



November 18, 2013

RE: cannabidiol for Utah children with severe epilepsy

To whom it may concern:

I am writing to express my strong support for Utah families seeking to make or obtain a specialized cannabis-oil product available to their children with severe epilepsy here in Utah. I am a board-certified pediatric neurologist currently based at Primary Children's Medical Center who has cared for children with epilepsy in Utah and California (University of California San Francisco). I am also a neuroscientist at the University of Utah and a member of the American Academy of Neurology, American Heart Association, Society for Neuroscience, and Child Neurology Society. In my professional life I routinely care for numerous children with uncontrolled epilepsy, including many who require repeated hospitalizations for out of control seizures that cannot be easily stopped with available medications. I believe I am well qualified to provide an objective medical, neurological, and scientific opinion on this matter.

Cannabidiol (CBD) is one of the "cannabinoids" or naturally occurring chemical compounds found in the natural product cannabis sativa, commonly known as marijuana. There is extensive experimental data in animals and other laboratory settings (non-human) that indicates that CBD may be effective in reducing, limiting, or blocking epileptic activity (seizures). Thus, from an experimental point of view, CBD holds great promise as an antiepileptic agent. Human studies of the compound are extremely limited but ongoing; my understanding is that these studies recently fulfilled their enrollment goals and thus are no longer accepting new subjects.

In addition, there have been recently publicized cases of children in a number of U.S. states with severe epilepsy who have experienced extraordinary seizure control and improvement in their quality of life after regularly ingesting products containing a high content of CBD. Some of these 'natural products' are intentionally manufactured to contain a very high content of CBD and very low or nearly undetectable levels of tetrahydrocannabinol (THC). It is important to recognize that CBD is a non-psychoactive chemical found in cannabis sativa, along with thousands of other non-psychoactive chemicals. It is a completely distinct chemical from THC, which is the psychoactive ("mind-altering") compound found in the cannabis plant.

However, due to the manner in which existing regulations regarding availability and consumption of cannabis products is interpreted in the United States and Utah, these non-psychoactive products are not currently available to Utah's children with severe epilepsy. This "innocent bystander" effect is preventing what could be a substantial improvement in children with a devastating neurologic illness.

As a pediatric neurologist who cares for many children with severe epilepsy, I believe this product, one that is currently legally available in the United States (Colorado) and is legally taken by some of our citizens, should be available to children in Utah with severe epilepsy. Given its promise, I strongly believe this compound should continue to be formally evaluated as a bona-fide pharmaceutical, a process that commonly takes 5-10 years. However, for patients and families affected by severe epilepsy, every day without an effective treatment is a day of suffering. Knowing this compound could provide substantial benefit, but is unavailable simply because they live in Utah, turns suffering to agony.

In this discussion, the following key points should be considered:


- **CBD oil is a 'natural product' and as such is not regulated by the FDA. It is not a Controlled Substance.**
- **CBD oil ("Alepsia", "Realm Oil", and similar preparations) is very high in CBD but has THC content that is as low as or lower than other natural substances** such as hemp-based creams that currently can be legally purchased in Utah.
- **CBD is not a psychoactive chemical;** it does not "produce a high" and is not "mind-altering" in its effect.
- **CBD may be extremely effective in some cases:** The anecdotal experience of many patients and families is that CBD oil results in remarkable seizure control with improvement in quality of life. This is despite the fact that all these children have previously been tried on numerous anti-seizure medications with limited benefit.
- **CBD appears to be safe:** So far, experience with CBD oil and related products indicates that side effects are very limited or non-existent. This alone is a very unusual property for any substance that may produce remarkable seizure control.
- **CBD is not available currently in the US as a pharmaceutical product.** Thus, our patients in Utah currently cannot access this potentially extremely helpful treatment without physically moving to a state where they can be legally treated with CBD oil or where they can participate in future drug trials.

- **Pediatric neurologists and other physicians often recommend substances to their patients that are not FDA-approved or regulated medications.** In my opinion there is no logical reason that CBD oil should not be similarly available.

In summary, I would like to express my strong belief that CBD-based oils (most commonly referred to in Utah as "Alepsia") should be available as soon as possible to Utah children with severe epilepsy. The substance is not psychoactive or hallucinogenic, it contains less THC than other products that are legally available in Utah, and it has no abuse potential. I support its use for this purpose, when supervised by careful and knowledgeable physicians for the benefit of their patients. As a community, we should not withhold this potentially life-improving therapy from Utah's children with severe epilepsy.

Please feel free to contact me if I can provide additional information.

Sincerely yours,



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