



## Questioned Documents Section - 2015

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### J26 A New-Dominant Hand: Training the Non-Dominant Hand to Perform the Complex Task of Handwriting

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After attending this presentation, attendees will have an understanding of the problems and challenges encountered when writing with the non-dominant hand and will be aware of possible differences and improvements that can be expected in non-dominant-handwriting over time.

This presentation will impact the forensic science community by bringing awareness to a growing source of handwriting that may appear to be disguised or distorted, by assisting Forensic Document Examiners (FDEs) in understanding the process involved when training the new-dominant hand, and by highlighting certain features and characteristics that might be observed in the handwriting produced by the new-dominant hand.

Use of the non-dominant hand is a method sometimes utilized to disguise one's handwriting. FDEs are always mindful of possible disguise in questioned and known handwriting when performing examinations, but it should be remembered that use of the non-dominant hand is not always used as a means of disguise. Sometimes, it is forced on a writer due to amputation, illness, immobility, or other factors. Consider for a moment, veterans of the Iraq and Afghanistan wars. As of December 31, 2013, there have been 1,558 major limb amputations performed on United States soldiers.<sup>1</sup> United States soldiers remain in combat in parts of the world today, so these numbers are likely to increase.

So, it was with our soldiers and wounded veterans in mind that this study began. With guidance from a book called *Handwriting for Heroes: Learn to Write with Your Non-Dominant Hand in Six Weeks*, this study documents a six-week process of training a writer to use the non-dominant hand to perform the complex task of writing.<sup>2</sup> The project consisted of 12 daily writing assignments, such as repetition of letter combinations, tracing cursive writing outlines, shading in objects with a pencil, and copying sentences. There was also a daily "homework" assignment meant to increase dexterity and coordination. Specific problems and challenges encountered during the exercises were documented. Differences between the dominant-hand writing and non-dominant-hand writing were seen in: slant, letter designs, retracings, beginning strokes, connecting strokes, speed, and fluency. Changes to the handwriting, which improved noticeably over the six weeks, were also documented.

Those who have lost the use of their dominant hand due to injury, illness, or amputation have no choice but to transform their non-dominant hand into their new-dominant hand. If faced with samples of their writing, it must be understood that they are not necessarily attempting to disguise their writing, but perhaps just trying to survive and thrive. This exercise is meant to bring awareness to a growing source of handwriting that may appear to be disguised or distorted, to assist FDEs in understanding the process involved when training the new-dominant hand, and to highlight certain features and characteristics that might be observed in the handwriting produced by the new-dominant hand.

#### References:

1. Fisher, Hannah. A Guide to U.S. Military Casualty Statistics: Operation New Dawn, Operation Iraqi Freedom, and Operation Enduring Freedom. CRS Report for Congress. Congressional Research Service, 2014.
2. Yancosek, Kathleen E, Gulick, Kristin. *Handwriting for Heroes: Learn to Write with Your Non-Dominant Hand in Six Weeks*. Ann Arbor, MI: Loving Healing Press; 2009.

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#### Non-Dominant Hand, Amputation, Disguise