IN THE CIRCUIT COURT FOR CARROLL COUNTY

STATE OF MARYLAND	*
v.	*
CONSOLIDATED CASES:	*
Charles David Brightful K-10-40259	*
Harvey Alexander Carr K-10-40331	*
Ryan Thomas Mahon K-09-39370	*
Valerie Ann Mullikin K-09-39636	*
Ronald Dale Teeter K-10-40300	*
Jennifer Adeline Flanagan K-10-40167	*
Christopher James Moore K-09-39569	*
Darrell Patrick Peyok, Jr. K-10-40686	*
Ryan Lucas Mullinex K-10-40575	*
Bonnie Denise Brisco K-10-40783	*
Perry Gilbert May K-10-40717	*
Matthew Bridger Farley K-11-41045	*
Jessica Leigh Clark K-11-41336	*
Rosemary Lynn Button K-11-41468	*
Richard John Holmes K-11-41475	*
Jack Edward Manger	*

K-11-41490
Michael Wayne Husey *
K-11-41506
Troy Adam Director *
K-11-41595
Timothy Charles Robertson *
K-11-41610
Daniel Paul Cannavo *
K-11-41627
Jonathan Tyler Carroll *
K-11-41323
Ryan Lee Anderson *
K-12-42335
Amy Michelle Giaraffa *
K-11-42127
Stephanie Anne Baumes *
K-11-42203
Bonnie Denise Brisco *
K-11-41519
Richard Clarence Poling *
K-11-42185
Mark Gertz *
K-11-42060
Defendants *

* * * * * * * *

MEMORANDUM OPINION AND ORDER

This matter came before the Court September 20, 21, 22, 23, 27, 28, 29, 30, 2010 and February 14 and 15, 2011 on the issue of whether the drug recognition expert protocol and drug recognition expert testimony are admissible in the State of Maryland for prosecutions of persons suspected of

driving under the influence of drugs or controlled dangerous substances. After hearing testimony and the arguments of counsel the Court held the matter *sub curia*.

Following these hearings Defendants filed their Motion To Exclude The Drug Recognition Expert Protocol and Drug Recognition Expert Opinion.

I. Background

The Drug Recognition and Classification Program ("DEC Program") was developed in 1979 by two sergeants with the Los Angeles Police Department. In 1986 the National Highway Traffic Safety Administration ("NHTSA") published the NHTSA, DRUG EVALUATION AND CLASSIFICATION TRAINING PROGRAM, STUDENT MANUAL ("DEC Manual") and in 1987 developed a national standardized curriculum. In 1990 the International Association of Chiefs of Police ("IACP") became the national certifying agency for the drug recognition examiners.

As part of the DEC Program, police officers with no formal scientific training enroll in a 72-hour

course designed to teach them about the characteristics and effects of seven different categories of drugs on all major systems in the human body.[1] These police officers are taught to administer a twelve-step drug evaluation and classification protocol to subjects suspected of impairment.[2] The

---

[1] **7 Drug Categories**

1. Central Nervous System Depressants
2. Inhalants
3. Dissociative Anesthetics
4. Cannabis
5. Central Nervous System Stimulants
6. Hallucinogens
7. Narcotic Analgesics

[2] **12 Steps of the Drug Evaluation Process**

1. Breath Alcohol Test - A sample of breath is taken from the test subject to determine the ~~concentration of alcohol, if any, in the test subject.~~
2. Interview of Arresting Officer - The DRE consults with the investigator(s) to determine the circumstances leading up to the apprehension of the test subject.
3. Preliminary Examination - Initial examination of the subject. Some questions are asked in relation to the subject's medical/physical limitations.
4. Eye Examination - Eyes are examined for pupils being equal, the ability of the eyes to track a stimulus equally, to monitor the smoothness of that tracking, to look for Horizontal Gaze Nystagmus, as well as Vertical Gaze Nystagmus.
5. Divided Attention Tests - One Leg Stand is done with both legs. Walk and Turn test is done. Modified Romberg Balance test. And Finger to Nose test is done.
6. Examination of Vital Signs - Blood pressure, pulse and body temperature is taken.
7. Dark Room Examinations - Examination of the pupil sizes in near total darkness, under direct light, and in normal room light. Examination of the oral and nasal cavities are done at the same time.
8. Examination of Muscle Tone - Flexion and Extension of the muscles are tested, to see if there is flaccidity, or rigidity of the muscles.

test takes approximately 45 minutes to and hour. At the conclusion of the twelve-step analysis the officer must decide (a) whether the subject has been driving while under the influence of a drug or drugs and, of so, (b) what category or combination of categories of drugs is impairing the subject.

To become a certified Drug Recognition Examiner ("DRE") a police officer must take a 72-hour course and obtain a score of at least 80% on the final exam.

Although the DRE program is utilized in 45 states, the presence of the DRE program does not equate to widespread judicial acceptance by appellate courts nor acceptance in the medical community.

---

9. Examination of Injection Sites - Examination of common injection sites to determine if the subject is using injected substances.
10. Suspects Statements / Other Observations - Soliciting information from the test subject which will corroborate signs and symptoms that the evaluator has observed.
11. Opinion of the Evaluator - The DRE makes a determination of the class or classes of drugs that a subject is under the influence based on a matrix of symptomology that has been developed during studies of subjects under the influence of known classes of drugs.
12. The Toxicological Examination - Blood, saliva or urine is obtained by demand, which is analyzed to determine what class of substances are present that corroborates the DRE's opinion.

II. Expert testimony

The State presented six expert witnesses: Dr. Karl Citek, Ms. Michelle Spirk, Mr. William Tower III, Officer William Morrison, Lt. Thomas Woodward and Dr. Zenon Zuk.

Dr. Karl Citek testified that he is an optometrist who is also a primary care physician. He testified that he did not attend medical school. (Tr. 9/20/10 at 38) He testified that he is a member of the adjunct faculty at the Institute of Police Technology and Management and teaches a course called Medical Foundations of Visual System Testing, a three-day course on the medical and scientific background behind the DRE protocol. (Id. at 26) Dr. Citek testified that he has given presentations and lectures to DREs for which he has received some compensation and has observed DRE certification training in Oregon, Florida and Louisiana on at least 100 occasions. (Id. at 35, 48) Dr. Citek testified that the DRE courses are commonly taught by other police officers. (9/20/2010 at 179, 203) He testified that the DRE is "making a diagnosis of whether the person is impaired by a drug or medical condition." (Tr. 9/20/10 at 154). Dr. Citek testified that he is not a member of the IACP or the DRE technical advisory board. (Id. 183) Dr. Citek testified that there is no set number of major or general indicators that a DRE needs to find to reach an opinion of drug impairment, although in his opinion only one indicator would not be enough to find drug impairment. He further testified that DREs are not instructed by the DEC Program that only one indicator would be insufficient. (Tr. at 208, 219) Dr. Citek described the DRE protocol as "a diagnostic test" that allows [DREs] "to differentiate not only between impaired and unimpaired people but, when impairment is

found, whether it is a medical or drug impairment." (Tr. 9/20/10 at 220) Dr. Citek testified that there are medical disorders that will actually cause smooth pursuit and distinct and sustained nystagmus at maximum deviation and when distinguishing between medical and drug impairment the DRE must understand how many clues are necessary to find HGN. (Tr. 9/21/10 at 25) Dr. Citek testified that these medical disorders are not explained in the DEC Manual and this is "another shortfall of this manual...and the training" and he has recommended in the past to make changes to the manual. (Id. at 25) Dr. Citek testified that there is "nothing in the medical or scientific community that validates that HGN makes you unable to drive safely." (Id. at 37)

Ms. Michelle Spirk testified that she has a Masters Degree in Bio-Chemistry and has been employed with the Arizona Department of Public Safety for twenty years. She testified that she supervises toxicologists who perform blood, alcohol, urine, and blood drug screening. (Tr. 9/21/10 at 79, 119) Ms. Spirk testified that she was been heavily involved in the DRE program since she began work in the Arizona State Crime Laboratory. She attended DRE school during her first year of employment. She testified that she sits on the Arizona DRE Steering Committee and attends monthly meetings. (Id. at 82-83) She testified that she teaches for the Arizona DRE program. She testified that she does not have a degree in toxicology, forensic toxicology, or any area of pharmacology. (Id. 92-93) The State offered her as an expert in the areas of pharmacology, clinical research, forensic toxicology and DRE protocol. The Court qualified Ms. Spirk to testify in the field of toxicology only. (Id. at 131) Ms. Spirk was allowed to testify "as to the possible effects of a drug, but not the effect on driving." (Id. 145)

Mr. William Tower III testified that he is a law enforcement liaison for the National Highway Traffic Safety Administration and International Association of Chiefs of Police (IACP). In 1987 he and two other specialists developed the DRE curriculum. (Tr. 2/14/11 at 12-15)

Mr. Tower testified that the DRE was developed by police officers from the Los Angeles Police Department. In 1979 the Drug Recognition program received the official recognition of the LAPD. Mr. Tower testified that in 1986 the National Highway Traffic Safety Administration ("NHTSA") became involved in order to make a more standardized manual and a certification process for use nationally. (Tr. 2/14/11 at 16-17, 22) Mr. Tower testified that NHTSA took parts of two programs existing at the time, the LAPD and the California Highway Patrol, and by 1987 developed a national standardized curriculum.(Id. at 25-26, 42) In 1990 the International Association of Chiefs of Police ("IACP") assumed control of the DEC Program. (Id. at 53) Mr. Tower testified that the program is utilized in 45 states.

Mr. Tower testified that a police officer who enters the DEC Program to become a DRE is not required to have any prior medical training. (Tr. at 182) An officer must take a standardized three-day course on field sobriety tests followed by a two-day DRE test. If the officer passes with 80 or above, he will begin the seven-day DRE school where he will learn the 12-step process and must take a 100-question test at the end and pass with a score of at least 80. (Id. at 27-28)

Mr. Tower testified that the DEC Program seeks to train police officers to conduct a "systematic and standardized" examination of a suspect in order to determine:

1. Whether the subject is impaired; and, if so,
2. Whether the impairment is caused by drugs or a medical condition; and, if drugs,
3. The category or combination of categories of drugs that are the likely cause of the subject's impairment.

(Id. at 30-32)

Mr. Tower further testified that in addition to the wide discretion in what weight to give the indicators on the matrix, the DRE is not even required to complete the 12-step protocol to reach an opinion as those steps are merely "preferred." (Tr. 2/14/11 at 95-96). **Mr. Tower testified that even if no drugs at all are found in the subject's blood, the DRE is "not going to change [their] opinion after you get the blood."** (Id. at 103-04) **Mr. Tower stated that the reason there would be no change in the officer's opinion is that "you are limited on what the lab can test for."** (Id. at 104) (Emphasis supplied.)

Officer William Morrison testified that he is a member of the Montgomery County Police Department. He is the coordinator for the Montgomery County Police Department's Chemical Test Unit. Officer Morrison testified that he maintains intoximeters and oversees blood testing and the County's DRE program. He is also responsible for training related to underage drinking, DWI and preliminary breath testing. Officer Morrison has been a certified DRE since 1991. Officer Morrison testified that he teaches DRE in-service training and has performed over 1,000 DRE evaluations. (Tr. 2/14/11 at 110)

He testified that as soon as a DRE is certified they are considered fully qualified to render an opinion, including ruling out medical causes, for any perceived impairment by the officer. (Id. at 80-91) He testified that the DRE is specifically making a medical diagnosis during the

examination by ruling out medical conditions during the examination. (Id. at 207)

He testified that when the matrix says "indicated" it means only that it indicates that several things could be present—it could indicate the presence of drugs, impairment by drugs, or could simply be impairment by a medical condition. (Tr. 2/15/11 at 25) Officer Morrison who testified that he has been involved with the program for 20 years and a long-time instructor testified that he had no idea why some indicators are called "Major" and others are called "General." (Id. at 25-26) Officer Morrison testified that he does not need to have any set number of indicators in order to find someone impaired because a DRE looks at the "totality of everything" and ultimately it comes down to their medical judgment. (Id. at 59, 65)

Lt. Thomas Woodward testified that he is the current commander of the Maryland State Police Barrack in Hagerstown, Maryland. He has served in law enforcement for thirty years and before his assignment in Hagerstown he was commander of the chemical test for alcohol unit. (Tr. 2/15/11 at 87) He testified that he has been State coordinator for the Maryland DRE program for the last ten years and is responsible for ensuring Maryland DREs are trained and certified according to IACP guidelines.
(Id. at 88)

Dr. Zenon Zuk testified that he has practiced medicine for 30 years and the majority of his practice involves workers' compensation cases. He has testified on behalf of the DRE protocol fifteen times. (Tr. 9/22/10 at 176) Dr. Zuk testified that he reviewed the DRE Manual before testifying today and prior to that he had not read the DRE Manual for fifteen years.

He testified that he performs work for the Western Branch of the United States Immigration Service and administered deportation protocol to be used during in-flight deportations. (Tr. 9/22/10 at 171-172) The purpose of the protocol was to insure that the Justice Department was not fined for emergency landings or aborted landings by medical mishaps in flight. (Id. 171-172) He testified that he sedated deportees with drugs to assure their cooperation and that one of the drugs he used was a PCP dissociative anesthetic call Droperidol. (Tr. 9/23/10 at 36) He testified that in 17 years he did a total of 182 sedations and that "in probably half the cases it would be considered against their will." (Id. at 36) He testified that "the effect on the individuals that I administered it so that it would—they would still perceive an awareness of an event that they were anxious about but they demonstrated less concern about it. So, it was - part of the reason why a dissociative anesthetic made so much sense--it really cuts off their ability to respond emotionally to what they know cognitively." (Id. 36)

He testified that he became interested in the DRE program because he wanted to learn the DRE skill set with its use of the Tharp's Equation. (Tr. 9/23/10 at 49) He testified that the Tharp's Equation is used by a DRE to quantify a suspect's blood alcohol content and also determine if a suspect is impaired by a drug. He testified that the Tharp's Equation is "blood alcohol content equals 50 minus angle of onset." (Id. at 50)
He testified that during his medical training he never saw or was taught that one could predict the presence of other drugs inside a human being based on the discrepancy between an angle of onset of nystagmus and the breath alcohol level. (Tr. 9/23/10 at 49, 84)

Defendants' called three experts: Dr. Francis Gengo, Dr. Neal Adams, and Dr. Jeffrey Janofsky.

Dr. Francis Gengo testified that he is a clinical pharmacologist with a post doctoral fellowship in pharmacokinetics and pharmacodynamics. Dr. Gengo has held various academic appointments at SUNY Buffalo including Associate Professor of Pharmacy, Associate Professor of Neurology in the School of Medicine and a courtesy appointment in the Department of Neurosurgery where he lectures to neurosurgery residents about the use of medications in patients who have acute neurologic problems. He currently holds two positions at the Dent Neurologic Institute: Director of Clinical Research for the Dent Neurologic Group and Chief Science Officer for the Dent Neuroscience Research Center. Dr. Gengo teaches medical and pharmacology students as part of a clinical rotation from SUNY Buffalo. Dr. Gengo testified that he is responsible for medication therapy management and conducts comprehensive reviews of patient records to determine specific efficacy and toxicity of patient medications and eliminate redundant medications. (Tr. 9/28/10 13-20)

Dr. Gengo has authored sixty-five peer reviewed and published articles and three of those articles are specifically in the area of drug impaired driving. He has contributed to text books in the field of clinical pharmacology, e.g., Neurology In Clinical Practice, Clinical Pharmacokinetics, and Drug Effects On Human Function. (Id. at 26-27)

Dr. Gengo testified that the DRE makes largely subjective observations. Dr. Gengo stressed that "the DRE technician...is not in a position to appreciate other diseases much less diagnose their presence" and

would have to exercise medical and pharmacologic judgment to do so. (Tr. 9/28/10 at 86) Dr. Gengo testified that he has not seen "any data to demonstrate that [DREs] can discern medical disease induced problems from drug induced impairment" and it is his opinion based on his training in pharmacology and clinical research that they cannot do this." (Id. at 87, 89) Dr. Gengo testified that the information collected by the DRE is simply not sufficient to render a medical diagnosis. (Id. at 90)

Dr. Gengo testified that while the DREs may be using well-established principles such as blood pressure, pulse, and eye examinations "those tools are being used by [DRE] technicians in a novel and unreliable way." (Tr. 9/29/10 at 90) He further testified that there is a difference between evaluating alcohol and drugs and the effect a specific drug has on an individual would have many more variables than one generally sees with alcohol. Dr. Gengo testified that a person suffering from withdrawal from methadone would be suffering from profuse sweating and would be distracted, agitated, irritable, and their blood pressure would be elevated. That person could appear to be under the influence of a drug when in fact there is not enough of the drug in their system. A DRE would have to distinguish somehow between signs and symptoms exhibited by someone who actually had no drug in their blood. (Tr. 9/28/10 at 62-63)

Dr. Gengo testified that the drugs referenced in the matrix are misclassified and that some of the drugs have a completely different effect on the body than what is predicted in the matrix. (Tr. 9/28/10 at 67) He testified that the classification system is far too broad and that even if the classification is limited to anti-depressants there are many different types that affect the central nervous system differently. (Tr. 9/28/10 at 64) He went on to say

that "the data has spoken for itself that [the DRE protocol] cannot reliably discern impairment from non-impairment and cannot reliably identify the medication allegedly causing the impairment." (Id. at 91) Dr. Gengo testified that the matrix lists duration of effects for certain drugs and that the information contained is all but meaningless because of the grouping. (Tr. 9/28/10 at 145) He testified that the seven categories are so vague and they contain such a diverse group of drug classes that the duration of effects contain little or no useful information. (Tr. 9/28/10 at 146)

Dr. Neal Adams testified that he is an ophthalmologist and was trained at Johns Hopkins University's Wilmer Eye Institute. Following his residency, Dr. Adams received a medical degree from Johns Hopkins University. He testified that he is licensed to practice ophthalmology in three states including Maryland. (Tr. 9/29/10 at 8-12) He testified that he was appointed Division Chief of Visual Physiology and Director of the Retinal Eye Institute at Wilmer Eye Institute while simultaneously holding the position of assistant professor of ophthalmology. He testified that he was designated a "Monumary Scholar," the school's highest teaching award. He received advanced training at the National Eye Institutes and thereafter held key clinical research positions utilizing National Institutes of Health grants. Dr. Adams accepted an appointment as Chair of the Ophthalmology Department at Texas Tech University Medical School. Dr. Adams has participated in multiple clinical trials involving the effect of pharmaceuticals on vision and other issues. (Id. at 18-20)

Dr. Adams testified that the "Tharp's Equation is a gross distortion of what is in the medical literature. Other than that, I don't find any

validity in the field of medicine or in the field of ophthalmology to this equation." (Tr. 9/30/10 at 23-26) Dr. Adams testified that he doesn't "agree with the DRE protocol in the way it is being used." (Id. at 83) He noted that the matrix "doesn't tell us relative weights of what is more important and what to evaluate in one manner versus a different manner. We are looking at almost a robotic matrix..." (Id. at 36) Dr. Adams gave his reasons for criticizing the way the DRE is taught to use the matrix:

> Medical judgment is using items that may be in a matrix and placing our own experience, our own understanding of the medical literature, placing the knowledge that we have gained into that matrix, understanding the relative weights of different items in that matrix and coming out with a judgment. So that even if we were using this matrix in its totality without anything else, there is an element of judgment that we as physicians would incorporate to assist us. And that is not present; that is, it is a very important component of the matrix that is not present in this matrix. And that is what I was trying to get at is how we as physicians interpret these.

(Id. at 37)

Dr. Adams testified that whether it is a doctor or "someone who has this specific expertise," the examiner must consider 11 questions before diagnosing nystagmus:

1) Is there nystagmus or instability present in the primary position of gaze? If so, is it voluntary or involuntary?
2) What is the wave form of a nystagmus, is it pendular or jerk?

3) What is the frequency of the nystagmus?
4) What is the direction and trajectory of the quick phase of nystagmus?
5) What is the effect of a center gaze on Nystagmus? Is it gaze evoked?
6) Is a nystagmus conjugate or disconjugate? Is it disconjugate, is it disassociated meaning mainly or only in one eye? Or is it disjunctive? Equal and oppose in the two eyes?
7) Is the nystagmus induced or influenced by maneuver such as head tilting, changes in head posture, convergence, covering of one eye, removal of visual fixation… closing of both eyes or hyperventilations?
8) Is the nystagmus periodic?
9) Is the nystagmus associated with any ocular or gaze palsy?
10) Is the nystagmus associated with any other involuntary movements, for example, involuntary movements of the head, eyelids, pallet or ear drum?
11) Is the nystagmus symptomatic and, in particular, is it causing ocillopsia?

(Tr. 9/29/10 at 27-29)

Dr. Adams testified that in the Shinar Study (Defense Exhibit 4) DREs found HGN in categories where a drug could not even cause HGN and in his expert opinion that demonstrates "that you really need two things to interpret nystagmus. You need a properly performed test and you need to understand nystagmus and be able to ask these other eleven questions to be able to determine where that nystagmus came from." (Tr. 9/29/10 at 57-58) He further testified that none of the questions that must be asked in order to properly diagnose nystagmus, however, are asked by the DRE. (Id. at 61) He testified that there are many medical conditions that can cause HGN including the

flu, measles, eye strain, glaucoma and heredity, as well as substances such as caffeine and aspirin and it is very difficult even for physicians to distinguish between medical conditions and alcohol or drugs. (Tr. at 62-64)

Dr. Jeffrey Janofsky testified that he is an associate professor of psychiatry at Johns Hopkins University School of Medicine. He is also an educator at The University of Maryland and the Maryland Judiciary as part of the ASTAR program. He testified that he teaches a clinical psychiatry program that involves medical students, nursing students and social work students. The program administers health care to patients who are ill mentally and physically and are either currently using drugs or have used drugs in the past. (Tr. 9/23/10 183-186) Dr. Janofsky was appointed a Clinical Professor of Psychiatry at the University of Maryland. He is co-director for the Pretrial Mental Health Screening Program for the District Court. He supervises University of Maryland medical students, residents and fellows who are rotating through forensic psychiatry, teaching them how to do various kinds of evaluations. He has authored twenty-four peer reviewed scientific journal articles that have appeared in the Journal of Academy of Psychiatry and the Law, The Journal of the American Academy of Psychiatry and the Law, as well as the Journal of the American Psychiatric Association. (Id. at 171-174)

He testified that peer reviewed and published literature must be performed before a technique like the DRE would be accepted among the medical and scientific communities. He testified that when he was asked to review the DRE program in 1992 he found that "there was actually not a single study regarding the DRE published in … peer review scientific literature." **He testified that if they're going to perform a test that purportedly predicts an impairment by a specific drug, which he believes no reasonable clinical**

practitioner would ever do, you would want a couple of peer reviewed studies that say you can do it considering it's about criminal sanctions." (Emphasis supplied.) (Tr. 9/23/10 at 200-01)

Dr. Janofsky testified that the DRE 12-step protocol and matrix is not a diagnostic test or a standardized protocol because it requires clinical medical judgment. (Tr. 9/23/10 at 216-18) Dr. Janofsky further testified:

> Folks that don't have such [medical] training, for example, laboratory technicians or aids can be trained to administer a protocol as long as it's done in exactly the same way every single time and the results can be clearly discerned from each stage.
>
> So you would never ask someone who is acting as a technician to use their judgment to decide which DRE factors on the matrix are most important or, even more ridiculously frankly, to rule out a medical condition. They can't do it. They don't have the training or experience to do it.
>
> So, when you design a protocol for a non-professional, it's very important that it be standardized in a way that can be done the same way over and over again that's reliable, meaning that when multiple people test the same subject they get exactly the same result and that it's valid. That it repeatedly actually measures what it purports to measure.
>
> All of the studies that I've reviewed showed first of all there is no reliable data at all and showed that the studies

are not valid when tested appropriately.

(Id.)

Dr. Janofsky testified that the matrix is not something accepted in scientific and medical communities. He replied when asked whether he knew anyone in the medical, psychiatric, scientific, or clinical research fields who accepted the matrix as useful:

> I have got to tell you, your Honor, DRE is something that's not foremost in the mind of those of us who take care of substance abusers, clinically or forensically. People are aware of it. But it's - no one I know of, no physician I know of would even consider using this matrix or the - even pieces of it in determining either whether someone was impaired on drugs or even more ridiculously to tell which specific drug category. It's ridiculous—I can't emphasize that enough.

Id. at 223.

Dr. Janofsky testified that there is a major difference between alcohol and drug interactions in the body. He further testified that the DEC Manual improperly equates the medical definition of impairment with impairment to drive. He testified that the DEC Manual does not address the concept that certain indicators may only show the "presence of the drug and not intoxicating levels causing behavioral impairment." (Tr. 9/27/10 at 96-97). Dr. Janofsky testified that while there are studies linking alcohol to driving impairment, no studies exist regarding the drugs the DRE lists in its seven categories. Dr. Janofsky also testified that the drugs identified in the seven drug categories are incorrectly lumped

together, i.e., the CNS depressant class which includes barbiturates, Benadryl, various benzodiazepines and antidepressant medications that no physician would group together because they have extraordinarily different neurophysiologic actions. (Tr. 9/27/10 at 57.) He testified that there are whole classes of drugs listed under CNS depressants that would have the opposite effect on the body than what is listed for that drug category in the matrix. (Id. at 58) He testified that this misinformation contained in the DEC Manual leads to unreliable and incorrect DRE opinions and demonstrates how difficult it is for someone with no medical background to make such a medical diagnosis. (Id. at 58) He testified that some drugs the DEC Manual lists as a CNS Depressant do not cause nystagmus even though the matrix says they do which in his opinion is "a major problem." (Id. at 90-91) He testified that this type of problem exists with all the types of drugs in the matrix. (Id. at 58-59) He further testified that there is no research to show that HGN impairs the ability of someone to drive and it is not used in the medical field as an indicator to show drug impairment. (Id. at 50-51)

Dr. Janofsky testified that vital signs are not something the medical community uses to show drug impairment, and he knows of no one in the medical field that does use vital signs as an indicator. (Id. at 51)

Dr. Janofsky testified that in his opinion the entire "totality of the circumstances" approach the DRE uses in reaching an opinion is "absolutely" a new and novel application that is not accepted in the medical community. (Id. at 70) Dr. Janofsky testified that "if the DRE is allowed to testify to a reasonable degree of a police officer's certainty that based on this matrix the person is intoxicated, the Court will

be receiving inaccurate and false evidence and will be convicting the wrong people." (Id. at 86)

III. Discussion

The issue before the Court is whether the Drug Recognition Protocol and drug recognition expert testimony is admissible in the State of Maryland for prosecution of persons suspected of driving under the influence of drugs or controlled dangerous substances.

The State must prove by a preponderance of the evidence that the DRE program is admissible under *Frye-Reed* by offering testimony and exhibits and persuasive authority from other jurisdictions to show that the protocol is not new or novel and the relevant scientific community agrees that the DEC program's methodology produces accurate results as there is no Maryland appellate decision on this issue.

The defense alleges the protocol is new and novel and the science it is based on is not generally accepted within the scientific community.

The drug recognition protocol, whether analyzed under the *Frye-Reed* standard as a new or novel scientific technique or under Md. R. 5-702 as expert witness testimony based on specialized knowledge, is inadmissible for the following reasons:

1. The *Frye-Reed* Standard

Frye v. United States, 293 F. 1013 (D.C. Cir. 1923) sets forth the admissibility standard governing expert testimony as to novel scientific theories. The Court refused to admit expert testimony regarding the systolic blood pressure deception test offered to prove defendant's truthfulness and held that in order to be admissible the scientific principle or discovery must have "gained general acceptance in the particular field in which it belongs." *Id.* at 1013-14. The Court of Appeals of Maryland adopted the *Frye* standard in *Reed v. State*, 283 Md. 374 (1978) when the Court addressed the admissibility of expert testimony interpreting voiceprint spectrograms that compared the defendant's

voice to telephone calls made by an alleged rapist. *Id.* at 375-76. The Court held the testimony to be inadmissible as the application of novel scientific techniques must be reliable and general acceptance within the relevant scientific community demonstrates that reliability. The Court found that voiceprint spectrograms were not generally accepted within the relevant scientific community and excluded the evidence. *Id.* at 399.

Although no Maryland Court has addressed whether the DRE Protocol is a "scientific" test subject to a Frye-Reed challenge, a number of state courts have held that the *Frye* test is not needed in DRE situations at all since the testimony being offered is not based on new or novel scientific principles. In *State v. Klawitter*, 518 N.W.2d 577 (Minn. 1994), the Minnesota Supreme Court allowed a DRE to testify about his observations and opinion as to whether a suspect was under the influence of drugs. The Court concluded that the DRE protocol was not

subject to the *Frye* test because it "is not itself a scientific technique but rather a list of the things a prudent, trained and experienced officer should consider before formulating or expressing an opinion whether the subject is under the influence of some controlled substance."[3] Likewise, in *Williams v. State*, 710 So.2d 24 (Fla. Dist. Ct. App. 1998), the Florida Court of Appeals held that most of the DRE testimony was not scientific, and thus a *Frye* hearing was unnecessary. The Court said, "Objective observations based on observable signs and conditions are not classified as 'scientific' and thus constitute admissible testimony [without a *Frye* hearing]."[4] Similarly, in *Utah v. Layman*, 953 P. 2d 782 (Utah. App. 1998), the Court permitted a DRE to testify as to his opinion of intoxication under the rationale that it was not scientific evidence, but rather "an expert's personal observations and opinions based on his or her education, training, and experience."

[3] Although the Court held that the DEC Program was not a scientific technique, it did rule that components of the program were scientific in nature and as such subject to a *Frye* challenge.

[4] The *Williams* Court concluded that nystagmus and lack of convergence tests were scientific in nature but were not "new or novel" in Florida and therefore not subject to a *Frye* challenge.

The purpose of the *Frye* test is to ensure that the evidence presented will be reliable. In failing to apply the test, the *Klawitter*, *Williams* and *Layman* courts failed to ensure that the DRE protocol is reliable.

In *State v. Sampson*, 6 P.3d 543 (Or. Ct. App. 2000), the Oregon Court of Appeals first addressed the issue of whether the DRE testimony was scientific evidence and, after concluding that it was, applied a modified *Daubert* test consisting of seven steps and found the testimony to be admissible.

The *Sampson* Court concluded that "the relevant scientific community consists of physicians, toxicologists, and vision experts, each of whose fields have studied the protocol extensively." (Id. at 224)

The Court failed to name any organization within the scientific community that endorses the DRE protocol and rested its conclusion upon the testimony of one of the State's witnesses who stated that "the

protocol is accepted...by those people who understand what the program is are in a position to evaluate it" and ignored the defendant's two witnesses, a medical doctor who specializes in toxicology and a medical doctor who specializes in treating addiction. Both of those witnesses testified that the scientific community had not accepted the protocol. (Id. at 225-228)

All three of Defendants' three experts, Dr. Janofsky, Dr. Adams, and Dr. Gengo, testified that the DRE protocol and matrix are not generally accepted in the fields of medicine including specifically pharmacology, neurology, ophthalmology and psychiatry.

In *Oregon v. Aman*, 194 Or. App. 463 (2004), the Court noted that while it previously ruled the 12-step DRE protocol is "valid scientific evidence" it had cautioned that "without the corroborating evidence of the urinalysis called for in the twelfth step, the DRE protocol cannot be considered complete." Id. at 247. The Court ruled that "an incompletely

administered DRE protocol is not, itself, admissible as scientific evidence." Id. at 249.

This ruling clarifies the *Sampson* opinion in that the Court reveals that its previous admission of the DRE opinion was entirely based on the assumption that the introduction of sufficient toxicological confirmation would accompany any testimony regarding the officer's observations.

In *State v. Baity*, 991 P.2d 1151 (Wash. 2000), the Supreme Court of Washington analyzed the DRE evaluation under the Frye test holding that the DRE evaluation taken as a whole presented an issue of novel scientific evidence and met the general acceptance standard. The Court found that the evidence does have a scientific aspect which "tends to cast a scientific aura about the DRE's testimony requiring its assessment under *Frye*." The Court defined the relevant scientific community as the National Highway Traffic Safety Administration (NHTSA), the International Association of Chiefs of Police (IACP),

the American Bar Association, and the American Optometric Association had generally accepted the DRE evaluation. (Id. at 126) The Court held that the DRE evidence was admissible scientific evidence and properly qualified DREs may testify as experts.

However, the Court erred in defining the relevant scientific community. NHTSA and the IACP are long-time proponents of the DRE program and have a vested interest in its acceptance and use. "General scientific recognition may not be established without the testimony of disinterested and experts whose livelihood is not intimately connected with the program." *People v. Barbara*, 225 N.W. 171, 180 (Mich. 1977). Although the members of the American Optometric Association are eye specialists and would understand certain steps in the evaluation, they are not physicians.

In *Schultz v. State*, 106 Md. App. 145 (1995), the Horizontal Gaze Nystagmus ("HGN") test was scrutinized under *Frye/Reed* although this test

which is given as an indicator of alcohol abuse had been admitted many times in DWI cases. The Court in deciding it would apply *Frye/Reed* to the test noted that "[i]n determining whether a scientific technique is 'new'…long-standing use by police officers seems less significant a factor than repeated use, study, testing, and confirmation by scientists or trained technicians" and made a finding that HGN passed *Frye/Reed* for determining the presence of alcohol. *Id.* 162. In *Blackwell v. State*, 408 Md. 677 (2009), the Court held that HGN is a scientific test accepted in Maryland for determining alcohol use. However, police officers cannot use HGN to provide a specific blood alcohol content. *See, Wilson v. State*, 124 Md. App. 543 (1999).

The DRE protocol includes field sobriety tests such as HGN, One-Leg Stand, and Walk and Turn, but no Maryland court has permitted those tests to be used for proving drug impairment. The DRE protocol uses scientific procedures and techniques and uses that

data to determine the cause of the physiological symptoms observed. These procedures and techniques include, *inter alia*: blood pressure, pupil reactivity to light, pupil dilation and constriction, horizontal and vertical nystagmus, pulse rate, body temperature, and muscle tone.

Dr. Adams testified that in the Shinar Study (Defense Exhibit 4) DREs found HGN in categories where a drug could not even cause HGN and in his expert opinion that demonstrates that you "need a properly performed test and you need to understand nystagmus and ask these other eleven questions[5] to be able to determine where that nystagmus came from." (Tr. 9/29/10 at 57-58)

Dr. Janofsky testified that vital signs are not something the medical community uses to show drug impairment and he knows of no one in the medical field that does use vital signs as an indicator. (9/27/10 at 51) He further testified that "it would be

[5] See eleven questions the examiner must consider before diagnosing nystagmus at p. 15 of this Memorandum Opinion and Order.

malpractice for a physician to rely on clinical data alone…you cannot make a diagnosis of impairment or intoxication based on clinical data alone—you must have confirmatory testing." (Tr. 9/23/10 at 227)

The National Academies of Science in 2009 published its findings on various aspects of forensic science in *Strengthening Forensic Science in the United States: A Path Forward,* National Research Council of the National Academies, 2009 (hereafter "NAS Report"). The NAS report found that "there is a notable dearth of peer-reviewed, published studies establishing the scientific basis and validity of many forensic methods. (Id. at 8) The NAS report contained the following recommendation:

> The degree of science in a forensic science method may have an important bearing on the reliability of forensic evidence in criminal cases. There are two very important questions that should underlie the law's admission of and reliance upon forensic evidence in criminal trials: (1) the extent to which a particular forensic discipline is founded on a reliable scientific methodology that gives it the capacity to accurately analyze evidence and

> report findings, and (2) the extent to which practitioners in a particular forensic discipline rely on human interpretation that could be tainted by error, the threat of bias, or the absence of sound operational procedures and robust performance standards. These questions are significant. **The goal of law enforcement actions is to identify those who have committed crimes and to prevent the criminal justice system from erroneously convicting the innocent. So it matters a great deal whether an expert is sufficiently reliable to merit a fact finder's reliance on the truth that it purports to support.**

Id. at 87 (Emphasis supplied).

Dr. Janofsky testified that peer reviewed and published literature must be performed before a technique like the DRE would be accepted among the medical and scientific communities. He testified that the Heishman Study 1, Heishman Study 2, the Shinar Study and the Schectman Study represent the extent of the peer reviewed and published literature that exists on the subject of the DRE protocol. He testified that these studies did contain the necessary information for specificity and sensitivity ratios and were conducted in a double-blind fashion. He further

testified that the Heishman, Shinar and Schectman studies conclusively show that the DRE, when tested and looked at appropriately, is not an accurate predictor of the presence of drugs and the four studies conclusively show that a police officer's predictions are either no better than chance or may be slightly better than chance or worse than chance. (Tr. 9/23/10 at 212) Dr. Janofsky noted he could find no scientific literature which correlates nystagmus, pupil size, reaction to light, lack of convergence, pulse rate, blood pressure, or body temperature (all separate components of the DRE) with driving impairment while intoxicated on drugs. (Dr. Janofsky Report, p. 7)

Dr. Citek acknowledged that confirmation is a form of tunnel vision when someone seeks out evidence to confirm their hypothesis and that in the non-peer reviewed studies the officers were told the drug a person took and as a result "it is likely that

they will reach the result in terms of what they are actually impaired by." (Tr. 9/20/10 at 165-66)

Under the *Frye-Reed* standard the drug recognition protocol is a new and novel technique because it purports to create a protocol for police officers to render a medical diagnosis. When the relevant scientific community is properly defined to include disinterested medical professionals it is clear that the drug recognition protocol is not generally accepted as reliable.

2. Md. R. 5-702

Expert testimony discussing novel scientific theories must meet the *Frye/Reed* standard in addition to the Md. R. 5-702 requirements to be admissible. Expert testimony addressing non-novel scientific evidence, however, must only meet the requirements of Md. R. 5-702. *United States v. Horn*, 185 F. Supp. 2d 530, 547-48 (D. Md. 2002)(Under Maryland evidence law, the *Frye/Reed* test applies only to introduction of

[novel] scientific evidence, and Rule 5-702 alone covers all other types of expert opinion testimony.)

Md. R. 5-702 provides:

> Expert testimony may be admitted in form of an opinion or otherwise if the court determines that the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue. In making that determination, the court shall determine (1) whether the witness is qualified as an expert by knowledge, skill, experience, training, or education, (2) the appropriateness of the expert testimony on the particular subject, and (3) whether a sufficient factual basis exists to support the expert testimony.[6]

Applying Md. R. 5-702 to the proposed DRE testimony, the Court finds that a drug recognition expert is not sufficiently qualified to render an opinion, that the testimony is not relevant, and the probative value of the evidence is substantially outweighed by its prejudicial effect.

[6] In *Daubert v Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), held that the *Frye* standard had been superseded by Federal Rule of Evidence 702. *See also Kumho Tire Company, Ltd .v.. Carmichael*, 526 U.S. 137 (1999). However, when the Maryland Rules of Evidence were drafted, the Committee specifically stated that Maryland Rule 5-702, although patterned on the Federal Rule, was not intended to overrule *Reed v. State*, 283 Md. 374 and the *Frye-Reed* standard is followed in Maryland to determine the admissibility of scientific evidence.

IV. Conclusion

Based upon the Court's review of ten days of expert testimony, arguments of counsel, case law, exhibits, and the written closings of counsel, the Court makes the following:

Findings of Fact

The DRE Protocol fails to produce an accurate and reliable determination of whether a suspect is impaired by drugs and by what specific drug he is impaired.

The DRE training police officers receive does not enable DREs to accurately observe the signs and symptoms of drug impairment, therefore, police officers are not able to reach accurate and reliable conclusions regarding what drug may be causing impairment.

Conclusions of Law

The State failed to prove by a preponderance of the evidence that the drug evaluation and classification program is not new or novel and is generally accepted within the scientific community and, therefore, it is subject to analysis under *Frye v. United States* and *Reed v. State*.

The drug evaluation and classification program does not survive a *Frye/Reed* challenge because it is not generally accepted as valid and reliable in the relevant scientific community which includes pharmacologists, neurologists, opthamologists, toxicologists, behavioral research psychologists, forensic specialists and medical doctors.

For the reasons set forth above, the Court hereby grants Defendants' Motion To Exclude The Drug Recognition Expert Protocol and Drug Recognition Expert Opinion.

Order

It is, by the Circuit Court for Carroll County, this 5th day of March, 2012,

ORDERED, that Defendants' Motion To Exclude The Drug Recognition Expert Protocol and Drug Recognition Expert Opinion be, and it hereby is, granted.

Michael M. Galloway

JUDGE MICHAEL M. GALLOWAY

ENTERED MAR - 5 2012