

## NPH Insulin Protocol in Type 2 Diabetes

### Indications:

1. Patients on maximum recommended doses of combined oral agents with HgbA1C is 8% or above.
2. Patients on monotherapy who are not candidates for combined oral agents with HgbA1C 8% or above.
3. Patients self-monitoring morning fasting and pre-dinner glucose values.
4. Physicians need to be informed of patients on thiazolidinediones for possible changes in regimen.

### Physician Orders:

1. Continue oral agents and add \_\_\_\_\_ or 10u NPH at bedtime.
2. On a weekly basis, if the average fasting glucose is equal to or greater than 120 mg/dl and there has been no hypoglycemia (less than 80mg/dl) of 2 values or more weekly, increase the dose by the following:

Average of self monitoring fasting blood glucose from preceding 5 to 7 days	Increase of insulin dosage
> 200 mg/dl	8 units
150-199 mg/dl	6 units
120-149 mg/dl	4 units

3. The patient is contacted weekly for the average of the past week's fasting blood glucose results.
4. Repeat above process until average morning fasting glucose is 120 mg/dl or below.
5. If the dose reaches 50 units without the average morning fasting glucose becoming <120 mg/dl, add an AM dose of NPH, beginning with 10 units. Increase AM dose by above titration schedule.
6. If the morning average fasting glucose is <120mg/dl before the PM dose reaches 50 units and the pre-dinner glucose is greater than 120mg/dl, increase dose by above titration schedule. The physician is provided with written notice of progress every three weeks and contacted if process is interrupted by poor response to therapy or the patient does not adhere to the requirements of the protocol.
7. Once the patient has achieved target blood glucose, contact the physician with a summary note. Encourage the patient to continue to monitor blood glucoses and follow self-titration schedule. If the blood glucose averages become out of range, encourage the patient to notify the physician.

### 8. Hyperglycemia:

- If the patient's blood sugar is >300, with polyuria, polydypsia, weight loss and/or moderate or more ketones, immediate treatment is needed by MD and arrangements should be made accordingly for larger doses of insulin and fluids. ER referral or urgent clinic visit may be necessary.

# NPH Insulin Protocol in Type 2 Diabetes

## 9. Hypoglycemia:

- If the patient has a pattern of 2 mild hypoglycemia results at the same time of day that can not be explained by food or activity pattern, adjust insulin dose down by 10%, starting with at least a 2 unit titration. If the patient has blood glucose equal to or less than 60mg/dl or needs help to recover from hypoglycemia, titrate insulin dose down by 20% and contact physician.
- If the patient experiences severe hypoglycemia, immediate, more aggressive titration down may be needed. If a single event occurs with an explained cause, such as too much insulin, skipped meal, unplanned exercise, insulin may not need adjustment. If one or more unexplained severe episodes have occurred, RN will document in patient's record and contact physician immediately.

## 10. Patient Education:

- Assess for family's knowledge of glucagon administration and hypoglycemia treatment.
- Patients need to be advised on the importance of more frequent testing of blood sugars, with some 0300 readings and monitoring themselves for symptom for the next 24 hrs after an episode of hypoglycemia (if the next hypoglycemia episode is within 24 hrs, glucose levels can drop much lower before hormonal counter-regulation and autonomic symptoms occur).

## 11. Follow-up:

- In all cases, request that the patient call in blood sugars weekly for further insulin titration instructions. Document progress on Diabetes Encounter Form and Insulin Adjustment Tracking Form. Keep physician informed of progress every 3 – 4 weeks. If the patient does not follow up with blood glucose results as agreed, the protocol will be discontinued. Attempt to call patient three times and document on Diabetes Encounter Form and Insulin Adjustment Tracking Form. A termination letter will be sent to the patient and the referring physician.

Physician Name (Please print): \_\_\_\_\_

Physician signature: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_

---

### **For Office Use Only:**

Practice Name Approved for: \_\_\_\_\_

Physician approving protocol (Please print): \_\_\_\_\_

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Revised 11/04, 1/06  
Reviewed 6/07