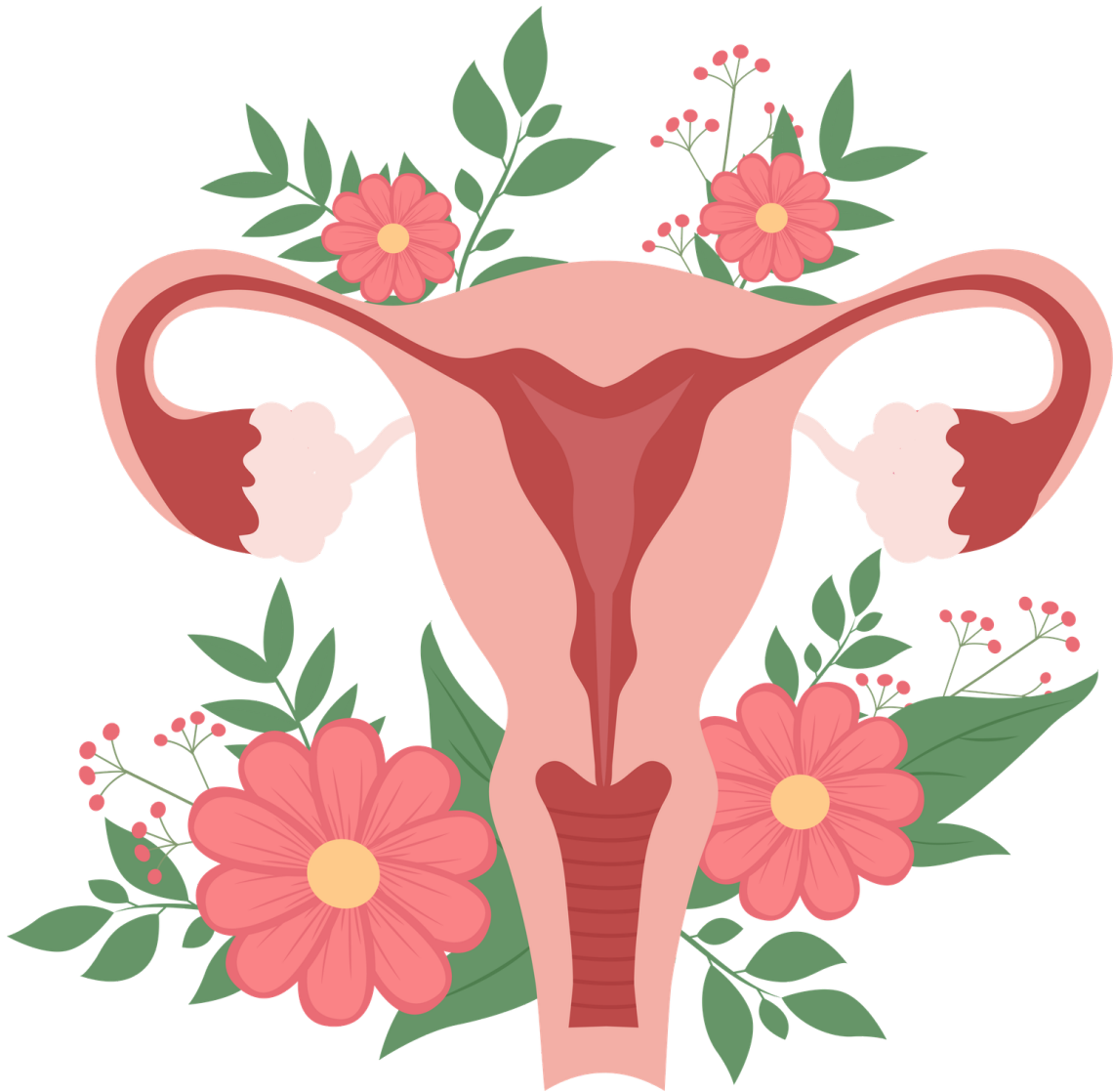


OBS & GYNE

UPDATED 2026 NOTES



OBS PLUS
PART 2

OBSTETRIC, MEDICAL & SURGICAL COMPLICATIONS

22



Diabetes in Pregnancy: I

★ 4.4 | 80 Min

PRO

23



Diabetes in Pregnancy : II

★ 4.5 | 39 Min

PRO

24

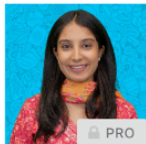


Hypertensive Disorders of Pregnancy: I

★ 4.5 | 94 Min **NEW**

PRO

25

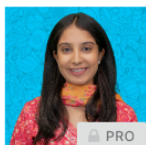


Hypertensive Disorders of Pregnancy: II

★ 4.6 | 93 Min **NEW**

PRO

26



Hypertensive Disorders of Pregnancy: III

★ 4.7 | 77 Min **NEW**

PRO

27

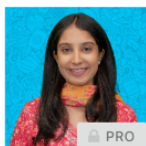


Pregnancy after Previous CS

★ 4.5 | 27 Min

PRO

28

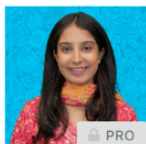


Anemia in Pregnancy

★ 4.5 | 69 Min

PRO

29

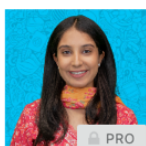


Antepartum Hemorrhage

★ 4.5 | 59 Min

PRO

30



Postpartum Haemorrhage

★ 4.5 | 99 Min

PRO

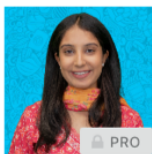
31



Fetal Growth Restriction

★ 4.5 | 53 Min

32

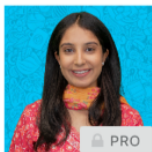


Preterm Labour & PROM

★ 4.6 | 90 Min

PRO

33

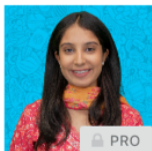


Heart Disease in Pregnancy : I

★ 4.5 | 104 Min | NEW

PRO

34

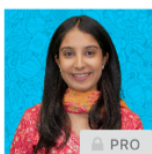


Heart Disease in Pregnancy: II

★ 4.5 | 33 Min | NEW

PRO

35



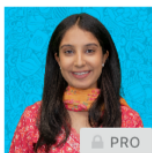
Connective Tissue Disorders in Pregnancy

★ 4.5 | 52 Min

PRO

shubhadey431@gmail.com

36

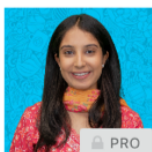


Neurological Disorders in Pregnancy

★ 4.5 | 45 Min

PRO

37



GI & Liver Disorders in Pregnancy

★ 4.4 | 86 Min

PRO

38

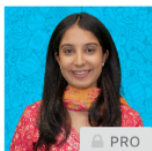


Multifetal Gestation: I

★ 4.5 | 46 Min

PRO

39

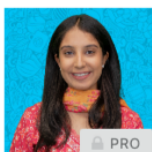


Multifetal Gestation: II

★ 4.5 | 44 Min

PRO

40



Sexually Transmitted Diseases

★ 4.2 | 45 Min

PRO

41



Infections In Pregnancy

★ 4.4 | 70 Min

PRO

42



PRO

HIV In Pregnancy

★ 4.5 | 46 Min

43



PRO

Thromboembolic Disorders & Thromboprophylaxis in Pregnancy

★ 4.4 | 70 Min

44

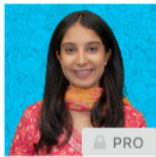


PRO

Skin Disorders in Pregnancy

★ 4.5 | 47 Min

45



PRO

Obesity in Pregnancy

★ 4.4 | 32 Min

shubhamdey431@gmail.com

46



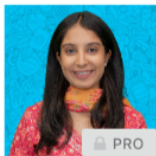
PRO

Maternal Sepsis During & Following Pregnancy

★ 4.4 | 48 Min **NEW**

NEWBORN

47



PRO

The Normal Newborn

★ 4.4 | 30 Min

48

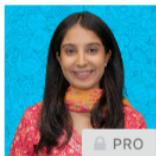


PRO

Complications of Term Neonate

★ 4.5 | 44 Min

49

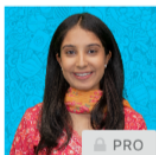


PRO

Complications of Preterm Neonate

★ 4.3 | 16 Min

50



PRO

Stillbirth

★ 4.5 | 18 Min

DIABETES IN PREGNANCY: I

----- Active space -----

Introduction

00:00:26

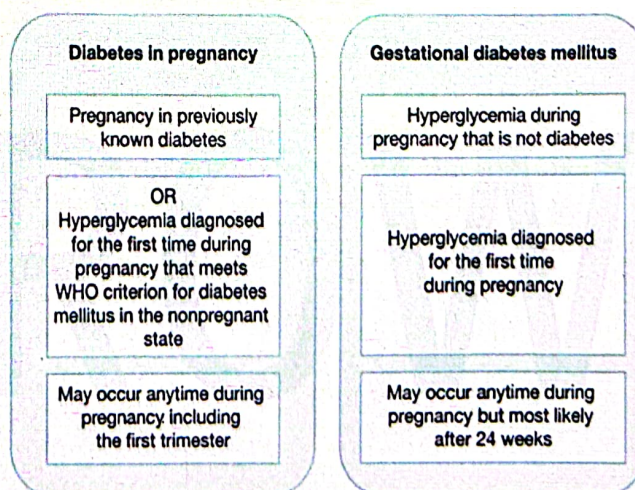
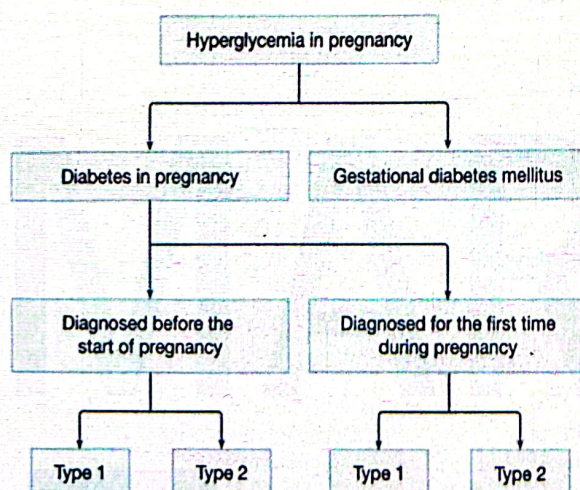
Overview :

- Diabetes in pregnancy : Carbohydrate intolerance of variable severity during pregnancy.
- 2 types : Diagnosed before pregnancy or diagnosed for the first time during pregnancy.

Classifications :

- Older classification : Priscilla White.
- Simplest classification : Overt and gestational diabetes.
- 2015 FIGO classification : Hyperglycemia in pregnancy.
 - Type 1 : Absolute insulin deficiency
 - Type 2 : Insulin resistance of variable degree.
- Overt diabetes : Diagnosed before pregnancy, risk factor for congenital abnormalities
- Gestational diabetes : Diagnosed in 2nd or 3rd trimester but never in first trimester.
 - Pregnancy is inherently diabetogenic : D/t hPL (Human placental lactogen).
 - Gestational diabetes mellitus (GDM) : Does not ↑ the risk of any congenital anomalies.

Types of Hyperglycemia in Pregnancy



----- Active space -----

modified white classification scheme :

used from 1986 to 1994 for diabetes complicating pregnancy.

Class	Onset	Fasting plasma glucose level	2 hour postprandial plasma glucose level	Therapy
A1	Gestational	<105 mg/dL	<120 mg/dL	Diet
A2	Gestational	>105 mg/dL	>120 mg/dL	Insulin

Class	Onset age (Years)	Duration (Years)	Vascular disease	Therapy
B	Over 20	<10	None	Insulin
C	10 to 19	10 to 19	None	Insulin
D	Before 10	>20	Benign retinopathy	Insulin
F	Any	Any	Nephropathy*	Insulin
R	Any	Any	Proliferative retinopathy	Insulin
H	Any	Any	Heart	Insulin

* When diagnosed during pregnancy : Proteinuria ≥ 500 mg/24 hr before 20 weeks' gestation

Pathophysiology :

maternal :

- Pregnancy is a diabetogenic state d/t increased hormones :
 - Estrogen.
 - Progesterone.
 - Testosterone.
 - Growth hormone.
 - Cortisol.
 - Insulinase.
 - hPL.
- Fasting hypoglycemia and postprandial hyperglycemia.
- Increased glucose intake and increased insulin production.
- But increased insulin resistance occurs : maximum in third trimester.

Fetal :

- maternal hyperglycemia $\rightarrow$ Facilitated diffusion of glucose across the GLUT-1 receptors $\rightarrow$ Crosses the placenta and reaches the fetus.
- Hyperglycemia in fetus :
 - Hypertrophy of beta cells in pancreas.
 - Increased growth $\rightarrow$ macrosomia; all organs $\uparrow$ growth except brain.
 - Increased fat deposition $\rightarrow$ Shoulder dystocia during delivery.

- Increased erythropoietin → Polycythemia.
- Decreased surfactant → RDS.

----- Active space -----

Screening & diagnosis

00:08:30

Criteria :

- ACOG.
- WHO/FIGO.
- Indian guideline : DIPI.

ACOG criteria :

- Screening : GCT (Glucose challenge test).
 - Fasting is not necessary.
 - 50g oral glucose given and blood sugar value checked after 2 hours
 - If >140 mg/dl : Patient undergoes diagnostic test, OGTT.
- Diagnostic : OGTT.
 - 8 hours of fasting.
 - 100g oral glucose given to the patient.
 - Blood sugars checked at : Fasting, 1 hour, 2 hours and 3 hours.

Criteria	Fasting	1 hour	2 hours	3 hours
Carpenter-Coustan	95	180	155	140
National diabetes data group	105	190	165	145

- If more than 2 values are deranged : Diagnosed as GDM.

WHO/ FIGO criteria :

- Test performed at 24 to 28 weeks.
- Fasting for 8 hours (Overnight).
- 75 g glucose given :

Fasting	1 hour	2 hours
92	180	153

- If one value is deranged it is diagnostic of GDM.

----- Active space -----

Indian guidelines :

- DIPSI : Diabetes in pregnancy study group; 2014.
 - Formulated based on the fact that India is a low resource developing country : Involves lesser values, less preparation for the female and early diagnosis.
 - No fasting requirement.
 - 75 g glucose given in 300 ml water :
 - usually available in 100 g packs (1 tsp = 5 g & 1 tablespoon = 15 g).
 - Should drink within 5 minutes.
 - In the 2 hour waiting period : Preferably no food or exercise.
 - If patient vomits within 30 minutes of drinking : Cancel current test and repeat next day.
 - If patient vomits after 30 minutes : Complete the test.
 - 1 value is checked 2 hrs postprandial : If ≥ 140 g/dl, diagnosed as GDM.
 - Test is done ideally at the first visit :
 - If patient presents at 2nd trimester then at 24-28 weeks.
 - If beyond 28 weeks : Only a single test is necessary.
 - A gap of 4 weeks necessary if 2 tests are performed.

Overt DM diagnosis :

Diagnosed if any of the following is satisfied :

- HbA1c : ≥ 6.5 g%.
- RBS ≥ 200 mg/dl.
- FBS ≥ 126 mg/dl.

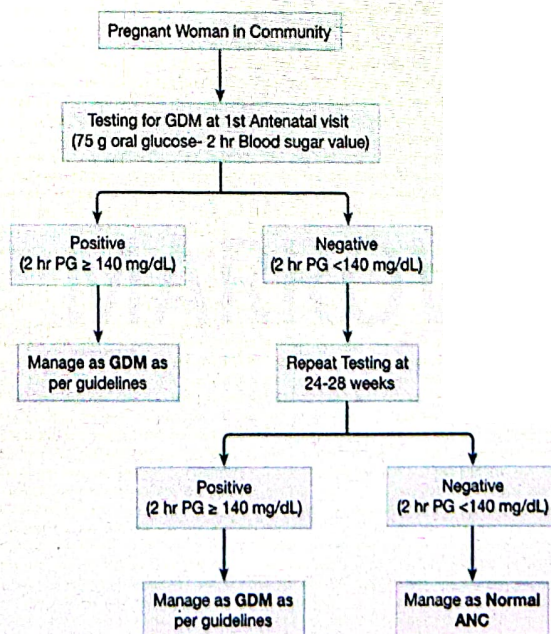
Note :

- Venous sample is ideal but not practical in smaller settings.
- Alternatively : A calibrated glucometer can be utilised.

Risk assessment :

- Low risk :
 - Age : < 25 years.
 - BMI : Normal.
 - Weight at birth normal.
 - No family h/o DM or ethnicity at risk of DM (Asian/African population).
 - No h/o glucose intolerance.

Universal Testing in GDM



----- Active space -----

- No h/o GDM.
- Prior birth : Normal birth weight.
- Average risk :
 - On 50 g glucose challenge test → Blood sugar >140 mg/dl.
- High risk :
 - H/o GDM in previous pregnancy.
 - Strong family h/o DM.
 - Obese patient with high BMI.

Pre-conceptional counselling :

- Important in overt DM.
- Blood sugars should be normal, HbA1c <6.5.
- BP <140/90, if on ACEI/ARB : Stopped and switched to an alternative drug.
- Ophthalmic evaluation : To r/o retinopathy (Indication for LSCS).
- ECHO/cardiac evaluation.
- Thyroid function test.
- Advised physical exercises for 30 to 45 minutes x 5 days/week : Cycling, swimming or walking.
 - ↓ Glucose.
 - ↓ Insulin resistance.
 - Gluconeogenesis → ↓ Fetal hyperglycemia.

Antenatal goals :

- HbA1c <6.5.
- Normal thyroid levels.
- Ophthalmic exam : Normal.
- Normal ECHO.
- Blood sugar levels :

Fasting	2hrs PP	Average
<95	<140	100

Somogyi effect vs. Dawn phenomenon :

Somogyi effect	Dawn phenomenon
Rebound hyperglycemia d/t high dose of insulin	Counter regulatory hormones (E.g., GH)
Diagnosis : 2am ↓ blood sugar & 5am ↑ blood sugar	Diagnosis : 2am ↑ blood sugar and 5am ↓ blood sugar
Treatment : ↓ Dose of night insulin	Treatment : ↑ Dose of night insulin

Maternal complications

00:23:28

Complications :

Antenatal :

- Congenital anomalies :
 - HbA1c 6.5 : No increase in risk; HbA1c >9 : 2 fold increase in risk.
 - m/c anomaly is cardiovascular (COA, PDA, VSD, ASD).
 - most specific : Caudal regression sequence (Rare).
 - GI : Duodenal & jejunal atresia.
 - Kidneys : Polycystic kidney disease.
- Abortion : 25% of women with DM.
- Infections : UTI/ fungal (Candidiasis)/vaginal.
- Polyhydramnios :
 - SDP >8 or AFI 24-25 or amniotic fluid of 2 L.
 - mild/moderate or severe.

Polyhydramnios criteria			
measurement	mild	moderate	Severe
SDP	8-10	10-12	>12
AFI	25-30	30-34	>35

- mild : m/c and 70% of the time idiopathic.
- Big baby → ↑ urine output → ↑ Liquor.
- Increased glucose in amniotic fluid.
- Congenital anomaly.
- Pre-eclampsia :
 - DAPIT trial : Vitamin C & E against placebo and was found that there was no improvement in risk of developing pre-eclampsia in a woman with diabetes except those with less oxidative stress.
 - ACOG recommendation : Start aspirin 81mg (Approx. 75 mg) at 12-28 weeks in women with GDM.
- malpresentation.
- Preterm labour : Also d/t polyhydramnios and preeclampsia risk.
- Sudden IUD : Placental insufficiency, placental abruption, vasculopathy.
- IUGR : In DM associated vasculopathy.

Other complications :

Diabetic nephropathy :

- Albumin in urine, 30 to 300 mg/24hr : No risk.
- >300 : macro albuminuria, can lead to chronic HTN & pre-eclampsia.
- monitored with : KFT, LFT and urine tests.

Neuropathy :

- m/c affects stomach → Gastroparesis /hyperemesis.

Retinopathy :

- most dreaded complication.
- Indication for elective caesarean section : Valsalva causes ↑ IOP.
- Types : Non proliferative, pre proliferative (Cotton wool spots) and proliferative (Laser coagulation done beyond first trimester).

Diabetic ketoacidosis :

- m/c in type I DM, ↑ mortality rate.
- Risk factors : Hyperemesis, infection, beta agonists, steroids, non compliance to insulin/insulin pump failure.
- Diagnosis : Abdominal pain, nausea, vomiting & altered sensorium (Severe).
- Lab : Obtain ABG to document degree of acidosis present; measure glucose, creatinine, Ketones, & electrolyte levels at 1 to 2 hour intervals.
- management guideline : ACOG.
 - Insulin :
 - Low dose IV 0.2–0.4 U/kg.
 - maintenance : 2–10 U/hr.
 - Fluids :
 - Isotonic sodium chloride 3 L, then 0.45% saline.
 - Total replacement in first 12 hours of 4–6 L.
 - 1 L in first hour.
 - 500–1000 mL/hr for 2–4 hours.
 - 250 mL/hr until 80 percent replaced.
 - Glucose : Begin 5% dextrose in 0.45% saline when glucose plasma level reaches 250 mg/dL (14 mmol/L).
 - Potassium :
 - If initially normal or reduced : An infusion rate up to 15–20 mEq/hr may be required.
 - If elevated, wait until levels decrease into the normal range, then add to intravenous solution in a concentration of 20–30 mEq/L.

----- Active space -----

- Bicarbonate : Add one ampoule (44 mEq) to 1 L of 0.45 normal saline if serum pH is <7.1.

Intrapartum complications :

- Increased risk of :
 - Perineal tear : Can lead to traumatic PPH.
 - Instrumental delivery.
 - LSCS.
 - Shoulder dystocia.

Postpartum complications :

- Sepsis.
- Lactation failure.
- PPH.

Fetal complications

00:40:04

Overview :

- Electrolyte imbalances :
 - Hypocalcemia : $\text{Ca}^{2+} < 8$.
 - Hypomagnesemia.
- Hyperbilirubinemia : Increased risk in a preterm baby d/t immature liver.
 - $\uparrow$ Fetal glucose $\rightarrow \uparrow$ Oxygen requirement $\rightarrow \uparrow$ Hypoxia $\rightarrow$ Leads to increase in bilirubin, RBC breakdown, increased erythropoiesis.
- $\downarrow$ Surfactant : RDS and hypoxic ischemic encephalopathy.
- Neonatal hypoxia at birth.

Macrosomia :

- RCOG classifies as >4.5 Kg, Indian guidelines classifies as >4 Kg.
- Indication for cesarean section.
- Increased risk of cardiac dysfunction d/t ventricular hypertrophy $\rightarrow$ Sudden IUD.
- Fetal acidemia $\rightarrow$ pH imbalance causing sudden IUD.
- Difficulty in delivery : McRoberts maneuver or LSCS.

Shoulder dystocia :

- Delay in delivery of the shoulder after delivery of the head : >5 minutes.
- Downward traction does not aid in delivery.
- Anterior shoulder $>$ posterior shoulder.

----- Active space -----

- Risk factors :
 - Dm.
 - Post term pregnancy.
 - BMI >30.
 - Induction of labor.
 - Arrest of labor.
 - Prolonged labor.
 - Anencephaly baby.
 - macrosomic baby.
- management : **HELP**
 - Call for help.
 - Episiotomy.
 - Legs are hyperflexed : **McRoberts manoeuvre** (in macrosomia) → Straightening of sacrum against lumbar spine → Straightening of pubic symphysis angle → Easy shoulder delivery.
 - Pressure : Fundal/ suprapubic pressure with heel of hand.
 - Enter the vagina :
 - **Wood's manoeuvre** : Displace the posterior shoulder by 180° results in freeing of anterior shoulder.
 - **Rubin's manoeuvre** : Rock fetus side to side /abduct the shoulder in reach → Bisacromial diameter reduces → Easy to deliver.
 - Gaskin manoeuvre : Roll onto all fours in knee chest position.
 - Traumatic (Last resort) :
 - **Zavanelli manoeuvre** → Delivered fetal head is pushed back in for an emergency LSCS.
 - **Cleidotomy** : To create space for delivery.
 - **Symphysiotomy** : Fracture pubic symphysis to create space and deliver.

Treatment

00:50:12

medical nutritional therapy :

Goals :

- Optimal maternal and fetal health.
- Normoglycemia.
- Optimal weight gain.

Energy requirements in pregnancy :

- No increase in first trimester.
- Increase in 2nd and 3rd trimester.
- ICMR : 10 to 12 Kg weight gain in pregnancy (Additional 350 Kcal/day).

----- Active space -----

Calorie calculation in GDM :

Level of activity	Physical activity level (PAL) value
Sedentary work	1.53
Moderate work	1.8
Heavy work	2.3

- Basal metabolic rate (BMR) :
 - 18 to 30 years : $14 \times \text{body weight (kg)} + 471$.
 - 30 to 66 years : $8.3 \times \text{body weight (kg)} + 788$.
- Total energy requirement = BMR $\times$ PAL.
- Meals divided into 3 main meals (Breakfast, lunch & dinner) & 2-3 snacks :
 - Breakfast : 20 to 30% of total calories.
 - Lunch : 30 to 40%.
 - Dinner : 30-40%.

Weight gain in pregnancy :

Pre pregnancy weight	BMI (kg/m^2)	Total weight gain range (kg)
Normal weight	18.5 to 24.9	11.5 to 16 kg
Under weight	Less than 18.5	12.5 to 18 kg
Over weight	25 to 29.9	7 to 11.5 kg
Obese (Include grade I, II, III)	Equal/more than 30	5 to 9 kg

Note :

- Desirable weight calculated from the ideal height/weight chart.
- Calorie deficit diet in an overweight/obese female :
 - Ketonemia and ketonuria.
 - Reduce calorie requirement by 30% when calculating.

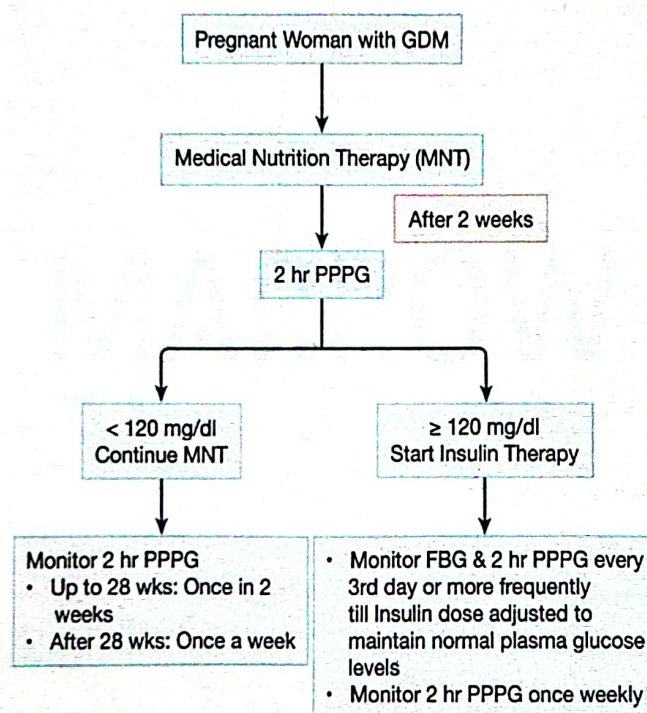
Diet :

- Carbohydrate :
 - 40 to 45% of diet.
 - Complex carbohydrates : Ragi/oats/jowar/pulses.
 - Avoid : Pasta, bread, pizza and biscuits.
 - Can be divided in the 3 main meals and snacks : 1 to 3 servings.
- Protein :
 - 15 to 20%.
 - Sources : Eggs, pulses, vegetables, lean meat and soya.
 - 23 g/day additional protein.

- Natural sources preferred.
- Fats :
 - 30 to 40%.
 - Ghee, butter, palm oil, coconut oil : Saturated fat <10% of diet.
 - Avoid frying food, switch to low fat milk if using full fat milk.
 - Healthy fats : Seeds, legumes and fruits.
- Fibre : Consume fruits and vegetables with edible peels.

GDM management :

Management of pregnant woman with GDM

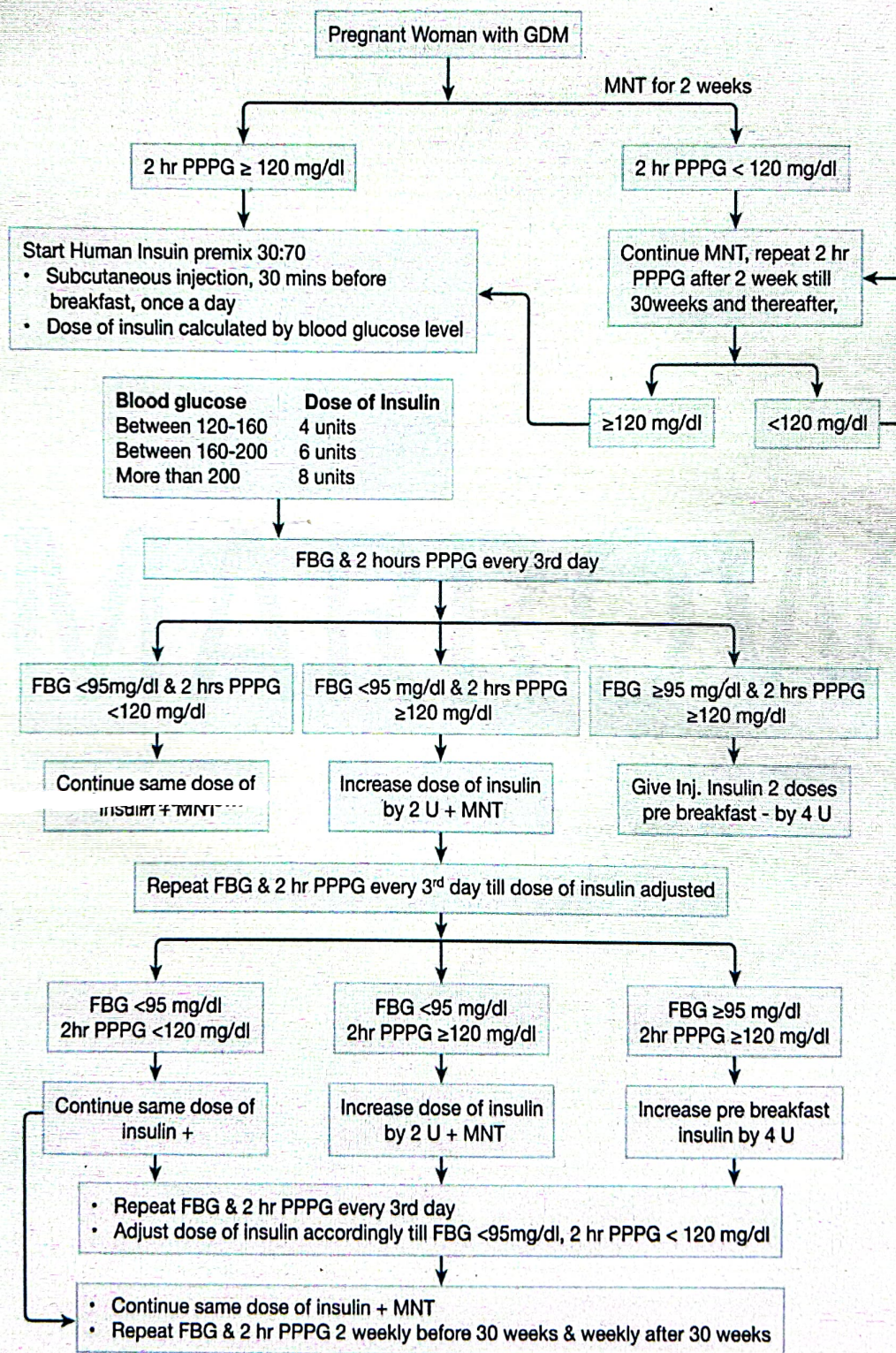


Insulin therapy in GDM :

- NPH :
 - 70 : 30 premix.
 - 40 IU/ml vial.
 - Storage : 2 to 8°C, never freeze vial.
 - Can withstand 25-28°C.
 - 40 IU syringe : Can be used upto 14 days but capped & single patient usage.
 - Vial should be used within 1 month of opening.

----- Active space -----

Management of pregnant woman with GDM



Action profiles of commonly used insulins :

----- Active space -----

Insulin type	Onset	Peak (Hr)	Duration (Hr)
Short acting (SC)			
Lispro	<15 min	0.5-1.5	2-4
Gulisine	<15 min	0.5-1.5	2-4
Aspart	<15 min	0.5-1.5	2-4
Regular (SC)	30-60 min	2-3	3-6
Regular (SC)	30-60 min	2-3	3
Long acting (SC)			
Degludec	1-9 hr	-	<12
Detemir	1-4 hr	minimal*	12-24
Glargine	1-4 hr	minimal*	20-24
NPH	1-4 hr	4-10	10-16
* minimal peak activity			
NPH : Normal protamine Hagedorn; SC : Subcutaneous			

Blood sugar goals :

Self-monitored capillary blood glucose goals	
Specimen	Level (mg/dl)
Fasting	≤95
Premeal	≤100
1 hr postprandial	≤140
2 hr postprandial	≤120
02:00-06:00	≥60
mean (Average)	100
Hemoglobin A1c	≤6%

Surveillance

01:06:06

Fetal surveillance :

- GDM diagnosed in second trimester : Anomaly scan is mandatory between 18 to 20 weeks.
- Fetal ECHO : Around 24 weeks d/t increased risk of CVS anomalies.
- monitoring initiated any time after 28 weeks :
 - NST (Non stress test) : Once/twice in a week.

----- Active space -----

- BPP : Fetal tone, breathing, AFI , NST of 20 to 40 minutes.
 - Can be done once in a week.
 - Indian guidelines : Between 28 to 30 weeks and 34 to 36 weeks with a minimum gap of 3 weeks between the 2 scans.
- Daily fetal movement kick count :
 - Rest after every meal and count the kick for an hour.
 - Add the no. of kicks and multiply by 4 : If count <10 report to doctor.
 - Alternatively start at 9am and monitor till 10 to 12 movements are felt or upto 12 hours, if kick count less than 10 to 12 in 12 hours seeks doctors advice.

Labour :

- According to DIPSI : Delivery depends on blood sugar control.

If well controlled :

- Continue till 39 to 39th weeks.
- ACOG recommendation : 41 weeks.
- IOL can be done.
- If macrosomia : LSCS.

Poor control :

- With other comorbidities like HTN or PE.
 - Can deliver after 36 weeks.
 - Ideally continue till 38 weeks.
 - ACOG recommends continuation till 39 weeks
- Only indication for LSCS in GDM : macrosomia/obstetric indication.
- No preferred method of IOL.
- If polyhydramnios : Perform controlled artificial rupture of membranes : Hold the head of the baby and ensure fixation while ARM occurs.
 - Can cause sudden placental abruption/cord prolapse/IUD.
 - monitor fetal hear rate within 5 minutes to ensure there is no deceleration.
- On the day of labour/induction/LSCS :
 - morning dose of insulin skipped.
 - Blood sugar levels are monitored every 1 to 2 hours.
 - Fluid of choice : NS.