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Thursday, August 11, 2016

(Room 3)

8:30 - 10:30 WS #5: Starting Insulin in Primary Care

11:00 - 13:00 WS #11: Starting Insulin in Primary Care (Repeated)



Initiating & titrating insulin in General Practice

Workshop 1

Linda

- ☆ 51-year-old pathology laboratory technician (works day shifts) Type 2 for 8 yrs
- ☆ Presents for annual review of her T2D following a reminder letter triggered by the diabetes recall system
- ☆ Has completed the routine tests requested on the pathology slip that was included with the reminder letter in time for this visit
- ☆ Diagnosed with T2D 8 years ago
- ☆ Married with two sons in secondary school



History (1)

- ☆ You have managed Linda's diabetes on and off since diagnosis
 - Her oral hypoglycaemic agents (OHAs) have been slowly increased to get better control

- ☆ Linda checks blood glucose most days — mainly first thing in the morning; occasionally before dinner
 - Comments that her 'morning test' (i.e. fasting blood glucose [FBG]) is usually well over 8 mmol/L)



History (2)

- ☆ Had Retinal Screening 2 months— no problems found
- ☆ Non-smoker who drinks alcohol at weekends
 - A few Friday night drinks with work colleagues; occasional wine on Saturday evenings
- ☆ Led a sedentary life prior to diabetes diagnosis but has become more active with your help:
 - Regular yoga class once a week
 - Organises walks with friends once a week



Examination

Height:	1.60 m
Weight:	84 kg
BMI:	33 kg/m ²
Waist:	99 cm
BP:	135/90 mmHg
Feet :	Sensation adequate, pulses easily felt
Urinanalysis:	No abnormalities noted



Medications

Metformin

850 mg tds

Gliclazide

160 mg bd

Aspirin

100 mg daily

Atorvastatin

40 mg daily

Inhibace

5 daily



Reviewing A1C target

You previously set an A1c target of (53 mmol/mol) $\leq 7\%$ with Linda, but her A1c has been slowly creeping up.

Would you revise Linda's A1c target at this point?

1. Yes, I would give her an interim target of 8%
2. No, an A1c of $\leq 7\%$ is still appropriate
3. No, leave for now and review later
4. Not sure

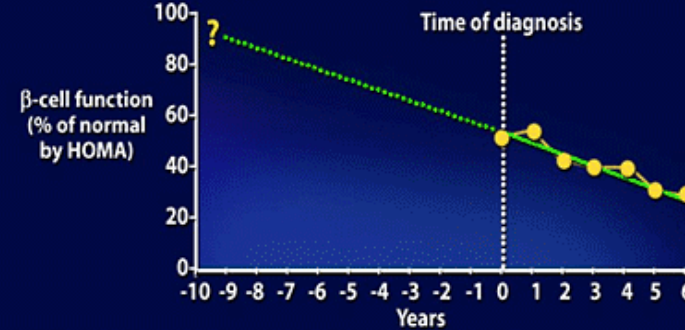
Setting an A1C target

- ☆ 1% fall in A1C reduces microvascular complications by 37%,¹ but risk of:²
 - Hypoglycaemia ↑
 - Weight gain (approx 2kg) ↑

Progressive nature of Diabetes

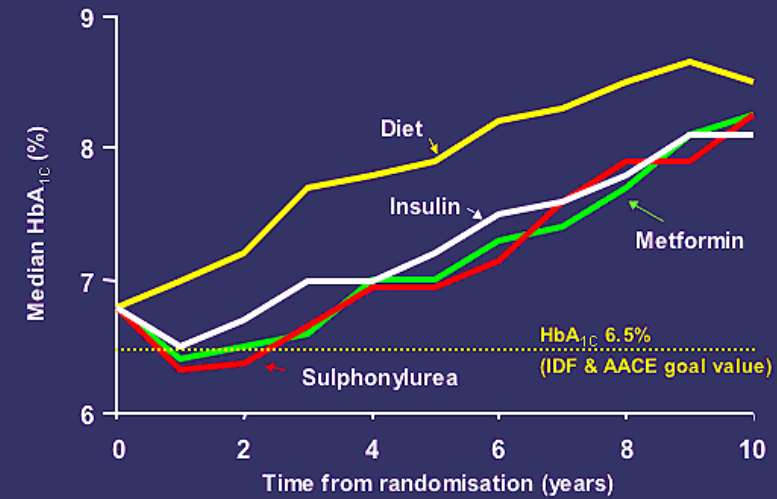
- ☆ Before insulin initiation, patients may have spent an average of about 5 years with an A1C >8% and nearly 10 years >7%4
- ☆ At diagnosis, up to 50% of a patient's β -cell function may have been lost, and may continue to decline by about 4% annually1,2
- ☆ Remind patients that diabetes is a progressive disease and that their treatment plans may be adjusted over time. An overall treatment plan to lower A1C consists of diet, exercise, and diabetes medication, which may include insulin.2
- ☆ Let patients know fear of insulin is not uncommon. Help them understand the facts about insulin therapy

Decline of β -Cell Function in UKPDS Illustrates Progressive Nature of Diabetes



Adapted from Holman RR. *Diab Res Clin Pract.* 1998;40(suppl):S21-S25.

Progressive hyperglycaemia in type 2 diabetes



UKPDS Group. *Lancet* 1998;352:854-65

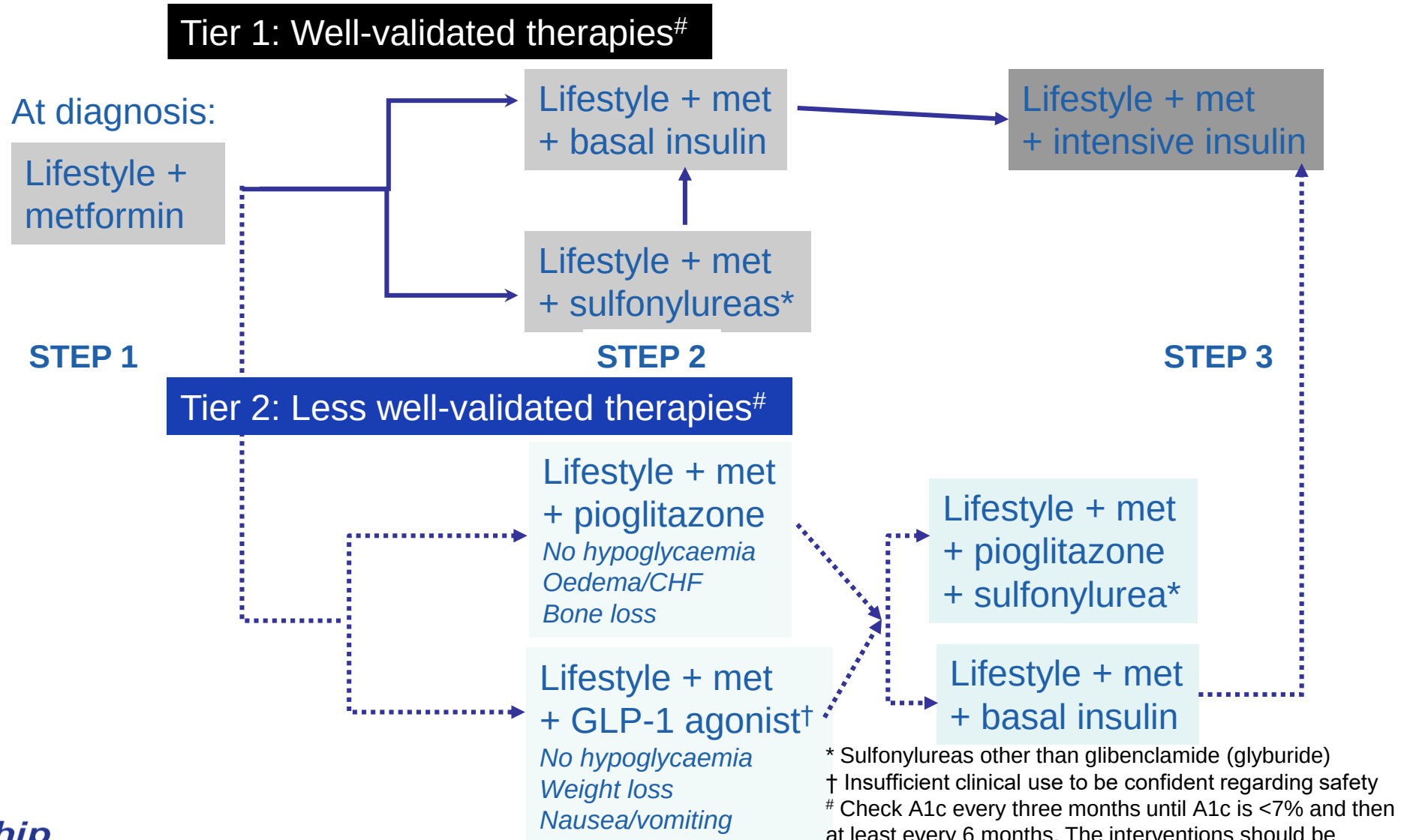
Improving glycaemic control

You decide that an A1C target of $\leq 7\%$ is still appropriate for Linda and discuss with her the best option for improving her glycaemic control.

What treatment change would you recommend to Linda at this point?

1. Add acarbose to existing regimen
2. Add glitazone to existing regimen
3. Add exenatide or sitagliptin to existing regimen (Not funded in NZ)
4. Start insulin

2009 ADA/EASD treatment algorithm



Initiating insulin therapy

You think you need to start Linda on insulin because of her very elevated A1c, however you decide to check a few other things first.

What else do you need to check before starting insulin therapy?

1. That the patient is compliant with all lifestyle measures and medication and whether any modifications could improve glycaemia
2. Any possible secondary causes of hyperglycaemia (Snacks)??
3. Both 1 and 2
4. Nothing else

When to introduce insulin therapy

A1C persistently above target



Lifestyle

Patient compliant with agreed modifications?
Any further modifications that can be considered?

Oral hypoglycaemic medication

Is patient taking as prescribed?
Can these be maximised further?

Secondary causes for hyperglycaemia?

Medications (e.g. contraceptive pill, thiazides, beta-blockers, oral corticosteroids) Medical conditions (e.g. hyperthyroidism, urinary or dental infections, occult malignancy)



A1C still above target – Initiate insulin

Selecting an insulin

You decide to start Linda on insulin and discuss the different insulin profiles with her.

Which insulin would you recommend for Linda and why?

1. Rapid-acting insulin to the meal with the highest preprandial BGL
2. Intermediate-acting insulin in the morning or night
3. Insulin premixed for ease of use
4. Basal insulin to reduce both postprandial and fasting BGLs

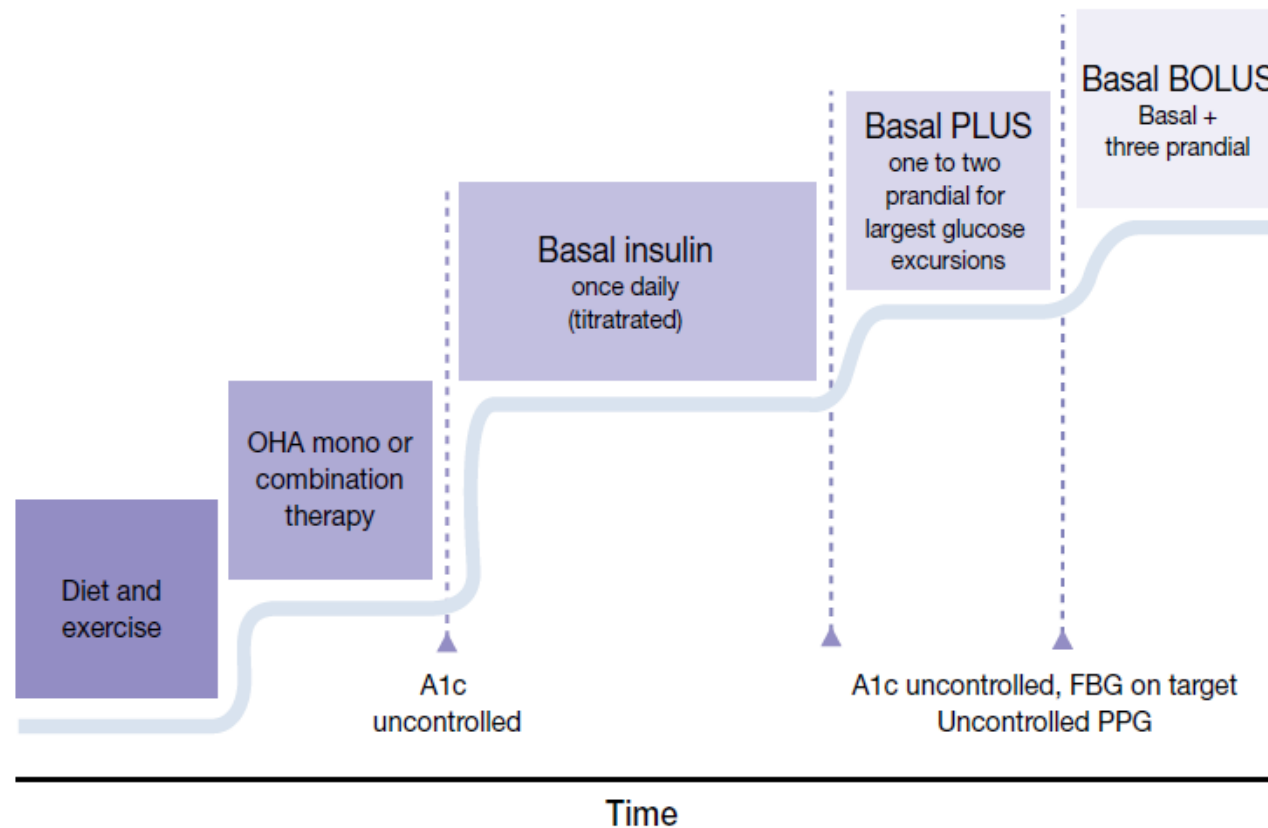
Selecting an insulin

NZ Guideline Guideline Group & ADA/EASD guidelines state...

- ☆ Start with single daily dose (10 units) of bedtime intermediate-acting insulin or morning or bedtime long-acting insulin^{1,2}
- ☆ Insulin regimens should be designed taking lifestyle and meal schedule into account²

Stepwise approach for T2D

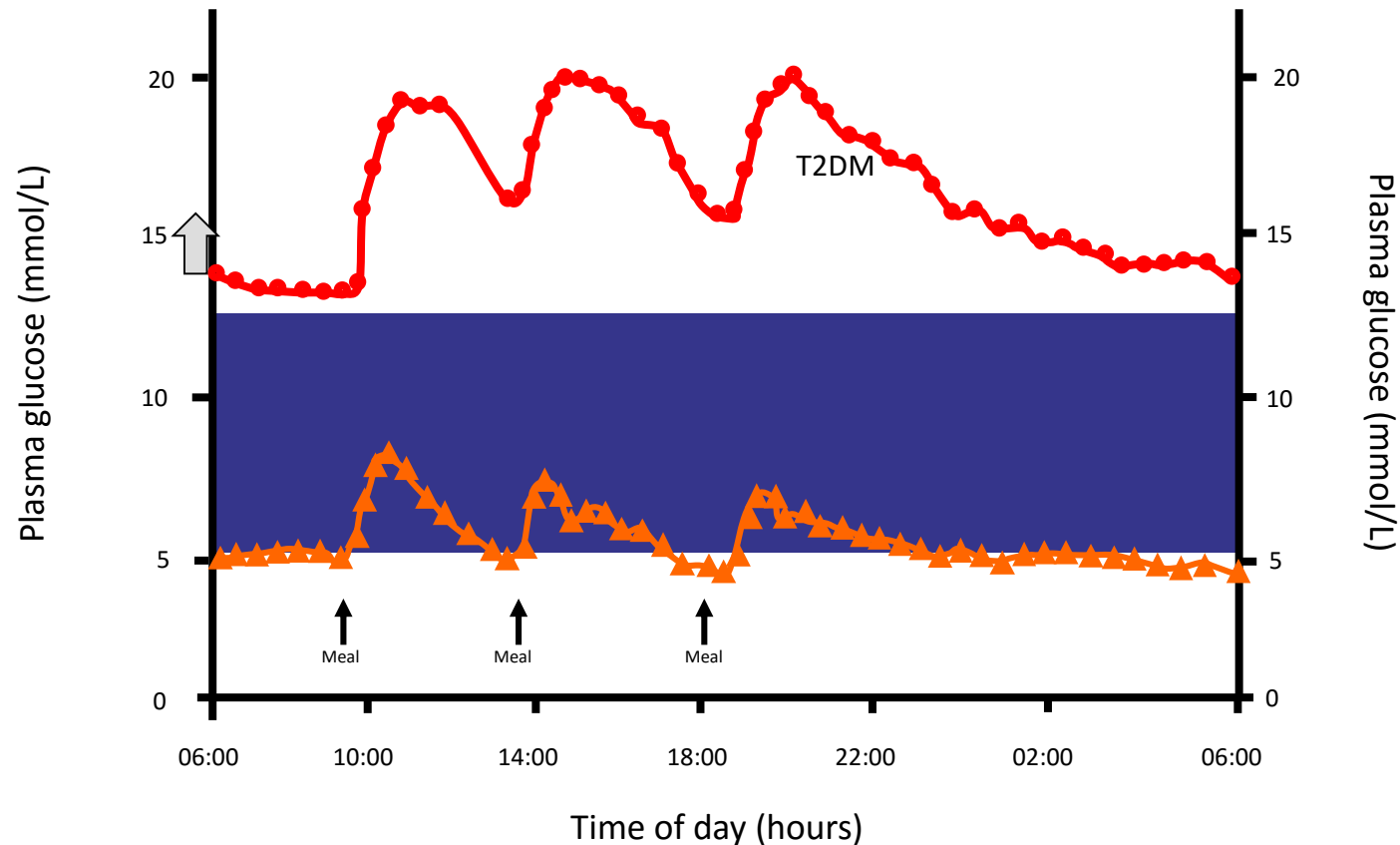
with progressive deterioration of beta cell function



Adapted from Raccach 2008¹. OHA = Oral hypoglycaemic agent, FBG = Fasting blood glucose, PPG = Post-prandial blood glucose.

Why start with basal insulin?

Comparison of 24-hour glucose levels in untreated vs treated patients with diabetes



Adapted from Hirsch I et al. *Clin Diabetes* 2005; 23: 78–86.

Starting insulin dose

You decide to start Linda on (Glargine) Lantus.

What starting dose would you select?

1. 1 U/kg
2. 10 U/day
3. 20 U/day
4. Not sure

Linda's BGLs during past week (before starting insulin)

12 May

Before Breakfast

Before Dinner

Date: 12/5					Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night
MON	Primary Insulin Units	Before Insulin			BGL mmol/L	14.2			13.2			
	Other Insulin Units				Carb serves/gram							
TUE	Primary Insulin Units				BGL mmol/L							
	Other Insulin Units				Carb serves/gram							
WED	Primary Insulin Units				BGL mmol/L	16.1						
	Other Insulin Units				Carb serves/gram							
THU	Primary Insulin Units				BGL mmol/L							
	Other Insulin Units				Carb serves/gram				12.5			

Before Breakfast

Before Dinner

					Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night
FRI	Primary Insulin Units				BGL mmol/L	11.0			17.2			
	Other Insulin Units				Carb serves/gram							
SAT	Primary Insulin Units				BGL mmol/L	15.2						
	Other Insulin Units				Carb serves/gram							
SUN	Primary Insulin Units				BGL mmol/L							
	Other Insulin Units				Carb serves/gram							

Notes:

Initiating insulin therapy

You decide to start Linda on 10 U of insulin

Would it be best to start Linda on a morning or evening basal dose?

1. Morning
2. Evening
3. Not sure

Timing of single insulin dose

Morning or evening is acceptable

Timing depends on blood glucose profile:

- If fasting BGL is high → give at bedtime
- If fasting BGL on target but evening BGL high → give in morning
- If both are high → give bd NPH or once daily glargine (now funded)



* Usually the fasting BG target is ≤ 6.0 mmol/L; however, targets may vary from one person to the next.

Insulin management – next steps

You start Linda on 10 U at bedtime Lantus and discuss that her dose will need to increase over the next few months to achieve a target FBG of approx 6.0 mmol/L.

This will be done with the help of your Practice Nurse

You explain that it could take a very long time to reach a high enough insulin dose if the dose is increased slowly.

Linda is a little concerned about potential weight gain and wants to increase the dose slowly initially and is willing to try a faster dose increase down the track.

Linda's summary to this point

- ☆ Elevated A1C on optimal doses of two (2) OHAs
- ☆ Lifestyle measures reviewed, no secondary causes of hyperglycaemia
- ☆ Insulin therapy appropriate
- ☆ Basal insulin most appropriate at this time
- ☆ Bedtime injection of 10 U Lantus to reduce Linda's fasting BGL
- ☆ Up-titration to be self-managed in consultation with Practice Nurse or by Linda herself every 2-3 days until fasting BS under target.
- ☆ Linda to return for review in 3 months with pathology tests completed prior to visit



Titrating insulin therapy

Linda was started on 10 U of insulin NPH at bedtime. You instructed her to self-manage the dose up-titration in consultation with your Practice Nurse.

Which schedule would you choose to advise Linda regarding up-titrating her dose in consultation with your Practice Nurse by e-mail?

1. Slow schedule: increase 2 U every 3 days
2. Fast schedule: increase by 2-8 units of insulin depending on fasting BGL over previous 3 days
3. Not sure

Dose adjustment – first fix fasting

Two dose adjustment schedules possible:

1. SLOW SCHEDULE (CAN BE PATIENT-LED)

Increase by **2 units of insulin every 3 days**

continue until fasting BGL is ≤ 6.0 mmol/L

Increase dose only if FBG >4 mmol/L and accordingly decrease dose if FBG is <4 mmol/L.
Titration reviewed by HCPs at each contact.

Adapted from RACGP 2009/10 and Davies et al 2005.

Dose adjustment – first fix fasting

2. FAST SCHEDULE (PHYSICIAN-MANAGED)

Increase by 2–8 units of insulin depending on fasting BGL over previous 2–3 days

Mean fasting blood glucose (mmol/L)	Increase in insulin dose
<4	* See below
4–5.9	No change
6–6.9	2 units
7–7.9	4 units
8–10	6 units
>10	8 units

Starting dose 10 units, adjust dose twice weekly to reach the target FBG of <6mmol/L

Insulin dose may be decreased (small decreases of 2 to 4 units) if there is severe hypoglycaemia (requiring assistance) or if BGL <3.0 mmol/L in preceding week.

Do not increase insulin dose if fasting BGL <4 mmol/L at any time in preceding week.

Adapted from Phillips PJ. *Medicine Today* 2007; 8(3): 23–34.

Linda: 3 month review after starting insulin

☆ Presents for regular review of her type 2 diabetes following insulin initiation 3 months ago

☆ Medication:

Insulin NPH	30 U at bedtime
Metformin	850 mg tds
Gliclazide	160 mg bd
Aspirin	100 mg daily
Atorvastatin	40 mg daily
Inhibace	5 mg daily



Review: 3 months

Linda's A1c is **8.9%** (down from 11.2%) – been on 'slow' titration schedule

18 August

Units of basal insulin

Before Breakfast

After Breakfast

After Lunch

Before Bed

Before Breakfast

Before Bed

Date: 18/8	Breakfast	Lunch	Dinner	Bed	Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night
MON	Primary Insulin Units			26	BGL mmol/L	9.8						
	Other Insulin Units				Carb serves/gram							
TUE	Primary Insulin Units			28	BGL mmol/L						9.8	
	Other Insulin Units				Carb serves/gram							
WED	Primary Insulin Units			28	BGL mmol/L	8.9		13.7				
	Other Insulin Units				Carb serves/gram							
THU	Primary Insulin Units			28	BGL mmol/L			12.9				
	Other Insulin Units				Carb serves/gram							

	Breakfast	Lunch	Dinner	Bed	Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night
FRI	Primary Insulin Units			30	BGL mmol/L	10.1						
	Other Insulin Units				Carb serves/gram							
SAT	Primary Insulin Units			30	BGL mmol/L	9.9					9.7	
	Other Insulin Units				Carb serves/gram							
SUN	Primary Insulin Units			30	BGL mmol/L	9.5						
	Other Insulin Units				Carb serves/gram							

Notes:

Next steps

Linda has increased her daily activity and only gained ½ kg since starting insulin and has enjoyed the support of your P/nurse during the up-titration process. She is however frustrated that her FBGs are still not in range.

What would you do now?

1. Add a dose of bolus insulin?
2. Increase the dose of insulin NPH using a 'faster' titration schedule
3. Increase the dose of insulin NPH using the 'slow' titration schedule
4. Add a second dose of insulin NPH?

Review: 6 months

- ☆ Linda returns to check lipid profile, A1c and spot urinary microalbumin test (ACR)
- ☆ Linda's FBG readings ≤ 6 mmol/L
- ☆ OHAs remain unchanged
- ☆ **Insulin NPH 45 U**
- ☆ Her BP, urinalysis - all okay
- ☆ Pathology results:
 - A1c 7.7%
 - No evidence of microalbuminuria, and a satisfactory lipid profile



Review: 6 months

Linda's A1c is **7.7%** (down from 8.9%) – been on
'fast' titration schedule

20 November

Date: 20/11				Breakfast	Lunch	Dinner	Bed								
				Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night				
MON	Primary Insulin Units			45	BGL mmol/L	5.8									
	Other Insulin Units				Carb serves/gram										
TUE	Primary Insulin Units			45	BGL mmol/L					6.9					
	Other Insulin Units				Carb serves/gram										
WED	Primary Insulin Units			45	BGL mmol/L	6.0									
	Other Insulin Units				Carb serves/gram										
THU	Primary Insulin Units			45	BGL mmol/L		10.1								
	Other Insulin Units				Carb serves/gram										

				Breakfast	Lunch	Dinner	Bed								
				Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night				
FRI	Primary Insulin Units						45	BGL mmol/L	5.5		9.1				
	Other Insulin Units							Carb serves/gram							
SAT	Primary Insulin Units						45	BGL mmol/L	6.2	11.1				6.8	
	Other Insulin Units							Carb serves/gram							
SUN	Primary Insulin Units						45	BGL mmol/L	4.9					6.5	
	Other Insulin Units							Carb serves/gram							

Notes:

Reviewing OHA use

Linda is doing well on basal insulin and had no problems with the rapid up-titration process. Linda is now stable at 45 units of basal insulin daily. Linda asks if she still needs her OHAs.

Would you rationalise Linda's OHAs at this point?

1. Stop all her OHAs straight away
2. Consider stopping one after A1C is under control
3. Definitely not stop any OHAs
4. Not sure

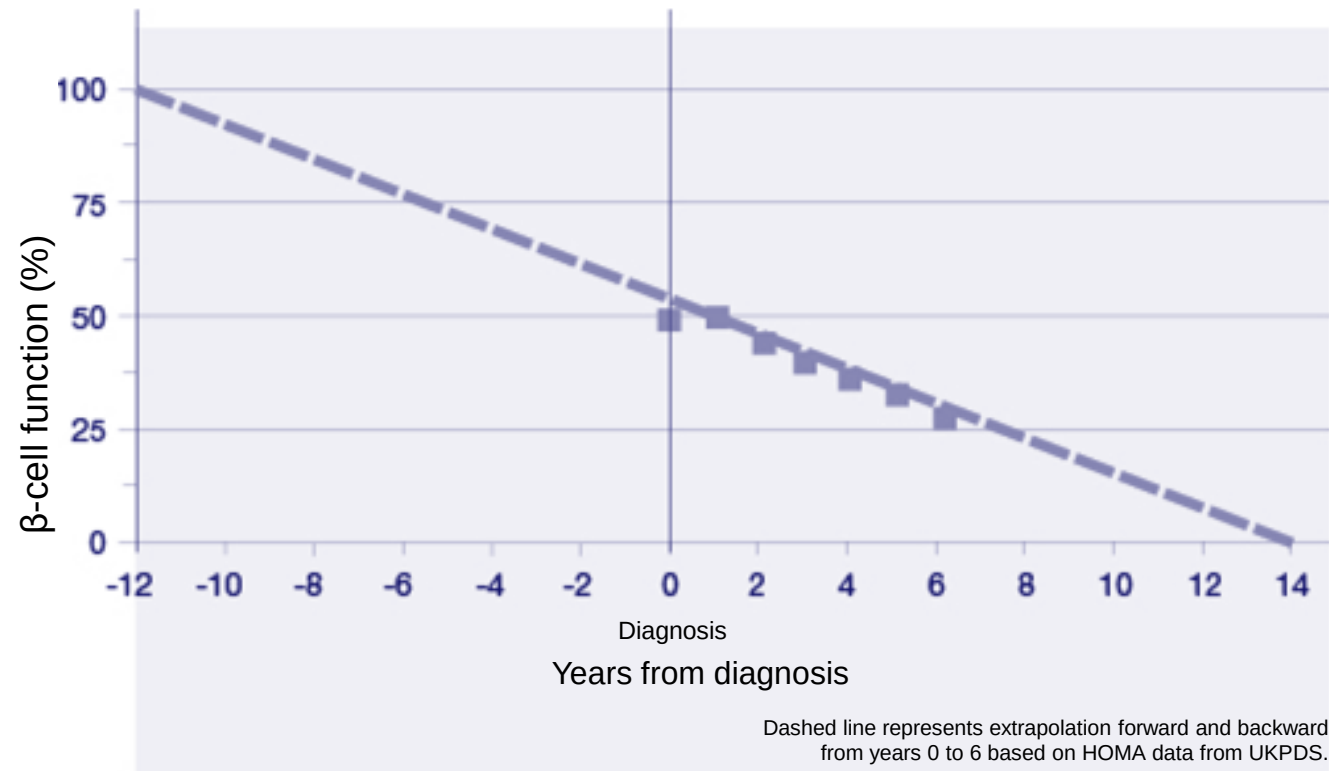
Linda's OHAs

- ☆ Don't stop OHAs immediately
 - Stopping OHAs may require more insulin
 - Get A1c under control and consider stopping OHAs later
- ☆ Understand what each drug does
 - Metformin [& glitazones] = insulin sensitisers
 - ☆ should be continued
 - Sulphonylureas = insulin secretagogues
 - ☆ will need to be removed when β -cells stop secreting insulin
- ☆ Discontinue if side effects are an issue
 - Metformin: lactic acidosis
 - SU: weight gain
- ☆ Glitazone: fluid retention, weight gain, cardiovascular risks
- ☆ DPP-IV inhibitors/incretin mimetics

1. Phillips PJ. Medicine Today 2007; 8(3): 23-34; 2. Phillips PJ. Aust Fam Physician, 2006; 35: 975-78; 3. Phillips PJ. Medicine Today 2007; 8(6): 43-52; 4. Nathan D et al. Diabetologia 2008; 52: 8-11; 5. Nathan D et al. Diabetologia 2006; 49: 1711-21.

β -cell failure defect in T2D

Patients have only about 50% of normal β -cell function at time of diagnosis, and it continues to decline



Improving glycaemic control

You congratulate Linda on her fasting & bedtime BGLs, but you are still concerned that her A1C is still too high.

What should you look for at this stage?

1. Nocturnal hypoglycaemia
2. Postprandial hypoglycaemia
3. Hidden hyperglycaemia
4. Not sure

Find hidden hypers

- ✓ Fasting preprandial BGL on target (4 – 6 mmol/L)
- ✓ 2 hour postmeal BGL on target (< 8 mmol/L)

Is A1C 6-12 weeks later at target?

Yes → Continue with current schedule

No → Find and fix the hidden hyperglycaemia

a) check 2 hours after breakfast & before bed
to check for morning and evening postprandial
hyperglycaemia

Finding hidden hypes

You discuss with Linda that you suspect that there are periods of hyperglycaemia causing her A1C to remain elevated. You discuss that she will need to monitor her BGLs at different times of the day to see when they are occurring. You suspect her large breakfast may be contributing to her elevated A1C.

What BGL testing would you advise Linda to do over the next weeks?

1. 2 hours after breakfast
2. Before lunch
3. 2 hours after lunch
4. Before bed
5. Other

Review: another 3 months later

Linda's A1c remains elevated at **7.6%**

10 Feb

Units of basal insulin

Before Breakfast

After Breakfast

After Lunch

Before Bed

Before Breakfast

Before Bed

Date:	10/5	Breakfast	Lunch	Dinner	Bed	Before Breakfast	After Breakfast	Before Lunch	After Lunch	Before Dinner	After Dinner	Before Bed	Over Night
MON	Primary Insulin Units				45	BGL mmol/L	4.8	10.5				5.2	
	Other Insulin Units					Carb serves/gram							
TUE	Primary Insulin Units				45	BGL mmol/L							
	Other Insulin Units					Carb serves/gram							
WED	Primary Insulin Units				45	BGL mmol/L	5.1						
	Other Insulin Units					Carb serves/gram							
THU	Primary Insulin Units				45	BGL mmol/L		12.6				5.8	
	Other Insulin Units					Carb serves/gram							
FRI	Primary Insulin Units				45	BGL mmol/L	5.5		9.8				
	Other Insulin Units					Carb serves/gram							
SAT	Primary Insulin Units				45	BGL mmol/L	5.8	11.2					
	Other Insulin Units					Carb serves/gram							
SUN	Primary Insulin Units				45	BGL mmol/L	4.8	11.7	10.7				5.9
	Other Insulin Units					Carb serves/gram							

Notes:

Improving glycaemic control

You inform Linda that her BGLs 2 hours after breakfast are consistently high indicating hyperglycaemia after breakfast.

What treatment options would you discuss with Linda?

1. Exercise after breakfast (brisk walk)
2. Seek dietitian's advice on carbohydrate intake for breakfast
3. Consider altering existing insulin therapy
4. All of the above

Adjusting insulin therapy

You discuss options with Linda and agree that modifying the insulin schedule is the best option for her.

What alterations in Linda's insulin schedule would you recommend?

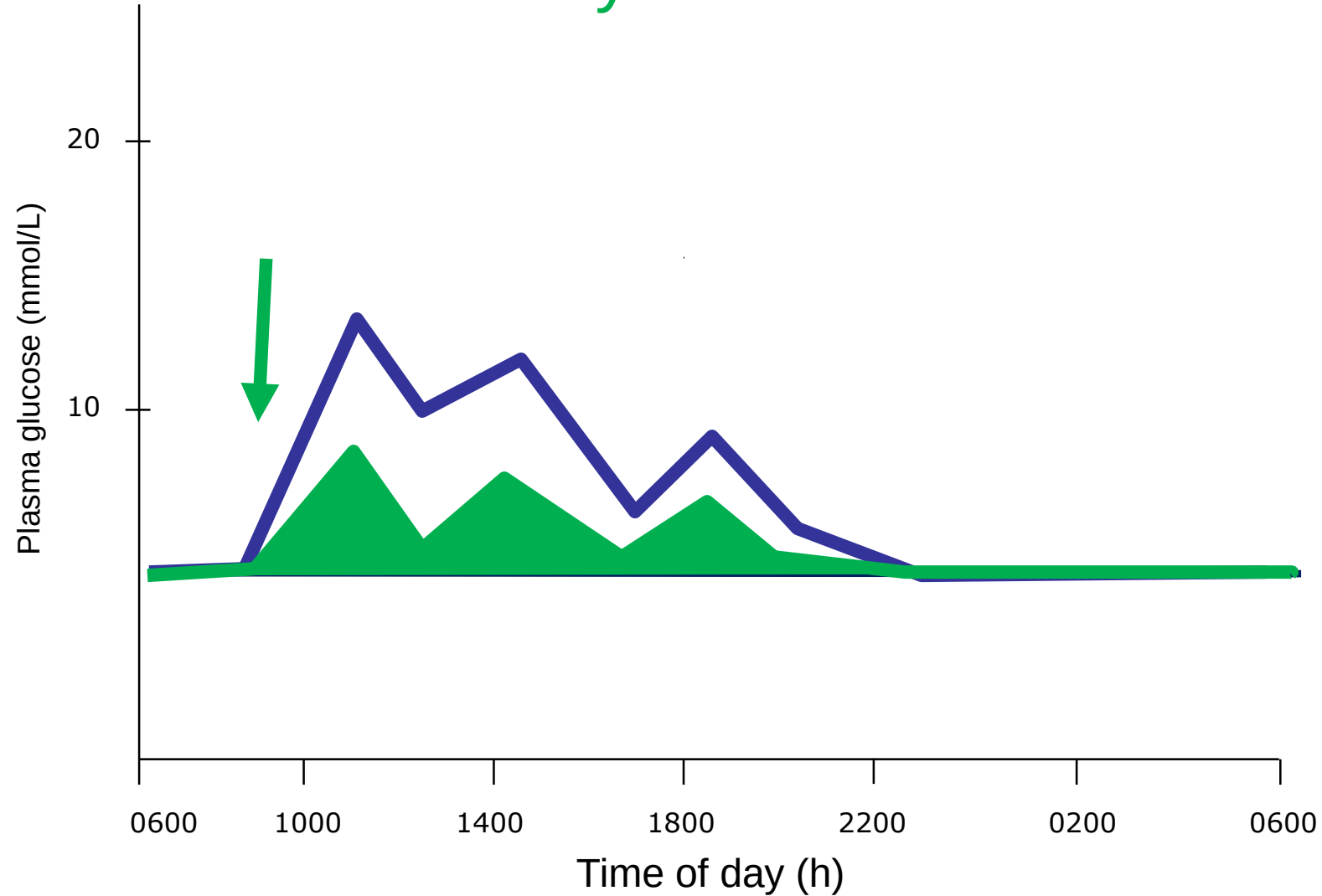
1. Increasing the basal insulin dose
2. Add a single dose of rapid-acting insulin at lunch
3. Add a single dose of rapid-acting insulin at breakfast
4. Not sure

Starting second insulin injection

A second injection can be added according to the when the glucose excursion is occurring.

Time at which BG is out of range	Type of Insulin	When to add
Pre-lunch	Prandial	Breakfast
Pre-Dinner	NPH	Breakfast
	Prandial	Lunch
Pre-Bedtime	Prandial	Dinner

Then Tackle The Meal Responsible for the Greatest Glycaemic Excursion



Starting prandial insulin

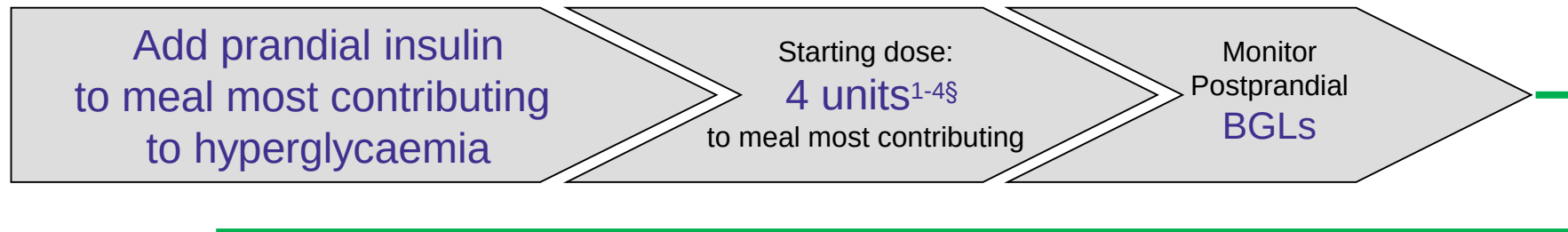
You discuss treatment options and you both agree that adding a single dose of prandial insulin prior to the meal contributing most to hyperglycaemia would be appropriate as she finds it difficult to change her morning eating habits and exercise schedule.

How would you calculate the initial dose of prandial or bolus insulin?

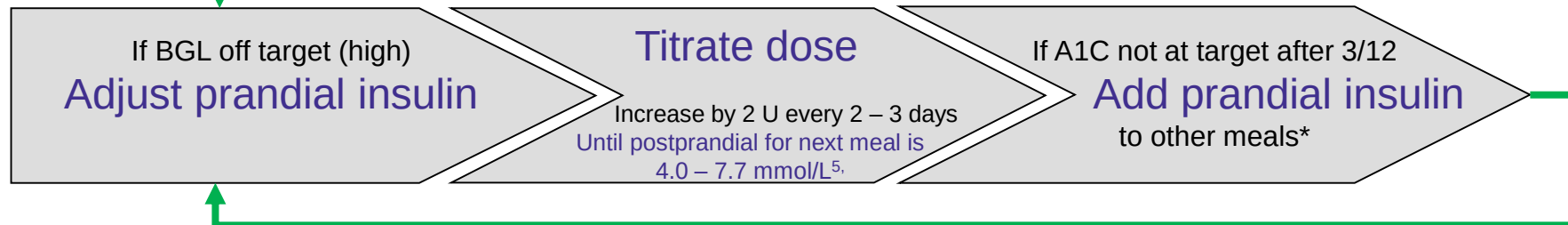
1. One-third the basal dose
2. 4 units
3. Start low, go slow
4. Not sure

Start prandial insulin at 4 Units

Step 1:



Step 2:



§ These dosing guidelines are based on recommendations from a number of authors. They are provided for guidance only. All insulin dosing and titration / adjustments require professional judgment and should be individualised to patient circumstances .

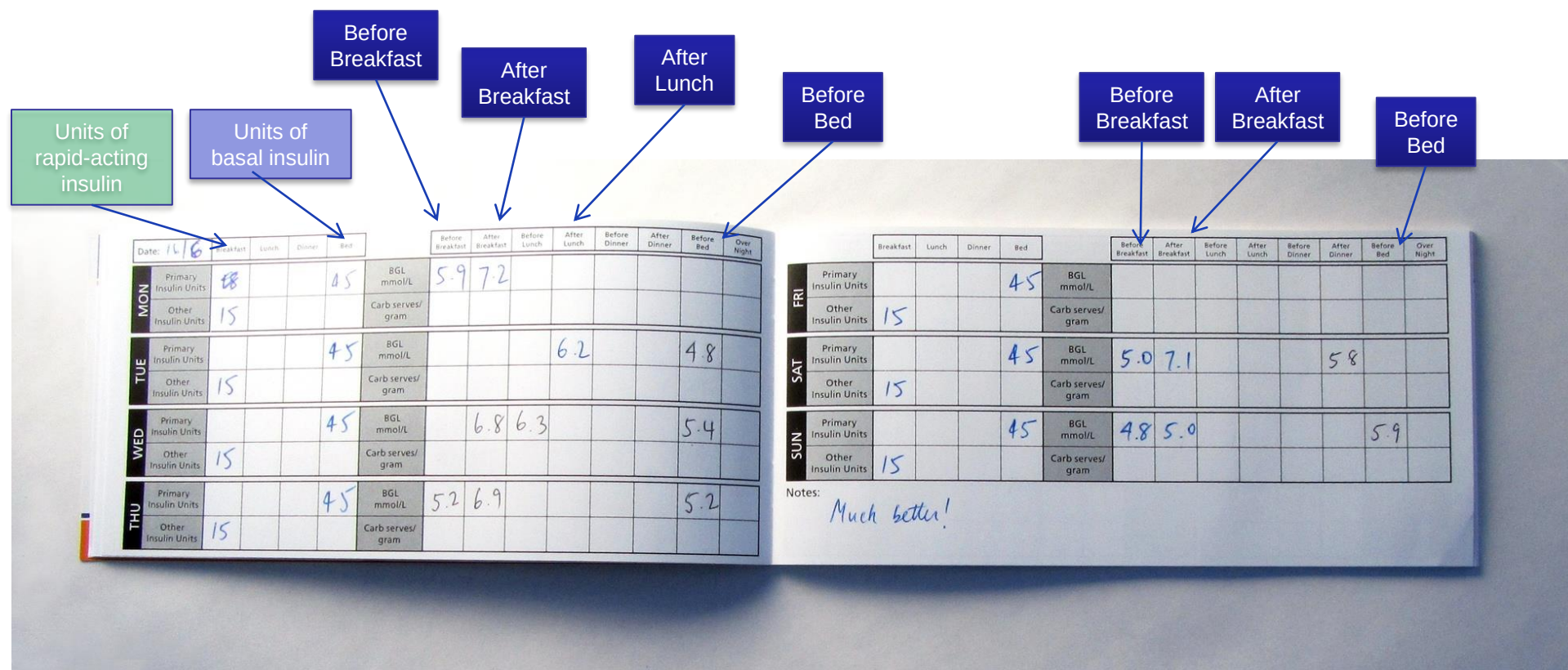
Once prandial insulin is added, insulin secretagogues may be discontinued

1. Garg S, et al. J Fam Pract April 2006. Suppl_ S1-S12.
2. Raccach D, et al. Diabetes Metab Research and Reviews. 2007; 23: 257-264.
3. Tibaldi J, American Journal of Medicine. 2008; 121 (6A) S20-S29
4. Nathan D, et al. Diabetologia 2006; 51:8-11.
5. RACGP/Diabetes Australia. Diabetes Management in General Practice, 2009/10.

Reviewing BGLs: 4 weeks later

Linda shows you her BGL readings after 3 weeks of prandial insulin (15U) at breakfast

10 Feb



Reviewing BGLs: 4 weeks later (2)

- ☆ You congratulate Linda on achieving great readings
- ☆ Her BGLs are all within range
- ☆ Linda comments that she feels “so much better”
- ☆ You suggest Linda keep her basal dose at 45 U
- ☆ You ask Linda to maintain her bolus dose at 15 U
 - With further review in 3 months
- ☆ Linda is asked to return in another 12 weeks
 - You check that your p/nurse will remain in contact with her in the interim
 - Reminder letter and pathology request will be sent prior to the next visit

Linda: summary

- ☆ Linda self-titrated insulin dose from 10 U to 45 U (slow titration schedule initially and changed to rapid titration)
- ☆ 6 months after starting basal insulin Linda's fasting BGLs were on target
- ☆ Hidden hyperglycaemia suspected with A1C slightly elevated
- ☆ Post-breakfast hyperglycaemia identified with more regular BGL testing
- ☆ Prandial insulin considered appropriate treatment
- ☆ 15 U at breakfast improved glycaemic control
- ☆ Regular review with Practice Nurse
- ☆ Linda to return for review in 3 months



Practice points

- ☆ Don't delay insulin initiation
- ☆ Keep it simple for you and patient - 10 units basal insulin
- ☆ Ensure patient has expectation that basal dose will increase and what the dose may end up at
- ☆ Titrate! Fix the fasting first! Then look for hidden hypers

Starting a patient with type 2 diabetes on basal insulin – a check list

Before starting basal insulin

- A1c persistently above target (i.e. A1c >7%)[†]
- Address other possible causes of hyperglycaemia:[†]
 - Lack of compliance
 - Suboptimal use of oral hypoglycaemic medications (OHAs)
 - Secondary causes (e.g. lifestyle, exercise, diet, co-morbidities) or other medications
- Discuss barriers to/concerns about starting insulin with patient[†]
- Arrange GP Management Plan/Team Care Arrangement if necessary – explain role of other healthcare professionals in patient education and monitoring

Starting basal insulin

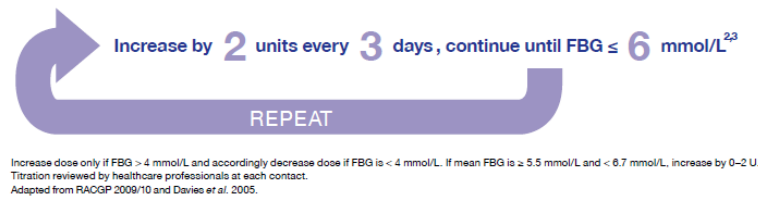
Step 1: Select basal insulin and basal insulin device[†]

Step 2: Commence basal insulin 10 units morning or night – add it to the oral hypoglycaemic agents (OHAs)[†]

- If fasting blood glucose level (FBG) is high → give basal insulin at **bedtime**[†]
- If FBG is on target but predinner blood glucose level (BGL) is high → give basal insulin in the **morning**[†]

Step 3: Fix the fasting blood glucose (FBG) – adjust basal insulin dose (according to the schedule below)² to reach FBG target of 4–6 mmol/L³ (adjust target to the individual)

Patient-led self titration option^{2,3}



Alternatively, a faster physician-managed titration option can be followed: adjust basal insulin dose every 2–4 days based on mean FBG over preceding 2 days.[†]

After starting basal insulin

- Once FBG is on target, check the other (evening) preprandial BGL and bring within target. If evening preprandial BGL is high, consider adding a second basal insulin[†] dose if the other preprandial BGL remains high[†]
- Review A1c at 3 months
 - Consider stopping sulfonylurea and decreasing dose of metformin and/or glitazone[†]
- Find hidden hyperglycaemia (if A1c ≥ 7%)
 - If preprandial BGLs are on target but A1c and postprandial BGLs are not, review need for a dose of rapid-acting insulin (basal plus prandial insulin) to manage postprandial hyperglycaemia[†]

[†] Unlike isophane insulin and insulin detemir, insulin glargine is not approved for twice daily dosing

References

1. Phillips PJ. *Medicine Today* 2007; 8 (3): 23–34.
2. Davies M et al. *Diabetes Care* 2005; 28: 1282–8.
3. Diabetes Australia/RACGP. Diabetes management in general practice. 14th edn. 2008/9.
4. Riddle M et al. *Diabetes Care* 2003; 26: 3080–86.

Practice check list

- | | |
|---|--|
| ☐ Dose adjustment plan – who will manage it? | ☐ Set the reminder/recall/pathology request? |
| ☐ GPMP/TCA required? | ☐ Education plan – who will manage it? |
| ☐ Annual diabetes review scheduled? | ☐ Materials for the patient to read or links to other resources |

Patient education check list

General

- ☐ Role of the different healthcare professionals in the team
- ☐ Explain the recall system
- ☐ Diabetes supplies including role of NDSS

Insulin therapy

- | | |
|--|---|
| ☐ Why insulin is their friend | ☐ When to take basal insulin |
| ☐ What basal insulin does | ☐ Storing insulin |
| ☐ Progression of diabetes and the need for dose adjustment and potentially adding other insulin | |

The injection

- | | |
|--|---|
| ☐ Where to inject | ☐ Using and disposing of needles |
| ☐ Injection technique and device (including a practice) | |

Blood glucose monitoring

- | | |
|---|---|
| ☐ Finger-stick technique | ☐ A1C target |
| ☐ Recording BGLs/record book | ☐ Frequency of BGL tests |
| ☐ Role of fasting blood glucose | ☐ Hyperglycaemia/Ketones |
| ☐ Difference between and the importance of BGL and A1C (or HbA _{1c}) | ☐ Hypoglycaemia |

Other

- | | |
|--|--|
| ☐ Sick days | ☐ Identification |
| ☐ Travelling with insulin | ☐ Alcohol |
| ☐ Dining out | ☐ Support organisations |
| ☐ Driving | |

Thank you

☆ Comments and questions...

