The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

I Evidence obtained from a systematic review of all relevant randomised control trials.

II Evidence obtained from at least one well designed randomised control trial.

III Evidence obtained from well-designed controlled trials without randomisation.

IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case- series

V Evidence obtained from systematic reviews of descriptive and qualitative studies

VI Evidence obtained from single descriptive and qualitative studies

VII Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology

Melynyk, B. & Fineout-Overholt, E. (2011). Evidence-based practice in nursing & healthcare: A guide to best practice (2nd ed.). Philadelphia: Wolters Kluwer, Lippincott Williams & Wilkins.

National Health and Medical Research Council (2009). NHMRC levels of evidence and grades for recommendations for developers of guidelines (2009). Australian Government: NHMRC. http://www.nhmrc.gov.au/_files_nhmrc/file/guidelines/evidence_statement_form.pdf

OCEBM Levels of Evidence Working Group Oxford (2011).The Oxford 2011 Levels of Evidence. Oxford Centre for Evidence-Based Medicine. http://www.cebm.net/index.aspx?o=1025

Databases searched:	☒ CINAHL (Ebsco)	☒ Medline (Ovid)	☒ Pubmed (NLM)	☒ Nursing (Ovid)	☒ Embase (Ovid)
Keywords used:	Ketogenic diet, Modified Atkins diet, deteriorating patient, comorbidities				
Search limits:	English, all child 0-18				
Other search comments:	Note: Library staff have informed me of my search databases as above.				

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Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
Thammongkol et al. (2012) Efficacy of the ketogenic diet: Which epilepsies respond? Epilepsia, 53(3):e55–e59.	IV	This review reports on efficacy and the epilepsy syndromes likely to respond to the ketogenic diet in children with refractory epilepsy. The ketogenic diet is an effective treatment for children and adults with refractory epilepsy. Urine ketone levels maintained between 8mmol/L and 16mmol/L.
Kossoff et al. (2018) Optimal clinical management of children receiving dietary therapies: Updates recommendations of the International Ketogenic Diet Study Group. Epilepsia 3(2):175-192	V	This review provides international consensus for managing the ketogenic diet. Large urine ketones levels are optimal. It is reasonable to obtain serum ketones especially where urine ketosis is not correlating with expected seizure control. The risk of serious adverse effects whilst on ketogenic diet is low.
Neal et all. (2008) The ketogenic diet for the treatment of childhood epilepsy: a randomised controlled trial. Lancet Neurol 7:500–506.	II	This review presents evidence from a randomized controlled trial that shows the ketogenic diet has efficacy and should be included in the management of children with drug resistant epilepsy. The diet does have side effects including vomiting, abdominal pain and constipation.
Clinical Practice Guidelines; Royal Children's Hospital (2018) Dehydration, Gastroenteritis, and Intravenous therapy and hypoglycaemia. Melbourne, Australia.	V	The guideline represents the view of the RCH which has been arrived at after careful consideration of the available evidence. This guideline has been subjected to validation and to consultation with key stakeholders. This includes expert opinion.

Kossoff EH, Turner Z, Doerrer SC et al. (2016) The ketogenic and modified atkins diet: Treatments for Epilepsy and Other Disorders. Sixth Edition New York: Demos Health	V	Give only carbohydrate free liquids and do not restrict fluids. If vomiting persist, use oral rehydration solutions for up to 24hrs. When vomiting stops ketogenic meals can be reintroduced. Discontinue MCT oil until illness is resolved and substitute with canola or corn oil until child is well. If the child becomes dehydrated and IV fluids are required, normal saline, not dextrose should be given. If blood sugar is below 40, a single bolus of glucose(1g/kg/bw) may be given. Aim for blood ketone levels of greater than 2mmol/L and urine ketone levels greater than 4mmol/L to obtain best seizure control. Sugar free medications to be given if required.
Kang HC, Chung DE, KimDW(2004) Early and late-onset complications of the Ketogenic Diet for Intractable Epilepsy. Epilepsia, 45(9):1116-1123	VI	Adverse events which do occur on the ketogenic diet are generally transient and can be managed easily with various conservative treatments.