Admission pack for a child with newly diagnosed diabetes

This pack is for use with a child or young person presenting with classical symptoms, signs and investigations consistent with newly diagnosed Type 1 Diabetes. If there is diagnostic uncertainty, discuss individual cases with the children's diabetes team.

Patient sticker:	Consultant:
Admission Date: Admission Time:	Height (cm) & centile: Weight (kg) & centile:

This care pack for the management of newly diagnosed type 1 diabetes in children has been produced by the Children and Young People's Wales Diabetes Network (& Brecon group). It has been adapted from guidelines developed and freely shared by the Children's diabetes teams at Oxford University Hospitals and Cardiff and Vale University Health Board, for which we are grateful. It has been modified for use in ABUHB.

3rd Edition

Date of Publication: June 2025

If the child is in DKA (deep breathing, vomiting, with 'point of care' ketone levels >3mmol/l, BG >11mmol/l, pH <7.3) follow the DKA integrated care pathway initially and fill out this clerking sheet once treatment is underway.

Note: the insulin dosing boxes on pages 6 – 9 of this document can also be used when changing a new patient from IV insulin to SC insulin if presenting with DKA.

Date: **Time:**

Presenting symptoms	**Duration and nature**
Polyuria, polydipsia?	
Bedwetting?	
Weight loss?	
Tiredness, lethargy?	
Skin infections, thrush?	
Constipation?	
Other diabetes related history: (e.g. What did parents think was the problem? Was there previous contact with a health professional (GP, HV etc)?	

Past medical history/ previous hospital admissions/ birth history/ immunisations

Drug history/ allergies

Family history	Ask particularly about diabetes, other autoimmune conditions e.g. thyroid disease, coeliac disease. Also about CVD and hypertension

Mother's name: Occupation:	Father's name: Occupation:

School:

Examination and Investigations

Height and Weight are recorded on the front of this pack.

Observations

Temp: °C	HR:	BP:
RR:	Sats: %	CRT: secs

General appearance (evidence of weight loss, hydration state, drowsiness): AVPU & GCS:

CVS Heart sounds Peripheral pulses Perfusion	
Respiratory Kussmaul breathing (if yes check gases urgently) Expansion Breath sounds	
Abdomen Hepatomegaly	
Neurological (if needed)	
Pubertal status Is the child in puberty, defined as breast development in a girl and testicular enlargement ≥4mls for a boy	**Yes / No** Findings: (this is essential as insulin dose is calculated accordingly, however **If unsure select NO**)
Other: E.g. skin – evidence of acanthosis nigricans	

Point of Care Testing Result

Blood glucose (mmol/l):

Blood Ketones (mmol/l):

Urine dipstix:

Blood gas: Arterial / Venous / Capillary (please circle)
pH
pCO2
pO2
Standard Bicarbonate
Base excess

Other blood tests	Done (✓)
Plasma glucose	
U+E	
HbA1c	
TFT (TSH, Free T4)	
Anti TTG/IgA	
Anti GAD antibodies	
Islet cell antibodies	
Zinc transporter 8 antibody	

NB: Please use the drop down option under 'available sets' and type 'newly diagnosed T1D bloods'

Please inform the members of the Paediatric Diabetes MDT about the admission as soon as is practical.
Please telephone the paediatric diabetes specialist nurse 44525 (Richmond house); and leave a voicemail.

Name of Doctor or Nurse completing the clerking:

Signature:

Date:

Time:

Insulin Dose Calculation Sheet

ALL DOSES MUST BE CALCULATED BY 2 PEOPLE INDEPENDENTLY
(the prescriber plus one other healthcare professional)

Age: years, months	Weight (kg):

Fill in one of the age appropriate boxes below and on the following pages, sign it, have the calculation checked and write up the insulin prescription on the appropriate drug chart.

Under 1 year of age

Neonatal diabetes needs to be discussed with the diabetes team.
If the child is **less than 1 year,** discuss with the most senior member of the team available or if out of hours, the on-call Paediatric Consultant.

After discussion fill in the starting dose:

Total insulin dose per day = ……Units/day of ……..(insulin type)

Basal insulin name..... dose U/Kg .....

Bolus insulin name: ....., dose
OR

The diabetes MDT may choose to initiate insulin pump therapy from diagnosis

Insulin prescribed: Name: Signature: Date:	Insulin calculation checked by : Name Signature Date

Age 1-4 years

Total insulin dose per day = **0.7 units/kg/day =** ..... Units/day

One third of this dose is given as **BASAL** Insulin Degludec (Tresiba) = ... Units/day
(give 1st dose soon after admission and then subsequent doses the following evening)

Remaining insulin given as **BOLUS** Insulin. Insulin Aspart (**Fiasp**)

This will be given as an insulin to carbohydrate ratio (ICR) of 1u:20g of carbohydrate with **all meals and snacks.**

Insulin prescribed: Name: Signature: Date:	Insulin calculation checked by : Name: Signature: Date:

Example: A 3 year old male child with a weight of 13.5kg diagnosed

- Total insulin dose per day (0.7 units/kg/day) = 9.5 units/day
    - **One third given as Insulin Degludeg (Tresiba) = 3 units/day (round up or down to the nearest unit if necessary and give immediately)**
- The remaining insulin is given as bolus insulin (e.g. Fiasp) with all meals and snacks using the ICR of 1:20. Only administer if the child wants to eat or drink food containing carbohydrate
    - Pre breakfast 1:20
    - Pre lunch 1:20
    - Pre tea 1:20
    - Snacks 1:20

Remember that half units can be given. For example a snack of 10g carbohydrate would require 0.5u and a meal containing 30g carbohydrate would require 1.5u.

Insulin should always be given before food unless directed by the Diabetes Team.

Age 5 – 10 years

Is the child in puberty? Yes / No (If unsure select NO)

If **in puberty**, total insulin dose per day = **1.0 unit/kg/day =** ..... Units/day

If **not in puberty,** total insulin dose per day = **0.7 units/kg/day =** ..... Units/day

For both prepubertal and pubertal children give:

One third of this dose as **BASAL** Insulin Degludec (Tresiba) = ... Units/day
(give 1st dose soon after admission, then subsequent doses the following evening)

Remaining insulin given as **BOLUS** Insulin, Insulin **Aspart** (Fiasp). This will be given as an insulin to carbohydrate ratio (ICR) of 1u:15g of carbohydrate with all meals and snacks.

Insulin prescribed:	Insulin calculation checked by:
Name:	Name:
Signature:	Signature:
Date:	Date:

Example: An 8 year old male child with a weight of 28kg (not in puberty) diagnosed

- Total insulin dose per day (0.7 units/kg/day) = 19.5 units/day
    - **One third given as Insulin Degledeg (Tresiba) = 6 units/day (round up or down to the nearest unit if necessary and give immediately)**
- The remaining insulin is given as bolus insulin (e.g. Fiasp) with all meals and snacks using the ICR of 1:15. Only administer if the child wants to eat or drink food containing carbohydrate
    - Pre breakfast 1:15
    - Pre lunch 1:15
    - Pre tea 1:15
    - Snacks 1:15

Remember that half units can be given. For example a snack of 7g carbohydrate would require 0.5u and a meal containing 52g carbohydrate would require 3.5u.

Insulin should always be given before food unless directed by the Diabetes Team.

Age 11 (and over) years

Is the child in puberty? Yes / No (If unsure select NO)

If **in puberty**, total insulin dose per day = **1.0 unit/kg/day =** ..... Units/day

If **not in puberty,** total insulin dose per day = **0.7 units/kg/day =** ..... Units/day

For both prepubertal and pubertal children give:

One third of this dose as **BASAL** Insulin Degludec (Treisba) = ... Units/day
(give 1st dose soon after admission, then subsequent doses the following evening)

Remaining insulin given as **BOLUS** Insulin, Insulin Aspart (Fiasp). This will be given as an insulin to carbohydrate ratio (ICR) of 1u:10g of carbohydrate with all meals and snacks.

Insulin prescribed: Name: Signature: Date:	Insulin calculation checked by: Name: Signature: Date:

Example: A 14 year old pubertal female child with a weight of 50kg diagnosed:

- Total insulin dose per day (1.0 units/kg/day) = 50 units/day
-
    - **One third given as Insulin Degludec (Tresiba) = 17 units/day (round up or down to nearest unit if necessary and give immediately)**

- The remaining insulin is given as bolus insulin (Fiasp) with all meals and snacks using the ICR of 1:10. Only administer if the child wants to eat or drink food containing carbohydrate
    - Pre breakfast 1:10
    - Pre lunch 1:10
    - Pre tea 1:10
    - Snacks 1:10

Remember that half units can be given. For example a snack of 5g carbohydrate would require 0.5u and a meal containing 75g carbohydrates would require 7.5u.

- Insulin should always be given before food unless directed by the Diabetes Team.

Additional information

Blood glucose targets
Patients should receive consistent advice to aim for blood glucose targets:

- 4 - 7 mmol/l pre meal,
- 5 - 10 mmol/l 2h post meal
- 4 - 8 mmol/l before bed.

Dose adjustment
Both in hospital and following discharge, the starting doses of insulin will need to be frequently adjusted according to blood glucose levels. Some children will be sensitive to insulin and need dose reductions once normal glucose is achieved, particularly in rapid insulin doses. Others may need dose increases initially to achieve blood glucose targets.

Correction doses
Additional rapid acting insulin (Fiasp) should be given with the mealtime dose to correct above target glucose levels. The Insulin Sensitivity Factor (ISF) shows how much 1 unit of rapid acting insulin will lower the blood glucose level by.

The ISF is calculated using the 100 rule $\frac{\textbf{100}}{\textbf{Total Daily Dose of Insulin}}$

E.g. Child on a total daily dose of 20u insulin. ISF = 100/20 = 5. Therefore 1 unit of rapid acting insulin will lower blood glucose by 5mmol/L.

In the above example (ISF=5) a pre-meal blood glucose of 15mmol/L would require an extra 2u of rapid acting insulin **in addition** to the usual mealtime dose.

In young children requiring smaller doses, it is important to use half units, For example, a 1:12 ISF is the same as 0.5:6. Please choose the appropriate half unit correction sticker.

Hypoglycaemia before a meal
If pre-meal blood glucose is < 4mmol/L the hypo should first be treated (see appendix 1) and the blood glucose retested after 15 minutes to ensure that it has increased to >4 mmol/l before the CYP eats their food.

Insulin doses for snacks
Rapid acting insulin should be injected for **all snacks** containing carbohydrate from diagnosis as per the appropriate ICR. **The insulin should still be given even if a snack only requires half a unit of insulin.**

Prescribing / Completing Take home Medications
Please note on the e discharge there is a section;
Paediatrics newly diagnosed type 1 diabetes 4 years and under
Paediatrics newly diagnosed type 1 diabetes 5 to 10 years
Paediatrics newly diagnosed type 1 diabetes 11 years and over
Please click on the appropriate link which will take you to a drop down menu to click the appropriate insulin and equipment necessary to take home

Hypoglycaemia:
For hypoglycaemia management, see appendix

CONTINUATION SHEET- to be used by any team member	
Date/Time	

Discharge

All boxes should be completed and signed prior to discharge.

	Yes	No	N/A	Signature
Seen by medical team				
Seen by PDSN				
Seen by paediatric dietitian				
Structured education initiated using SEREN resources				
IV Cannula removed (if inserted)				
Follow up appointment to be arranged by team				
Confirm new diagnosis bloods have been taken				
TTH given and explained				
Parents understand how much insulin to give and what times to give it				
GP letter sent / given to parents				
Repeat weight				

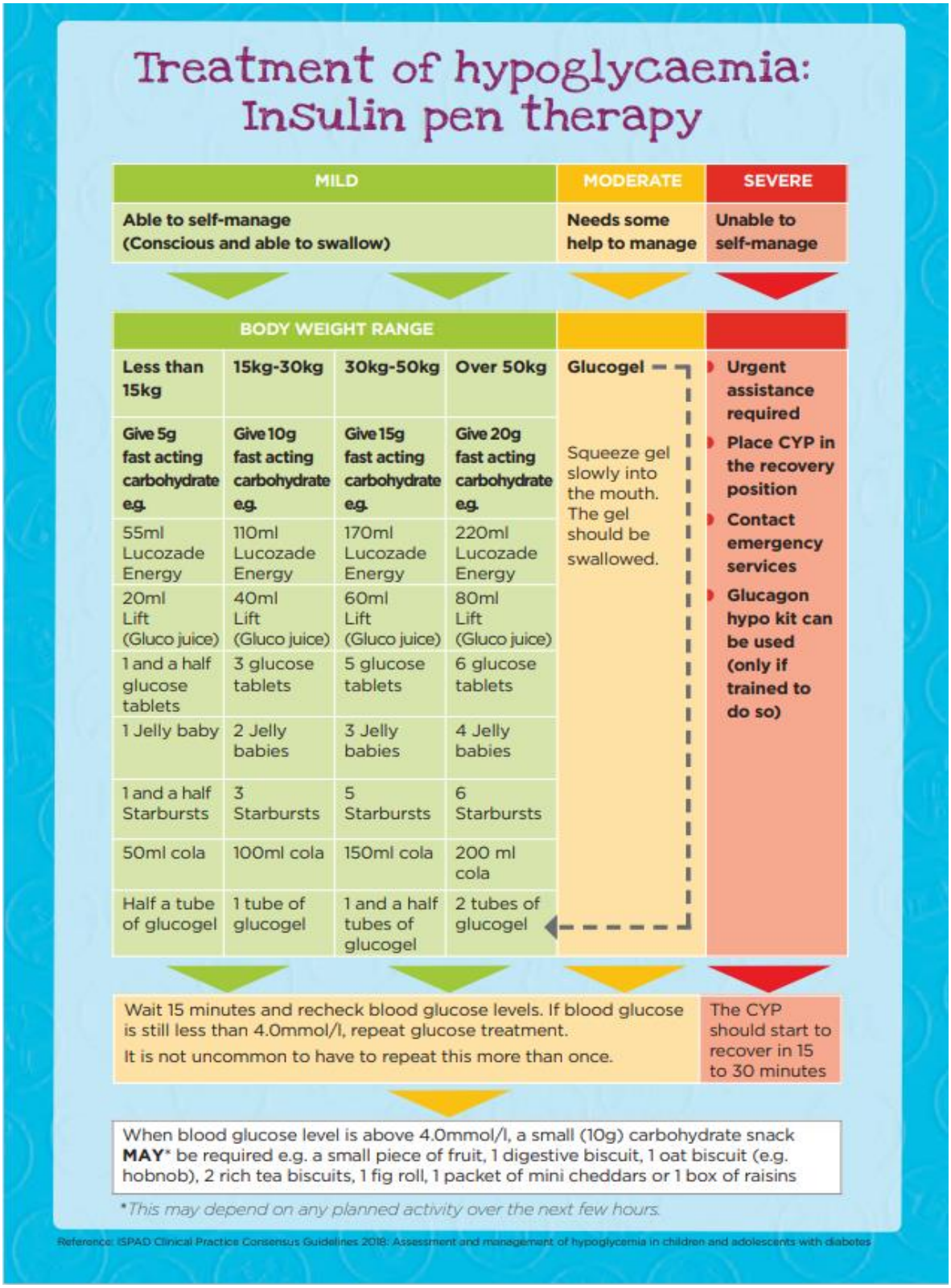
Time and date discharged home:	
Any other comments: Name Signature	Date

Please code the admission episode at discharge (this allows correct ICD Patient Episode Data). Tick the correct box.

CODE			**USE FOR**
E10.9	☐	Diabetes without complications	Newly diagnosed patients with hyperglycaemia and no other complications
E10.1	☐	Diabetes with Ketoacidosis	If a new patient has presented with DKA

Appendix – SEREN Hypo Sheet

These sheets are available for distribution electronically and in paper format. Please contact the diabetes team for copies.



Treatment of hypoglycaemia: Insulin pen therapy

MILD				MODERATE	SEVERE
Able to self-manage (Conscious and able to swallow)				**Needs some help to manage**	**Unable to self-manage**
BODY WEIGHT RANGE					
Less than 15kg	**15kg-30kg**	**30kg-50kg**	**Over 50kg**	**Glucogel**	**Urgent assistance required**
Give 5g fast acting carbohydrate e.g.	**Give 10g fast acting carbohydrate e.g.**	**Give 15g fast acting carbohydrate e.g.**	**Give 20g fast acting carbohydrate e.g.**	Squeeze gel slowly into the mouth. The gel should be swallowed.	**Place CYP in the recovery position**
55ml Lucozade Energy	110ml Lucozade Energy	170ml Lucozade Energy	220ml Lucozade Energy		**Contact emergency services**
20ml Lift (Gluco juice)	40ml Lift (Gluco juice)	60ml Lift (Gluco juice)	80ml Lift (Gluco juice)		**Glucagon hypo kit can be used (only if trained to do so)**
1 and a half glucose tablets	3 glucose tablets	5 glucose tablets	6 glucose tablets		
1 Jelly baby	2 Jelly babies	3 Jelly babies	4 Jelly babies		
1 and a half Starbursts	3 Starbursts	5 Starbursts	6 Starbursts		
50ml cola	100ml cola	150ml cola	200 ml cola		
Half a tube of glucogel	1 tube of glucogel	1 and a half tubes of glucogel	2 tubes of glucogel		
Wait 15 minutes and recheck blood glucose levels. If blood glucose is still less than 4.0mmol/l, repeat glucose treatment. It is not uncommon to have to repeat this more than once.					The CYP should start to recover in 15 to 30 minutes

When blood glucose level is above 4.0mmol/l, a small (10g) carbohydrate snack **MAY*** be required e.g. a small piece of fruit, 1 digestive biscuit, 1 oat biscuit (e.g. hobnob), 2 rich tea biscuits, 1 fig roll, 1 packet of mini cheddars or 1 box of raisins

**This may depend on any planned activity over the next few hours.*

Reference: ISPAD Clinical Practice Consensus Guidelines 2018: Assessment and management of hypoglycemia in children and adolescents with diabetes