



# Effective Health Care

## Ketogenic Diet for Epilepsy

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- Ketogenic diet versus antiepileptic drugs for the treatment of epilepsy is not feasible for a full systematic review due to the limited data available for a review at this time.
- This topic could be considered for a potential new research project within the Effective Health Care (EHC) Program.

#### Topic Description

**Nominators:** 2 organizations

**Nomination Summary:** Both nominators are interested in the comparative effectiveness of the ketogenic diet compared to antiepileptic drugs for the treatment of epilepsy in children. The first nominator states that medical foods have been recognized as a viable treatment and are more economical, but the medical community is not aware of the ketogenic diet. The second nominator states that ketogenic diets have been used since the 1920s, but their use has been limited by lack of training of health care personnel and reimbursement for this therapy. The second nominator also states that an answer to this research question will improve the medical care of children diagnosed with epilepsy.

**Population(s):** Infants and children newly diagnosed with epilepsy and those with intractable epilepsy, without contraindications to the intervention such as a metabolic defect in fatty acid metabolism. Sub-populations of interest are families of lower socioeconomic status and those already recognized as responsive to this treatment.

**Intervention(s):** Ketogenic diet.

**Comparator(s):** Antiepileptic drugs.

**Outcome(s):** Improvements in patient symptoms, seizures and seizure control, mental acuity, patient activity levels, and physical health. Additionally, fewer adverse events related to drug therapy.

**Key Questions from Nominator:** None

#### Considerations

- The topic meets EHC Program appropriateness and importance criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- Although the first-line treatment for individuals with epilepsy is pharmacological, non-drug treatment such as the ketogenic diet may be considered as an adjunctive treatment in children with drug-resistant epilepsy.
- Current research is too limited for a comparative effectiveness review of ketogenic diet versus antiepileptic drugs. A literature scan revealed that the majority of reported studies of the effects of ketogenic diets are not randomized or controlled. There are no controlled trials of the ketogenic diet compared with drugs or surgery. Instead, the majority of the clinical series reported in the literature are retrospective with small study populations. Additional comparative effectiveness research with robust methodology is needed for multiple areas of this topic. New research may also consider issues such as dosing and safety of the ketogenic diet for the treatment of epilepsy.