J11 The Influence of Terminal Illness and Prescription Medications on Patient Signatures

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After attending this presentation, attendees will have a better understanding of the influences that opiate pain killers, benzodiazepines, and illnesses may have on a patient's handwriting or signatures.

This presentation will impact the forensic science community by educating attendees that opiate and benzodiazepine drugs act on the brain and nerves, producing a calming effect in relieving pain or anxiety that may result in the patient's signature containing characteristics of distortion. In cases involving such a deviation, attendees will understand the importance of obtaining contemporaneous signatures and a list of medications the patient (writer) was taking.

Every forensic document examiner is aware of the complexities within an individual's handwriting. All physical repetitive actions, including handwriting and the execution of signatures, are achieved through the Central Nervous System (CNS) using the neuromuscular system. Eighty percent of the cerebral cortex is used to produce a handwritten text.[1] Naturally written handwriting and signatures contain a combination of characteristics that can individualize the writing to a specific writer; however, the central nervous system is susceptible to prescription medications designed to relieve pain, anxiety, depression, etc. The patient's writing or signatures may be distorted when under the influence of prescription medications that act on the CNS. Obtaining information regarding the health of the writer and his or her prescribed medications taken during the timeframe of the production of the signature can assist the forensic document examiner in understanding the physiological process involved in the production of distorted writings or signatures.[2]

A 69-year-old male patient was diagnosed with terminal small-cell carcinoma of the lungs on May 3, 1996, and was advised he had four to six months left to live. The patient was asked if he would provide at least one signature each day during his illness as this would assist forensic document examiners in understanding the influence of illness and medications reflected in his known signatures. The patient agreed and the following information was to be recorded: date and time of each signature; the date, time, and name of medication; and the patent's comments regarding pain or anxiety.

Sixty-five signatures were recorded, with the last one written two weeks prior to the patient's death on June 22, 1996. The patient's pain was managed with a variety of opiate pain killers. Benzodiazepines were prescribed to relieve the patient's anxiety and depression. A comparison of the timeline of pain, anxiety, and prescription medications to the timeline of the signatures will provide forensic document examiners with the opportunity to gain a better understanding of the influence these factors may have on the writings and signatures executed by terminally ill patients.

Reference(s):

1. Mary I. Duncan and Beryl Gilbertson. *Two Different Effects Of Brain Cancer On Writing*. (Paper presented at the International Association of Forensic Sciences 9th International Meeting, Bergen, Norway, June 22-26, 1981).
2. Michael Caligiuri and Linton Mohammed. *The Neuroscience of Handwriting Applications for Forensic Document Examination*. (Florida; CRC Press Taylor & Francis Group ,2012), 168.

Prescription Medications, Central Nervous System, Signatures