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**COURT OF COMMON PLEAS
CLERMONT COUNTY, OHIO**

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BARBARA J. WELLS
CLERK OF COMMON PLEAS COURT
CLERMONT COUNTY, OHIO

STATE OF OHIO :
Plaintiff : **CASE NO. 2016 CR 000631**
vs. : **Judge McBride**
MICHAEL F. BEHNE : **DECISION/ENTRY**
Defendant :

Darren D. Miller, assistant prosecuting attorney for the state of Ohio, 76 S. Riverside Drive, Second Floor, Batavia, Ohio 45103

Ravert J. Clark, attorney for the defendant Michael F. Behne, 114 8th Street, Suite 400, Cincinnati, Ohio 45202

This cause is before the court for consideration of the state's motion to exclude defense expert Dr. Anup Kanodia from testifying at trial pursuant to Evid.R. 702. The court scheduled and held a *Daubert* hearing on July 5th and 6th of 2017. The parties waived oral argument on the motion but submitted written arguments. On October 5, 2017 the court took the motion under advisement.

Upon consideration of the motion, the record of the proceeding, the evidence presented for the court's consideration, the written arguments of counsel, and the applicable law, the court now renders this written decision.

FACTS OF THE CASE AND PROCEDURAL BACKGROUND

This case stems from a vehicular accident that occurred on August 25, 2016, involving two vehicles, one of which was driven by the defendant. The driver of the other vehicle sustained injuries. The state alleges that an ethanol serum test drawn and performed at the hospital resulted in the finding of an equivalent of .325 hundredths of one percent by weight per unit volume of alcohol in the defendant's blood serum.

On November 1, 2016, the defendant was indicted on three counts: (1) aggravated vehicular assault in violation of R.C. 2903.08(A)(1)(a), a felony of the third degree, (2) vehicular assault in violation of R.C. 2903.08(A)(2)(b), a felony of the fourth degree, and (3) operating a vehicle while under the influence of alcohol or a drug of abuse or with a specified concentration of alcohol or a drug of abuse in certain bodily substances in violation of R.C. 4511.19(A)(1)(a), a misdemeanor of the first degree.

On June 1, 2017, the state filed a motion to exclude defense expert Dr. Anup Kanodia from testifying pursuant to Evid.R. 702. Specifically, the motion requests that the court prevent Dr. Kanodia from rendering any opinions related to the diagnosis of auto-brewery syndrome ("ABS"), the defendant being affected by ABS in any way on the date alleged in the indictment, any and all testing performed to determine whether the defendant suffered from ABS on the date alleged in the indictment, his opinion about whether the defendant creates endogenous alcohol, and whether the defendant consumed alcohol on the date alleged in the indictment.

The court held a *Daubert* hearing on the motion on July 5th and 6th of 2017. After the hearing, the parties were permitted to submit written arguments. The defendant

submitted a closing argument in support of the admissibility of the testimony and related evidence of Dr. Anup Kanodia on August 7, 2017. The state filed a response in opposition on September 8th. The defendant filed his reply on October 4th, upon which the court took the motion under advisement. Both parties waived oral argument on the motion.

Dr. Anup Kanodia is a medical doctor with board certifications in Family Medicine and Functional Medicine who practices medicine in Columbus, Ohio. Dr. Kanodia testified that ABS occurs when, for some medical reason, something occurs in a person's body that produces alcohol independent from the person consuming alcohol. According to Dr. Kanodia, there can be multiple causes for ABS, including the presence of yeast, small bacterial overgrowth, mouth issues, liver issues, low zinc, inadequate acid in the stomach, and genetic issues. He described ABS as very, very rare. He also avers that he has treated over 40 patients thus far with ABS.

In describing how yeast in the body can create alcohol, Dr. Kanodia explained that a high carbohydrate diet can cause ABS. If a person already has excessive yeast, and that person consumes a high carbohydrate diet, the carbohydrates will break down into sugars that feed the yeast, whereupon the yeast ferments and creates endogenous alcohol.

When questioned about how to test for ABS, Dr. Kanodia testified that a doctor would conduct a blood alcohol test on the patient to determine the patient's blood alcohol content ("BAC"). He testified that BAC testing is 99.81% accurate. A person cannot be diagnosed with ABS without evidence of endogenous alcohol production. He testified that, for a person with ABS, that person's BAC may be higher after consuming alcohol than the BAC of a person without ABS who consumed the same amount.

Dr. Kanodia also testified that the defendant's medical and family history were important to his diagnosis of ABS. He first met with the defendant on December 28, 2016.¹ The defendant had a history of moderate to severe depression and had moderate levels of foggy thought processes.² The defendant was also employed as a quality coordinator at a beer brewery.³

As to working at a brewery, Dr. Kanodia explained that this was significant because it exposed the defendant to airborne yeast, which can in turn lead to alcohol fermentation. Furthermore, the defendant's family indicated that the defendant was "not himself," depending on how often and how long he worked at the factory. The defendant typically worked at the brewery from Monday through Thursday. The defendant's symptoms would abate when he was not at the brewery, usually by Saturday or Sunday. Dr. Kanodia testified that this information was significant to the defendant eventually being diagnosed with ABS.

On January 12, 2017, the defendant underwent an eight hour examination at Dr. Kanodia's office. Leading up to the testing, the defendant reported that he had been using a breathalyzer test at home and that his breath alcohol concentration ("BrAC") had been at .1. The defendant claimed to have been fasting for eight hours and denied prior alcohol consumption.⁴ Dr. Kanodia had no way of knowing, aside from the defendant's averments, that the defendant had not consumed alcohol prior to arriving at the office for the exam. At 8:45 am the defendant's BAC and BrAC were tested, and his BAC was .074

¹ Defs. Ex. 18.

² Defs. Ex. 18.

³ Defs. Ex. 18.

⁴ Defs. Ex. 5.

and his BrAC was 0.00.⁵ At that time he was given 50 grams of oral dextrose (sugar), along with the high carbohydrate foods he brought with him.⁶ Dr. Kanodia does not recall what foods the defendant brought for the testing.

At 10:28 am, the defendant was tested again, and he had a BAC of .054 and a BrAC of 0.00.⁷ He was given a 25 grams of Dextrose.⁸ At 11:40 am, the defendant had a BAC of .034 and a BrAC of .03.⁹ At 12:45 pm the defendant had a BAC of 0.00 and a BrAC of .01.¹⁰ At 2:20 pm the defendant had a BAC of 0.00 and a BrAC of 0.00.¹¹ At 3:09 pm, only the defendant's BrAC was tested, which was .012.¹² At 4:10 pm only the defendant's BrAC was tested, which was .018.¹³

Dr. Kanodia explained that he used both BAC and BrAC testing to safeguard against having one test fail, but according to Dr. Kanodia, either could be used to show that there was alcohol in the defendant's body. However, he acknowledged that the BAC test is the most reliable and accurate test. He initially conceded that, based on the BAC test, the defendant was not creating alcohol.

The instrument used for testing the defendant's BrAC was a portable breath testing instrument ("PBT"). Dr. Kanodia did not know when or if his PBT had been calibrated last, he did not know how many tests had been conducted using the PBT since its last calibration, he did not keep a log for the PBT, and he did not know when the PBT was

⁵ Defs. Ex. 5.

⁶ Defs. Ex. 5.

⁷ Defs. Ex. 5.

⁸ Defs. Ex. 5.

⁹ Defs. Ex. 5.

¹⁰ Defs. Ex. 5.

¹¹ Defs. Ex. 5.

¹² Defs. Ex. 5.

¹³ Defs. Ex. 5.

last sent in to be serviced. He did, however, "hypothesize" that it was working on the date of the defendant's exam.

Dr. Kanodia opined that, on the day of the exam, he would have expected the defendant's BAC to decline throughout the day because the exam was conducted on a Thursday, and the defendant normally works Monday through Thursday at a beer brewery. He would expect that the BAC would decline because the defendant was away from the instigating agent, the airborne beer yeast. He could not cite any literature that indicates that a person's exposure to exogenous yeast in the person's environment (i.e. working in a brewery) can lead to ABS. He also testified that, after eating a high carbohydrate meal, a person with ABS may or may not have a spike in his or her BAC.

In further explaining the discrepancy between the BAC and BrAC results, Dr. Kanodia testified that, due to the defendant's metabolism of alcohol, it was possible, although he did not know for certain, that some of the alcohol found in his blood early in the day was not appearing in his respirations. He was not able to cite any literature to support this theory.

Subsequently, Dr. Kanodia ordered a battery of laboratory tests for the defendant. At points, he testified that these were conducted to determine *if* the defendant had ABS, and at other points he testified that they were conducted to determine *why* the defendant had ABS. The defendant's microbial organic acid tests showed that the defendant had six types of acid in his urine that were abnormally high, creating an environment that was conducive to yeast growth.¹⁴ An analysis of three of the defendant's stool samples showed that a rare yeast was present.¹⁵ A test of the defendant's fatty acids and

¹⁴ Defs. Ex. 6.

¹⁵ Defs. Ex. 7.

erythrocytes showed that the defendant did not have sufficient fatty acids and that he had 4% Omega 3s while the average American has 9%, and he opined that this could cause inflammation, in turn creating a good environment to create yeast in.¹⁶ The defendant had an immune blood print test which showed that he had 22 food sensitivities, including a sensitivity to yeast.¹⁷ A lab corp blood draw indicated that the defendant may have some type of liver issue.¹⁸ An advanced adrenal assessment showed that the defendant's metabolized cortisol was too high, which in turn can feed yeast.¹⁹ A wheat zoomer test showed that the defendant was gluten sensitive.²⁰ The defendant also had two tests that had results in the normal limits, including a methylation profile and plasma test²¹ and an oxidative stress 2.0 test.²²

In summary, Dr. Kanodia recounted his steps in diagnosing the defendant with ABS. First he considered the defendant's history and his family's accounts of the defendant's behavior. The next step was to have the defendant come into his office and have him stay there for the day to undergo blood and breathalyzer tests over different time periods. Having found that the defendant's BAC and BrAC results were consistent with ABS, the next step was to figure out why the defendant has ABS by testing his blood, urine, saliva, stool, and breath.

However, at times Dr. Kanodia cited different evidence throughout the two-day proceedings for concluding that the defendant had ABS. At one point he said his

¹⁶ Defs. Ex. 8.

¹⁷ Defs. Ex. 9.

¹⁸ Defs. Ex. 11.

¹⁹ Defs. Ex. 12.

²⁰ Defs. Ex. 14.

²¹ Defs. Ex. 10.

²² Defs. Ex. 13.

diagnosis of ABS was based on both the defendant's history plus his BrAC results. At another point he said that, even if the PBT that tested the defendant's BrAC was inaccurate, he could still diagnose the defendant with ABS because the defendant and his family reported that, prior to the testing with Dr. Kanodia, the defendant had been using a PBT at home daily and his BrAC had been at .1 on average. At yet another point he said that the diagnosis was based on the testing conducted at his office, the defendant's history (which includes having a BrAC of .1 at home on average), as well as the lab testing.

Dr. Kanodia testified that, based on all of the testing and the defendant's social and medical history, he diagnosed the defendant as suffering from ABS. He treated the defendant by having him lower his brewery yeast exposure, changing his diet, adding electrolytes to his diet, and having him take activated charcoal. At the last time Dr. Kanodia treated the defendant, on May 18, 2017, the defendant showed no ABS symptoms. Dr. Kanodia testified that based upon his experience, education, training, and the defendant's test results and improvement, the defendant suffers from ABS. Dr. Kanodia testified that the cause of the defendant's ABS could be his exposure to yeast in the brewery, small intestine bacterial overgrowth, gluten sensitivity, the six microbial organic acids in the his urine that were abnormally high, the rare yeast in the defendant's stool samples, or the defendant's high levels of metabolized cortisol.

LEGAL ANALYSIS

Whether expert testimony is admissible is within the discretion of the trial court.²³ The party proffering the expert opinion "bears the burden of proof in establishing admissibility."²⁴

The Rules of Evidence require an expert's testimony to relate to matters beyond the knowledge common to lay persons, the witness must be qualified, and the witness's testimony must be reliable.²⁵

Regarding reliability, under Evid.R. 702, a witness may testify as an expert if:

(A) The witness' testimony either relates to matters beyond the knowledge or experience possessed by lay persons or dispels a misconception common among lay persons;

(B) The witness is qualified as an expert by specialized knowledge, skill, experience, training, or education regarding the subject matter of the testimony;

(C) The witness' testimony is based on reliable scientific, technical, or other specialized information. To the extent that the testimony reports the result of a procedure, test, or experiment, the testimony is reliable only if all of the following apply:

²³ *Valentine v. Conrad*, 110 Ohio St.3d 42, 2006-Ohio-3561, 850 N.E.2d 683, ¶ 9 citing Evid.R. 104(A). See *State Farm Fire & Ca. Co. v. Holland*, 12th Dist. Madison No. CA2007-08-025, 2008-Ohio-4436, ¶ 12 citing *Komenovich v. AK Steel Corp.*, 12th Dist. Butler No. CA98-08-172 (Jan. 25, 1999) ("It is well-established that trial courts have broad discretion in determining whether evidence is admissible.").

²⁴ *Marcus v. Rusk Heating & Cooling, Inc.*, 12th Dist. Clermont No. CA2012-03-026, 2013-Ohio-528, ¶ 27.

²⁵ Evid.R. 702.

(1) The theory upon which the procedure, test, or experiment is based is objectively verifiable or is validly derived from widely accepted knowledge, facts, or principles;

(2) The design of the procedure, test, or experiment reliably implements the theory;

(3) The particular procedure, test, or experiment was conducted in a way that will yield an accurate result."²⁶

The state argues that Dr. Kanodia's testimony should be excluded because it violates Evid.R. 702(A), (B), and (C).²⁷ Because the court finds that Evid.R. 702(C)(1) and (2) are dispositive of whether Dr. Kanodia may offer his expert opinion at trial, the court will focus on those subsections of Evid.R. 702(C).

Pursuant to Evid.R. 104(A), the trial court occupies the role of the gatekeeper, which "imposes an obligation upon a trial court to assess both the reliability of an expert's methodology and the relevance of any testimony offered before permitting the expert to testify."²⁸ The Ohio Supreme Court has explained that "[b]ecause even a qualified expert is capable of rendering scientifically unreliable testimony, it is imperative for a trial court, as gatekeeper, to examine the principles and methodology that underlie an expert's opinions."²⁹ Indeed, "Ohio's standards regarding the admissibility of expert opinions are relatively lenient as to a determination of who is an expert but relatively strict in governing the admissibility of the expert testimony."³⁰

²⁶ Evid.R. 702(A)-(C).

²⁷ In its motion the state conceded that Dr. Kanodia's testimony was relevant. It changed its position though in its written argument following the *Daubert* hearing, instead arguing that it is irrelevant.

²⁸ *Terry*, 2007-Ohio-5023, ¶ 24.

²⁹ *Valentine*, 2006-Ohio-3561 at ¶ 17.

³⁰ *Douglass v. Salem Community Hosp.*, 153 Ohio App.3d 350, 2003-Ohio-4006, 794 N.E.2d 107, ¶ 31 (7th Dist.), citing *State v. Rangel*, 140 Ohio App.3d 291, 295, 747 N.E.2d 291 (1st Dist. 2000).

In the seminal case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993), the United States Supreme Court devised multiple factors for courts to consider in undertaking their duty to determine the reliability of expert testimony, including: (1) whether the theory or technique in question can be (and has been) tested, (2) whether it has been subjected to peer review and publication, (3) its known or potential error rate and the existence and maintenance of standards controlling its operation, and (4) whether it has attracted widespread acceptance within a relevant scientific community.³¹ Ohio courts apply the *Daubert* factors when determining the reliability of an expert opinion.³² The *Daubert* factors should be applied flexibly.³³ Furthermore, the four *Daubert* factors are not exhaustive, and courts may consider "other indicia of reliability."³⁴

In evaluating reliability, the trial court is not concerned with "whether the expert opinion is correct," nor is it "concerned with the substance of the experts' conclusions," but rather the trial court focuses "on how the experts arrived at their conclusions."³⁵ However, the "court may conclude that there is simply too great an analytical gap between the data and the opinion proffered."³⁶

³¹ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593-94, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).

³² *Terry v. Caputo*, 115 Ohio St.3d 351, 2007-Ohio-5023, 875 N.E.2d 72, ¶¶ 24-25. See *Jones v. Conrad*, 12th Dist. Butler No. CA2000-12-257, 2001 WL 1001083, *2 (Sept. 4, 2001) ("[T]he Ohio Supreme Court adopted the four factors articulated by the United States Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals Inc.* * * *"); *Miller v. Bike Athletic Co.*, 80 Ohio St.3d 607, 611, 687 N.E.2d 735 (1998) (applying the *Daubert* factors to test the reliability of an expert's opinions).

³³ *Terry*, 2007-Ohio-5023, ¶ 25.

³⁴ *Jones*, 2001 WL 1001083 at *3.

³⁵ *Valentine*, 2006-Ohio-3561 at ¶ 16.

³⁶ *Id.* at ¶ 18 citing *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997).

An expert opinion predicated upon "nebulous methodology is unhelpful to the trier of fact," and therefore "has no place in courts of law."³⁷ Accordingly, an expert opinion "may not be based on mere speculation,"³⁸ nor may it be based on "subjective belief."³⁹

Experts often base their opinions on "data and research from within their field of study."⁴⁰ Such underlying sources must be valid and must support the expert's opinion.⁴¹ "To the extent that doing so is necessary to avoid making an unreasonable, arbitrary, or unconscionable decision, a trial court is obliged to apprise itself of the details of resources relied upon by the experts."⁴²

However, a party may prevent the trial court from apprising itself of such details when the party fails to submit the underlying resources to the court.⁴³ For example, in *Marcus v. Rusk Heating & Cooling, Inc.*, 12th Dist. Clermont No. CA2012-03-026, 2013-Ohio-528, the Twelfth District Court of Appeals held that the party proffering an expert opinion failed to meet its burden of showing that the opinion was admissible by failing to submit one of the underlying studies that the expert heavily relied upon.⁴⁴

As the gatekeeper, the court must determine whether Dr. Kanodia's expert opinions are reliable. The court finds that Dr. Kanodia's expert opinions do not withstand the requirements set forth in Evid.R. 702(C)(2) and (C)(3). As discussed, under Evid.R. 702(C)(2), Dr. Kanodia must have designed the ABS testing in a way that reliably

³⁷ *Valentine*, 2006-Ohio-3561 at ¶ 18.

³⁸ *Marcus*, 2013-Ohio-528 at ¶ 27.

³⁹ *Jones*, 2001 WL 1001083 at *4 citing *State v. Hurst*, 10th Dist. Franklin No. 98AP-1549, 2000 WL 249110, *9 (Mar. 7, 2000).

⁴⁰ *Marcus*, 2013-Ohio-528 at ¶ 24.

⁴¹ *Id.* at ¶ 24.

⁴² *Id.* at ¶ 24.

⁴³ *Id.* at ¶ 25.

⁴⁴ *Id.* at ¶ 27.

implements ABS testing theories, and under Evid.R. 702(C)(3), the particular testing on the defendant must have been conducted in a way that yielded an accurate result.⁴⁵ The court finds that both the design and the implementation are critically flawed.

The first design flaw in Dr. Kanodia's diagnostics testing is that it relied on procedures that fell outside of the testing implemented in the medical literature. To the extent that there is an accepted testing model found in the medical literature on ABS, the vast majority diagnose ABS by evaluating blood ethanol levels following consumption of glucose loads and, in some situations, foods high in carbohydrates.⁴⁶ This test is often called the blood ethanol test or the blood glucose challenge. Three pieces of medical literature tested both the blood ethanol levels and also alcohol in breath respirations as well.⁴⁷ However, when Dr. Kanodia designed his ABS testing and diagnosis procedure, he stated that his diagnostic procedure relied on the defendant's medical history (including his breathalyzer results conducted at home), his family's observations of the defendant, the BAC and BrAC testing conducted at his office, and a battery of additional testing conducted on his blood, urine, saliva, stool and breath. The specific additional testing included microbial organic acid tests,⁴⁸ an analysis of yeast in the defendant's stool,⁴⁹ a test of the defendant's fatty acids and erythrocytes,⁵⁰ an immune blood print

⁴⁵ Evid.R. 702(C)(2)-(3).

⁴⁶ See Defs. Exs. 1, 2, 20, 21, 23, and 25; Pls. Ex. 7.

⁴⁷ Defs. Exs. 1, 20, and 21.

⁴⁸ Defs. Ex. 6.

⁴⁹ Defs. Ex. 7.

⁵⁰ Defs. Ex. 8.

test,⁵¹ a lab corp blood draw,⁵² an advanced adrenal assessment,⁵³ a wheat zoomer test,⁵⁴ a methylation profile and plasma test,⁵⁵ and an oxidative stress 2.0 test.⁵⁶

The design of Dr. Kanodia's test also differs from the diagnostic criteria that Dr. Kanodia identified. He stated that the sole criteria for diagnosing ABS is to test whether the subject is producing endogenous alcohol without consuming exogenous alcohol. That testimony appears consistent with the ABS medical literature. However, the design of his diagnostic testing included many other tests and factors beyond simply whether the defendant created endogenous alcohol.

The second design flaw is that, based on the evidence presented, Dr. Kanodia did not require the defendant to abstain from alcohol for a 24-hour minimum, as was required in other oral glucose challenge tests.⁵⁷ Dr. Kanodia testified that the defendant had been asked to fast for eight hours, as required in other ABS tests. As to abstaining from alcohol, Dr. Kanodia only stated that the defendant was asked if he had been consuming alcohol. The design of his test does not appear to have required that the defendant abstain from alcohol for a 24-hour period. It is particularly important to ensure that the defendant has not consumed alcohol within the prior 24 hours because, as Dr. Kanodia explained, a BAC test, in and of itself, cannot indicate whether the alcohol in the subject's blood is endogenous or exogenous.

⁵¹ Defs. Ex. 9.

⁵² Defs. Ex. 11.

⁵³ Defs. Ex. 12.

⁵⁴ Defs. Ex. 14.

⁵⁵ Defs. Ex. 10.

⁵⁶ Defs. Ex. 13.

⁵⁷ See Defs. Exs. 20, 23, and 25.

An additional and significant design flaw in Dr. Kanodia's test is that he did not specify the error rate for his diagnostics test. He testified that the BAC testing is 99.81% accurate. However, he did not testify to the error rate for any of the other testing he conducted, including the BrAC test and the battery of laboratory tests on stool, urine, breath, and blood, named above. This is particularly troublesome for the BrAC test, for which Dr. Kanodia used a PBT. Moreover, Dr. Kanodia believes the defendant used a PBT for his own BrAC testing conducted at home, which Dr. Kanodia considered in his diagnosis, although Dr. Kanodia was unaware of which kind the defendant used. Ohio courts have consistently found that "PBT results are considered inherently unreliable because they 'may register an inaccurate percentage of alcohol present in the breath, and may also be inaccurate as to the presence or absence of any alcohol at all."⁵⁸ For these reasons, the court finds that Dr. Kanodia's ABS diagnostic testing design fails to reliably implement the theory supporting ABS diagnostic testing in the medical literature. As such, Dr. Kanodia's testimony and expert opinions is unreliable under Evid.R. 702(C)(2).

In addition to being unreliable under Evid.R. 702(C)(2), Dr. Kanodia's expert opinions are also unreliable when measured by (C)(3), which mandates that the testing be conducted in a way that will yield an accurate result.

One of the largest problems, with respect to accuracy, is the unreliability of Dr. Kanodia's PBT. As discussed, PBTs are considered inherently unreliable. Based on his testimony and the results of the BrAC and BAC tests, Dr. Kanodia's PBT appears to lack additional indicia of reliability. At the time of the BrAC testing on the defendant, Dr.

⁵⁸ (Citation omitted.) *State v. Schuler*, 168 Ohio App.3d 183, 2006-Ohio-4336, 858 N.E.2d 1254, ¶ 10 (4th Dist.).

Kanodia did not know when or if his PBT had been calibrated last, he did not know how many tests the PBT had conducted since its last calibration, he did not keep a log for the PBT, and he did not know when the PBT was last sent in to be serviced. He "hypothesized" that it was working on the date of the defendant's exam, which fails to inspire confidence in its reliability.

Further, when compared to the results of the BAC test, the BrAC test appears to be severely inaccurate. At 8:45 am the defendant's fasting BAC was .074 and his fasting BrAC was 0.00.⁵⁹ At 10:28 am, the defendant had a BAC of .054 and a BrAC of 0.00.⁶⁰ At 11:40 am, the defendant had a BAC of .034 and a BrAC of .03.⁶¹ At 12:45 pm the defendant had a BAC of 0.00 and a BrAC of .01.⁶² At 2:20 pm the defendant had a BAC of 0.00 and a BrAC of 0.00.⁶³ At 3:09 pm, only the defendant's BrAC was tested, which was .012.⁶⁴ At 4:10 pm only the defendant's BrAC was tested, which was .018.⁶⁵

Thus, the defendant's BAC, which Dr. Kanodia testified was a test that was 99.81% accurate, showed that the defendant's blood ethanol level was consistently declining, eventually reading 0.0, while the BrAC testing on the PBT suggests that the defendant's alcohol level started at 0.00 and then fluctuated between increasing and decreasing for the remainder of the afternoon. In other words, the BAC and BrAC testing reached completely opposite results. Moreover, the defendant's blood was not drawn at the time of the last two BrAC tests, so it is impossible to compare the two for accuracy. Given that

⁵⁹ Defs. Ex. 5.

⁶⁰ Defs. Ex. 5.

⁶¹ Defs. Ex. 5.

⁶² Defs. Ex. 5.

⁶³ Defs. Ex. 5.

⁶⁴ Defs. Ex. 5.

⁶⁵ Defs. Ex. 5.

both instruments are supposed to measure the defendant's alcohol levels, the logical result is that one test is not accurate.

Although the two tests reached inapposite results, Dr. Kanodia testified that the BrAC provided evidence that the defendant was producing endogenous alcohol, indicating that he has ABS. Initially Dr. Kanodia conceded that the BAC showed that the defendant's blood alcohol was decreasing, meaning that his body was eliminating alcohol. At first he relied on the BrAC while ignoring the meaning of the BAC results. None of the medical literature submitted to the court included testing in which the subject was given both BAC and BrAC tests and the BAC test was ignored. In fact, the vast majority of the literature used only the BAC test to diagnose for ABS. Only one article relied solely on breath samples, and those samples were measured with a SIFT-MS instrument, not a PBT.⁶⁶ However, when pressed about the discrepancy between the BAC and BrAC tests, Dr. Kanodia testified that, due to the defendant's metabolism of alcohol, it was possible, although he did not know for certain, that some of the alcohol found in his blood early in the day was not appearing in his respirations. He was not able to cite any literature to support this theory.

As discussed, expert opinions "may not be based on mere speculation,"⁶⁷ nor may they be based on "subjective belief."⁶⁸ This is one of those instances in which the "court may conclude that there is simply too great an analytical gap between the data and the opinion proffered."⁶⁹ The BrAC testing is unreliable because the PBT had not undergone

⁶⁶ Defs. Ex.24.

⁶⁷ *Marcus*, 2013-Ohio-528 at ¶ 27.

⁶⁸ *Jones*, 2001 WL 1001083 at *4, citing *Hurst*, 2000 WL 249110 at *9.

⁶⁹ *Id.* at ¶ 18 citing *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997).

maintenance, the results are irreconcilably different from the BAC tests that are supposed to measure the same thing (the presence of alcohol), and Dr. Kanodia's explanation for the discrepancy is unsupported by the medical literature on ABS.

Another reliability issue concerns Dr. Kanodia's testimony that his opinion was based, at least in part, on the fact that the defendant had been working at a brewery during the week. At one point Dr. Kanodia testified that he had expected the defendant's alcohol levels to decline throughout the morning (which is what the BAC tests showed but not the BrAC tests) because the testing occurred on a Thursday, and the defendant normally worked at the brewery Monday through Thursday. Dr. Kanodia stated that, therefore, he would expect the defendant's alcohol levels to be at the highest just after working for four days in an environment exposing the defendant to brewing yeast. However, Dr. Kanodia did not know if the defendant had worked at the brewery that week or even the day before the testing. "[A] trial court may find an expert opinion unreliable where the expert did not have, prior to formulating his opinion, all of the necessary facts upon which to base his opinion."⁷⁰ In this case, Dr. Kanodia's ABS diagnosis was made, at least in part, in reliance on facts that Dr. Kanodia had no knowledge of. Secondly, Dr. Kanodia could not cite any medical literature supporting his theory that a person can develop ABS by working in an environment where the person is exposed to yeast in the air. The medical literature before the court did not include that proposition.

Lastly, Dr. Kanodia's testing is unreliable because his testimony continually fluctuated in identifying the test results that demonstrate the defendant has ABS. As discussed, Dr. Kanodia first testified that ABS is diagnosed by determining whether the

⁷⁰ *State Farm Fire & Ca. Co.*, 2008-Ohio-4436 at ¶ 21.

subject's blood alcohol content is rising in the absence of drinking alcohol. At one point he said his diagnosis of the defendant's ABS was based on both the defendant's medical history plus his BrAC results. At another point he said that, even if the PBT that tested the defendant's BrAC was inaccurate, he could still diagnose the defendant with ABS because the defendant and his family reported that, prior to the testing with Dr. Kanodia, the defendant had been using a PBT at home daily and his BrAC had been at .1 on average. At yet another point he said that the diagnosis was based on the testing conducted at his office, the defendant's history (which includes having a BrAC of .1 at home on average), as well as the myriad of lab testing too.

In sum, Dr. Kanodia could not consistently identify which of the many tests he administered, along with the defendant's medical history and his family's observations of his demeanor, actually formed the basis for concluding the defendant has ABS. The result is that the court cannot conclude that Dr. Kanodia reliably tested the defendant for ABS. Given that the vast majority of the medical literature relied on BAC testing, and Dr. Kanodia's diagnostic opinion most often did not rely on that test, the testing that Dr. Kanodia undertook was not done in a way to yield an accurate result. As the Ohio Supreme Court has opined, "Expert opinion based on unscientific principles and methodology is unhelpful to the trier of fact and has no place in the courts of law."⁷¹ In this case, Dr. Kanodia's methodology is unreliable and is therefore unhelpful to the trier of fact.

CONCLUSION

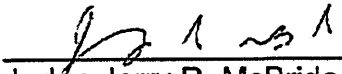
⁷¹ *Valentine*, 2006-Ohio-3561 at ¶ 23.

For the foregoing reasons, the court finds that the state's motion to exclude the opinions and testimony of Dr. Anup Kanodia is well-taken and is hereby granted.

A trial scheduling conference will be held on December 20, 2017 at 8:00 a.m.

IT IS SO ORDERED.

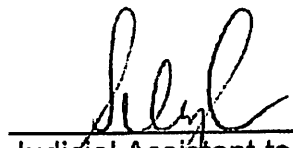
DATED: 12-11-2017



Judge Jerry R. McBride

CERTIFICATE OF SERVICE

The undersigned certifies copies of the foregoing Order were sent on this 12th day of December 2017 by e-mail to Darren Miller, at dmiller@clermontcountyohio.gov, and to Raver J. Clark, Attorney for the Defendant, at notguilty14@aol.com.



Judicial Assistant to Judge McBride