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1. Define

* Ketogenesis
* Ketonaemia
* Ketonuria

1. What are the consequences of ketosis
2. Write concisely on management of

Answers

1. Ketogenesis is a catabolic pathway of metabolism. In this process, fatty acids and certain ketogenic amino acids are broken down to derive energy by alternative means. Ketone bodies are produced in the ketogenesis process.
2. Under conditions of abnormal carbohydrate metabolism, such as occurs in diabetes mellitus, ketones accumulate in the blood which is called (ketonemia)
3. ketonuria happens when you have high ketone levels in your urine. This condition is also called ketoaciduria and acetonuria.

Ketones or ketone bodies are types of acids. Your body makes ketones when fats and proteins are burned for energy. This is a normal process. However, it can go into overdrive due to some health conditions and other reasons.

2. Like any significant change to your diet, when starting a ketogenic diet, it is normal to experience one or more side effects as the body adapts to a new way of eating.

When going on a ketogenic diet, the body has to switch its fuel source from the glucose in [carbohydrate](https://www.diabetes.co.uk/nutrition/carbohydrates-and-diabetes.html)to using its own fat stores, and this can lead to experiencing some of the following side effects:

* Loss of salts
* Keto-flu
* Changes in bowel habits
* Leg cramps
* Bad breath
* Loss of energy

3. Excessive ketoacidosis needs to be managed by the administration of extra carbohydrate.

### Orally, Nasogastrically

* Administer child 30ml regular lemonade/apple or orange juice
* Retest serum ketones using finger prick 15 minutes after administration.
* If serum ketone level ≥6mmol/L and/or patient showing clinical symptoms of excessive ketosis, administer another 30ml regular lemonade and monitor clinical symptoms.
* If second dose of regular lemonade does not result in improvement the child may require IV glucose bolus or maintenance.
* Serum ketones will need to be monitored 6 hourly whilst ketone levels are high or unstable.
* Blood glucose levels will need to be monitored at the same time as blood ketone levels or as clinically indicated. Aim for ≥2.6mmol/L. Contact Neurology Consultant before any treatment.

Intravaneously

If ongoing  excessive ketosis a child may require management with IV a Maintenance 5% Dextrose and Normal Saline  or IV bolus.  
Note: an IV bolus of (30mls of 10% glucose is equivalent to 30mls lemonade/juice) and may be utilised if clinically appropriate