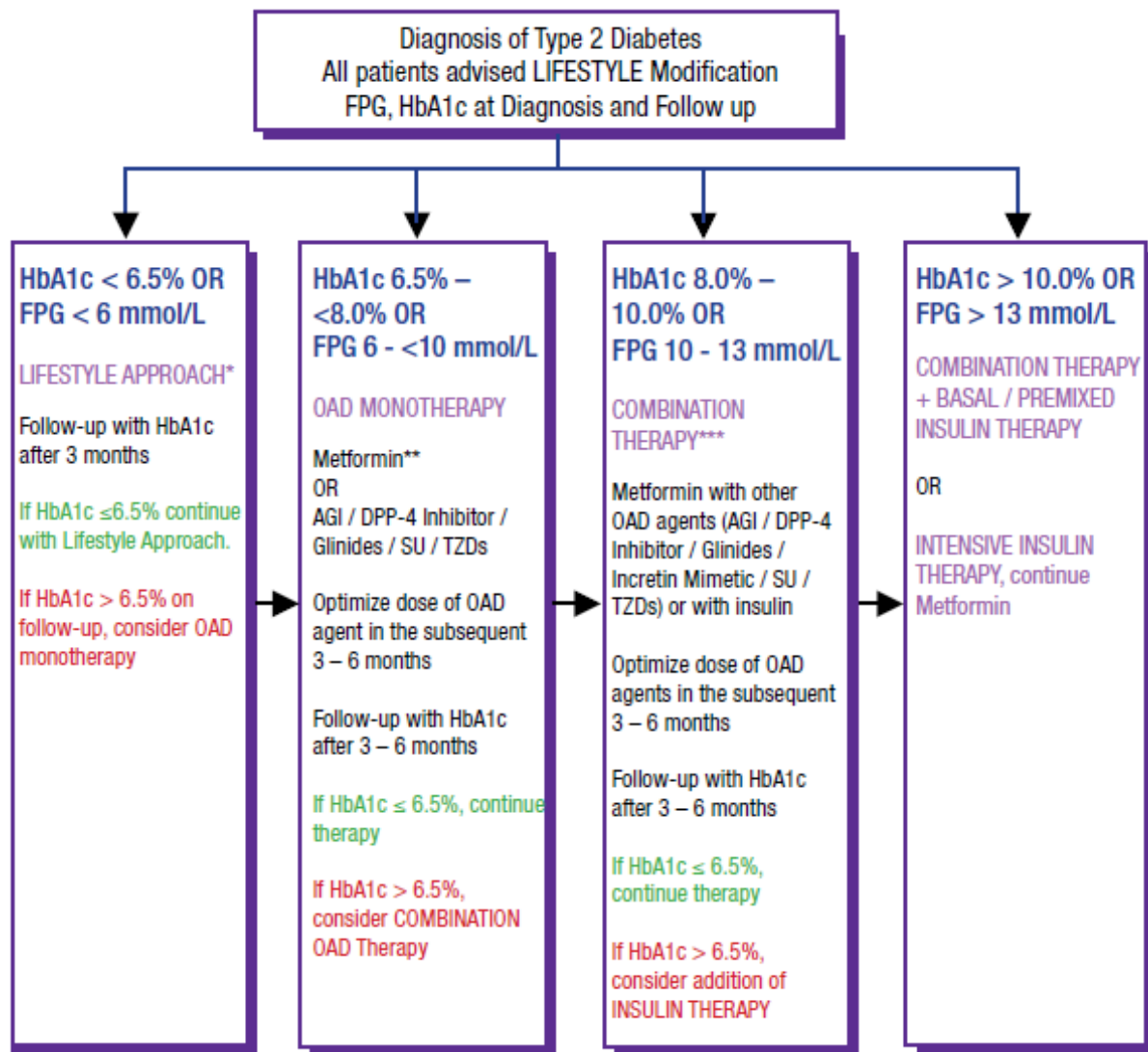


Table 1: International Clinical Diabetic Retinopathy and Diabetic Macula Oedema Disease Severity Scale

RETINOPATHY STAGE	FINDINGS ON OPHTHALMOSCOPY
No apparent retinopathy	No abnormalities
Mild non-proliferative DR (NPDR)	Microaneurysms only
Moderate NPDR	More than just microaneurysms but less than severe NPDR
Severe NPDR	Any of the following: 1. More than 20 intraretinal haemorrhages in each of 4 quadrants 2. Definite venous beading in 2 or more quadrants 3. Prominent intraretinal microvascular abnormalities in 1 or more quadrants AND no signs of proliferative retinopathy
Proliferative DR (PDR)	One of the following: 1. Neovascularisation 2. Vitreous/preretinal haemorrhage
Advanced Diabetic Eye Disease (ADED)	One of the following: 1. Formation of fibrovascular tissue proliferation 2. Traction retinal detachment due to formation of posterior vitreous detachment 3. Dragging of retinal/distortion 4. Rhegmatogenous retinal detachment

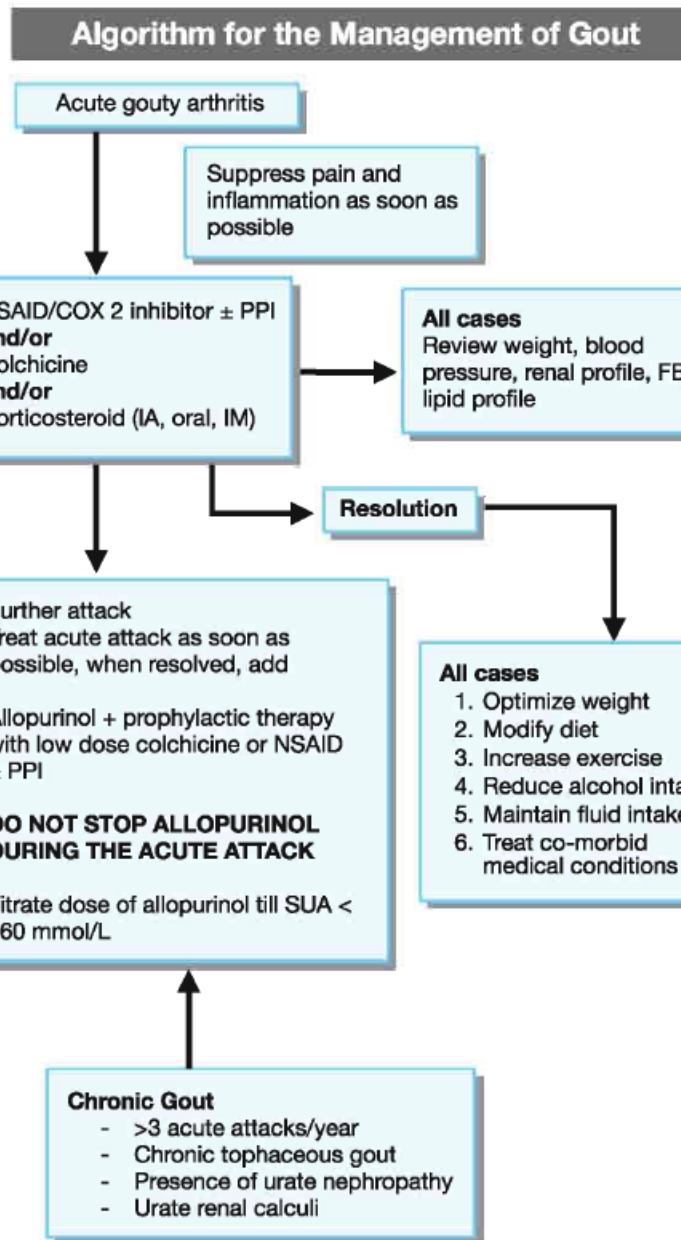
MACULA OEDEMA	FINDINGS ON OPHTHALMOSCOPY
Absent	No retinal thickening or hard exudates in posterior pole
Present	<ul style="list-style-type: none"> Mild – some retinal thickening or hard exudates in posterior pole but distant from the macula Moderate – retinal thickening or hard exudates approaching the centre of the macula but not involving the centre Severe – retinal thickening or hard exudates involving the centre of the macula

Table 3: Recommended Follow-up Schedule

STAGE OF RETINOPATHY	FOLLOW-UP
No DR	12 - 24 months
Mild NPDR without maculopathy	9 - 12 months
Moderate NPDR without maculopathy	6 months
Mild/Moderate NPDR with maculopathy	Refer to Ophthalmologist
Severe NPDR without maculopathy	
Any maculopathy	
Proliferative DR	Refer urgently to Ophthalmologist
Advanced Diabetic Eye Disease (ADED)	
No DR to Mild NPDR In Pregnant Women	Every 3 months
Moderate NPDR or Worse In Pregnant Women	Refer to Ophthalmologist

Table 4: Criteria for Urgent Referral

URGENCY OF REFERRAL	OCULAR FEATURES
Emergency (same day referral)	<ul style="list-style-type: none"> Sudden severe visual loss Symptoms or signs of acute retinal detachment
Within 1 week	<ul style="list-style-type: none"> Presence of retinal new vessels Preretinal haemorrhage Vitreous haemorrhage Rubeosis iridis
Within 4 weeks	<ul style="list-style-type: none"> Unexplained drop in visual acuity Any form of maculopathy Severe NPDR Worsening retinopathy



Two of the following criteria are required for a clinical diagnosis:^{16 Level 9}

1. Presence of a clear history of at least two attacks of painful joint swelling with complete resolution within 2 weeks.
2. A clear history or observation of podagra.
3. Presence of a tophus.
4. Rapid response to colchicine within 48 hours of starting treatment.

Table 2. Indications for hypouricaemic drugs

1. Frequent and disabling attacks of gouty arthritis (3 or more attacks/year).
2. Clinical or radiographic signs of erosive gouty arthritis.
3. The presence of tophaceous deposits.
4. Urate nephropathy.
5. Urate nephrolithiasis.
6. Impending cytotoxic chemotherapy or radiotherapy for lymphoma or leukaemia.

Allopurinol dose adjustment based on renal function

Creatinine clearance (mL/min)	Allopurinol dose
0	100mg every 3 days
10	100mg every 2 days
20	100mg daily
40	150mg daily
60	200mg daily
80	250mg daily
100	300mg daily

Table 2. Secondary causes of hypertension

Sleep apnoea
Drug-induced or drug-related
Chronic kidney disease
Primary aldosteronism
Renovascular disease
Chronic steroid therapy and Cushing syndrome
Phaeochromocytoma
Acromegaly
Thyroid or parathyroid disease
Coarctation of the aorta
Takayasu Arteritis

Table 3. Cardiovascular risk factors

Major risk factors
Hypertension
Cigarette smoking
Central obesity (waist circumference >90 cm for men, >80 cm for women)
Physical inactivity
Dyslipidaemia
Diabetes mellitus
Microalbuminuria
Estimated GFR* <60 mL/min
Age (>55 years for men, >65 years for women)
Family history of premature cardiovascular disease (men <55 years or women <65 years)
Target Organ Damage
Heart
• Left ventricular hypertrophy
• Angina or prior myocardial infarction
• Prior coronary revascularisation
• Heart failure
Brain
• Stroke or transient ischemic attack
Chronic kidney disease
Peripheral arterial disease
Retinopathy

Table 4. Manifestations of target organ damage (TOD)/ target organ complication (TOC)

Organ system	Manifestations
Cardiac	Left ventricular hypertrophy, coronary heart disease, heart failure
Cerebrovascular	Transient ischaemic attack, stroke
Peripheral vasculature	Absence of one or more major pulses in extremities (except dorsalis pedis) with or without intermittent claudication
Renal	GFR <60 mL/min / 1.73 m ² , proteinuria (1+ or greater), microalbuminuria (2 out of 3 positive tests over a period of 4-6 months)
Retinopathy	Haemorrhages or exudates, with or without papilloedema

Table 1. Classification of blood pressure for adults age 18 and older

Category	Systolic (mmHg)		Diastolic (mmHg)	Prevalence in Malaysia ²
Optimal	<120	and	<80	32%
Prehypertension	120-139	and/or	80-89	37%
Hypertension				
Stage 1	140-159	and/or	90-99	20%
Stage 2	160-179	and/or	100-109	8%
Stage 3	≥180	and/or	≥110	4%

Table 9. Common causes of severe hypertension*

Cause	Example
Renal parenchymal disease	Chronic pyelonephritis Primary glomerulonephritis Tubulointerstitial nephritis
Systemic disorders with renal involvement	Systemic lupus erythematosus Systemic sclerosis Vasculitides
Renovascular	Atherosclerotic disease Fibromuscular dysplasia Polyarteritis nodosa
Endocrine	Phaeochromocytoma Conn syndrome (primary hyperaldosteronism) Cushing syndrome
Drugs	Cocaine Amphetamines Cyclosporin Clonidine withdrawal Phencyclidine
Coarctation of Aorta	-
Pre-eclampsia/eclampsia	-

FIGURE 1. Algorithm for the Management of Hypertension

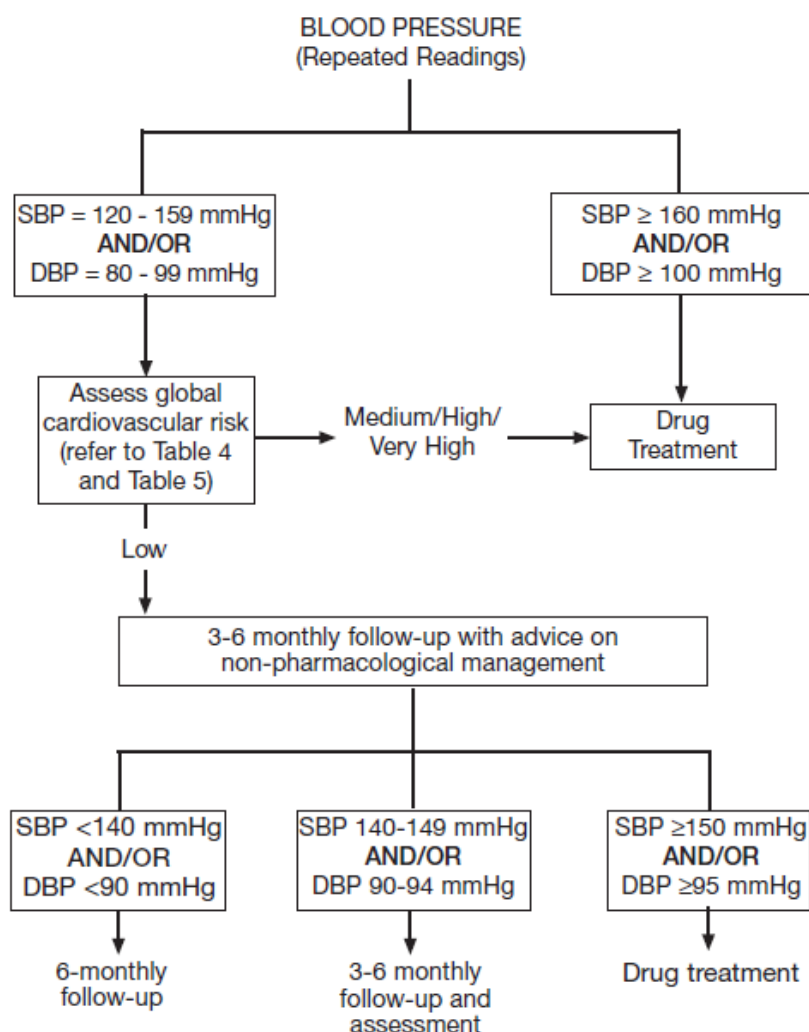


Table 6. Recommendations for follow-up based on initial blood pressure measurements for adults.

Initial BP (mmHg)		Follow-up recommended to confirm diagnosis and/or review response to treatment
Systolic	Diastolic	
<130	and <85	Recheck in one year
130-139	and 85-89	Recheck within 3-6 months
140-159	and/or 90-99	Confirm within two months
160-179	and/or 100-109	Evaluate within one month and treat if confirmed
180-209	and/or 110-119	Evaluate within one week and treat if confirmed
≥210	and/or ≥120	Initiate drug treatment immediately

Modified from JNC-7 report¹¹ (Level III)

Recommendations

- Hypertensive patients with LVH should receive an ARB as the first line treatment¹²⁸
- In CHD, beta-blockers¹³⁸, ACEIs¹²⁷ and long acting CCBs³¹ are the drugs of choice
- Beta-blockers, ACEIs and aldosterone antagonists should be considered in patients with CHD especially in post myocardial infarction and when associated with LV dysfunction
- Beta-blockers need to be cautiously used in patients with peripheral vascular disease. They are contraindicated in patients with severe PVD
- Diuretics, ACEIs, beta-blockers, ARBs and aldosterone antagonists are drugs of choice for heart failure

Recommendations

- Target BP should be <130/80 mmHg for those with proteinuria of <1g/24 hours and <125/75 mmHg for those with proteinuria of >1g/24 hours
- ACEIs are recommended as initial anti-hypertensive therapy
- ARBs should be used in patients intolerant to ACEIs
- Dietary salt and protein restriction is important
- Concurrent diuretic therapy is useful in patients with fluid overload
- Non-dihydropyridine CCBs can be added on if the BP goal is still not achieved

Table 15. Diuretics commonly used for the treatment of hypertension in Malaysia

Diuretics	Starting Dose	Maximum Daily Dose
Chlorothiazide	250 mg od	500 mg od
Hydrochlorothiazide	25 mg od	200 mg od
Chlorthalidone	50 mg od	200 mg od
Amiloride/hydrochlorothiazide 5 mg/50 mg	1 tablet od	4 tablet od
Indapamide SR	1.5 mg od	1.5 mg od
Indapamide	2.5 mg od	2.5 mg od
Triamterene/hydrochlorothiazide 50 mg/25 mg	1 tablet bd	2 tablets bd

Table 16. Beta-blockers commonly used for the treatment of hypertension in Malaysia

β -blockers	Starting Dose	Maximum Daily Dose
Acebutolol	200 mg bd	400 mg bd
Atenolol	50 mg od	100 mg od
Betaxolol	10 mg od	40 mg od
Bisoprolol	5 mg od	10 mg od
Metoprolol	50 mg bd	200 mg bd
Propranolol	40 mg bd	320 mg bd

Table 17. CCBs commonly used for the treatment of hypertension in Malaysia

CCBs	Starting Dose	Maximum Daily Dose
Amlodipine	5 mg od	10 mg od
Diltiazem	30 mg tds	60 mg tds
Diltiazem SR	90 mg bd	90 mg bd
Diltiazem R	100-200 mg od	100-200 mg od
Felodipine	2.5 mg od	10 mg od
Isradipine	1.5 mg bd	2.5 mg bd
Lacidipine	2 mg od	6 mg od
Lercanidipine	10 mg od	20 mg od
Nicardipine	10 mg tds	20 mg tds
Nifedipine	10 mg tds	30 mg tds
Nifedipine SR	30 mg od	120 mg od
Verapamil	80 mg bd	240 mg tds
Verapamil CR	200 mg od	200 mg bd

Table 19. ARBs commonly used for the treatment of hypertension in Malaysia

ARBs	Starting Dose	Maximum Daily Dose
Candesartan	8 mg od	16 mg od
Irbesartan	150 mg od	300 mg od
Losartan	50 mg od	100 mg od
Telmisartan	20 mg od	80 mg od
Valsartan	80 mg od	160 mg od
Olmesartan	20 mg od	40 mg od

Table 22. Centrally-acting agents

Centrally-acting agents	Starting Dose	Maximum Daily Dose
Methyldopa ^a	125 mg bd	1 g bd
Clonidine ^a	50 mcg tds	400 mcg tds
Moxonidine ^a	0.2 mg od	0.3 mg bd

Table 18. ACEIs commonly used for the treatment of hypertension in Malaysia

ACEIs	Starting Daily Dose	Maximum Daily Dose
Captopril	25 mg bd	50 mg tds
Enalapril	2.5 mg od	20 mg bd
Fosinopril	10 mg od	40 mg od
Lisinopril	5 mg od	80 mg od
Perindopril	2 mg od	8 mg od
Quinapril	2.5 mg od	40 mg bd
Ramipril	2.5 mg od	10 mg od
Imidapril	2.5 mg od	10 mg od

Table 20. α -blockers

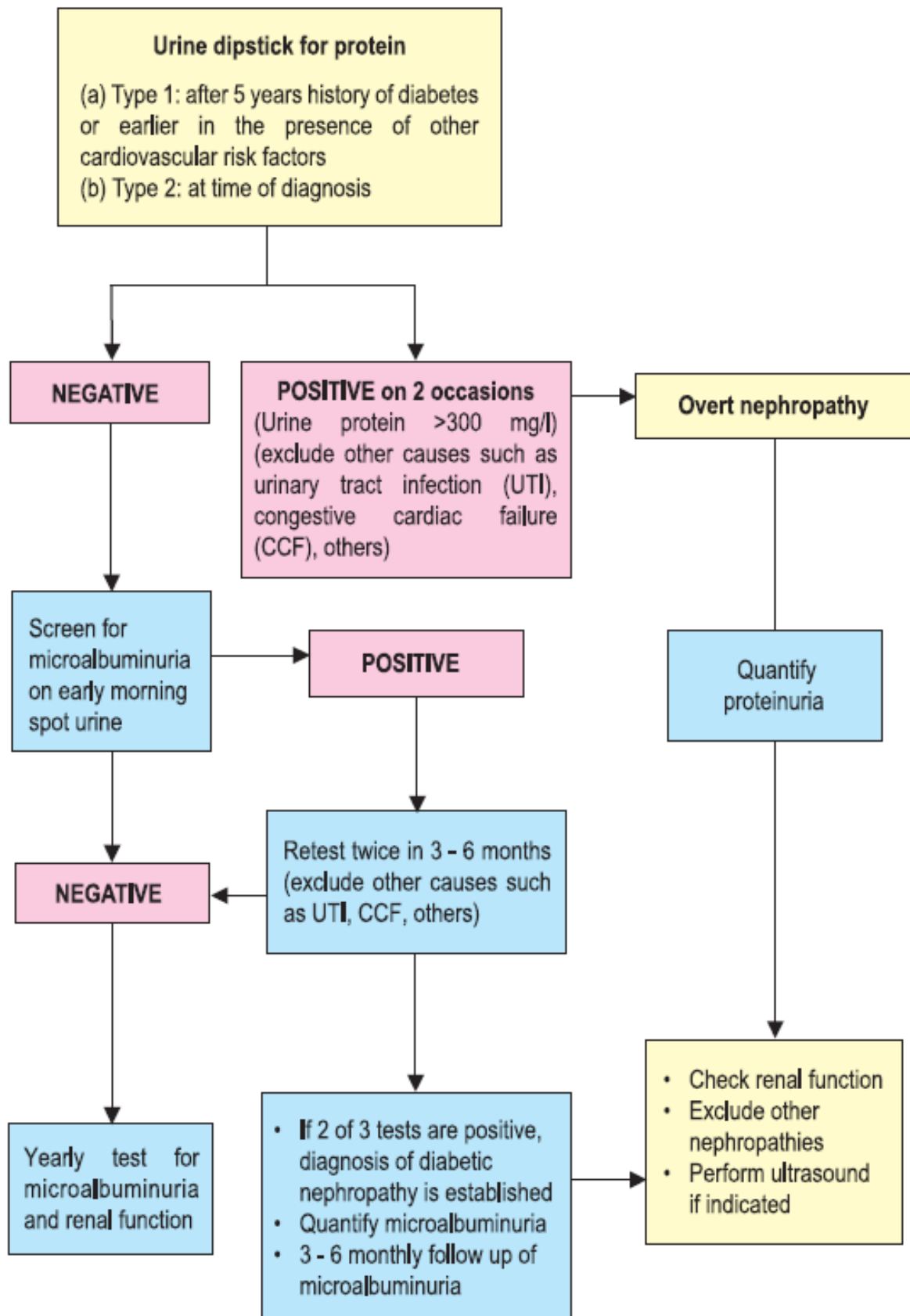
α -blockers	Starting Dose	Maximum Daily Dose
Doxazosin	1 mg od	16 mg od
Prazosin	0.5 mg bd	10 mg bd
Terazosin	1 mg od	5 mg od

Table 21. α , β -blockers

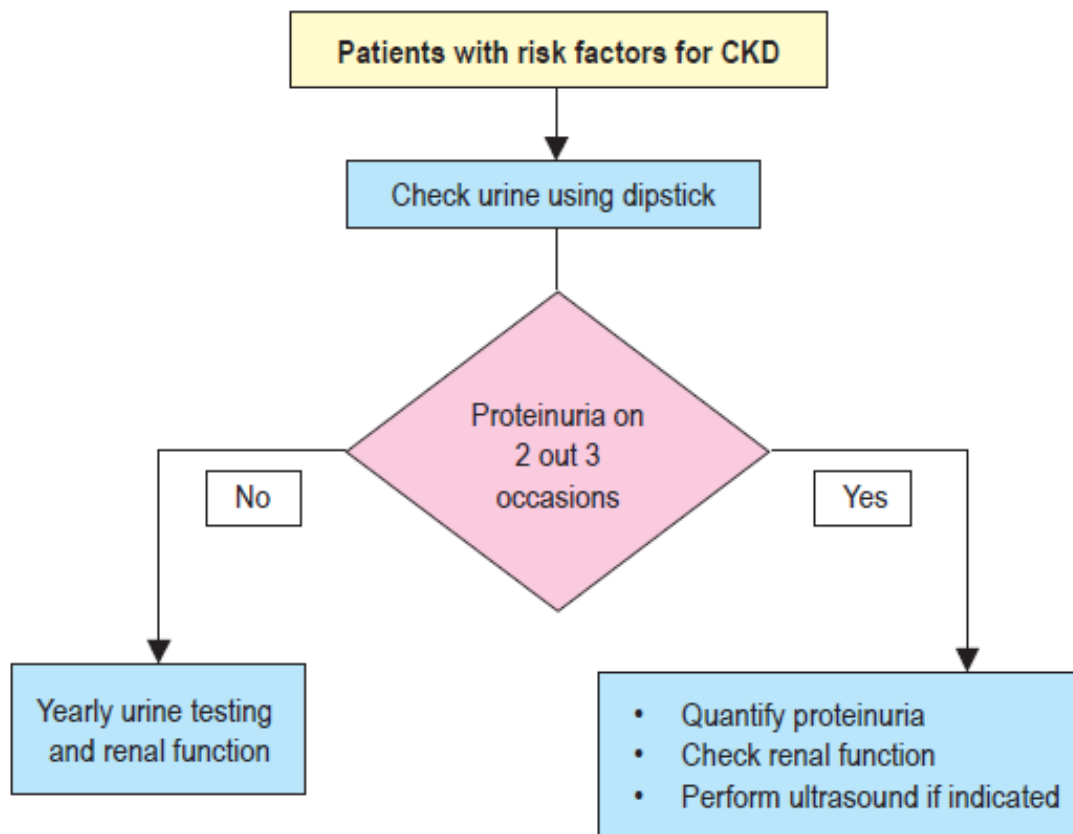
α , β -blockers	Starting Dose	Maximum Daily Dose
Labetalol ^a	100 mg bd	800 mg tds
Carvedilol	12.5 mg od	50 mg od

^a In the elderly, start with 50 mg bd

**ALGORITHM 1:
SCREENING AND INVESTIGATIONS FOR CKD IN PATIENTS WITH DIABETES**



**ALGORITHM 2:
SCREENING AND INVESTIGATIONS FOR CKD IN PATIENTS WITHOUT DIABETES**



STAGING OF CHRONIC KIDNEY DISEASE (NKF-KDOQI* STAGING)

Stages of CKD		
Stage	GFR (ml/min/1.73m ²)	Description
1	≥90	Normal or increased GFR, with other evidence of kidney damage
2	60 - 89	Slight decrease in GFR, with other evidence of kidney damage
3A	45 - 59	Moderate decrease in GFR, with or without other evidence of kidney damage
3B	30 - 44	
4	15 - 29	Severe decrease in GFR, with or without other evidence of kidney damage
5	<15	Established renal failure

FACTORS AFFECTING URINARY PROTEIN EXCRETION

Increases protein excretion	Decreases protein excretion
<ul style="list-style-type: none"> • Strenuous exercise • Poorly controlled DM • Heart failure • UTI • Acute febrile illness • Uncontrolled hypertension • Haematuria • Menstruation • Pregnancy 	<ul style="list-style-type: none"> • ACEi/ARB • NSAIDs

DIAGNOSIS OF ABNORMAL PROTEIN OR ALBUMIN EXCRETION

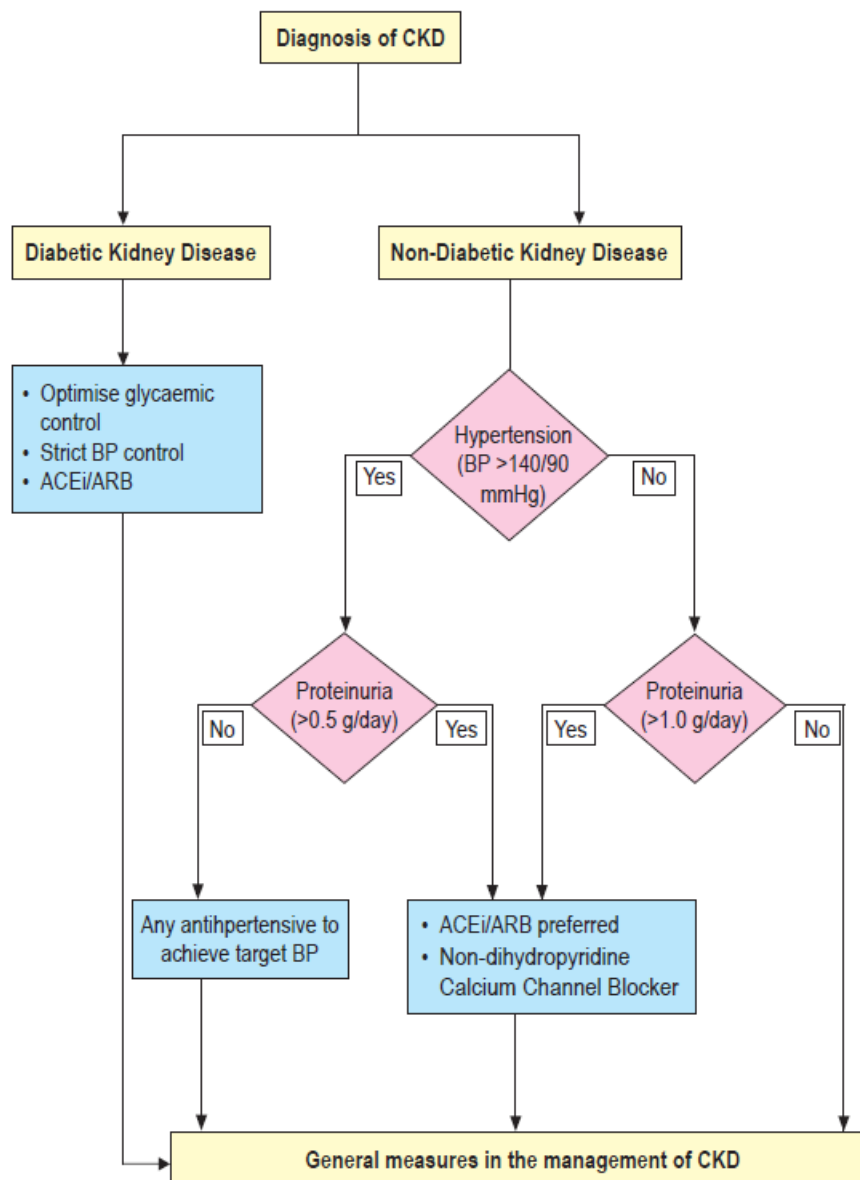
Class	Urine dipstick reading	Urine PCR* in mg/mmol	Urine total protein excretion in g/24 hour	Urine ACR in mg/mmol	Urine albumin excretion in mcg/min (mg/24 hour)
Normal	Negative	<15	<0.15	<2.5 (male) <3.5 (female)	<20 (<30)
"Trace" protein (Microalbuminuria)	Negative	<15	<0.15	≥2.5 to 30 (male) ≥3.5 to 30 (female)	20 - 200 (30 - 300)
	Trace	15 - 44	0.15 - 0.44		
Overt proteinuria (Macroalbuminuria)	1+	45 - 149	0.45 - 1.49	>30	>200 (>300)
	2+	150 - 449	1.50 - 4.49		
	3+	≥450	≥4.50		

* PCR = Protein: Creatinine Ratio

INDICATIONS FOR RENAL ULTRASOUND

- A rapid deterioration of renal function (eGFR >5 ml/min/1.73m² within one year or 10 ml/min/1.73m² within five years)
- Visible or persistent non-visible haematuria
- Symptoms or history of urinary tract obstruction
- A family history of polycystic kidney disease and age over 20 years
- Stage 4 or 5 CKD
- When a renal biopsy is required

**ALGORITHM 3:
TREATMENT FOR CHRONIC KIDNEY DISEASE**



Parameters	Target
Blood pressure	<140/90 (systolic BP range 120 - 139) mmHg OR <130/80 (systolic BP range 120 - 129) mmHg in <ul style="list-style-type: none"> • patients with proteinuria ≥ 1 g/day • patients with DKD
Glycaemic control	HbA _{1c} $\leq 7.0\%$, individualised according to co-morbidities

- A patient with CKD and any of the following criteria should be referred to a nephrologist/physician:
 - o heavy proteinuria (urine protein ≥ 1 g/day or urine PCR ≥ 0.1 g/mmol)
 - o haematuria with proteinuria (urine protein ≥ 0.5 g/day or urine PCR ≥ 0.05 g/mmol)
 - o rapidly declining renal function (loss of GFR >5 ml/min/1.73m² in one year)
 - o resistant hypertension (failure to achieve target BP despite three antihypertensive agents including a diuretic)
 - o suspected renal artery stenosis
 - o suspected glomerular disease
 - o suspected genetic causes of CKD
 - o pregnant or when pregnancy is planned
 - o eGFR <30 ml/min or serum creatinine >200 μ mol/L
 - o unclear cause of CKD

	T4	TSH
Hyperthyroidism	Raised	Low
Subclinical Hyperthyroidism	Normal	Low
Hypothyroidism	Low	Raised
Subclinical Hypothyroidism	Normal	Raised

Hyperthyroidism

History:

- weight loss despite good appetite
- excessive sweating especially at night, in cold weather
- excitability, irritability, tremulousness
- palpitations

Physical examination:

- goitre (usually with/without bruit) in Graves' disease
- proximal muscle weakness, hyperreflexia
- warm, sweaty palms
- fine finger tremors
- lid retraction, lid lag
- resting tachycardia

*continue therapy for 1-2 years.	Initial therapy for 4-6 weeks	Maintenance therapy (gradual reduction over 3-6 months from initial dose)
Carbimazole	30-45 mg/day	5-10 mg/day
Propylthiouracil	300-450 mg/day	50-100 mg/day

Beta-blockers are useful for symptomatic relief initially, provided there are no contraindications, e.g. asthma.

propranolol	30-120 mg/day
atenolol	25-50 mg/day

HYPOTHYROIDISM

Hypothyroidism is due to deficiency of thyroid hormones resulting in a hypo-metabolic state. The causes are:

- Primary** - autoimmune thyroid disease - thyroid agenesis, post-thyroidectomy, post-radioiodine therapy
Secondary - hypopituitarism

Clinical Features

Apathy, fatigue

- * Cold intolerance
- * Slow speech
- * Facial puffiness
- * Weight gain
- * Constipation
- * Coarse features

Less common features are:

- * Menorrhagia
- * Hoarse voice
- * Depression
- * Psychosis

Management

	Starting Dose	Maintenance
L-thyroxine	50 or 100 ug/day 25 ug/day (IHD)	100 - 200 ug/day.

ASTHMA Acute mx

Sx	mild	Moderate	Severe
Altered Consciousness	-	-	+
Physical Exhaustion	-	-	+
Talks in	Sentences	Phrases	Words
Pulsus paradoxus	NO	+/-	PALPABLE
Central cyanosis	-	-	+
RONCHI	+	+	SILENT CHEST
Use acc. muscles	-	Moderate	MARKED
Sternal Retraction	-	Moderate	MARKED
Initial PEF	>60%	40-60%	<40%
SpO2	>93%	91-93%	<90%
OUTCOME	Discharge	May need admit	ADMIT
Mx:	1) Neb Salb < 1 yo: 0.5 : 3.5 >1yo : 1:3 or MDI Salb in spacer 4-6 puffs (<6yo) 8-12 puffs (>6yo)	1) Neb Combivent x 3 2) O2 8L/min 3) Oral Prednisolone	1) Neb Combivent x 3 / cont 2) O2 8L/min 3) IV Hydrocort 5mg/kg QID 1/7 4) IVI Salbutamol continuous Bolus: 5-10mcg/kg/10mins, then Infusion: 0.5-1mcg/kg/min 5mg in 50ml 1amp = 0.5mg (5mcg = x 10amp) 0.6ml/kg = 1mcg/kg/hr max 20mcg * S/C Bricanyl (terbutaline) 0.005-0.01mg/kg (max 0.4mg) every 5-10mcg/kg 15-20mins * IV MgSO4 50% Bolus: 0.1ml/kg(50mg/kg) in 20mins *IV Aminophylline Bolus:6mg/kg bolus then Infusion: 0.5-1.0mg/kg/hr * Mechanical ventilation and observation in HDW/ICU
MDI ventolin 200mcg 2 puff PRN Fluticasone 125mcg 2 puff BD Budesonmide 125mcg BD Seretide 25/125 1 puff BD Qvar 100mcg BD Montelukast /singulair 4mg granules (Chew @8pm) IV hydrocort 4-5mg/kg QID for 1/7, then change to Syr Prednisolone 1-2mg/kg OD for 5/7	2) Oral prednisolone SyrPred 1mg/kg/day for 3-5/7 <i>Reasses after 60mins if no improvement Tx as moderate</i>	<i>Reasses after 60mins if no improvement, Tx as severe</i>	

Classification

1) Intermittent : - EIA

2) persistent : + EIA, + need for prophylaxis MDI

Degree of Asthma severity

	Intermittent	Mild persistent	Mod Persistent	Severe Persistent
Daytime sx	< 1x / week	> 1x /week	Daily	Daily
Nocturnal sx	<1x / month	>2x / month	>1x / week	Daily
EIA	-	+	+	Daily
Exacerbations	Brief Not affecting sleep	> 1x / month Affect sleep/activity	> 2x / month Affect sleep/activity	>2x /mo frequent Affect sleep/activity
PEFR/FEV1	Normal lung fn	>80%	60-80%	< 60%

GINA – Level of asthma control (after starting MDI)

	Controlled	Partly controlled	Uncontrolled
Daytime sx	-	> 2x / week	> 3 of partly controlled features
Nocturnal sx	-	+	
Limit activities /EIA	-	+	
Exacerbations	-	> 1 / year	
Lung Fn test	Normal	< 80% predicted best	1 in any week
Need for reliever	-	> 2x / week	

Peak Expiratory Flow values for Optimal Asthma Control
Predicted Mean Values for Healthy Adults

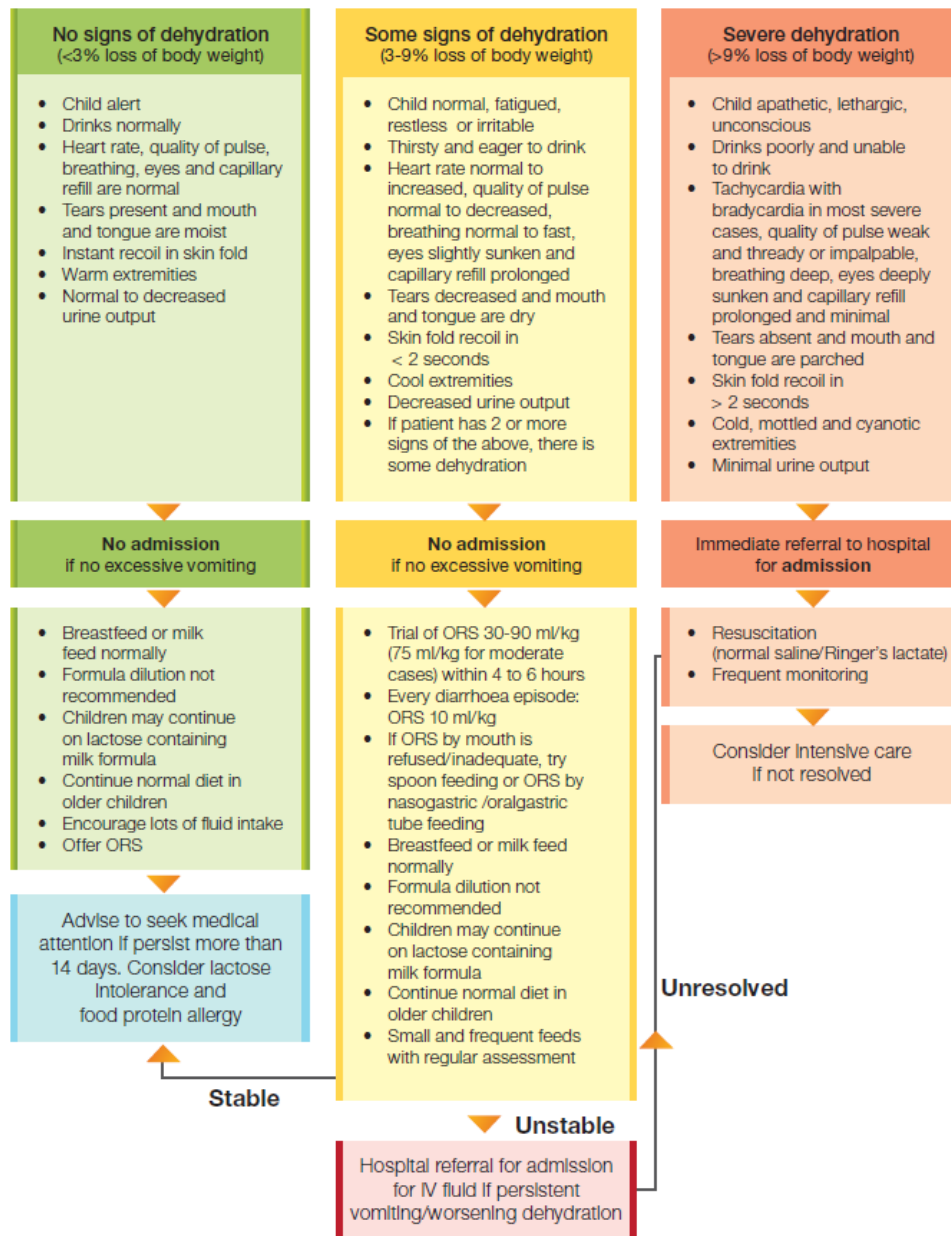
FEMALE

	1.4m	1.45m	1.5m	1.55m	1.6m	1.65m	1.7m	1.75m	1.8m
16/25	358	377	395	414	433	451	570	469	508
30	348	366	385	404	422	441	460	478	497
35	337	356	374	393	412	430	449	468	487
40	327	345	364	383	401	420	439	457	476
45	316	335	353	372	391	409	428	447	466
50	306	324	343	362	380	399	418	446	455
55	295	314	332	351	377	388	407	426	445
60	285	303	322	341	359	378	397	415	434
65	274	293	311	330	349	367	386	405	424
70	264	282	301	320	338	357	376	394	413
75	253	272	290	309	328	346	365	384	403
80	243	261	280	299	317	336	355	373	392
85	232	251	269	288	307	325	344	363	382

MALE

	1.5m	1.55m	1.6m	1.65m	1.7m	1.75m	1.8m	1.85m	1.9m
16	438	456	474	492	509	527	545	563	581
18	493	511	529	547	564	582	600	618	636
20/25	536	554	572	590	607	625	643	661	679
30	525	542	560	557	595	612	630	647	665
35	513	531	548	565	582	599	616	633	650
40	502	519	536	553	569	586	603	619	636
45	491	507	524	540	556	573	589	606	622
50	480	496	512	528	544	560	576	592	606
55	468	484	500	515	531	547	582	578	593
60	457	472	488	503	518	533	549	564	579
65	443	468	483	498	513	528	543	558	573
70	435	449	464	478	493	507	522	536	551
75	523	438	452	466	480	490	508	522	536
80	412	426	440	453	467	481	495	508	522
85	410	414	428	441	454	468	481	495	508

AGE



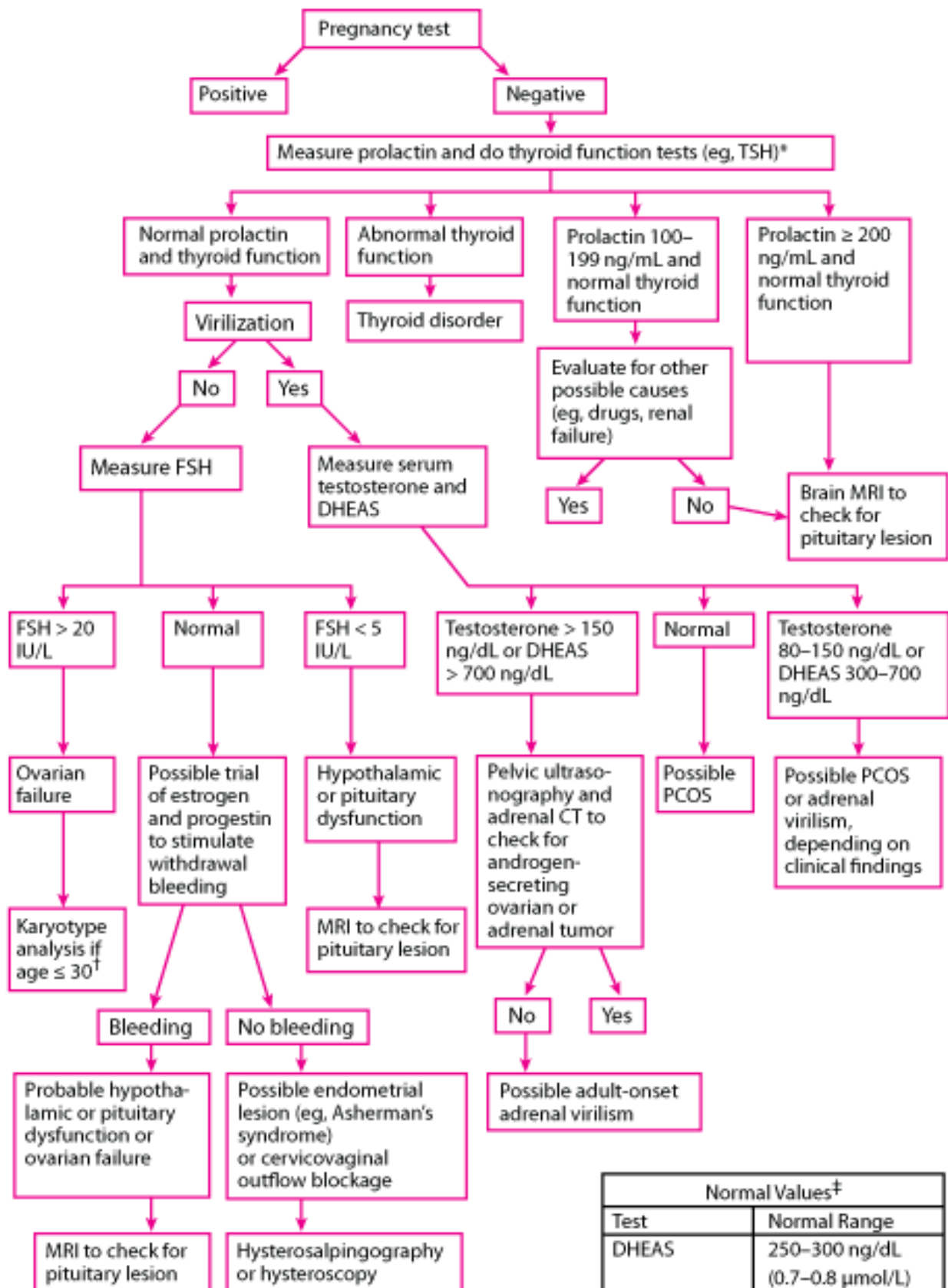
Acute GastroEnteritis

Abdomen turgor General Condition Eyes sunken, Turgor

Signs of shock = Tachycardia, weak peripheral pulse, delayed CRT, cold peripheries, depressed mental state

Assess			
General Condition	Well, alert	Restless, irritable	Lethargic, unconscious
Sunken eyes	-	+	+
Offer Fluid	Drinks normally	Drinks eagerly, thirsty	Not drinking, poor
Pinch skin (abdomen)	Skin goes back immediately	Skin goes back slowly	Skin goes back slow >2sec
DEHYDRATION	MILD (<5%)	Moderate (5-10%)	Severe (>10%)
Treatment	Plan A (Tx at home) - Give extra fluid (ORS/H2O) - Cont feeding on demand - Return when poor oral intake, fever, bloody stool	Plan B - Give ORS over 4 hours - Reassess after 4 hours	Plan C - Start IVD immediately!
	ORS 8 sachets at home <2 yo : 50-100ml after BO >2yo : 100-200ml after BO - give frequent small sips frm cup/spoon * if vomit, wait 10mins then give slowly (1 spoon/2-3mins)	ORS over 4 hours <6kg : 200-400ml 6-10kg : 400-700ml 10-12kg : 700-900ml 12-19kg : 900-1400ml	0.9 % NS bolus 20ml/kg then reassess Correction +maintenance

AMENORRHOEA



*Some clinicians simultaneously measure FSH and LH levels.

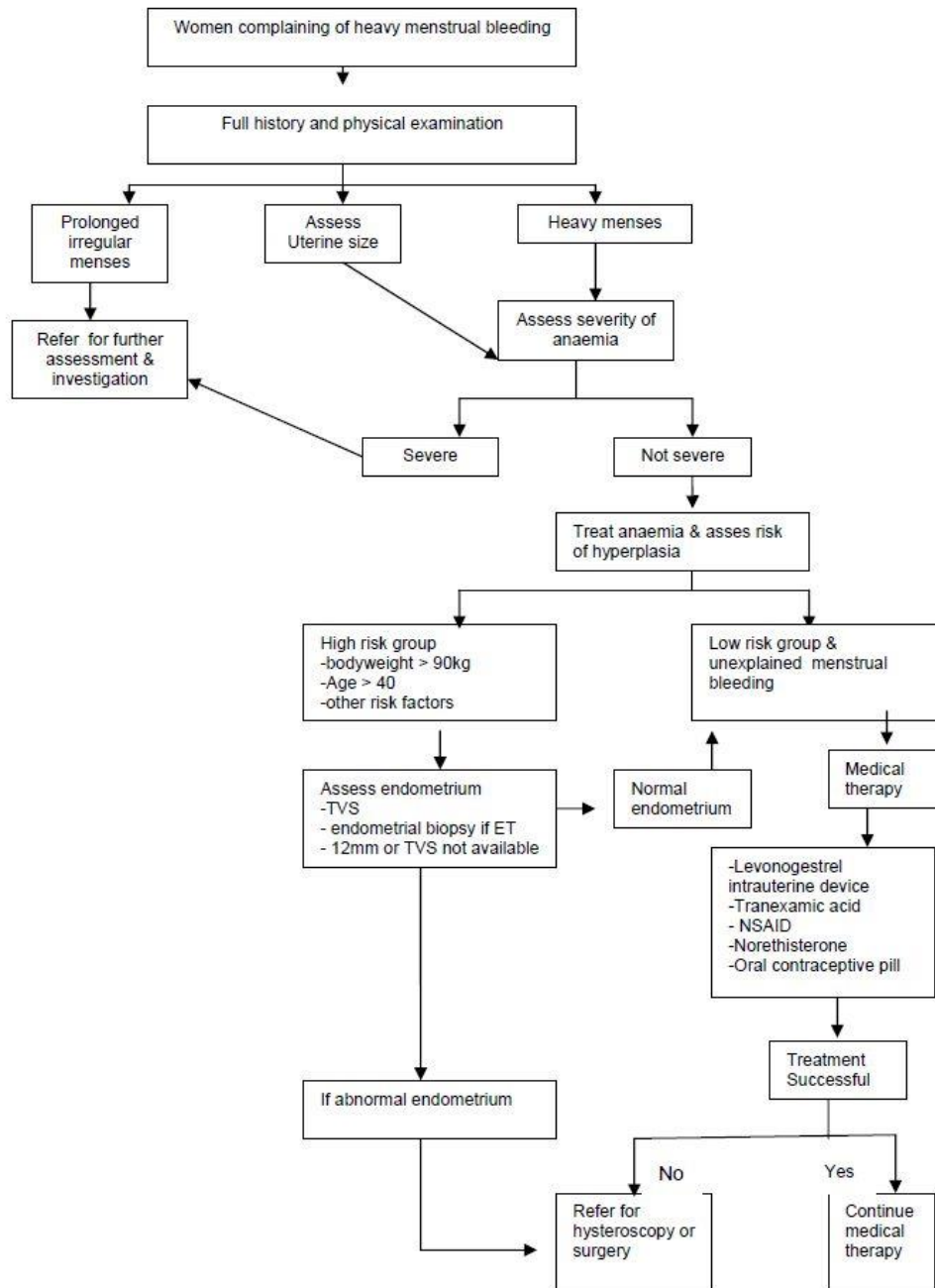
†Clinicians should check for presence of Y chromosome and fragile X syndrome.

‡Although these values are representative, normal ranges may vary between laboratories.

DHEAS = dehydroepiandrosterone sulfate; FSH = follicle-stimulating hormone; LH = luteinizing hormone; PCOS = polycystic ovary syndrome; TSH = thyroid-stimulating hormone.

Normal Values [‡]	
Test	Normal Range
DHEAS	250–300 ng/dL (0.7–0.8 μmol/L)
FSH	5–20 IU/L
Karyotype (female)	46,XX
Prolactin	100 ng/mL
Testosterone	20–80 ng/dL (0.7–2.8 nmol/L)

ALGORITHM OF MANAGEMENT OF MENORRHAGIA



RECOMMENDED DOSE OF MEDICAL THERAPY

Medical Therapy	Dosage
Tranexamic acid	1g every 6 hours for the first 4 days
NSAIDs D1- D5 or until cessation of menses	Mefenemic acid 500mg TDS
OC	OC containing 30ug ethinyloestradiol
Progestogens D5-25	Norethisterone 15mg daily or Medoxyprogesterone 30mg daily
Danazol	100-200mg daily for 3 months

(Guidelines for the management of abnormal menstrual bleeding -Canada)

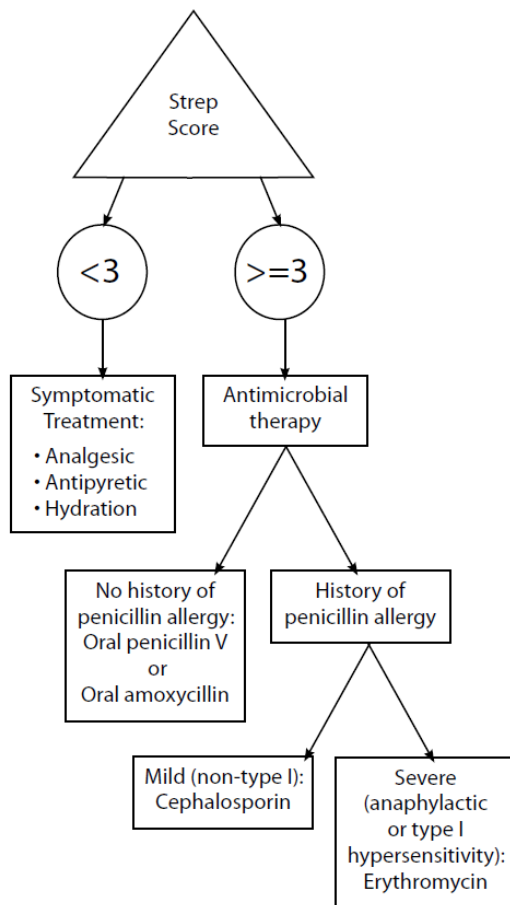
ACUTE PHARYNGITIS

2.3 DIAGNOSIS

Acute pharyngitis can be diagnosed by the following symptoms and signs^{23, Level III}:

Signs	Symptoms
<ul style="list-style-type: none"> • Fetid breath • Coated tongue • Hyperemia of soft palate, uvula, and anterior pillars • Tonsils appearing red and swollen. Presence of crypt exudates indicate follicular tonsillitis, whitish membrane – membranous tonsillitis, and kissing tonsils – parenchymatous tonsillitis • Enlarged or tender upper jugular chain nodes 	<ul style="list-style-type: none"> • Sore throat • Painful swallowing (odynophagia) • High grade fever with chills • Otalgia • Constitutional symptoms with or without mesenteric adenitis • Painful neck swelling

Management Algorithm



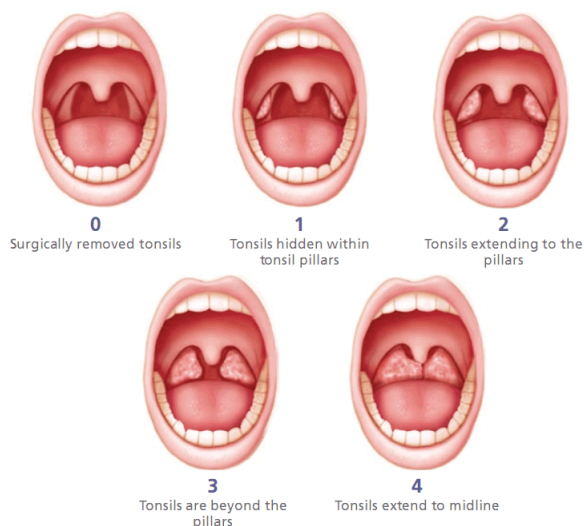
Strep Score for Group A Beta-Hemolytic Streptococcus Pharyngitis

Symptoms	Points
Fever	+1
Absence of cough	+1
Cervical adenopathy	+1
Tonsillar exudates	+1
Patient's age	
<15 years	+1
15 to 45 years	0
>45 years	-1
Total score:	_____

WHEN TO REFER TO ENT SPECIALIST?

1. Recurrent acute tonsillitis
2. Chronic tonsillitis
3. Symptoms of OSA
4. Unilateral tonsil enlargement
5. Complications of tonsillopharyngitis

Antibiotic	Durations	Treatment comments
First-line therapy Penicillin V, penicillin G benzathine Alternative therapy Amoxicillin, macrolides (erythromycin preferred in patients allergic to penicillin), oral cephalosporins, clindamycin	10 days	Failure to respond after 72 hours of antibiotics: reevaluate patient and switch to alternate antibiotics



RHINOSINUSITIS

Rhinosinusitis Task Force guidelines (1997, revised in 2002) recommends the diagnosis as follows^{9(Level III)}.

Major symptoms	Minor symptoms
1. Nasal Obstruction or congestion 2. Nasal or postnasal discharge/ purulence 3. Diminished or absent of sense of smell 4. Facial pain, pressure or fullness 5. Fever	1. Headache 2. Fever 3. Halitosis 4. Fatigue 5. Maxillary dental pain 6. Cough 7. Ear pain, pressure of fullness

Any patient with one major symptom and two minor symptoms or two major symptoms is diagnosed to have rhinosinusitis.

Any patient with symptoms and signs of complications merits immediate referral to an ENT specialist.

Sign of Orbital complications	Symptoms of Intracranial complications
<ul style="list-style-type: none"> • Conjunctival chemosis • Periorbital swelling • Blurred vision 	<ul style="list-style-type: none"> • Nausea • Persistent vomiting • Altered sensorium • Seizures • Reduced conscious level

Categories	Diagnosis
Acute rhinosinusitis	<4 weeks (General practioners may treat)
Subacute Rhinosinusitis	4 to 12 weeks (to be referred to an ENT Surgeon)
Chronic Rhinosinusitis	>12 weeks(to be referred to an ENT Surgeon)



Figure 1 - Normal nasal cavity

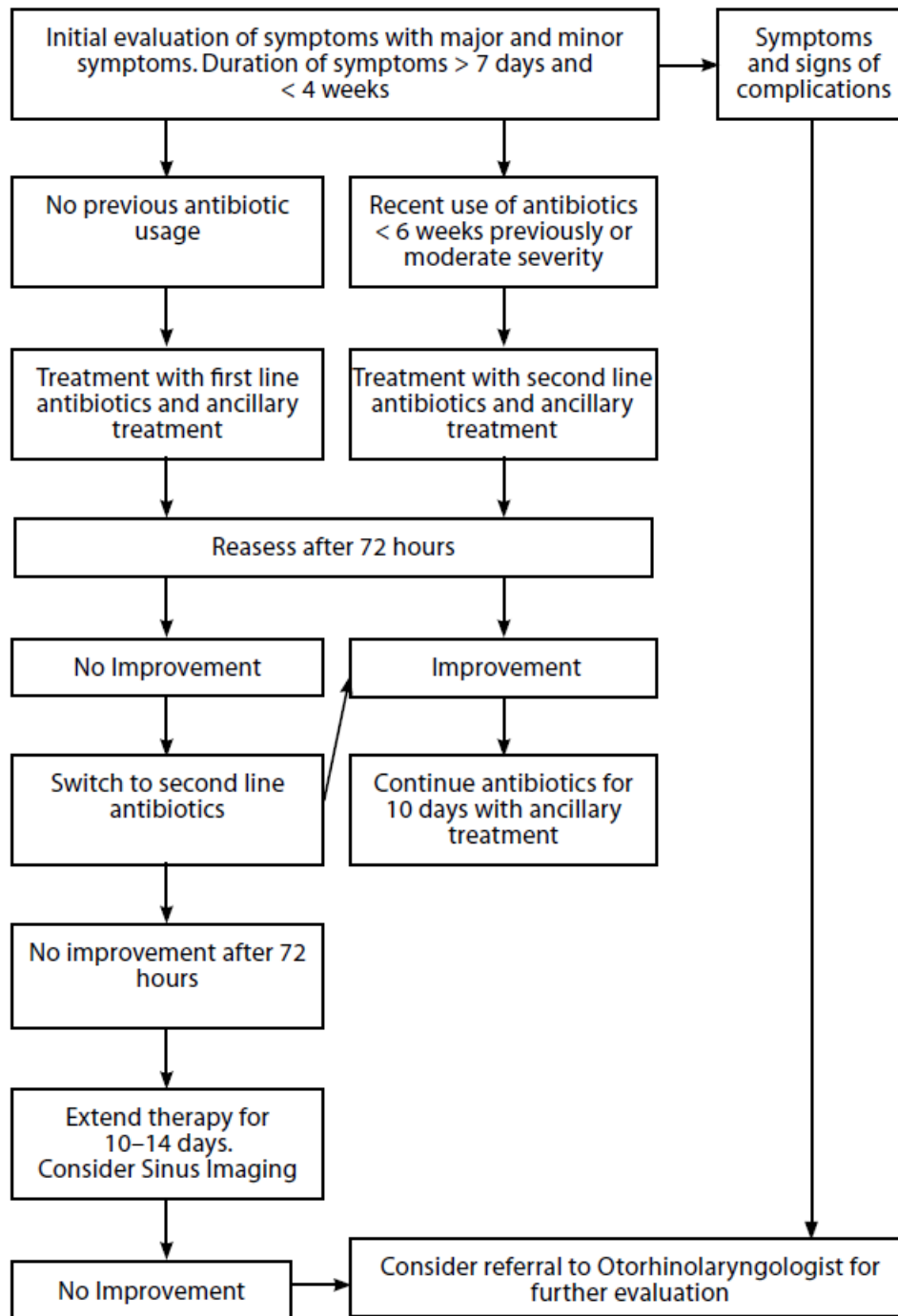


Figure 2 - Acute rhinosinusitis

WHEN TO REFER TO ENT SPECIALIST?

1. Any patient with symptoms or signs of complications
2. Any patient who fails to respond after 10 days of second line antibiotics (**Grade B**)
3. Any patient with Subacute or Chronic Rhinosinusitis

Management Algorithm^{10(Level I I-2)}

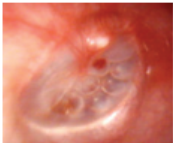





b. Ancillary treatment^{14(Level II-3)}

Oral decongestants	• Pseudoephedrine : 60 mg every 6 hours or 120 mg every 12 hours
Topical decongestants	• Oxymetazoline : 2 sprays every 12 hours • Xylometazoline : 2 sprays every 8 hours • Phenylephrine : 2 sprays every 4 hours

1 st Line Treatment	Dose
Amoxicillin	500 mg oral TDS
2 nd Line Treatment	Dose
Co-amoxiclav	500/125 mg oral TDS
Cefuroxime	250/500 mg oral BD
Levofloxacin	500 mg oral OD
Moxifloxacin	400 mg oral OD
Gatifloxacin	400 mg oral OD

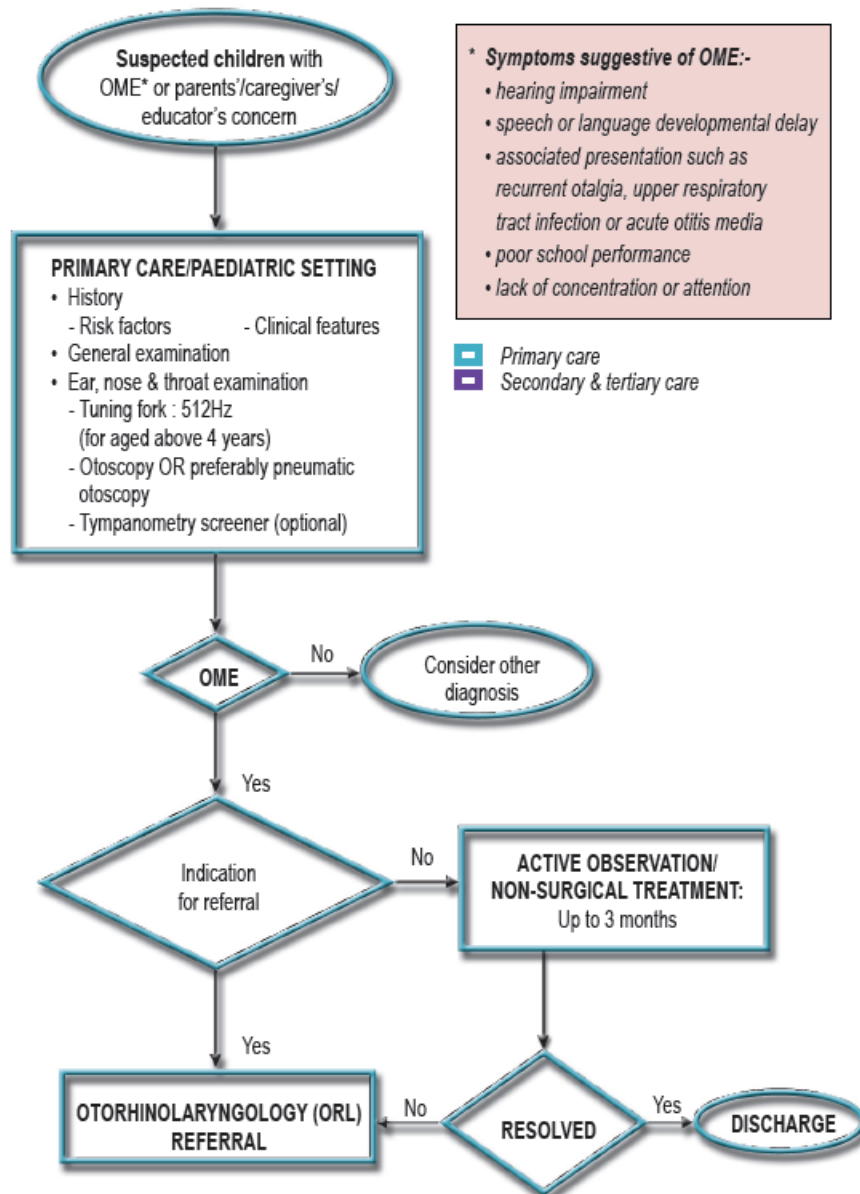
CLINICAL FEATURES IN MIDDLE EAR DISEASES

<div>Clinical Features</div> <div>Disease</div>	Pain	Fever	Otorrhoea	Otoscopic findings
OME	No (unless with secondary infection)	No	No	<ul style="list-style-type: none"> dull tympanic membrane (TM) retraction of TM fluid level or air bubble TM colour change restricted TM mobility with pneumatic otoscopy 
Acute otitis media	Yes	Yes	Yes	<ul style="list-style-type: none"> bulging TM inflamed TM 
Chronic suppurative otitis media	No	No	Yes	<ul style="list-style-type: none"> perforated TM mucopurulent discharge 
Cholesteatoma (URGENT REFERRAL)	No	No	Yes (scanty, foul smelling, persistent)	<ul style="list-style-type: none"> attic or marginal perforation of tympanic membrane presence of keratin debris 

Recommendations

- The diagnosis of AOM requires a history of the acute onset of symptoms and signs of middle-ear inflammation and effusion. **(Grade A)**
- Analgesia is a critical part of the treatment of AOM in children. Acetaminophen and ibuprofen are first-line treatments for mild to moderate pain. **(Grade B)**
- Amoxicillin at a dose of 80 to 90 mg/kg/day should be the first-line antibiotic used for AOM in children. **(Grade A)**
- Ten days of antibiotic treatment should be used for children younger than 6 years. Antibiotic courses of 5 to 7 days may be chosen for children older than 6 years with mild or moderate AOM. **(Grade A)**

ALGORITHM 1: MANAGEMENT OF OTITIS MEDIA WITH EFFUSION IN CHILDREN (PRIMARY CARE)



CRITERIA FOR REFERRAL

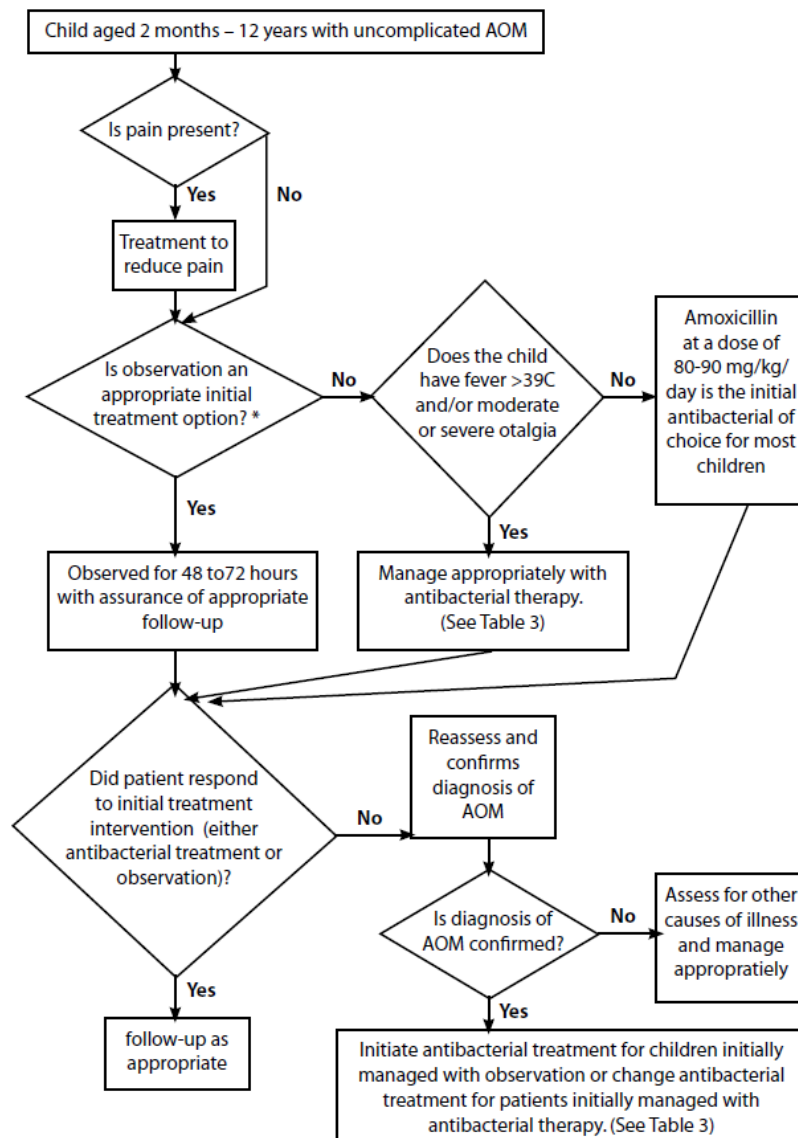
- Children with **any of the following features** should be referred to an otorhinolaryngologist for diagnosis and management of OME:-
 - hearing impairment or hearing loss due to uncertain causes
 - recurrent episodes of acute otitis media or otalgia
 - speech and language development not appropriate for age
 - impaired social or educational development and behavioural symptoms (lack of concentration or attention) associated with hearing impairment
 - underlying craniofacial anomalies, Down syndrome and cleft lip and/or palate
 - otoscopic findings such as colour changes, opacity or retraction of tympanic membrane and presence of fluid level or air bubble persisted after 3 months of active observation.
- Children with persistent OME after active observation for 3 months should also be referred to ORL.
- URGENT REFERRAL** is required in the presence of **cholesteatoma**.

ACUTE OTITIS MEDIA

Signs and Symptoms of AOM

1. Recent, usually abrupt, onset of signs and symptoms of middle-ear inflammation and middle-ear effusion.
2. The presence of middle-ear effusion that is indicated by any of the following: <ul style="list-style-type: none"> • Bulging of the tympanic membrane • Limited or absent mobility of the tympanic membrane • Air fluid level behind the tympanic membrane • Otorrhea
3. Signs or symptoms of middle-ear inflammation as indicated by either <ul style="list-style-type: none"> • Distinct erythema of the tympanic membrane OR • Distinct otalgia (discomfort clearly referable to the ear[s] that results in interference with or precludes normal activity or sleep)

Management Algorithm



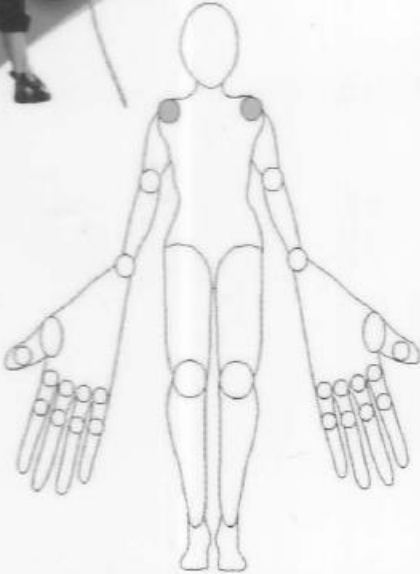





WHEN TO REFER TO ENT SPECIALIST?

1. Recurrent acute otitis media
2. Persistent otorrhea
3. Concerns about mastoiditis or other complications of AOM
4. Perceived need for tympanocentesis and/or myringotomy
5. Abnormal audiological evaluation

RHEUMATOLOGY

Source of Data	Rheumatoid Arthritis	Systemic Lupus Erythematosus	Ankylosing Spondylitis	Gout
History and Physical Exam	Symmetrical Polyarthrits	Multisystem disease	Back pain Axian involvement	Recurrent attacks
Blood Tests	Latex test + ve in approx. 80% Elevated ESR in 50-60%	ANA -screening +ve in >99% DNA antibodies +ve in 60-75%	Approx. 90% of patients are HLA-B27	Uric acid elevated in 75-90%
Radiographs	Demineralization Erosions Joint space narrowing	Generally non - destructive	Sacroiliitis Vertebral squaring	Erosions Cysts
Synovial Fluid	Inflammation WBC > 10,000	Mild inflammation	Inflammation WBC 5-20,000	Negatively birefringent crystals
Source of Data	Osteoarthritis	Fibromyalgia	Scleroderma	Polymyositis
History and Physical Exam	Pain ± swelling ± Limited motion	Chronic pain 'all over' No swollen joint Muscle spasm	Skin tightness dorsum of hand Facial skin tightening	Muscle weakness ± pain
Blood Tests	Non-specific abnormalities	No abnormalities may have +ve ANA (2-5%); uric acid >8.0 (2.5%)	+ve ANA -up to 90% with Hep-2 cells	CPK elevated in 80% +ve ANA in 33%
Radiographs	Joint space narrowing Osteophytes	No severe abnormalities (may have cervical osteoarthritis)	± Pulmonary fibrosis ± Esophageal dysmotility ± Calcinosis	Not helpful
Synovial Fluid	Non -inflammatory WBC<10,000	None	Not specific	Not specific

Rheumatoid Arthritis

 <p>Arthritis of 3 or more joint areas. At least 3 joint areas simultaneously have had soft tissue swelling or fluid (not bony overgrowth alone) observed by a physician. The 14 possible areas are right or left PIP, MCP, wrist, elbow, knee, ankle and MTP joints.</p>	 <p>Morning stiffness in & around joints, lasting at 1 hour before maximal improvement.</p>	 <p>Arthritis of hand joints. A last one swollen joint area (as above), in a wrist, MCP, or PIP</p>
 <p>Serum rheumatoid factor, Demonstration of abnormal amount of serum rheumatoid factor by any method for which the results has been positive in <5% of normal control subject.</p>	 <p>Radiographic changes Those typical of RA on posteroanterior hand and wrist radiographs, which must include erosions or unequivocal bony decalcification localised in or most marked adjacent to the involved joints (osteoarthritic changes alone do not qualify).</p>	 <p>Rheumatoid nodules subcutaneous nodules over bony prominences, or extensor surface, or in juxta articular regions, Observed by a juxta articular</p>



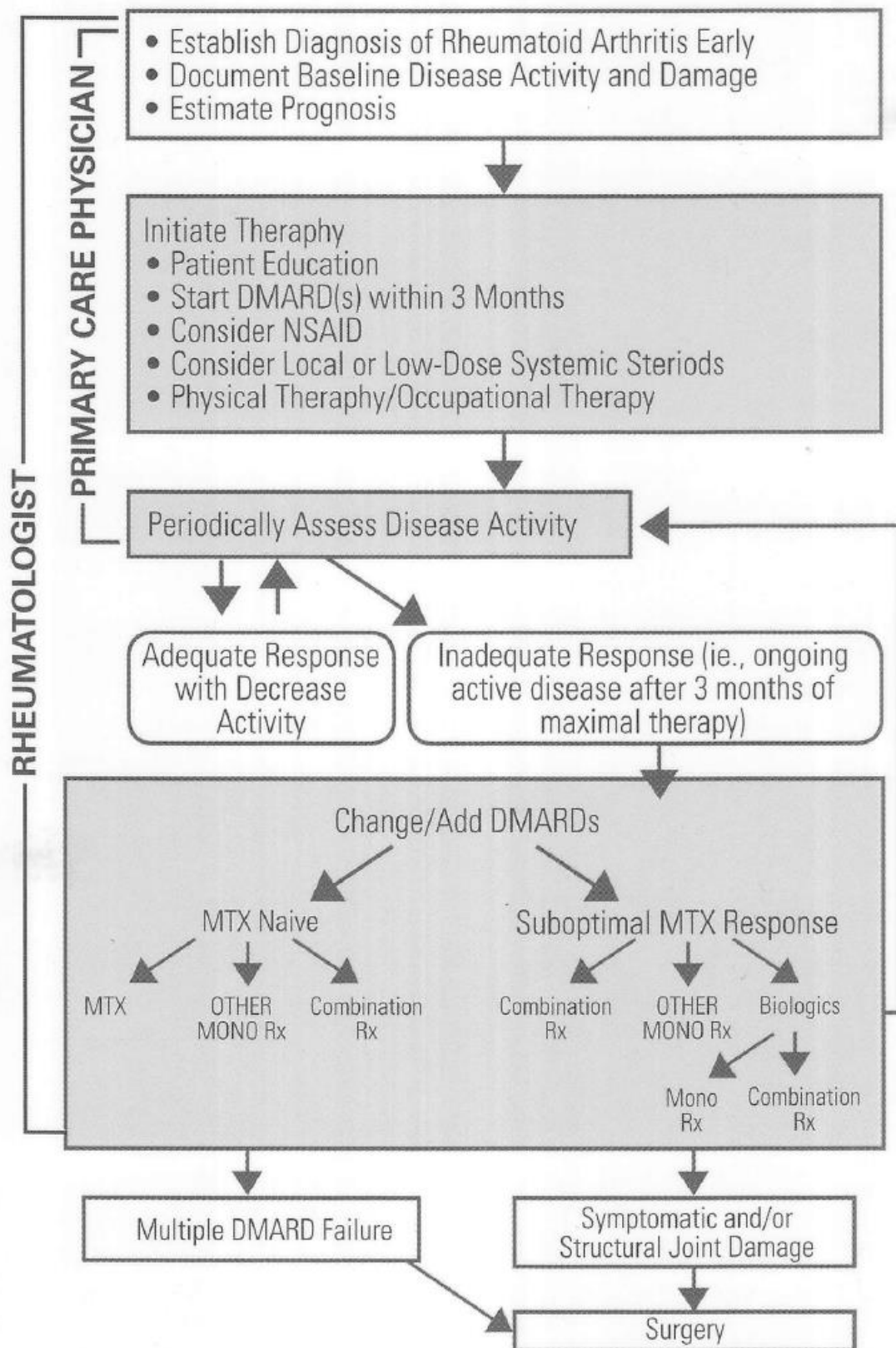
A patients has RA if he/she has satisfied at least four of seven criteria

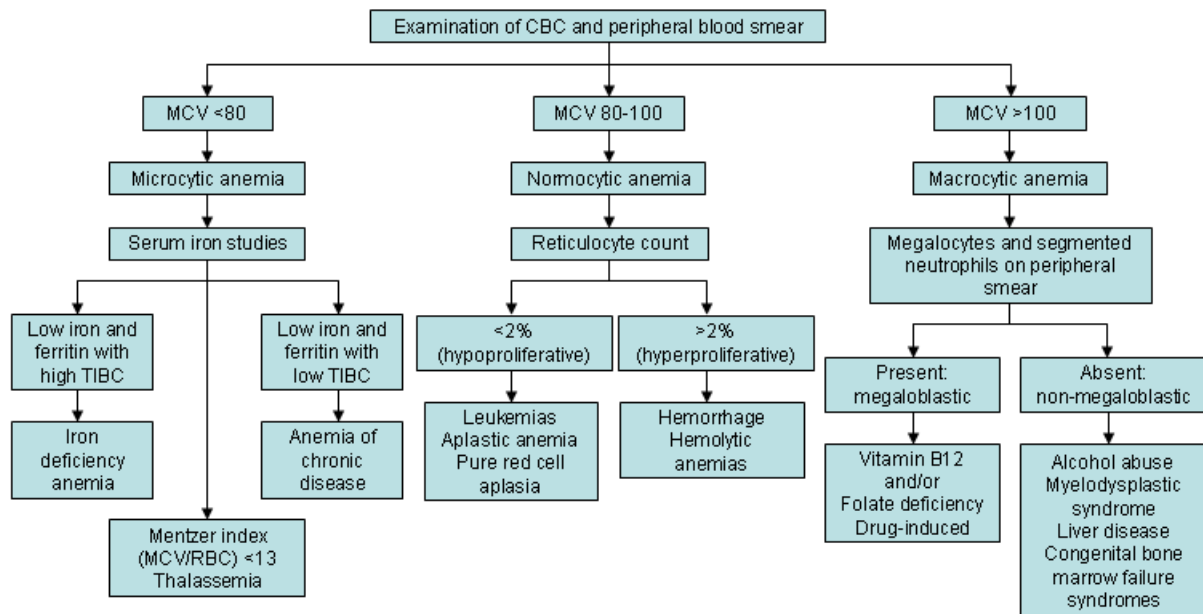


Criteria 1-4 must have been present for at least 6 weeks

The ultimate goals in management Rheumatoid Arthritis are³:

- Prevent or control joint damage
- Prevent loss of function & decrease pain
- Decrease pain

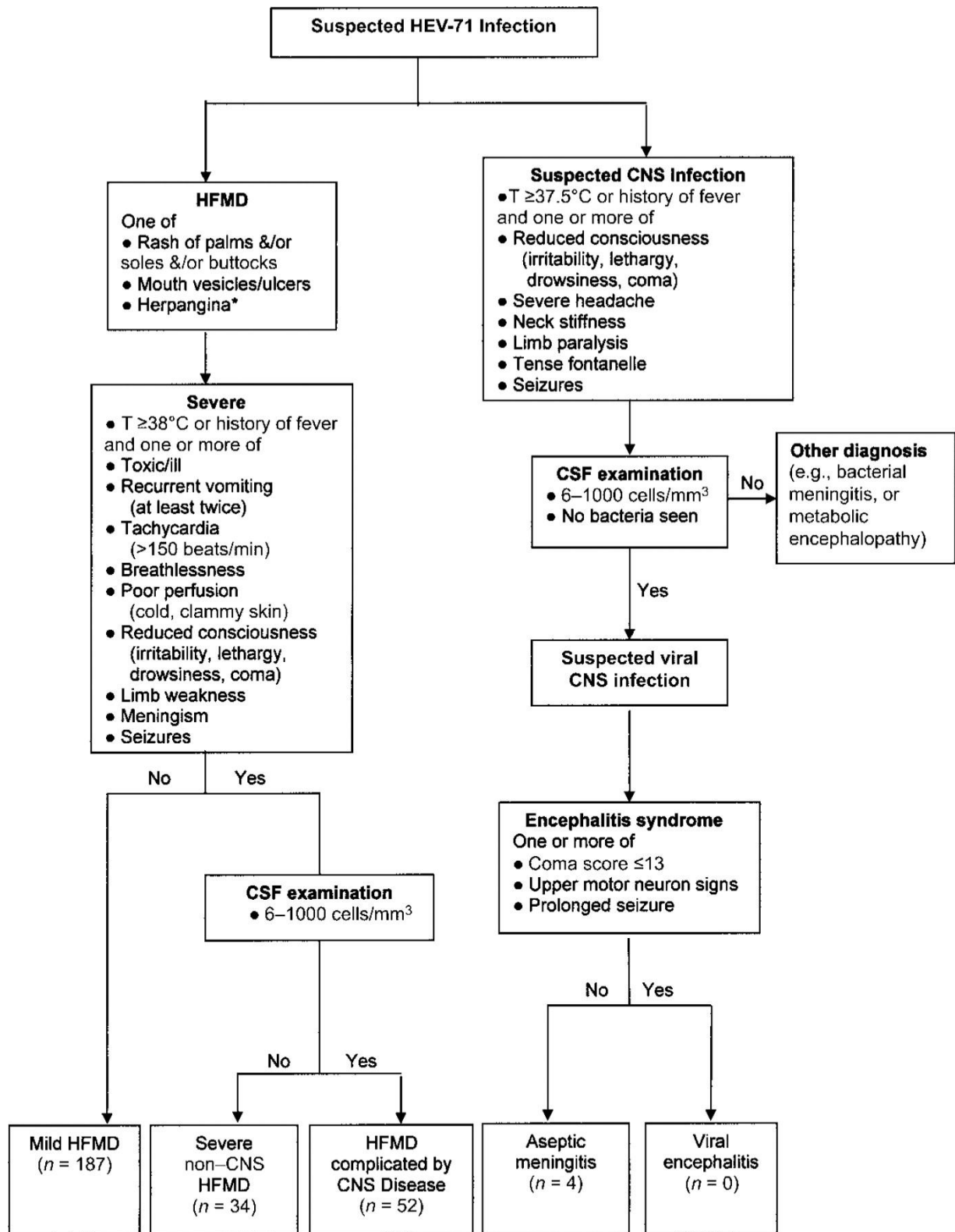




DIAGNOSTIC CRITERIA

	CLINICAL FEATURES	LABORATORY FEATURES
Thalassaemia Major (presentation usually at 4-6 months or child younger than 2 years old)	Anaemia Hepatosplenomegaly Growth failure / retardation	Hb : < 7 g/dL HbF : > 90% HbA2 : normal or high HbA : usually absent
Thalassaemia Intermedia (presentation at later age)	Milder anaemia Thalassaemia facies Hepatosplenomegaly	Hb : 8-10 g/dL HbF : > 10% HbA2 : 4-9%, if > 10% - suggests HbE HbA : 5-90% HbH disease : presence of H band
β Thalassaemia Trait	Normal to mild anaemia No organomegaly	Hb : > 10 g/dL MCH : < 27 pg HbF : 2.5 - 5% HbA2 : 4-9%, if > 20% suggests HbE trait HbA : > 90%
α Thalassaemia Trait	Normal to mild anaemia No organomegaly	Hb : > 10 g/dL MCH : < 27 pg Hb analysis : normal H inclusion may be present DNA studies may be necessary

HFMD



Age	Hb	PCV	Retics	MCV fl	MCH pg	TWBC	Neutrophil	Lymphocyte
	g/dL	%	%	Lowest	Lowest	x1000	Mean	Mean
Cord Blood	13-17-20.1	45-65	5.0	110	-	9-30	61	31
2 weeks	13.0-20.0	42-66	1.0	-	29	5-21	40	63
3 months	9.5-14.5	31-41	1.0	-	27	6-18	30	48
6 mths - 6 yrs	10.5-14.0	33-42	1.0	70-74	25-31	6-15	45	38
7 - 12 years	11.0-16.0	34-40	1.0	76-80	26-32	4.5-13.5	55	38
Adult male	14.0-18.0	42-52	1.6	80	27-32	5-10	55	35
Adult female	12.0-16.0	37-47	1.6	80	26-34	5-10	55	35
Differential counts				Points to note				
< 7 days age	neutrophils > lymphocytes			<ul style="list-style-type: none">• Differential WBC: eosinophils: 2-3%; monocytes: 6-9 %• Platelets counts are lower in first months of age; but normal range by 6 months• Erythrocyte sedimentation rate (ESR) is < 16 mm/hr in children, provided PCV is at least 35%.				
1 wk - 4 years	lymphocytes > neutrophils							
4 - 7 years	neutrophils = lymphocytes							
> 7 years	neutrophils > lymphocytes							

Table 2: Guide to initial dosages of some important antivenoms

Species	Antivenom manufacturer	Initial dose
Malayan pit viper	Thai Red Cross (Monovalent)	100 mls
Cobra	Twyford Pharmaceuticals (monovalent)	50 mls (local) 100 mls (systemic)
	Serum Institute of India;	50 mls (local)
	Biological E. Limited, India (Polyvalent)	100 - 150 mls (systemic)
King Cobra	Thai Red Cross (Monovalent)	50 – 100 mls
Common sea snake	CSL, Australia (polyvalent)	1 000 units (1 vial)

NORMAL VALUES IN CHILDREN

Vital Signs

Table 1. Respiratory rate

Infant	30 - 40 / min
Toddler	24 - 40 / min
School age	18 - 30 / min
Adolescent	12 - 16 / min

Table 3. Tachypnoea in children

Age	Breaths/minute
< 2 mths	> 60
2 mths - 1 yr	> 50
1 yr - 5 yrs	> 40

Table 4. Normal range of Blood pressure

	Systolic (mmHg)	Diastolic (mmHg)
Day 1 (< 1000g)	39 - 59	16 - 36
Day 1 (> 3000g)	50 - 70	25 - 45
Neonate	60 - 90	20 - 60
Infant	87 - 105	53 - 66
Toddler	95 - 105	53 - 66
> 7 years	97 - 122	57 - 71
> 15 years	112 - 128	66 - 80

Table 2. Normal range for Heart rate

Age	Awake	Mean	Sleeping
< 3 mth	85 - 205	140	80 - 160
3 mth - 2 yr	100 - 190	130	75 - 160
2 yr - 10 yr	60 - 140	80	60 - 90
> 10 yr	60 - 100	75	50 - 90

from Gillette 1989

**Note: Any age HR > 220 consider
Supraventricular tachycardia !**

Table 5. Blood pressure in hypotension

Age	Minimum systolic blood pressure ¹
< 1 mth	60 mm Hg
1 mth- 1 yr	70 mm Hg
1 - 10 yrs	70 mm Hg + (2 x age in yrs)
> 10 yrs	90 mm Hg

1. 5th percentile. BP below this is hypotension

from Hazinski 1992

Table 6. Blood pressure in hypertension

Age	Significant Hypertension	Severe Hypertension
1 week	Systolic ≥ 96	Systolic ≥ 106
7d - 1 mo	Systolic ≥ 104	Systolic ≥ 110
Infant	Systolic ≥ 112 Diastolic ≥ 74	Systolic ≥ 118 Diastolic ≥ 82
3 - 5 years	Systolic ≥ 116 Diastolic ≥ 76	Systolic ≥ 124 Diastolic ≥ 86
6 - 9 years	Systolic ≥ 122 Diastolic ≥ 78	Systolic ≥ 130 Diastolic ≥ 86
10 - 12 years	Systolic ≥ 126 Diastolic ≥ 82	Systolic ≥ 134 Diastolic ≥ 90
13 - 15 years	Systolic ≥ 136 Diastolic ≥ 86	Systolic ≥ 144 Diastolic ≥ 92
16 - 18 years	Systolic ≥ 142 Diastolic ≥ 92	Systolic ≥ 150 Diastolic ≥ 98

Anti HPT Amlodipine 2.5/5/7.5/10mg OD Adalat 10-30mg tds Felodipine 5-10mg OD Diltiazem 30-60mg TDS Metoprolol 50/100/150 BD Atenolol 50/100mg OD HCTZ 12.5/25mg OM Lasix 40-80mg OD Perindopril 2/4/6/8mg OD Enalapril 5-20mg BD	CVS <i>Imdur</i> -Isosorb monoN, 30/120mg OD ASA 75/150mg OD Clopidogrel 75mg OD Ticlopidine 250mg BD Carvedilol 3.125/6.25/12.5/25mg BD Digoxin 0.25-0.5mg OD Antilipids Lovastatin 20-80mg ON Simvastatin 10-20-80mg ON Atorvastatin 10-80mg OD <i>Lipitor</i> Gemfibrozil 600mg BD <i>lopid</i>	Asthma MDI Ventolin 200mcg 2puff PRN MDI Qvar 100mcg BD (beclomethasone) MDI Atrovent 40mcg TDS (Ipratrop. bromide) MDI fluticasone 125mcg BD Accuhaler seretide 25/125, 50/250, 50/500 BD (salmeterol/fluticasone) Turbohaler symbicort 160/4.5 or 320/9 mcg BD (budesonide/formoterol) T Neulin SR 250mg BD
Antibx Peds Syr Augmentin 18mg/kg BD Syr Amoxicilin 15mg/kg Syr EES 20mg/kg BD Syr Pen V 15mg/kg QID Syr Cefuroxime 15mg/kg QID Syr Clarithromycin 10mg/kg BD Syr Unasyn 15mg/kg BD Syr Azithromycin 15mg/kg (Day1) 7.5mg/kg (D2-5) OD	Anti Hpt Peds Syr Nifedipine 0.25-0.5mg/kg Syr Captopril 0.1-0.5mg/kg (up to 1mg) Syr/IV Frusemide 1mg/kg OD/QID Syr Spironolactone 1mg/kg BD	Asthma peds Syr prednisolone 1mg/kg OD Syr Salbutamol 0.1mg/kg TDS Singular Granules 4mg ON Syr Bromhexine 0.3mg/kg TDS Bromhexine / Syr Actifed > 12 yo : 10ml , 6-12 yo : 5ml 2-6 yo : 2.5ml , < 2 yo : 1.25ml Syr Piriton 0.1ml/kg (CI < 2yo)
Combination drugs <i>Cozaar</i> = Losartan ; 5/50 (amlo+losartan) <i>Hyzaar</i> = Losartan + HCTZ; 100/12.5 <i>Exforge</i> = Amlo/Valsartan 5-10/160	Skin Calamine lotion Fungal-miconazole cream Scabies-Benzyl Benzoate 25% ON 3/7 Hydrocortisone cream 1% Neomycin 0.5% Betnovate Cream Acryl Flavin	GIT peds Syr Domperidone 0.25mg/kg TDS Syr Omeprazole 0.4mg/kg BD Syr Ranitidine 2mg/kg, IV ranitidine 1mg/kg Syr Lactulose 0.5ml/kg ORS 10ml/kg Syr Folate 500mcg/kg/day Syr Fe fumarate 80-140mg BD
Antihistamines Loratadine 10mg OD Piritone 4mg TDS Decongestant – Actifed 1/1 tds	Eye drops Chloramphenicol eye drops Artificial tears Eye Glo (Dacrolux hypromellose 0.3%)	Ear drops CMC ear drop impacted wax Cerumol
Antibx Bactrim 11/11 BD Bacampicilin 400mg BD Amoxicilin 500mg TDS EES 400mg BD Cloxacilin 250-500mg QID Flagyl 400mg TDS IM Benzathine Pen. 2.4 MegaU Doxycycline 100mg OD Augmentin 625mg BD	Analgesics Voltaren 50mg tds Paracetamol 1g QID Celebrex 200mg BD LMS cream Papase 1/1 BD Colchicine 0.5mg TDS/till purge	Misc Xray KUB: liquid paraffin 30ml ON + T Bicasodyl 1/1 BD 2/7 Vaginal candidiasis- Canestan Pessary 1/1 ON Vertigo - Stemetil 5mg tds Parkinsonism- Sinemet 100/25mg TDS Gout - allopurinol 150mg OD