Type Won -1 Diabetes

DIY
Do It YourSelf : INSULIN THERAPY

Do It Yourself In Insulin Therapy For
Type Won -1 Diabetes

Dr Deepak Dalal
RSSDI 2020

DR DEEPAK G DALAL

Education

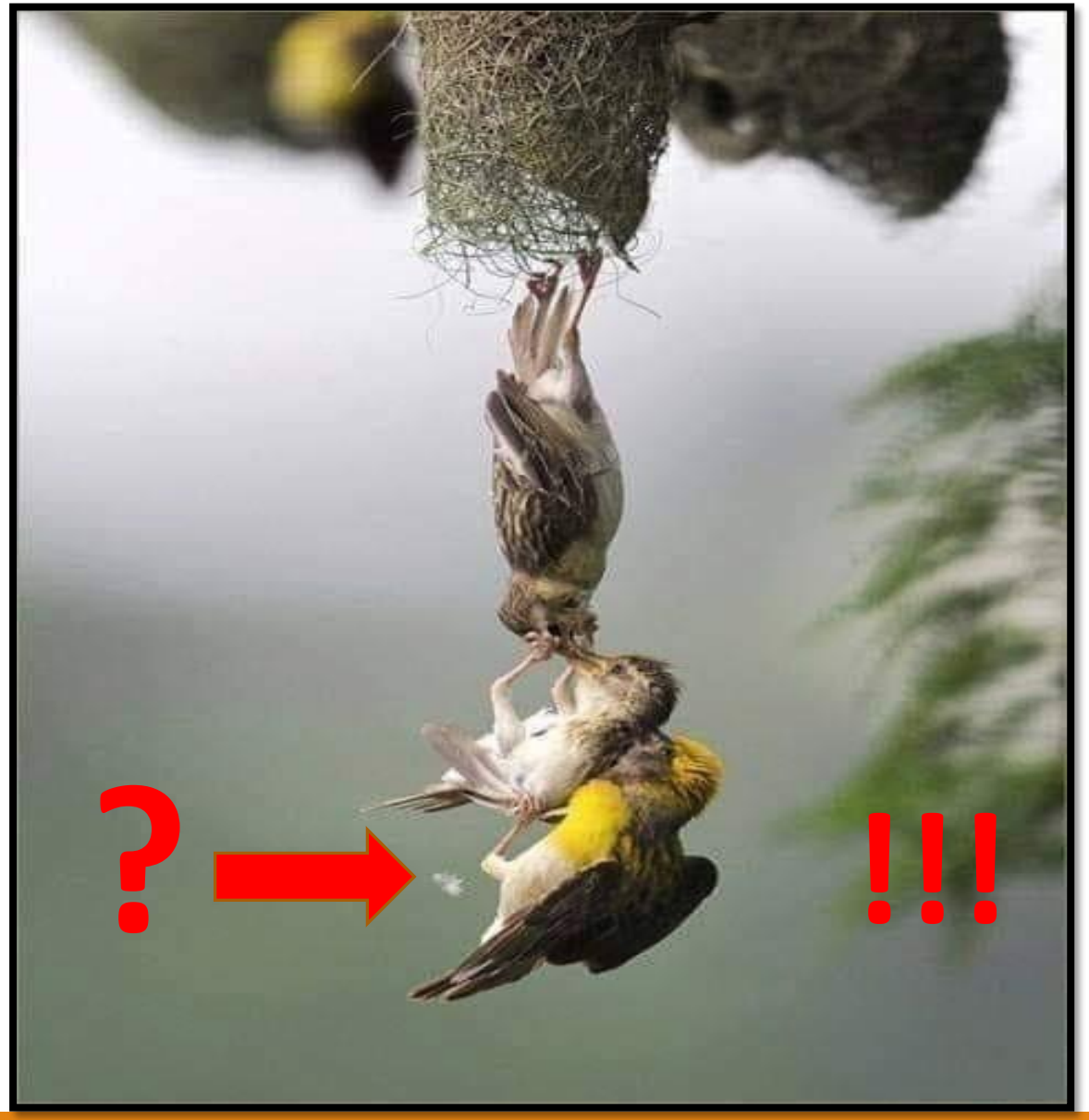
- M.D., Seth G.S .Medical College, 1980
- FICA, USA

Awards, Fellowships, Grants

- National Scholarship during Pre-Medical Program, 1970-1971
- Awarded Distinction in Forensic Medicine, April 1974 at Seth G.S. Medical College

Publications

- Wilson Disease (a case Report), Journal of Post Graduate Medicine (1980), 26 (2) 149-151.
- Continuous Low Dose Insulin Infusion Therapy for uncontrolled Diabetes State submitted to II world Congress on Diabetes in Tropics and Developing Countries.



High Blood Sugar
Uri Ketone Positive
Advised Hospitalization
COVID
No Bed Available

Where to go?
Who will Help?
How can we Helped?

Helplessness
Hopelessness

What Next? ??? >>> !!!

99/52 (67)

DR DEEPAK DALAL'S
DIABETES CARE
HEALTH CENTRED

Insulin for body

Survival growth &
reproduction
Avoid complications
Achieve purpose of life

Personal family school
work place profession
marriage economy
personal success

Insulin Acceptance Mind
Society Economics

FAMILY SELF ATMIC-SELF RESPECT

Early Diagnosis & Home Treatment

Hospitalization in DK DKA State and **back to home long term home RX**

Early Initiation Of Insulin Therapy

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

Choosing insulin Regime & Monitoring two sides of a coin MONEY

RX Modalities:

- ✓ Bottle & syringe
- ✓ Insulin Pen
- ✓ Insulin Pump

Monitoring :

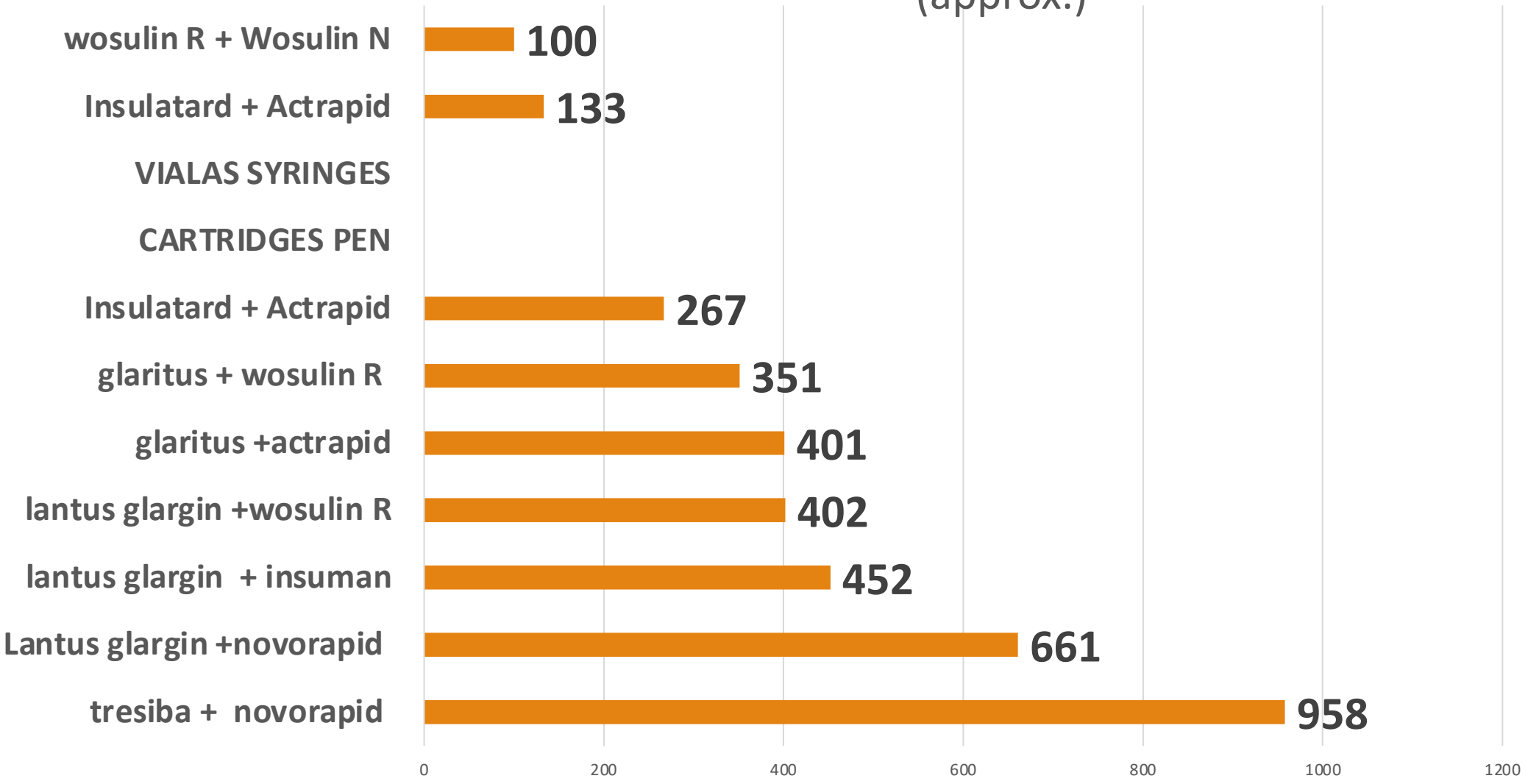
- ✓ SMBG
- ✓ CGMS

1	1 Basal very long acting insulin single dose Degludec
	3 Bolus Short Acting Insulin Bf+I+D
2	1 Basal long acting insulin 1 dose Glargin
	3 Bolus Short Acting Insulin Bf+I+D
3	2 Basal long acting insulin 2 dose Bf + D Glargin
	3 Bolus Short Acting Insulin Bf+I+D
4	2 Basal Intermediate acting insulin 2 dose Bf + D NPH
	3 Bolus Short Acting Insulin Bf+I+D
5	3 Basal Intermediate acting insulin 3 dose Bf + L + D NPH
	3 Bolus Short Acting Insulin Bf+I+D

	5 Basic Basal Bolus Insulin Regimes	Breakfast		Lunch		Dinner		3:00 AM	
		before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before BreakfastNext Day
		80-130		80-130		80-130			80-130
			90-160		90-160		90-160	90-160	
1	1 Basal very long acting insulin single dose Degludec			†		†		†	†
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		
2	1 Basal long acting insulin 1 dose Glargin			†		†		†	†
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		
3	2 Basal long acting insulin 2 dose Bf + D Glargin			Bf †		Bf †		D †	D †
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		
4	2 Basal Intermediate acting insulin 2 dose Bf + D NPH			Bf †		Bf †		D †	D †
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		
5	3 Basal Intermediate acting insulin 3 dose Bf + L + D NPH			Bf †		L †		D †	D †
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		

	cartridge							
			15 U Basal	15 U Bolus	30U Total per Day	per month	per year	
tresiba	tresiba	3.4	51					
novorapid	novorapid	2.35		35.25	86.25	2588	31481	958
Lantus glargin	Lantus glargin	1.61	24.2					
novorapid	novorapid	2.35		35.25	59.45	1783.5	21699	661
lantus	Lantus glargin	1.61	24.2					
insuman	Human R	1.1		16.5	40.7	1221	14856	452
lantus	Lantus glargin	1.61	24.2					
wosulin R	Human R bio	0.8		12	36	1086	13213	402
glaritus	Glaritus glargin	1.31	19.63					
actrapid	Human R	1.1		16.5	36	1084	13189	401
glaritus	Glaritus glargin	1.31	19.63					
wosulin R	Human R bio	0.8		12	32	949	11546	351
Insulatard	nph	0.8	12					
Actrapid	Human R	0.8		12	24	720	8760	267
	vial							
Insulatard	nph	0.4	6					
Actrapid	Human R	0.4		6	12	360	4380	133
wosulin R	nph	0.3	4.5					
Wosulin N	Human R	0.3		4.5	9	270	3285	100

comparative prices of insulins regimes available in India (approx.)



	Human Insulin	Analogue Insulin
Short Acting Insulin :	Actrapid Wosulin R Lupisulin R Insugen R	Novorapid Humalog Apidra
Intermediate Or Long Acting Insulin:	Insulatard Wosulin N Lupisulin N Insugen M	Lantus Basaglar Basugine Glaritus Toujeo Tresiba

EVENT and TARGETS								
	Breakfast		Lunch		Dinner		3:00 AM	
	before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before Breakfast Next Day
kids & hypos (0-6-12)	80-130		80-130		80-130			80-130
		90-160		90-160		90-160	90-160	
non kids& tight Control (+12)	80-120		80-120		80-120			80-120
		80-150		80-150		80-150	90-100	

		Breakfast		Lunch		Dinner		3:00 AM	
1	3 Bolus + 1 Basal Degludec	before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before Breakfast Next Day
		80-130		80-130		80-130			80-130
			90-160		90-160		90-160	90-160	
1	1 very long acting insulin single dose Degludec			†		†		†	†
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		

		Breakfast		Lunch		Dinner		3:00 AM	
2	3 Bolus + 1 Basal Glargin	before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before BreakfastNext Day
		80-130		80-130		80-130			80-130
			90-160		90-160		90-160	90-160	
2	1 long acting insulin 1 dose Glargin			†		†		†	†
	3 Bolus Short Acting Insulin Bf+l+D		Bf †		L †		D †		

		Breakfast		Lunch		Dinner		3:00 AM	
3	3 Bolus + 2 basal Glargin	before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before Breakfast Next Day
		80-130		80-130		80-130			80-130
			90-160		90-160		90-160	90-160	
3	2 long acting insulin 2 dose Bf + D Glargin			Bf †		Bf †		D †	D †
	3 Bolus Short Acting Insulin Bf+l+D		Bf †		L †		D †		

		Breakfast		Lunch		Dinner		3:00 AM	
4	3 Bolus + 2 basal NPH	before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before Breakfast Next Day
		80-130		80-130		80-130			80-130
			90-160		90-160		90-160	90-160	
4	2 Intermediate acting insulin 2 dose Bf + D NPH			Bf †		Bf †		D †	D †
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		

		Breakfast		Lunch		Dinner		3:00 AM	
5	3 Bolus + 3 Basal NPH	before BF	2 Hours after BF	before L	2 Hours after L	before D	2 Hours after D	3 AM or 8hrs Post Dinner	Before BreakfastNext Day
		80-130		80-130		80-130			80-130
			90-160		90-160		90-160	90-160	
5	3 Intermediate acting insulin 3 dose Bf + L + D NPH			Bf †		L †		D †	D †
	3 Bolus Short Acting Insulin Bf+I+D		Bf †		L †		D †		

PLAN PLAN PLAN Prasaar And Not Prachaar

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

Give Cooperation And Get Cooperation In Return

Self:

Cooperate	Coordinate
Plan	Communicate

Neighbour
School
Visiting Near And Dear One
Attending Party
Informing Others When Needed
Travelling 1 Day 2-3 Days Long Vacation

Plan:
Self Care
Carry All Armamentarium all the time
Use All Arms When Needed
Carrying Self Care Through Out Event

Materials Need :

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

Technique **SYRINGE AND VIAL** **PEN** **PUMP**
Dose Making
Poking
Site Rotation And Daily Discipline SMBG
Preserving Insulin Temperature **Normal** **Hot** **Cold**

Choosing Insulin **Type** **Dose Regime And** **SMBG**
Starting Dose
Dose Adjustment

Daily Routine
Special situations
Hypo Rule Of 15/15 and future prevention
Up /Down Pattern Management Extra Dose Rule Of 1700/TDD ANALOGUE INSU Or 1500/TDD HUMAN INSU
DK DKA SICK DAY Salty Liquid Extra Food Extra Insulin 4 Hourly Bl Sugar And Urine Ketone Checking

Travelling

https://www.youtube.com/watch?v=ZtL7c75NNwM&authuser=0

Insulin on the top of world

In treating physician's mind it was a big question ?

How to store insulin in such a freezing temperature?

or

Keep them on oral agents with uncontrolled glucose

pts came in December with
family member
They were wearing warm
Woolen abdominal binder
and coat we

Abdominal binder ranges from 5-15 feet long & 2 feet wide

Acceptance
Learning
Teaching
Translating In Action Plan

Action
Now And Here
Easy To Do
100% Perfect

Empathy
Empowerment
Priority Time Skill Action Plan Like DRILL

KETODIASTIX

GLUCOMETER

100IU INSULIN SYRINGE

URINE MEASURING FLASK

DISPOSABLE INSULIN INJECTING PEN

INSULIN PEN NEEDLE

ALCOHOL SPIRIT

Daily Correlation With

Life Style Transformation

Just 10 Minutes Job

Dr Deepak Dalal's
Diabetes Care
Health Centred

आज का दिन
खुद करेंगे और बाद में बालक से कराएंगे

निद्रा रात 11:00 से सुबह 5:00
सर केडीएन रिदम 2018 नोबेल प्राइज

१ घंटा नित्य कर्म नहाना धोना
१ घंटा खाना 15 मिनट चार बार दो नाटक दो नाश्ता दो भोजन
शांत चित्र से बिना मोबाइल

८ घंटा कमाना मार्क्स और पैसे

२ घंटा मोबाइल इंटरनेट व्हाट्सएप फेसबुक इंस्टाग्राम इत्यादि

१ घंटा मेडिटेशन सुबह-शाम आधा घंटा
१ घंटा शारीरिक कसरत एवं योगाभ्यास आधा घंटा सुबह श्याम

१ घंटा पारिवारिक सेवा
१ घंटा समाज सेवा

१ घंटा मेरे शौक गाना चित्रकला मैराथन जिम
१ घंटा आत्म कल्याण के लिए ध्यान साधना
आगे अभ्यास विकास सिद्धि

10 मिनट शुगर चेकिंग के लिए
10 मिनट इंसुलिन इंजेक्शन के लिए
10 मिनट रीडिंग लिखकर सोचने के लिए

My Today's Schedule
I will Do and then get it done from others

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

6 Hours 11PM to 5 AM Sleep 2018 Circadian Rhythm Nobel Prize

1 Hour Daily chore bath toilet etc
1 Hour eating 4 meals 15 minutes each

8 Hours work for marks and money

2 Hour mobile whats app face book Instagram

1 Hour meditation 30 minutes morning & evening fix time and place
1 Hour physical exercise + Yog 30 minutes morning-evening fix time & place

1 Hour service to family
1 Hour service to society

1 Hour for personal hobby reading writing painting music singing dancing
1 Hour self development further study sports material and non material achievements siddhi

For Person on Insulin Injections:
10 minutes sugar checking and recording
10 minutes insulin inj
10 minutes daily records and contemplation for better health control

TOTAL 21 FACTORS FOR EACH BLOOD SUGAR TEST

	Time	8	10	12	2	4	6	8	10	12	2	4	6	8
1	daily routine													
	HAPPINESS AND STRESS													
1	khushi													
2	stress desired													
3	stress unnecessary													
4	sick day													
	EXERCISE AND PHYSICAL ACTIVITY													
1	mor exercise	8	10	12	2	4	6	8						
2	eve exercise								10	12	2	4	6	8
3	mor house work'	8	10	12	2	4	6	8						
4	evening house work								10	12	2	4	6	8
	Healthy And Junk Food													
1	FOOD:good carb		10			2			10					
2	bad carb		10			2			10					
3	good fats													
4	bad fats			12			4			12				
5	Proteins Daals	8	10	12	2	4	6	8	10	12				
6	vegetables	8	10	12	2	4	6	8	10	12				
7	sprouts and salads	8	10	12	2	4	6	8	10	12				
8	fruits dry fruits	8	10	12	2	4	6	8	10	12				
	Insulin Injections													
	TIME: Insulin Inj	8	10	12	2	4	6	8	10	12		3	6	8
1	Bf short	8	2 BF-10	12										
2	Lunch short					2 L-2								
3	dinner short								2 D-10					
4	Bf long			BL-12				BD-8						
5	Dinner long	B Bf										3:00 AM		B Bf-8

Dr Deepak Dalal's Diabetes Care
Health Centred

Dr Deepak Dalal's Diabetes Care Health Centred

- Basal bolus never premix
- Treat basal bolus to primary physician
- Dose titration across the age charts concept

Dosing across the AGE

Dr Deepak Dalal's Diabetes Care
Health Centred

BOYS

Boy										
AGE	HEIGHT (cm)	WEIGHT (kg)	U / Kg	Total daily Dose	glargin OD	insulatard		regular TDS		
						Bf	D	Bf	Lunch	Dinner
Birth	51	3	0.5	1.5	0.8	0.4	0.4	0.2	0.2	0.2
		3	1	3.0	1.5	0.8	0.8	0.5	0.5	0.5
3 months	61	6	0.5	3.0	1.5	0.8	0.8	0.5	0.5	0.5
		6	1	6.0	3.0	1.5	1.5	1.0	1.0	1.0
6 months	68	8	0.5	4.0	2.0	1.0	1.0	0.6	0.6	0.6
		8	1	8.0	4.0	2.0	2.0	1.3	1.3	1.3
9 months	72	9	0.5	4.5	2.3	1.1	1.1	0.7	0.7	0.7
		9	1	9.0	4.5	2.3	2.3	1.4	1.4	1.4
1 year	76	10	0.5	5.0	2.5	1.3	1.3	0.8	0.8	0.8
		10	1	10.0	5.0	2.5	2.5	1.6	1.6	1.6
2 years	86	12	0.5	6.0	3.0	1.5	1.5	1.0	1.0	1.0
		12	1	12.0	6.0	3.0	3.0	1.9	1.9	1.9
3 years	95	15	0.5	7.3	3.7	1.8	1.8	1.2	1.2	1.2
		15	1	14.6	7.3	3.7	3.7	2.3	2.3	2.3
4 years	103	17	0.5	8.4	4.2	2.1	2.1	1.3	1.3	1.3
		17	1	16.7	8.4	4.2	4.2	2.7	2.7	2.7
5 years	110	19	0.5	9.4	4.7	2.3	2.3	1.5	1.5	1.5
		19	1	18.7	9.4	4.7	4.7	3.0	3.0	3.0
6 years	116	21	0.5	10.4	5.2	2.6	2.6	1.7	1.7	1.7
		21	1	20.7	10.4	5.2	5.2	3.3	3.3	3.3
7 years	122	23	0.5	11.5	5.7	2.9	2.9	1.8	1.8	1.8
		23	1	22.9	11.5	5.7	5.7	3.7	3.7	3.7
8 years	127	25	0.5	12.7	6.3	3.2	3.2	2.0	2.0	2.0
		25	1	25.3	12.7	6.3	6.3	4.0	4.0	4.0
9 years	132	28	0.5	14.1	7.0	3.5	3.5	2.2	2.2	2.2
		28	1	28.1	14.1	7.0	7.0	4.5	4.5	4.5
10 years	138	31	0.5	15.7	7.9	3.9	3.9	2.5	2.5	2.5
		31	1	31.4	15.7	7.9	7.9	5.0	5.0	5.0
11 years	140	32	0.5	16.1	8.1	4.0	4.0	2.6	2.6	2.6
		32	1	32.2	16.1	8.1	8.1	5.2	5.2	5.2
12 years	147	37	1.1	40.7	20.4	10.2	10.2	6.5	6.5	6.5
		37	1.4	51.8	25.9	13.0	13.0	8.3	8.3	8.3
13 years	153	41	1.1	45.0	22.5	11.2	11.2	7.2	7.2	7.2
		41	1.4	57.3	28.6	14.3	14.3	9.2	9.2	9.2
14 years	160	47	1.1	51.7	25.9	12.9	12.9	8.3	8.3	8.3
		47	1.4	65.8	32.9	16.5	16.5	10.5	10.5	10.5
15 years	166	53	1.1	57.9	28.9	14.5	14.5	9.3	9.3	9.3
		53	1.4	73.6	36.8	18.4	18.4	11.8	11.8	11.8
16 years	171	58	1.1	63.8	31.9	16.0	16.0	10.2	10.2	10.2
		58	1.4	81.2	40.6	20.3	20.3	13.0	13.0	13.0
17 years	175	63	1.1	69.0	34.5	17.2	17.2	11.0	11.0	11.0
		63	1.4	87.8	43.9	21.9	21.9	14.0	14.0	14.0
18 years	177	65	1.1	71.5	35.8	17.9	17.9	11.4	11.4	11.4
		65	1.4	91.0	45.5	22.8	22.8	14.6	14.6	14.6

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

Girls

GIRL										
AGE	HEIGHT (cm)	WEIGHT (kg)		Total daily Dose	glargin OD	insulatard BD		regular TDS		
			U / Kg			Bf	D	Bf	Lunch	Dinner
Birth	51	3	0.5	1.5	0.8	0.4	0.4	0.2	0.2	0.2
		3	1	3	1.5	0.8	0.8	0.5	0.5	0.5
3 months	61	6	0.5	3	1.5	0.8	0.8	0.5	0.5	0.5
		6	1	6	3	1.5	1.5	1	1	1
6 months	68	8	0.5	4	2	1	1	0.6	0.6	0.6
		8	1	8	4	2	2	1.3	1.3	1.3
9 months	72	9	0.5	4.5	2.3	1.1	1.1	0.7	0.7	0.7
		9	1	9	4.5	2.3	2.3	1.4	1.4	1.4
1 year	76	10	0.5	5	2.5	1.3	1.3	0.8	0.8	0.8
		10	1	10	5	2.5	2.5	1.6	1.6	1.6
2 years	86	12	0.5	6	3	1.5	1.5	1	1	1
		12	1	12	6	3	3	1.9	1.9	1.9
3 years	95	15	0.5	7.3	3.7	1.8	1.8	1.2	1.2	1.2
		15	1	14.6	7.3	3.7	3.7	2.3	2.3	2.3
4 years	103	17	0.5	8.4	4.2	2.1	2.1	1.3	1.3	1.3
		17	1	16.7	8.4	4.2	4.2	2.7	2.7	2.7
5 years	110	19	0.5	9.4	4.7	2.3	2.3	1.5	1.5	1.5
		19	1	18.7	9.4	4.7	4.7	3	3	3
6 years	116	21	0.5	10.4	5.2	2.6	2.6	1.7	1.7	1.7
		21	1	20.7	10.4	5.2	5.2	3.3	3.3	3.3
7 years	122	23	0.5	11.5	5.7	2.9	2.9	1.8	1.8	1.8
		23	1	22.9	11.5	5.7	5.7	3.7	3.7	3.7
8 years	127	25	0.5	12.7	6.3	3.2	3.2	2	2	2
		25	1	25.3	12.7	6.3	6.3	4	4	4
9 years	132	28	0.5	14.1	7	3.5	3.5	2.2	2.2	2.2
		28	1	28.1	14.1	7	7	4.5	4.5	4.5
10 years	138	31	0.5	15.7	7.9	3.9	3.9	2.5	2.5	2.5
		31	1	31.4	15.7	7.9	7.9	5	5	5
11 years	140	32	0.5	16.1	8.1	4	4	2.6	2.6	2.6
		32	1	32.2	16.1	8.1	8.1	5.2	5.2	5.2
12 years	147	37	1	37	18.5	9.3	9.3	5.9	5.9	5.9
		37	1.2	44.4	22.2	11.1	11.1	7.1	7.1	7.1
13 years	153	41	1	40.9	20.5	10.2	10.2	6.5	6.5	6.5
		41	1.2	49.1	24.5	12.3	12.3	7.9	7.9	7.9
14 years	160	47	1	47	23.5	11.8	11.8	7.5	7.5	7.5
		47	1.2	56.4	28.2	14.1	14.1	9	9	9
15 years	166	53	1	52.6	26.3	13.2	13.2	8.4	8.4	8.4
		53	1.2	63.1	31.6	15.8	15.8	10.1	10.1	10.1
16 years	171	58	1	58	29	14.5	14.5	9.3	9.3	9.3
		58	1.2	69.6	34.8	17.4	17.4	11.1	11.1	11.1
17 years	175	63	1	62.7	31.4	15.7	15.7	10	10	10
		63	1.2	75.2	37.6	18.8	18.8	12	12	12
18 years	177	65	1	65	32.5	16.3	16.3	10.4	10.4	10.4
		65	1.2	78	39	19.5	19.5	12.5	12.5	12.5

EXTRA DOSE CALCULATOR 4 HOURLY EXTRA DOSE REQUIRED human insulin 1500									
WT KG = TDD INSULIN	UPTO 200	250	300	350	400	450	500	550	600
		50	100	150	200	250	300	350	400
40	3	4	6	7	8	10	11	12	14
42	3	4	6	7	9	10	11	13	14
44	4	5	7	8	10	11	13	14	16
46	4	6	7	9	10	12	13	15	16
48	4	6	7	9	10	12	14	15	17
50	4	6	7	9	11	12	14	16	17
52	4	6	7	9	11	13	14	16	18
54	4	6	8	9	11	13	15	17	18
56	4	6	8	10	11	13	15	17	19
58	5	7	9	11	13	15	17	19	20
60	5	7	9	11	13	15	17	19	21
62	5	7	9	11	13	15	17	19	22
64	5	7	9	11	14	16	18	20	22
66	5	7	9	12	14	16	18	20	23
68	5	7	10	12	14	16	19	21	23
70	6	8	11	13	15	18	20	22	25
72	6	8	11	13	16	18	20	23	25
74	6	8	11	13	16	18	21	23	26
76	6	9	11	14	16	19	21	24	26
78	6	9	11	14	16	19	22	24	27
80	6	9	11	14	17	19	22	25	27
82	7	10	12	15	18	21	23	26	29
84	7	10	13	15	18	21	24	27	29
86	7	10	13	16	18	21	24	27	30
88	7	10	13	16	19	22	25	28	30
90	7	10	13	16	19	22	25	28	31
92	7	10	13	16	19	22	25	28	32
94	8	11	14	17	21	24	27	30	33
96	8	11	14	18	21	24	27	30	34
98	8	11	15	18	21	24	28	31	34
100	8	11	15	18	21	25	28	31	35

Pattern Adjustment Human insulin

1500 Formula

Correction Factor =1500 / TDD of insulin
1500/30=50 mg

BS REQURED TO BROUGHT DOWN =
present BS - target BS / CF

450-200=250

Extra Regular insulin required every 4 hours =

250 / 50 = 5 UNITS OF EXTRA INSULIN
+ Original dose if due

DR DEEPAK DALAL'S DIABETES CARE
HEALTH CENTRED

EXTRA DOSE CALCULATOR 4 HOURLY EXTRA DOSE REQUIRED									
WT KG = TDD INSULIN	UPTO 200	250	300	350	400	450	500	550	600
		50	100	150	200	250	300	350	400
40	3	4	5	7	8	9	10	11	12
42	3	4	5	7	8	9	10	12	13
44	4	5	7	8	9	10	12	13	14
46	4	5	7	8	9	11	12	13	15
48	4	5	7	8	10	11	12	14	15
50	4	5	7	8	10	11	13	14	16
52	4	6	7	9	10	12	13	15	16
54	4	6	7	9	10	12	14	15	17
56	4	6	7	9	11	12	14	16	17
58	5	7	8	10	12	14	15	17	19
60	5	7	9	10	12	14	16	17	19
62	5	7	9	10	12	14	16	18	20
64	5	7	9	11	13	14	16	18	20
66	5	7	9	11	13	15	17	19	21
68	5	7	9	11	13	15	17	19	21
70	6	8	10	12	14	16	18	20	22
72	6	8	10	12	14	17	19	21	23
74	6	8	10	13	15	17	19	21	23
76	6	8	10	13	15	17	19	22	24
78	6	8	11	13	15	17	20	22	24
80	6	8	11	13	15	18	20	22	25
82	7	9	12	14	17	19	21	24	26
84	7	9	12	14	17	19	22	24	27
86	7	10	12	15	17	20	22	25	27
88	7	10	12	15	17	20	23	25	28
90	7	10	12	15	18	20	23	26	28
92	7	10	12	15	18	21	23	26	29
94	8	11	14	16	19	22	25	27	30
96	8	11	14	16	19	22	25	28	31
98	8	11	14	17	20	22	25	28	31
100	8	11	14	17	20	23	26	29	32

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

Analogue Insulin

1700 Formula

Basic training of insulin RX

Holy pure complete devoted

Injection technique and DRILL pres ervation of insulin rotation of inj site

Management of HYPO HYPER UP /DN DK DKA SICK DAY

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

When your blood sugar goes below 80mg/dl , it is considered as hypoglycemia.
If you suspect Hypo, here's what you should do

Don't waste time BUT ACT!

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If possible, check your Blood Sugar to confirm you're in a Hypo state.

If complaints / suggest Hypo and Blood Sugar is high, even then you treat like Hypo without any fear.

Remember: Giving yourself hypo treatment does not do any harm even if you were not really in hypo.

So here's what you should do if your blood sugar is below 80mg/dl

•Immediately take (or give) 3-teaspoon sugar/ glucose.

•Wait for 15 mins then recheck the blood sugar, if still below 80mg/dl, then again consume 15 gms or 3 tsp of sugar.

•Avoid Diet Drinks, Oily Sweets, Biscuits, Chocolate

•If Patient cannot swallow on his own, make a paste of 2-teaspoon Sugar or Glucose and put it in the mouth or rub like toothpaste on gums

•After recovery immediately take (or give) other food articles to avoid further hypo.

•Keep calm, be patient as it takes time to recover. Don't over feed.

Dr Deepak Dalal's Diabetes Care
Health Centred

Sick day routine

WHAT EXACTLY IS A `SICK DAY'?

•It's a day on which you suffer from any infection like: Cough, cold, (infection), loose motions, fever to name a few

And here's what generally happens on a sick day

•Unable to eat – chew – swallow and therefore tend to avoid food. Also feel nauseous and want to throw up

When you suffer as above;

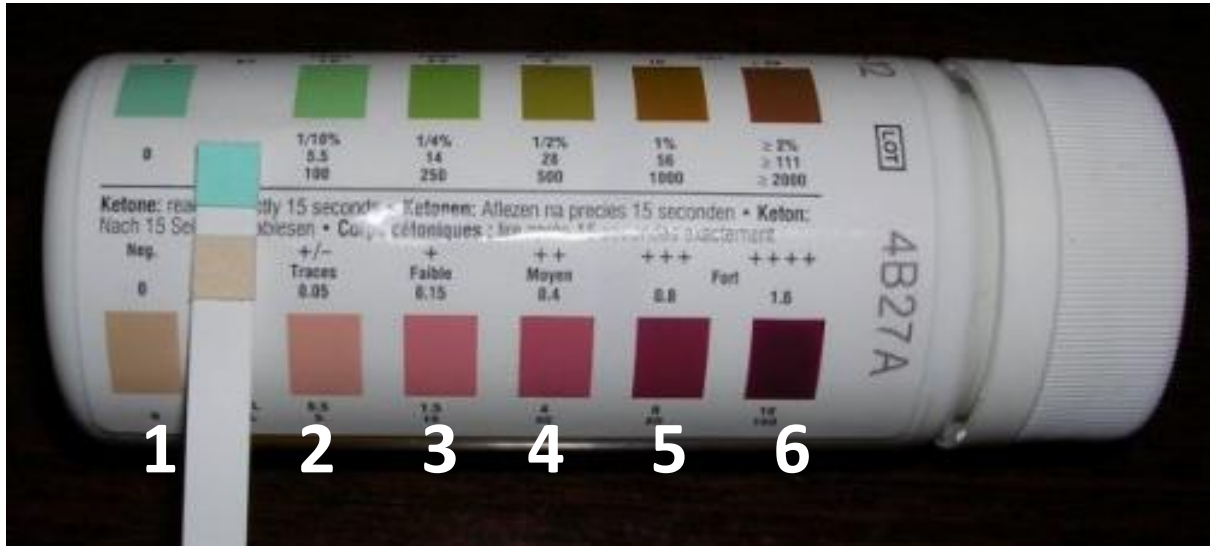
•DO NOT STOP FOOD AND DIABETES TREATMENT (tablets / injection)

•On a Sick Day you need more food than you usually do – more medication tablets or insulin injections to fight illness.

•Take Liquid or Semisolid food in small quantity every 1-2 hourly even though you may feel like vomiting, rather it would actually will help in stopping the feeling of Nausea and vomiting.

If need be take antiemetic tablet. (Tablet to control vomiting.)

Urine ketone



Bolus insulin 4 hourly:

AS PER URINE KETONE 4-5-6 and BL SUGAR MORE THAN 250

4 hourly short acting extra dose supplementation regime.

Short acting insulin works for 4 hours, so we need to give correction dose every 4 hourly.

How much extra ? That depends on blood sugar level and target. **AS PER URINE KETONE 4-5-6 and BL SUGAR MORE THAN 250**

- 4 hourly short acting extra dose supplementation regime:
- Suppose current reading is 450 and target is 200 then we need extra insulin to bring down bl sugar from 450 to 200 = 250 ie extra insulin for extra 250 bl sugar.
- How to correct that extra high sugar?
- Formula for correction:
- For analogue insulin: 1700 divided by Total daily dose of insulin TDD 1700 / TDD
- 1700 divided by 60 = 28.3 = 30 approx
- So for every 30 units high over 200 we need one unit of RAPID acting insulin
- So we need 250 divided by 30 = 8 about 8 unit of RAPID acting insulin
- This needs to be calculated again after 4 hours and dose to be given till the time bl sugar is less than 250 and urine keton is 2-3
- Usually it takes 3-5 days for clearance of urine ketone,
- Sometimes it may take 7 days or more in more serious cases.
- This is too much for anyone to do at home without medical help round the clock.
- So we have designed a chart where in diabetes educator makes patient relative see reading every 4 hourly and give dose of RAPID acting insulin without any calculations.
- When urine ketone 2-3 and bl sugar less than 250 we stop this regime and start basal bolus regime with Bf Lunch Dinner
- Usually it takes 3-5 days for clearance of urine ketone,
- sometimes it may take 7 days or more in more serious cases.

Materials Need :

Technique SYRINGE AND VIAL PEN PUMP
Dose Making
Poking
Site Rotation And Daily Discipline SMBG
Preserving Insulin Temperature Normal Hot Cold

Choosing Insulin Type Dose Regime And SMBG
Starting Dose
Dose Adjustment

Daily Routine
Special situations
Hypo Rule Of 15/15 and future prevention
Up /Down Pattern Management Extra Dose Rule Of 1700/TDD ANALOGUE INSU Or 1500/TDD HUMAN INSU
DK DKA SICK DAY Salty Liquid Extra Food Extra Insulin 4 Hourly Bl Sugar And Urine Ketone Checking

Travelling

DR DEEPAK DALAL'S DIABETES CARE HEALTH CENTRED

SICK DAY DIET

Cereals & Pulses Combination:

Dal-Rice, Curd- Rice, Mung- Rice, Khichadi, Dalia, Kanji, Porridge.

Barley water

Soups:

Vegetables, Boiled Pulses Boiled sprouts (Mung, Math, Chana) Soup.

Chicken, Fish.

Salty Liquids:

Soup, Dal water, Butter Milk, Kanji unstrained Fruit juice.

Milk Products:

Curd, Buttermilk & Lassi

Sick day routine

Treatment Modality

No Premix
Only Basal Bolus Combination

Bolus
3 bolus Before Breakfast Before Lunch Before Dinner compulsory
Short acting Human Rapid Acting Aspart Lispro Glulisine Aspart(+B3 & L-Arginin)

Basal 5 regimes
1 very long acting once a day Tresiba (Degludec) >>24 hours
1 or 2 long acting Glargin 18-24 hours
2 or 3 Intermediate acting NPH
10-16 hours

Age Weight Insulin Dose

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AGE	HEIGHT (cm)	WEIGHT (kg)	U / Kg	Total daily Dose	glargin OD	insulatard		regular TDS				Total daily Dose	glargin OD	insulatard BD		regular TDS		
						Bf	D	Bf	Lunch	Dinner	U / Kg			Bf	D	Bf	Lunch	Dinner
Birth	51	3	0.5	1.5	0.8	0.4	0.4	0.2	0.2	0.2	0.5	1.5	0.8	0.4	0.4	0.2	0.2	0.2
		3	1	3.0	1.5	0.8	0.8	0.5	0.5	0.5	1	3.0	1.5	0.8	0.8	0.5	0.5	0.5
	61	6	0.5	3.0	1.5	0.8	0.8	0.5	0.5	0.5	0.5	3.0	1.5	0.8	0.8	0.5	0.5	0.5
3 months		6	1	6.0	3.0	1.5	1.5	1.0	1.0	1.0	1	6.0	3.0	1.5	1.5	1.0	1.0	1.0
6 months	68	8	0.5	4.0	2.0	1.0	1.0	0.6	0.6	0.6	0.5	4.0	2.0	1.0	1.0	0.6	0.6	0.6
		8	1	8.0	4.0	2.0	2.0	1.3	1.3	1.3	1	8.0	4.0	2.0	2.0	1.3	1.3	1.3
	72	9	0.5	4.5	2.3	1.1	1.1	0.7	0.7	0.7	0.5	4.5	2.3	1.1	1.1	0.7	0.7	0.7
9 months		9	1	9.0	4.5	2.3	2.3	1.4	1.4	1.4	1	9.0	4.5	2.3	2.3	1.4	1.4	1.4
	76	10	0.5	5.0	2.5	1.3	1.3	0.8	0.8	0.8	0.5	5.0	2.5	1.3	1.3	0.8	0.8	0.8
1 year		10	1	10.0	5.0	2.5	2.5	1.6	1.6	1.6	1	10.0	5.0	2.5	2.5	1.6	1.6	1.6
	86	12	0.5	6.0	3.0	1.5	1.5	1.0	1.0	1.0	0.5	6.0	3.0	1.5	1.5	1.0	1.0	1.0
2 years		12	1	12.0	6.0	3.0	3.0	1.9	1.9	1.9	1	12.0	6.0	3.0	3.0	1.9	1.9	1.9
	95	15	0.5	7.3	3.7	1.8	1.8	1.2	1.2	1.2	0.5	7.3	3.7	1.8	1.8	1.2	1.2	1.2
3 years		15	1	14.6	7.3	3.7	3.7	2.3	2.3	2.3	1	14.6	7.3	3.7	3.7	2.3	2.3	2.3
4 years	103	17	0.5	8.4	4.2	2.1	2.1	1.3	1.3	1.3	0.5	8.4	4.2	2.1	2.1	1.3	1.3	1.3
		17	1	16.7	8.4	4.2	4.2	2.7	2.7	2.7	1	16.7	8.4	4.2	4.2	2.7	2.7	2.7
	110	19	0.5	9.4	4.7	2.3	2.3	1.5	1.5	1.5	0.5	9.4	4.7	2.3	2.3	1.5	1.5	1.5
5 years		19	1	18.7	9.4	4.7	4.7	3.0	3.0	3.0	1	18.7	9.4	4.7	4.7	3.0	3.0	3.0
	116	21	0.5	10.4	5.2	2.6	2.6	1.7	1.7	1.7	0.5	10.4	5.2	2.6	2.6	1.7	1.7	1.7
6 years		21	1	20.7	10.4	5.2	5.2	3.3	3.3	3.3	1	20.7	10.4	5.2	5.2	3.3	3.3	3.3
	122	23	0.5	11.5	5.7	2.9	2.9	1.8	1.8	1.8	0.5	11.5	5.7	2.9	2.9	1.8	1.8	1.8
7 years		23	1	22.9	11.5	5.7	5.7	3.7	3.7	3.7	1	22.9	11.5	5.7	5.7	3.7	3.7	3.7
	127	25	0.5	12.7	6.3	3.2	3.2	2.0	2.0	2.0	0.5	12.7	6.3	3.2	3.2	2.0	2.0	2.0
8 years		25	1	25.3	12.7	6.3	6.3	4.0	4.0	4.0	1	25.3	12.7	6.3	6.3	4.0	4.0	4.0
	132	28	0.5	14.1	7.0	3.5	3.5	2.2	2.2	2.2	0.5	14.1	7.0	3.5	3.5	2.2	2.2	2.2
9 years		28	1	28.1	14.1	7.0	7.0	4.5	4.5	4.5	1	28.1	14.1	7.0	7.0	4.5	4.5	4.5
	138	31	0.5	15.7	7.9	3.9	3.9	2.5	2.5	2.5	0.5	15.7	7.9	3.9	3.9	2.5	2.5	2.5
10 years		31	1	31.4	15.7	7.9	7.9	5.0	5.0	5.0	1	31.4	15.7	7.9	7.9	5.0	5.0	5.0
	140	32	0.5	16.1	8.1	4.0	4.0	2.6	2.6	2.6	0.5	16.1	8.1	4.0	4.0	2.6	2.6	2.6
11 years		32	1	32.2	16.1	8.1	8.1	5.2	5.2	5.2	1	32.2	16.1	8.1	8.1	5.2	5.2	5.2
	147	37	1.1	40.7	20.4	10.2	10.2	6.5	6.5	6.5	1	37.0	18.5	9.3	9.3	5.9	5.9	5.9
12 years		37	1.4	51.8	25.9	13.0	13.0	8.3	8.3	8.3	1.2	44.4	22.2	11.1	11.1	7.1	7.1	7.1
	153	41	1.1	45.0	22.5	11.2	11.2	7.2	7.2	7.2	1	40.9	20.5	10.2	10.2	6.5	6.5	6.5
13 years		41	1.4	57.3	28.6	14.3	14.3	9.2	9.2	9.2	1.2	49.1	24.5	12.3	12.3	7.9	7.9	7.9
	160	47	1.1	51.7	25.9	12.9	12.9	8.3	8.3	8.3	1	47.0	23.5	11.8	11.8	7.5	7.5	7.5
14 years		47	1.4	65.8	32.9	16.5	16.5	10.5	10.5	10.5	1.2	56.4	28.2	14.1	14.1	9.0	9.0	9.0
	166	53	1.1	57.9	28.9	14.5	14.5	9.3	9.3	9.3	1	52.6	26.3	13.2	13.2	8.4	8.4	8.4
15 years		53	1.4	73.6	36.8	18.4	18.4	11.8	11.8	11.8	1.2	63.1	31.6	15.8	15.8	10.1	10.1	10.1
	171	58	1.1	63.8	31.9	16.0	16.0	10.2	10.2	10.2	1	58.0	29.0	14.5	14.5	9.3	9.3	9.3
16 years		58	1.4	81.2	40.6	20.3	20.3	13.0	13.0	13.0	1.2	69.6	34.8	17.4	17.4	11.1	11.1	11.1
	175	63	1.1	69.0	34.5	17.2	17.2	11.0	11.0	11.0	1	62.7	31.4	15.7	15.7	10.0	10.0	10.0
17 years		63	1.4	87.8	43.9	21.9	21.9	14.0	14.0	14.0	1.2	75.2	37.6	18.8	18.8	12.0	12.0	12.0
	177	65	1.1	71.5	35.8	17.9	17.9	11.4	11.4	11.4	1	65.0	32.5	16.3	16.3	10.4	10.4	10.4
18 years		65	1.4	91.0	45.5	22.8	22.8	14.6	14.6	14.6	1.2	78.0	39.0	19.5	19.5	12.5	12.5	12.5

	BASAL		BOLUS						
WT KG	Basal 9AM	Basal 9 PM	9:00 AM	1:00 PM	5:00 PM	9:00 PM	1:00 AM	5:00 AM	9:00 AM
40	10	10	3	3	3	3	3	3	3
42	11	11	3	3	3	3	3	3	3
44	11	11	4	4	4	4	4	4	4
46	12	12	4	4	4	4	4	4	4
48	12	12	4	4	4	4	4	4	4
50	13	13	4	4	4	4	4	4	4
52	13	13	4	4	4	4	4	4	4
54	14	14	4	4	4	4	4	4	4
56	14	14	4	4	4	4	4	4	4
58	15	15	5	5	5	5	5	5	5
60	15	15	5	5	5	5	5	5	5
62	16	16	5	5	5	5	5	5	5
64	16	16	5	5	5	5	5	5	5
66	17	17	5	5	5	5	5	5	5
68	17	17	5	5	5	5	5	5	5
70	18	18	6	6	6	6	6	6	6
72	18	18	6	6	6	6	6	6	6
74	19	19	6	6	6	6	6	6	6
76	19	19	6	6	6	6	6	6	6
78	20	20	6	6	6	6	6	6	6
80	20	20	6	6	6	6	6	6	6
82	21	21	7	7	7	7	7	7	7
84	21	21	7	7	7	7	7	7	7
86	22	22	7	7	7	7	7	7	7
88	22	22	7	7	7	7	7	7	7
90	23	23	7	7	7	7	7	7	7
92	23	23	7	7	7	7	7	7	7
94	24	24	8	8	8	8	8	8	8
96	24	24	8	8	8	8	8	8	8
98	25	25	8	8	8	8	8	8	8
100	25	25	8	8	8	8	8	8	8

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HEALTH CENTRED

Dr Deepak Dalal's Diabetes Care
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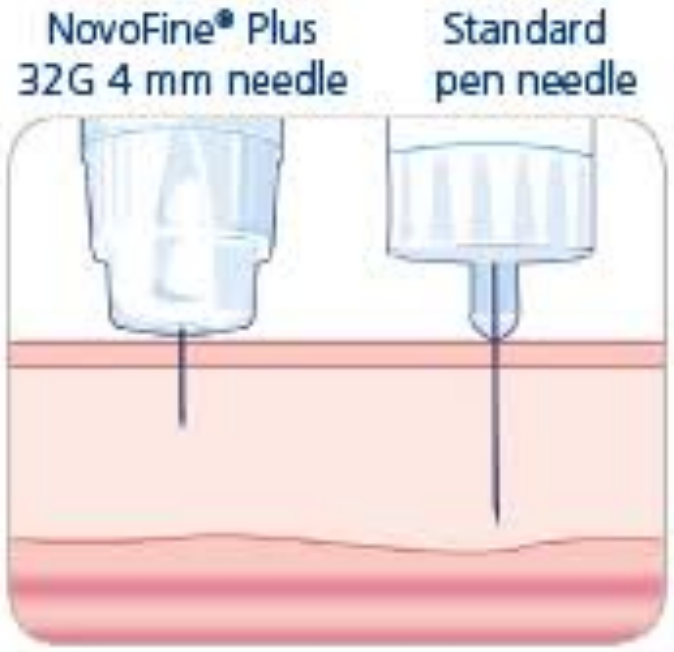
THANK YOU

HAPPY Poking



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We shall be happy to receive you for DIY