

## Acquired dyslexia as conversion disorder: Identification and management

### Introduction

Acquired dyslexia in previously literate adults is most commonly the outcome of one of a variety of neuropathologies including dementia, stroke, neoplasm, multiple sclerosis, and migraine (Greenwald, 2000). Rarely is the disorder ascribed to a psychological basis. A psychological explanation for acquired dyslexia attributes the disorder to a physiologic conversion reaction causing loss or distortion of reading abilities for subconscious personal gain. The only case material in the literature to report such a diagnosis consists of just two adolescents with developmental dyslexia who were taught successfully to read using an alternate alphabet but for whom no other data are available (Manzo, 1978, 1987). No cases of acquired dyslexia in an adult due to psychological reasons have appeared in the literature. This presentation offers the first evidence for such a case. The assessment and rehabilitation of an adult with acquired dyslexia is described that supports conversion disorder as a cause of acquired dyslexia.

### Case Description

*History.* A 50 year old Caucasian man with a master's degree in Chemistry began experiencing problems concentrating and focusing at work (see Table 1). He was hospitalized for six weeks and treated for major depression. Reading problems were noted during this hospitalization. The patient described these problems as words moving in a wavy motion when he reads. Results of neurological and neuro-ophthalmological evaluations were negative. Following discharge, he was unable to return to work as a chemist because of his reading difficulties. Instead, he performed volunteer work with adults with mental disabilities.

*Evaluation.* Single word reading was accurate but substantially delayed (see Table 2). Latencies decreased from the first to the last of the four subtests evaluating single word reading. He demonstrated one instance of letter reversal during lexical decision. Reading was substantially reduced for sentence and paragraph level materials. He could respond accurately to a sentence level task but only after using his fingers to identify individual words. This required repeatedly moving forward and backward over each word of the sentence using a word by word approach. Occasionally, this was done in a right to left direction. When asked to count the number of words in a sentence or to identify the boundaries for a specific word in a sentence, he was able to do so only with the use of his fingers.

Analysis of performance suggested that the patient was capable of accurately identifying letters, performing letter to sound conversion, recognizing orthographic word forms, performing syntactic analyses of sentences and attaching appropriate meanings to orthographic information. He had initial difficulty reading single words that improved with repeated trials and was unable to segment a series of words in a sentence into their individual constituents without visual guidance. Based on the characteristics of his symptoms and these findings, the patient was diagnosed with acquired dyslexia secondary to conversion disorder.

## Management

*Symptomatic treatment.* Treatment focused on improving functional reading abilities secondary to increased reading rate for paragraph-level materials and increased awareness of the source of these reading deficits. The *Multiple Oral Rereading* approach (Beeson, 1998; Moyer, 1979) was used to increase oral reading rate. All reading materials were controlled for increasing length and complexity. Baseline reading rates were collected for each reading passage prior to exposure to treatment. The first half of each passage was then assigned for multiple daily readings as homework. Probes were collected for both treated and untreated materials during the ensuing treatment session to determine treatment effects as well as estimate generalization of observed gains.

Baseline reading rate at the beginning of treatment was 14.4 words per minute (wpm) (see Figure). The patient required the use of a visual guide constructed from cardboard with a window cut out to read. His reading behavior was shaped so that the cardboard guide was replaced by visual scanning using his finger followed by the withdrawal of any visual supports. Overall reading rate for treated materials increased to 30 wpm at the end of treatment. Improvements observed on treated materials generalized to materials not exposed to treatment.

*Counseling.* Once the patient demonstrated familiarity with the procedure and confidence in his improving abilities, counseling was introduced to improve his insight regarding the nature of his reading deficits. The work-related circumstances accompanying the onset of his reading disorder were explored. The patient stated that he enjoyed his work as a chemist but that he'd had a difficult relationship with his supervisor and was unable to resolve disagreements. He had discontinued attempting to do so. He wished to return to work but understood the difficulty that would create, especially given his reading problems. He was compelled to return to this position because of his seniority and the benefits he had accumulated. He stated that he would be satisfied to return to his job for one day and then leave just to demonstrate that he was capable of returning to work.

The patient was encouraged by his improvement and not as worried about his reading. With further improvement, he felt he would be able to return to work. He was counseled over two sessions that his reading disorder may be related to conflicts concerning work-related issues and that resolution of these conflicts may result in full recovery of his reading abilities. He was accepting of this explanation and the need to focus future treatment on psychotherapy rather than on reading treatment.

## Outcome

The patient was referred to his psychiatrist with a recommendation for psychotherapy to address his work-related issues. Seven months following discharge from reading treatment, a request was received from his employer for information to support reassignment of employment. The patient was lost to further attempts for follow-up.

### Conclusions

This rare case relates acquired dyslexia in an adult to psychological problems. It provides evidence for an unusual form of conversion disorder.

### References

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Table 1. Patient symptoms categorized according to major diagnostic criteria for conversion disorder (300.11).

	<b>DSM-IV-TR Diagnostic Criteria<sup>1</sup></b>	<b>Patient Symptoms</b>
A.	One or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition	Patient reports “words move in a wavy motion” when reading; “...shaky words...can’t find a way to stop the movement of the words”; relies on visual guide with window cut out to read sentences in paragraphs
B.	Psychological factors are judged to be associated with the symptom or deficit because the initiation or exacerbation of the symptom or deficit is preceded by conflicts or other stressors	Hospitalized for 6 weeks for major depression 15 months prior to evaluation; reading difficulties first observed during hospitalization; history of familial depression
C.	The symptom or deficit is not intentionally produced or feigned (as in factitious disorder or malingering)	No apparent external reward or benefit from reading problems
D.	The symptom or deficit cannot, after appropriate investigation, be fully explained by a general medical condition, or by the direct effects of a substance, or as a culturally sanctioned behavior or experience	Neurological and neuro-ophthalmological evaluations are negative; MRI of brain reveals no abnormality
E.	The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation.	Despondent and occasionally tearful when discussing reading problems; unable to return to position as chemist in county medical examiner’s office
F.	The symptom or deficit is not limited to pain or sexual dysfunction, does not occur exclusively during the course of somatization disorder, and is not better accounted for by another mental disorder.	Problem described as “more visual” and characterized by difficulty seeing small print; sentences appear to be “one big word,” unable to “separate the words”

<i>Specify</i> type of symptom or deficit	
<b>With motor symptom or deficit</b> (e.g., impaired coordination or balance, paralysis or localized weakness, difficulty swallowing or lump in throat, aphonia, and urinary retention)	
<b>With sensory symptom or deficit</b> (e.g., loss of touch or pain sensation, double vision, blindness, deafness, and hallucinations)	Visual distortions limited to reading
<b>With seizures or convulsions</b> (includes seizures or convulsions with voluntary sensory components)	
<b>With mixed presentation</b> (if symptoms of more than one category are evident)	

<sup>1</sup> From American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders (4<sup>th</sup> ed., Text Revision). Washington, DC

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Table 2. Assessment Measures

Test	Maximum	Result	Latency (sec.)
<i>Boston Naming Test (BNT)</i>	60	55	
<i>Reading Comprehension Battery For Aphasia-Second Edition (RCBA-2)</i>			
Core Subtests			
Word-Visual	10	10	379
Word-Auditory	10	10	271
Word-Semantic	10	10	151
Functional Reading	10	0/2	278
Synonyms	10	10	360
Sentence-Picture	10	3/10 d/c	300
Paragraph-Picture	10	1/10 d/c	142
Paragraph-Factual		NA	
Paragraph-Inferential		NA	
Morpho-Syntax		NA	
Supplementary Subtest			
Lexical Decision	20	20	258

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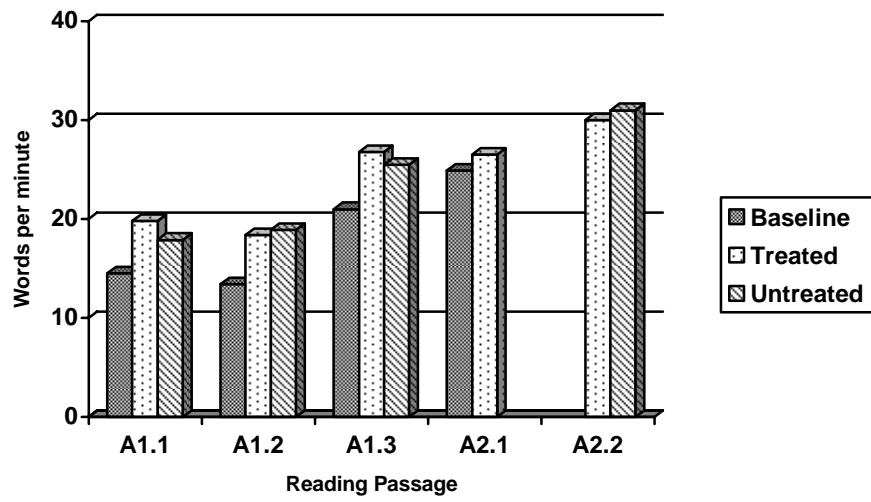


Figure. Treatment results by level of reading passage complexity.