

Video Review

One step at a time: a straightforward guide down the rocky road of complex regional pain syndrome

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Complex regional pain syndrome (CRPS) is a diagnosis seen and treated often in pediatric pain centers but can confound less familiar providers due to its unique presentation and atypical symptomology. *The Diagnosis and Treatment of Complex Regional Pain Syndrome (CRPS) in Children* is an accredited online video module presented by Elliot Krane, M.D. (Available at: www.youtube.com/watch?v=z_mRyPlogWc).

The video module takes place in what appears to be a medical library and is conducted as an informal lecture addressed toward the audience. The video is divided into several segments, with each tackling a specific aspect of the care and management of pediatric CRPS, starting with the basics of chronic pain and closing with a concise general review. The depth and breadth of the information provided throughout the video is extensive without being cumbersome or overwhelming and the approach is notably nonjudgmental, especially given the variable misconceptions associated with CRPS.

Dr. Elliot Krane, the director of pediatric pain management at Lucille Packard Children's Hospital at Stanford University, is clearly highly qualified to act as chaperone on this trip into the world of CRPS. Based on clinical experience, he is particularly well versed in the world of chronic pain and specifically pediatric CRPS. His comfort with and knowledge of the topic, as well as his ease in identifying the areas where evidence is lacking, is apparent throughout the video and serves to build the viewer's

confidence in Dr. Krane as an expert and non-nonsense provider.

The lecture begins with a section providing background information on different types of pain, chronic pain as it relates specifically to CRPS, and a very brief general statement regarding the treatment and management of CRPS, noting importantly, that one cannot "rely on our traditional methods for pain therapy". He goes on to further describe the typical development of CRPS, commenting on the mysterious nature of the syndrome, highlighting that we, as a medical community, still do not fully understand why this pain process continues in some individuals. While it can be uncomfortable as medical professionals to recognize gaps in knowledge, it is helpful for less seasoned providers, as well as patients and families, to see that the lack of understanding is not due to one provider's inexperience but rather a universal phenomenon.

After laying down the necessary foundation for the remaining material, Dr. Krane presents more specific information on pediatric CRPS, delving further into clinical signs and physical exam findings. At this point, the module makes a point to provide concrete examples using consistent and familiar terms which is continued throughout the module. These examples should help any practitioner feel more comfortable in the early and accurate diagnosis of CRPS.

Dr. Krane then proceeds to describe CRPS as an "epileptiform phenomenon in the peripheral nervous system and spinal cord with pain fibers spontaneously generating electrical impulses

inappropriately.” He denotes that there is “no quick fix” and lays the groundwork for an intensive and time-consuming rehabilitation process. He breaks the treatment approach into three categories: physical, pharmacological and psychological. He makes it very clear that non-pharmacologic management of CRPS is the primary treatment and foundation of recovery, while pharmacologic management is only helpful inasmuch as it supports physical therapy and cognitive behavioral therapy. Dr. Krane even goes so far as to say “you cannot treat CRPS without physical therapy.” His conviction in this treatment plan should allow providers and caregivers to embrace this approach to care with confidence that they are doing no harm despite potential implications to the contrary (such as continued or even increased pain when engaging in physical therapy).

The lecture then segues into a review of the remaining treatment modalities, including pharmacologic management. He first addresses the use of opioids in CRPS as inappropriate, as the condition is “notorious for being resistant to opioid analgesia”. He manages to present this information in a nonjudgmental manner while also encouraging the prompt tapering and discontinuation of opioids as soon as possible. He discusses similar lack of efficacy using non-steroidal anti-inflammatory drugs to manage neuropathic pain unless there continues to be underlying structural or mechanical injury complicating treatment. An extensive review of the other pharmacologic classes used to treat CRPS follows. Finally, he qualifies pharmacologic management of CRPS as palliative, further emphasizing its role as adjunct, rather than primary therapy. As noted previously, Dr. Krane presents this material in an informative and supportive way, providing clinicians with the means to move forward confidently in what can be an opaque clinical situation.

To conclude the section on treatment modalities, the role of psychology in the management of CRPS is addressed. Dr. Krane recommends that all patients who present with concern for CRPS are evaluated by a psychologist as he reports approximately half of all children diagnosed with CRPS have a psychological comorbidity. He asserts that the biochemistry of the

conditions are related and that comorbid conditions must be treated if a successful recovery is to be expected. He emphasizes that psychological treatment in the form of cognitive behavioral therapy focusing on coaching, restoring self-esteem and developing pain coping skills is the second most important piece of the rehabilitation journey.

The video ends with a brief but thorough overall review and finally touches on potential for CRPS recurrence. Overall, the message is that while CRPS is a unique and complex condition characterized by spontaneous pain, motor dysfunction, psychosocial stress and, at times, significant disability, that there is always a light at the end of the tunnel and that adherence to the outlined treatment plan has been effective in restoring normalcy to almost all children who engage in this approach.

One criticism of the module, albeit slight, is that there is some level of repetition within and across segments of the video. As the video is structured to resemble a more relaxed approach to education, it does not appear to be fully scripted and some of the material presented appears to be “off the cuff,” allowing for the opportunity to ad lib. While the less formal nature of the video is one of its more appealing factors, and the repetition may have been intentional to reinforce key points, the finished product may have benefited from minor editing in an attempt to further streamline the material. The video is also void of text, graphics or other visual enhancements which makes the viewing experience a bit stark and perhaps less easily absorbed for some learners. The lecture is well paced, but the addition of visual references or illustrations would help to emphasize key points and appeal to viewers with variable learning styles.

To summarize, Dr. Elliot Krane manages to address a weighty and, at times, perplexing pain condition, paring it down to a manageable and approachable 60 minute video. He touches on all the important aspects of diagnosis and treatment while effectively expelling myths and misperceptions in a friendly, conversational manner. The viewer will, without a doubt, walk away from the module with an understanding of the most effective and efficient road to CRPS recovery.

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