

APPENDIX 3: Minimising the carbohydrate content of medications on the ketogenic diet

An unrecognised source of carbohydrates in the ketogenic diet is prescription and over the counter medications. If the carbohydrate content of medications is not considered, ketosis can be affected and thus seizure control may be compromised.

- Consider if addition of the new medication is absolutely necessary
- Where possible minimise the sugar and carbohydrate contained in drugs and IV solutions.
- If in doubt, substances ending in “ose” or “ol” are usually converted to glucose in the body (cellulose is an exception and is suitable)
- In most cases the use of syrups, elixirs, and chewable tablets should be avoided as these generally contain more carbohydrates than other dosage forms
- Many **liquid preparations** may be **labelled sugar free but often contain sorbitol**. This is not suitable for use in the ketogenic diet and should be minimised wherever possible
- Medications using saccharin as the sweetener are suitable
- Medications in suppository form are suitable for use on the ketogenic diet
- If you are unsure of the carbohydrate content of medications, you should contact:
 - Ward pharmacist
 - GOS Medicines Information (extension 8608) (internal calls only)
 - Contact manufacturing company directly (Contact details are listed in the BNF)

- Once the carbohydrate content of the new medication has been established, contact the dietitian to see if the diet needs to be altered to accommodate the new medication

- Testing urine for ketones every time the child passes urine will help to determine the impact the addition of the medication has had on the diet

Check with the pharmacist if products high in carbohydrates can be substituted for low carbohydrate alternatives, and if certain medications can be crushed or dissolved without affecting the integrity of the medication. The pharmacist will also check that the child will get an equivalent dose of medication if the formulation is changed.

When the child is discharged from hospital, inform their GP and local paediatrician that the child is on the diet so any additional medications prescribed are as low in carbohydrate as possible.

IV fluids

IV fluids containing dextrose should be avoided where possible for children on the ketogenic diet.

If IV fluids are required, give normal saline (0.9% NaCl) or Ringers lactate at the appropriate rate

If fasting beyond 12 hours or BMs < 3mmol/L use dextrose containing solutions (i.e. 2.5% or 5%) to maintain BMs between 3 and 4mmol/L

Carbohydrate containing excipients (ingredients)

Ingredients which *are* sources of carbohydrate:

- Sugars: dextrose, fructose, glucose, lactose, sucrose, sugar
- Starches: cornstarch, pregelatinized starch, sodium starch glycolate, sodium starch glycolate
- Sorbitol
- Mannitol
- Xylitol
- Maltitol
- Isomalt
- Erythritol
- Alcohol
- Glycerin
- Hydrogenated Starch Hydrolysates (HSH)
- Ascorbic acid

Ingredients which *are not* sources of carbohydrate:

- Cellulose
- Carboxymethylcellulose
- Hydroxymethylcellulose
- Microcrystalline cellulose
- Polyethylene glycol
- Magnesium stearate
- Aspartame
- Saccharine

- Asulfamine potassium (K)

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