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Edinburgh Centre for  
Endocrinology & Diabetes



# Managing inpatient diabetes

Advice for junior doctors

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If you're not sure – ask.



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# Diabetes in hospital

## Learning objectives

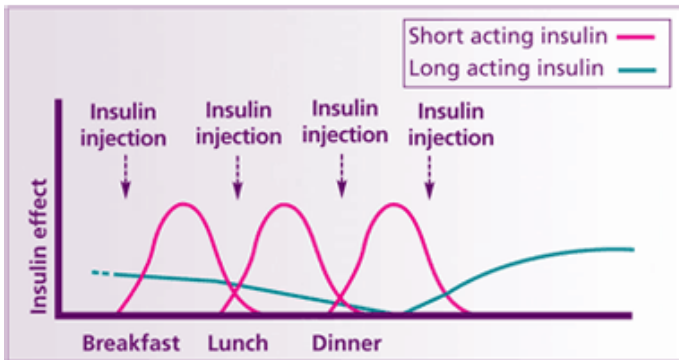
- Recognise the names and duration of action of the most common insulins
- Recognise when patients with diabetes need specialist input
- Understand how to manage the basics of insulin therapy
- Recognise that patients often know best

# Diabetes in hospital

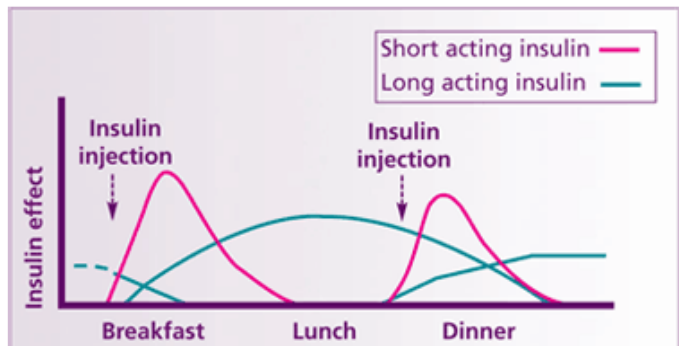
## Insulin regimens



- Normal insulin profile

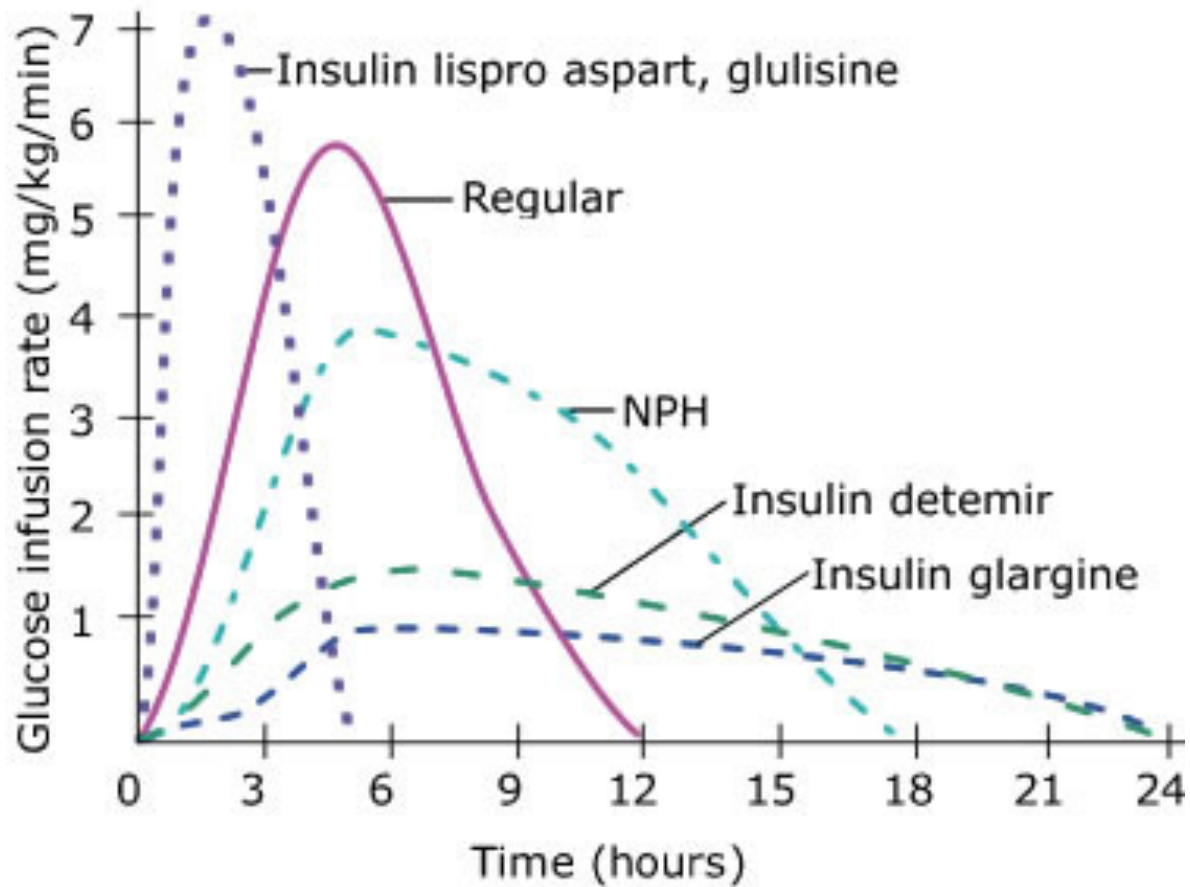


- 'Basal bolus'











- Twice-daily mixed insulin

## Activity Profiles of Different Types of Insulin



## Neutral Insulin Injection

Preparation	Manufacturer	Species	Form	Onset (approx)	Peak activity (approx)	Duration of action (approx)
<a href="#"><u>Actrapid</u></a>	Novo Nordisk		V	<30 min	1.5-3.5hr	7-8hr
<a href="#"><u>Apidra (insulin glulisine)</u></a>	Sanofi-aventis		V, P, C <sub>4</sub> , C <sub>5</sub>	10-20 min	55 min	1.5-4hr
<a href="#"><u>Humalog (insulin lispro*)</u></a>	Lilly		V, P, C <sub>2</sub> , C <sub>3</sub>	15 min	1.5hr	2-5hr
<a href="#"><u>Humulin S</u></a>	Lilly		V, C <sub>2</sub> , C <sub>3</sub>	30 min-1hr	1-6hr	6-12hr
<a href="#"><u>Hypurin Bovine Neutral</u></a>	Wockhardt		V, C <sub>2</sub>	30 min-1hr	1.5-4.5hr	6-8hr
<a href="#"><u>Hypurin Porcine Neutral</u></a>	Wockhardt		V, C <sub>2</sub>	30 min-1hr	1.5-4.5hr	6-8hr
<a href="#"><u>Insuman Rapid</u></a>	Sanofi-aventis		P, C <sub>4</sub> , C <sub>5</sub>	<30 min	1-4hr	7-9h
<a href="#"><u>NovoRapid (insulin aspart)</u></a>	Novo Nordisk		V, P, C <sub>1</sub>	10-20 min	1-3hr	3-5hr

### Key:

V = vial.

P = preloaded pen.

C = cartridge.

C<sub>1</sub> = compatible with NovoPen range.

C<sub>2</sub> = compatible with Autopen Classic.









C<sub>3</sub> = compatible with HumaPen range.

C<sub>4</sub> = compatible with Autopen 24.

C<sub>5</sub> = compatible with KlikSTAR.

D = InnoLet delivery device.

## Biphasic Insulin Injection\*\*

Preparation	Manufacturer	Species	Form	Onset (approx)	Peak activity (approx)	Duration of action (approx)
<a href="#">Humalog Mix25</a>	Lilly		V, P, C <sub>2</sub> , C <sub>3</sub>	15 min	2hr	22hr
<a href="#">Humalog Mix50</a>	Lilly		P, C <sub>2</sub> , C <sub>3</sub>	15 min	2hr	22hr
<a href="#">Humulin M3</a>	Lilly		V, P, C <sub>2</sub> , C <sub>3</sub>	30 min-1hr	1-12hr	22hr
<a href="#">Hypurin Porcine 30/70</a>	Wockhardt		V, C <sub>2</sub>	<2hr	4-12hr	24hr
<a href="#">Insuman Comb 15</a>	Sanofi-aventis		C <sub>4</sub> , C <sub>5</sub>	30 min-1hr	2-4hr	11-20hr
<a href="#">Insuman Comb 25</a>	Sanofi-aventis		V, P, C <sub>4</sub> , C <sub>5</sub>	30min-1hr	2-4hr	12-19hr
<a href="#">Insuman Comb 50</a>	Sanofi-aventis		C <sub>4</sub> , C <sub>5</sub>	<30 min	1.5-4hr	12-16hr
<a href="#">NovoMix 30</a>	Novo Nordisk		P, C <sub>1</sub>	10-20 min	1-4hr	24hr

### Key:

V = vial.

P = preloaded pen.

C = cartridge.

C<sub>1</sub> = compatible with NovoPen range.

C<sub>2</sub> = compatible with Autopen Classic.






C<sub>3</sub> = compatible with HumaPen range.

C<sub>4</sub> = compatible with Autopen 24.

C<sub>5</sub> = compatible with KlikSTAR.

D = InnoLet delivery device.

## Isophane Insulin Injection

Preparation	Manufacturer	Species	Form	Onset (approx)	Peak activity (approx)	Duration of action (approx)
<u>Humulin I</u>	Lilly		V, P, C <sub>2</sub> , C <sub>3</sub>	30 min-1hr	1-8hr	22hr
<u>Hypurin Bovine Isophane</u>	Wockhardt		V, C <sub>2</sub>	<2hr	6-12hr	18-24hr
<u>Hypurin Porcine Isophane</u>	Wockhardt		V, C <sub>2</sub>	<2hr	6-12hr	18-24hr
<u>Insulatard</u>	Novo Nordisk		V, C <sub>1</sub> , D	<1.5hr	4-12hr	24hr
<u>Insuman Basal</u>	Sanofi-aventis		V, P, C <sub>4</sub> , C <sub>5</sub>	<1hr	3-4hr	11-20hr

## Insulin Zinc Suspension (Mixed)

Preparation	Manufacturer	Species	Form	Onset (approx)	Peak activity (approx)	Duration of action (approx)
<u>Hypurin Bovine Lente</u>	Wockhardt		V	2hr	8-12hr	30hr

### Key:

V = vial.

P = preloaded pen.

C = cartridge.

C<sub>1</sub> = compatible with NovoPen range.

C<sub>2</sub> = compatible with Autopen Classic.

C<sub>3</sub> = compatible with HumaPen range.



C<sub>4</sub> = compatible with Autopen 24.

C<sub>5</sub> = compatible with KlikSTAR.

D = InnoLet delivery device.



## Long-acting Insulin Analogues

Preparation	Manufacturer	Species	Form	Onset (approx)	Peak activity (approx)	Duration of action (approx)
<a href="#"><u>Lantus (insulin glargine)</u></a>	Sanofi-aventis		V, P, C <sub>4</sub> , C <sub>5</sub>	2.5hr	-	24hr
<a href="#"><u>Levemir (insulin detemir)</u></a>	Novo Nordisk		P, C <sub>1</sub> , D	2.5hr	-	24hr

**Key:**

V = vial.

P = preloaded pen.

C = cartridge.

C<sub>1</sub> = compatible with NovoPen range.

C<sub>2</sub> = compatible with Autopen Classic.

C<sub>3</sub> = compatible with HumaPen range.

C<sub>4</sub> = compatible with Autopen 24.

C<sub>5</sub> = compatible with KlikSTAR.

D = InnoLet delivery device.

Metformin

Sulphonylureas

Thiazolidinediones

DPP-IV inhibitors

GLP-1 analogues

SGLT-2 inhibitors

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# Patient scenarios

Inpatient diabetes

Scenario 1: 64 year old man admitted to vascular with critical limb ischaemia

2 Type/Name  
Other

First Name: **PATIE**  
Last Name: **PATIE**  
CHI Number: **NT0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range:	Dose & range:
Timings:	Timings:
Device:	Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast Type & units	Prescribed by	Before Lunch Type & units	Prescribed by	Before Evening Meal Type & units	Prescribed by	Before Bed Type & units	Prescribed by	
							Given by/Time		Given by/Time		Given by/Time			
							Prescribed by		Prescribed by		Prescribed by			
Given by/Time	Given by/Time	Given by/Time												
M		12.2	15.2	16.0	13.2	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		13.1	13.2	18.0	15.5	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
W		18.2	17.2	18.0	17.0	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		

Not on insulin or OHA



# Scenario 1: 64 year old man admitted to vascular with critical limb ischaemia

2 Type/Name	Other
Dose & range:	Dose & range:
Timings:	Timings:
Device:	Device:

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **01010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment			
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed				
						Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units
M		12.2	15.2	16.0	13.2			UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS
7		13.1	13.2	18.0	15.5			UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS
20		18.2	17.2	18.0	17.0			UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS
7								UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS
7								UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS
S								UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS
S								UNITS			UNITS			UNITS			UNITS
		Time	Time	Time	Time			UNITS			UNITS			UNITS			UNITS

**Learning point:**  
 Don't leave patients with uncontrolled hyperglycaemia – refer to the diabetes team.  
 Check HbA1c.

# Scenario 2: 72 year old woman admitted to cardiology with NSTEMI

First Name: **FATIE**  
Last Name: **PATIE**  
CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

me: **INSULIN 2** Type/Name  
Dose & range: \_\_\_\_\_  
Timings: \_\_\_\_\_  
Device: \_\_\_\_\_

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast Type & units	Prescribed by	Before Lunch Type & units	Prescribed by	Before Evening Meal Type & units	Prescribed by	Before Bed Type & units	Prescribed by	
							Given by/Time		Given by/Time		Given by/Time		Given by/Time	
<b>M</b>		<b>3.9</b> Time	<b>4.5</b> Time	<b>4.4</b> Time	<b>4.1</b> Time	UNITS		UNITS		UNITS		UNITS		
<b>7</b>		<b>4.0</b> Time	<b>5.6</b> Time	<b>4.8</b> Time	<b>5.4</b> Time	UNITS		UNITS		UNITS		UNITS		
<b>W</b>		<b>4.1</b> Time	<b>5.2</b> Time	<b>6.0</b> Time	<b>4.9</b> Time	UNITS		UNITS		UNITS		UNITS		
<b>7</b>						UNITS		UNITS		UNITS		UNITS		
<b>7</b>						UNITS		UNITS		UNITS		UNITS		
<b>S</b>						UNITS		UNITS		UNITS		UNITS		
<b>S</b>						UNITS		UNITS		UNITS		UNITS		

Patient on gliclazide 160mg bd



# Scenario 2: 72 year old woman admitted to cardiology with NSTEMI

First Name: **FATIE**  
Last Name: **PATIE**  
CHI Number: **NT0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

me: **INSULIN 2** Type/Name  
Dose & range: \_\_\_\_\_  
Timings: \_\_\_\_\_  
Device: \_\_\_\_\_

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
					Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	
M		3.9 Time	4.5 Time	4.4 Time	4.1 Time	UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
7		4.0 Time	5.6 Time	4.8 Time	5.4 Time	UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
W		4.1 Time	5.2 Time	6.0 Time	4.9 Time	UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		

**Learning point:**  
Control is too tight – high risk of hypoglycaemia.  
Reduce SU dose and monitor response.  
Check HbA1c.

**Scenario 3: 68 year old man admitted to respiratory with breathlessness**

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range:	Dose & range:
Timings:	Timings:
Device:	Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Time	Time	Time	Time	Type & units	Prescribed by	Type & units	Prescribed by	Type & units	Prescribed by	Type & units	Prescribed by	Type & units
M		6.1	8.2	7.4	8.9	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		7.1	6.9	10.1	7.9	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
20		7.6	16.0	22.1	19.0	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		6.5	19.0	25.0	19.9	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		12 UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		

Patient on gliclazide 160mg bd

What happened on Tuesday?



# Scenario 3: 68 year old man admitted to respiratory with breathlessness

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range:  
 Timings:  
 Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	
M		6.1	8.2	7.4	8.9	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		7.1	6.9	10.1	7.9	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
20		5.2	16.0	22.1	19.0	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		6.5	19.0	25.0	19.9	UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		

**Learning point:**  
 Classic pattern of steroid-induced (aggravated) diabetes.  
 Progressively higher post-prandial BMs with less effect on FBG.  
 May need bolus sc insulin with meals.

Scenario 4: 34 year old man admitted with cellulitis

First Name: PATIE  
Last Name: PATIE  
CHI Number: N110101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Prescribed by			Prescribed by			Prescribed by			Prescribed by			
		Given by/Time			Given by/Time			Given by/Time			Given by/Time			
		Prescribed by			Prescribed by			Prescribed by			Prescribed by			
		Given by/Time			Given by/Time			Given by/Time			Given by/Time			
		Type & units			Type & units			Type & units			Type & units			
M		8.0	4.0	7.8	9.0	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		7.6	3.5	18.0	10.0	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
W		5.2	3.9			Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		

T1DM on basal bolus

Problems?



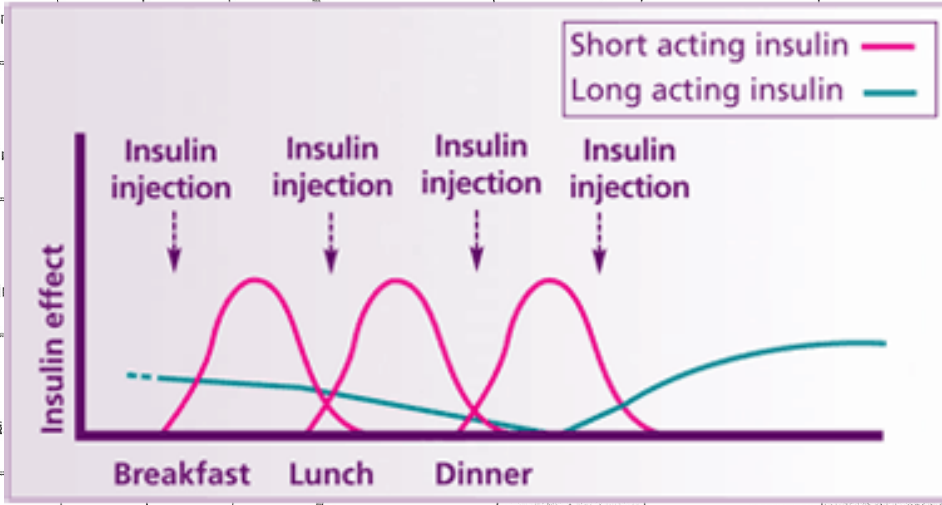
Scenario 4: 34 year old man admitted with cellulitis

First Name: PATIE  
Last Name: PATIE  
CHI Number: N110101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
M		8.0	4.0	7.8	9.0	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS		
7		7.6	3.5	18.0	10.0	Novorapid 6 UNITS				Novorapid 6 UNITS		Lantus 12 UNITS		
W		5.2	3.9			Novorapid 6 UNITS		Novorapid 6 UNITS		Novo 6				



Learning point:  
Don't omit insulin doses after appropriately treated hypoglycaemia.  
Depends on whether patient is eating.  
Adjust insulin dose responsible for hypo.

# Scenario 5: 40 year old admitted with renal colic

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment	
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed		
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by		
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time		
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by		
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time		
						Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units		
M		16.1	5.0	7.8	9.0	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
7		18.5	7.5	9.0	10.1	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
W		17.4	6.9			Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			

T1DM on basal bolus

What needs changed?



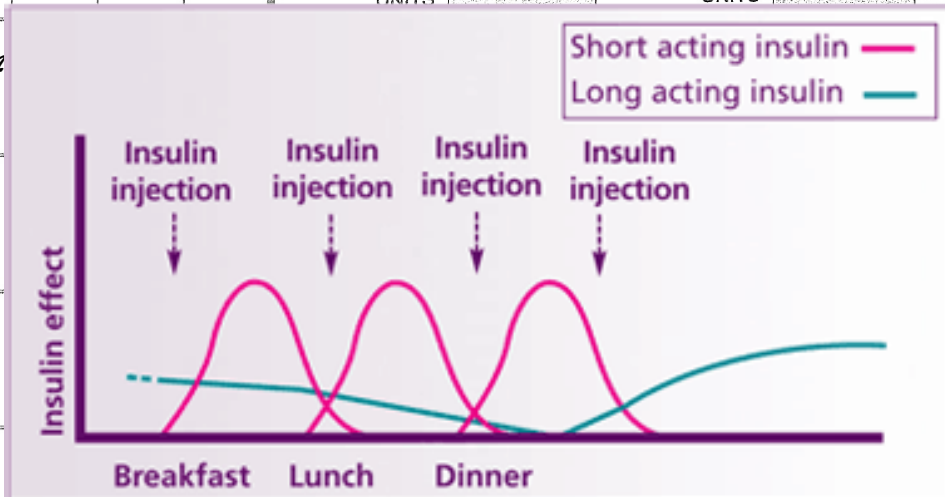
Scenario 5: 40 year old admitted with renal colic

First Name: PATIE  
Last Name: PATIE  
CHI Number: N110101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range:	Dose & range:
Timings:	Timings:
Device:	Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
M		16.1	5.0	7.8	9.0	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS		
T		18.5	7.5	9.0	10.1	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS		
W		17.4												
T														
F														
S														
S														



Learning point:  
Consistently raised fasting blood glucose – requires increased lantus dose.

Never omit insulin without consulting with medical staff

**Usual Insulin Regimen: Usually self administered**

INSULIN 1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

# Scenario 6: 45 year old admitted with PTE

First Name: **FATIE**  
 Last Name: **PATIE**  
 CHI Number: **01010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment	
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed		
		Time	Time	Time	Time	Type & units	Prescribed by Given by/Time	Type & units	Prescribed by Given by/Time	Type & units	Prescribed by Given by/Time	Type & units	Prescribed by Given by/Time		
M		6.8	5.0	7.8	16.4	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS			
7		10.1	7.5	9.0	18.3	Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS			
W		7.5	6.9			Novorapid 6 UNITS		Novorapid 6 UNITS		Novorapid 6 UNITS		Lantus 12 UNITS			
7						UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			

T1DM on basal bolus

What needs changed?



# Scenario 6: 45 year old admitted with PTE

WARD 104

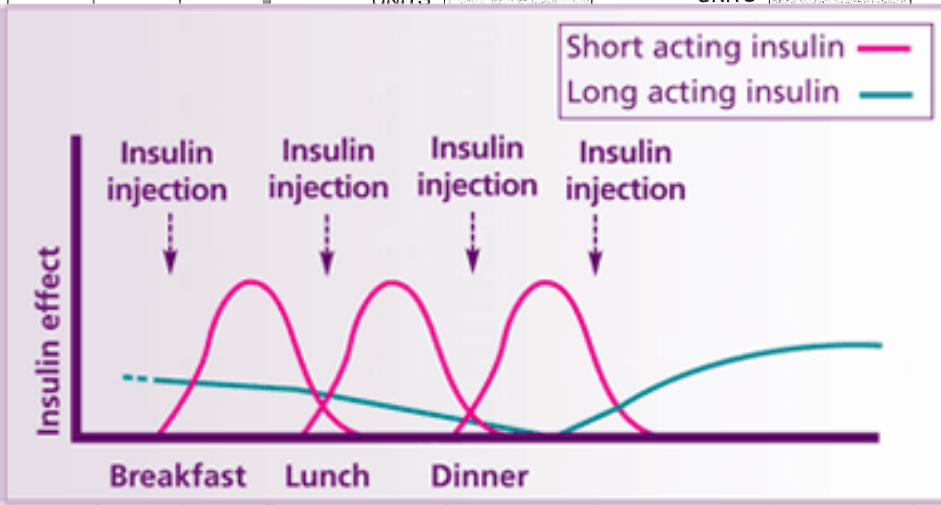
First Name: PATIE  
 Last Name: PATIE  
 CHI Number: NHTO101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.

Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)												Hypoglycaemia and Treatment						
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast			Before Lunch			Before Evening Meal			Before Bed					
						Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	Type & units	Prescribed by	Given by/Time	
M		6.8	5.0	7.8	16.4	Novorapid 6 UNITS			Novorapid 6 UNITS			Novorapid 6 UNITS			Lantus 12 UNITS									
7		10.1	7.5	9.0	18.3	Novorapid 6 UNITS			Novorapid 6 UNITS			Novorapid 6 UNITS			Lantus 12 UNITS									
W		7.5																						
7																								
7															12 UNITS									
S																								
S																								



Learning point:  
 Consistently raised pre-bed BMs – requires increased evening meal dose.

# Scenario 7: 35 year old admitted with pneumothorax

First Name: **FATIE**  
 Last Name: **NTATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.

Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Prescribed by			Prescribed by			Prescribed by			Prescribed by			
		Given by/Time			Given by/Time			Given by/Time			Given by/Time			
		Prescribed by			Prescribed by			Prescribed by			Prescribed by			
		Given by/Time			Given by/Time			Given by/Time			Given by/Time			
		Type & units			Type & units			Type & units			Type & units			
M		6.8	5.0	7.8	5.0	Novorapid		Novorapid		Novorapid		Lantus		
		Time	Time	Time	Time	4 UNITS		6 UNITS		8 UNITS		16 UNITS		
						UNITS		UNITS		UNITS		UNITS		
7		5.1	7.5	9.0	4.9	Novorapid		Novorapid		Novorapid		Lantus		
		Time	Time	Time	Time	4 UNITS		6 UNITS		8 UNITS		16 UNITS		
						UNITS		UNITS		UNITS		UNITS		
W		3.9	6.9			Novorapid		Novorapid		Novorapid		Lantus		
		Time	Time	Time	Time	4 UNITS		6 UNITS		8 UNITS		16 UNITS		
						UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		

T1DM on basal bolus

What needs changed?



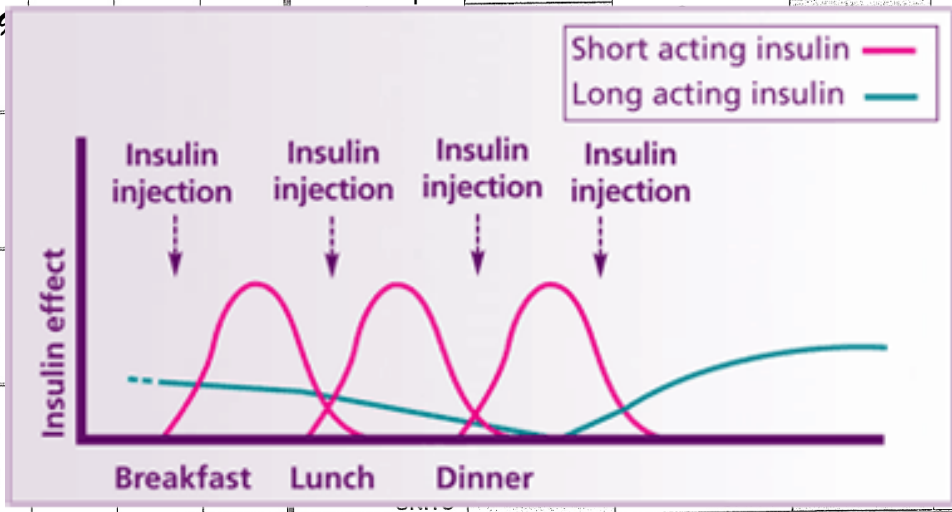
# Scenario 7: 35 year old admitted with pneumothorax

First Name: **FATIE**  
 Last Name: **NTATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
M		6.8	5.0	7.8	5.0	Novorapid 4 UNITS		Novorapid 6 UNITS		Novorapid 8 UNITS		Lantus 16 UNITS		
7		5.1	7.5	9.0	4.9	Novorapid 4 UNITS		Novorapid 6 UNITS		Novorapid 8 UNITS		Lantus 16 UNITS		
W		3.9				Novorapid		Novorapid		Novorapid		Lantus 16		
7														
7														
S														
S														



Learning point:  
 Before bed sugars too low – suggest reducing evening meal quick acting insulin.  
 Fasting sugars also low – suggest reduction in lantus dose

# Scenario 8: 78 year old admitted to MoE with falls

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Prescribed by			Prescribed by			Prescribed by			Prescribed by			
		Given by/Time			Given by/Time			Given by/Time			Given by/Time			
		Prescribed by			Prescribed by			Prescribed by			Prescribed by			
		Given by/Time			Given by/Time			Given by/Time			Given by/Time			
		Type & units			Type & units			Type & units			Type & units			
M		12.1	2.2	14.1	4.1	Humalog 45 UNITS				Humalog 36 UNITS				
		Time	Time	Time	Time	UNITS				UNITS				
7		10.1				UNITS				UNITS				
		Time	Time	Time	Time	UNITS				UNITS				
W						UNITS				UNITS				
		Time	Time	Time	Time	UNITS				UNITS				
7						UNITS				UNITS				
		Time	Time	Time	Time	UNITS				UNITS				
7						UNITS				UNITS				
		Time	Time	Time	Time	UNITS				UNITS				
S						UNITS				UNITS				
		Time	Time	Time	Time	UNITS				UNITS				
S						UNITS				UNITS				
		Time	Time	Time	Time	UNITS				UNITS				

T2DM on bd insulin

Problems?



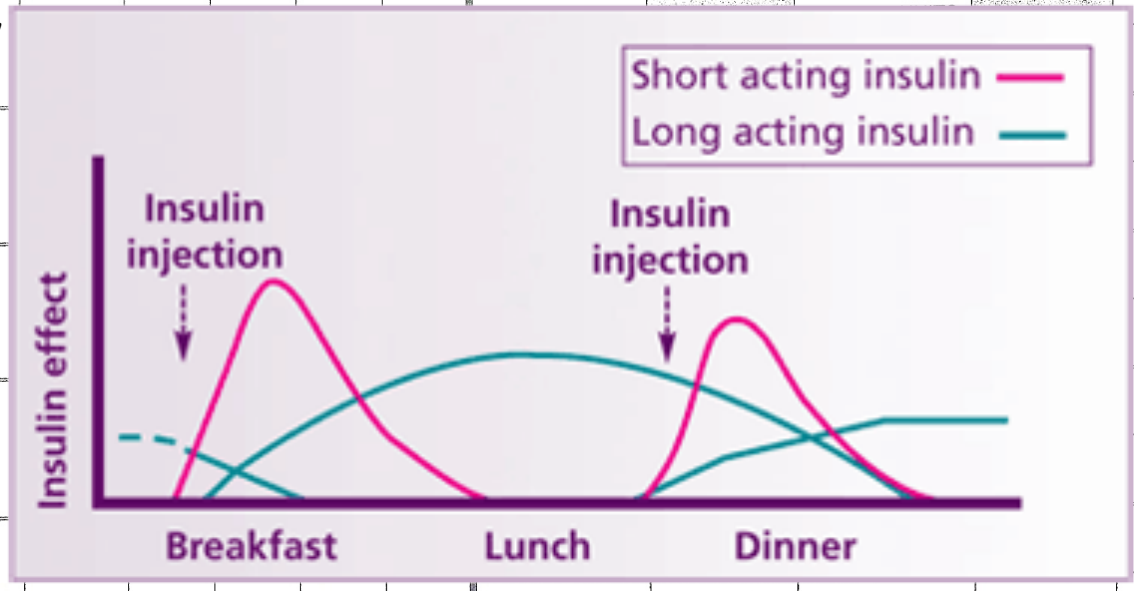
Never omit insulin without consulting with medical staff		
Usual Insulin Regimen: Usually self administers Yes		
INSULIN 1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

# Scenario 8: 78 year old admitted to MoE with falls

First Name: PATIE  
 Last Name: PATIE  
 CHI Number: N101010101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment	
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed		
M		12.1	2.2	14.1	4.1	Humalog 45 UNITS				Humalog 36 UNITS					
7		10.1													



Learning point:  
**Wrong insulin prescribed**  
 Be careful  
 Humalog & Humalog Mix 25 are very different insulins  
 Novorapid and Novomix 30

Scenario 9: 35 year old woman – delivered baby on Tuesday night

First Name: PATIE  
Last Name: PATIE  
CHI Number: N110101010101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range: Dose & range:  
Timings: Timings:  
Device: Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	
M		6.8 Time	5.0 Time	7.8 Time	8.0 Time	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS		
						UNITS		UNITS		UNITS		UNITS		
7		5.1 Time	7.5 Time	9.0 Time	7.9 Time	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS		
						UNITS		UNITS		UNITS		UNITS		
W		3.9 Time	2.9 Time	12.9 Time	8.9 Time	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS		
						UNITS		UNITS		UNITS		UNITS		
7		1.9 Time				UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
						UNITS		UNITS		UNITS		UNITS		

T1DM on basal bolus

What's the problem?

Why did it happen?



# Scenario 9: 35 year old woman – delivered baby on Tuesday night

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **01010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range: \_\_\_\_\_  
 Timings: \_\_\_\_\_  
 Device: \_\_\_\_\_

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	
						Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	
M		6.8 Time	5.0 Time	7.8 Time	8.0 Time	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS		
						UNITS		UNITS		UNITS		UNITS		
7		5.1 Time	7.5 Time	9.0 Time	7.9 Time	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS		
						UNITS		UNITS		UNITS		UNITS		
W		3.9 Time	2.9 Time	12.9 Time	8.9 Time	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid		Lantus 26		
						UNITS		UNITS						
7		1.9 Time												
7														
S														
S														

**Learning point:**  
 Insulin requirements rise through pregnancy and fall immediately after delivery.  
 Breast-feeding also reduces insulin requirements.

# Scenario 10: 56 year old man admitted with LRTI

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **01010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

me: **INSULIN 2** Type/Name  
 Dose & range:  
 Timings:  
 Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Time	Time	Time	Time	Type & units	Prescribed by	Type & units	Prescribed by	Type & units	Prescribed by	Type & units	Prescribed by	
							Given by/Time		Given by/Time		Given by/Time		Given by/Time	
							Prescribed by		Prescribed by		Prescribed by		Prescribed by	
							Given by/Time		Given by/Time		Given by/Time		Given by/Time	
<b>M</b>		<b>6.8</b> Time	<b>9.1</b> Time	<b>11.0</b> Time	<b>17.1</b> Time	UNITS		UNITS		UNITS		Insulatard 26 UNITS		
<b>7</b>		<b>5.1</b> Time	<b>13.2</b> Time	<b>15.4</b> Time	<b>18.1</b> Time	UNITS		UNITS		UNITS		Insulatard 26 UNITS		
<b>W</b>		<b>6.2</b> Time	<b>15.1</b> Time	<b>16.0</b> Time	<b>15.5</b> Time	UNITS		UNITS		UNITS		Insulatard 26 UNITS		
<b>7</b>		<b>5.5</b> Time				UNITS		UNITS		UNITS		UNITS		
<b>7</b>						UNITS		UNITS		UNITS		UNITS		
<b>S</b>						UNITS		UNITS		UNITS		UNITS		
<b>S</b>						UNITS		UNITS		UNITS		UNITS		

T2DM on od insulin and bd SU

What else do we need to know?

What's needs to happen?



Scenario 10: 56 year old man admitted with LRTI

First Name: PATIE  
Last Name: PATIE  
CHI Number: N1101010101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

Dose & range: Dose & range:  
Timings: Timings:  
Device: Device:

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Time	Time	Time	Time	Type & units	Prescribed by	Type & units	Prescribed by	Type & units	Prescribed by	Type & units	Prescribed by	
M		6.8	9.1	11.0	17.1	UNITS		UNITS		UNITS		Insulatard 26 UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		5.1	13.2	15.4	18.1	UNITS		UNITS		UNITS		Insulatard 26 UNITS		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
W		6.2	15.1	16.0	15.5	UNITS		UNITS		UNITS		Insulatard		
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS		
7		5.5				UNITS		UNITS		UNITS				
		Time	Time	Time	Time	UNITS		UNITS		UNITS				
7						UNITS		UNITS		UNITS				
		Time	Time	Time	Time	UNITS		UNITS		UNITS				
S						UNITS		UNITS		UNITS				
		Time	Time	Time	Time	UNITS		UNITS		UNITS				
S						UNITS		UNITS		UNITS				
		Time	Time	Time	Time	UNITS		UNITS		UNITS				

Learning point:  
Check HbA1c.  
Enquire regarding symptoms.  
On steroids?  
May need converted to bd insulin or basal bolus.

# Scenario 11: 78 year old admitted to MoE with falls

First Name: **FATIE**  
Last Name: **PATIE**  
CHI Number: **NT10101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
		Time	Time	Time	Time	Type & units	Prescribed by Given by/Time	Type & units	Prescribed by Given by/Time	Type & units	Prescribed by Given by/Time	Type & units	Prescribed by Given by/Time	
M		7.2 Time	12.1 Time	18.3 Time	7.3 Time	Novomix 30 36 UNITS		UNITS		Novomix 30 36 UNITS		UNITS		
7		6.9 Time	13.3 Time	19.2 Time	6.8 Time	Novomix 30 36 UNITS		UNITS		Novomix 30 40 UNITS		UNITS		
W		5.4 Time	10.1 Time	17.1 Time	4.1 Time	Novomix 30 36 UNITS		UNITS		Novomix 30 40 UNITS		UNITS		
7		4.5 Time				UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		

T2DM on bd insulin

Problems?



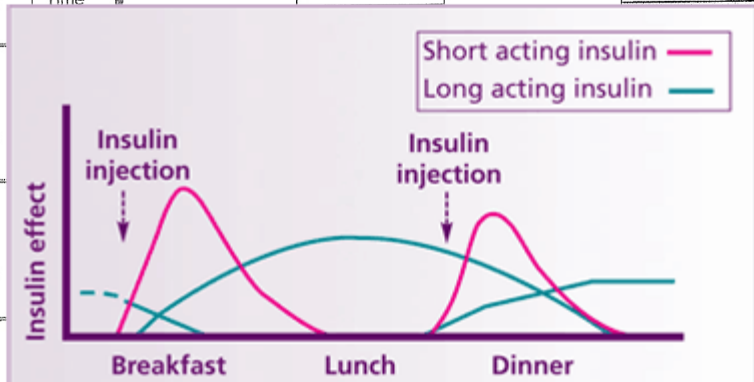
# Scenario 11: 78 year old admitted to MoE with falls

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment	
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed		
M		7.2	12.1	18.3	7.3	Novomix 30 36 UNITS				Novomix 30 36 UNITS					
7		6.9	13.3	19.2	6.8	Novomix 30 36 UNITS				Novomix 30 40 UNITS					
W		5.4	10.1	17.1	4.1	Novomix 30 36 UNITS				Novomix 30 40 UNITS					
7		4.5				UNITS				UNITS					
7															
S															
S															



**Learning point:**  
 Don't adjust insulin dose at time of high sugars – adjust dose responsible for high sugar.

# Scenario 12: 44 year old admitted with NSTEMI

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name:	Other:
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment	
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed		
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by		
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time		
						Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by	Prescribed by		
						Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time	Given by/Time		
						Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units	Type & units		
M		7.2	5.6	4.6	6.1	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 12 UNITS		Lantus 26 UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
7		6.9	5.4	4.2	1.8	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
W		22.0				Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			
		Time	Time	Time	Time	UNITS		UNITS		UNITS		UNITS			

T1DM on basal bolus

Problems?



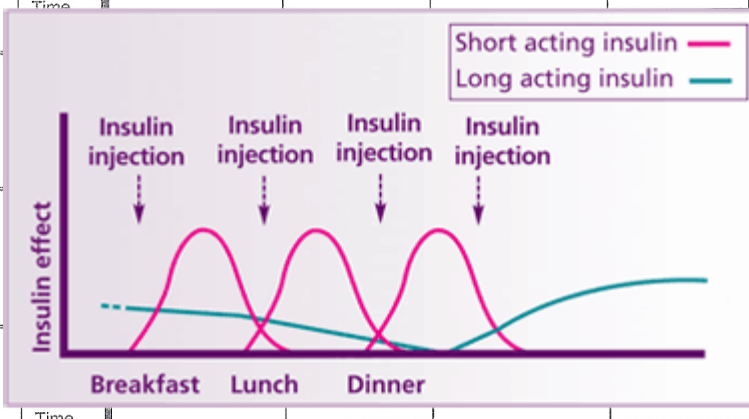
# Scenario 12: 44 year old admitted with NSTEMI

First Name: **PATIE**  
 Last Name: **PATIE**  
 CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
 Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

INSULIN 1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	
M		7.2	5.6	4.6	6.1	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 12 UNITS		Lantus 26 UNITS		
7		6.9	5.4	4.2	1.8	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		UNITS		
W		22.0				Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 14 UNITS		Lantus 26 UNITS		
7						UNITS		UNITS		UNITS		UNITS		
7														
S														
S														



Learning point:  
**NEVER** omit long-acting insulin in a patient with T1DM

Scenario 13a: 21 year old admitted with asthma exacerbation

First Name: **PATIE**  
Last Name: **PATIE**  
CHI Number: **0101010101**

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Prescribed by	Given by/Time	Prescribed by	Given by/Time	
M		7.2	5.6	4.6	1.7	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 12 UNITS		Lantus 26 UNITS		
7						UNITS		UNITS		UNITS		UNITS		
W						UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
7						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		
S						UNITS		UNITS		UNITS		UNITS		

T1DM on basal bolus

Noted to be confused at bedtime

What should you do?



Scenario 13b: 21 year old admitted with asthma exacerbation

First Name: PATIE  
Last Name: PATIE  
CHI Number: N110101

If on intravenous insulin, please document hourly blood glucose readings on the intravenous insulin chart.  
Ensure insulin is also prescribed "as per BM and insulin chart" on the drug Kardex

1 Type/Name:	INSULIN 2 Type/Name	Other
Dose & range:	Dose & range:	
Timings:	Timings:	
Device:	Device:	

Date	BG other or ketones time	Blood Glucose (mmol/l)				INSULIN (units)								Hypoglycaemia and Treatment	
		Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Before Breakfast	Before Lunch	Before Evening Meal	Before Bed	Prescribed by	Given by/Time	Prescribed by	Given by/Time		
M		7.2	5.6	4.6	0.9	Novorapid 8 UNITS		Novorapid 8 UNITS		Novorapid 12 UNITS		Lantus 26 UNITS			
7						UNITS		UNITS		UNITS		UNITS			
W						UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
7						UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			
S						UNITS		UNITS		UNITS		UNITS			

T1DM on basal bolus

Noted to be unrousable at bedtime

What should you do?

# Diabetes in hospital

Other issues

- Oral agents in hospital
  - Metformin
  - Thiazolidinediones (pioglitazone)
- CSII – insulin pumps
- Conversion from sliding scale
  - When?
  - When to restart sc insulin?
- Surgical patients
  - Protocols for peri-operative management – familiarise yourself with these



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# Diabetes in hospital

## Summary – learning points

- Prescribe the correct insulin
- **Never** omit long-acting insulin in T1DM
- Adjust the appropriate insulin dose
- Avoid over frequent dose adjustment
- Be aware of hypo treatment guidelines
- Aim not to omit insulin after hypo treatment
- Respond to persistently high glucose
- Be wary of overly tight control, particularly in the elderly
- Be aware of the effect of steroids

# Diabetes in hospital

## Summary – learning points

- Listen to patients
- Ask for senior help
- Refer to the diabetes team