bcdiabetes.ca
Patient Care + Research + Clinical Trials

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# 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.

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.