

## **Nursing Home management of diabetes** (revised 2014-12-08)

### General Management principles:

1. target FBS 5-10 & A1c < 9.0.
2. avoid oral agents unless diabetes well controlled & clinically stable
3. avoid use of regular insulin
4. avoid hypoglycemia  
FBS <5 is too low in a nursing home & requires mandatory down-titration of insulin or oral agents
5. avoid hyperglycemia  
glucose >10 fasting requires basal insulin start (or increase); if fasting to target & A1c > 9.0 consider lowering target FBS to 5-7; & if A1c still > 9.0 only then consider rapid insulin with evening meal (see separate protocol “meal-time insulin” at bcdiabetes.ca)
6. avoid ketogenesis  
ensure basal insulin is maintained in Type 1 diabetics even when not eating

### **Capillary blood glucose monitoring (CBGM)**

once daily initially; reduce to three times per week if targets met. Increase to daily if out of target. Test whenever hypoglycemia is suspected.

### **Hypoglycemia management**

If FBS < 4.0 & patient asymptomatic give scheduled meal within 10 minutes (if at HS give snack). If FBS < 4.0 & patient symptomatic but coherent give 10 g starch (125 ml of juice or regular non-diet pop) stat. If FBS < 4.0 & patient incoherent give glucagon 1 mg SC or IMI stat. Repeat CBGM at 5 minute intervals with same intervention until glucose >4.9.

### **Using Basal insulins**

#### choices of insulin

insulin glargine given as single dose before breakfast (first choice); or NPH given twice daily in equal divided doses at breakfast and bedtime.

#### dose of basal insulin

if on insulin prior to admission to nursing home calculate total daily insulin dose & give 80% of total dose as a single injection of insulin glargine (or give two equal doses of NPH equivalent to 40% of previous total daily insulin dose.

to start basal insulin with insulin glargine use 0.1 U/kg/day. If starting with NPH give as two equal doses of 0.05 U/kg. If new dose is a fraction of a unit round the dose down.

If already on basal insulin and FBS 5-10 give same dose as yesterday

If already on basal insulin and FBS >10.0 increase total daily dose by 2 units.

If already on basal insulin and FBS <5.0 reduce total daily dose by 4 units (if <4.0 & symptomatic reduce by 20% or 4 U, whichever is greater). If new dose is a fraction of a unit round the dose down.

### **Insulin corrections**

Correction insulin is typically only given in an acute-care setting and thus should not be a consideration in a Nursing Home environment.

### **Type 1 diabetes**

Type 1 diabetic patients require special consideration not covered in this document.

### **Nutritional insulin**

Nutritional insulin is rapid insulin given with meals in addition to correction insulin. Nutritional insulin is not recommended as a standard treatment in Nursing Home patients.

### **Recommended resources**

Various national diabetes agencies have useful websites. I maintain a repository of clinically useful handouts for diabetes at [bcdiabetes.ca](http://bcdiabetes.ca).

### Admitting orders for Diabetes Mellitus

1. stop oral blood glucose lowering agents
2. BID capillary blood glucose monitoring (CBGM)
3. if glucose < 4.0 activate hypoglycemia protocol
4. give correction insulin s/c before meals for first week (if patient eating) and then only if clinically unstable. Use one of the following insulins (circle choice): preferred choice: rapid insulin (glulisine, lispro or aspart) or regular insulin

glucose	insulin dose
< 10.1	0 units
10.1-12.0	1 unit
12.1-14.0	2 units
14.1-16.0	3 units
>16.0	4 units

(Suggest double above correction doses if total daily basal insulin 20-60 units per day. Suggest quadruple above correction doses if total daily basal insulin > 60 units per day)

5. if patient on insulin at home start basal insulin with either

insulin glargine \_\_\_\_\_ units at breakfast hrs  
(dose = 80% of previous total daily insulin dose)

or

NPH \_\_\_\_\_ units at breakfast and \_\_\_\_\_ units at bed  
(dose = 40% of previous total daily dose for each dose, round down if a fraction)

6. if fasting glucose > 10.0 & patient not on basal insulin (either glargine or NPH)

start basal insulin with either

insulin glargine \_\_\_\_\_ units before breakfast at dose = 0.1 U/kg, rounding dose if a fraction

or

NPH \_\_\_\_\_ units at breakfast and \_\_\_\_\_ units at bed  
(dose = 0.05 U/kg for each dose, round dose down if a fraction)

7. if fasting glucose > 10.0 & patient on basal insulin (either glargine or NPH)

increase the dose of basal insulin by 2 U. If dose is a fraction of a unit round the dose down.

8. If fasting glucose < 4.0 reduce the dose of basal insulin by 20% or 4 U, whichever is greater.
9. If fasting glucose 5.0-10.0 continue same dose as yesterday.