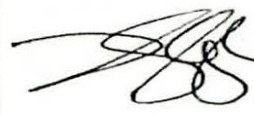


Guideline For The Adjustment Of Insulin By Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes Working Within NHS Grampian

| | | |
|--|---|--|
| Author: Lead Paediatric Diabetes Specialist Nurse, Dr Gray's, RACH | Consultation Group See Page 1 | Approver: Medicines Guidelines and Polices Group |
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| | | |
|---------------------------------------|--|---|
| Signature: A. J. Wilson | | Signature:  |
|---------------------------------------|--|---|

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Policy Statement:

It is the responsibility of all staff to ensure that they are working to the most up to date and relevant guideline, policies, protocols and procedures.

Version 4

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Executive Sign-Off

This document has been endorsed by Director of Pharmacy and Medicines Management

Signature:  _____

Replaces: PDSN/MGPG1024, Version 3

Document application: NHS Grampian Combined Child Health/Diabetes

Revision History:

| Revision Date | Summary of Changes | Changes Made |
|----------------------|---|---------------------------------|
| Dec 2023 | 2 yearly update. | |
| Dec 2023 | In title the word injections removed and through guideline as majority of patients now on insulin pumps as well as injections. | Page 1 and throughout guideline |
| Dec 2023 | Updated latest version of BNF. | References Page 7 |
| Dec 2023 | Patients who may be considered for dose adjustment of insulin dose. Removal of Type 1 diabetes and CF related diabetes so documents covers all patients irrespective of type of diabetes. | Page 5 section 4 |
| Dec 2023 | Updated versions of NICE and SIGN guidelines available. | Appendix 2 - Page 9 |
| Dec 2023 | Appendix 3 - NHS Grampian (2021)-Insulin: Carbohydrate (CHO) ready reckoner added. | Appendix 3 - Page 12 |

Consultation List

Name:

Dr Amalia Mayo
Jonathan Smith
Alison Wilson

Title:

Paediatric Consultant
Reviewer: Pharmacist, RACH
Paediatric Diabetes Specialist Nurse

Guideline For The Adjustment Of Insulin By Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes Working Within NHS Grampian

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Guideline For The Adjustment Of Insulin By Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes Working Within NHS Grampian

Introduction

Type 1 Diabetes is a chronic condition and management should be tailored to suit the individual. There is strong evidence that good glycaemic control reduces the risk of long term complications.

Different health care professionals including Paediatric Diabetes Specialist Nurses (PDSN)/Community Paediatric Nurses Diabetes (CPND) working as part of a multidisciplinary team are required to advise individuals with diabetes on the dose adjustment of insulin.

This guideline allows Paediatric Diabetes Specialist Nurses (PDSN) Community Paediatric Nurses Diabetes (CPND) to be authorised to titrate the dose of insulin in children and adolescents, aged from 2 years to 18 years of age.

The guideline is designed as a guide to the safe limits within which the PDSN/CPND can adjust insulin and the competencies required by them when recommending dose adjustment during consultations.

This guideline applies to the dose adjustment of insulin as listed in Section 6 of the British National Formulary, it is not applicable to the initial supply of insulin.

1. Who Will Recommend Dose Adjustment?

This guideline is intended for use by Paediatric Diabetes Specialist Nurses (PDSN)/Community Paediatric Nurses Diabetes (CPND) at Royal Aberdeen Children's Hospital (RACH) and also the PDSN/CPND at Dr Gray's Hospital, Elgin.

This guidance is specifically for those staff members that **do not** hold independent/supplementary prescribing qualifications.

Before adjusting insulin doses the PDSN/CPND must have read this policy and understand the context in which insulin dose adjustment is allowed by PDSNs/CPNDs within NHS Grampian (NHSG).

2. Professional Qualifications and Staff Competencies

Registered Paediatric Nurse with a minimum of 6 months experience working as a Paediatric Diabetes Specialist Nurse/Community Paediatric Nurses Diabetes ([Appendix 1](#)).

In addition the following requirements are necessary, staff must:

- (i) Agree to be professionally accountable for their work.
- (ii) Be competent to assess the capacity of the patient/carer/parent/person with parental responsibility to understand the nature and purpose of the alteration in dose in order for them to give or refuse consent.
- (iii) Be aware of current treatment recommendations and be competent to discuss issues concerning insulin with the patient/carer/parent/person with parental responsibility.
- (iv) Have been trained and assessed as being competent in the adjustment of insulin doses. New staff will complete all diabetes competencies on commencing post prior to undertaking dose adjustment guideline.
- (v) Maintain their skills, knowledge and their own professional level of competence in this area according to their individual Code of Professional Conduct.
- (vi) Meet and maintain the competencies outlined in the competency framework for NHS Grampian Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes advising on the dose adjustment of insulin injections within NHSG ([Appendix 1](#)).
- (vii) Undertake regular CPD in areas related to diabetes as per local and national policy.
- (viii) Be competent in the interpretation of downloads from glucose meters, continuous glucose monitors (including flash glucose monitors) and pumps.
- (ix) Agree to work within the terms of this NHSG guideline.

3. Responsibility of managers

Clinical managers will be responsible for:

- (i) Ensuring that the current guideline is available to staff providing care and that they work in accordance with this guideline.
- (ii) Ensuring that staff have received adequate training and are deemed competent in the adjustment of insulin doses and other aspects relevant to this policy and meet the requirements above. This includes any updates to training that may be required.
- (iii) Ensuring staff can provide evidence that they meet the competencies outlined in the NHS Grampian competency framework for NHS Grampian Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes advising on the adjustment of insulin dose ([Appendix 1](#)).
- (iv) Maintaining a current record of all staff authorised to alter insulin doses specified in this guideline.

4. Clinical Decision Making

There are many factors influencing glycaemic control in children and adolescents with type 1 diabetes. During consultations the expertise of the PDSN/CPND is required to undertake an assessment of the patients' glycaemic control in relations to diet, exercise, and blood glucose levels with or without continuous glucose monitoring or intermittently scanned continuous glucose monitoring technology, current insulin injection dose and any other contributing factors. A treatment plan will be formulated and clearly documented within the patient's Sci Diabetes record.

5. Patients Who May Be Considered For Adjustment of Insulin Dose

This guideline is intended for use by the PDSN/CPND in NHS Grampian working with children and adolescents with diabetes.

- (i) The PDSN/CPND will be authorised to titrate the dose of insulin for children and adolescents with diabetes on insulin within ages ranging from 2 years up to 18 years.
- (ii) All patients/carers/parents/persons with parental responsibility who do not want specifically to consult with a doctor and are willing to have treatment from the PDSNs/CPNDs may receive advice on alteration of insulin dose.
- (iii) The PDSN/CPND will be authorised to titrate the dose of insulin only when the insulin doses are given subcutaneously by syringe, insulin pen or continuous insulin infusion pump (CSII).

6. Exclusion Criteria

The PDSN/CPND will **not** advise on dose adjustment of insulin in the following patients/instances:

- (i) If the presenting clinical condition is deemed to be out with area of expertise and knowledge of the PDSN/CPND.
- (ii) Babies and toddlers up to 2 years of age who have been diagnosed with diabetes.
- (iii) All patients/carers/parents/persons with parental responsibility who want specifically to consult with a doctor and are not willing to have treatment from the PDSN/CPND.

In the above circumstances the PDSN/CPND will refer the case to a more experienced member of the diabetes team, e.g. Consultant, Registrar, or Lead PDSN.

7. Adjustment of Insulin

Each dose of insulin that should be adjusted will be based on the clinical experience and professional judgment of the PDSN/CPND. The clinical decision will take into account all factors which may have influenced glycaemic control. Insulin doses are often suggested based on a ratio of fast acting insulin (units): carbohydrate intake (g).

For example 1 unit to be administered for every 10mg carbohydrate to be consumed. This is called the insulin to carbohydrate ratio (ICR). ICR can be increased or decreased as required to control blood glucose levels ([Appendix 3](#)).

If glycaemic control could not be obtained within a reasonable or expected timeframe as dictated by PDSN/CPND experience, the PDSN/CPND would refer the patient on to the relevant medical practitioner.

7.1. Increasing Insulin

In the event of hyperglycaemia, (pattern of blood glucose levels >10mmols/l) and after consideration of other factors that may influence glycaemia, the dose of insulin can be increased by a maximum of 10% of the current dose.

Where there are limitations on dose adjustment due to the insulin delivery device, doses should be increased by a minimum of 0.025 units to a maximum of 10% of the current dose.

In the event of a patient requiring treatment of hyperglycaemia with ketosis, as a result of other concomitant illness or other factors the PDSN/CPND will quickly contact and seek advice from a more experienced member of the team.

Should the PDSN/CPND feel a greater increase is required they should contact and seek advice from a more experienced member of the diabetes team, e.g. Consultant or Lead PDSN, as soon as possible to discuss the patient.

7.2. Decreasing insulin

In the event of hypoglycaemia, (pattern of glucose levels <4mmols) blood glucose readings below the agreed target range or other contributing factors which may result in hypoglycaemia, the insulin dose can be reduced by a maximum of 10% of the current dose.

Where there are limitations on dose adjustment due to the insulin delivery device doses should be decreased by a minimum of 0.025 units to a maximum of 10% of the current dose.

Should the PDSN/CPND feel a greater reduction is required they should seek advice from a more experienced member of the diabetes team, e.g. Consultant, Registrar, or Lead PDSN.

8. Documenting Changes

The PDSN/CPND will clearly document any changes to insulin dose in the SCI-Diabetes Database which can be accessed by all members of the Diabetes Team and General Practitioners. Documentation should include clinical justification or reasoning for advising a change.

Patients/carers/parents/persons with parental responsibility are asked to document changes to medication and repeat back changes to the PDSN/CPND prior to the end of the consultation. The patients/carers/parents/persons with parental responsibility understanding of their dose adjustment is reviewed at every clinic appointment.

9. Follow Up

When dose adjustment has been recommended the patient/carer/parent/person with parental responsibility will be provided with PDSN/CPND contact details and advised who to contact should any problems arise.

The PDSNs/CPNDs should consider a further follow up phone call within an appropriate time scale to monitor the effects of the changes made and document appropriately.

The patient/carer/parent/person with parental responsibility should be advised what to do if they are unable to contact a member of the diabetes team for advice.

The patient/carer/parent/person with parental responsibility should be made aware they can contact the Diabetes Team during office hours Monday to Friday. Out with office hours in evenings and weekends they can contact the Paediatric Medical Ward at RACH.

Details of all changes to an insulin dose must be documented within the SCI - Diabetes Database which can be accessed by clinic staff and General Practitioners (GPs).

The PDSNs /CPNDs may refer the patient to another member of the diabetes team for review if deemed clinically appropriate for example; further advice on the management of unwell patients, potential Diabetic Ketoacidosis, recurrent or severe hypoglycaemia, dietetic advice.

10. References

1. Online British National Formulary for Children 2024 [Insulin | Drugs | BNFC | NICE](#)
2. Guideline for the Management of Children with Diabetes in Grampian Hospitals, Dr A Mayo, RACH November 2018
3. The Code Professional standards of practice and behaviour for nurses and midwives, NMC 2015 [The Nursing and Midwifery Council \(nmc.org.uk\)](#)
4. The Diabetes Control and complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long term complications in insulin –dependent diabetes mellitus. N Eng J Med 1993 Sep 30;329 (14) : 977-86[Accessed Sept 2023] [The Effect of Intensive Treatment of Diabetes on the Development and Progression of Long-Term Complications in Insulin-Dependent Diabetes Mellitus | New England Journal of Medicine \(nejm.org\)](#)

Appendix 1 - Knowledge and Skills Required By NHS Grampian Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes Advising On Dose Adjustment on Insulin

Competencies checklist

| Knowledge | Evidence of Knowledge Achieved | Achieved |
|--|--------------------------------|----------|
| An in-depth understanding of the causes of diabetes | | |
| An in-depth understanding of the impact of nutrition and physical activity on diabetes | | |
| An in-depth understanding of inter-relation of diet, medication and biochemistry | | |
| An in-depth understanding of the carbohydrate content of food | | |
| An in-depth understanding of significance of tests used in patient care | | |
| An in-depth understanding of normal and abnormal blood glucose and HbA1c values | | |
| An in-depth understanding of how to interpret blood glucose finger stick readings ,continuous glucose monitoring, continuous subcutaneous insulin infusions and HbA1c values | | |
| A working understanding of the importance and effects of patient education and self-management | | |
| An in-depth understanding of how to gather information from patients about their health | | |
| An in-depth understanding of how to reduce risk of and manage hypoglycaemia | | |
| A critical understanding of the effects of insulin on diabetes | | |
| An in-depth understanding of the types of insulin | | |
| An in-depth knowledge and understanding of current theories for calculating CHO: insulin ratios | | |
| A working understanding of behavioural change/motivational interviewing to assist patients self-manage their diabetes | | |

Signatures:

Supervisor: _____

Date: _____

Staff member: _____

Date: _____

Appendix 2 - Competency Framework For NHS Grampian Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes Advising On The Adjustment Of Insulin for Children With Diabetes NHS Grampian

This framework is intended for the adjustment of insulin dose by PDSN/CPND working with children within NHS Grampian.

The above staff are required to have a knowledge and understanding of:

Policies and guidelines

- NICE Guidelines (www.nice.org.uk).
Diabetes (type 1 and type 2) in children and young people: diagnosis and management NG18 (Aug 2015) updated November 2016 and May 2023
- SIGN Management of Diabetes SIGN 116 (March 2010) updated November 2017
[Management of diabetes \(sign.ac.uk\)](http://www.sign.ac.uk)
- Diabetes Improvement Plan 2021(www.diabetesinscotland.org.uk).

Clinical aspects

- Diabetes, its causes and symptoms.
- The management of diabetes, including insulin profiles.
- Understanding of the legal status of the medication involved.
- Carbohydrate counting.
- The principles and application of working in partnership with patients and carers.

Staff must be able to demonstrate competent practice related to the adjustment of insulin in 12 patient contacts per year.

Meeting the competencies.

Staff new to post or returning to work after a period of >1 year

1. Theoretical Learning

The above staff are required to complete the following:

1.1 Learning about diabetes

All staff are required to gain extensive paediatric diabetes experience and knowledge.

- Through attending links, working with diabetes team and personal learning

1.2 Learning about diet

All staff are required to attend a workshop on:

- Carbohydrate counting (NHS Grampian).

2. Practical Skills, Knowledge And Experience

2.1 Staff will follow patients through the system, observing patients who are referred on to the other members of the specialist diabetes multidisciplinary team such as Consultant, PDSN/CPND, PDS and Psychologist where applicable.

2.2 Staff will observe and shadow a PDS or PDSN/CPND practising dose adjustment within either of the following locations:

- Consultant led clinic.
- Consultation of patients with diabetes in the hospital ward.

2.3 Staff will be mentored on adjusting insulin doses in one of the above settings, with the opportunity for support and discussion from a PDS, PDSN/CPND or Consultant/Registrar.

Maintaining Competencies

Existing staff will be required to provide and demonstrate evidence of continued competence to adjust insulin to enable them to continue to work within the NHS Grampian Policy.

A competencies checklist is included in this document providing detail of the knowledge and skills required.

Formats for achieving this;

(1) Practice supervision with Peers, Consultants or Dietitians

- This should be undertaken a minimum of 4 times/year.
- This can be in the form of 1:1 supervision or group supervision.

(2) Audit of notes

12 sets of Sci Diabetes records to be audited annually for:

- Dose prescribed.
- Adverse drug reaction.
- Evaluation of treatment outcome and care.
- Clear documentation.

Quarterly review of DATIX incidents will also be undertaken.

It is the responsibility of lead PDSN/CPND to ensure this is completed.

(3) Evidence of maintaining knowledge and skills in diabetes

Through attendance at relevant meetings, education seminars/conferences (national or local), critical appraisal of new evidence, annual and ongoing appraisal.

All learning for those new or returning to the post and for existing staff should be recorded as per professional CPD and TURAS requirements.

All staff will be required to include the competencies related to dose adjustment in appraisal.

In addition, an experienced PDSN will be identified to act as a source of advice, guidance and support for less experienced staff or those new to post.

In addition the following requirements are necessary. Staff must:

- Agree to be professionally accountable for their work.
- Agree to work within the code professional standards of practice and behaviour for nurses and midwives.
- Agree to work within the terms of the NHS Grampian Policy.
- Agree to not to give advice to new staff or staff within the team who are not currently working under the Policy For The Adjustment Of Insulin By Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes Working With Children Within NHS Grampian.

Clinical managers will be responsible for:

- Ensuring that all staff are aware of and work within the Policy for the adjustment of insulin for children with diabetes by Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes in NHS Grampian.
- Ensuring that staff have received adequate training in all areas relevant to this policy.
- Maintaining a current record of all Paediatric Diabetes Specialist Nurses/Community Paediatric Nurses Diabetes authorised to recommend dose adjustment of insulin under this policy.

Appendix 3: NHS Grampian (2021) – Insulin: Carbohydrate (CHO) ready reckoner - Version 3

Insulin: Carbohydrate (CHO) ready reckoner

V3: 23/07/21

| | 1:5 | 1:6 | 1:7 | 1:8 | 1:9 | 1:10 | 1:12 | 1:14 | 1:16 | 1:18 | 1:20 | 1:25 | 1:30 | 1:35 | 1:40 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 5 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 2.0 | 1.5 | 1.5 | 1.5 | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 15 | 3.0 | 2.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 1.0 | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| 20 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 |
| 25 | 5.0 | 4.0 | 3.5 | 3.0 | 3.0 | 2.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 1.0 | 1.0 | 0.5 | 0.5 |
| 30 | 6.0 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.0 | 1.0 | 1.0 | 1.0 |
| 35 | 7.0 | 6.0 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 2.0 | 2.0 | 1.5 | 1.0 | 1.0 | 1.0 |
| 40 | 8.0 | 6.5 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.0 | 1.0 |
| 45 | 9.0 | 7.5 | 6.5 | 5.5 | 5.0 | 4.5 | 4.0 | 3.0 | 3.0 | 2.5 | 2.5 | 2.0 | 1.5 | 1.5 | 1.0 |
| 50 | 10.0 | 8.5 | 7.0 | 6.5 | 5.5 | 5.0 | 4.0 | 3.5 | 3.0 | 3.0 | 2.5 | 2.0 | 1.5 | 1.5 | 1.5 |
| 55 | 11.0 | 9.0 | 8.0 | 7.0 | 6.0 | 5.5 | 4.5 | 4.0 | 3.5 | 3.0 | 3.0 | 2.0 | 2.0 | 1.5 | 1.5 |
| 60 | 12.0 | 10.0 | 8.5 | 7.5 | 6.5 | 6.0 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.5 |
| 65 | 13.0 | 11.0 | 9.5 | 8.0 | 7.0 | 6.5 | 5.5 | 4.5 | 4.0 | 3.5 | 3.5 | 2.5 | 2.0 | 2.0 | 1.5 |
| 70 | 14.0 | 11.5 | 10.0 | 9.0 | 8.0 | 7.0 | 6.0 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 2.0 |
| 75 | 15.0 | 12.5 | 10.5 | 9.5 | 8.5 | 7.5 | 6.5 | 5.5 | 4.5 | 4.0 | 4.0 | 3.0 | 2.5 | 2.0 | 2.0 |
| 80 | 16.0 | 13.5 | 11.5 | 10.0 | 9.0 | 8.0 | 6.5 | 5.5 | 5.0 | 4.5 | 4.0 | 3.0 | 2.5 | 2.5 | 2.0 |
| 85 | 17.0 | 14.0 | 12.0 | 10.5 | 9.5 | 8.5 | 7.0 | 6.0 | 5.5 | 4.5 | 4.5 | 3.5 | 3.0 | 2.5 | 2.0 |
| 90 | 18.0 | 15.0 | 13.0 | 11.5 | 10.0 | 9.0 | 7.5 | 6.5 | 5.5 | 5.0 | 4.5 | 3.5 | 3.0 | 2.5 | 2.5 |
| 95 | 19.0 | 16.0 | 13.5 | 12.0 | 10.5 | 9.5 | 8.0 | 7.0 | 6.0 | 5.5 | 5.0 | 4.0 | 3.0 | 2.5 | 2.5 |
| 100 | 20.0 | 16.5 | 14.5 | 12.5 | 11.0 | 10.0 | 8.5 | 7.0 | 6.5 | 5.5 | 5.0 | 4.0 | 3.5 | 3.0 | 2.5 |
| 105 | 21.0 | 17.5 | 15.0 | 13.0 | 11.5 | 10.5 | 9.0 | 7.5 | 6.5 | 6.0 | 5.5 | 4.0 | 3.5 | 3.0 | 2.5 |
| 110 | 22.0 | 18.5 | 15.5 | 14.0 | 12.0 | 11.0 | 9.0 | 8.0 | 7.0 | 6.0 | 5.5 | 4.5 | 3.5 | 3.0 | 3.0 |
| 115 | 23.0 | 19.0 | 16.5 | 14.5 | 13.0 | 11.5 | 9.5 | 8.0 | 7.0 | 6.5 | 6.0 | 4.5 | 4.0 | 3.5 | 3.0 |
| 120 | 24.0 | 20.0 | 17.0 | 15.0 | 13.5 | 12.0 | 10.0 | 8.5 | 7.5 | 6.5 | 6.0 | 5.0 | 4.0 | 3.5 | 3.0 |
| 125 | 25.0 | 21.0 | 18.0 | 15.5 | 14.0 | 12.5 | 10.5 | 9.0 | 8.0 | 7.0 | 6.5 | 5.0 | 4.0 | 3.5 | 3.0 |
| 130 | 26.0 | 21.5 | 18.5 | 16.5 | 14.5 | 13.0 | 11.0 | 9.5 | 8.0 | 7.0 | 6.5 | 5.0 | 4.5 | 3.5 | 3.5 |
| 135 | 27.0 | 22.5 | 19.5 | 17.0 | 15.0 | 13.5 | 11.5 | 9.5 | 8.5 | 7.5 | 7.0 | 5.5 | 4.5 | 4.0 | 3.5 |
| 140 | 28.0 | 23.5 | 20.0 | 17.5 | 15.5 | 14.0 | 11.5 | 10.0 | 9.0 | 8.0 | 7.0 | 5.5 | 4.5 | 4.0 | 3.5 |
| 145 | 29.0 | 24.0 | 20.5 | 18.0 | 16.0 | 14.5 | 12.0 | 10.5 | 9.0 | 8.0 | 7.5 | 6.0 | 5.0 | 4.0 | 3.5 |
| 150 | 30.0 | 25.0 | 21.5 | 19.0 | 16.5 | 15.0 | 12.5 | 10.5 | 9.5 | 8.5 | 7.5 | 6.0 | 5.0 | 4.5 | 4.0 |

Read along the top (red row) to find your insulin:CHO ratio, then read along the side (green column) to the amount of CHO you are about to eat. Where the lines meet is the insulin dose for your meal/snack.

Correction Doses

| Insulin sensitivity (mmol/l) fall for 1 unit of insulin with target blood glucose of 6mmol/l | | | | | | | | | | | | | | | | | |
|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|
| TDD= | 90+ | 75-89 | 60-74 | 55-59 | 45-54 | 35-44 | 30-34 | 23-29 | 18-22 | 16-17 | 14-15 | 12-13 | 10-11 | 8-9 | 6-7 | 4-5 | |
| ISF= | 1 | 1.2 | 1.5 | 1.7 | 2 | 2.5 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 15 | 20 | |
| Blood glucose level | 7-7.9 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | | | | | | | | | | | |
| | 8-8.9 | 2 | 1.5 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 | | | | | | | | |
| | 9-9.9 | 3 | 2.5 | 2 | 1.5 | 1.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | | | | | | |
| | 10-10.9 | 4 | 3 | 2.5 | 2 | 2 | 1.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | | | | |
| | 11-11.9 | 5 | 4 | 3 | 2.5 | 2.5 | 2 | 1.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | | | |
| | 12-12.9 | 6 | 5 | 4 | 3.5 | 3 | 2 | 2 | 1.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | | | |
| | 13-13.9 | 7 | 5.5 | 4.5 | 4 | 3.5 | 2.5 | 2 | 1.5 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 | | |
| | 14-14.9 | 8 | 6.5 | 5 | 4.5 | 4 | 3 | 2.5 | 2 | 1.5 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 | |
| | 15-15.9 | 9 | 7.5 | 6 | 5 | 4.5 | 3.5 | 3 | 2 | 1.5 | 1.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | |
| | 16-16.9 | 10 | 8 | 6.5 | 5.5 | 5 | 4 | 3 | 2.5 | 2 | 1.5 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 |
| | 17-17.9 | 11 | 8 | 7 | 6 | 5.5 | 4 | 3.5 | 2.5 | 2 | 1.5 | 1.5 | 1 | 1 | 0.5 | 0.5 | 0.5 |
| | 18-18.9 | 12 | 10 | 8 | 7 | 6 | 4.5 | 4 | 3 | 2 | 2 | 1.5 | 1.5 | 1 | 1 | 0.5 | 0.5 |
| | 19-19.9 | 13 | 11 | 8.5 | 7.5 | 6.5 | 5 | 4 | 3 | 2.5 | 2 | 1.5 | 1.5 | 1 | 1 | 0.5 | 0.5 |
| | 20+ | 14 | 11 | 9 | 8 | 7 | 5.5 | 4.5 | 3.5 | 2.5 | 2 | 2 | 1.5 | 1 | 1 | 0.5 | 0.5 |

1. Work out your current TDD (total daily dose) of insulin (red row)
2. Establish current blood glucose level (green column)
3. Where the 2 lines meet is the correction dose of insulin require to get BG back in to target by the next meal

TDD = Total daily dose | ISF = Insulin sensitivity factor

MS: WLS0221

