A 75-year-old woman presented to the emergency department (ED) after a three-day history of word-finding difficulty, confusion, dysarthria, tremor, impaired short-term memory and ataxia. Relevant medical history included bipolar type I disorder treated with lithium for 34 years. Head CT, ECG and CXR performed in the ED were normal. Labs results demonstrated a Cr of 2.0 mg/dL (baseline: 1.1 mg/dL) and otherwise normal extended electrolytes. Her lithium level, which was previously normal, was checked on admission and found to be 2.2 mEq/L (normal: 0.8 to 1.2 mEq/L). Although the differential diagnosis is broad, including stroke, seizure activity and other metabolic derangements, given the acute kidney injury and lithium toxicity she was aggressively hydrated and monitored clinically.

Upon admission to the hospital, she was confused and had difficulty giving a history. Physical exam showed a fine rapid tremor of the upper limbs and facial muscles. The neurological exam was notable for inattentiveness and difficulty with memory, calculation and recall. The medical team discontinued lithium and continued aggressive hydration and monitoring of electrolytes, lithium level and renal function.

On hospital day 2, the patient developed dramatic choreoathetosis—involuntary, irregular, nonrhythmic, high amplitude, dance-like writhing. Her movements were unremitting, requiring one-on-one nursing care to ensure her safety. Voluntary muscle control was limited. The patient did not report any discomfort with these movements. Despite normalization of her renal function and lithium level, her choreoathetosis continued.

On hospital days 3 to 5, the patient showed minimal improvement in choreathetoid movements, despite improvements in cognition, memory and speech. By day 6, the patient noticed an increase in choreoathetoid movements while speaking, but otherwise noted symptomatic improvement. Her symptoms continued to improve and she began ambulating in the hospital with assistance. Upon discharge (hospital day 10), the choreoathetosis had completely resolved and she was back to her baseline level of cognitive and physical functioning.

Discussion
This case highlights the uncommon manifestation of choreoathetosis in acute lithium toxicity\(^4\) seen during periods of impaired renal function when the lithium therapeutic index is surpassed. As is common with this complication, choreoathetoid movements began after discontinuation of lithium and continued despite normalization of serum lithium levels; our experience demonstrated an approximate one-week lag time. Based on previous case reports, there are two drastically different outcomes for patients who develop neurologic complications of lithium toxicity.\(^5\) One is complete resolution (typically within one to two weeks) and the other, an irreversible condition called syndrome of irreversible lithium-effectuated neurotoxicity (SILENT).\(^6\) SILENT describes patients without previous neurological impairment in whom neurologic symptoms induced by lithium toxicity persist for more than two months following discontinuation.\(^6\)

Although rare, recognition of choreoathetosis as a complication of acute lithium toxicity and understanding its potential outcomes are critical when communicating this sensitive information to patients and their families. MM

REFERENCES