

Calculating the Correction Dose

$$\text{Correction dose of Insulin} = \frac{\text{Current BG} - \text{Target BG}}{\text{CF}}$$

Correction Factor (CF) or Sensitivity Factor (SF)

The CF = the mg/dl drop in BG caused by 1 unit of insulin
(depends on sensitivity to insulin - weight, age, renal function)

The right correction dose will return the BG to within
30 mg/dl of the target blood glucose about 3-4 hours
after the dose is injected

Calculating a Correction Factor(CF)/Sensitivity Factor(SF)

For patient new to insulin/sick day insulin
calculate by using
3000/weight in Kg

e.g. patient weighs 100 kg
3000/100kg=30
1u should reduce BG by 30 points

If impaired renal function/older age – may need “weaker” correction dose by using larger CF (SF) number (e.g. 50 – 1u lowers BG 50 points vs 30 points)

This gives **less insulin** as the correction dose of insulin

With severe IR/infection, may need to go to “stronger” correction dose by using smaller CF (SF) number (e.g. 20 - 1u lowers BG 20 points vs 30 points)

This gives **more insulin** as the correction dose of insulin

Quick “cheat sheet” for *starting point* for Correction Factor(CF)/Sensitivity Factor(SF)

CF based on patient weight

- <60 lb. = 100
- 60—80 lb. = 75
- 81—100 lb. = 60
- 101—120 lb. = 50
- 121—140 lb. = 45
- 141—170 lb. = 40
- 171—200 lb. = 30
- 201—230 lb. = 25
- 231—270 lb. = 20
- >270 lb. = 15

Or – if patient already treated with insulin

Can use:

- $1700/\text{TDD}^*$ - or
- 3x their Insulin to Carb ratio Factor

Based on 3x ICR weight formula

Guide for Using Correction Insulin

- During illness aim for blood glucose in **110-180 range**
 - if high risk of low BG aim for 140-180 range
 - Therefore you might use target BG of 140 for 110-180 range
- Example of Correction dose calculation for CF 30
 - [**current BG-target BG/CF**] – e.g. Current BG is 350 and target is ~140
 - $350-140/30 = 210/30 = 7u$ correction dose of rapid acting insulin to bring BG down 210 points
 - To strengthen use smaller CF: e.g. $210/25 = 8u$; $210/20 = 10.5u$; $210/15 = 14u$... to reduce BG 210 points
 - Can give patient a **correction scale**: e.g. for BG 180-210 1u; BG 211-240 2u; BG 241-270 3u, 271-300 4u, BG 301-330 5u, etc.
 - See cheat sheet to copy and paste for different CF values

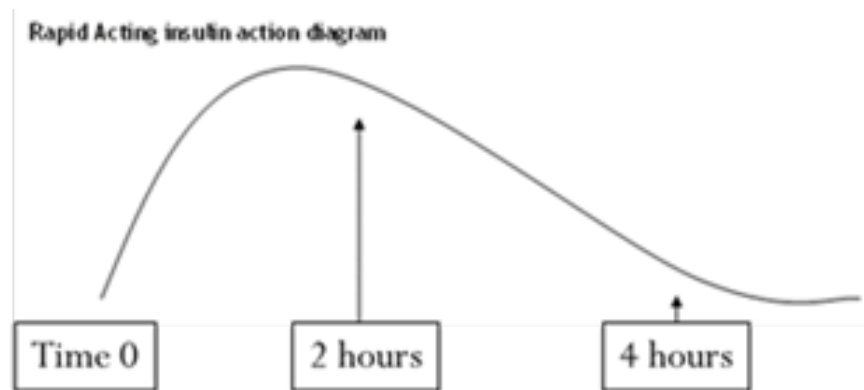
Correction Scales for different Correction Factors

- **CF 50:** for BG 180-230 give 1u; 231-280 2u; 281-330 3u; 331-380 4u; 381-410 5u; 411-460 6u; 461-510 7u, 511-560 8u, 561-610 9u, etc.
- **CF 40:** for BG 180-220 give 1u; 221-260 2u; 261-300 3u, 301-340 4u, 341-380 5u, 381-420 6u, 421-460 7u, 461-500 8u, 501-540 9u, 541- 580 10u, etc.
- **CF 30:** for BG 180-210 give 1u; 211-240 2u; 241-270 3u; 271-300 4u; 301-330 5u; 331-360 6u; 361-390 7u; 391-420 8u; 421-450 9u, 451- 480 10u, 481-510 11u, 511-540 12u, 541-570 13u, 571-600 14u, etc.
- **CF 25:** for BG 175-200 give 1u; 201-225 2u; 226-250 3u; 251-275 4u; 276-300 5u; 301-325 6u; 326-350 7u; 351-375 8u; 376-400 9u,401-425 10u, 425-450 11u, 451-475 12u, 476-500 13u, 501-525 14u, 526-550 15u, etc.
- **CF 20:** for BG 180-200 1u; 201-220 2u; 221-240 3u; 241-260 4u, 261-280 5u, 281-300 6u, 301-320 7u, 321-340 8u, 341-360 9u, 361-380 10u, 381-400 11u, 401-420 12u, 421-440 13u, 441-460 14u, 461-480 15u, etc. **OR**
 - BG 180-220 give 2u; 221-260 4u; 261-300 6u, 301-340 8u, 341-380 10u, 381-420 12u, 421-460 14u, 461-500 18u, 501-540 18u, 541-580 19u, etc.

Guide for Using Correction Insulin

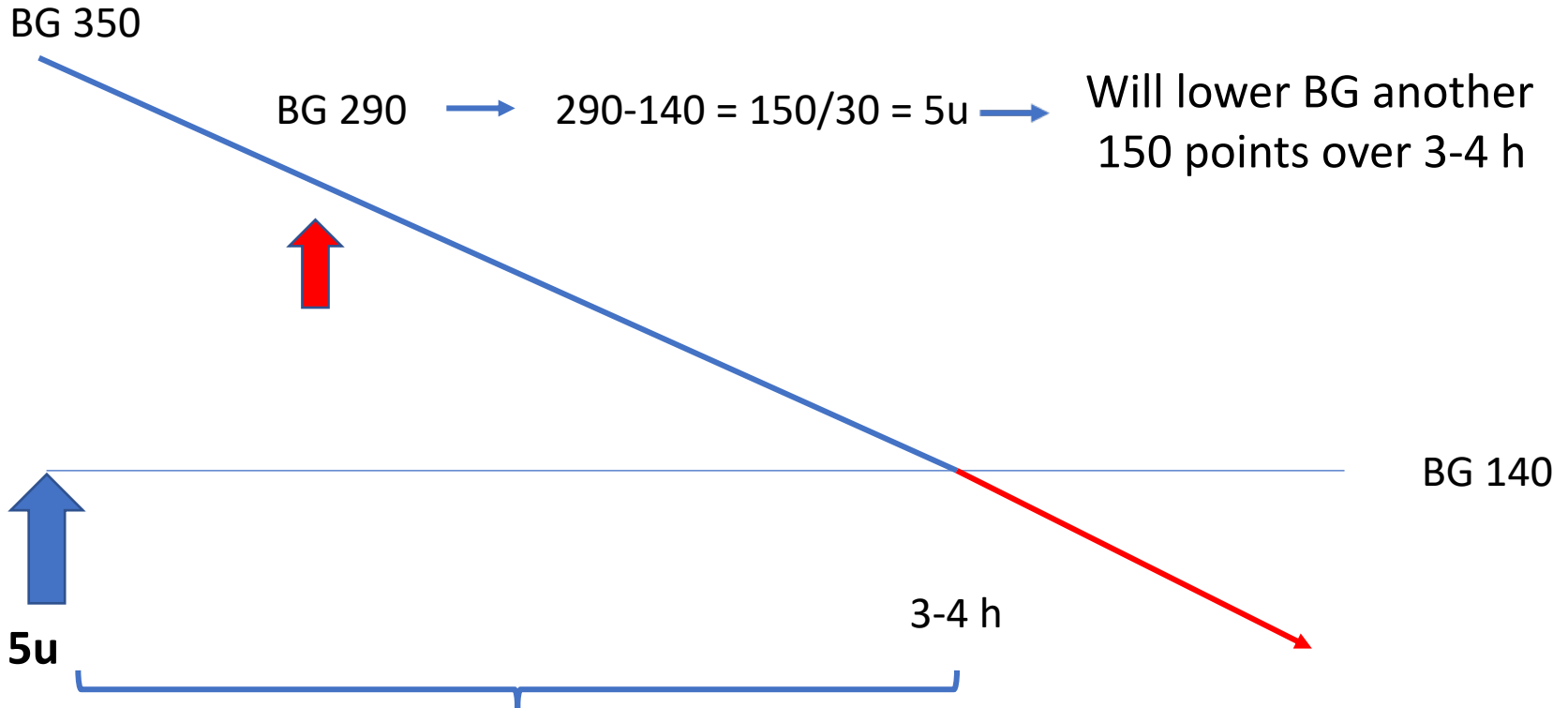
Only give (dose) **Correction Insulin**

- every **3-4 hours for analog insulin** –
- every **4-6 hours for Regular insulin** –
- otherwise end up **“stacking” insulin** and risk of low BG
 - Explain it takes Fast Insulin 3-4 hours to **finish working**



“Stacking” Correction Doses

Correction dose: $350 - 140 = 210 / 30 = 7$ units



7u will lower BG 210 points over 3-4 hours