

Case Study

Joann Curley: Caught by a Hair

A vibrant young woman named Joann Curley rushed to the Wilkes-Barre (Pennsylvania) General Hospital—her husband, Bobby, was having an attack and required immediate medical attention. Bobby was experiencing a burning sensation in his feet, numbness in his hands, a flushed face, and intense sweating. He was diagnosed with Guillain-Barré syndrome, an acute inflammation of the nervous system that accounted for all of Bobby's symptoms. After being discharged, Bobby experienced another bout of debilitating pain and numbness. He was admitted to another hospital, the larger and more capable Hershey Medical Center in Hershey, Pennsylvania. There doctors observed extreme alopecia, or hair loss. Test results of Bobby's urine showed high levels of the heavy metal thallium in his body. Thallium, a rare and highly toxic metal that was used decades ago in substances such as rat poison and to treat ringworm and gout, was found in sufficient quantities to cause Bobby's sickness. The use of thallium was banned in the United States in 1984. Now, at least, Bobby could be treated. However,

before Bobby's doctors could treat him for thallium poisoning, he experienced cardiac arrest and slipped into a coma. Joann Curley made the difficult decision to remove her husband of thirteen months from life support equipment. He died shortly thereafter.

Bobby Curley was an electrician and, for five months before his death, he worked in the chemistry department at nearby Wilkes University. Authorities suspected that Bobby had been accidentally exposed to thallium there among old chemicals and laboratory equipment. The laboratory was searched and several old bottles of powdered thallium salts were discovered in a storage closet. After testing the air and surfaces, these were eliminated as possible sources for exposure. This finding was supported by the discovery that none of Bobby's co-workers had any thallium in their systems. The next most logical route of exposure was in the home; thus, the Curley kitchen was sampled. Of the hundreds of items tested, three thermoses were found to contain traces of thallium.

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Investigators also learned that Bobby had changed his life insurance to list his wife, Joann, as the beneficiary of his \$300,000 policy. Based on this information, police consulted a forensic toxicologist in an effort to glean as much from the physical evidence in Bobby Curley's body as possible. The toxicologist conducted segmental analysis of Bobby's hair, an analytical method based on the predictable rate of hair growth on the human scalp: an average of 1 centimeter per month. Bobby had approximately 5 inches (12.5 centimeters) of hair, which represents almost twelve months of hair growth. Each section tested represented a specific period of time in Bobby's final year of his life.

The hair analysis proved that Bobby Curley was poisoned with thallium long before he began working at Wilkes University. The first few doses were

small, which probably barely made him sick at the time. Gradually, over a year or more, Bobby was receiving more doses of thallium until he finally succumbed to a massive dose three or four days before his death. After careful scrutiny of the timeline, investigators concluded that only Joann Curley had access to Bobby during each of these intervals. She also had motive, in the amount of \$300,000.

Presented with the timeline and the solid toxicological evidence against her, Joann Curley pleaded guilty to murder. As part of her plea agreement, she provided a forty-page written confession of how she haphazardly dosed Bobby with some rat poison she found in her basement. She admitted that she murdered him for the money she would receive from Bobby's life insurance policy.