DIABETES :

Practical Steps for Primary Care

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The Limi Hospitals

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Outline- What, Why, How, When…

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Reversing Medical Tourism

1. What?

- What is it?

2. Why?

- Why should we care?

3. How?

- How we recognize and evaluate

4. How & When to Treat/Refer?

- Appropriate Care & Referral when due

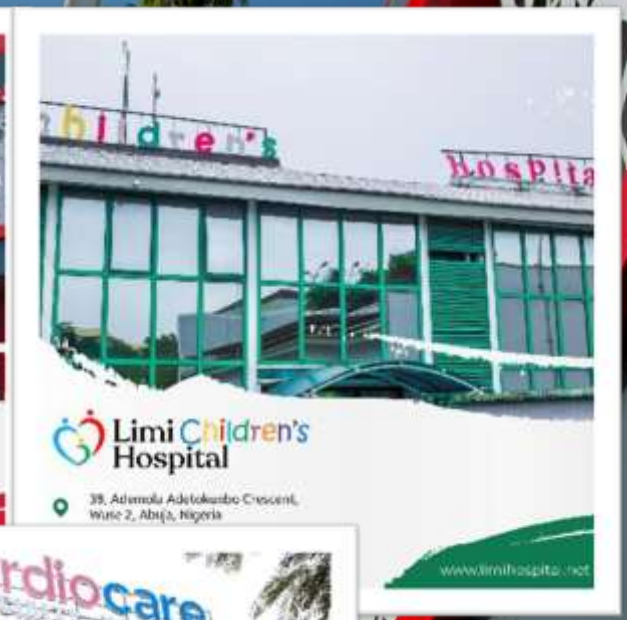
Case 1

- A 42yr old newly employed office executive
- While undergoing routine office medical check up
- Found to have a fasting plasma glucose of 9.0mmol/l and
- A blood pressure of 110/80mmhg,
- No other presenting symptoms
- Otherwise, stable.

Case 1: Poll

1. Is the patient diabetic?
   a. Yes
   b. No
   c. It depends
   d. I don't know

FOUNDED SINCE 198



TO SUPPORT & SERVE

Case 1: Poll

2. How will you make a diagnosis of diabetes in the patient?
   a. Repeat Fasting Blood Sugar
   b. Oral Glucose Tolerance Test
   c. Glycosylated Hemoglobin
   d. All of the above
   e. None of the above

1. What is Diabetes?

1.1 Defining Diabetes

1. Heterogeneous **endocrine/metabolic** disorder
2. Affecting mainly **carbohydrate, fat and protein**
3. Characterized by **hyperglycemia**
4. Due to relative or absolute **insulin deficiency**
5. Associated with **significant complications**

1.2 Why we care

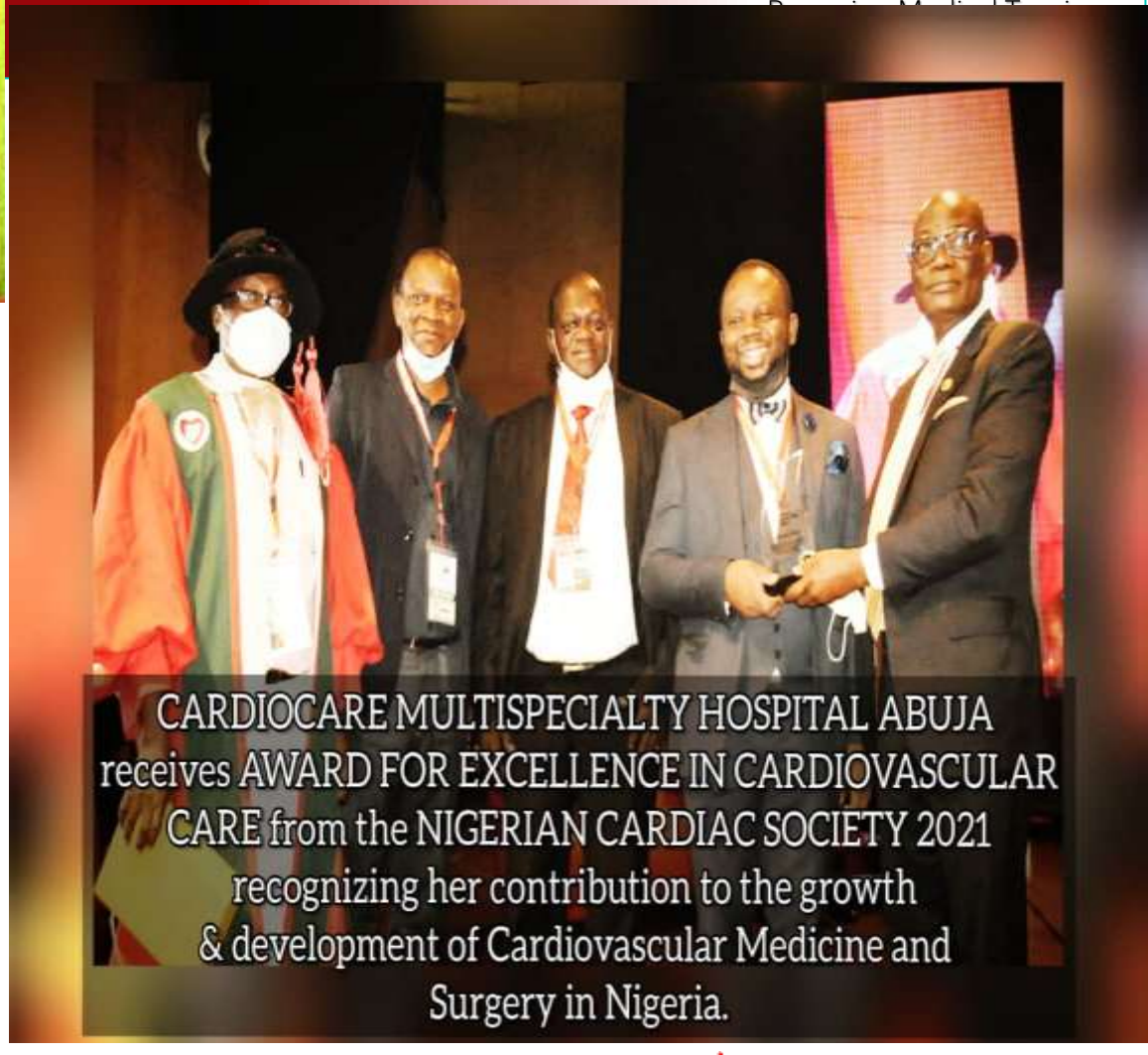
- High blood glucose causes almost **4 million deaths each year**,
  - Reduces lifespan by **5–10 years** (on average)
- 2–4× higher risk of:
  - Heart attack (myocardial infarction)
  - Stroke
  - Peripheral arterial disease
  - Accelerates atherosclerosis
- Major driver of heart failure

Who is Cardiocare Multispecialty Hospit

Northern Nigeria's **pioneer standalone Institution** wholly dedicated to comprehensive **Cardiovascular and Internal Medicine**.

Received Multiple **Awards for Excellence in Service.**

We are a **Support Hospital** for your practice in Nigeria through our **specialized services, training, and research in collaboration with you**.



1.3 Why we care

- **Kidneys (Diabetic Nephropathy)**
- Leading cause of:
  - Chronic Kidney Disease (CKD)
  - End-Stage Renal Disease (ESRD)
- Leading cause of Preventable blindness in adults

1.4 Why we care

- The IDF estimates that the annual global health care spending on diabetes among adults was **US$ 850 billion in 2017**

- Diabetes Mellitus is a is largely controllable disease that is:
  - Multi-systemic,
  - Life-threatening, and
  - Economically devastating
  - Affecting a **large proportion of our population**

2. How is Diabetes Classified?

2.1 WHO Classification of Diabetes Mellitus 2019

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1. **Type 1**
2. **Type 2**
3. Hybrid forms
4. Other Specific Types
5. Unclassified
6. **Hyperglycemia first detected in Pregnancy**

Type 1 diabetes
Type 2 diabetes
Hybrid forms of diabetes
Slowly evolving immune-mediated diabetes of adults
Ketosis prone type 2 diabetes
Other specific types (see Tables)
Monogenic diabetes
- Monogenic defects of β-cell function
- Monogenic defects in insulin action
Diseases of the exocrine pancreas
Endocrine disorders
Drug- or chemical-induced
Infections
Uncommon specific forms of immune-mediated diabetes
Other genetic syndromes sometimes associated with diabetes
Unclassified diabetes
This category should be used temporarily when there is not a clear diagnostic category especially close to the time of diagnosis of diabetes
Hyperglyacemia first detected during pregnancy
Diabetes mellitus in pregnancy
Gestational diabetes mellitus

How to refer patients to Consider Cardiocare Multispecialty Hospital?

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Reversing Medical T...n

1. Give a standard referral letter & preferably attach any av
2. **Call:** 0908-331-7777, 0817 444 0888
3. **WhatsApp**: 0908-331-7777, 0806-530-1797
4. **Email**: frontdesk@cardiocare.ng
5. **Visit**: 5, Giza Close Area 11, Garki (off Abuja-FCT.
6. Kindly indicate Doctor's name, & email/phone number es medical report afterwards.

Hospitals Hospital

2.4 Risk Factors for Developing Type 2 Diabetes

- Family history of diabetes (i.e., parent or sibling with type 2 diabetes)
- Obesity (BMI 25 kg/m2)
- Habitual physical inactivity
- Race/ethnicity
  - (e.g., African American, Hispanic American, Native American, etc)
- Previously identified IFG or IGT
- History of GDM or delivery of baby 4 kg
- Hypertension (blood pressure 140/90 mmHg)
- HDL cholesterol level <35 mg/dL and/or a triglyceride level >250 mg/dL
- Polycystic ovary syndrome or acanthosis nigricans

Case 2

- A 38yr old woman who presented in the ER
  - history of weight loss, polydypsia, polyuria,
  - generalized body weakness with blurring of vision and
  - painful sensations on both feet.
  - There is a positive family hx of diabetes in both parents of which the father died of diabetic complications.
- RBS on presentation was 26.9mmol/l
- Blood pressure 160/100mmHg

Case 2: Poll 2

- What type of diabetes is she more likely to have?
  1. Type 1
  2. Type 2
  3. Hybrid forms
  4. Unclassified
  5. None of the above

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•Clinical & Interventional Cardiology •Endocrinology & Diabetology •Neurology •Nephrology and Dialysis •Hepatology •Critical and Intensive Care •Internal Medicine

5 Giza Close, Area 11 Garki, Abuja-Nigeria.

0817 444 0888, 0817 444 5544, 0908 331 7777

frontdesk@cardiocare.ng

3. How do we make a diagnosis of Diabetes?

3.1 How to make diagnosis

Criteria (WHO, 1999)

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SYMPTOMATIC:

- Single FPG ≥126mg/dl (7mmol/L); OR
- Single RBS/2HPG/OGTT ≥200mg/dl (11.1mmol/L)

ASYMPTOMATIC:

- At least two (2) occasions with FPG ≥126mg/dl (7mmol/L);
- At least two (2) occasions with RBS/2HPG/OGTT ≥200mg/dl (11.1mmol/L)

OTHERS:

- **IMPAIRED GLUCOSE TOLERANCE (IGT):** FPG<7mmol/L, 2-hr post-glucose 7.8-11.1 mmol/L
- **IMPAIRED FASTING GLUCOSE (IFG):** FPG 6.1-6.9, 2-hr post-glucose <7.8
- C-peptides, auto antibodies

Who and Who do you screen for Diabetes

- All adults who are overweight (≥25kg/m 2) PLUS
  - One additional risk factor like sedentary life style, dyslipidemia, hypertension, cardiovascular disease and family history of diabetes.
- Women with
  - history of gestational diabetes, macrosomia
  - history of polycystic ovarian disease.
- And all adults >45 years of age, irrespective of risk factors.

Case 2

- A 38yr old woman who presented in the ER
  - history of weight loss, polydypsia, polyuria,
  - generalized body weakness with blurring of vision and
  - painful sensations on both feet.
  - There is a positive family hx of diabetes in both parents of which the father died of diabetic complications.
- RBS on presentation was 26.9mmol/l
- Blood pressure 160/100mmHg

Case 2: Poll 3

- What other investigations are very important in the management of this patient?
  1. Full Blood Count
  2. Abdominal CT Scan focus on the pancreas
  3. Pancreatic enzyme assay
  4. All of the above
  5. Many others, but None of the above

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- **CARDIOCARE MULTI-SPECIALTY** HOSPITAL is an arm of the limi hospital group located at **No 5 giza close, area 11 Garki Abuja**
- Premier institution wholly dedicated to **comprehensive cardiovascular and Internal Medicine specialty**
- Award winning healthcare institution - remarkable for ***"Excellence in cardiovascular care"***
- Dedicated to **reversing medical tourism in Nigeria**
- A **Support Hospital and National Referral Centre** to hospitals, doctors and training institutions.
- Under the system of the **>40yr old Limi Hospitals** founded in 1982.

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4. How do we Evaluate a Patient with Diabetes?

4.1 Clinical Presentations of Diabetes

1. **Asymptomatic**
2. **Classical symptoms**: polyuria, polydipsia and weight-loss
   - Type 1 Lean; Type 2 Overweight
   - Short Onset: in type 1; Insidious Onset type 2
3. **Acute Complications**
4. **Chronic Complications**
5. **Other Diseases-** e.g. with other autoimmune diseases in type 1

6. Different combinations of the above.

4.2 Clinical History

- Classical Symptoms?
- Family History?
- Pregnancy and Delivery History?
- Co-morbidities
- Abnormal Test results
- Lifestyle- smoking, alcohol, etc
- Diet and Nutrition
- Drug History- steroids
- Other Endocrine abnormalities
- History suggestive of Complications?
  - Paresthesiae, Claudication, Chest Pains, Erectile Dysfunction, Leg swelling, Visual Disturbances, Cardiac Complications, etc.

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4.3 Standard Diabetic Exam

HEAD- dehydration, air hunger, oral thrush, consciousness, CN palsies

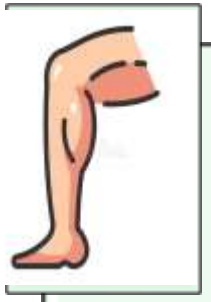
EYES- Visual Acuity, Cataracts, Fundoscopy, Xanthelasma

NECK- Thyroid, Carotid Pulses, Acanthosis Nigricans

AXILLA- Acanthosis Nigricans, Lymph nodes

SKIN- Vitiligo, Pigmentation, Dehydration, Diabetic thick skin

UPPER LIMBS- Blood pressure, Pulses, Small Muscle wasting



LOWER LIMBS- Hair loss, Sensory abnormalities, Muscle wasting, Pulses, Joint Position Sense

FEET- Ulcers, Calluses, Lost Pulses, Ischemic, Fungal nails & clefts, Pin Prick, Vibration Sense, Light Touch

OUR FOCUS

❖ We aim to provide the best possible care with respect to

❑ SAFETY

❑ EFFECTIVENESS

❑ PATIENT CENTEREDNESS

❑ INTERNATIONAL STANDARDS

4.3 Standard Diabetic Examination

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1. **HEAD**- dehydration, air hunger, oral thrush, consciousness, CN palsies
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3. **NECK-** Thyroid, Carotid Pulses, Acanthosis Nigricans
4. **AXILLA-** Acanthosis Nigricans
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6. **UPPER LIMBS**- Blood pressure, Pulses, Small Muscle wasting
7. **LOWER LIMBS-** Hair loss, Sensory abnormalities, Muscle wasting, Pulses, Joint Position Sense
8. **FEET-** Ulcers, Calluses, Lost Pulses, Ischemic, Fungal Infections- nails, clefts, Pin Prick, Vibration Sense, Light Touch

4.4 Basic Investigations

- Lipid profile
- Glycosylated Hemoglobin (HbA1c)
- Electrolytes, Urea & creatinine
- Urinalysis
- ECG
- Microalbuminuria
- Uric Acid

NOTICE!!!

It is an **ABOMINATION** to review a diabetic patient and treat only his sugar without:

a. **checking Blood pressure, foot & their pulses; &**

b. **looking out for complications; &**

c. **educating the patient**

7. How to Treat Diabetes

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Our Offered Services

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We provide advanced solution to all aspect of Cardiovascular Medicine and Surgeries.

- ✓ **Cardiology**
- ✓ **Interventional Cardiology (Cathlab)**
- ✓ **Endocrinology, Diabetology &**
- ✓ **Nephrology, Transplant & Dialysis**
- ✓ **Neurology**
- ✓ **Rheumatology**
- ✓ **Pulmonology**
- ✓ **Critical Care**
- ✓ **Cardiothoracic Surgery**
- ✓ **General Internal Medicine**
- ✓ **Comprehensive Medical Checkups**

The Limi Hospitals
Limi Children's Hospital

6.1 Treatment Goals

1. To alleviate symptoms and improve quality of life
2. Cardiovascular Risk and Blood Glucose Optimization
3. **Prevent, delay and/or minimize complications**
4. **Reduce morbidity and mortality**

6.2 Diabetes Targets

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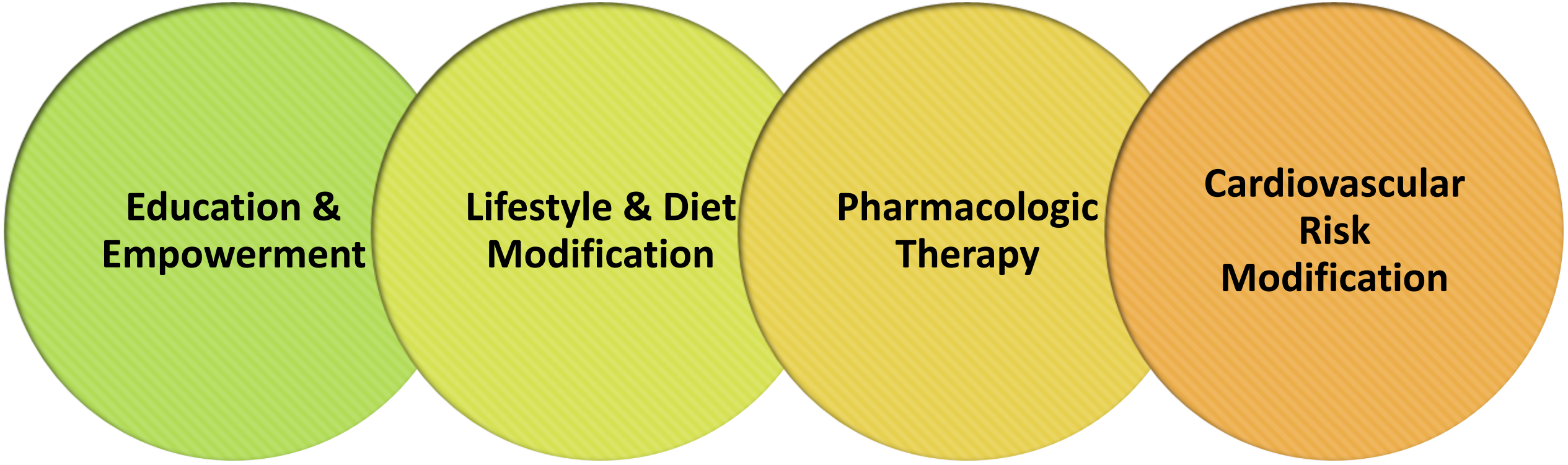
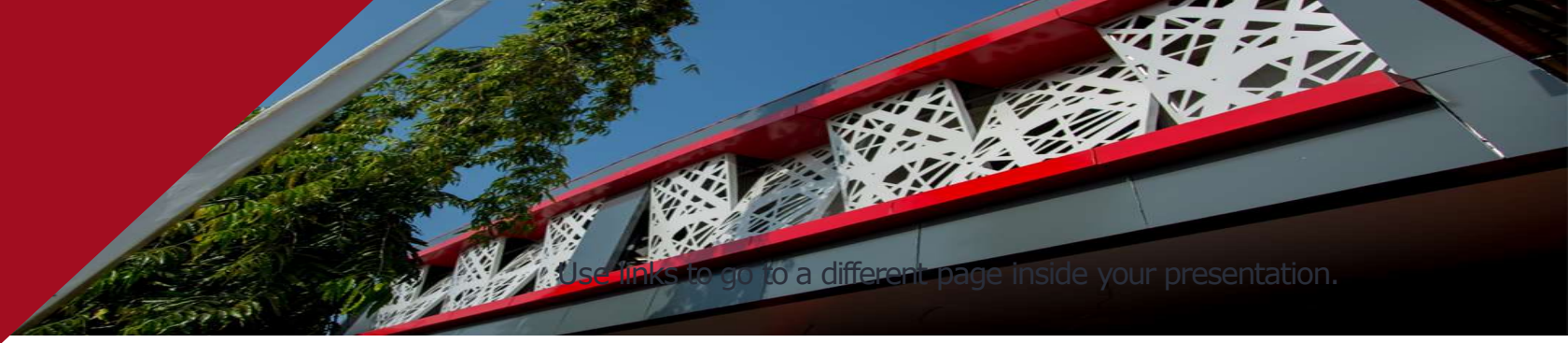
BLOOD GLUCOSE:	LIPID PROFILE *(if no CVD Complications):*	BLOOD PRESSURE:	BODY MASS:

• **FPG:**
  • <110mg/dl (6.0 mmol/L)
• **Postprandial:**
  • <180mg/dl (10mmol/L)
• **HBA1c:**
  • <7%
	• **Triglycerides** <150mg/dl
	• **LDL-C:** <100mg/dl
	• **Total cholesterol:** < 150mg/dl
	• **HDL-C:** Male- >40mg/dl; Female > 50mg/dl
		• **Systolic BP** <130mmHg;
		• **Diastolic BP** <80mmHg
			• **BMI-** 20-25kg/m^2
			• **Waist Circumference** Males <100cm; Females < 88cm

6.3 Diabetes Treatment Principles



ADVANCED CARE



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1. **CORONARY ANGIOGRAPHY & INTERVENTIONS-** For patients presenting with chest pains, acute coronary syndrome
2. **PERIPHERAL ANGIOGRAPHY & INTERVENTIONS-** For patients presenting with Peripheral vascular diseases causing tissue loss or gangrene
3. **CARDIAC DEVICE IMPLANTATION & PROGRAMMING** such as Pacemakers, ICDs,CRTs for patients presenting with heart failure & Cardiac rhythm abnormalities
4. **STRUCTURAL HEART INTERVENTIONS –** for patients presenting with ASD, VSD, PDA etc..
5. **THROMBOEMBOLIC THERAPIES such as IVC Filters,** for VTE (Venous Thrombo-embolic) treatment and management
6. **CARDIAC SURGERY –** Open Heart Surgery
7. **KIDNEY TRANSPLANT & DIALYSIS**
8. **CRITICAL CARE**
9. **ADVANCED CARDIAC INVESTIGATIONS**

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Poll

- What is the Most Important Bedrock of Diabetes Management in Nigeria?

A. Insulin Therapy

B. Access to Specialist Consultations

C. Unripe Plantain and Similar Diets

D. Glucose Lowering Oral Medications

E. Education

The Most Important Component and Bedrock of Diabetes Care in Nigeria is _____

EDUCATION, EDUCATION, EDUCATION!!!

7.2 Education

- Main goal is **PATIENT EMPOWERMENT**:
  1. Self-monitoring of blood glucose, blood pressure and weight
  2. Recognizing and Immediate management of hypoglycemia
  3. Foot care and footwear
  4. Adherence and Follow-up
  5. Cooperation with physician in meeting goals
  6. Lifestyle adjustments

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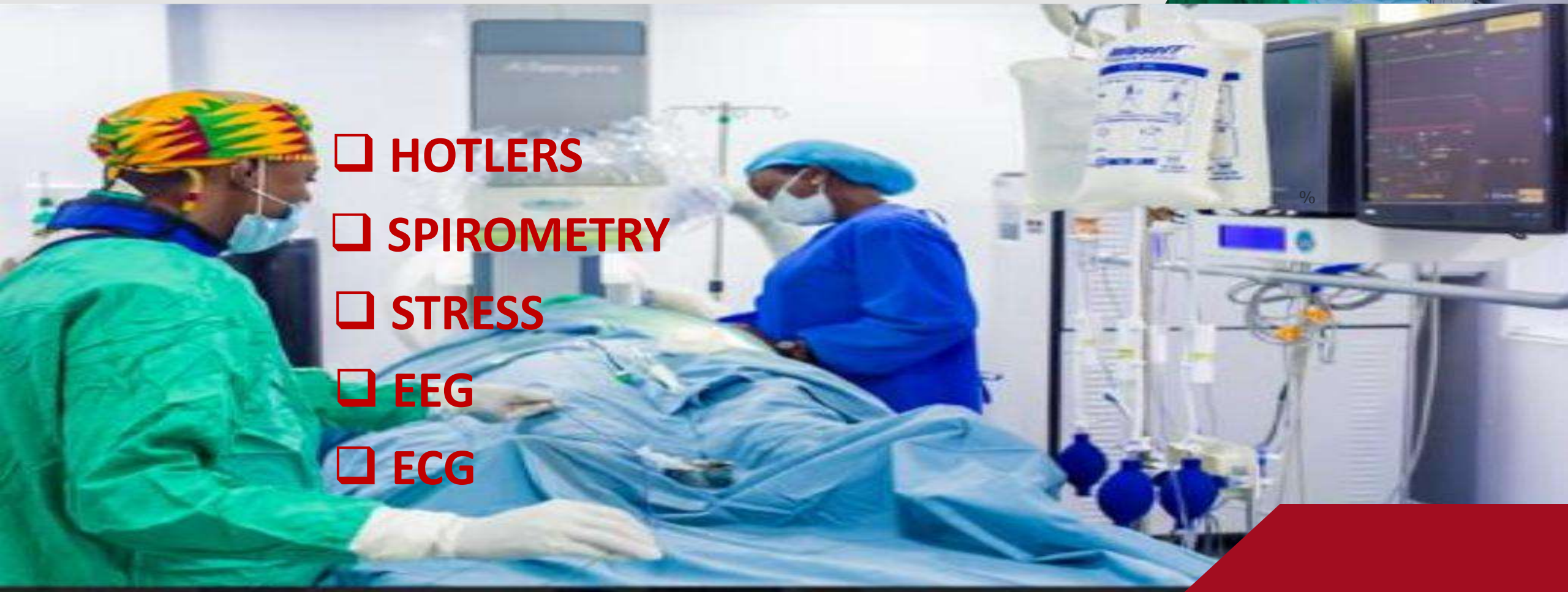
Our Non-Invasive Assessment services



- ❑ HOTLERS
- ❑ SPIROMETRY
- ❑ STRESS
- ❑ EEG
- ❑ ECG

Common Questions patients ask in Diabetic clinic and their common beliefs

- Is this Diabetes curable?
- How do I reverse it?
- Am I going to take these drugs for life?
- All these drugs won't it affect my liver and kidney?
- Insulin!!! No oh!! That means my diabetes is worse
- Will I stop the insulin if I start?
- Doctor with exercise and dieting I can control the sugar level no need to take drugs?
- I eat only beans, bitter leaf, and acha, so can I stop my drugs ?
- They said I'm prediabetes?

7.3 Lifestyle & Diet measures for ALL

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Exercise

- Program planned with the Physician
- At least 30 minutes 3-5x weekly (if no C/I)
- Examples of recommended exercises include brisk walking, jogging, bicycling, swimming.
- Weight-loss program for overweight or obese subjects

Dietary Measures

- Individualized, & on-going
- Refined sugars: Drastic reduction
- Complex carbohydrate: 50-60% of total calorie/day
- Increase fiber intake
- Protein: 10-20% of total calorie/day
- Fats: Limit intake of saturated fat and dietary cholesterol; should take <30% of total calorie/day
- Salt: moderate – low intake

Lifestyle Measures

- Movement Lifestyle
- Stop Smoking
- Proper Sleep
- Healthy communities and networks
- Alcohol reduction

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7.4 Glycemic Control

- Depends on an Interplay of 4 factors:

1. **Symptoms**
2. **Blood Sugar Level**
3. **Patient Motivation**
4. **Co-morbidities**

NOW AVAILABLE

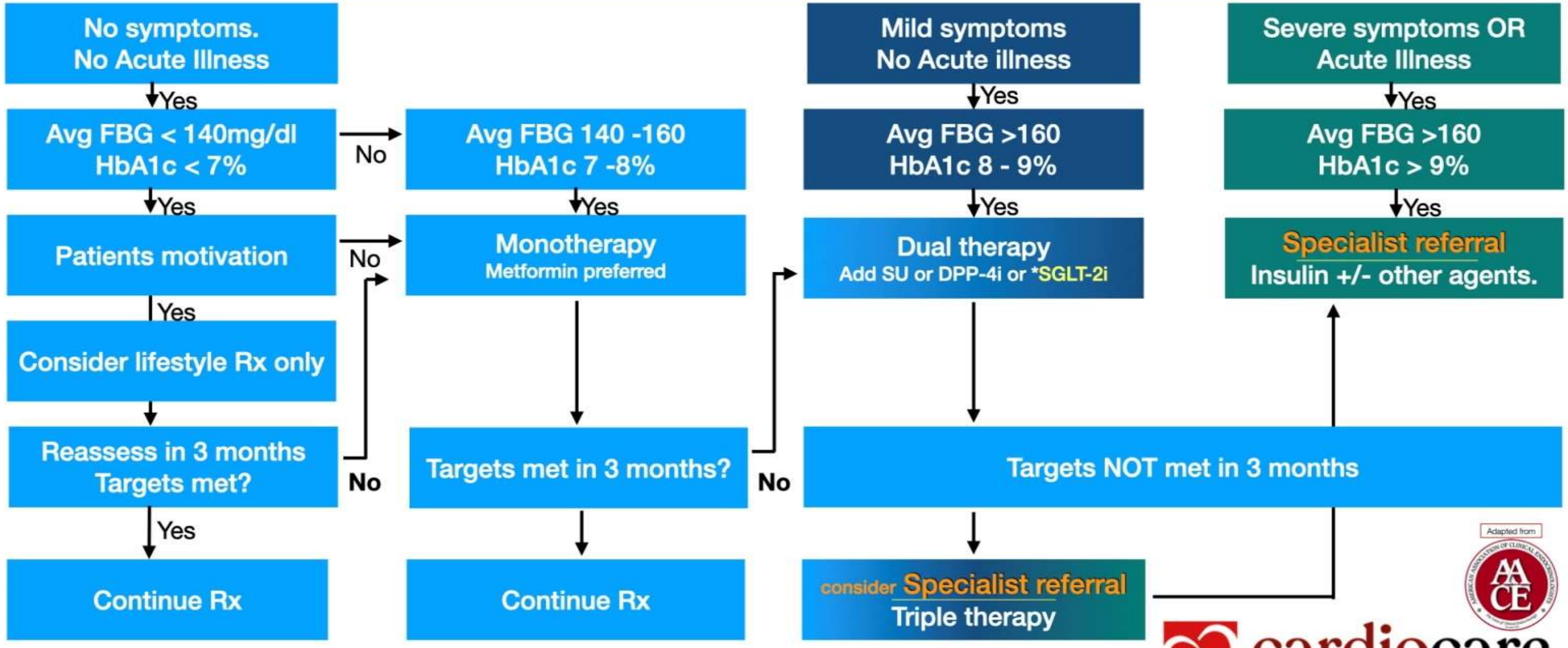
Cardiac Thoracic Surgery

Pediatric Interventional Cardiology

Structural Heart Interventions

Glycemic control algorithm

Encourage diet and lifestyle changes in all groups.



start doses small and titrate upwards

* SGLT-2i preferred in patients with established (of high-risk) ASCVD, HFrEF, Diabetic nephropathy.

Adapted from AACE

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Escalating Drug Treatment in Type 2 DM

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Single Therapy → Dual Therapy → Triple Therapy → Plus Insulin

1. Always start with Metformin except when contraindicated eg ESRD

2. Add Glimepiride not exceeding 2mg (OR Add DPP4-I)

[NOT Daonil]

2. Add DPP4-I (or Add Glimepiride not exceeding 2mg)

4. Add Dapaglifloxin or Empaglifloxin (SPECIALIST)

5. Add long-acting insulin plus previous but not exceeding 2mg of Glimeperide (SPECIALIST)

6. Refer to a specialist (SPECIALIST)

Escalating Treatment in Type 2 DM

LIFESTYLE & DIET

1. Always start with Metformin except when contraindicated eg ESRD

2a. With Glimepiride NOT exceeding 2mg (NOT Daonil) if HBA1C >7.5% +symptoms

2b. With DPP4-I if HBA1C >7.5% +symptoms

3a. Add DPP4-I

3b. Add Glimepride insulin not exceeding 2mg

4. Add Dapagliflozin or Empagliflozin (SPECIALIST)

5. Add long-acting Insulin (SPECIALIST)

6. Refer to a specialist (SPECIALIST)

OUR FACILITIES

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24

BED SPACE

VIP SUITES,

PRIVATE SUITES,

GENERAL SUITES etc

2

INTENSIVE CARE UNIT

HDU&ICU

3

THEATERS

ULTRAMORDEN CATHLAB, CARDIAC OPERATION THEATER

1

DIALYSIS SUITE

PHYSIOLOGY LAB

RADIOLOGY SIUTE

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Oral hypoglycemic agents

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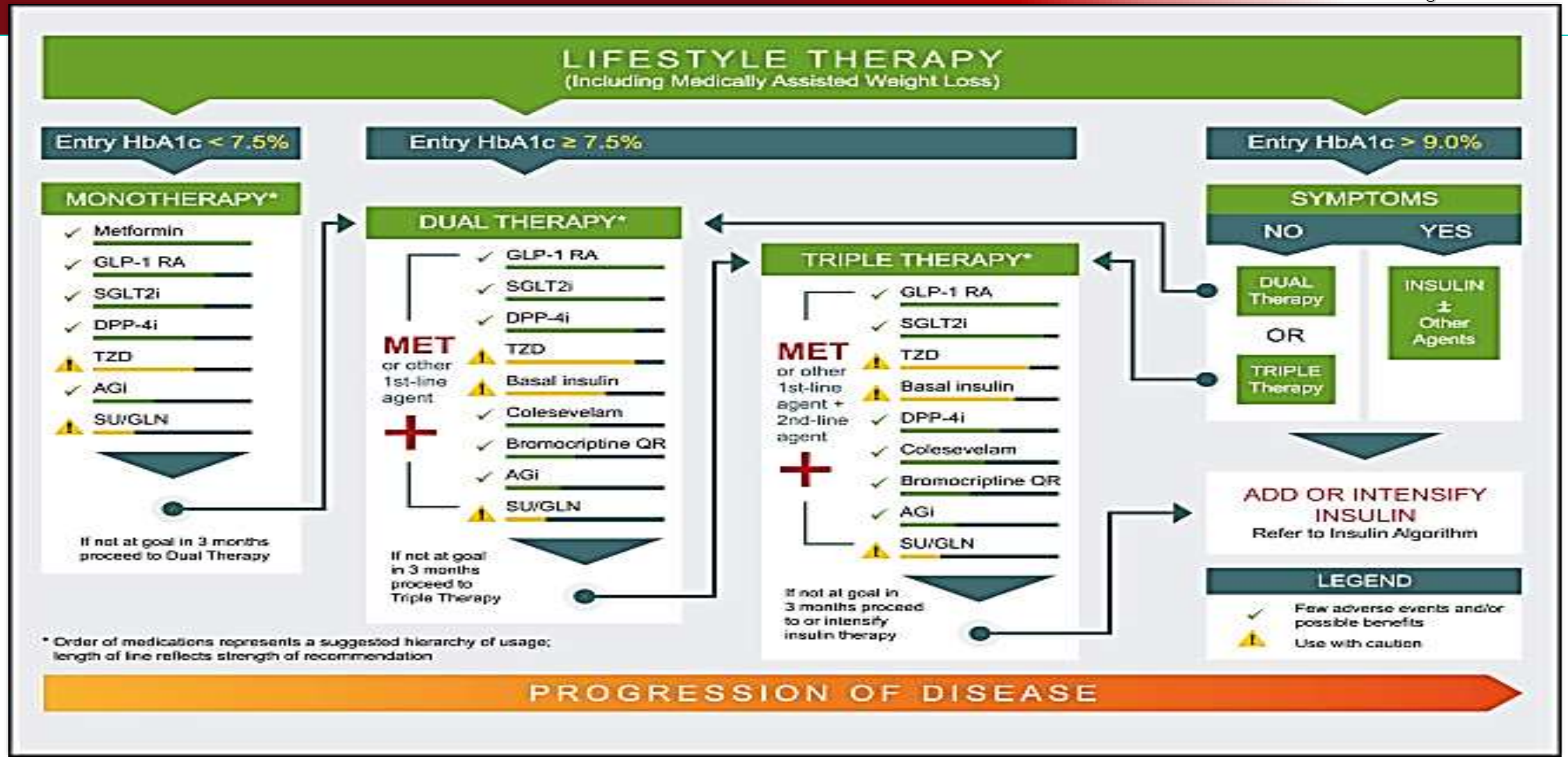

Case 6

- A 60yr old known Diabetic for past 30yrs on:
  - Glucophage 1gm bd and
  - Daonil 5mg bd, was having difficulty achieving control,
  - He was also placed on dapaglifloxin 10mg which showed some improvement but was not sustained.
- How will you adjust the patient's drug to achieve good glycemic control?

Case 6

1. Counsel patient on dietary modification
2. Stop and change the Daonil to Glimeperide
3. Early insulinization

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Our Clinic

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Management Team

- Interventional Cardiologists
- Clinical Cardiologists
- Cardiothoracic Surgeon
- Endocrinologist
- Neurologist
- Nephrologist
- Cardiac Physiologists
- Radiologist and Certified Cath lab Technicians
- Dietician
- Nurses
- Pharmacists

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- A 49-year-old man, company CEO with type 2 diabetes presents with daytime sleepiness and disturbed night-time sleep.
- His wife complains that he is ‘always snoring’.
- He is currently treated with metformin 1000 mg three times daily and gliclazide 160 mg twice daily.
- His BMI is 36.2 kg/m2 and his most recent HbA1c is 10.6%.

- What is the likely cause of his sleepiness?
- Do you think it is linked with the diabetes
- Is there anything wrong with the medications
- Which insulin will you place the patient on
- What other treatment for his diabetes would you recommend?

- **A 58-year-old male with T2DM for 3 years, is on therapy with metformin 2 g/day, has HbA1c of 8.7%.**
- **He has congestive heart failure and is fearful of insulin. What to do next?**
- **What are your possible options**
  1. Sulfonylurea?? **yes/no**
  2. DPP4 inhibitors/GLP-1 agonist?? **yes/no**
  3. Pioglitazone?? **yes/no**
  4. SGLT2 inhibitors?? **yes/no**

Our Milestones

OVER 600 CATHLAB PROCEDURES

CARDIOCARE HAS PERFORMED OVER 500 CARDIAC PROCEDURES FOR NIGERIANS AND FOREIGN NATIONALS SUCCESSFULLY AND RELIABLY OVER THE YEARS

AWARDS & RECORGNITION

WE ARE HAPPY TO HAVE RECEIVED AWARD OF EXCELLENCE IN CARDIOVASCULAR CARE FROM THE NIGERIAN CARDIAC SOCIETY

RESEARCH & COLLABOTRATIONS

CARDIOCARE HAS PROVIDED AVENUES FOR LOCAL RESEARCH & TRAINING.
COLLABORATED WITH FOREGN AND LOCAL ORGANIZATIONS TO HOST CARDIAC OUTREACHES THAT OFFERED LIFE SAVING INTERVENTIONAL PROCEDURES TO INDIGENT NIGERIANS

TRAINING & SYMPOSIUM

TRAINING OVER 600 HEALTHCARE PROFESSIONALS VIA MONTHLY WEBINARS AND ANNUAL CARDIOVASCULAR SYMPOSIUM NOW IN ITS 8TH EDITION.
PG RESIDENCY ROTATION
TRAINING MOUS WITH (UPTH, OAUTH)

Case 2

- A 38yr old woman who presented in the ER
  - history of weight loss, polydypsia, polyuria,
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- Blood pressure 160/100mmHg

Case 2: Poll 5

- What other possible complications can she have?
  1. Diabetic Nephropathy
  2. Diabetic Neuropathy
  3. Diabetic Cheiroarthropathy
  4. Diabetic Retinopathy
  5. I don’t know

5. Diabetic Complications to look out for?

WHY DOCTORS CHOOSE CARDIOCARE

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1	DETAILED FEEDBACK-REFERRAL: Timely updates in form of feedback reports on referred cases to referring doctors
2	TEAM WORK: Opportunity to discuss & collaborate with diverse and multidisciplinary team of specialists on referred cases
3	IMMEDIATE INTERVENTION: in all aspect of cardiovascular medicine, 24/7 emergencies and same-day appointments for referred patients
4	STATE OF ART FACILITY: Ultramodern world-class equipment & fully computerized systems
5	EXPERTISE & EXPERIENCE: with the success rate of over 600 interventional cardiology procedures, ranging from cardiac device implantations to advanced heart failure treaments
6	RESEARCH & COLLABORATIONS: Data sharing & Research collaboartons with teaching hospitals & Public institutions for partnerships and residency trainings

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Limi Children's Hospital

5.1 Diabetic Complications to look out for

Can be classified broadly into three:

I. Acute/metabolic Complications

II. Chronic Complications

III. Other Complications

5.2 Acute Complications

a. Metabolic

- Diabetic ketoacidosis
- Hyperosmolar hyperglycemic state
- Lactic acidosis
- Iatrogenic hypoglycaemia

b. Infections

- usually bacterial e.g. UTI, acute chest infections, abscess, sepsis, malignant otitis externa, mucormycosis

5.3 Chronic Complications: Vascular

- **Microvascular:**
  - Retinopathy
  - Nephropathy
  - Neuropathy
- **Macrovascular:**
  - Stroke
  - Peripheral vascular disease
  - Coronary artery disease
  - Cardiomyopathy

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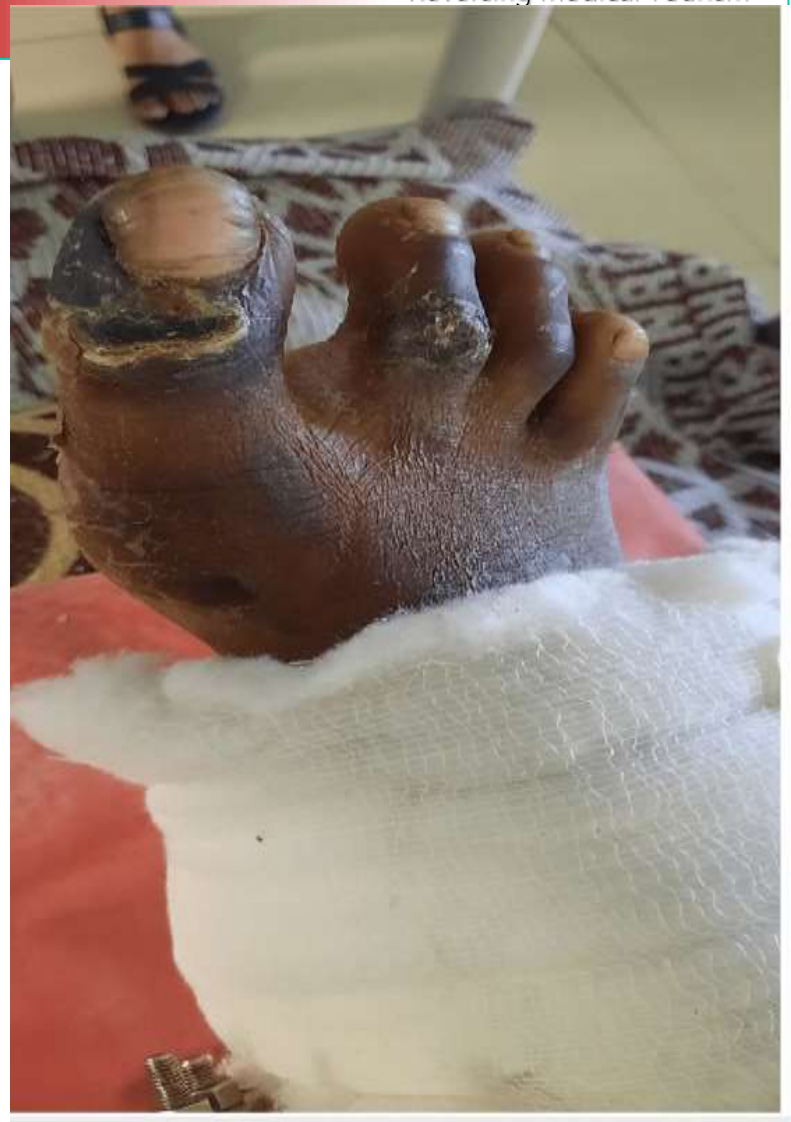
COLLABORATED WITH FOREGN AND LOCAL ORGANIZATIONS TO HOST CARDIAC OUTREACHES THAT OFFERED LIFE SAVING INTERVENTIONAL PROCEDURES TO INDIGENT NIGERIANS

TRAINING & SYMPOSIUM

TRAINING OVER 600 HEALTHCARE PROFESSIONALS VIA MONTHLY WEBINARS AND ANNUAL CARDIOVASCULAR SYMPOSIUM NOW IN ITS 8TH EDITION.
PG RESIDENCY ROTATION
TRAINING MOUS WITH (UPTH, OAUTH)

Case 4- Dark Toes

- A 60yr old businessman, a known diabetic for the past 15yrs not compliant with medications presented to the clinic following change in color of his big toe
  - RBS of 13mmol/l
  - there is associated calf pain while walking,
  - blurring of vision and burning sensations on the feet.
- On examination, dark coloration of the right big toe
- Investigations done showed
  - Normal EUCR and urinalysis showed 2++ of protein
  - Deranged Fasting Lipid Profile



Case 4- Dark Toes

- What is the aim/principles of the management of this patient
- Which of the complications do you think the patient has
- What other investigations would you request for in the management of this patient
- Any intervention in the management of the foot

Case 5- Miracle or Something Else??

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- A known **diabetic for the past 20yrs**
- who has not been regular with his medications,
- he said **he only takes medications when he notices excess urination** and tingling sensations on the feet,
- in recent times he has had about **three episodes of hypoglycemia** in the past two weeks which made the patient stop his drugs and
- the blood glucose has since then been **under control without medications**,
- the patient attributed the improvement to the church revival he attended 2months ago.
- **What do you think is happening here???**

9th ACS 2025

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Website

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Email

info@cardiocare.ng

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Area 11 Garki, Abuja, Nigeria

Call us

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5.4 Other Complications

- **Skin**
  - a) non-infectious: diabetic dermopathy, necrobiosis lipoidica diabeticorum
  - b) infectious e.g. candidiasis
  - c) mixed: diabetic foot syndrome
- **Eye:**
  - cataract, glaucoma, diabetic ophthalmoplegia
- **Bones and joints:**
  - Dupuytren's contracture, diabetic cheiroarthropathy, Charcot's joint
- **Pregnancy-related:**
  - a) maternal: recurrent abortions, polyhydramnios, infertility
  - b) fetal: macrosomia, congenital malformations, hypoglycaemia

HOW TO REFER TO CARDIOCARE

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1	**REFERRAL LETTER:** Give a standard referral letter & preferably attach any available results of previous investigations
2	**ON-SITE REFERRAL:** Visit no 5 Giza Close, Area 11 Garki off Dunukofia Str- near FCDA) Abuja-FCT.
3	**EMAIL:** Send an email to frontdesk@cardiocare.ng or o.solomon@limihospital.org or e.james@limihospital.org
4	**WHATSAPP:** Send a Whatsapp message to 0908-331-7777 0806-530-1797
5	**CALL:** 0908-331-7777, 0817 444 0888
6	**IDENTIFICATION:** Kindly indicate Doctor's name, & email/phone number especially if you wish to receive a medical report afterwards.

The Limi Hospitals
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THANK YOU SO MUCH FOR YOUR ATTENTION

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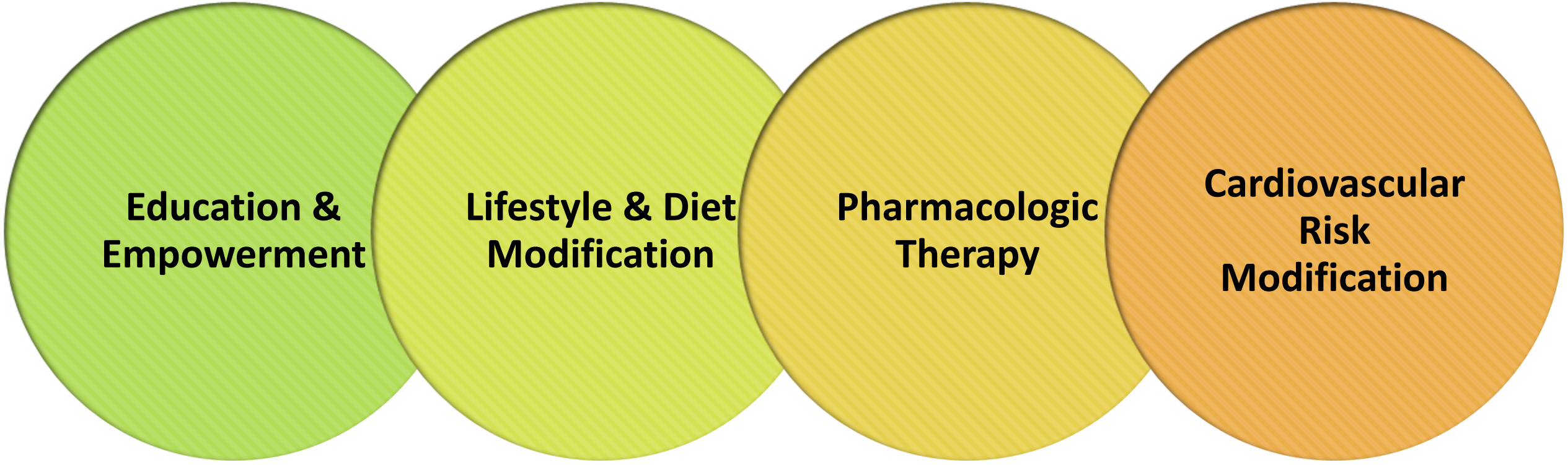
7.1 Diabetes Treatment Principles



7.2 Education

- Main goal is **PATIENT EMPOWERMENT**:
  1. Self-monitoring of blood glucose, blood pressure and weight
  2. Recognizing and Immediate management of hypoglycemia
  3. Foot care and footwear
  4. Adherence and Follow-up
  5. Cooperation with physician in meeting goals
  6. Lifestyle adjustments

6.2 Diabetes Targets

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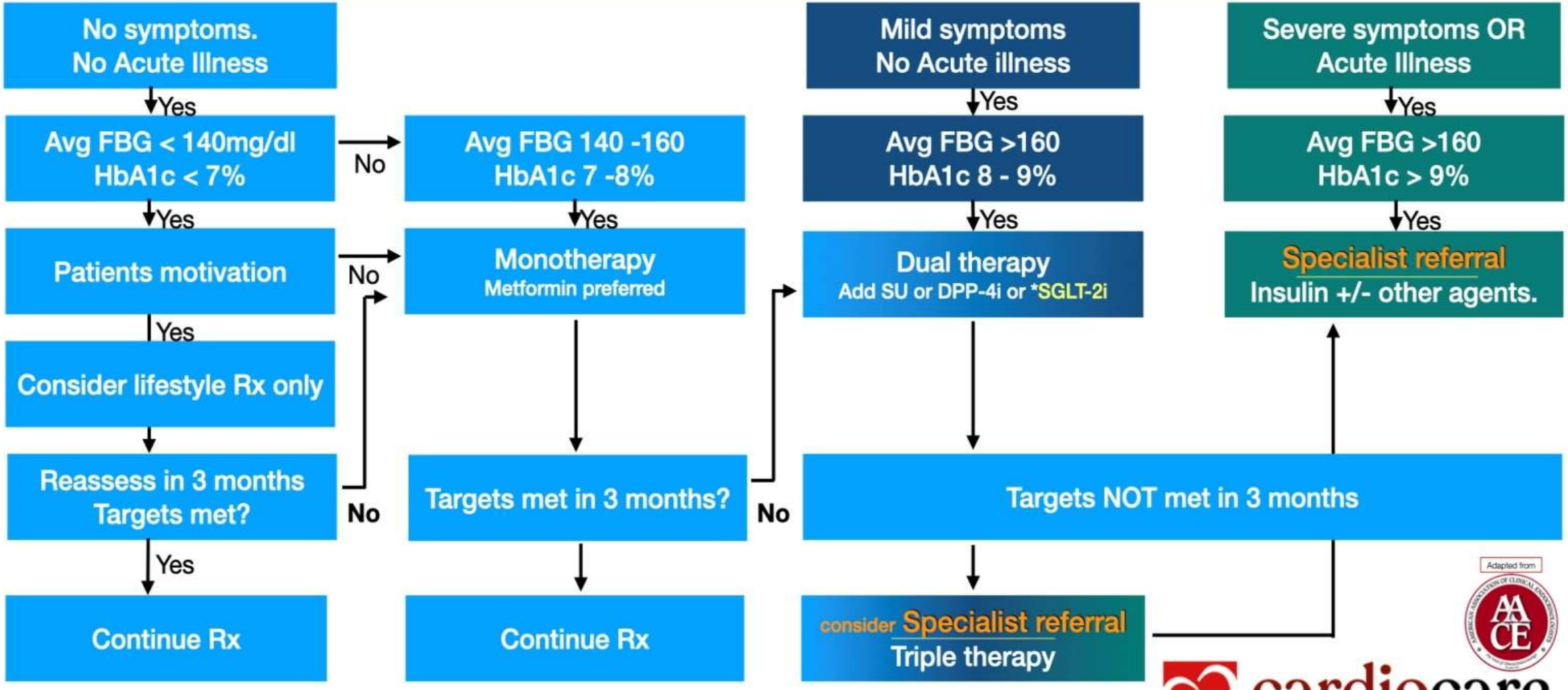
BLOOD GLUCOSE:	LIPID PROFILE *(if no CVD Complications):*	BLOOD PRESSURE:	BODY MASS:

• **FPG:**
  • <110mg/dl (6.0 mmol/L)
• **Postprandial:**
  • <180mg/dl (10mmol/L)
• **HBA1c:**
  • <7%
	• **Triglycerides** <150mg/dl
	• **LDL-C:** <100mg/dl
	• **Total cholesterol:** < 150mg/dl
	• **HDL-C:** Male- >40mg/dl; Female > 50mg/dl
		• **Systolic BP** <130mmHg;
		• **Diastolic BP** <80mmHg
			• **BMI-** 20-25kg/m^2
			• **Waist Circumference** Males <100cm; Females < 88cm

Glycemic control algorithm

Encourage diet and lifestyle changes in all groups.



start doses small and titrate upwards

* SGLT-2i preferred in patients with established (of high-risk) ASCVD, HFrEF, Diabetic nephropathy.

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Escalating Treatment

Single Therapy → Dual Therapy → Triple Therapy → Plus Insulin

1. Always start with Metformin except when contraindicated eg ESRD

2. Add Glimepiride not exceeding 2mg (OR DPP4-I)

[NOT Daonil]

3. Add DPP4-I (or Glimepiride not exceeding 2mg)

4. Add Dapaglifloxin or Empaglifloxin (SPECIALIST)

5. Add long-acting insulin plus previous but not exceeding 2mg of Glimeperide (SPECIALIST)

6. Refer to a specialist (SPECIALIST)

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Escalating Treatment in Type 2 DM

LIFESTYLE & DIET

1. Always start with Metformin except when contraindicated eg ESRD

2a. With Glimepiride NOT exceeding 2mg (NOT Daonil) if HBA1C >7.5% +symptoms

2b. With DPP4-I if HBA1C >7.5% +symptoms

3a. Add DPP4-I

3b. Add Glimepride insulin not exceeding 2mg

4. Add Dapagliflozin or Empagliflozin (SPECIALIST)

5. Add long-acting Insulin (SPECIALIST)

6. Refer to a specialist (SPECIALIST)

Management of GDM

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1. DIAGNOSIS OF GESTATIONAL DM

2. LIFESTYLE MODIFICATIONS OF ALL

- Diet Therapy from Dietitian
- Exercise especially Post Meal
- Self Monitoring of Blood Glucose

3A. NOT reached Glycemic Targets (INVOLVE SPECIALIST)

- Consider Pharmacologic Options and Pattern of Elevation

3B. REACHED GLYCEMIC TARGETS

- Self Monitoring of Blood Glucose ONLY

4A. AGREEABLE TO INSULIN

5A. Begin insulin. (First Line Therapy) based on

- Pattern of Hyperglycemia
- Refer to Specialist if poor control

4B. NOT AGREEABLE TO INSULIN

5B. Consider Oral Therapy based on:

- Fasting and/or PP hyperglycemia
- High Pre-pregnancy BMI or Weight Gain
- History of PCOS +/- Insulin Resistance

5C. Metformin

5D. Glyburide

- If more Pronounced Postprandial Hyperglycemia and/or
- Unable to tolerate Metformin

6. Post Partum: Discontinue Therapy, Screen for Progression of IGT

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Lets support your practice for better patients outcomes.

Lets partner with you…

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