

**BLOOD TESTING**  
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**§ 27:2. Testing methods**

Vehicle and Traffic Law § 1192(2) prohibits operation of a motor vehicle with .08% or more of alcohol by weight in the blood. Additionally, Vehicle and Traffic Law § 1195(2)(a–c) create a series of presumptions based upon blood alcohol content. It is for this reason that blood testing is generally regarded as the most persuasive form of testing. The overwhelming impact that a blood test can have upon the trier of fact requires that those litigating in this crucial area thoroughly understand the means through which a blood sample is collected and analyzed.

Although alcohol in the body appears in many body fluids and tissues, its concentration is almost always expressed in terms of blood. There are two basic kinds of tests of blood alcohol concentration, direct and indirect.

A direct test of blood is just that, a quantitative test usually of the percent weight of alcohol in a measured volume of blood, as determined by actual analysis of that blood.

All else being equal, if one desires to measure blood alcohol concentration, it is best that one simply obtain a sample of blood for that purpose, rather than some supposedly comparable substitute such as breath.

But obtaining a blood sample is not always practical. A police officer is not qualified to perform the phlebotomy. At the minimum, it requires the assistance of a doctor or registered nurse, meaning, typically, that an accused will have to be transported to a hospital or doctor's office for the sample to be drawn. The person who draws the blood, then, usually becomes a necessary witness at trial.

Prevailing upon a qualified person to extract the blood may itself be a problem. Motorists are not generally overjoyed at the prospect of having their blood withdrawn for forensic purposes. Fearing a lawsuit, medical personnel are sometimes reluctant to draw blood samples at the request of the police. This is a reasonable concern, except in those states, such as New York, that have legislation absolving such persons for any act done or omitted in the course of withdrawing blood at police request.<sup>1</sup>

Further, some persons, squeamish about having blood drawn, will refuse a blood test for that reason, though they would willingly submit to a less invasive method of alcohol determination.

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### **§ 27:3. Blood testing—Basic principles**

Understanding the theory behind blood testing requires a brief review of how alcohol effects the body. When a person consumes an alcoholic beverage, the liquid passes down the esophagus into the stomach where a slight quantity of the alcohol may be absorbed into the blood. By and large, the bulk of alcoholic absorption occurs within the intestinal tract where it thereafter proceeds to the brain and impacts upon the psychomotor skills in a proportion roughly equivalent to the quantity absorbed as a result of its presence in the fluids that bathe the brain. Alcohol will then pass out of the brain via the venous system where it is sent to the liver, partially destroyed and then moves on to the lungs, the heart and back to the brain.

If a blood alcohol sample is withdrawn immediately after the intoxicant is first consumed, no alcohol will be found. The initial location of alcohol will be in the arterial system with appearance in the venous system sometime thereafter. While alcohol is being consumed and absorbed, the arterial system will display a higher concentration of alcohol, whereas during the elimination phase a greater percentage will be found in the venous system. During the period of time that the subject is in equilibrium, equal amounts will be found in both systems. It should, therefore, be apparent that just as with breath testing, knowledge as to whether the subject tested was in the absorptive, elimination, or equilibrium phases, should not be ignored.

### **§ 27:4. Withdrawing blood**

The optimal location for the removal of blood is the carotid artery which is located on the side of the neck. Inasmuch as this is neither safe nor practical, the overwhelming tendency is to withdraw blood from the venous system, more particularly the cubital vein which is located in the medial cubital space below the biceps at the interior of the elbow. The site from which the blood is withdrawn in a particular case should be ascertained since the type of blood, i.e., arterial or venous, could impact upon the results of the test in the event that the subject was in the absorptive or elimination phases.

Mechanically, blood is commonly withdrawn through one of two techniques. Formerly employed to a much larger extent than at the present time is a technique known as venipuncture.

Venipuncture involves cleaning the selected site with a suitable antiseptic and piercing the vein with the hollow point of a needle to which there has been affixed a syringe. The plunger of the syringe is then withdrawn and the vacuum thereby created serves to extract the blood. Thereafter, the needle is placed in the tube or vessel which will contain the sample for analysis into which there has been deposited a suitable preservative.

More recent in development is the vacutainer system. The vacutainer system consists of a cradle to which there has been affixed a hollow needle. After piercing the selected and sterilized site, a special tube containing a preservative which is sealed by a valve and in which there exists a vacuum is attached to the cradle whereupon the vacuum will serve to withdraw the blood. When withdrawn for forensic purposes, the tubes, generally two, will be sealed and marked by the requesting officer, and they will thereafter be placed in a locked refrigerator until they are turned

over to the lab for analysis. Becton-Dickenson manufactures a standard vacutainer kit for use by police officers in the field. This kit consists of the tube, needle, cradle, prepackaged sight cleansing swabs, a rubber tube for tying off the artery, and seals for both the tubes and the inner plastic tray as well as adhesive pads for closing the wound. If the kit has been specifically prepared for use by a particular police department, it may also contain the rules and regulations of that department as the same pertain to the administration of chemical tests. This kit is packaged in a sturdy box which becomes a mailer.

### **§ 27:5. Site cleansing and contamination**

Careful attention should be paid to the manner in which the site is cleansed. Use of an alcohol based cleansing agent may result in inaccuracies as a result of a small amount of the cleansing solution being drawn up with the sample. Fitzgerald notes that "swabs" and certain solutions containing Benzalkonium chloride (trade name Zephiran) used for site cleansing have been reported to be contaminated with a 2 percent concentration of ethanol.<sup>1</sup> Moreover, this writer, upon having minor surgery, was intrigued by the fact that his arm, prior to a draw, was prepped with a Webcol® prepackaged Alcohol swab manufactured by the Kendall Healthcare Products Company which contained 70% isopropyl alcohol.

In the ordinary course of events, the arresting agency will utilize the Becton-Dickenson® blood collection kit, in which the swabs are impregnated with a compound of povidone iodine known commercially as Betadine®. Neither povidone iodine nor Betadine contain alcohol. Therefore, if the prepared kit and self-contained swab are used there will be little room for site contamination. In the event that such a kit is unavailable or the Betadine swab is not used enormous difficulties can arise.

In an article appearing in Abstracts and Reviews in Alcohol & Driving, forensic alcohol expert Dr. Kurt M. Dubowski, undertook to see the magnitude of the problem, if any, that site contamination represents.

At the outset Dubowski notes that in the early days of venipuncture utilizing reusable syringes, sterilization through the means of 70% alcohol solutions was found capable of producing false positives up to .20% w/v.<sup>2</sup> In the seventy's the use of partially evacuated specimen tubes with disposable needles changed the focus of the forensic contamination debate. Rather than addressing the possibility of alcohol being introduced during the sterilization process, attention was turned to the nature of the antiseptic used immediately before the draw. Accordingly,

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<sup>1</sup>Fitzgerald, E.F., Intoxication Test Evidence 2d, § 18:4 (citing, Drinking/Driving Law Letter (Vol. 8, No. 25, December 8, 1989).

<sup>2</sup>See, Beeman, J., Determination of Ethyl Alcohol Levels. J. Amer Med. Assoc., 1979; 170: 1108–1109; Heise, Ethyl Alcohol Levels in the Blood, J, Amer Med. Assoc. 1960; 172 1197; Rabinowitch, Ethyl Alcohol Levels in the Blood, J, Amer Med. Assoc. 1960; 173: 576 [unless otherwise noted all technical references in this article were cited by Dubowski].

Dubowski, utilizing a venipuncture training arm<sup>3</sup> filled with a 10% w/v aqueous solution, tested ten different blood draw scenarios ranging from cleansing the site with a 70% w/v solution and using a pad over the puncture site which had been saturated with a like solution to cleansing with a Povidone-Iodine pad and drawing in the expected fashion.

The control group was an uncleaned draw from the mechanical arm which, of course, had little concern for sterility and infection.

The results were far from what one would otherwise expect. When the site was cleaned, or flooded with an ethanol solution the results were nearly identical to those obtained under controlled conditions, varying in most cases by a mere 0.003%. Only one technique showed potentially prejudicial deviation. When the puncture site was cleansed with a gauze sponge saturated with a 70% w/v ethanol solution and a sponge similarly saturated is used over the location of the draw, the results spanned from 20.6% w/v to 24.8% w/v.

Even so, the results were not as clear cut as the numerical results would otherwise seem to say. While Dubowski notes that no contamination can occur during arm penetration while the inner needle is occluded by the impaled specimen collection tube, he finds it equally obvious that "major contamination of specimens can occur during needle withdrawal with a partially evacuated collection tube attached, if the withdrawal occurs through a pad or sponge saturated with ethanol or isopropanol."<sup>4</sup> Moreover, according to Dubowski, "the actual volumes of aspirate need not be large to exert considerable effect: only 18 microliters of 70% v/v ethanol will increase any pre-existing ethanol concentration of 10 ml of blood by 10% w/v.

Reduced to its barest essentials, Dubowski seems to be saying that we've been examining the wrong stage of the collection process for error. Overwhelmed with the means in which the site is cleansed the seemingly mundane task of removing the needle has been ignored. If medical personnel engaging in the draw have used an alcohol saturated swab, commercial or otherwise, in withdrawing the needle, the results are immediately and seriously suspect. Counsel should seriously undertake to determine the exact materials used in both the draw and in effecting needle removal.

The American Medical Association suggests the following procedures be utilized:

Hypodermic needles and syringes be sterile and disposable. When reusable equipment is utilized, it should neither be cleaned with nor stored in alcohol or other volatile solvent.

Only a chemically clean, dry tube or vial with inert stopper should be used.

Neither alcohol nor volatile solvents should be used to clean them.

The tubes and vials shall contain an anticoagulant (recommended are fluoride, citrate, oxalate and heparin), and a preservative (recommended are fluoride and

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<sup>3</sup>Mercifully this is a mechanical device manufactured by Becton-Dickenson.

<sup>4</sup>Dubowski at p. 7.

mercury salts).<sup>5</sup>

### § 27:6. Plasma vs. Whole Blood

Reported by Fitzgerald a major source of error in blood testing is the variance between the alcohol content of blood plasma as against that of whole blood. It will be recalled that Jones had reported significant differences between the partition coefficients of water, air and plasma.<sup>1</sup> This is due to the fact that alcohol is primarily to be found in the aqueous component of blood. Recognizing this fact, Fitzgerald points out:

The alcohol content of "whole blood" (the "BAC") is not the same as the alcohol content of either the plasma or serum portion of the blood, if either is separately tested. Plasma or serum values are higher than whole blood values, on the average about 16% higher and may be 18 to 20% higher, or more, in some cases. Whenever plasma or serum values are reported, a conversion (reduction) to "whole blood" values must be performed.<sup>2</sup>

It is therefore vitally important, prior to trial, to determine exactly what has been reported. In the event that a conversion factor has been employed, it must be recognized that no absolutes exist. Although 10 NYCRR 59.2(2) imposes a rule whereby "[n]ine tenths of the determined concentration of alcohol in the serum or plasma shall be equivalent to the corresponding whole blood alcohol concentration," conversion factors are merely convenient averages and to a large degree are dependent upon the hematocrit ratio which represents the ratio of plasma to cellular material. Averaging 47 percent in a normal healthy male, the percentage will range from 40–54 percent while females fall in an expected range of 36–47 percent and average 42 percent.<sup>3</sup> Therefore, an individual with a higher hematocrit would have less plasma and a higher conversion factor must be employed. It may therefore be argued that, in the absence of a simultaneous test to determine the hematocrit ratio of the subject being tested, any BAC derived from the application of a conversion factor is suspect and fails to meet the requirements set forth in 10 NYCRR § 59.2(b)(2).

Even the nine-tenths ratio may be questioned. As reported by Fitzgerald:

[16% is] a good workable number for converting plasma alcohol values to whole blood alcohol values. However it must be remembered that the actual range is

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<sup>5</sup>AMA Manual, page 69.

<sup>1</sup>Jones, A.W., "Determination of Liquid/Air Partition Coefficients for Dilute Solutions of Ethanol in Water, Whole Blood and Plasma", *Journal of Analytical Toxicology*, Vol. 7, July/August 1983, p. 193–197.

<sup>2</sup>Fitzgerald, at § 19:12.

<sup>3</sup>Fitzgerald, at § 19:13, p. 19-12.

greater, and in some cases, a 20 to 25% conversion factor might be appropriate.<sup>4</sup>

One writer has noted that laboratories do not always report whether they have analyzed whole blood or blood in one of its concentrated forms. In the latter instance there have been cases where the laboratory has not adjusted its result after testing blood in its concentrated form, thereby reporting the result in a falsely high fashion. Moreover, even applying the 16 percent factor will not always result in an accurate report because not all persons have a normal hematocrit, the percentage of the volume of a blood sample occupied by cellular material. The generally accepted 16 percent conversion figure assumes a person with a normal hematocrit. For persons with a greater hematocrit than that, use of the 16 percent conversion figure will result in a falsely high test result.<sup>5</sup>

### **§ 27:7. Preservatives**

While some hospitals and agencies may have available commercially adapted vacutainer kits to which a preservative has been added, a standard collection tube may not. Normally such preservation involves the addition of a blood preservative such as potassium oxalate and sodium fluoride (at least a 1 percent concentration). Fitzgerald reports that the failure to add such a preservative may result in neo-formation of alcohol (essentially a process of fermentation). Likewise reported is that a clotted sample can result in false values.<sup>1</sup>

As a biological product, it must be firmly recognized that blood which is improperly preserved may undergo a process known as neo-formation of alcohol.<sup>2</sup> This process has been reported to result in a BAC of .20 or .30 percent in a sample which was alcohol free when drawn.<sup>3</sup> Originally activated by the presence of bacteria, the use of a sterile collection device will minimize the possibility to a significant extent. Even so, absolutely sterile conditions are impossible to achieve; therefore, other techniques such as refrigeration, and preservatives such as sodium fluoride are employed. As reported by Nichols, Brown et. al.<sup>4</sup> has reported the quantity of the preservative must be at least 1 percent of the total weight of the sample to prevent

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<sup>4</sup>Fitzgerald, at § 19:13, p. 19-12.

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See Fitzgerald, A Major Source of Error in Blood Alcohol Cases: Laboratory Reporting of Plasma and Serum Values as Whole Blood Values, 2 DWI Journal: Law and Science, Number 6 at 1 (June 1987).

<sup>1</sup>Fitzgerald, E.F., Chemical Test Evidence 2d § 19:3, p. 19-3.

<sup>2</sup>Fitzgerald, E.F., Chemical Test Evidence 2d § 19:3, p. 19-3.

<sup>3</sup>Erwin, Richard D., Defense of Drunk Driving Cases, Criminal/Civil, § 17.07(2), Matthew Bender & Co. [1990 Rev.] p. 17-97.

<sup>4</sup>Brown, Neylan, Reynolds & Smalldon, "The Stability of Ethanol in Stored Blood, Part I: Important Variables and Interpretation of Results," Anal. Chem. Acta. Vol. 66. p. 274 [1973].

decomposition, while Hayden et. al.<sup>5</sup> and others have reported the need for 2 percent to insure the absence of bacterial growth. Of more than minor importance, although regulations frequently provide that "solid anticoagulant" must be used, neither the type nor the concentration may be specified.<sup>6</sup>

### **§ 27:8. Storage temperature**

Of frequent concern in the area of blood testing is the effect of storage temperature. In other words, is it possible for a properly preserved sample of blood to produce alcohol if it is stored in an unfavorable environment?

Assuming that the sample is immediately placed under refrigeration, temperature of storage should be of little concern. Such ideal conditions, however, are not always to be found. In the usual situation, blood will be drawn into two vacutainer tubes containing both sodium fluoride (a preservative) and potassium oxalate (an anti-coagulant), which tubes are contained within a sealed Becton-Dickenson® blood test kit. Sealed into the cardboard box which is designed to be used as a mailer, the kit may thereafter remain in the physical possession of the officer who was responsible for taking the sample for an indeterminate period of time prior to being turned over to the lab. The problem, therefore, becomes one of temperature. The temperature of a sample left on the sunlit dashboard of a patrol car may exceed 100 degrees centigrade. Further, although mailing is an approved method of submission, no control can be exercised over the temperatures in which the sample is stored during mailing.

The question, therefore, is the degree to which storage temperature can affect the validity of the results.

Conventional and, perhaps somewhat, anecdotal wisdom is that sugars and bacteria in an unpreserved blood sample will eventually cause a process known as neo-formation or fermentation, therefore increasing the reported blood alcohol results in a fashion which has nothing to do with the motorist's consumption.<sup>1</sup>

While studies by Winek (C.L.) and Paul<sup>2</sup> showed that with periods of storage of to 14 days there occurred no appreciable change in the ethanol content, this study did not address what may be the

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<sup>5</sup>Hayden, Layden & Hickey, "The Stability of Alcohol Content in Samples of Blood and Urine," *Irish J. Med. Sci* Vol. 146 p. 48 [1977].

<sup>6</sup>See, 10 NYCRR § 59.2(b)(2).

<sup>1</sup>See, Fitzgerald, E.F., *Intoxication Test Evidence* 2d, § 19:3, p. 19-3; and see, Erwin, Richard D., *Defense of Drunk Driving Cases, Criminal/Civil*, § 17.07(2), Matthew Bender & Co. [1990 Rev.] p. 17-97.

<sup>2</sup>C.L. Winek and L.J. Paul, "Effect of Short-Term Storage Conditions on Alcohol in Blood From Living Human Subjects," *Clinical Chemistry* 29 pp. 1959-1960 (1983).

most critical issue, extended storage at elevated temperature.

In her doctoral thesis entitled "The Effect of Temperature and Storage Time on Blood Ethanol Concentrations in Living Human Subjects," T. A. Winek addressed this precise issue. In undertaking her examination, Winek took 288 tubes containing serum, 144 of which contained potassium oxalate and sodium fluoride and 144 of which contained solely potassium oxalate. These were further divided into three groups containing 48 tubes which contained the preservative and 48 which did not. Alcohol was thereafter added to the tubes in each group so that one group measured 150mg%, the second 205mg%, and the third, 320 mg%. The three groups were further subdivided into three subgroups and stored in controlled temperatures of 80 degrees F, 90 degrees F and 100 degrees F. The samples were thereafter analyzed incrementally over the course of 35 days on a Perkin-Elmer model 3920 gas chromatograph employing a hydrogen flame detector and a commercial carbopack column. When reviewed, the results are interesting indeed. The serum samples containing the sodium fluoride preservative, elevated to 150 mg% and stored at 80 degrees F showed results of 155 mg% to 134 mg%<sup>3</sup> which translates to a difference of -10.7% to +3.3% and an average difference of 4% + 2.9%. Those samples, identical in every respect except the preservative, ranged from 160 mg% to 145 mg% or -2.0% to 6.7% with an average difference of 3.18% + 1.98%.

At 150 mg% and 90 degrees F, preserved samples ranged from -5.3% to +3.3% with an average of 2.42 + 1.99%. Unpreserved samples, otherwise meeting the same criteria, showed variances of -3.3% to 6.7% with an average of 2.46% + 2.04%.

At 100 degrees F the trend toward moderately heightened results continued, with the preserved group ranging from -6.0% to +4.0% with an average of 2.46 + 2.10 and the unpreserved group displaying -8.0% to +5.3% with an average of 2.75 + 2.0.

The remaining ethanol groups set out in tabular format below displayed similar trends.

Serum at 205 mg% (preserved)

	<b>Low</b>	<b>High</b>	<b>Average</b>
80F	-6.3%	+3.4%	1.84% + 1.75%
90F	-5.4%	+2.4%	2.09% + 1.62%
100F	-6.3%	+2.4%	2.41% + 1.59%

Serum at 205 mg% (unpreserved)

80F	-7.3%	+2.4%	1.81% + 1.73%
90F	-5.4%	+3.9%	2.85% + 1.69%
100F	-7.8%	+1.5%	3.02% + 1.59%

Serum at 320 mg% (preserved)

80F	-6.2%	+4.7%	3.02% + 1.97%
90F	-6.9%	+4.9%	3.41% + 2.13%

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<sup>3</sup>This would be the equivalent of 155 to 134 as would be reported at trial. For an enlightening discussion as to the translation of the various means used to report blood alcohol levels, see the decision of the Honorable Donald Mark in *People v. Ritchie*, 134 Misc. 2d 494, 511 N.Y.S.2d 482 (Sup 1987).



100F	-5.0%	+5.3%	2.66% + 1.54%
Serum at 320 mg% (unpreserved)			
80F	-6.6%	+1.9%	2.76% + 2.39%
90F	-6.9%	+4.4%	3.41% + 2.13%
100F	-6.9%	+2.2%	2.87% + 1.93%

From a review of these results, it appears that differences outside of experimental error were indeed negligible. This seems to dispel the commonly held notion that storage for extended periods, even at elevated temperatures, will cause elevation of blood alcohol content, at least when the serum is involved.

In the words of the researcher:

This data tends to confirm the study of Winek and Paul in that changes in [blood ethanol] concentrations were within experimental error even though higher temperatures were used in this study. However the data was unexpected inasmuch as losses were anticipated with storage at higher temperatures for a higher period. The data suggests that even at temperatures of 100 degrees F for longer than a month, the average per cent falls within experimental error.<sup>4</sup> While the above results were based upon serum supplied by a commercial supplier and reputed to be alcohol free, the second part of the study employed a similar examination of whole blood samples collected by hospitals and law enforcement agencies in the field. Varying in blood alcohol contents, each sample was divided in two and tested upon receipt. The second portion was thereafter stored in conditions identical to those described in the first portion of the experiment.

The results were far different than those reported when serum was employed.

For 13 samples stored at 80 degrees for 35 days, the differences varied from -67% to -2.4%. For one sample containing a preservative, the reported decrease was 7.5%.

At 90 degrees F, the results were inexplicably less pronounced, ranging from a low of -17.7% to a high or increase of 2.0%. The average change was -10.29% + 5.03%.

Whole blood samples stored at 100 degrees F decreased from -24.4% to -3.4% with an average of -15.6% + 6.99%.<sup>5</sup>

Accounting for the dramatic reductions in the ethanol content contained in the stored whole blood samples Winek notes:

A difference between the controlled [serum] and uncontrolled [whole blood] study was the presence of red blood cells in the noncontrolled study. This allows for the

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<sup>4</sup>Winek, at 34.

<sup>5</sup>These results were compiled from just eight samples as the remaining became hemolyzed during storage.

presence of oxidase type systems from the red blood cells to oxidize alcohol present in the sample. The data suggests that the loss of alcohol from stored clinical samples was not due to the effect of temperature because no losses beyond experimental error were seen in the controlled study.<sup>6</sup> Peroxidase systems in red blood cells are capable of oxidizing ethanol and therefore it would appear that the losses in stored clinical samples were due to a chemical oxidation rather than physical evaporation.<sup>7</sup>

The upshot of all this is that in the face of greater willingness of the courts to permit inspection by the defense of blood alcohol samples, the traditional approach of drawing and preserving whole blood deserves examination anew. Winek acknowledges the problem created by apparent ethanol oxidation and accordingly comes to the conclusion that:

The clinical study does demonstrate the loss of ethanol at elevated temperatures with time and that the percent lost ranges between 10–20%. This indicates that if a blood sample is left at elevated temperature for an extended period of time (ie: a month) one would anticipate a 10–20% reduction in blood ethanol concentration.

Since the culprit appears to be red blood cells, it therefore seems that an effort be made to obtain and store serum.

#### **§ 27:9. Oxidation**

Contrary to popular belief, preservatives such as sodium fluoride (NaF) will not prevent oxidation of the hemoglobin and the formation of acetaldehyde. As noted by Whited,<sup>1</sup> this can have the effect of reducing the BAC in an unpreserved sample.

#### **§ 27:10. Effect of preservatives**

In a highly significant study appearing in the American Journal of Toxicology<sup>1</sup> conclusions drawn by Prouty and Anderson seem to indicate that preservatives can interact with sample size and affect the blood alcohol content of a particular sample. Originally undertaking to determine whether or not variances in the blood alcohol content could occur as a result of site selection, the authors withdrew and analyzed post mortem blood samples from the heart and femur. While the mean of the difference between heart blood concentration and the femoral blood concentration was .0019 percent w/v, the study nevertheless noted that in a significant number of cases the

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<sup>6</sup>Indeed, as noted by Winek, there was no relationship between temperature and alcohol loss. The sample stored at 80 degrees F "lost" more alcohol than that stored at 90 degrees.

<sup>7</sup>Winek, at 36.

<sup>1</sup>Whited, Drunk Driving Litigation Criminal/Civil, § 32-20.

<sup>1</sup>American Journal of Toxicology, Vol. 11, p. 191 [1987].

results differed by as much as 81.1 percent. In attempting to isolate possible causes of the reported differences, the authors turned to an examination as to whether or not the volume of the sample played a role in the results.

In undertaking this aspect of the study, freshly drawn whole blood was used to prepare a 500mL stock solution with a target value of .20 percent. After assaying ten "day zero" samples, 30mL screw cap containers containing 20 mg of sodium fluoride were then filled to 4mL, 8mL and 30mL respectively. The samples were then tightly sealed and placed in a refrigerator nominally kept at 5°C. The samples were then analyzed with a headspace analysis using a Perkin-Elmer F-45 gas chromatograph. Additionally, a set of samples was also prepared in which there was placed 4mL of solution but no preservative.

The results showed interesting disparities. Ranging from a mean of .165 percent w/v for the 4mL preserved sample tested on day three to a .206 percent w/v for the 28mL preserved sample tested on day one, it appeared that the smaller the sample the greater the change that occurred with time. While observing that "[t]he exact mechanism for the observed loss of alcohol in small volume samples may be complex," one possible explanation which was offered was the "salting out effect" of the relatively high sodium fluoride content in the 4mL samples. Noting that Jones and others had reported that sodium fluoride will increase the ethanol vapor pressure in whole blood specimens, it appeared likely to the authors that the concentration of sodium fluoride was sufficient to influence the headspace analysis of the blood alcohol content.

Recalling that in a headspace analysis the vapor above the solution is what is analyzed, it must be recognized that the conclusions drawn by Prouty and Anderson essentially mean that with the passage of time application of the "correct" partition ratio may not be proper. Also, it would be necessary to know precisely the means through which the headspace sample was withdrawn. If the vessel remained sealed prior to being raised to temperature with a water bath and the vapor sample withdrawn in a means which did not permit the escape of the alcohol which had "salted out" during storage, the test would necessarily be high. On the other hand, a contrary result would be achieved when the sample is first opened and then added to a vessel prior to warming and analysis.

A.W. Jones, in a 1983 similarly concluded that a 10 mg/mL concentration of sodium fluoride could increase blood alcohol results by 8.9% when compared with heparinized blood. Solanky,<sup>2</sup> of the New Jersey State Police, however, concluded that sodium fluoride did not significantly affect the alcohol concentration determined by headspace gas chromatography using n-propanol as the internal standard.

### **§ 27:11. Clotting**

Frequently the result of an analysis conducted upon a sample of blood will indicate that the sample has become clotted. If properly preserved the overall alcohol content of the sample will

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<sup>2</sup>A. Solanky, "Effect of Different Concentrations of Sodium Fluoride on Blood Alcohol Determination by Headspace Gas Chromatography Using the Internal Standard Method," *Journal of Analytical Toxicology*, vol. 18 (January/February 1994).

not have changed. Nevertheless, as noted elsewhere herein, alcohol, as a water soluble substance, will tend to migrate to the liquid component of the sample. This means that any test conducted upon the liquid will be intolerably high, whereas a test conducted of the clotted portion will likewise be unacceptably low. Once the sample has been clotted, the only reliable technique is to reconstitute the sample.

An alternative to the expense and handling of reconstitution is to add an anti-coagulant such as heparin, frequently employed as a blood thinner in heart patients, potassium oxalate, aluminum citrate or potassium citrate.<sup>1</sup> The use of such preservatives has been made mandatory by 10 NYCRR 59.2(b)(2) which provides that the sample shall be drawn "into a vacuum container containing a solid anticoagulant." In *People v Snyder*,<sup>2</sup> the failure to show "the sufficiency or identity of the preservative," was considered as one branch in a series of cumulative errors which ultimately rendered the evidence inadmissible.

Of some surprise, it has been held, however, that even where the rules and regulations of the state health department provide that blood samples must be collected in a container having an anticoagulant and a preservative in it, the failure to satisfy those regulations goes to the weight of the evidence, not its admissibility.

In *People v Boyst*,<sup>3</sup> the Fourth Department rejected a challenge founded squarely upon the failure to utilize the necessary anticoagulant. The Court found the conversion factor provided by 10 NYCRR § 59.2(a)(1) to expressly provide for the testing of serum.

While this issue will most certainly be refined upon further appeal, it would seem that the *Boyst* logic was flawed in that a fair reading of the regulation does not seem to indicate that the conversion factor was intended to operate as an alternative to the addition of a solid anticoagulant, a requirement for which the statute does not appear to create an exception. A far more probable basis for the addition of a conversion factor was avoid overstating results in those instances where clotting had occurred notwithstanding the addition of the anticoagulant. Additionally the decision ignored the well established principle that administrative regulations "have the force and effect of law" and that they ought not be disturbed absent a showing that they are "so lacking in reason for their promulgation that [they are] essentially arbitrary."<sup>4</sup> More to the point, in *People v Emrich*,<sup>5</sup> a blood sample was found to be properly suppressed under statute which provided chemical analysis of blood would be considered valid only if

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<sup>1</sup>Flem H. Whited, *Drunk Driving Litigation Criminal/Civil*, § 32:23, p. 32–40.

<sup>2</sup>*People v. Snyder*, 90 A.D.2d 894, 456 N.Y.S.2d 536 (3d Dep't 1982).

<sup>3</sup>*People v. Boyst*, 177 A.D.2d 962, 577 N.Y.S.2d 1007 (4th Dep't 1991).

<sup>4</sup>*Molina v. Games Management Services*, 58 N.Y.2d 523, 529, 462 N.Y.S.2d 615, 449 N.E.2d 395, 40 A.L.R.4th 655 (1983).

<sup>5</sup>*People v. Emrich*, 132 Ill. App. 3d 547, 87 Ill. Dec. 867, 478 N.E.2d 6 (1st Dist. 1985).

performed according to standards promulgated by Department of Public Health in consultation with Department of Law Enforcement. Such standards called for the use of an anticoagulant which was never used.

### **§ 27:12. Direct analysis of blood; General principles**

Even if direct and accurate, analysis of the blood is not as conclusive on the issue of intoxication as one might suppose. Because some people tolerate alcohol better than others, two persons with, for example, identical .11 percent blood alcohol concentration (BAC) might in fact show significant differences in intoxication.

Strictly speaking, it is not the alcohol in the blood that affects us, but the alcohol in the brain. Ideally, then, the most meaningful place to obtain a sample of body tissue for analysis would be the brain, rather than the blood. The problem is there exists no practical way to do that without injuring or killing the subject.

Because the next best source is the blood, BAC is almost the universal measuring standard. Thus, even when the quantity of alcohol in other body parts, such as kidneys or lungs, is measured, the result is typically converted into an equivalent measurement of the blood and expressed as that. Even a properly measured BAC can be ambiguous. Not all the blood present in a person's body at a given time is necessarily at a uniform BAC.

Studies show that at least during the absorption phase, there may be significant differences in the concentration of alcohol taken simultaneously from different parts of the body. It has been demonstrated that blood taken from the veins at the extremities may be as much as .03 percent lower than a sample taken simultaneously from the arteries. This, however, is only true shortly after drinking. Once equilibrium is reached, the difference becomes practically nil.<sup>1</sup>

### **§ 27:13. Methods of analysis—Introduction**

Although there are many ways to identify and measure BAC using blood and other body fluids, three commonly employed methods are gas chromatography, enzymatic oxidation, and chemical oxidation.

Here is a brief introduction to each:

**Gas Chromatography** - More than any other method capable of analyzing specifically for alcohol to the exclusion of all interfering substances, gas chromatography is the method of choice. As laboratory techniques go, it is fast, and requires minimal sample preparation. It is sensitive to small changes in alcohol concentration. Either the diluted whole blood specimen can be injected into the chromatograph, or the headspace vapor above the specimen can be

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<sup>1</sup>Watts, Some Observations on Police Administered Tests for Intoxication, 45 NC Law Review 35, 49 (1966).

injected. Use of headspace vapor eliminates problems of syringe plugging, but it requires 15 to 30 minutes for the sample to be equilibrated at a given controlled temperature. Further, when headspace chromatography is used, it is not the blood but the gas above the blood that is analyzed, with an assumed partition ratio between the two employed. In this case, the analysis becomes more like an indirect test of breath than a direct one of blood. The method requires a gas chromatograph and a recorder, expensive equipment that requires significant maintenance.

**Enzymatic Oxidation** - This method as usually practiced employs alcohol dehydrogenase (ADA), the body enzyme which breaks down ethyl alcohol. A sensitive method that does not require much preparation, it is, however, subject to interference by methanol, isopropanol, acetone and similar substances.

**Chemical Oxidation** - This usually involves oxidation of alcohol with potassium dichromate in an acid solution, employing a chemistry similar to that of the wet chemical Breathalyzer. Time consuming in most variations, the method usually requires separation of the alcohol from its matrix before reaction with the acid and dichromate reagent. The method is nonspecific for alcohol unless combined with complex additional chemical manipulations.

**Osmometry** - Occasionally encountered, Osmometry employs the measurement of diffusion of a substance through a semipermeable membrane. Fast and easy to use, it is nonetheless an undesirable method because it is neither specific nor precise.

#### § 27:14. Traditional (wet chemistry) methods

Traditionally, analysis of blood required separation of the suspected alcohol from the remaining blood components. This was accomplished by means of diffusion, where the alcohol is permitted to evaporate and is absorbed into a capturing medium such as potassium dichromate; aeration, a similar method where air which is passed through the sample of blood is passed through a solution partially composed of an oxidizing agent;<sup>1</sup> and distillation, perhaps the most reliable of the older techniques where the alcohol is distilled from the blood and quantitatively measured.<sup>2</sup> As with wet-chemistry breath analysis, use of reagents such as potassium dichromate which are employed in all three techniques, renders these procedures subject to the problems of non-specificity which plagued outmoded devices such as the Breathalyzer 900.

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<sup>1</sup>Erwin, Richard D., *Defense of Drunk Driving Cases*, Criminal/Civil, § 17.02(1), Matthew Bender & Co. [1990 Rev.] p. 17-05.

<sup>2</sup>See, F.L. Kozelka and C.H. Hine, "Method of Determination of Ethyl Alcohol for Medicolegal Purposes", *Ind. Eng. Chem. Anal. Ed.* 13, 905-907 [1941], reported by Erwin at § 17.03(1), p. 17-7.

## § 27:15. Gas chromatography

In its simplest form, the gas chromatograph consists of a long column or tube filled with an inert substance which has been coated with a non-volatile liquid. An inert gas, such as helium or nitrogen, is passed through the column which is heated in an oven to a constant temperature to which the substance being tested has been added. The basic principle of the gas chromatograph is that all substances will not pass through the column at a uniform rate, but that different substances will be slowed by the non-volatile liquid surrounding the inert granular substance with which the tube has been filled. A detector, placed at the end of the column, records the emergence of the various substances.

In attempting to determine the quantity of alcohol contained in a sample, the operator will first inject a known quantity of ethyl alcohol into the column and electronically record the output of the detector which will automatically generate a graph known as a chromatogram.<sup>1</sup> The operator will then make up a mixture of ethanol and a standard such as n-propyl alcohol or t-butyl alcohol. The standard will then be run, a graph produced, and the proportionate difference between the known ethanol and the known n-propyl or t-butyl determined. The operator then adds an identical amount of the n-propyl or t-butyl to the blood to be tested and it is run in the same fashion and a graph produced. The operator will then calculate the amount of ethanol in the sample by applying the known proportion to the second analysis. In some cases this calculation is accomplished either internally by the chromatograph or by a computer attached thereto. In any event, the calculation may be verified by counsel through the utilization of the "Peak Height" formula provided counsel has been able to obtain copies of the individual chromatograms. Discussed extensively by Fitzgerald, the formula that may be utilized is as follows:

$$\text{"KNOWN" ETOH} = \frac{\text{Q.C. I.S.}}{\text{Q.C. ETOH}} \times \frac{\text{TEST ETOH}}{\text{TEST I.S.}} = \text{ETOH \% OF UNNOWN PEAK}$$

WHERE:

Q.C. I.S. =

Quality control internal standard (n-propyl or t-butyl)

Q.C. ETOH =

Quality control ethanol

TEST ETOH =

Amount (height) of ethanol found in test sample

TEST I.S. =

Amount (height) of internal standard (n-propyl or t-butyl) found in test sample.

The practitioner should not overly rely upon the calculations performed by the forensic lab. Just as with the software employed by the various infrared breath testing devices, there is no assurance that the peak heights as utilized by the instrument have been properly determined or that the calculations employed are valid. Clearly, a chalkboard and an overhead projector will be

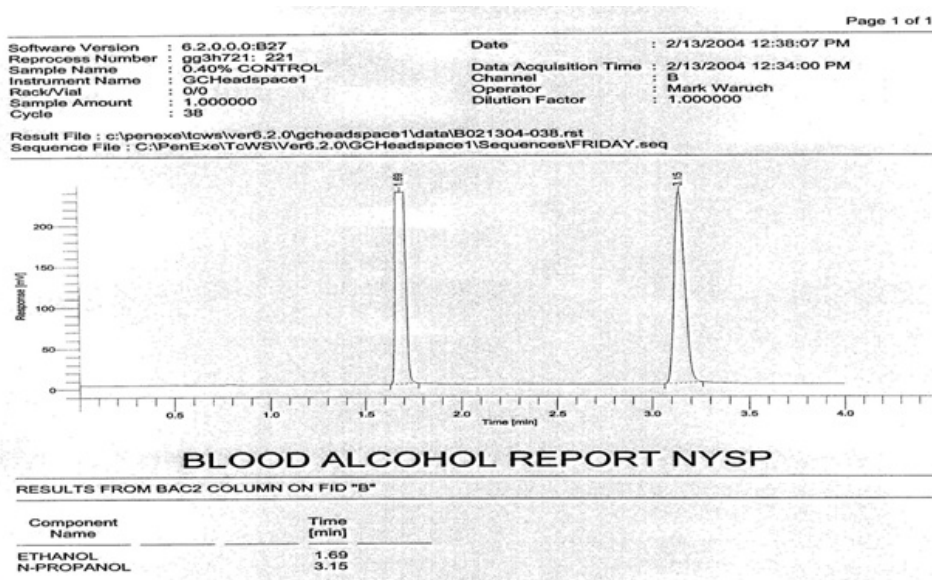
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<sup>1</sup>The procedure described herein is that set forth by Fitzgerald in Intoxication Test Evidence 2d, Lawyers Cooperative Publishing: Rochester New York, 1995 § 19:8, p. 19-7.

of far greater significance than the somewhat sterile printout from a printer.

Counsel is also advised to determine whether or not the internal standard was actually run at all. In a chromatographic analysis of cocaine observed by this writer, the laboratory had utilized a computerized standard, the source and accuracy of which was unknown. While this may or may not be done with alcohol, it should definitely be determined. As noted by Fitzgerald, the column of a chromatograph tends to age. Gas flow, column temperature and clogging all change performance characteristics.<sup>2</sup> While this would not alter the proportions if the tests were run back to back, a computerized standard run at some earlier point in time would not be subject to the cumulative effect of any such changes.

Below is a typical graphical printout from an evidentiary gas chromatograph:



The peak on the left represents the ethyl alcohol sample being analyzed and the peak on the left indicates the isopropyl standard that was used for a marker. Of interest in this particular graph is that the ethyl alcohol peak shows a flattening at the top. This indicates that the gain control on the detector may have been set to high.

### § 27:16. Gas chromatography—Headspace analysis

Most popular among laboratories conducting alcohol analysis is headspace analysis. A variant of the chromatographic technique discussed above is the headspace analysis. As described by Fitzgerald, the sample to be tested is placed in a sealed container and brought to a constant temperature by a water bath whereupon a sample of the vapor existing in the "headspace" is removed and directly injected into the chromatograph. Advantages include injection of much larger samples and elimination of the fouling of the column with the byproducts of blood. It is

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<sup>2</sup>Fitzgerald, at § 19:8.



also possible to use a mass analysis device known as an auto-sampler which permits the laboratory to automatically run 80 or more samples in succession without human involvement. The true disadvantage is that it turns a blood test into what is essentially a breath test and requires application of a blood/gas coefficient such as the 2100:1 blood/breath ratio. As discussed in Chapter 22, such an assumption may be fraught with error.

### **§ 27: 16 Auto-samplers**

In principle, there is nothing wrong with an auto-sampler. Nevertheless, the use of such devices may create an area ripe with possibilities for cross-examination. The problem is this. Prior to the use of the device, each sample must be placed in a sample bottle and loaded into the carousel of the machine. Generally, the device will record each sample by number. The issue that arises is the degree of accuracy employed by laboratory personnel in placing the various samples into the into the machine. Should a sample be improperly placed or recorded, the results will be meaningless regardless of the accuracy and precision employed in the analysis of the sample.

### **§ 27:17. Automated methods**

Overwhelmingly popular in hospitals as a result of their outward simplicity and speed are automated systems such as the DuPont® ACA blood analyzer. Such techniques employ the use of enzymes which convert the blood to substances which can be measured spectrographically. In *People v Campbell*,<sup>1</sup> the New York Court of Appeals rejected four tests performed upon the DuPont ACA analyzer. Of interest is Judge Simons' comments concerning accuracy:

State regulations require that a blood alcohol test reading be accurate within .01 grams per 100 milliliters [Chemical Analysis of Blood, Urine, Breath or Saliva for Alcoholic Content, 10 NYCRR § 59.2(b)(2)]. In the cases before us no scientific evidence was presented to establish that the DuPont ACA is reliable for determining blood alcohol content generally or with sufficient accuracy to meet that standard. Indeed, in *People v Campbell* a technologist testified that the acceptable range set by the manufacturers for the DuPont ACA was outside this .01 standard. Moreover, the State Health Department's permit does not satisfy the accuracy requirement. Although the machine may be accurate to show alcohol toxicity or possible drug interactions for general purposes, there is no proof that it is "capable of accurately discerning the critical distinction between a legally permissible blood alcohol content and that which is statutorily proscribed" (*People v. Freeland*, 68 N.Y.2d 699, 506 N.Y.S.2d 306, 497 N.E.2d 673 (1986)).<sup>2</sup>

### **§ 27:18. Testing facilities and their methods**

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<sup>1</sup>*People v. Campbell*, 73 N.Y.2d 481, 541 N.Y.S.2d 756, 539 N.E.2d 584 (1989).

<sup>2</sup>*People v. Campbell*, 73 N.Y.2d 481, 486, 541 N.Y.S.2d 756, 539 N.E.2d 584 (1989); followed in *People v. Dean*, 74 N.Y.2d 643, 542 N.Y.S.2d 512, 540 N.E.2d 707 (1989).

Blood alcohol measurements are only as reliable as the facilities performing the analyses. In most cases, those facilities operate pursuant to statutes and regulations setting out the standards under which they are licensed and pursuant to which the tests must be performed. Also the laboratories may be subject to inspection and evaluation from time to time. Accordingly it is a good idea for counsel to review the statutory and regulatory provisions under which the laboratory functions, and to obtain a copy of the procedure describing how the test in question is supposed to be performed. It is also useful to obtain copies of any relevant evaluations of the laboratory in question, and information as to whether it is certified or accredited. The information obtained may be especially helpful to the defense counsel in discrediting the laboratory's test result.

### **§ 27:19. Compliance with rules and regulations**

Administrative regulations governing the administration of blood tests are published at 10 NYCRR 59.5 and are reprinted in full herein. They provide for numerous methods and assumptions governing the analysis of blood. Essential among these is 59.2(a)(2). It provides a conversion ratio between plasma and whole blood by providing that nine tenths of the determined concentration of alcohol in the serum or plasma shall be equivalent to the corresponding whole blood alcohol concentration. Further set out are basic laboratory practices such as a "blank" analysis<sup>1</sup> and analysis of a reference or control sample of known alcoholic content of greater than 0.08 grams per 100 milliliters.<sup>2</sup> The result of this must agree with the reference sample value within the limits of plus or minus 0.01 grams per 100 milliliters or such limits as specified by the commissioner.

Of some interest is the means in which the blood is to be drawn. 10 NYCRR § 59.2(4) sets forth that the blood can be drawn by means of a sterile dry needle into a vacuum container or a sterile dry needle and syringe and deposited into a clean container. In either case, the regulation requires the use of a solid anticoagulant. Despite the seemingly mandatory nature of the preservative in *People v Boyst*,<sup>3</sup> the Fourth Department refused to find that the trial court erred by admitting a test conducted in the absence of a preservative. Of note, the Court found that 10 NYCRR § 59.2(a)(1), providing as it does for the testing of blood serum with a conversion factor of .9 specifically authorized the procedure.

### **§ 27:20. Practice considerations**

Don't be afraid of blood tests. Blood tests usually present at trial what most other forms of testing do not, a living and breathing expert at no cost to you or your client. Properly cross-examined, the defense can establish the existence of reasonable doubt entirely through the State's expert. Thematically, the course that should be followed is that which is used to examine the "independent" physician in the personal injury case. Stay with established medical and scientific

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<sup>1</sup>10 NYCRR § 59.2(2)(b)(1).

<sup>2</sup>10 NYCRR § 59.2(2)(b)(2).

<sup>3</sup>*People v. Boyst*, 177 A.D.2d 962, 577 N.Y.S.2d 1007 (4th Dep't 1991).

principles which present no alternative for dispute.

Preparation of a trial which will involve the admission of a blood test requires special attention. You should become intimately familiar with the particular means employed in drawing and analyzing your client's sample. If your client has been injured, it will be wise to obtain a copy of his or her medical record to determine whether or not a blood test was performed. If this is the case, you obviously must determine whether or not a blood alcohol test was run. While such a test would not be admissible absent a waiver, the hematocrit may also be shown. If this level was inordinately high, counsel may wish to consult with an expert to determine what the true BAC would have been. It should be recognized, however, that this is an area fraught with potential for disaster; admission of the hematocrit level may constitute a waiver and result in admission of the hospital BAC determination.

Perhaps a better way to treat questions evolving as a result of an unknown hematocrit is to use this factor as a means of cross examination. Using figures set forth by Fitzgerald<sup>1</sup> the following technique may be employed:

Q: Would you explain for me the term hematocrit ratio?

A: The Hematocrit Ratio is the proportion of blood plasma to cellular material.

Q: The solid to liquid?

A: Roughly.

Q: Now, when alcohol is analyzed in a sample of blood, where is it to be found?

A: Could you explain that further?

Q: Will the alcohol be found in the liquid or solid particles of the blood?

A: Oh, the liquid.

Q: And why is that?

A: Because alcohol is for the most part water soluble.

Q: And the results of an alcohol blood analysis are reported how?

A: As a ratio of the weight to volume or w/v.

Q: Now to return to the hematocrit ratio, you said that it is a means of describing the percentage of blood which is composed of cellular material?

A: That's correct.

Q: Then a person who has a ratio of 47 would have blood made up of 47 percent cellular material and 53 percent plasma?

A: That's correct.

Q: And the higher the hematocrit the higher the more non-alcohol absorbing cellular material is present?

A: That's correct.

Q: By the way, do you know what Mr. Hadenough's hematocrit ratio was at the time of his arrest and test?

A: I do not.

Q: Then when you calculated your results you assumed a particular hematocrit ratio?

A: Correct.

Q: But if the hematocrit value was higher than that which you assumed, to get an accurate

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<sup>1</sup>Fitzgerald, at § 19:13.

result you would have to use a higher conversion factor?

A: That's correct.

Q: Then without assuming Mr. Hadenough's ratio as it existed on August 11, 1991 you cannot determine what his true blood alcohol content was, can you?

A: I can only do the calculations.

Q: That's not what I asked you; without assuming Mr. Hadenough's ratio as it existed on August 11, 1991, you cannot determine what his true blood alcohol content was, can you?

Q: Well not without the assumption, no I cannot.

Likewise, it is important to verify whether or not the sample that was tested was clotted or unclotted. In the event that it was clotted, a productive avenue of cross-examination can be as follows:

Q: Tell me, was the sample, at the time you tested it clotted or unclotted.

A: A little of both.

Q Now, when you say a little of both do you know the percentages?

A: I do not.

Q: Now you previously testified that the alcohol will be found in the liquid, non-cellular portion of the blood?

A: That's correct.

Q: How about a clot, will the alcohol go into a clot?

A: Not generally.

Q: And what portion of the blood is heavier, the cellular material or the liquid?

A: The cellular material.

Q: In what percentage?

A: That depends upon the hematocrit ratio.

Q: When blood coagulates or clots, what occurs?

A: The cellular material draws together and hardens.

Q: And you tested the liquid portion?

A: I did.

Q: Which was but a portion of the overall weight of the sample?

A: If that's a question the answer is correct.

Q: But even though it was but a portion of the weight it contained almost all of the alcohol, did it not?

A: That's correct.

Q: Then the concentration of the alcohol in the plasma was higher than that contained in the entire sample of the blood when drawn, was it not?

A: In the plasma, yes.

Arguably a non-issue, even the addition of the preservatives can be used to some advantage.

Q: Now, the heparin, why was that added?

A: To prevent clotting.

Q: It did not, did it?

A: No, not completely, it did not.

Q: There was also added some sodium fluoride?

A: Correct.

Q: Why was that?

A: Sodium fluoride is a preservative.

Q: Why is a preservative used?

A: Because an unpreserved alcohol sample can undergo a process of neo-alcohol formation.

Q: Could you explain that for me?

A: Yes, neo-alcohol formation is when bacteria acts upon material naturally present in the blood and causes it to ferment or form alcohol on its own.

Q: Can you, in the course of your testing differentiate between this fermented alcohol and that which may have been present in the sample when drawn?

A: No, I can not.

Q: And theoretically the preservative is supposed to prevent this process from occurring?

A: Not theoretically, it does prevent such formation.

Q: Well, theoretically the heparin was to prevent the formation of clots?

A: That's correct.

Q: All clots?

A: Theoretically.

Q: In this case it did not did it?

A: Well, no.

Q: But you know that because the clot can be visibly verified and we know it was not present in the blood when drawn.

A: That's correct.

Q: But you cannot visibly verify the formation of alcohol through fermentation can you?

A: No, no one can.

Q: For that matter you can't tell whether that occurred at all can you?

Finally, if you're confronted with a headspace analysis, don't miss the opportunity to convert the blood test into a less reliable breath test:

Q: Now, this Perkin-Elmer F-45 gas chromatograph, did it directly measure Ms. Client's blood?

A: You mean did I put it directly into the instrument?

Q: Yes.

A: No, it did not.

Q: Could you explain what you did?

A: I withdrew a sample of the vapor which had accumulated above the sample and injected that into the column.

Q: And the amount of alcohol contained in that vapor is the same as the amount of alcohol in the sample of blood, how can that be?

A: It's not, but it bears a relationship to the overall alcoholic content by means of Henry's Law.

Q: Is that the 2100 to one rule?

A: Yes it is.

Q: But that rule relies on certain assumptions such as Mr. Hadenough's hematocrit ratio does it not?

A: Yes it does.

Q: And preservatives play a role in altering the ratio, do they not?

A: They might.

Q: And temperature?

Q: It might.

Q: Even barometric pressure?

A: Unlikely, but it could.

Q: Just so I understand, you did not utilize the alcohol present in the sample of blood but in the air above it, is that correct?

A: That's correct.

## **Compulsory Chemical Tests and Hospital Blood Seizure**

### **§ 11:60. Generally**

Due to its personal injury or death requirement, court ordered testing is the least utilized, although it presents the most procedurally reliable method, surmounting as it does the crucial issue of consent.

Keeping with the theme of placing all chemical tests within § 1194, court ordered blood alcohol tests are described by Vehicle and Traffic Law § 1194(3). As an enactment in derogation of the common law, it is to be strictly construed. Generally, it creates an expedient means through which an officer, investigating what he or she reasonably believes to be a serious alcohol related motor vehicle accident resulting in personal injury or death, can obtain a blood alcohol sample from an otherwise non-consenting motorist. The procedure as designed is a balance between the practicalities of police accident investigation and the Fourth Amendment rights of the motorist.

### **§ 11:61. Vehicle and Traffic Law § 1194(3)**

Established by Vehicle and Traffic Law § 1194(3), a request to initiate court ordered compulsory chemical testing requires as a threshold that a police officer or a district attorney set forth reasonable cause to believe that:

3. Compulsory chemical tests. (a) Court ordered chemical tests. Notwithstanding the provisions of subdivision two of this section, no person who operates a motor vehicle in this state may refuse to submit to a chemical test of one or more of the following: breath, blood, urine or saliva, for the purpose of determining the alcoholic and/or drug content of the blood when a court order for such chemical test has been issued in accordance with the provisions of this subdivision.

(b) When authorized. Upon refusal by any person to submit to a chemical test or any portion thereof as described above, the test shall not be given unless a police officer or a district attorney, as defined in subdivision thirty-two of section 1.20 of the criminal procedure law, requests and obtains a court order to compel a person to submit to a chemical test to determine the alcoholic or drug content of the person's blood upon a

finding of reasonable cause to believe that:

(1) such person was the operator of a motor vehicle and in the course of such operation a person other than the operator was killed or suffered serious physical injury as defined in section 10.00 of the penal law; and

(2) a. either such person operated the vehicle in violation of any subdivision of section eleven hundred ninety-two of this article, or

b. a breath test administered by a police officer in accordance with paragraph (b) of subdivision one of this section indicates that alcohol has been consumed by such person; and

(3) such person has been placed under lawful arrest; and

(4) such person has refused to submit to a chemical test or any portion thereof, requested in accordance with the provisions of paragraph (a) of subdivision two of this section or is unable to give consent to such a test.

Choosing not to remain with the definition of reasonable cause as contained at CPL § 70.10(2), Vehicle and Traffic Law § 1194(3)(c) rather liberally defines the term "reasonable cause" as used in that section:

(c) Reasonable cause; definition. For the purpose of this subdivision "reasonable cause" shall be determined by viewing the totality of circumstances surrounding the incident which, when taken together, indicate that the operator was driving in violation of section eleven hundred ninety-two of this article. Such circumstances may include, but are not limited to: evidence that the operator was operating a motor vehicle in violation of any provision of this article or any other moving violation at the time of the incident; any visible indication of alcohol or drug consumption or impairment by the operator; the existence of an open container containing an alcoholic beverage in or around the vehicle driven by the operator; any other evidence surrounding the circumstances of the incident which indicates that the operator has been operating a motor vehicle while impaired by the consumption of alcohol or drugs or intoxicated at the time of the incident.

Reference to "the totality of the circumstances" and the time of enactment suggest that it may have been the Legislature's intent to free this search warrant application procedure from the "reliability" and "basis" requirements commonly referred to as the Aguilar-Spinelli<sup>2</sup> test, and substitute instead the more liberal Fourth Amendment interpretation afforded by the 1983 decision of the United States Supreme Court in *Illinois v Gates*.<sup>3</sup> In any event, rejection of this

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<sup>2</sup>See, *Aguilar v. State of Texas*, 378 U.S. 108, 84 S.Ct. 1509, 12 L.Ed.2d 723 [1964]; *Spinelli v. U.S.*, 393 U.S. 410, 89 S.Ct. 584, 21 L.Ed.2d 637 [1969].

<sup>3</sup>*Illinois v. Gates*, 462 U.S. 213, 103 S. Ct. 2317, 76 L. Ed. 2d 527 (1983).

rule by the New York Court of Appeals, as a matter of State constitutional law in *People v Griminger*,<sup>4</sup> most likely renders this effort of little more than academic interest; hearsay will have to meet the earlier test.<sup>5</sup>

In determining whether or not a warrant, oral or otherwise should issue,<sup>6</sup> Vehicle and Traffic Law § 1192(3) initially requires a determination that there has occurred a motor vehicle accident in which an individual other than the driver thereof has been killed or suffered "serious physical injury" as that term is further defined by Penal Law § 10.00. Having achieved this threshold, the police officer applicant must have reasonable cause to believe that the driver was operating in violation of any subdivision of § 1192 or that a preliminary breath test has shown the consumption of alcohol by the motorist. While the ready accessibility of the operator should usually render the "reasonable cause" the product of non-hearsay observations, in the event that they are not, the transcript of the application should be carefully perused to determine whether or not the information supplied satisfied the familiar two-prong test. As noted by the Court of Appeals:

The basis of the informant's knowledge must be demonstrated because the information related by an informant, even a reliable one, is of little probative value if he does not have knowledge of the events he describes (*People v Rodriguez*). Conversely, no matter how solid his basis of knowledge, the information will not support a finding of probable cause unless it is reliable. Since police officers may not arrest a person on mere suspicion or rumor, they likewise may not arrest a suspect on the basis of an informant's tip, perhaps born of suspicion or rumor or intentional fabrication.<sup>7</sup>

In *People v Walsh*,<sup>8</sup> police officers investigating a serious automobile accident contacted the assistant district attorney at his home and informed him of the status of their investigation at that point. From his home the assistant district attorney phoned a County Court Judge who thereupon proceeded to grant an application to withdraw a sample of the operator's blood. At no time did

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<sup>4</sup>*People v. Griminger*, 71 N.Y.2d 635, 529 N.Y.S.2d 55, 524 N.E.2d 409 (1988).

<sup>5</sup>See, *People v. Argyris*, 24 N.Y.3d 1138, 27 N.E.3d 425, 3 N.Y.S.3d 711 [2014].

<sup>6</sup>While the concept of an "oral" warrant may be distasteful to some, Vehicle and Traffic Law § 1194(3) does create such a warrant. Unlike the oral application procedure established under CPL § 690.36, which pursuant to CPL § 690.40(3) requires the applicant to prepare the warrant and read it verbatim to the judge, no such requirement is imposed by Vehicle and Traffic Law § 1194(3).

<sup>7</sup>*People v. Johnson*, 66 N.Y.2d 398, 497 N.Y.S.2d 618, 488 N.E.2d 439 (1985); see also, *People v. Cassella*, 143 A.D.2d 192, 531 N.Y.S.2d 639 (2d Dep't 1988); and see, *People v. McGriff*, 130 A.D.2d 141, 518 N.Y.S.2d 795 (1st Dep't 1987).

<sup>8</sup>*People v. Walsh*, 137 Misc. 2d 1073, 523 N.Y.S.2d 752 (County Ct. 1988).



the investigating officers or others with personal knowledge of the facts give sworn testimony prior to the granting of the court ordered blood test, nor did the Judge have contact with anyone other than the assistant district attorney.

Suppressing the use of the results at trial, the trial court found the hearsay character of the statements to be dispositive:

In this case the Assistant District Attorney had no personal knowledge of facts to support the application for the court-ordered blood test. Those with personal knowledge, which they apparently provided to the Assistant District Attorney, not only gave no sworn allegations of fact in support of the application, but they gave no statement whatever to the Judge considering the application. Therefore, section 1194-a (3) (b) and (c) were not complied with, in that they require the court to place under oath the applicant and any other person providing information in support of the application. The applicant must make specific allegations of fact. The statute makes no provision for an application based on hearsay, which in this case would amount to an application based on solely hearsay information provided by the Assistant District Attorney.<sup>9</sup>

In *People v Whelan*,<sup>10</sup> the Second Department had an opportunity to extensively discuss the role of hearsay, double hearsay, and the "two-pronged test" of *Aguilar-Spinelli* in the context of an oral application for a blood seizure order:

[I]t is clear that the application consisted entirely of hearsay and double hearsay. However, this fact does not render it defective. Search warrants based on hearsay information have long been held to be valid where there is "a substantial basis for crediting the hearsay statement." The procedure for evaluating the hearsay statements of informants involves the two-pronged *Aguilar-Spinelli* test . . . . This court has recently held that probable cause to arrest may be established by double hearsay as long as each informant in the chain of narration passes the *Aguilar-Spinelli* test. By parity of reasoning, an application under Vehicle and Traffic Law § 1194(3) based on double hearsay would be valid if each informant passes the *Aguilar-Spinelli* test.<sup>11</sup>

The availability of hearsay notwithstanding, however, the failure to specify the basis of such hearsay will prove fatal:

[T]here is merit to the defendant's contention that the application herein was defective in that it

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<sup>9</sup>*People v. Walsh*, 137 Misc. 2d 1073, 1074, 523 N.Y.S.2d 752 (County Ct. 1988).

<sup>10</sup>*People v. Whelan*, 165 A.D.2d 313, 567 N.Y.S.2d 817 (2d Dep't 1991).

<sup>11</sup>*People v. Whelan*, 165 A.D.2d 313, 321, 567 N.Y.S.2d 817 (2d Dep't 1991) [internal citations omitted].

failed to disclose that it consisted of hearsay and further failed to state the sources of the hearsay statements. In enacting the provisions of Vehicle and Traffic Law § 1194(3), the Legislature was continuing the fundamental policy of having the adequacy of applications for search warrants, and orders affecting unarrested suspects passed upon by a neutral, detached Judge. An essential element in each of these procedures is that a Judge, rather than a prosecutor or a police officer, decides whether or not the documents submitted are sufficient to support the requested relief. By failing to set forth the sources of his hearsay information, Assistant District Attorney Grennan deprived the County Court of the opportunity to make the determinations required under the statute.<sup>12</sup>

In *People v. Isaac*,<sup>13</sup> an automobile driven by defendant collided with another automobile while being pursued by Syracuse police officers. The driver of the other automobile was killed. Following his arrest, the defendant refused to submit to a blood test. Thereafter, an oral application was made by telephone to an Onondaga County Court Judge for an order compelling defendant to submit to a blood test (see, Vehicle and Traffic Law § 1194[3]). The Judge granted the application and the blood test was administered. The test results indicated the presence of marihuana and cocaine.

At the time of the application, the officer advised the issuing Judge that "[t]he reasons ... for his belief that defendant was operating the automobile in violation of Vehicle and Traffic Law § 1192 (4) were 'the manner in which [defendant] operated the vehicle, his general demeanor after the crash and the statements of witnesses who saw defendant smoking marihuana shortly before the crash at the apartment [of another individual].'"

Finding the application to be insufficient, the Fourth Department observed:

The officer failed, however, to specify whether he personally observed defendant's 'general demeanor' and what that demeanor was, and also failed to identify the sources of the hearsay statements. Those failures rendered the application defective (see, *People v. Whelan*, 165 A.D.2d 313, 321 to 322, 567 N.Y.S.2d 817 (2d Dep't 1991)).

Irrespective of the fact that the County Court refused to suppress, the Court nonetheless affirmed:

[T]he error [was] harmless, as the proof of defendant's impairment is overwhelming and there is no significant probability that the error infected the verdict.<sup>14</sup> In addition to the evidence of the manner in which defendant's automobile was operated, defendant's brother, a passenger in the automobile,

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<sup>12</sup>*People v. Whelan*, 165 A.D.2d 313, 321 to 322, 567 N.Y.S.2d 817 (2d Dep't 1991) [internal citations omitted].

<sup>13</sup>*People v. Isaac*, 224 A.D.2d 993, 637 N.Y.S.2d 827 (4th Dep't 1996).

<sup>14</sup>Internal citations omitted.

testified that defendant had smoked three or four marihuana cigarettes one hour before the accident, the other passenger in the automobile testified that, shortly before the accident, she smelled marihuana coming from a room where defendant, his brother and another individual were, and defendant testified that he had smoked marihuana earlier in the day.

Essential to the mechanics of § 1194(3) is that it is not a test of first choice, for even if the injury and "reasonable cause" or field test requirements have been met, it is still necessary that the motorist is placed under a lawful arrest<sup>15</sup> and either refuse or be unable to give consent to a test offered pursuant to § 1194(2).<sup>16</sup>

In the event that such arrest and refusal has not occurred, the warrant should not be issued.

In *People v. Freeman*,<sup>17</sup> the Fourth Department voided a warrant as a result of double hearsay which was contained therein. In *Freeman*, the Defendant appealed from a judgment convicting him, upon a jury verdict, of Vehicular Manslaughter in the second degree (Penal Law former § 120.03(1), (2)), assault in the second degree (§ 120.05(4)), leaving the scene of a personal injury incident without reporting (Vehicle and Traffic Law § 600(2)) and two counts of Driving While Intoxicated as a misdemeanor (§ 1192(2), (3)). Among other things the defendant appealed the denial of his motion to suppress the results of a compulsory blood test. In *Freeman*, the evidence at the hearing established that the Trooper who applied for a court-ordered blood test relied upon double hearsay, i.e., statements made by civilian witnesses to a fellow Trooper, to support his belief that the accident in question occurred "in the course of" the defendant's operation of a motor vehicle (see Vehicle and Traffic Law § 1194(3)(b)(1)). In setting aside the determination of the trial court (Reed, J), the Fourth Department, with citation to *Whelan*, observed:

[a]lthough an application for a court-ordered blood test may contain hearsay and double hearsay statements that satisfy the Aguilar-Spinelli test, the application must disclose that it is supported by hearsay and identify the source or sources of the hearsay (see *People v. Whelan*, 165 A.D.2d 313, 321–322, 567 N.Y.S.2d 817, lv. denied 78 N.Y.2d 927, 573 N.Y.S.2d 480, 577 N.E.2d 1072; see also *People v. Isaac*, 224 A.D.2d 993, 994, 637 N.Y.S.2d 827, lv. denied 88 N.Y.2d 937, 647

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<sup>15</sup>See generally, *People v. Alejandro*, 70 N.Y.2d 133, 517 N.Y.S.2d 927, 511 N.E.2d 71 (1987).

<sup>16</sup>Vehicle and Traffic Law § 1194(3)(b)(4), in light of *People v. Kates*, 53 N.Y.2d 591, 444 N.Y.S.2d 446, 428 N.E.2d 852 (1981), is surplusage. Under *Kates*, the consent of an unconscious individual is presumed. Problems are envisioned, however, when § 1194(3) is used to authorize a test beyond the two hour limitation created by § 1194(2)(1) upon an unconscious individual. Such a situation creates an unduly broad field of choices for the authorities and in such a situation should be rejected.

<sup>17</sup>*People v. Freeman*, 46 A.D.3d 1375, 848 N.Y.S.2d 800 (4th Dep't 2007), leave to appeal denied, 10 N.Y.3d 840, 859 N.Y.S.2d 399, 889 N.E.2d 86 (2008).

N.Y.S.2d 170, 670 N.E.2d 454). Here, the application did not disclose that any of its information was based upon statements from civilian witnesses, nor did the application set forth that the Trooper had an independent basis for a finding of reasonable cause to believe that the accident occurred in the course of the operation by defendant of his vehicle (see Whelan, 165 A.D.2d at 322, 567 N.Y.S.2d 817). We thus conclude that the application and the ensuing order for a compulsory blood test were defective and that the evidence obtained therefrom should have been suppressed (see Whelan, 165 A.D.2d at 322, 567 N.Y.S.2d 817). Because a conviction of driving while intoxicated per se must be proved by chemical analysis (see Vehicle and Traffic Law § 1192(2)), we further modify the judgment by reversing that part convicting defendant of driving while intoxicated under count four of the indictment and dismissing that count of the indictment.

### **§ 11:62. Procedural requirements**

Vehicle and Traffic Law § 1194(3) creates a procedure which is both unique and somewhat at odds with established methods.

Upon initiating a connection and having been informed of the purpose of the communication, the court shall place the applicant, and any other individual with knowledge, under oath. At this point, the court also incurs the simultaneous obligation of either activating recording apparatus, causing transcription by means of verbatim stenographic notes, or commencing to take verbatim longhand notes. The applicant, either a police officer or district attorney, must then inform the court that the person from whom the sample is sought was the operator of a motor vehicle and that "in the course of such operation" a person, other than the operator, was killed or seriously injured and that based upon the totality of circumstances, there is "reasonable cause" to believe that such person was operating a motor vehicle in violation of any subdivision of Vehicle and Traffic Law section eleven hundred ninety-two. The applicant must further set forth that after being placed under arrest the operator refused to submit to a chemical test or any portion thereof, or was unconscious or otherwise incapable of consent.

In the absence of an amendment tracking the provisions of Criminal Procedure Law § 690.40, preparation as well as determination of the application would best take place with an eye toward implementation of the "reasonable cause" standard as found and employed throughout the Criminal Procedure Law.

In the event the Court determines that issuance of the warrant is appropriate, it shall so instruct the applicant who then incurs the statutory duty of preparing the warrant which shall include the name of the issuing judge or justice, the name of the applicant, as well as the date and time it was issued. A signature is required; however, it need only be that of the applicant if the warrant is not issued upon a personal appearance.

### **§ 11:63. Warrant preparation**

Of some debate is whether or not the warrant must be prepared at the time it is issued. Crucially

lacking from Vehicle and Traffic Law § 1194(3) is a legislative declaration that the warrant be read verbatim to the judge such as required under Criminal Procedure Law § 690.40(3). The absence of such a directive compels the conclusion that immediate preparation is not required. While the issuance of a warrant under Criminal Procedure Law Article 690 is an exceedingly complex affair requiring description of persons, places, times and the particular items to be seized, a blood seizure order encounters no such problems. Essentially a yes or no affair, the scope of the search is implied by operation of law. Literally all that is needed is a document memorializing the judicial authority, a function which need not be fulfilled to insure compliance with the judicial mandate.

In *People v Scalzo*,<sup>1</sup> the defendant contended that the results of a compulsory blood alcohol test should be suppressed as a result of the failure of the authorities to make a blood seizure order available to the defendant or the personnel performing the chemical test. Rejecting this argument, the court found "great significance" in the fact that Vehicle and Traffic Law § 1194-a, the predecessor to present § 1194(3) does not require such a presentation. Noting that the Vehicle and Traffic provision is in clear contrast to Criminal Procedure Law § 690.50(1) which requires that in certain situations a copy of the warrant be displayed, the Court felt this omission was not without consequence:

That provision of CPL § 690.50 is a logical requirement in view of the fact that such search warrant is limited in scope as to where and to what the issuing Judge has ordered and can be for a number of different places (e.g., house, garage, room, apartment, etc.) and for a number of different items (e.g., narcotics, stolen property, forged instruments, weapons, etc.). However, under § 1194-a of the Vehicle and Traffic Law, the court order issued thereunder is for one purpose only, the taking of blood. In the opinion of this court, § 1194-a of the Vehicle and Traffic Law was enacted to ensure speed in a situation where time is of the utmost essence and to promptly take blood before the alcohol level has deteriorated and the crucial evidence is lost.<sup>2</sup>

In affirming this aspect of the lower court's order, the Second Department found no merit to the defendant's contention inasmuch as "[t]he controlling provision of the statute, Vehicle and Traffic Law § 1194-a [now Vehicle and Traffic Law § 1194(3)], does not contain any such requirement."

Reaching a contrary conclusion, *People v Walsh*<sup>3</sup> determined that the mandate of the statute for preparation and signature clearly indicated a legislative intent which could not be ignored:

The statutory language clearly contemplates a written order prepared by the

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<sup>1</sup>*People v. Scalzo*, 139 Misc. 2d 539, 529 N.Y.S.2d 236 (County Ct. 1988).

<sup>2</sup>*People v. Scalzo*, 139 Misc. 2d 539, 548, 529 N.Y.S.2d 236 (County Ct. 1988).

<sup>3</sup>*People v. Walsh*, 137 Misc. 2d 1073, 523 N.Y.S.2d 752 (County Ct. 1988).

applicant on the other end of the phone line and signed by the applicant at that time because obviously the Judge is not present to do it in person. The Legislature must have felt that the taking of blood from a person without consent was of sufficient importance to require written documentation.<sup>4</sup>

Likewise, in *People v White*,<sup>5</sup> a three-way conversation involving the officer, the assistant district attorney, and the judge, was established and stenographically recorded. Although the transcript of the conversation was subscribed and filed, at no point was a written warrant prepared and filed as otherwise required. Citing *People v Crandall*<sup>6</sup> for the proposition that present Vehicle and Traffic Law § 1194(3), like its Criminal Procedure Law counterpart,<sup>7</sup> "were intended only to authorize oral applications, not verbal search warrants," the court felt that such an interpretation was mandated by "a long, unbroken common-law tradition that a judicial fiat must be in writing before it can impinge upon important rights."<sup>8</sup>

Finding that in either enactment the Legislature had not intended to "take that drastic step," the court refused to do so under the auspices of substantial compliance.<sup>9</sup>

Often cited is *People v Armstrong*,<sup>10</sup> in which the Jefferson County Court similarly suppressed upon the failure of the authorities to promptly prepare a warrant:

It is incumbent upon the People to show that the order authorizing the chemical test was available to both the defendant and the personnel performing the chemical test. Such action is dictated by the procedure provided in Vehicle and Traffic Law § 1194-a. The section specifically provides that the order be prepared in accordance with the instructions of the Judge and, if issued orally, "must be signed ... by the applicant" [Vehicle and Traffic Law § 1194-a (3)(d)]. The only possible rationale for this provision is to make available to the defendant, and to the medical personnel, executed and timely authority to compel the chemical test. Anything short of actual delivery of the order would place total reliance upon the

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<sup>4</sup>*People v. Walsh*, 137 Misc. 2d 1073, 1075, 523 N.Y.S.2d 752 (County Ct. 1988).

<sup>5</sup>*People v. White*, 133 Misc. 2d 386, 506 N.Y.S.2d 815 (Sup 1986).

<sup>6</sup>*People v. Crandall*, 108 A.D.2d 413, 489 N.Y.S.2d 614 (3d Dep't 1985).

<sup>7</sup>CPL §§ 690.36 et seq.

<sup>8</sup>*People v. White*, 133 Misc. 2d 386, 391, 506 N.Y.S.2d 815 (Sup 1986) (citing *People v. Crandall*, 108 A.D.2d 413, 418, 489 N.Y.S.2d 614 (3d Dep't 1985)).

<sup>9</sup>*People v. White*, 133 Misc. 2d 386, 506 N.Y.S.2d 815 (Sup 1986).

<sup>10</sup>*People v. Armstrong*, 134 Misc. 2d 800, 512 N.Y.S.2d 323 (County Ct. 1987).

applicant's oral representation that such an order exists.<sup>11</sup>

The problem with *Armstrong* is that it chooses to view the issuance of a blood seizure order in a vacuum. Surely the issuing magistrate will have made a contemporaneous record of the transaction, and indeed transcription or verbatim recording are required. Such notes and recording will set forth the time the application was made as well as the time the application was granted. At the other end, the hospital records will clearly denote the time of the procedure and the individual who withdrew the blood. Recognizing these realities, it seems hard indeed to imagine a scenario where an order postdates acquisition of the sample.

While *Armstrong* is also concerned that administration in the absence of an order "opens the door to possible misrepresentation and potential liability,"<sup>12</sup> such a fear plainly ignores the fact that under *Kates* and § 1194(2) such tests are a daily occurrence.

Perhaps the greatest weakness of those cases holding that a warrant must be presented is that nowhere in the statute is there created such a requirement. Indeed in *People v Whelan*,<sup>13</sup> the Second Department, in so holding, rejected *Armstrong* in favor of *Scalzo* and refused to suppress as a result of the failure to present a written warrant:

We find the reasoning of *People v Scalzo*, which rejected the argument advanced by the defendant herein, far more persuasive than that in *People v Armstrong* and hold that there was no requirement in this case to show the court order to the defendant or medical personnel before blood was extracted.<sup>14</sup>

#### **§ 11:64. Applicability of two hour requirement**

Unlike Vehicle and Traffic Law § 1194(2)(a)(2), Vehicle and Traffic Law § 1194(3) fails to contain any requirement that the test be administered within a two hour period. This lack of any temporal requirement in the statute has proven dispositive in resolving potential two hour challenges.

In *People v McGrath*,<sup>1</sup> the defendant was involved in a motor vehicle accident which occurred at approximately 7:00 p.m. Several people were seriously injured and the defendant was arrested at a hospital at approximately 8:15 p.m. where he was asked to consent to a blood test to determine his blood alcohol level. Following the defendant's refusal, the arresting officer began to telephone

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<sup>11</sup>*People v. Armstrong*, 134 Misc. 2d 800, 803–804, 512 N.Y.S.2d 323 (County Ct. 1987).

<sup>12</sup>*People v. Armstrong*, 134 Misc. 2d 800, 804, 512 N.Y.S.2d 323 (County Ct. 1987).

<sup>13</sup>*People v. Whelan*, 165 A.D.2d 313, 567 N.Y.S.2d 817 (2d Dep't 1991).

<sup>14</sup>*People v. Whelan*, 165 A.D.2d 313, 324, 567 N.Y.S.2d 817 (2d Dep't 1991).

<sup>1</sup>*People v. McGrath*, 135 A.D.2d 60, 524 N.Y.S.2d 214 (2d Dep't 1988).

various Judges in order to obtain a court order for a blood test pursuant to present Vehicle and Traffic Law § 1194(3). At 10:20 p.m. an application for a compulsory chemical test was granted and at 10:35 p.m. a test was performed which indicated a blood alcohol level of.23 of 1%.

Upon the defendant's motion to dismiss that count of the indictment based on the results of the blood test, the County Court found the test to be inadmissible inasmuch as it was taken more than two hours after arrest. The Appellate Division thereafter reversed, holding:

Nothing in the unambiguous language of [present § 1194(3) indicates that the Legislature intended to impose a specific time limitation on the performance of court-ordered chemical tests. The omission of such a restriction reflects a rational legislative determination that it was unnecessary. It is reasonable to assume that the intervention of an impartial Magistrate in the issuance of an order for a chemical test insures that the test will not be administered at a time so remote that the results are irrelevant to the central question of the driver's blood alcohol count at the time of the automobile accident.<sup>2</sup>

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The elapsed time between the incident and the request for a court order is one of the circumstances which a court must consider before issuing an order. ... A claim that delay in the administering of the test following the issuance of the court order negates the finding of reasonable cause is ... reviewable. The omission of a specific time limitation for performance of court-ordered chemical tests also reflects a reasonable legislative concern with the practicality of applying the statute. The absence of an absolute time limit permits the flexibility which is sometimes necessary to obtain a court order during hours when court is not in session.<sup>3</sup>

On Appeal, the Court of Appeals affirmed upon the decision of the Appellate Division.

While only dicta, in *People v Atkins*,<sup>4</sup> the Court reaffirmed the stance taken in *McGrath* by noting the absence of any requirement in the statute:

Defendant's contention that the two hour limitation in section 1194(2)(a) was intended by the Legislature to be a absolute rule of relevance, proscribing admission of the results of any chemical test administered after that period regardless of the nature of the driver's consent, is unpersuasive. This argument is completely undermined by the lack of a corresponding time limit for

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<sup>2</sup>*People v. McGrath*, 135 A.D.2d 60, 62, 524 N.Y.S.2d 214 (2d Dep't 1988).

<sup>3</sup>*People v. McGrath*, 135 A.D.2d 60, 63, 524 N.Y.S.2d 214 (2d Dep't 1988).

<sup>4</sup>*People v. Atkins*, 85 N.Y.2d 1007, 630 N.Y.S.2d 965, 654 N.E.2d 1213 (1995).



court-ordered chemical testing under section 1194(3).<sup>5</sup>

### **§ 11:65. Application transcription**

Pursuant to Vehicle and Traffic Law § 1194(3)(d)(3), upon being advised that an application for a blood seizure order is being made, the obligation arises to immediately commence the recording of the oaths and all subsequent communications. This recordation may take the form of an audio recording, a verbatim stenographic record or verbatim long hand notes. In the event that the first two are employed, the issuing judge has the obligation to have the record transcribed, certify to the accuracy of the transcription, and file the original record and transcription with the court within seventy-two hours of the issuance of the order. In the event that the proceeding is transcribed in longhand, the judge shall subscribe a copy and file it with the court within twenty-four hours of the issuance of the order.

As used in § 1194(3)(d)(3), interposition of the terms "judge" and "court" is not without significance since, in all likelihood, the issuing judge will not preside upon a trial of the matter, and indeed the charges may not even be filed in his or her court. Filing, therefore, means that the transcript shall, within seventy-two hours, be filed with the clerk of the court in which he or she presides.

While § 1194(3)(d)(3) places the duty of transcribing and filing the record of the proceedings upon the shoulders of the issuing judge. Unlitigated is whether the applicant or the District Attorney's office may undertake transcription and filing. In reality, what will undoubtedly occur is that the applicant, upon the order of the court, will have the tape or stenographic record transcribed, after which the transcription will be presented to the judge for his or her certification and filing.<sup>1</sup>

While in the larger counties such a seemingly simple task may require herculean effort, elsewhere, the exercise of due diligence should suffice to enable statutory compliance. Difficulties can enure, however, in those instances where the transcript is either lost, inaudible, or not timely filed.

In *People v Whelan*,<sup>2</sup> a seizure order was issued at 10:58 A.M. on March 12, 1988. The transcript was certified by the issuing judge and filed with the court at 1:29 P.M. on March 15, 1988, or seventy-four hours and thirty-one minutes after the issuance of the order. In finding that

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<sup>5</sup>Atkins at 966 [internal citation omitted].

<sup>1</sup>While not provided, a reasonable interpretation of the certification process would be to have the applicant present both the tape and the transcript for the judge's comparison and ultimate certification. Although this comparison will be lacking in those instances when the proceedings are taken down stenographically, it must be remembered that the shorthand reporter certifies that he or she has compared the notes and transcription and that they are correct.

<sup>2</sup>*People v. Whelan*, 165 A.D.2d 313, 567 N.Y.S.2d 817 (2d Dep't 1991).

sufficient compliance was had, the Second Department held:

It is obvious that the legislative intent underlying the foregoing statutory provision is twofold: (1) to ensure that the sworn testimony of the applicant and any supporting witnesses is recorded, thereby assuring the regularity of the application process, and (2) to preserve the application for appellate review. It is equally obvious that both of these purposes have been fulfilled in this case, so that substantial rather than literal compliance with the statutory standards herein is sufficient.<sup>3</sup>

A slightly different problem was presented by *People v Scalzo*.<sup>4</sup> In *Scalzo*, portions of the application were incapable of transcription due to the inaudibility of certain segments of the tape. Noting that no audibility hearing was held, the Court nonetheless found that "those portions of the recording believed to be inaudible [did] not constitute a material defect [and did] not in any way demonstrate prejudice to the defendant, or lead to a conclusion that his constitutional rights were violated."<sup>5</sup>

Presenting a more troublesome situation, in *People v Stratis*,<sup>6</sup> a seizure order was authorized by the judge at 6:25 A.M. on February 13th. At approximately 3:00 P.M. the applicant assistant district attorney learned that the voices of the officer and judge were largely unintelligible. He thereupon prepared typewritten affirmations for himself, the judge, and the officer, which ostensibly set forth the substance of the telephone conversation. At 3:00 A.M. on February 14th, the assistant district attorney presented the typewritten affidavits as well as a handwritten affidavit and order from which the officer had earlier read to the judge for his signature and certification. These documents were thereafter filed with the court.

Moving to suppress, the defendant alleged that the contents of the affidavits which were ultimately filed did not meet the transcription and filing requirements of the statute. Finding that "the problem of inaudibility was the result of an inadvertent mechanical breakdown," the court noted that the defendant "established no real prejudice based on the lack of a transcription." While the typewritten affidavit which the district attorney prepared for the officer's signature failed to contain a reference to reading the warrant found in the handwritten version, the court held that the fact that such an order was prepared and read obviated the need for reference in the earlier affidavit.

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<sup>3</sup>*People v. Whelan*, 165 A.D.2d 313, 323, 567 N.Y.S.2d 817 (2d Dep't 1991) [internal citations omitted].

<sup>4</sup>*People v. Scalzo*, 139 Misc. 2d 539, 529 N.Y.S.2d 236 (County Ct. 1988).

<sup>5</sup>*People v. Scalzo*, 139 Misc. 2d 539, 545, 529 N.Y.S.2d 236 (County Ct. 1988).

<sup>6</sup>*People v. Stratis*, 137 Misc. 2d 661, 520 N.Y.S.2d 904 (Sup 1987), judgment aff'd, 148 A.D.2d 557, 540 N.Y.S.2d 186 (2d Dep't 1989) .

## **§ 11:66. Requirement of an oath**

While initially strict adherence to the requirement set forth in § 1194(3)(d)(2) may seem trivial, it must be remembered that non-compliance with this section cuts to the quick of the command found in both Federal and State Constitutions that "no warrants shall issue, but upon probable cause, supported by oath or affirmation ... ."<sup>1</sup>

*People v Walsh*,<sup>2</sup> while suppressing primarily upon the fact that the application was largely hearsay, nonetheless took note of the fact that the applicant had not been placed under oath.<sup>3</sup> Likewise, in *People v Dunn*,<sup>4</sup> an application that contained no proof that it had been sworn was rejected as the basis for the issuance of a blood seizure order.

Perhaps coming as close as should be constitutionally permitted, *People v Rollins*<sup>5</sup> found a blood seizure order properly given upon the transcript of the application which showed that the trooper began his request by stating "being duly sworn," notwithstanding that the trooper was not sworn prior to the making of an application.

## **§ 11:72. Seizure of hospital blood**

Seizure of hospital blood, that is blood drawn by medical personnel for diagnostic purposes highlights a conflict between CPLR § 4504 and Vehicle and Traffic Law § 1194(3). The first governs venerable New York's physician patient privilege and the second controls those situations when the state attempts to compel the production of a blood sample by the defendant. In the usual situation, a conflict between the two will arise when the District Attorney, for one reason or another, fails to secure a timely post arrest warrant for acquisition of the sample and instead seeks to obtain this valuable evidence through the auspices of a warrant served upon a hospital where the defendant is treated seeking any sample the institution may have drawn for treatment purposes.

CPLR § 4504 provides as follows:

(a) Confidential information privileged. Unless the patient waives the privilege, a person authorized to practice medicine, registered professional nursing, licensed practical nursing, dentistry, podiatry or chiropractic shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which

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<sup>1</sup>U.S. Const. Amend. IV; N.Y. Const. Art. I, § 12.

<sup>2</sup>*People v. Walsh*, 137 Misc. 2d 1073, 523 N.Y.S.2d 752 (County Ct. 1988).

<sup>3</sup>*People v. Walsh*, 137 Misc. 2d 1073, 523 N.Y.S.2d 752 (County Ct. 1988).

<sup>4</sup>*People v. Dunn*, 117 A.D.2d 863, 498 N.Y.S.2d 577 (3d Dep't 1986).

<sup>5</sup>*People v. Rollins*, 118 A.D.2d 949, 499 N.Y.S.2d 817 (3d Dep't 1986).

was necessary to enable him to act in that capacity. The relationship of a physician and patient shall exist between a medical corporation, as defined in article forty-four of the public health law, a professional service corporation organized under article fifteen of the business corporation law to practice medicine, a university faculty practice corporation organized under section fourteen hundred twelve of the not-for-profit corporation law to practice medicine or dentistry, and the patients to whom they respectively render professional medical services.

A patient who, for the purpose of obtaining insurance benefits, authorizes the disclosure of any such privileged communication to any person shall not be deemed to have waived the privilege created by this subdivision. For purposes of this subdivision:

1. "person" shall mean any individual, insurer or agent thereof, peer review committee, public or private corporation, political subdivision, government agency, department or bureau of the state, municipality, industry, co-partnership, association, firm, trust, estate or any other legal entity whatsoever; and
2. "insurance benefits" shall include payments under a self-insured plan.

Vehicle and Traffic Law § 1194(3) provides, in part:

3. Compulsory chemical tests. (a) Court ordered chemical tests. Notwithstanding the provisions of subdivision two of this section, no person who operates a motor vehicle in this state may refuse to submit to a chemical test of one or more of the following: breath, blood, urine or saliva, for the purpose of determining the alcoholic and/or drug content of the blood when a court order for such chemical test has been issued in accordance with the provisions of this subdivision. (b) When authorized. Upon refusal by any person to submit to a chemical test or any portion thereof as described above, the test shall not be given unless a police officer or a district attorney, as defined in subdivision thirty-two of section 1.20 of the criminal procedure law, requests and obtains a court order to compel a person to submit to a chemical test to determine the alcoholic or drug content of the person's blood upon a finding of reasonable cause to believe that: (1) such person was the operator of a motor vehicle and in the course of such operation a person other than the operator was killed or suffered serious physical injury as defined in section 10.00 of the penal law; and (2) a. either such person operated the vehicle in violation of any subdivision of section eleven hundred ninety-two of this article, or b. a breath test administered by a police officer in accordance with paragraph (b) of subdivision one of this section indicates that alcohol has been consumed by such person; and (3) such person has been placed under lawful arrest; and (4) such person has refused to submit to a chemical test or any portion thereof, requested in accordance with the provisions of paragraph (a) of subdivision two of this section or is unable to give consent to such a test.

Thus the issue is joined. The first provision protects "any information which was acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity," while the second permits acquisition of a sample drawn for forensic purposes

when there has been a serious motor vehicle accident.

In *People v. Drayton*,<sup>1</sup> the defendant appealed from a judgment convicting him upon a jury verdict of, inter alia, two counts of Endangering the Welfare of a Child (Penal Law § 260.10(1)) and one count of Driving While Ability Impaired by Drugs (Vehicle and Traffic Law § 1192(4)). On appeal, the defendant contended that the County Court (Keenan, J.) erred in refusing to suppress his blood sample, which was collected by hospital staff and then obtained by the police in purported violation of the physician-patient privilege (CPLR 4504(a)).

The Fourth Department rejected that contention. Initially, the court observed that the blood sample was obtained pursuant to a search warrant that was supported by probable cause.<sup>2</sup> Further, the court observed that “unlike hospital records and diagnostic test results concerning a defendant's blood content, a blood sample does not constitute information communicated to a physician from a patient to invoke the physician-patient privilege.”<sup>3</sup> Assuming, arguendo, however that the seizure of the blood sample by the police constituted a violation of the physician-patient privilege under CPLR 4504(a), the court nonetheless concluded that the court properly refused to suppress the evidence results. It did so by turning to *People v. Greene*.<sup>4</sup> In *Greene*, the Court of Appeals observed in a similar situation that:

even if there was a violation of the physician-patient privilege, the suppression of the evidence found as a result is not required. The physician-patient privilege is based on statute, not the State or Federal Constitution (*Klein v. Prudential Insurance Company*, 221 N.Y. 449, 117 N.E. 942 [1917]). Our decisions make clear that a violation of a statute does not, without more, justify suppressing the evidence to which that violation leads (*People v. Patterson*, 78 N.Y.2d 711, 716–717, 579 N.Y.S.2d 617, 587 N.E.2d 255 [1991]).

Accordingly, the conviction was affirmed.

Without citation to *Drayton*, in *People v. Elysee*,<sup>5</sup> the Court of Appeals agreed. To be sure,

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<sup>1</sup>*People v. Drayton*, 56 A.D.3d 1278, 867 N.Y.S.2d 825 (4th Dep't 2008), leave to appeal granted, 12 N.Y.3d 783, 879 N.Y.S.2d 59, 906 N.E.2d 1093 (2009).

<sup>2</sup>See, *People v. Casadei*, 66 N.Y.2d 846, 848, 498 N.Y.S.2d 357, 489 N.E.2d 244 (1985); see, generally *Matter of Abe A.*, 56 N.Y.2d 288, 291, 452 N.Y.S.2d 6, 437 N.E.2d 265 (1982).

<sup>3</sup>See, generally, *People v. Elysee*, 49 A.D.3d 33, 38, 847 N.Y.S.2d 654 (2d Dep't 2007), leave to appeal granted, 10 N.Y.3d 840, 859 N.Y.S.2d 398, 889 N.E.2d 85 (2008) and *aff'd*, 12 N.Y.3d 100, 876 N.Y.S.2d 677, 904 N.E.2d 813 (2009); *Dillenbeck v. Hess*, 73 N.Y.2d 278, 289, 539 N.Y.S.2d 707, 536 N.E.2d 1126 (1989).

<sup>4</sup>9 N.Y.3d 277, 280, 849 N.Y.S.2d 461, 879 N.E.2d 1280 (2007).

<sup>5</sup>12 N.Y.3d 100, 876 N.Y.S.2d 677, 904 N.E.2d 813 (2009).

neither Drayton nor of course Elysee represent the first word on this issue. To one degree or another, this question has been kicking around, both as to permissibility and method, for some time. Accordingly, Elysee is helpful in that it provides definitive resolution on several key issues surrounding this type of seizure.

The facts of Elysee are fairly straight forward. On the morning of December 25, 2003, the defendant was involved in a four-vehicle car accident in Brooklyn, New York. As a result, a passenger in a pick-up truck was killed and several other people, including the defendant, were injured. At approximately 5:30 a.m., the defendant was taken to Kings County Hospital where, upon his arrival and in accordance with the hospital's routine practice for treating trauma victims, blood samples were drawn solely for treatment purposes.<sup>4</sup> Thereafter, and pursuant to a Supreme Court Order issued at approximately 1:50 p.m. that day, the defendant was compelled to submit to a chemical test of the alcohol or drug content of his blood (see, Vehicle and Traffic Law § 1194(3); CPL §§ 690.35, 690.36). To effect this order, a registered nurse, in the presence of a New York City Police Officer, drew a second set of blood samples at approximately 2:50 p.m.<sup>5</sup> (see, Vehicle and Traffic Law § 1194(4)(a)). On December 26, 2003, the 2:50 p.m. samples were forwarded by the New York City Police Department to Dr. Elizabeth Marker, a forensic toxicologist employed by the New York City Office of the Chief Medical Examiner, to perform a court-ordered test in order to determine defendant's blood alcohol level at the time of the accident. On December 29, 2003, a search warrant for the seizure of the 5:30 a.m. samples from the hospital was issued and executed pursuant to CPL § 690.10(4). The New York City Police Department, in turn, submitted the 5:30 a.m. samples to Dr. Marker.

Prior to trial, the defendant brought an omnibus motion to, among other things, controvert the search warrant and suppress the results of the blood alcohol test performed on the 5:30 a.m. samples, arguing that the seizure of his blood, pursuant to CPL § 690.10, violated the physician-patient privilege defined by CPLR 4504.6 The court denied the motion to controvert, finding the facts alleged in the search warrant application were sufficient to establish probable cause to believe that defendant was operating a motor vehicle while under the influence of alcohol. The court also denied that branch of the omnibus motion which sought to suppress the results of the blood alcohol test performed on the 5:30 a.m. samples. The court determined that CPLR 4504 “has no application to vials of blood, which were the objects of the search warrant.”

At defendant's jury trial, Dr. Marker thereafter testified that she tested both the 2:50 p.m. and 5:30 a.m. samples. Regarding the 2:50 p.m. samples, she noted that the results revealed defendant's blood alcohol “concentration [to be] .05 gram percent.” Dr. Marker opined that it is scientifically possible, through reverse extrapolation, to reliably determine what a person's blood alcohol content was at an earlier time based upon a later blood alcohol test when certain assumptions are made; e.g., assuming that the alcohol in defendant's system was fully absorbed at the time of the accident, going back a period of 10 hours from the time the 2:50 p.m. blood samples were taken, defendant's blood alcohol level range at the time of the accident would have been “between .20 [gram] percent and .25 [gram] percent.” Dr. Marker further testified that the 5:30 a.m. samples revealed a blood alcohol concentration of .23 gram percent and .21 gram percent, respectively. She opined that these results were consistent with, and substantiated, the results of the reverse extrapolation analysis of the 2:50 p.m. samples. Reviewing the evidence,

the court was quite correct to opine that, “[p]ut another way, the test of the two separate blood samples reached nearly identical results.”

At the charge conference, both the People and defense asked the court to charge Criminally Negligent Homicide as a lesser included offense of Second Degree Manslaughter. The court refused, concluding that there was no reasonable view of the evidence to support the charge of Criminally Negligent Homicide.

The jury subsequently convicted the defendant of Manslaughter in the Second Degree, Assault in the Second Degree, Assault in the Third Degree, and Driving While Intoxicated. Defendant appealed from Supreme Court's judgment of conviction. The defendant thereafter appealed that portion of his omnibus motion seeking to suppress physical evidence as well as the court's refusal to charge criminally negligent homicide.

The Appellate Division affirmed the judgment, holding that a blood specimen taken from a patient by a medical professional is not “information” protected by the physician-patient privilege as defined in CPLR 4504(a) and, accordingly, is subject to seizure. The Appellate Division also held that “the trial court properly refused to charge the jury with Criminally Negligent Homicide as a lesser included offense of Manslaughter in the Second Degree” because there was no reasonable view of the evidence which would support a finding that the lesser offense but not the greater offense was committed by the defendant. Ultimately, the Court of Appeals granted leave to appeal.

Affirming, the court, per Judge Jones, found that the defendant's motion to suppress the 5:30 a.m. (hospital) samples was properly denied. Interestingly, and unlike prior case law discussing this issue, the court saw no need to consider the applicability of CPLR 4504. The court turned, instead, to New York's statutory implied consent provision, Vehicle and Traffic Law § 1194(2)(a). The section provides:

Any person who operates a motor vehicle in this state shall be deemed to have given consent to a chemical test of one or more of the following: breath, blood, urine, or saliva, for the purpose of determining the alcoholic and/or drug content of the blood provided that such test is administered by or at the direction of a police officer with respect to a chemical test of breath, urine or saliva or, with respect to a chemical test of blood, at the direction of a police officer:

- (1) having reasonable grounds to believe such person to have been operating in violation of any subdivision of section eleven hundred ninety-two of this article and within two hours after such person has been placed under arrest for any such violation; or having reasonable grounds to believe such person to have been operating in violation of section eleven hundred ninety-two-a of this article and within two hours after the stop of such person for any such violation,
- (2) within two hours after a breath test, as provided in paragraph (b) of subdivision one of this section, indicates that alcohol has been consumed by such person and

in accordance with the rules and regulations established by the police force of which the officer is a member;

Given this section, the court found:

it is illogical to conclude that a blood sample taken at 5:30 a.m. cannot be seized pursuant to a properly issued court order, merely because the order issued after the blood was actually drawn by an authorized person. Furthermore, inasmuch as the [Vehicle and Traffic Law] authorizes a chemical test under the circumstances of this case, and a court order issued compelling “that the defendant shall submit to a chemical test of the alcohol or drug content of his blood,” the seizure of the earlier blood sample was in accord with the statute.