Goal of workshop

Insulin commencement – making the complex simple

What key information to give when starting Insulin

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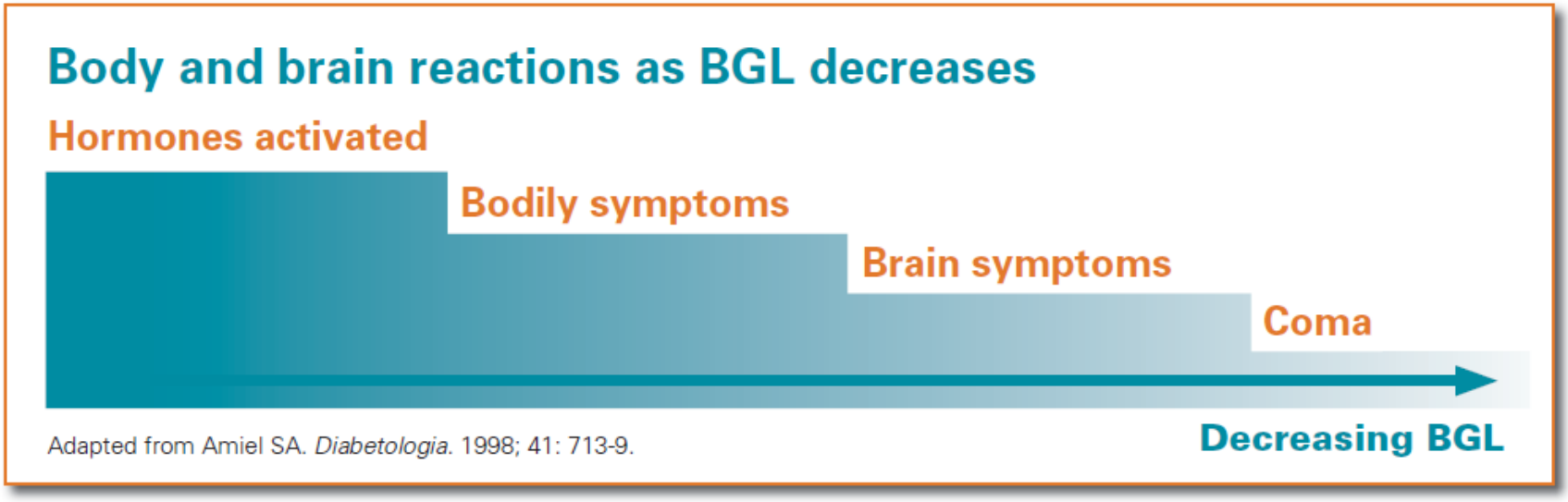
THE FUTURE OF TYPE 2 DIABETES IN PRIMARY CARE FROM SANOFI-AVENTIS

Patient point 2: Hypoglycaemia

- ☆ **When BGL falls low enough to cause symptoms**
- ☆ **Usually defined as < 4 mmol/L (people develop symptoms at different levels)**



Adapted from Amiel SA. *Diabetologia*. 1998; 41: 713-9.

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Patient point 2: Hypoglycaemia

Caused by the body's initial reaction (trying to increase BGL)	From the brain
Irritability	Inability to concentrate
Anxiety	Weakness, dizziness
Hunger/ feeling sick	Headache
Paleness	Confusion
Shakiness	Blurred or double vision
Heart pounding	Odd behaviour
Sweating	Slurred speech
Numbness – fingers, lips, toes	Lack of coordination/ unsteady
	Lapses in consciousness
	Convulsions

Causes of Hypoglycaemia .

- Taking too much Insulin, timing too early before eating, or double dose.
- Unexpected exercise ,running for Bus ,mowing lawn ,playing soccer ,walking dog ,moving house ,chopping wood etc Don’t forget Bedroom activity!!!!
- Not enough Carbs in meals ,i.e having one piece of toast for breakfast when usually has 4 Weetbix.
- Missing a meal or instead of lunch at 1 pm left until 3 pm
- Alcoholic beverages on empty stomach
- Delayed hypos !!!Exercise!!!
- Poor Injection technique?? Injecting in muscle instead of subcut tissue
- Taking wrong Insulin,!!!!

Patient point 2: Hypoglycaemia treatment

1. **15g fast acting carbohydrate**
   - Preferably glucose-based cool drink
   - Normal Coca Cola, fizzy drinks ,Powerade 200 mls
   - Jelly beans (6-7)
   - Glucose tablets
2. **15g slow acting carbohydrate**
   - Healthy snacks such as a piece of fruit, slice of bread, two plain biscuits
   - Test BS again in about 15 mins
3. **Glucose is always the best choice…**
   - Why?
   - Acarbose slows down absorption of Starch /carbs therefore needs dextrose or Glucose itself to treat Hypos
   - Fast action

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When to test ????

Breakfast		Lunch		Dinner		BeforeBed	O/Night	Remarks: activity
Before	After	Before	After	Before	After			
6.7								
7.5		7.7						
7.2				6.8				
6.2					7.9			
5.9						12.5		My Birthday
5.9				7.2				
		6.7			7.8			
7.2				6.5				
		4.1			6.8			Played Golf

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Some of the current injection devices

Prefilled insulin pens

Reusable devices for use with cartridges

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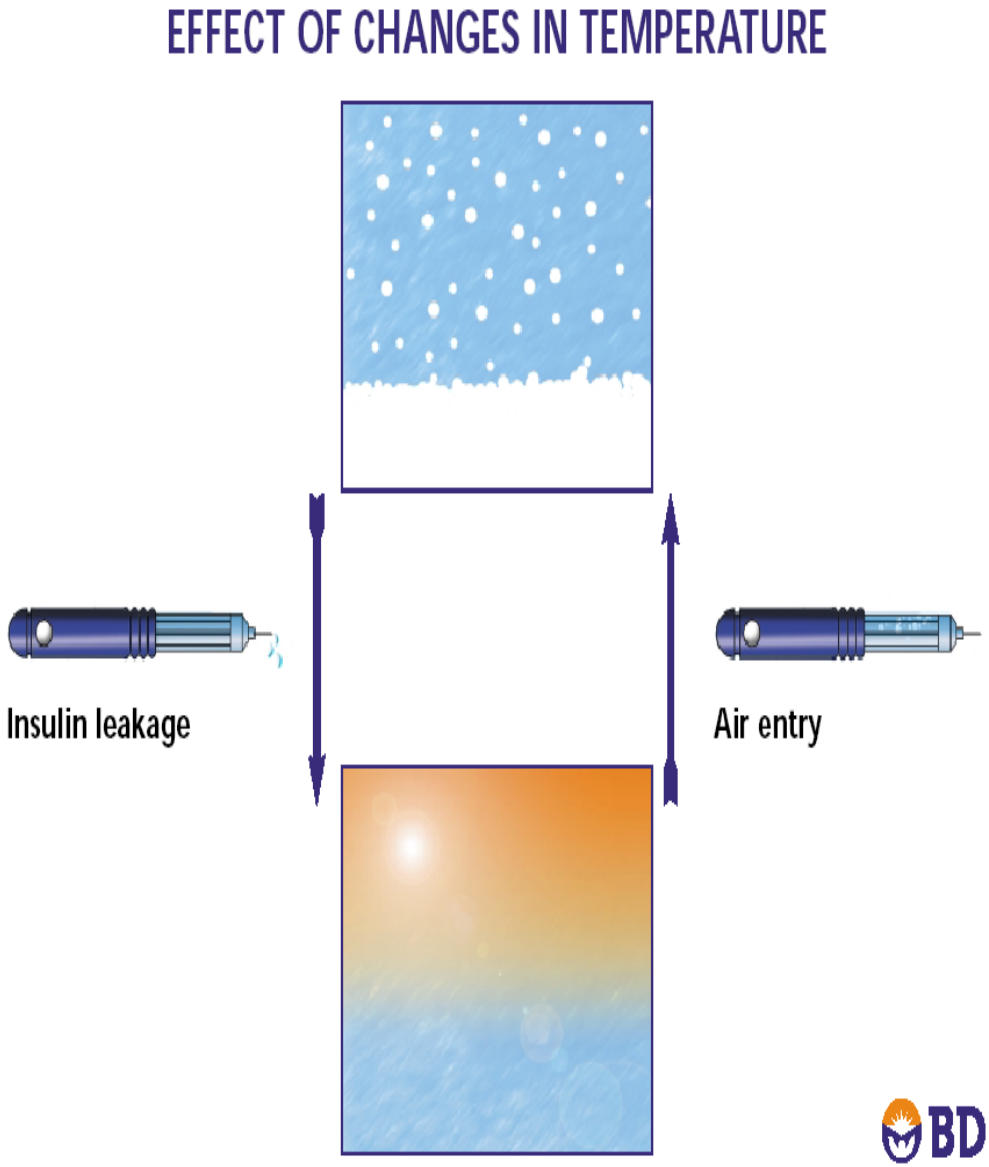
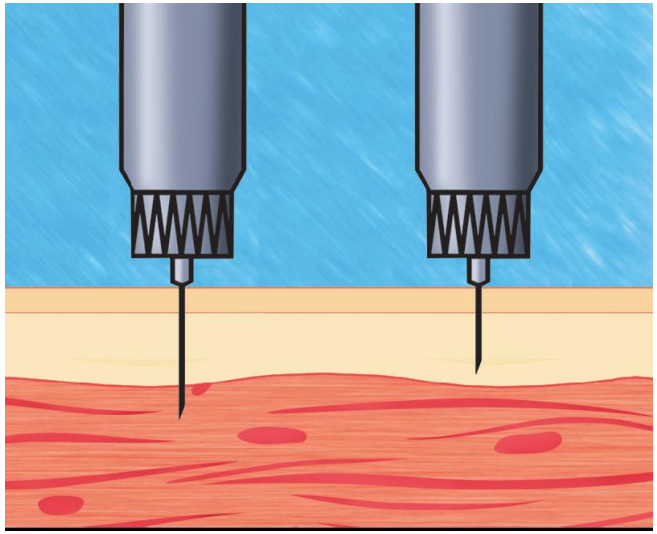
Needle reuse and dosage accuracy

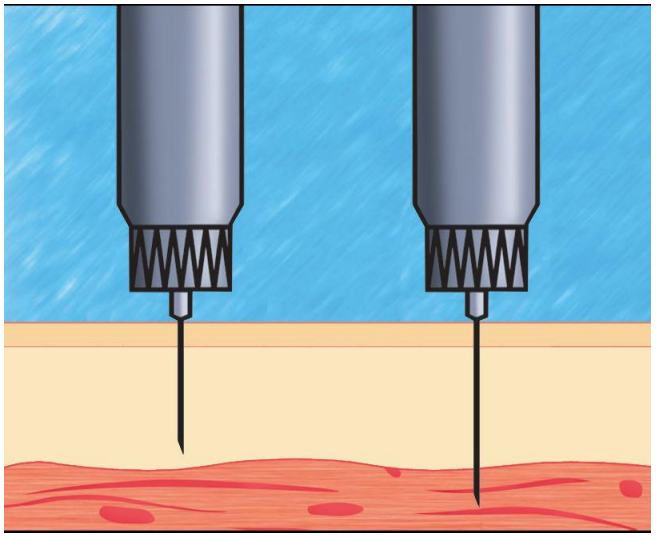
Insulin leakage
Air entry

- ☆ **Needle reuse and dosage accuracy**
- ☆ **Insulin contained in pen cartridges is exposed to temperature changes when insulin pens are carried around. Keeping the needle on the insulin pen between injections leaves an open passage to the insulin, allowing insulin to leak out of the cartridge**
- ☆ **and/or air to be drawn in through a mechanism related to temperature changes.**



Patient point 9: Pen needles





- ☆4-5 mm
  - ☆ Children
  - ☆ Adults
  - ☆ No pinch technique

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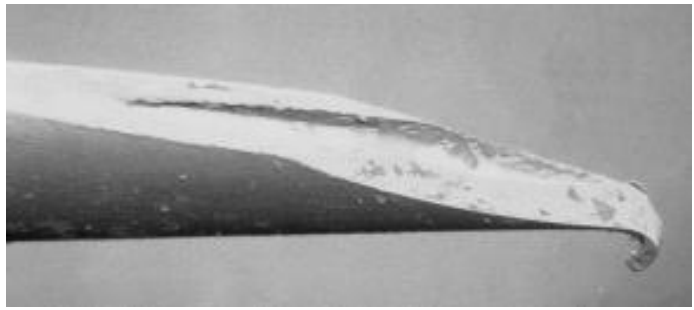
Needle Reuse and injection pain

- In order to significantly reduce the discomfort of the injection, thinner, shorter and sharper insulin needles have been developed. Repeated use however can impact the performance and safety of the needle by:
- → Removing the lubricant primarily responsible for painless or near painless injections
- → Damaging the needle tip, from mild bending to hook-like distortion of the entire tip
- *Photographs showing the type of damage that can occur with needle reuse:**
- Both loss of lubricant and tip damage will result in pain and discomfort during the
- injection.

New needle at x370 magnification



Reused needle at x370 magnification

* ***Photographs from Dieter Look and Kenneth Strauss study: "Nadeln mehrfach verwenden?" Diabetes Journal 1998, 10:S. 31-34***

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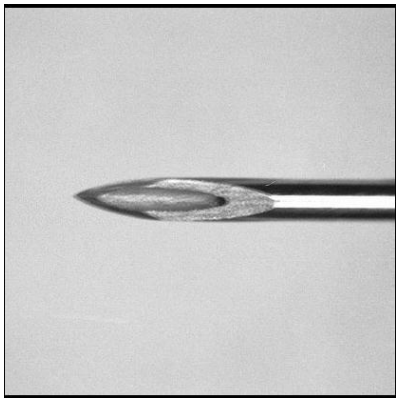
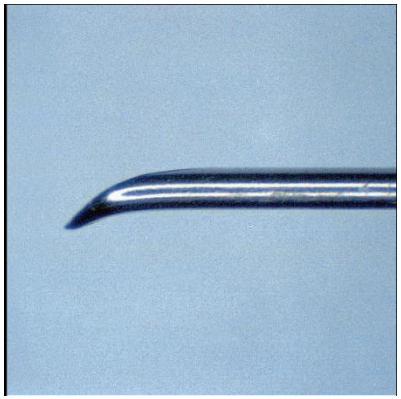
Patient point 9: Pen needles

Pen Needles:

- ☆ Needles should never be reused
  - ☆ 100 needles for 3 months





After 2nd Use

- ☆ First use: Lubricant removed
- ☆ Needle hooking second time
- ☆ After 6 uses~
  - ☆ fishing anyone?

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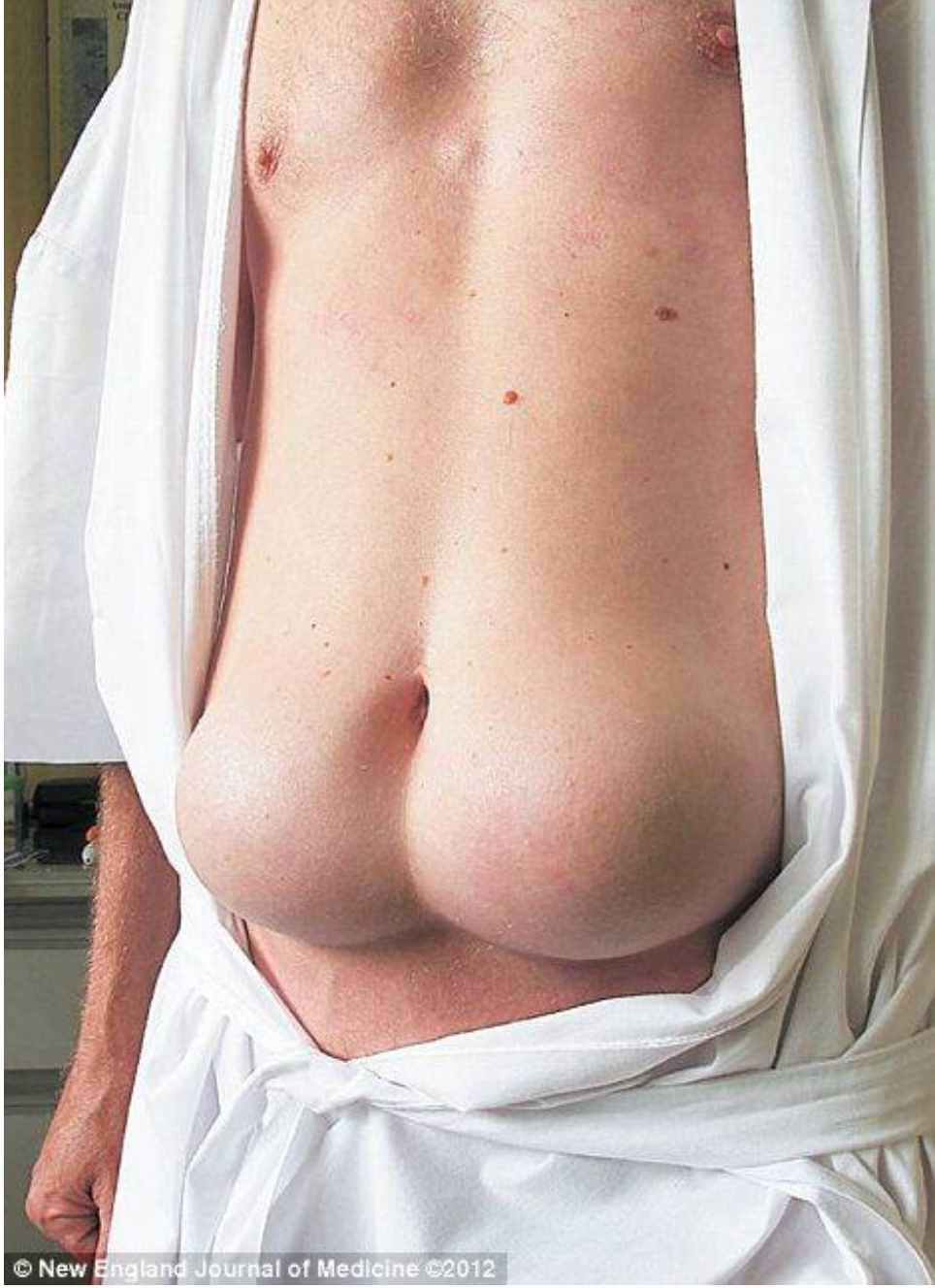
'Belly bottom': A graphic warning of what happens when diabetics inject insulin at the same site every day

A 55-year-old man with type 1 diabetes shocked his doctors, after he revealed what looked like two bottom cheeks hanging below his navel.

The patient from South Africa, had been told to inject his life-saving insulin jabs into two areas of his stomach to control his blood-sugar levels.

However, he hadn't realised thathe needed to rotatetheinjectionsite around different parts of his body because the hormone insulin encourages the build up of soft fatty swellings within the layers of the **skin.**

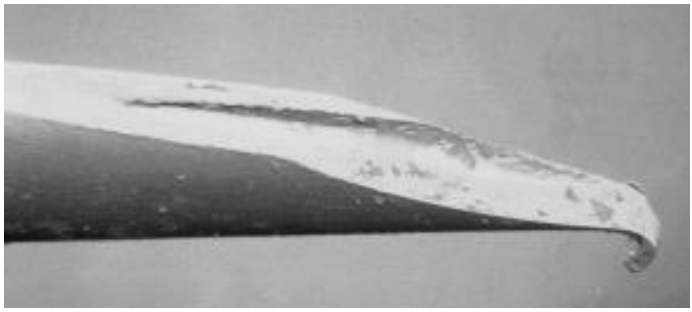
The man went on to develop 'firm and pendulous' masses on his stomach - a condition known as lipohypertrophy. Mild cases are surprisingly common, however this patient had a severe case as he hadn't changed his injection sites for three decades.
Dr Stan Landau, from the Centre for Diabetes and Endocrinology in Joannesburg, was part of the team who treated the patient.



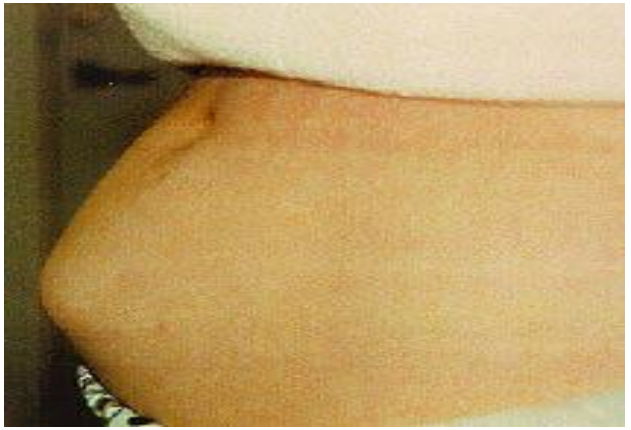
Lipohypertrophy: The male patient had developed two fatty masses as a result of decades of injecting insulin into the same two sites

Needle reuse and lipodystrophy

- **With reuse, the needle tip can bend into the shape of a hook causing bleeding, bruising and laceration at injection sites. There is increasing evidence that this micro-trauma is involved in the development of lumpy nodules also called "lipodystrophy".**
- **Injecting into lipodystrophy can affect the absorption of your insulin and** lead to
- erratic glycaemic control**.**



Lower abdomen



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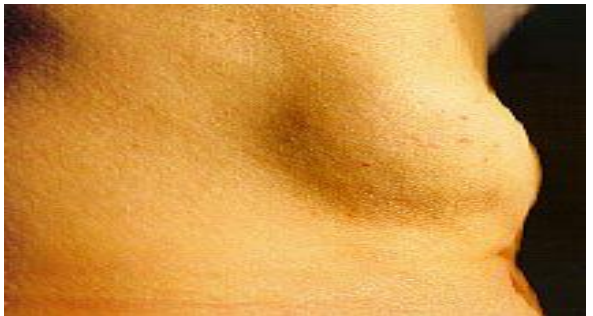

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Patient point 10: Sharps
Community Sharps Disposal

☆ **Lancets, pen needles and syringes – must be secured in strong plastic container**

To Locate your local sharps disposal facility call Diabetes New Zealand or your local council or see www.diabetes.org.nz at 623 Valley Road Mount Eden

Collect a Plastic container when its full with used needles you can take it back there with $2 Donation to Diabetes Auckland ,they will dispose of it .

or Put used needle in an empty Plastic Janola/Bleach Bottle when full cello tape the lid and put in normal rubbish bin.

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Sick day management guidelines – Type 2

Patient education points:

- ☆ Contact Diabetes Nurse if:
  - BGL > 15 mmol/L for more than 24h or BGL rises despite 2 extra insulin doses

  Go to Hospital if :
  - Feeling drowsy, confused, difficulty breathing, severe abdominal pain
  - Persistent vomiting, esp if frequent for more than 2-4 hours
  - Hypoglycaemia is severe or BGL can't be kept > 4 mmol/L
  - Too unwell

- ☆ Make a sick day management kit including sick day action plan

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Key information for patients to know

- ☆ Starting doses are always low doses and will need to be increased
- ☆ Dose will be as much insulin as is needed to control BGL's adequately, there is no maximum dose
- ☆ Some people notice a temporary visual disturbance
- ☆ BGL's within target range give better organ protection and longevity of life – BG vs A1c (UKPDS)
- ☆ We will assist you to get the correct dose/s for your own BG control
- ☆ Adjusting insulin doses comes with practice
- ☆ Pts can always titrate Lantus dose by 2 - 4 units every 2-3 days until fasting BS is under target
- ☆ Titrating can be done by phone ,fax or e-mails.
- ☆ There is always someone there to help you

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Lets have go at injecting !!!!!

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