

SYMPOSIUM REVIEW:

THE KETOGENIC DIET – RESEARCH TO CLINICAL EFFICACY

International Child Neurology Congress ~ Satellite Symposium
June 12, 2006 • Montreal, Canada

PRESENTATIONS AND HIGHLIGHTS:

“MANAGING THE KETOGENIC DIET WITH MAXIMAL EFFICACY AND MINIMAL SIDE EFFECTS.”

**CHRISTINA BERGQVIST, MD, ASSISTANT PROFESSOR OF NEUROLOGY AND PEDIATRICS,
THE CHILDREN’S HOSPITAL OF PHILADELPHIA, PHILADELPHIA, PA**

Bergqvist Agc, Et Al. “Gradual Versus Fasting Introduction Of The Ketogenic Diet: A Prospective Randomized Clinical Trial Of Efficacy”. *Epilepsia*, 46(11)1810-1819, 2006

- Ketogenic Diet Initiation: Stop Fasting: Gradual initiation of the ketogenic diet is equally effective at reducing seizures as the usual fasting initiation
- Gradual initiation results in fewer and milder adverse events and is overall better tolerated
- Is caloric restriction necessary? - this has not been determined because there is no comparison of growth with seizure count

“THE KETOGENIC DIET IN THE 21ST CENTURY: EFFICACY CONSIDERATIONS”

**JAMES W. WHELESS, MD, PROFESSOR AND CHIEF OF PEDIATRIC NEUROLOGY, LE BONHEUR
CHILDREN’S MEDICAL CENTER, MEMPHIS, TN**

- Does seizure type or seizure frequency effect child’s outcome when managed on the ketogenic diet? – data shows similar efficacy rates for different seizure types but more work to be done in this area
- Ketogenic diet efficacy and child’s age or gender – no difference in seizure outcome
- Alternatives to the ketogenic diet (Modified Atkins and Low Glycemic Index Therapy) gives options for families who may feel that they cannot manage the restrictiveness of the traditional ketogenic diet
- How do we sequence therapies for the treatment of epilepsy if therapy is not working?

**“KETOGENIC DIET THERAPY FOR EPILEPSY AND BRAIN CANCER,” THOMAS N. SEYFRIED, PHD,
BOSTON COLLEGE**

- KetoCal (nutritionally complete 4:1 ketogenic medical food) is as effective as the lard-based ketogenic diet in managing Idiopathic Generalized Epilepsy in EL mice
- No adverse side effects were detected in EL mice receiving KetoCal
- Anticonvulsant efficacy is best when KetoCal is administered in restricted amounts to lower blood glucose and elevate ketone bodies
- Anti-tumor efficacy is best when KetoCal is administered in restricted amounts to lower blood glucose and elevate ketone bodies
- The restricted KetoCal diet may manage brain cancer through two main metabolic processes:
 - Reduced blood glucose is antiangiogenic and also kills glycolytically dependent brain tumor cells
 - Increased ketone body metabolism enhances health and vitality of normal neurons and glia



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“The ketogenic diet is the oldest treatment that we continue to use for intractable epilepsy yet it is so effective.” Christina Bergqvist, MD

“The ketogenic diet works as well as any other treatment we have for many children with epilepsy. My bias has been that in every major medical center this (ketogenic diet) should be available as a treatment option for children with epilepsy.” James Wheless, MD

BLUE CROSS AND BLUE SHIELD TECHNOLOGY ASSESSMENT CENTER (LEFEVERE F ET AL, PEDIATRICS, 2000; 105; 46): “. . . The ketogenic diet appears efficacious in reducing the frequency of seizures in children with refractory epilepsy . . .” “. . . this improvement is in the range of, or greater than that reported with the addition of newer antiepileptic drugs.” cited by James Wheless, MD

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