Alberta Health Services

Form Title **Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set**

Form Number **21430Bond**

Alberta Health Services

Last Name *(Legal)*	First Name *(Legal)*
Preferred Name ☐ Last ☐ First	DOB*(dd-Mon-yyyy)*
PHN	ULI ☐ Same as PHN / MRN
Administrative Gender ☐ Male ☐ Female ☐Non-binary/Prefer not to disclose (X) ☐ Unknown	

Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set

Select orders by replacing a (✓) in the associated box

Antepartum

If type of diabetes is unknown, treat patient as type 1 diabetes mellitus and consult endocrinologist or diabetes specialist.

Diet and Nutrition

☑ Adult Diet – Diabetic Pregnancy *(2000-2200 kcal)*

Monitoring and Patient Care

Glucose Meter Point of Care Treatment (POCT):

☑ 4 times per day 15 to 30 minutes before scheduled meals and at bedtime AND **PRN** for suspected hypoglycemia, daily

Additional testing

☐ Fasting and 1 hour after meal times, daily
☐ Fasting and 2 hours after meal times, daily
☐ At 0200 hours daily
☐ Every _____ hours

Blood Glucose (BG) Targets	
Fasting and Pre prandial	3.8 to 5.2 mmol/L
1 hour post prandial	Below 7.8 mmol/L
2 hour post prandial	Below 6.7 mmol/L
Hypoglycemia treatment	Below 3.8 mmol/L or symptomatic below 4.0 mmol/L or contact Most Responsible Health Provider (MRHP) for glucose below _____mmol/L **OR** if BG not easily corrected.
Hyperglycemia treatment	Contact MRHP for BG above 14.0 mmol/L **OR** above identified individualized target _____mmol/L

☐ Self-Managed Glucose Monitoring
Patient may use own home device such as home BG monitor, continuous glucose monitor (rtCGM or isCGM) for the self management of diabetes care. AHS POCT BG monitoring still mandatory. Document home glucose results on the hospital chart.

☐ Notify MRHP – Antepartum Glucose Management
- BG greater than: _____ mmol/L
- BG less than: _____ mmol/L

☑ Contact Diabetes Care Provider or MRHP if patient is having hypoglycemic or hyperglycemic events that are not being easily addressed

☑ Initiate appropriate HYPO or HYPER glycemia procedure when BG targets are not met as per the AHS Glycemic Management Policy
Do not hold insulin without prescriber order.

Laboratory Investigation Routine

Chemistry

If patient has symptoms of Diabetic Ketoacidosis order Beta-Hydroxybutyrate if available. Activate if patient has BG greater than 14.0 mmol/L and/or symptoms of Diabetic Ketoacidosis. Symptoms include (but not limited to) polyuria, thirst, nausea/vomiting, abdominal pain, weakness, mental status change, recent weight loss, and coma.

☑ Beta-Hydroxybutyrate, Conditional, PRN

Urine

Beta-Hydroxybutyrate (serum ketones) preferred over Urine Ketones for diagnosis of DKA.

☐ Urinalysis
☐ Urinalysis POCT - Urine Ketones

Prescriber Name	Prescriber Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*

Alberta Health Services

Last Name *(Legal)*	First Name *(Legal)*	
Preferred Name ☐ Last ☐ First	DOB*(dd-Mon-yyyy)*	
PHN	ULI ☐ Same as PHN	MRN
Administrative Gender ☐ Male ☐ Female ☐Non-binary/Prefer not to disclose (X) ☐ Unknown		

Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set

Select orders by replacing a (✓) in the associated box

Antepartum

Medications

Diabetic Agents

Patients with type 1 diabetes mellitus require ongoing insulin in hospital. Patients who are not eating and drinking must still receive basal and correction insulin or be switched to insulin infusion. Patients who are eating and drinking will also require bolus insulin.

Clinical Decision Support for Management of BG while on Steroids as per Diabetes Canada – may use based on clinical judgement. Note: most patients will need more than these minimal increases.

Following the first dose of betamethasone

Day 1	Increase the night insulin doses by **25%**
Days 2 & 3	Increase **all** pre-steroid insulin doses by **40%**
Day 4	Increase **all** pre-steroid insulin doses by **20%**
Day 5	Increase **all** pre-steroid insulin doses by **10 to 20%**
Days 6 & 7	Gradually taper insulin doses to pre-steroid doses

☐ Basal Bolus Insulin Therapy - **Form 20889** (*individualized to the patient's needs)*

OR

☐ In-Hospital Orders for Self-Management of Insulin Pump- **Form 20102** *(if appropriate)*

Consults/Referrals

Inpatient Specialty Consults

- ☐ Nursing Communication: Notify on call diabetes specialist of patient's admission
- ☐ Diabetes Educator
- ☐ Obstetrics
- ☐ Neonatology
- ☐ Nutrition Services
- ☐ Obstetric Medicine/OBIM
- ☐ Endocrinology
- ☐ Internal Medicine

Request for Other Service

- ☐ Inpatient Consult *(other):* _____

Prescriber Name	Prescriber Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*

Alberta Health Services

Last Name *(Legal)*	First Name *(Legal)*	
Preferred Name ☐ Last ☐ First	DOB*(dd-Mon-yyyy)*	
PHN	ULI ☐ Same as PHN	MRN
Administrative Gender ☐ Male ☐ Female ☐Non-binary/Prefer not to disclose (X) ☐ Unknown		

Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set

Select orders by replacing a (✓) in the associated box

Intrapartum

All patients with Type 1 DM require insulin at all times. IV insulin infusion is preferred during labour.

Patient Care

☑ Glucose Meter POCT– Prior to Active Labour Monitor **4 times per day 15 to 30 minutes** before scheduled meals and at bedtime **AND** PRN for suspected hypoglycemia

☑ Glucose Meter POCT– Initiate POCT glucose testing every one hour when NPO (sips of fluids/small snacks permitted) AND ANY of the following: 1) Active labour 2) Initiation of oxytocin induction 3) Before a scheduled or non-scheduled C-section. All patients must have ongoing source of insulin (subcutaneous or IV infusion). *Only AHS POCT BG device to be used to initiate and monitor IV insulin infusion.*

☑ Active Labour Glucose Targets
Once in active labour BG targets are 4.0-7.0 mmol/L during labour and delivery. Prior to active labour and patient still able to eat full meals, use usual antepartum management. Only AHS POCT BG device to be used to initiate and monitor IV insulin infusion.

☑ Placenta Delivery
When the Placenta delivers:
- **DECREASE IV** insulin infusion to 0.5 units/hr. **CONTINUE** to titrate insulin hourly according to Table 2 and 3 as required.
- **DISCONTINUE IV** insulin 2 hours after **SUBCUTANEOUS** insulin is administered.
- **DISCONTINUE D10W IV** once patient eating and drinking post delivery.

☑ Intrapartum Oral Hypoglycemia Treatment
Patient may have oral treatment for hypoglycemia as per **AHS Hypoglycemia Procedure** while NPO. Follow procedure for follow up care of patient while NPO. Contact Diabetes Care Provider or MRHP if patient is experiencing hypoglycemic or hyperglycemic events that are not being easily addressed.

☑ Notify on call diabetes specialist of patient's admission, if not previously called.

☐ Notify MRHP – Intrapartum Glucose Management
- BG greater than: _____ mmol/L
- BG less than: _____ mmol/L

Medication

Diabetic Agents

IV Insulin Infusion during Labour *(refer to tables):*

☑ Insulin Regular (HumuLIN R®) (Add 1 mL of insulin regular 100 units/mL to 100 mL of NS) variable rate insulin infusion as per **Pregnancy BG POCT** and **Insulin Infusion Tables T1 DM**

☑ D10W IV continuous infusion as per **Pregnancy BG POCT** and **Insulin Infusion Tables T1 DM**

Prescriber Name	Prescriber Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*

Alberta Health Services

Last Name *(Legal)*	First Name *(Legal)*
Preferred Name ☐ Last ☐ First	DOB*(dd-Mon-yyyy)*
PHN	ULI ☐ Same as PHN / MRN
Administrative Gender ☐ Male ☐ Female ☐Non-binary/Prefer not to disclose (X) ☐ Unknown	

Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set

Select orders by replacing a (✓) in the associated box

Postpartum

Diet and Nutrition

☑ Adult Diet – Diabetic Pregnancy *(2000-2200 kcal)*

Patient Care

☑ Glucose Meter POCT – every 1 hour while on IV insulin infusion.

When patient transitioned to subcutaneous insulin

☑ Glucose Meter POCT – 4 times per day 15 to 30 minutes before scheduled meals and at bedtime **AND** PRN for suspected hypoglycemia.

*Postpartum BG targets **5.0 – 10.0 mmol/L** or individualized identified targets.*

☐ Self-Managed Glucose Monitoring

Patient may use own home device such as home BG monitor, continuous glucose monitor or (rtCGM or isCGM) for the self management of diabetes care. AHS POCT BG monitoring still mandatory. Document home glucose results on the hospital chart.

☑ **Placenta Delivery**

When the Placenta delivers:

- **DECREASE IV** insulin infusion to 0.5 units/hr. **CONTINUE** to titrate insulin hourly according to Table 2 and 3 as required.
- **DISCONTINUE IV** insulin 2 hours after **SUBCUTANEOUS** insulin is administered.
- **DISCONTINUE D10W IV** once patient eating and drinking post delivery.

☐ Notify MRHP, Postpartum Glucose Targets

Refer to AHS Glycemic Management Policy for treatment of hypoglycemia (below 4.0 mmol/L) and hyperglycemia (above 18.0 mmol/L).

- BG greater than _____ mmol/L
- BG less than _____ mmol/L
- Other _____

Medications

- *Prescriber to specify medication order(s) for insulin.*
- *Determine when patient gets usual basal insulin so that can be taken into account when prescribing insulin.*
- *Guidelines for insulin requirement drop after delivery: consider using insulin doses approximately 65% of pre pregnancy doses.*
- *Subcutaneous insulin required to be given 2 hours prior to stopping IV insulin to avoid risk of Diabetic Ketoacidosis. Basal insulin recommended, consult diabetes specialist for instructions if basal insulin administration not scheduled for this time.*

Diabetic Agents

☐ Basal Bolus Insulin Therapy **Form 20889** (*individualized to the patient's needs)*

OR

☐ In-Hospital Orders for Self-Management of Insulin Pump **Form 20102** *(if appropriate)*

Discharge Instructions / Follow Up

☐ Family Practice Physician: Follow up in _____ weeks
☐ Diabetes in Pregnancy Clinic: Follow up in _____ weeks
☐ Internal Medicine: Follow up in _____ weeks
☐ Endocrinologist: Follow up in _____ weeks
☐ Other: _____

Prescriber Name	Prescriber Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*

Alberta Health Services

Last Name *(Legal)*	First Name *(Legal)*	
Preferred Name ☐ Last ☐ First	DOB*(dd-Mon-yyyy)*	
PHN	ULI ☐ Same as PHN	MRN
Administrative Gender ☐ Male ☐ Female ☐Non-binary/Prefer not to disclose (X) ☐ Unknown		

Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set

Select orders by replacing a (✓) in the associated box

If NPO but not in Labour for Diabetes Medication Management for Type 1 Diabetes Mellitus (DM)

Medication

Diabetic Agents

☐ Basal Bolus Insulin Therapy - **Form 20889** (*individualized to the patient's needs)*

☐ In-Hospital Orders for Self-Management of Insulin Pump - **Form 20102** *(if appropriate)*

OR

☐ Insulin Regular (HumuLIN R®) (Add 1 mL of insulin regular 100 units/mL to 100 mL of NS) variable rate insulin infusion as per Table **Pregnancy BG POCT** and **Insulin Infusion Table T1DM**

☐ D10W IV continuous infusion as per **Pregnancy BG POCT** and **Insulin Infusion Table T1DM**

☐ Glucose Meter POCT – every 1 hour while on IV insulin infusion. Only AHS POCT Blood Glucose Monitor to be used to initiate and monitor infusion.

Prescriber Name	Prescriber Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*

Alberta Health Services

Diabetes in Pregnancy: Type 1 Diabetes Mellitus, Adult - Inpatient Order Set

Table 1: Initiation of insulin infusion for T1 DM. Adjust rates per Tables 2 and 3.	
POCT Glucose Reading (mmol/L)	**Insulin and Dextrose Instructions**
Less than or equal to 3.9	DO NOT start insulin Follow HYPOglycemia procedure Initiate insulin per Table 1 once POCT glucose is greater than 4.0 mmol/L
4.0 – 8.0	START insulin at 0.5 unit/hour START D10W at 50 mL/hour
8.1 – 12.0	START insulin at 1 unit/hour START D10W at 50 mL/hour
12.1 and above	START insulin at 2 unit/hour DO NOT start D10W.
Table 2: Insulin/D10W Rate Adjustment (USE TABLE 3 if POCT blood glucose drops by more than 2 mmol/L in one hour)	
POCT Glucose Reading (mmol/L)	**Insulin and Dextrose Instructions**
Less than or equal to 3.0	STOP insulin infusion. Follow HYPOglycemia procedure
3.1 - 3.9	DECREASE insulin rate by 1 unit/hour OR STOP if insulin rate is 1 unit/hour or less Follow HYPOglycemia procedure
4.0 – 7.0	DO NOT change insulin rate CONTINUE (or START) D10W at 50 mL/hour
7.1 – 8.0	INCREASE insulin rate by 0.5 unit/hour CONTINUE (or START) D10W at 50 mL/hour
8.1 - 9.0	INCREASE insulin rate by 1 unit/hour CONTINUE (or START) D10W at 50 mL/hour
9.1 - 10.0	INCREASE insulin rate by 1.5 unit/hour CONTINUE (or START) D10W at 50 mL/hour
10.1 – 12.0	INCREASE insulin rate by 2 unit/hour CONTINUE (or START) D10W at 50 mL/hour
12.1 and above	INCREASE insulin rate by 2 unit/hour HOLD D10W for 1 hour
If insulin infusion is stopped, RESTART at 0.5 units/hour when POCT glucose rises to greater than 4.5 mmol/L.	
Table 3 Adjustment: Infusion rate when POCT blood glucose DROPS by 2 mmol/L or more in one hour	
POCT Glucose Reading (mmol/L)	**Insulin and Dextrose Instructions**
Less than or equal to 3.9	STOP Insulin Infusion Follow HYPOglycemia procedure
4.0 - 5.0	STOP Insulin Infusion INCREASE D10W to 100 mL/hour for 1 hour
5.1 and above	If previous insulin rate is less than or equal to 2 units/hour, STOP insulin infusion If previous insulin rate more than 2 units/hour - REDUCE insulin rate to 1 unit/hour INCREASE D10W to 100 mL/hour for 1 hour
If insulin infusion is stopped, RESTART at 0.5 units/hour when POCT glucose rises to greater than 4.5 mmol/L.	