

**PAIN MANAGEMENT**

**MAY 18, 1998**

PATIENT NAME: SHORE, LISA  
MEDICAL RECORD# 126-17-43  
DATE OF BIRTH: 11/20/87  
DATE OF VISIT: 05/18/98

ATTENDING: ROBERT T. WILDER, M.D., PH.D.

Date of Birth: 11/20/87

Chief Complaint: Pain in right lower extremity.

**History of Present Illness:**

Lisa is a ten year old girl who suffered a spiral fracture of her right tibia approximately 13 weeks prior to this clinic visit. She was treated with a closed reduction of the fracture at the Toronto Hospital for Sick Children. Two days later she experienced severe pain in the limb prompting a return to the hospital. The cast was removed and replaced. The parents were told that she had had some swelling. The pain temporarily resolved after the cast change. Four days later she again started complaining of severe pain in the leg. Again the cast was changed, although the evidence for swelling was less remarkable on this occasion. There was apparently an area of redness on the foot. Again, the cast change temporarily resolved her pain. She stayed pain free for about ten days. She was discharged home where she was able to pursue normal activities such as going full time to school. At that time she awoke from sleep screaming in pain. She was admitted to the orthopedic service. She was given the differential diagnosis of reflex sympathetic dystrophy versus conversion reaction. An epidural was performed that gave excellent relief of her leg pain, but caused upper back pain. After the epidural was discontinued the upper back pain also resolved and the leg pain continued to show marked improvement.

Five days after discharge, Lisa fell while at home. Immediately her pain returned and increased in frequency and intensity over the next four days.

Four days later she was readmitted to Toronto Hospital for Sick Children. She did not have a repeat epidural during this admission. Eventually she was started on amitriptyline and gabapentin and discharged home.

Lisa complains of severe allodynia with severe burning pain from any light touch on her right leg. This includes the entire right lower extremity below the knee except for the sole of the foot. Additionally she has episodic lancinating pain in this limb. During these episodes she reports her pain as 8 - 9 out of ten on a visual analog scale. The pain is described as burning or as if someone were "banging on the leg with a stick". Overall the pain is worse when the leg is dependent. These pains are worst and most likely to occur in the evening. Generally the bad pain starts between 7 and 10 PM and gradually increases over the evening until about midnight or 1 AM at which point she falls asleep. Once she does fall asleep she is able to sleep for six to eight hours without being awoken by pain.

Opioids used within the hospital did not provide any pain relief. She has experienced a diminution in her pain since starting amitriptyline and gabapentin (now 25 mg/day and 200 mg TID respectively.) She has never tried a TENS unit. She did make a relaxation tape with a psychologist in Toronto, but has not found it helpful.

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Her cast came off three weeks ago. She had an initial increase in the pain when the cast came off. She has not had any formal physical therapy to the present time, but is weight bearing between episodes of the lancinating pain.

Past Medical History:  
Lisa has no known drug allergies.

Surgical history is positive for an appendectomy (1997) and tonsillectomy and adenoidectomy.

Medical history is otherwise unremarkable. She was a full term pregnancy with normal spontaneous vaginal delivery. Developmental milestones were normal. She has no cardiac, pulmonary, gastro-intestinal, hepatic, renal, or endocrine disease. She has no history of epilepsy or other previous neurological disease. She has no previous psychiatric history.

Medications at the time of admission include gabapentin 200 mg TID and amitriptyline 25 mg QHS.

OB/GYN is only significant in that she is premenarchal.

Social History:  
Lisa lives in an intact nuclear family. She is the oldest of three children. She is a good student in the fifth grade who enjoys sports but is not extremely competitive.

Family History: is negative for any similar pain problems.

Physical Examination:  
Vital signs - Pulse 112 ; Blood Pressure 108/68 ; Weight 38 kg.; height 143 cm. The patient looks appropriate to her stated age. During most of the interview and examination she was in no distress and smiling. About three-quarters of the way through the interview she experienced an episode of the lancinating pain and started silently crying.

HEENT: Normocephalic/at traumatic. PERRLA. EOMI. Fundoscopic examination normal without papilledema. Hearing intact. Tympanic membranes benign with normal light reflex. Nares patent. Mouth opens well. The uvula rises in midline with phonation. Normal gag. The tongue protrudes midline. There is no erythema or exudates in the throat.

There are no palpable lymph nodes or other masses in the neck. The sternocleidomastoid and trapezius muscles are symmetrical and strong.

The lungs are clear to auscultation. The heart has a regular rate and rhythm without murmurs, gallops or rubs.

The abdomen is benign with normal bowel sounds, no hepatosplenomegaly or other masses and no tenderness. GYN examination was deferred.

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Neurological examination revealed normal cranial nerves, normal strength, sensation and reflexes in the upper extremities and left lower extremity, and normal Romberg and other tests of cerebellar function. The right lower extremity was remarkable for extreme allodynia from the knee distally except for the plantar surface of the foot. She has very coarse hair growing on this leg compared with the left leg. When her foot was dependent the foot was quite purple and mottled compared with the other side.

Radiographs of the right leg revealed a healing spiral fracture of the tibia and distal osteopenia consistent with Sudeck's atrophy. Our orthopedic surgeon questioned whether there was an irregularity of the tibia epiphysis at the ankle joint, but ankle views proved normal.

The bone scan taken in Toronto shows increased uptake in the late phase, consistent with a healing spiral fracture.

Quantitative Sensory Testing was attempted, but abandoned as Lisa was unable to tolerate the contact of the thermistor with her skin due to extreme allodynia.

Physical Therapy and Behavioral Medicine also examined Lisa. Their notes will be found separately in her record. Both, however expressed the opinion that she had reflex sympathetic dystrophy during our multidisciplinary patient review conference.

**Assessment:**

Although there are some features of Lisa's presentation that are not classical for reflex sympathetic dystrophy (now known as Complex Regional Pain Syndrome, Type 1), she does have sufficient features that I believe she meets the criterion for this disease. The atypical features are that her pain is not completely distally generalized. The sole of her foot is spared. Also, in addition to the constant allodynia, she has paroxysmal pain which is not most typically described in this process (although its presence does not exclude the diagnosis). Features quite classical for CRPS1 include the allodynia, the coarse hair growth, the color changes, and the osteopenia. Additionally, although not useful in making the diagnosis, she has certainly responded to interventions as one would expect from a patient with CRPS1: she had excellent relief with an epidural, she has had partial relief with low doses of amitriptyline and gabapentin, and has also found it useful to start weight bearing, even without formal physical therapy.

**Plan:**

As Lisa and her parents are far from home, I feel we can most quickly set her on the road to recovery by admitting her to Children's Hospital for an infusion through a lumbar sympathetic catheter with twice daily Physical Therapy and daily Behavioral Medicine. As this will be self-pay, I will admit her on Monday, 18 May 1998 with a planned discharge on Friday, 22 May. She is potentially a candidate for the "Phase 2 RSD Study", but

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# Children's Hospital

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given her inability to tolerate the quantitative sensory testing  
previously, I doubt that she will be a good study candidate.

ORIGINATED BY: ROBERT T. WILDER, M.D., PH.D.  
DATE ORIGINATED: 05/18/98  
DATE TRANSCRIBED: 05/18/98  
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