WaterlooWellington DIABETES

Waterloo-Wellington Diabetes and Pregnancy Clinical Pathway

Type: Type 1 Diabetes

Stage: Preconception (3-6 months preconception)

PRECONCEPTION

Referrals

Referral to Diabetes Central Intake (1-855-DIA-BETS)*
Ophthalmologic assessment (Retinal Eye Exam)
Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L or
- eGFR ≤60 mL/min or
- urine ACR ≥ 2.0 mg/mmol
- eGFR 60-100 mL/min requires close monitoring

Tests

A1C, FBS, creatinine, eGFR, uric acid, ALT, AST, bilirubin, thiamine, vitamin B12, ferritin, CBC
Urine ACR
TSH (Target 0.1-3.0 mIU/L)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
Lipid profile
Lab/meter correlation
Self-monitoring of blood glucose ac meals and hs (more frequently if needed)

Targets

A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
BG: 4-7 mmol/L FPG or preprandial PG
5-10 mmol/L 2 hours postprandial PG

Treatment

Encourage reliable contraception until optimal glycemic control
Basal bolus insulin injections or insulin pump
Folic Acid 5 mg OD, Vitamin D 4000 IU
Stop ACE inhibitors and ARBs (continuation may be considered in case of significant diabetic nephropathy to prevent progression, but must be stopped at dx of pregnancy)
Consider CCBs, BB, labetalol, and methyldopa
Stop Statins, Fibrates and Niacin
Identify hypoglycemia unawareness and Rx for Glucagon

Teach

Encourage optimal control 3 months prior to conception
Reinforce healthy lifestyle including nutrition and exercise
Review self-care practices
Assess carb/insulin ratio knowledge and ability
Discuss:
- Self-monitoring of BG QID (ac meals and hs)
- Importance of maintaining glycemic targets
- Importance of regular visits
- Avoiding ketosis

Assess the need for social/financial support during pregnancy

Stage: 1st Trimester (1-12 weeks)

1ST TRIMESTER

Referrals

If not already done:

Referral to Diabetes Central Intake (1-855-DIA-BETS)*
Obstetrician
Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L or
- urine ACR ≥2.0 mg/mmol
- Pre-conception eGFR ≤60 mL/min

Tests

Confirm viability of pregnancy and gestational age
A1C, FBS, creatinine, uric acid, ALT, AST, bilirubin, triglycerides, thiamine, vitamin B12, ferritin, CBC
Urine ACR
TSH (Target 0.1–2.5 mIU/L)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
Repeat retinal eye exam
Self-monitoring of blood glucose ac and 1 hr pc meals, hs and occasionally during night
Continuous glucose monitoring may be considered

Targets

A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L
(Be prepared to raise these targets if needed because of the increased risk of severe hypoglycemia)

Treatment

Folic acid 5 mg until 12 weeks, Prenatal Vitamins, Vitamin D 4000 IU
Basal Bolus Insulin injections or Insulin Pump

Teach

Explain changing insulin requirements during pregnancy and high risk of hypoglycemia during 1st trimester
Identify possible hypoglycemia unawareness
Teach partner glucagon
Ketone testing
Assess the need for social/financial support during pregnancy

Stage: 2nd Trimester (13-27 weeks)

2ND TRIMESTER

Referrals

Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L or
- urine ACR ≥2.0 mg/mmol

Tests

Repeat retinal eye exam if required
A1C, creatinine
Urine ACR
TSH (Target 0.1-2.5 mIU/L until 20 weeks
0.2-3.0 mIU/L after 20 weeks)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
Self-monitoring of blood glucose ac and 1 hr pc meals, hs and occasionally during night

Targets

A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L
(Be prepared to raise these targets if needed because of the increased risk of severe hypoglycemia)

Treatment

Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Basal Bolus Insulin injections or Insulin Pump

Teach

Review changing insulin requirements
Review hypoglycemia treatment
Advice on where to have birth eg. Level 2 or 3 nursery

Stage: 3rd Trimester (28-42 weeks)

3RD TRIMESTER

Referrals

Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L or
- urine ACR ≥2.0 mg/mmol

Tests

Self-monitoring of blood glucose ac and 1 hr pc meals, hs and occasionally during night
Repeat retinal eye exam if required
A1C, creatinine
Urine ACR
TSH (Target: 0.2-3.0 mIU/L)
If abnormal thyroid test repeat every 4 weeks
Consider ultrasound at 36-38 weeks for fetal growth

Targets

A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L
(Be prepared to raise these targets if needed because of the increased risk of severe hypoglycemia)

Treatment

Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Basal Bolus Insulin or Insulin Pump
Ongoing insulin adjustments

Teach

Monitor fetal movement
Unexplained hypoglycemia due to maturing placenta, may alert possible need for an early delivery or increased fetal monitoring
Offer information and advice about:
- When to go to hospital
- What diabetes supplies to take to hospital
- What to do with insulin

Changes to insulin therapy during and after birth

Importance of breastfeeding
Continue prenatal vitamins if breastfeeding

Stage: Labour and Delivery

LABOUR AND DELIVERY

Referrals

Consider elective delivery at 38-39 weeks
If fetal macrosomia, consider early induction at 37-38 weeks

Tests

Monitor blood glucose every 2 hours during early labour and every 1 hour during active labour
Biophysical monitoring of baby

Targets

BG 4-7mmol/L
BP <130/80

Treatment

Mainline: D5W @ 75m/hr
Piggy-back: Insulin infusion 50u/500 mL D5W—see patient care orders

Supporting Documents

Patient Care Orders—Intrapartum Management of Diabetes and Pregnancy
Patient Care Orders—Postpartum Management of Diabetes and Pregnancy

Stage: Postpartum (0 to 6 months)

POSTPARTUM

Referrals

Reminder for diabetes education and diabetes specialist appointment

Tests

Retinal eye exam
A1C, creatinine, eGFR
Urine ACR
TSH at 6-8 weeks postpartum (Target: normal as per lab)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4
- If on thyroid medication during pregnancy, target: <3 mIU/L

Lipid profile

Targets

A1C ≤7%
BP <130/80
BG: 4-7 mmol/L FPG or preprandial PG
5-10 mmol/L 2 hours postprandial PG

Treatment

Basal bolus insulin or insulin pump
Continue prenatal vitamins & vitamin D while breastfeeding
Thyroid medication may need reduction to reach target

Teach

Reinforce importance of pre-pregnancy planning for future pregnancies including:
- Folic Acid, Vitamin D
- Good glycemic control
- Contraception

Review insulin dose adjustments and changing insulin requirements
Encourage breast feeding to benefit mother and baby
Advise about hypoglycemia especially if breastfeeding
Remain active

* Referral to Diabetes Central Intake automatically generates a referral to a diabetes specialist.
This pathway was created to provide a consistent standard of care for all women with diabetes and pregnancy, based on the 2013 CDA Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. This pathway is to be used as a guideline and does not replace clinical judgment.

WaterlooWellington DIABETES

Waterloo-Wellington Diabetes and Pregnancy Clinical Pathway

Type: Type 2 Diabetes

Stage: Preconception (3-6 months preconception)

PRECONCEPTION

Referrals
Referral to Diabetes Central Intake (1-855-DIA-BETS)*
Ophthalmologic assessment (Retinal Eye Exam)
Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L or
- eGFR ≤60 mL/min or
- urine ACR ≥2.0 mg/mmol
- eGFR 60-100 mL/min requires close monitoring

Tests
A1C, FBS, creatinine, eGFR, uric acid, ALT, AST, bilirubin, thiamine, vitamin B12, ferritin, CBC
Urine ACR
TSH (Target 0.1-3.0 mIU/L)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks

Lipid profile
Lab/meter correlation
Self-monitoring of blood glucose ac meals and hs (more frequently if needed)

Targets
A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
BG: 4-7 mmol/L FPG or preprandial PG
5-10 mmol/L 2 hours postprandial PG

Treatment
Encourage reliable contraception until optimal glycemic control
Folic Acid 5 mg OD, Vitamin D 4000 IU
Stop oral diabetes agents
Initiate insulin therapy
Calculate Total Daily Dose 0.3-0.5 units/kg
40% Basal (Detemir, Glargine, NPH) at bedtime
60% Bolus divided between 3 meals (Aspart, Lispro)
*this is a starting dose, increase aggressively to reach target
Maintain Metformin if PCOS
Stop ACE inhibitors and ARBs
Consider CCBs, BB, labetalol, and methyldopa
Stop Statins, Fibrates and Niacin

Teach
Encourage optimal control 3 months prior to conception
Encourage healthy weight reduction if BMI >29
Reinforce healthy lifestyle including nutrition and importance of exercise in reducing insulin resistance
Discuss:
- Importance of maintaining glycemic targets
- Importance of regular visits

Review current therapy and reason for switching to insulin therapy for the duration of their pregnancy
Teach insulin administration
Assess the need for social/financial support during pregnancy

Stage: 1st Trimester (1-12 weeks)

1ST TRIMESTER

Referrals
If not already done:
Referral to Diabetes Central Intake(1-855-DIA-BETS)*
Obstetrician
Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L
- urine ACR ≥2.0 mg/mmol
- Pre-conception eGFR ≤60 mL/min

Tests
Confirm viability of pregnancy and gestational age
A1C, FBS, creatinine, uric acid, ALT, AST, bilirubin, triglycerides, thiamine, vitamin B12, ferritin, CBC
Urine ACR
TSH (Target 0.1–2.5 mIU/L)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
Repeat retinal eye exam
Self-monitoring of blood glucose ac and 1 hr pc meals, hs and occasionally during night (if on insulin)
Continuous glucose monitoring may be considered

Targets
A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment
Folic acid 5 mg until 12 weeks, Prenatal Vitamins, Vitamin D 4000 IU
Basal Bolus Insulin injections or Insulin Pump
Initiate insulin therapy if not previously done:
Calculate Total Daily Dose 0.3-0.5 units/kg
40% Basal (Detemir, Glargine, NPH)

60% Bolus divided between 3 meals (Aspart, Lispro)
*this is a starting dose, increase aggressively to reach target

Teach
Explain increasing insulin resistance during pregnancy requiring frequent adjustments
Reinforce healthy lifestyle including nutrition and exercise
Importance of maintaining glycemic targets
Importance of regular visits
Review current therapy and initiate insulin therapy if not already done
Assess the need for social/financial support during pregnancy

Stage: 2nd Trimester (13-27 weeks)

2ND TRIMESTER

Referrals
Obstetrician if not already done
Consider referral to nephrologist if:
- serum creatinine ≥ 100 umol/L or
- urine ACR ≥2.0 mg/mmol

Tests
Repeat retinal eye exam if required
A1C, creatinine
Urine ACR
TSH (Target 0.1-2.5 mIU/L until 20 weeks
0.2-3.0 mIU/L after 20 weeks)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
Self-monitoring of blood glucose ac and 1 hr pc meals and hs and occasionally during night (if on insulin)

Targets
A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment
Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Basal Bolus Insulin injections or Insulin Pump

Teach
Review and explain increasing insulin requirements
Review hypoglycemia treatment
Advice on where to have birth eg. Level 2 or 3 nursery

Stage: 3rd Trimester (28-42 weeks)

3RD TRIMESTER

Referrals
Consider referral to nephrologist if:
- serum creatinine ≥100 umol/L or
- urine ACR ≥2.0 mg/mmol

Tests
Self-monitoring of blood glucose ac and 1 hr pc meals and hs and occasionally during night (if on insulin)
Repeat retinal eye exam if required
A1C, creatinine
Urine ACR
TSH (Target: 0.2-3.0 mIU/L)
If abnormal thyroid test repeat every 4 weeks
Consider ultrasound at 36-38 weeks for fetal growth

Targets
A1C ≤7% (or as close to normal as can safely be achieved)
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment
Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Basal Bolus Insulin or Insulin Pump
Ongoing insulin adjustments

Teach
Monitor fetal movement
Unexplained hypoglycemia due to maturing placenta, may alert possible need for an early delivery or increased fetal monitoring
Offer information and advice about:
- When to go to hospital
- What diabetes supplies to take to hospital
- What to do with insulin

Changes to insulin therapy during and after birth
Importance of breastfeeding
Continue prenatal vitamins if breastfeeding

Stage: Labour and Delivery

LABOUR AND DELIVERY

Referrals
Consider elective delivery at 38-39 weeks
If fetal macrosomia, consider early induction at 37-38 weeks

Tests
Monitor blood glucose every 2 hours during early labour and every 1 hour during active labour
Biophysical monitoring of baby

Targets
BG 4-7mmol/L
BP <130/80

Treatment
Mainline: D5W @ 75ml/hr
Piggy-back: Insulin infusion 50u/500 mL D5W—see patient care orders

Supporting Documents
Patient Care Orders—Intrapartum Management of Diabetes and Pregnancy
Patient Care Orders—Postpartum Management of Diabetes and Pregnancy

Stage: Postpartum (0 to 6 months)

POSTPARTUM

Referrals
Reminder for diabetes education and diabetes specialist appointment

Tests
Retinal eye exam

A1C, creatinine, eGFR
Urine ACR
TSH at 6-8 weeks postpartum (Target: normal as per lab)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4
- If on thyroid medication during pregnancy, target: <3 mIU/L

Lipid profile

Targets
A1C ≤7%
BP <130/80
BG: 4-7 mmol/L FPG or preprandial PG
5-10 mmol/L 2 hours postprandial PG

Treatment
Basal bolus insulin or metformin and/or glyburide can be used when breastfeeding
Other oral agents can be used if not breastfeeding
Continue prenatal vitamins & vitamin D while breastfeeding
Thyroid medication may need reduction to reach target

Teach
Reinforce importance of pre-pregnancy planning for future pregnancies including:
- Folic Acid, Vitamin D
- Good glycemic control
- Contraception

Encourage breast feeding to benefit mother and baby
Advise about hypoglycemia especially if breastfeeding
Recommend return to healthy body weight
Remain active

Follow-up visit in 6 weeks and every 3 months with diabetes specialist
Postpartum diabetes education

* Referral to Diabetes Central Intake automatically generates a referral to a diabetes specialist.
This pathway was created to provide a consistent standard of care for all women with diabetes and pregnancy, based on the 2013 CDA Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. This pathway is to be used as a guideline and does not replace clinical judgment.

WaterlooWellington DIABETES

Waterloo-Wellington Diabetes and Pregnancy Clinical Pathway

Type: Gestational Diabetes

Stage: 2nd Trimester (13-27 weeks)

2ND TRIMESTER

Referrals

If diagnosed with GDM : Referral to Diabetes Central Intake (1-855-DIA-BETS)*

Tests

24 -28 weeks: 75 gm OGTT test at 24-28 week
Dx. of GDM with one elevated value
FPG ≥5.1 mmol/L
1h PG ≥10.0 mmol/L
2h PG ≥8.5 mmol/L
Self-monitoring of blood glucose fasting and 1 hr pc meals
If on insulin, self-monitoring of blood glucose ac and 1 hr pc meals
Ketone testing every morning
TSH (Target 0.1-2.5 mIU/L until 20 weeks
0.2-3.0 mIU/L after 20 weeks)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks

Targets

BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment

Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Initiate Insulin therapy if:
- Fasting Blood glucose above target
  Initiate 4-5 units basal insulin at bedtime (NPH, Detemir, Glargine)
- Postprandial blood glucose above target
  Initiate 2-4 units rapid (Lispro, Aspart) before the meal

If insulin therapy refused, glyburide or metformin may be considered

Stage: 3rd Trimester (28-42 weeks)

3RD TRIMESTER

Referrals

If not already done: Referral to Diabetes Central Intake (1-855-DIA-BETS)*

Tests

Self-monitoring of blood glucose fasting and 1 hr pc meals
If on insulin, self-monitoring of blood glucose ac and 1 hr pc meals
TSH (Target: 0.2-3.0 mIU/L)
If abnormal thyroid test repeat every 4 weeks
Consider ultrasound at 36-38 weeks for fetal growth
Provide requisition for postpartum OGTT

Targets

BP <130/80
FBS and Preprandial BG: <5.3 mmol/L

1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment

Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Initiate Insulin therapy if:
- Fasting Blood glucose above target
  Initiate 4-5 units basal insulin at bedtime (NPH, Detemir, Glargine)
- Postprandial blood glucose above target
  Initiate 2-4 units rapid (Lispro, Aspart) before the meal

If insulin therapy refused, glyburide or metformin may be considered

Teach

Monitor fetal movement
Unexplained hypoglycemia due to maturing placenta, may alert possible need for an early delivery or increased fetal monitoring
Offer information and advice about:
- When to go to hospital
- What diabetes supplies to take to hospital
- What to do with insulin

Changes to insulin therapy during and after birth
Importance of returning to pre-pregnancy weight to reduce risk of Type 2 diabetes
Importance of postpartum OGTT
Importance of breastfeeding
Continue prenatal vitamins if breastfeeding

Supporting Documents

At 34 weeks, give insulin orders for delivery

Stage: Labour and Delivery

LABOUR AND DELIVERY

Referrals

If on insulin, consider elective delivery at 38-39 weeks
If fetal macrosomia, consider early induction at 37-38 weeks
If diet controlled, no special intervention unless other obstetrical concerns

Tests

Monitor blood glucose every 2 hours during early labour and every 1 hour during active labour
Biophysical monitoring of baby

Targets

BG 4-7mmol/L
BP <130/80

Treatment

Mainline: D5W @ 75ml/hr—see patient care orders
For insulin infusion requirements--see patient care orders

Supporting Documents

Patient Care Orders—Intrapartum Management of Diabetes and Pregnancy
Patient Care Orders—Postpartum Management of Diabetes and Pregnancy

Stage: Postpartum (0 to 6 months)

POSTPARTUM

Referrals

Reminder for diabetes education and diabetes specialist appointment

Tests

75 gm OGTT between 6 weeks and 6 months postpartum
- If normal, regular follow-up with GP to screen for development of Type 2
- If confirmed dx, referral to Diabetes Central Intake (1-855-DIA-BETS)

For lean women <30 years of age, who required insulin, consider dx. Type 1
- anti-GAD, anti-IA2 (insulin antibodies)

TSH at 6-8 weeks postpartum (Target: normal as per lab)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4
- If on thyroid medication during pregnancy, target: <3 mIU/L

Targets

A1C <5.5%
FBS <5.6 mmol/L
Normal BP

Treatment

Continue prenatal vitamins & vitamin D while breastfeeding
Thyroid medication may need reduction to reach target

Teach

Reinforce importance of pre-pregnancy planning for future pregnancies including:
- Folic Acid, Vitamin D
- Good glycemic control

Encourage breastfeeding to benefit mother and baby
Recommend return to healthy body weight
Remain active

* Referral to Diabetes Central Intake automatically generates a referral to a diabetes specialist. This pathway was created to provide a consistent standard of care for all women with diabetes and pregnancy, based on the 2013 CDA Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. This pathway is to be used as a guideline and does not replace clinical judgment.

WaterlooWellington DIABETES

Waterloo-Wellington Diabetes and Pregnancy Clinical Pathway

Type: Repeat Gestational Diabetes/High Risk for GDM

Stage: Preconception (3-6 months preconception)

PRECONCEPTION

Referrals
Referral to Diabetes Central Intake (1-855-DIA-BETS)* if diagnosed with prediabetes, or at risk for diabetes

Tests
A1C, FBS, creatinine, uric acid, ALT, AST, bilirubin, thiamine, vitamin B12, ferritin, CBC
TSH (Target 0.1-3.0 mIU/L)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
2 hour 75 gm OGTT (high risk women)
- Dx. of diabetes is confirmed if:
  FPG ≥7.0 mmol/L
  2hPG ≥11.1 mmol/L
  A1C ≥6.5%

Targets
A1C <5.5%
Normal BP
FBS <5.6 mmol/L
2hr BG <7.8 mmol/L

Treatment
Folic Acid 5 mg OD, Vitamin D 4000 IU

Teach
Reinforce healthy lifestyle including nutrition and importance of exercise in reducing insulin resistance
Encourage healthy weight reduction if BMI >29
Risks for Type 2 diabetes

Stage: 1st Trimester (1-12 weeks)

1ST TRIMESTER

Referrals
Referral to Diabetes Central Intake (1-855-DIA-BETS)* at 10 to 12 weeks gestation for women with previous gestational diabetes

Tests
2-hour 75g OGTT at 16-18 weeks if high risk and not previously done
- Dx. of GDM with one elevated value
  FPG ≥5.1 mmol/L
  1hPG ≥10.0 mmol/L
  2hPG ≥8.5 mmol/L

A1C, FBS, creatinine, uric acid, ALT, AST, bilirubin, triglycerides, thiamine, vitamin B12, ferritin, CBC
TSH (Target 0.1–2.5 mIU/L)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks
Start self-monitoring of blood glucose fasting and 1 hr pc meals 2 to 3 days/week

Targets
A1C <5.5%
Normal BP
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment
Folic acid 5 mg until 12 weeks, Prenatal Vitamins, Vitamin D 4000 IU

Teach
Explain risk of developing GDM if previously diagnosed
Review increasing insulin resistance during pregnancy and importance of occasional monitoring early in pregnancy
Reinforce healthy lifestyle including nutrition and exercise
Assess the need for social/financial support during pregnancy

Stage: 2nd Trimester (13-27 weeks)

2ND TRIMESTER

Referrals
If not already done, referral to Diabetes Central Intake (1-855- DIA-BETS)*

Tests
If 1st trimester OGTT is normal repeat 75 gm OGTT @ 24-28 weeks
- Dx. of GDM with one elevated value
  FPG ≥5.1 mmol/L
  1hPG ≥10.0 mmol/L
  2hPG ≥8.5 mmol/L

Self-monitoring of blood glucose fasting and 1 hr pc meals
If on insulin, self-monitoring of blood glucose ac and 1 hr pc meals
Ketone testing every morning
TSH (Target 0.1-2.5 mIU/L until 20 weeks
0.2-3.0 mIU/L after 20 weeks)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4

If abnormal thyroid, repeat tests every 4 weeks

Targets
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment
Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Initiate Insulin therapy if:
- Fasting Blood glucose above target
  Initiate 4-5 units basal insulin at bedtime (NPH, Detemir, Glargine)
- Postprandial blood glucose above target
  Initiate 2-4 units rapid (Lispro, Aspart) before the meal

If insulin therapy refused, glyburide or metformin may be considered

Teach
Pathophysiology of GDM
Review nutrition and exercise guidelines
Review changing insulin requirements
Review hypoglycemia treatment if on insulin

Stage: 3rd Trimester (28-42 weeks)

3RD TRIMESTER

Referrals
If not already done, referral to Diabetes Central Intake (1-855- DIA-BETS)*

Tests
Self-monitoring of blood glucose fasting and 1 hr pc meals
If on insulin, self-monitoring of blood glucose ac and 1 hr pc meals
TSH (Target: 0.2-3.0 mIU/L)
If abnormal thyroid test repeat every 4 weeks
Consider ultrasound at 36-38 weeks for fetal growth
Provide requisition for postpartum OGTT

Targets
BP <130/80
FBS and Preprandial BG: <5.3 mmol/L
1 hr postprandial BG: <7.8 mmol/L
2 hr postprandial BG: <6.7 mmol/L

Treatment
Prenatal Vitamins with 0.4 to 1.0 mg Folic Acid, Vitamin D 4000 IU
Initiate Insulin therapy if:
- Fasting Blood glucose above target
  Initiate 4-5 units basal insulin at bedtime (NPH, Detemir, Glargine)
- Postprandial blood glucose above target
  Initiate 2-4 units rapid (Lispro, Aspart) before the meal

If insulin therapy refused, glyburide or metformin may be considered

Teach
Monitor fetal movement
Unexplained hypoglycemia due to maturing placenta, may alert possible need for an early delivery or increased fetal monitoring
Offer information and advice about:
- When to go to hospital
- What diabetes supplies to take to hospital
- What to do with insulin

Changes to insulin therapy during and after birth
Importance of returning to pre-pregnancy weight to reduce risk of Type 2 diabetes
Importance of postpartum OGTT
Importance of breastfeeding
Continue prenatal vitamins if breastfeeding

Supporting Documents
At 34 weeks, give insulin orders for delivery

Stage: Labour and Delivery

LABOUR AND DELIVERY

Referrals
If on insulin, consider elective delivery at 38-39 weeks
If fetal macrosomia, consider early induction at 37-38 weeks
If diet controlled, no special intervention unless other obstetrical concerns

Tests
Monitor blood glucose every 2 hours during early labour and every 1 hour during active labour
Biophysical monitoring of baby

Targets
BG 4-7mmol/L
BP <130/80

Treatment
Mainline: D5W @ 75ml/hr—see patient care orders
For insulin infusion requirements--see patient care orders

Supporting Documents
Patient Care Orders—Intrapartum Management of Diabetes and Pregnancy
Patient Care Orders—Postpartum Management of Diabetes and Pregnancy

Stage: Postpartum (0 to 6 months)

POSTPARTUM

Referrals
Reminder for diabetes education and diabetes specialist appointment

Tests
75 gm OGTT between 6 weeks and 6 months postpartum
- If normal, regular follow-up with GP to screen for development of Type 2
- If confirmed dx, referral to Diabetes Central Intake (1-855-DIA-BETS)

For lean women <30 years of age, who required insulin, consider dx. Type 1
- anti-GAD, anti-IA2 (insulin antibodies)

TSH at 6-8 weeks postpartum (Target: normal as per lab)
- If above target order free T4 + thyroid antibodies
- If below target order free T3 + free T4
- If on thyroid medication during pregnancy, target: <3 mIU/L

Targets
A1C <5.5%
FBS <5.6 mmol/L
Normal BP

Treatment
Continue prenatal vitamins & vitamin D while breastfeeding
Thyroid medication may need reduction to reach target

Teach
Reinforce importance of pre-pregnancy planning for future pregnancies including:
- Folic Acid, Vitamin D
- Good glycemic control

Encourage breastfeeding to benefit mother and baby
Recommend return to healthy body weight
Remain active

* Referral to Diabetes Central Intake automatically generates a referral to a diabetes specialist.
This pathway was created to provide a consistent standard of care for all women with diabetes and pregnancy, based on the 2013 CDA Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. This pathway is to be used as a guideline and does not replace clinical judgment.