If injectable therapy is needed to reduce A1C¹

Consider GLP RA in most individuals prior to insulin²
**INITIATION:** Initiate appropriate starting dose for agent selected (varies within class)
**TITRATION:** Gradual titration to maintenance dose (varies within class)

If above A1C target

Add basal insulin³
Choice of basal insulin should be based on person-specific considerations, including cost.

Add basal analog or bedtime NPH insulin
**INITIATION:** Start 10 IU a day OR 0.1-0.2 IU/kg a day
**TITRATION:**
- Set fasting glucose target (see Section 6: Glycemic Targets)
- Choose evidenced-based titration algorithm, e.g., increase 2 units every 3 days to reach fasting glucose target without hypoglycemia
- For hypoglycemia determine cause, if no clear reason lower dose by 10-20%

If above A1C target – Add prandial insulin
Despite adequately titrated basal analog or bedtime NPH⁴
OR once basal dose >0.5 IU/kg OR FPG at target

Add prandial insulin⁵
Usually one dose with the largest meal or meal with the greatest post prandial glucose excursion; prandial insulin can be dosed individually or mixed with NPH (clear to cloudy)

**INITIATION:**
- 4 IU a day or 10% of basal insulin dose
- If A1C <8% (64 mmol/mol) consider lowering the basal dose by 4 IU a day

**TITRATION:**
- Increase dose by 1-2 IU or 10-15% twice weekly
- For hypoglycemia determine cause, if no clear reason lower corresponding dose by 10-20%

To Avoid Therapeutic Inertia - Reassess and modify treatment

If already on GLP-1 RA or if GLP-1 RA not appropriate OR insulin preferred

If on bedtime NPH, consider converting to twice-daily NPH
Conversion based on individual needs, glycemic control. The following is one approach:

**INITIATION:**
- Total dose= 80% of current hs NPH dose
- 2/3 given in morning
- 1/3 given at bedtime

**TITRATION:** based on individualized needs

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If above A1C target

Consider self-mixed/split insulin regimen

*Can adjust NPH and short/rapid-acting insulins separately*

**INITIATION:**
- Total NPH dose = 80% of current NPH dose
- 2/3 given before breakfast
- 1/3 given before
- Add 4 IU of short/rapid-acting insulin to each injection or 10% of reduced NPH dose

**TITRATION:**
- Titrate each component of the regimen based on individualized needs

Consider twice daily premix insulin regimen

**INITIATION:**
- Usually unit per unit at the same total insulin dose, but may require adjustment to individual needs

**TITRATION:**
- Titrate based on individualized needs

**Figure 9.2 Footnotes:**

1. Consider insulin as the first injectable if evidence of ongoing catabolism, symptoms of hyperglycemia are present, when A1C levels (>10% [86mmol/mol]) or blood glucose levels (≥300mg/dL [16.7mmol/L]) are very high, or a diagnosis of type 1 diabetes is a possibility.

2. When selecting GLP-1 RA, consider: individual preference, A1C lowering, weight-lowering effect, or frequency of injection. If CVD, consider GLP-1RA with proven CVD benefit.

3. For those on GLP-1RA and basal insulin combination, consider using a fixed-ratio combination product (iDegLira or iGlarLixi).

4. Consider switching from evening NPH to a basal analog if there is hypoglycemia and/or the individual frequently forgets to administer NPH in the evening. In this case, an AM dose of a long-acting basal insulin could be a better choice.

5. If adding prandial insulin to NPH, consider initiation of a self-mixed or premixed insulin regimen to decrease the number of injections required.

**ADA Standards of Care 2020 Figure 9.2** – Intensifying to injectable therapies. DSMES, diabetes self-management education and support; FPG, fasting plasma glucose; FRC, fixed-ratio combination; GLP-1RA, glucagon-like peptide 1 receptor agonist; max, maximum; PPG, postprandial glucose. Adapted from Davies et al. (33).

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[www.DiabetesEd.net](http://www.DiabetesEd.net) 530-893-8635 info@diabetesed.net