A Guide to Getting 'Differential Diagnosis' Evidence Admitted

By Robert L. Abell

Differential diagnosis is the method by which a physician may identify and isolate the causes of disease and death. It involves consideration of all relevant potential causes of the symptoms and then eliminates alternative causes based on physical examinations, clinical tests, case histories and other relevant information. It is widely accepted, including by the Kentucky Supreme Court,[1] as a reliable method of ascertaining medical causation.

The Sixth Circuit recently decided a case, *Best v. Lowe's Home Centers, Inc.*,[2] and issued an opinion providing a guide to getting admitted differential diagnosis testimony and evidence. The plaintiff, Best, was shopping at Lowe's for chemicals for his swimming pool. He lifted a container of Aqua EZ from a shelf and, due to a puncture, an unknown quantity of the chemical was splashed on his face. Four months later and suffering from a continuing loss of his sense of smell (a condition known as anosmia), Best sought treatment for his injuries from Dr. Francisco Moreno, a board-certified otolaryngologist (ear, nose and throat doctor) and a former chemical engineer. At this initial visit, Best described the incident at Lowe's and the symptoms he had experienced since, ending in the loss of his sense of smell. However, Dr. Moreno was unable to examine the mucous membranes of Best's nasal passages that day.

Best next saw Dr. Moreno three and a half years later. On the date of the exam, Best was suffering from rhinitis (stuffy or runny nose) with swelling decreased airflow. He related that he had suffered, in the interim three and a half years, with rhinitis, anosmia and dizzy spells.

More than a year later, Dr. Moreno administered a standardized test of olfactory function to Best.[3] This yielded a score consistent with the complete loss of the sense of smell.

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In his deposition, Dr. Moreno testified that loss of the sense of smell could be caused by a virus, an accident, brain tumors, brain surgery, chemical exposure and, in some instances, medications. He acknowledged that sometimes anosmia is idiopathic. Dr. Moreno ruled out any of the numerous medications as causing Best's anosmia, explaining that, in over 25 years of practice, none of his patients had lost their sense of smell from using any of the medications.[4] He was unfamiliar with one of Best's medications, Lescol, and was unable to recite the general types of medications that can cause loss of the sense of smell.[5]

From a review of MSDS information, Dr. Moreno concluded that inhalation of Aqua EZ could cause damage to the nasal mucous membranes and the nerve endings of the olfactory bulb. He noted the presence of a chlorine derivative in the product and reported having other patients with anosmic side effects following exposure to chlorine derivatives. Dr. Moreno summarized his diagnosis regarding causation as follows:

> The patient had an accident, chemical was spilled, the patient cannot smell. If we have any trust in the patient at all, all I can say is he cannot smell. I did test him, his test was positive in the fact that he was anosmic. All I can tell you I that exposure to the – the only exposure that he had at the time that I talked to him was exposure to this chemical [sic]. There was nothing else in his history that dictated the fact that he was anosmic otherwise.[6]

The trial court judge excluded Dr. Moreno's causation testimony as too speculative and granted Lowe's a summary judgment.

The Sixth Circuit, in reversing, adopted the following test for admissibility of a doctor's differential diagnosis: (1) the doctor objectively ascertains, to the extent possible, the nature of the patient's injury, a process requiring more than accepting a patient's self-report of symptoms or illness; (2) the doctor should "rule in" one or more causes of the injury using a valid methodology; and (3) the doctor "engages in 'standard diagnostic techniques by which doctors normally rule out alternative causes to reach a conclusion as to which cause is most likely."[7] The "rules

out" prong (the third prong) will require a more extensive explanation of the opinion's reliability; the fewer standard diagnostic techniques are used.[8] In addition, the doctor must provide a reasonable explanation for rejecting any alternative suggested by the defense as the sole cause.[9]

The court held that Dr. Moreno fulfilled these criteria. First, he administered a well-recognized olfactory function test to determine that Best was indeed anosmic. Lowe's complaints about Dr. Moreno's experience with the test and other issues were, the court asserted, suitable for cross-examination but not "total exclusion of plainly relevant testimony."[10]

Second, Dr. Moreno used valid methodology to "rule in" Aqua EZ as a potential cause: a consideration of possible causes, as well as information on the product's MSDS sheet and "his own knowledge of medicine and chemistry that the chemical it contains can cause damage to the nasal and sinus mucosa upon inhalation."[11] The court also noted Dr. Moreno's treatment of other patients who had developed anosmic problems after inhaling chlorine derivatives.[12] The court rejected Lowe's contention that no published material linked the inhalation of Aqua EZ to anosmia, noting that "there is no requirement that a medical expert must always cite published studies on general causation in order to reliably conclude that a particular object caused a particular illness."[13]

Third, Dr. Moreno used standard techniques to "rule out" other causes. Since there was no evidence of virus, accident, brain tumor or surgery, Dr. Moreno properly focused on chemicals, medications and/or ideopathic causes. He ruled out idiopathic anosmia "based on his own experience that an idiopathic anosmia would not appear over such a short period of time."[14] He also ruled out all of Best's medications except one. But the court advised that a doctor "need not rule out every conceivable cause in order for their differential-diagnosis-based opinions to be admissible."[15] Admissibility of differential diagnosis testimony does not require "perfect methodology" and any weaknesses go to the weight of the testimony, not its admissibility. It was enough that Dr. Moreno "performed as a competent, intellectually rigorous treating physician in identifying the most likely cause of Best's injury."[16]

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The key points the *Best* case offers appear to be as follows. First, Dr. Moreno was well-qualified: he was board-certified, a chemical engineer as well as a doctor and had substantial experience with other patients with similar incidents and symptoms. Second, he verified his patient's symptom report with the olfactory function test. Third, he articulated a systematic approach to considering possible causes and why he ruled them out. Fourth, while his methodology was not perfect (he was unfamiliar with one of his patient's medications and could not recite the general types of medications that cause anosmic symptoms), Dr. Moreno simply employed a sensible and widely used process to identify the most likely cause of his patient's injury.

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1 *Hyman & Armstrong, P.S.C. v. Gunderson*, 279 S.W.3d 93, 106 (Ky. 2008)
2 563 F.3d 171 (6th Cir. 2009).
3 The University of Pennsylvania Smell Identification Test (UPSIT).
4 563 F.3d at 175.
5 *Id.*
6 563 F.3d at 175-76.
7 563 F.3d at 179, *quoting In re Paoli Railroad Yard PCB Litigation*, 35 F 3d 717, 760 (3d Cir. 1994).
8 563 F.3d at 179.
9 *Id.*
10 *Id.* at 180.
11 *Id.* at 180-181.
12 *Id.* at 181.
13 *Id.* at 180-81, *quoting Kudabeck v. Kroger Co.*, 338 F.3d 856, 862 (8th Cir. 2003).
14 *Id.* at 181.
15 *Id.*
16 *Id.* at 181-182.