

A SURVEY OF THE ADMISSIBILITY OF BLOOD TEST RESULTS IN PATERNITY ACTIONS IN THE FIFTY STATES AND THE DISTRICT OF COLUMBIA

INTRODUCTION

Many parties are interested in paternity proceedings. The mothers of illegitimate children, the children themselves, the alleged fathers, and welfare officials all have a particular concern with the results of a paternity determination since the results will govern who supports a child until he reaches the age of eighteen. Although the birth rate in the United States, on the whole, has declined ever since the American Revolution,¹ the percentage of illegitimate births in the United States has consistently risen.² In many urban areas the illegitimacy rate is forty percent and in some areas exceeds fifty percent.³ The increasing number of illegitimate births places a growing financial burden on states and the federal government through Aid for Dependent Children programs.⁴

Despite the large number of illegitimate births in the United States, only a few illegitimate children actually establish legal relationships with their fathers. This is primarily due to defective and antiquated procedures for determining paternity.⁵ Paternity is often difficult to establish in a court of law. While certain scientific procedures such as

1. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, HISTORICAL STATISTICS OF THE UNITED STATES, COLONIAL TIMES TO 1970 at 49 (bicentennial ed. 1975). There was a temporary increase in the birth rate during the years 1941-1957.
2. In 1977 there were 515,700 children born to unmarried women in the United States, 15.5% of all live births. In 1978 the illegitimate birth rate was 16.3%, compared to the 1950 figure of 3.9%. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES 66 (100th ed. 1979) [hereinafter cited as STATISTICAL ABSTRACT]; Telephone interview with the Federal Information Center, Indianapolis, Indiana (Feb. 23, 1981). The Federal Information Center obtained the figure from the Statistical Office, Natality Branch, of the National Center for Health Statistics.
3. *Joint AMA-ABA Guidelines: Present Status of Serologic Testing in Problems of Disputed Parentage*, 10 FAM. L.Q. 247, 249 (1976) [hereinafter cited as *Guidelines*].
4. In 1960, 803,000 families received support totalling \$1,001,000,000 through the Aid to Families with Dependent Children Program (ADC). In 1978, 3,481,000 families received aid through ADC in an amount totalling \$10,729,000,000. STATISTICAL ABSTRACT, *supra* note 2, at 352.

In 1975 Congress recognized the need for better efforts to identify the fathers of illegitimate children by passing the Social Services Amendments of 1974, Pub. L. No. 93-647, 88 Stat. 2351 (codified at 42 U.S.C. §§ 651-660 (1976)) which required each state to develop a plan in accordance with Department of Health, Education, and Welfare standards for establishing paternity. The law provided federal funds to help states identify fathers, locate absent parents, and obtain child support. 42 U.S.C. § 651. It also called for the states to enforce child support rulings or agreements. However, the applicability of the federal program is not limited to welfare recipients and extends to all disputed paternity cases. 42 U.S.C. § 654.

5. *Guidelines*, *supra* note 3, at 250.

blood tests may conclusively establish that a particular man is not the father of a child, no test can establish with one hundred percent accuracy that he is the father. In addition, some states prohibit the admission of blood test results into evidence unless the results exclude the man from paternity. The result is that a judicial proceeding must focus on the frequently unsubstantiated testimony of the mother that a certain man is the father of her child. Her testimony is rebutted only by the defendant's assertion that he is not the father or is only one of several possible fathers of her child.⁶

One authority describes the paternity action as "a painful and often sordid forensic proceeding where the truth, concealed by accusation and counter-accusation, cannot easily be determined by a judge and jury compelled by the drama and by human nature to use subjective criteria."⁷ As a result, the paternity determination is often based on factually dubious evidence. Any procedure that places a paternity determination on a more substantial foundation than the acceptance of one person's word against another's would be welcomed by the legal community.

This note will describe the blood tests now in use in paternity actions and review the admissibility of blood test results in the states. It will present recommendations for those states in which statutes regulating the admission of blood test results in paternity actions act as roadblocks to the efficient determination of paternity.

BLOOD TESTS AND WHAT THEY CAN PROVE

The most frequently used scientific tests in paternity determinations are blood tests. These tests range from the traditional ABO classifications, with which almost everyone is familiar, to the more sophisticated Human Leukocyte Antigen (HLA) tests developed in recent years. In order to understand the various blood tests used in paternity proceedings, a general understanding of the genetic information that can be determined by these tests is necessary.

Description of the Serological Tests Used in Paternity Actions

A child inherits genetic characteristics from each natural parent. Each parent transmits to the child twenty-three chromosomes, one-half of his total of forty-six chromosomes.⁸ Attached to each chromosome are numerous genes governing human traits. Both the chromosomes

6. H. KRAUSE, *ILLEGITIMACY: LAW AND SOCIAL POLICY* 121 (1971). The defense that the mother had sexual relations at the time of conception with men other than the putative father is known as *exceptio plurium concubentium*.

7. Beautyman, *Paternity Actions—A Matter of Opinion or a Trial of the Blood?*, 4 J. LEGAL MED. 17 (1976).

8. Each human being has 46 chromosomes. W. JOHNSON, R. LAUBENGAYER & L. DELANNEY, *GENERAL BIOLOGY* 521 (rev. ed. 1961).

and the attached genes are "paired" in the fertilized egg, representing the contributions by both the mother and the father. Every pair has a specific function; for example, one pair of chromosomes carries the genes that determine the sex of the individual. The genes on that pair of chromosomes are labelled "x-linked."⁹ Genes on the other twenty-two pairs of chromosomes are called autosomal genes and control other characteristics of an individual.¹⁰ These basic laws of genetics are the foundation of paternity testing. If the tests show that the child exhibits evidence of a gene not present in the chromosomes of either alleged parent, the reported parentage is incorrect.¹¹ The test, then, will result in the alleged father being excluded from consideration as the actual father of the child.

"Genetic markers" are the identification points by which the technician determines whether there is a relationship among blood samples that the technician is testing.¹² The components of blood are red and white blood cells, platelets, and liquid plasma. Each of these components contains a number of genetic markers. There are more than 310 genetic markers for red blood cells, and almost 100 such markers for plasma protein. Researchers have established approximately fifty markers, known as HLA isoantigens, for white blood cells.¹³

Theoretically, genetic markers are as unique as a person's fingerprints.¹⁴ They are valuable in paternity determinations because certain rules of inheritance can be applied to them: (1) a child cannot inherit a genetic marker that is absent in both parents; (2) a child must inherit one pair of genetic markers from each parent; (3) unless both parents have the marker (a), a child cannot have a pair of identical genetic markers (aa); (4) similarly, if a marker is present as an identical pair in one parent (aa), a child must have the genetic marker (a).¹⁵

The HLA Test

Traditionally, there were six blood test systems used in paternity determinations, and they involved the red cell systems.¹⁶ Unfortunately, the specificity of these six standard blood typing systems gives a

9. *Id.* at 536.

10. *Id.* at 533.

11. Kimberling, *Paternity Testing: The Genetic Facts of Life*, 2 FAM. ADVOCATE 16, 17 (1979). For more detailed descriptions of the genetics of serologic tests, see Lee, *Current Status of Paternity Testing*, 9 FAM. L.Q. 615 (1975) [hereinafter cited as Lee]; Comment, *The Use of Blood Tests in Actions to Determine Paternity*, 16 WAKE FOREST L. REV. 591 (1980) [hereinafter cited as Comment].

12. Genetic markers are personal characteristics inherited from one's parents that are controlled by genes on a pair of chromosomes. Lee, *supra* note 11, at 616.

13. See Lee, *supra* note 11, at 616.

14. *Id.* at 617.

15. *Id.* at 621.

16. In 1900 Karl Landsteiner discovered the first red blood cell blood systems which he labeled with the gene symbols A, B, and O. Further research by Landsteiner and his associates led to the discovery in 1927 of the M-N system and in 1940 of the Rh-hr system. See Comment, *supra* note 11, at 594. These six systems are the ABO, Rh, MNSs, Kell, Duffy, and Kidd systems.

falsely accused man no more than a sixty-three to seventy-two percent chance of proving his non-paternity. However, a relatively recent and continuing development, the Human Leukocyte Antigen tissue test or HLA, has greatly increased the probability of exclusion in paternity actions.¹⁷

The HLA region is a genetic region on the chromosome. An antigen is a substance which stimulates the production of antibodies in another individual.¹⁸ In the HLA test blood samples are exposed to various reagents, substances which indicate the presence of an antigen. The results of the tests on the mother's, child's, and alleged father's blood samples then are compared to ascertain whether the antigens present in the child's blood are also present in the alleged parents' blood. If specific antigens appear in the blood of both the child and the putative father, a probability of paternity is calculated. The expert compares the frequencies with which paternal indicators occur in the random population to the likelihood that the alleged father carries the true paternal indicator.¹⁹

As of October 1979, about forty antigens of the A and B loci (specific locations on the chromosome) were found to be useful in determining paternity. These antigens identify a large number of haplotypes,²⁰ the most common of which occurs in less than one percent of the population.²¹ Population statistics are used to determine the occurrence of the various genotypes²² in the population at large, and then all possible combinations are considered in the calculation.²³ The greatest advantage of the HLA test is that all the haplotypes are relatively rare; if a child and its alleged father share HLA haplotypes, the

17. See *Guidelines*, *supra* note 3, at 257. The HLA tissue test, which is actually a series of tests, was developed for use in organ transplant cases. The survival of transplanted organs depends to a great extent on the compatibility of the tissues of the donor and recipient of the organ. S. SCHATKIN, *DISPUTED PATERNITY PROCEEDINGS*, § 8.08 (rev. ed. 1979) [hereinafter cited as SCHATKIN]. One beneficial spin-off of the research on the compatibility of transplanted organs is a continuing improvement in the accuracy of paternity determination under HLA.
18. Antigens are produced under genetic control of the genes and can be identified by their genetic expressions or alleles at specific locations on the chromosome. These locations or loci in the HLA region of the chromosome are identified by letter. The most commonly used loci in HLA paternity testing are the A and B loci. Terasaki, *Resolution by HLA Testing of 1000 Paternity Cases Not Excluded by ABO Testing*, 16 J. FAM. L. 543, 545 (1978) [hereinafter cited as Terasaki].
19. Formulas for computing these probabilities have been published. *Id.* at 546. When properly administered and interpreted, the test results are highly reliable. Often the exclusion of a man as the father of a child may be based on the result of more than one test. For example, Schatkin tells of a case, *F.C. v. P.C.*, Family Court, Westchester County, New York, 1978, in which there were four separate indications of non-paternity in the HLA system. "Multiple exclusions are usual when extensive testing is done, and this offsets the fact that no one exclusion is absolutely reliable." SCHATKIN, *supra* note 17, at § 8.13.
20. A haplotype is a combination of one A locus and one B locus allele or genetic expression for an antigen. Terasaki, *supra* note 18, at 545.
21. See SCHATKIN, *supra* note 17, at § 8.08.
22. A genotype is the inheritance pattern among the offspring of a family. Terasaki, *supra* note 18, at 545.
23. The basic statistical formulas used in calculating the probability of paternity are predicated on Bayes' Theorem as applied by Essen-Moller. Terasaki, *supra* note 18, at 544, 549.

probability that the putative father is the actual father is high.²⁴ As Terasaki states, "HLA typing can be considered highly reliable when performed under carefully controlled conditions by laboratories that perform quality control checks"²⁵

The Recommended Guidelines. While the results of blood tests can be highly probative in a paternity action, their evidentiary value is tainted if proper procedures are not used. Lee describes some aspects of the test procedure that could adversely affect the test's reliability or admissibility. Questions regarding the use of suitable instruments, appropriate techniques, experienced technologists and the correct interpretation of the test results could defeat the purpose and reliability of the test. Similarly, the chain of custody of the blood specimens and the identification of the parties from which the specimens were drawn would be crucial. These are strong reasons for requiring both standardized procedures and the accreditation of laboratories for purposes of quality control.²⁶ Indeed, in their Guidelines the American Medical Association Committee on Transfusion and Transplantation, and the American Bar Association Section on Family Law, Committee on Standards for the Judicial Use of Scientific Evidence in the Ascertainment of Paternity,²⁷ suggested that standard procedures be adopted to facilitate the introduction of blood tests in court.²⁸

Statistical Value of the HLA Test. Despite the reliability of the HLA test, no single test will exclude all non-fathers absolutely. Therefore, the Guidelines suggest that seven serologic systems be used in routine investigations.²⁹ When exclusion percentages are computed us-

24. *Twins With Two Different Fathers Identified by HLA*, 299 NEW ENG. J. MED. 590 (1978).

25. Terasaki, *supra* note 18, at 548.

26. Lee, *supra* note 11, at 625-26.

27. See *Guidelines*, *supra* note 3.

28. These suggested procedures include a requirement that the initial request identify the court or other requesting party in the case, the parties to the action and the purpose of the test. The parties should be notified to appear at the laboratory at a designated place, time, and date. The initial request should include the name of the party to whom the test results and expert opinion should be sent. When the parties appear for the test, the laboratory personnel should insist upon proper identification of the parties so that there will be no question of identification in court. The AMA-ABA Guidelines give a suggested procedure.

They also suggest the procedure to be used to identify the specimens. The expert should perform the test in duplicate, using a different source of blood grouping reagents for each test, and the results should be read by two different observers, working independently. The expert should use appropriate forms to record the results, and he or she should send a written report of the results and conclusions to the attorneys representing the parties or to the court, if the court ordered the tests. *Id.* at 280-82.

29. These systems are the ABO, Rh, MNSS, Kell, Duffy, Kidd, and HLA systems. The Committee made this recommendation for the following reasons: (1) it is easy to obtain antisera for the six blood group systems, and the antisera are reliable; (2) "each system provides a reasonably high probability of exclusion in relation to cost"; (3) the six red blood cell systems provide a cumulative probability of exclusion of 63 to 72%, depending on race; (4) the HLA system increases the probability of exclusion to 91 to 93%. The addition of the other available 55 systems increases the probability of exclusion to only 98%. The Committee also allows the use of other systems where the investigator has special expertise. *Guidelines*, *supra* note 3, at 257. Studies involving 2,000 cases at the U.C.L.A. Medical Center showed that if a

ing the seven blood test systems, the percentages are based on the test results alone. The percentages do not take into consideration such facts as the relationship between the mother and the putative father.

When Terasaki compiled statistics on 1,000 disputed paternity cases in which the putative father had not been excluded by the ABO system, he found that one-quarter of the cases were certain exclusions under HLA testing. Of the non-exclusion cases approximately two-thirds had a probability of paternity of more than ninety-five percent, and more than four-fifths of the cases had a greater than ninety percent probability of paternity. As many as one-sixth of the cases tested had probabilities of paternity greater than ninety-nine percent.³⁰ These probabilities were based upon the likelihood of the appearance of those particular haplotypes in the general population.

These statistics show the unique feature of HLA testing. Not only can the test exclude non-fathers, but by using probability tables, it can be used to compute the likelihood that a given man is the father of a particular child. The results of Terasaki's 1,000 disputed cases showed that one-fourth of the 1,000 putative fathers were not the true fathers, slightly less than two-thirds were the fathers with ninety percent or greater probability, and one-tenth could not be resolved by the HLA-A and -B loci tests.³¹

There has been some criticism of the use of HLA tests to show the likelihood of paternity. The criticism is not based upon the test results themselves but upon the use of probability statistics in court.³²

The benefits of the HLA test, particularly when used in conjunction with a stipulation as to admissibility entered into before the tests are administered, are that it (1) reduces paternity litigation to basically an administrative process; (2) gives confidence in the decision in what is otherwise a low credibility situation; and (3) provides a relatively low cost test that limits legal costs to non-fathers, while protecting them from providing eighteen years of support for children that they did not father.³³ When test results are combined with evidence that the puta-

putative father is not excluded by the seven serological tests, his probability of paternity is likely to equal or exceed 90%. Comment, *Paternity Testing with the Human Leukocyte Antigen System: A Medico-legal Breakthrough*, 20 SANTA CLARA L. REV. 511, 523 (1980).

30. Terasaki, *supra* note 18, at 552.

31. *Id.*

32. Ellman & Kaye, *Probabilities and Proof: Can HLA and Blood Group Testing Prove Paternity?*, 54 N.Y.U.L. REV. 1131 (1979) [hereinafter cited as Ellman & Kaye]; Jaffe, *Comment on the Judicial Use of HLA Paternity Test Results and Other Statistical Evidence: A Response to Terasaki*, 17 J. FAM. L. 457 (1979) [hereinafter cited as Jaffe].

33. As an example, since October 1976, the Legal Aid Society of Orange County, California, and the Orange County District Attorney's Office have made use of the HLA test on a routine basis. They sometimes use a stipulation in conjunction with the HLA test where the man admits sexual relations with the mother. Under the stipulation, the test results are admissible at trial. Further, the stipulation provides that (1) if the man is excluded, the district attorney agrees to dismiss the complaint; and (2) if the probability of the man being the father is 90%, the man agrees that he is the father, and judgment is entered accordingly. "The 90 percent level affords clients sufficient protection given the improbability of his having both relations

tive father had access to the mother at the relevant time, it suffices to establish paternity.

STATE STATUTES ON THE ADMISSIBILITY OF BLOOD TEST RESULTS

The laws governing the admissibility of blood test results in paternity actions vary from state to state. The oldest of the present acts was adopted by New Jersey in 1939³⁴ and is the basis for acts adopted by several other states.³⁵ The acts fall into two categories: (1) exclusionary statutes and (2) inclusionary statutes. Exclusionary statutes allow the admission of blood test results only when the test results exclude the alleged father from paternity, while inclusionary statutes allow the admission of test results which go toward positively proving that an accused man is the father of a particular child. Some of the state laws are based upon uniform laws proposed by the National Conference of Commissioners of Uniform Laws.³⁶ Others are drawn up by the individual states themselves. Nine states have no statutes on the topic,³⁷ but some of those states have case law allowing or excluding inclusionary test results.

States have traditionally admitted the results of blood tests in paternity actions only when the results were conclusive to exclude an accused man as the father.³⁸ Statutes in forty-one states and the District of Columbia regulate the admissibility of serologic test results in paternity actions, and seventeen of those states still allow the admission of blood test results only if they disprove paternity.³⁹ Twenty-two states allow the admission of blood test results even if they show a high probability that the defendant is the father of the child,⁴⁰ and three

with the mother and the inherited antigen combination." Lee, *Paternity: An Administrative Approach*, 11 CLEARINGHOUSE REV. 22 (1977).

34. N.J. STAT. ANN. § 2A:83-2 (West 1976).

35. See Appendix.

36. See Appendix.

37. See note 96, *infra*.

38. Comment, *supra* note 11, at 594.

39. ALA. CODE § 26-12-5 (1975); ARK. STAT. ANN. § 34-705.1 (1962); CAL. EVID. CODE § 895 (West 1966); CONN. GEN. STAT. ANN. § 46b-168 (West Supp. 1979); D.C. CODE ANN. § 16-2343 (Supp. 1979); IDAHO CODE § 7-1115 (1979); ILL. ANN. STAT. ch. 1063½, § 1 (Smith-Hurd Supp. 1980-1981); MD. ANN. CODE art. 16, § 66G (1981); MASS. ANN. LAWS ch. 273, § 12A (Michie/Law. Co-op Cum. Supp. 1978); MICH. COMP. LAWS ANN. § 722.716 (1974); N.J. STAT. ANN. § 2A:83-2 (West 1976); N. Y. FAM. CT. LAW § 532 (29A McKinney Supp. 1980-1981); OHIO REV. CODE ANN. § 3111.16 (Page 1980); OKLA. STAT. ANN. tit. 10, § 504 (West Supp. 1980-1981); TENN. CODE ANN. § 36-228 (1977); W. VA. CODE § 48-7-8 (1980); WIS. STAT. ANN. § 52.36(3) (West Supp. 1980-1981).

40. ARIZ. REV. STAT. ANN. § 12-847 (Supp. 1980); COLO. REV. STAT. § 13-25-126 (Supp. 1979); GA. CODE ANN. § 74-307(a) (1980); HAWAII REV. STAT. § 584-12 (1976); IND. CODE ANN. § 31-6-6.1-8 (Burns 1980); KY. REV. STAT. § 406.111 (1979); LA. CIV. CODE ANN. art. 209(4) (West 1980); ME. REV. STAT. ANN. tit. 19, § 280 (Supp. 1980-1981); MINN. STAT. ANN. § 257.63 (West Supp. 1981); MONT. REV. CODES ANN. § 40-6-113(3) (1978); NEV. REV. STAT. § 126.131 (1979); N.H. REV. STAT. ANN. § 522:4 (1974); N. C. GEN. STAT., § 8-50.1 (Supp. 1979); N. D. CENT. CODE § 14-17-11 (Supp. 1977); OR. REV. STAT. § 109.258 (1979); R. I. GEN. LAWS § 15-8-14 (Supp. 1980); S.D. COMP. LAWS ANN. § 25-8-18 (1976); TEX. FAM. CODE ANN. tit. 2, § 13.06(c) (Vernon Supp. 1980-1981); UTAH CODE ANN. § 78-25-21

states have ambiguous statutes.⁴¹ Many of the inclusionary statutes are based upon the Uniform Acts proposed by the National Conference on Commissioners of Uniform Laws.⁴² This section will discuss the blood test laws in the various states.

Recommendations of the Commissioners on Uniform State Laws

Uniform Act on Blood Tests to Determine Paternity (Blood Test Act).

The uniform acts have always advocated the admission of positive test results in paternity actions, and a trend in this direction has appeared among the state legislatures in recent years. When the National Conference of Commissioners on Uniform State Laws adopted the Blood Test Act in 1952, the Conference included a section which provided for the discretionary admission of test results. "If the experts conclude that the blood tests show the possibility of the alleged father's paternity, admission of this evidence is within the discretion of the court, depending upon the frequency of the blood type."⁴³

The Commissioners felt that where the test results showed that the man could be the father of the child, and where the blood type and the combination of indicators in the child were rare and would be found infrequently, such evidence should be admissible at the discretion of the court. According to the Commissioners the trier of fact should be allowed to consider any probative evidence in making its paternity determination because advances in science could lead to new discoveries of identifiers in the blood which would make blood test evidence even more valuable. The Commissioners, therefore, drafted the Act so as to permit the court, in its discretion, to admit blood test evidence of the possibility of paternity. The court's decision should be based upon the rarity of the blood indicators involved.⁴⁴

Variations on the Blood Test Act. The effect of Section Four of the Blood Test Act was to allow the admission of positive test results in paternity actions.⁴⁵ The Act was adopted by California, Illinois, Michi-

(1977); VA. CODE § 20-61.2 (Supp. 1980); WASH. REV. CODE ANN. § 26.26.110 (Supp. 1981); WYO. STAT. § 14-2-110 (1977).

41. KAN. STAT. § 23-131 (1974); MISS. CODE ANN. § 93-9-27 (1972); 42 PA. CONS. STAT. ANN. § 6136 (Purdon 1981). Nine states have no statutes on the subject: Alaska, Delaware, Florida, Iowa, Missouri, Nebraska, New Mexico, South Carolina, and Vermont.

42. See Appendix. Twenty-eight states have used the UNIFORM ACT ON BLOOD TESTS TO DETERMINE PATERNITY, 9 U.L.A. 102 (1957) (adopted 1952) [hereinafter cited as Blood Test Act], the UNIFORM ACT ON PATERNITY, 9A U.L.A. 626 (Master ed. 1979) (adopted 1960) or the UNIFORM PARENTAGE ACT, 9A U.L.A. 579 (Master ed. 1979) (adopted 1973), as the basis for their blood test statutes. Of those 28 states, 12 states used the Illinois version of the Blood Test Act (ILL. ANN. STAT. ch. 106½, § 1 (Smith-Hurd Supp. 1980-1981)), which was also § 15 of the FIRST TENTATIVE DRAFT OF THE ACT ON PATERNITY PROCEEDINGS (1958, adopted as the UNIFORM ACT ON PATERNITY), as the basis for the statute they adopted on the inadmissibility of blood tests as positive evidence of paternity.

43. Blood Test Act § 4, 9 U.L.A. 110, 111 (1957).

44. Blood Test Act, Prefatory Note, 9 U.L.A. 102 (1957).

45. Blood Test Act § 4, 9 U.L.A. 110, 111 (1957).

gan, Oklahoma, Oregon, and Pennsylvania.⁴⁶ However, the statutes of at least two of those states differed considerably from the one recommended by the Commissioners.⁴⁷ Language in these two statutes is similar in allowing admissibility of test results in cases only where definite exclusion is established. These states changed the language of the Blood Test Act in such a way that it frustrated the purpose of the Uniform Act Commissioners. The altered form of the statute was much more in keeping with traditional use of blood tests in paternity actions than with the theory of the Act as expressed by the Commissioners.⁴⁸

Uniform Act on Paternity. The Commissioners adopted a more comprehensive act governing paternity cases, the Uniform Act on Paternity, in 1960. In the First Tentative Draft of the Act the Commissioners included only an exclusionary version of a blood test admissibility statute, but by the time the Act was adopted, the section was identical to the one in the Blood Test Act. The Commissioners incorporated substantially the whole Blood Test Act into Sections Seven, Eight, Nine, and Ten of the Uniform Act on Paternity.⁴⁹

The Uniform Act on Paternity was written by the Commissioners to replace the Uniform Illegitimacy Act which the Conference had promulgated in 1922. The Illegitimacy Act had been adopted by only seven states, and those states had made a number of amendments to it.⁵⁰ The purpose of the Uniform Act on Paternity was to "establish a simple and effective civil action in a court of record to replace the antiquated 'bastardy' proceeding with its preliminary examination and other quasi-criminal features."⁵¹ However, the Uniform Act on Paternity met with even less success than the Uniform Illegitimacy Act and was adopted by only five states.⁵²

46. UNIFORM ACT ON PATERNITY, General Statutory Notes, 9A U.L.A. 623, 624 (Master ed. 1979).

47. ILL. ANN. STAT. ch. 1063½, § 1 (Smith-Hurd Supp. 1980-1981); MICH. COMP. LAWS ANN. § 722.716 (1974).

48. The position expressed in these statutes was close to the feelings of the Commissioners in the First Tentative Draft of the Uniform Act on Paternity Proceedings, which the Commissioners published in 1958. The First Tentative Draft proposed that test results "be admissible in evidence only in cases where definite exclusion of the defendant as such father has been established." NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS, HANDBOOK OF THE NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS AND PROCEEDINGS OF THE ANNUAL MEETINGS 277 (1958) [hereinafter cited as HANDBOOK]. This language is also close to the language of a 1939 New Jersey statute. In addition to New Jersey, Illinois, and Michigan, nine other states adopted a version of the New Jersey statute between 1951 and 1962, and have retained the statute to this day. These states are Alabama, Arkansas, Connecticut, Maryland, Massachusetts, New York, Tennessee, West Virginia, and Wisconsin.

49. UNIFORM ACT ON PATERNITY, General Statutory Notes, 9A U.L.A. 623, 624 (Master ed. 1979).

50. UNIFORM ILLEGITIMACY ACT (Act withdrawn 1960); UNIFORM ACT ON PATERNITY, Commissioner's Prefatory Note, 9A U.L.A. 623 (Master ed. 1979). Not unexpectedly, the U.I.A. contained no provisions on blood tests.

51. UNIFORM ACT ON PATERNITY, Commissioner's Prefatory Note, 9A U.L.A. 623 (Master ed. 1979).

52. Kentucky, Maine, Mississippi, New Hampshire, and Utah.

Uniform Parentage Act. In 1969 the National Conference of Commissioners on Uniform State Laws appointed a committee to consider the drafting of a new model act relating to children born out of wedlock. This Act developed the then-revolutionary idea that children are entitled to substantive legal equality regardless of the marital status of their parents. The laws of the states differentiated significantly in the legal treatment of legitimate and illegitimate children. However, by the time the Act was promulgated in 1973, the United States Supreme Court had mandated equal treatment of legitimate and illegitimate children in a broad range of areas. As a result, many state laws were either unconstitutional or subject to grave constitutional doubt.⁵³

In the Uniform Parentage Act the Commissioners recommended a codified and simplified procedure by which the state courts could make paternity determinations.⁵⁴ As a part of that procedure, the Act established needed rules for the use of blood test results in paternity actions. In Section Twelve, the Uniform Parentage Act lists the evidence relating to paternity that a court may admit during paternity proceedings. It allows the admissions of "blood test results, weighted in accordance with evidence, if available, of the statistical probability of the alleged father's paternity."⁵⁵

The Uniform Parentage Act has been wholly adopted by eight states.⁵⁶ California did not adopt Section Twelve of the Act relating to the admissibility of blood test evidence.⁵⁷ At least one California court has found a way, however, to avoid California's ban on the admission of positive evidence of paternity.⁵⁸

From the first uniform act relating to blood tests and paternity that the Commissioners on Uniform State Laws adopted, the uniform acts have always promoted the admission of blood test results as positive evidence of paternity. All three of these acts have recommended that the decision as to the admissibility of the test results would be left to the

53. UNIFORM PARENTAGE ACT, Commissioner's Prefatory Note, 9A U.L.A. 579 (Master ed. 1979).

54. *Id.*

55. *Id.* § 12(3), 9A U.L.A. 579, 602 (Master ed. 1979). In addition to weighted blood test results, these factors include evidence of the putative father's access to the mother at the requisite time, expert opinion on the alleged father's paternity based upon the duration of the pregnancy, and medical and anthropological evidence. The Commissioners commented that they thought that blood test evidence would "go far toward stimulating voluntary settlements of actions to determine paternity." Section 12 was consistent with the position taken by the Commissioners in both the Blood Test Act, 9 U.L.A. 110 (1957), and the Uniform Act on Paternity, 9A U.L.A. 623 (Master ed. 1979), insofar as those acts had allowed the court to accept positive test results based on the infrequency of the blood type, but section 12 also recognized the work that the Scandinavian laboratories had done over the preceding years to develop more complex blood typing systems. These blood typing systems are now referred to as the HLA systems. UNIFORM PARENTAGE ACT § 12, Commissioner's Comment, 9A U.L.A. 579, 602-03 (Master ed. 1979); Lee, *supra* note 11, at 622-24.

56. Colorado, Hawaii, Minnesota, Montana, Nevada, North Dakota, Washington, and Wyoming.

57. UNIFORM PARENTAGE ACT § 12, Action in Adopting Jurisdictions, 9A U.L.A. 579, 604 (Master ed. 1979).

58. See note 80 *infra* and accompanying text.

discretion of the trial judge, as he has the best opportunity to judge the probative value of the evidence.

State-Created Statutes

Inclusionary Statutes. Of the twenty-two states⁵⁹ that allow the admission of non-exclusionary blood test results, thirteen states⁶⁰ based their statutes upon either the Blood Test Act, the Uniform Act on Paternity, or the Uniform Parentage Act. The remaining nine "inclusionary" states seem to have developed their own language for the statutes, although there is some similarity in the language among the statutes. Four of the statutes⁶¹ are compulsory; that is, the court must receive the results of the test into evidence. In Arizona the results "shall be received in evidence if requested by any party to the proceedings."⁶² In North Carolina and Virginia the court "shall" receive the test results into evidence if the results are offered by a duly qualified person.⁶³ These statutes, of course, leave some discretion with the trial court since it is the court's prerogative to decide whether or not the person offering the evidence is duly qualified. In South Dakota the statute says that the judge "shall proceed to examine the complainant . . . and receive any other evidence that may be produced touching the charge."⁶⁴ This statute also seems to give the judge some discretion regarding acceptance of inclusionary blood test results.

In the remaining five states the admission of the test results is discretionary. These states permit the judge to receive the test results into evidence on the same basis as he would receive any other expert testimony.⁶⁵

Exclusionary Statutes. In addition to the twelve states which based their exclusionary statutes upon the New Jersey statute and the First Tentative Draft of the Uniform Act on Paternity,⁶⁶ five states⁶⁷ used their own wording in drafting exclusionary statutes. Actually, Califor-

59. See note 40 *supra*.

60. Colorado, Hawaii, Kentucky, Maine, Minnesota, Montana, Nevada, New Hampshire, North Dakota, Oregon, Utah, Washington, and Wyoming.

61. ARIZ. REV. STAT. ANN. § 12-847 (Supp. 1980); N. C. GEN. STAT. § 8-50.1 (Supp. 1979); S. D. COMP. LAWS ANN. § 25-8-18 (1976); VA. CODE § 20-61.2 (Supp. 1980).

62. ARIZ. REV. STAT. ANN. § 12-847(C) (Supp. 1980).

63. N.C. GEN. STAT. § 8-50.1 (Supp. 1979); VA. CODE § 20-61.2 (Supp. 1980).

64. S. D. COMP. LAWS ANN. § 25-8-18 (1976).

65. GA. CODE ANN. § 74-307(a) (1980); IND. CODE ANN. § 31-6-6.1-8 (Burns 1980); LA. CIV. CODE ANN. art. 209(4) (West 1980); R. I. GEN. LAWS § 15-8-14 (Supp. 1980); TEX. FAM. CODE ANN. tit. 2, § 13.06(c) (Vernon Supp. 1980-1981). The Georgia statute says that the results "are admissible as other expert testimony." In Indiana, Rhode Island, and Texas, the test results "may be received," "[e]vidence . . . may include," and the court "may admit the evidence." In Louisiana "[a] child may prove filiation by any means which establish, by a preponderance of the evidence, . . . that he is the child of that man."

66. See note 48 *supra*.

67. CAL. EVID. CODE § 895 (West 1966); D. C. CODE ANN. § 16-2343 (Supp. 1979); IDAHO CODE § 7-1115 (1979); OHIO REV. CODE ANN. § 3111.16 (Page 1980); OKLA. STAT. ANN. tit. 10, § 504 (West Supp. 1980-1981).

nia adopted the first and second sentences of the Blood Test Act but omitted the third sentence regarding admissibility. On this basis, the California courts held that the intent of the California legislature was to allow only the admission of exclusionary blood test results.⁶⁸ This interpretation has changed in the last two years,⁶⁹ due to court decisions holding that the California law was adopted before HLA tests were devised. Idaho adopted the New Jersey exclusionary statute⁷⁰ but deleted the sentence which stated that only blood test results excluding the putative father could be admitted. Case law in Idaho has upheld the exclusionary principle.⁷¹ In the District of Columbia the results can be admitted only if the respondent "does not object to its admissibility."⁷² Since a putative father would not want the test results admitted if they did not exclude him, this statute amounts to an exclusionary statute. Ohio law states that test results are admissible only "where exclusion is established,"⁷³ and Oklahoma law provides that "[e]vidence showing the 'possibility' of paternity shall be inadmissible"⁷⁴

States with Ambiguous Statutes. There are three states whose statutes relating to the admissibility of blood test results in paternity actions are ambiguous.⁷⁵ No cases have interpreted the Kansas statute. In *Commonwealth ex rel. Atkins v. Singleton*,⁷⁶ Pennsylvania was allowed to call an expert witness who testified that the alleged father could not "be excluded as the father of the child on the basis of the tests performed."⁷⁷ The doctor also testified as to a percentage probability that the defendant was the father of the child. Since the Superior Court did not rule on the admissibility of the test results, it must have found it proper under state law. The Mississippi Supreme Court in *Price v. Simpson*⁷⁸ stated that the defendant in a paternity action did not have to request a blood test, but if he did, the results had to be introduced into evidence. The case law of Pennsylvania and Mississippi shows that both states actually have inclusionary statutes.

68. Comment, *supra* note 29, at 512.

69. For a discussion of recent California court decisions, see Comment, *supra* note 29 and note 80, *infra*.

70. N. J. STAT. ANN. § 2A: 83-2 (West 1976).

71. *Isaacson v. Obendorf*, 99 Idaho 304, 581 P.2d 350 (1978).

72. D. C. CODE ANN. § 16-2343 (Supp. 1979).

73. OHIO REV. CODE ANN. § 3111.16 (Page 1980).

74. OKLA. STAT. ANN. tit. 10, § 504 (West Supp. 1980-1981).

75. KAN. STAT. § 23-131 (1974); MISS. CODE ANN. § 93-9-27 (1972); 42 PA. CONS. STAT. ANN. § 6136 (Purdon 1981). For example, the Pennsylvania statute states,

If the court finds that the conclusions of all the experts as disclosed by the evidence based upon the tests are that the alleged father is not the father of the child, the question of paternity, parentage or identity of a child shall be resolved accordingly. If the experts disagree in their findings or conclusions, the question shall be submitted upon all the evidence.

42 PA. CONS. STAT. ANN. § 6136 (Purdon 1981).

76. Pa. Super. Ct., 422 A.2d 1347 (1980).

77. *Id.*, 422 A.2d at 1354.

78. 205 So. 2d 642, 644 (Miss. 1968).

The trend among the state legislatures seems to allow the admission of non-negative test results.⁷⁹ The trend points to a significant shift on the part of legislatures from the traditional exclusionary statute to the more progressive inclusionary statute. Much of this shift is due to the development of the HLA tests and their application to paternity cases.

Judicial Action in Exclusionary States

An interesting phenomenon is taking place in some of the states that have exclusionary blood test statutes. Some courts circumvent the statutes when the admission of blood test results, especially HLA test results, would be beneficial in deciding a case.

California. The best-known case is that of *Cramer v. Morrison*,⁸⁰ in which the California Court of Appeals reversed a trial court's refusal to admit the results of an HLA test in a paternity action. The trial court had held that although the test was reliable, California law did not allow its admission. The statute provided only for the admission of evidence of a putative father's non-paternity, not for the admission of affirmative evidence of paternity.⁸¹ Additionally, the prejudicial effect of statistical evidence of this nature would outweigh its probative value.⁸² The California Court of Appeals held first, that California law did not require "that the admissibility of scientific-test evidence . . . be predicated on a 100 percent degree of accuracy," and second, that California law did not prohibit the admission of a test affirmatively tending to prove paternity. Readily obtainable genetic evidence that could provide a precise and objective basis for deciding such an important question as the paternity of a child should be admissible.⁸³ The court also found that no statutory mandate denied admissibility. The California legislature's failure to adopt the blood test section of the Uniform Parentage Act was not seen by the court as allowing admissibility of exclusionary test results only. Even if that were the case, the court said that it would only recognize the exclusion as applying to the standard Landsteiner blood grouping test, not the HLA tests, which were not in existence when the statute was adopted.⁸⁴ At least two additional courts have used this argument to allow the admission of positive test results.

79. Of the exclusionary statutes, one was adopted in the 1930's, nine in the 1950's, five in the 1960's, and two in the 1970's. Among the inclusionary statutes two were adopted in the 1950's, four in the 1960's, twelve in the 1970's, and four in 1980. See Appendix.

As of May 12, 1981, bills to allow the admission of blood test results as probative of paternity have been introduced into the 1981 sessions of the legislatures of Maryland (S.B. 362), New York (S.B. 309), and Tennessee (S.B. 373, H.B. 209). 7 FAM. L. REP. 2297-98, 2336 (1981). The New York bill (S.309/A.504) was signed into law, effective March 2, 1981. 7 FAM. L. REP. 2437 (1981).

80. 88 Cal. App. 3d 873, 153 Cal. Rptr. 865 (1979).

81. CAL. EVID. CODE § 895 (West 1966).

82. *Cramer v. Morrison*, 153 Cal. Rptr. at 869.

83. *Id.* at 872.

84. *Id.* at 871.

Illinois. In *Miller v. Smith*,⁸⁵ the Illinois Circuit Court for Cook County decided that HLA tests were admissible to establish paternity, even though the Illinois statute provided that only exclusionary tests should be admitted. The court reasoned that (1) since the law was enacted when the ABO test was in use, the legislature had not contemplated the HLA test; and (2) "[s]ince 'it is not within the power of the legislature to exclude from the courts that which provides the truth of the case . . .,' Section One would amount to an unconstitutional legislative intrusion upon the judicial function, if interpreted as prohibiting the introduction of HLA test results."⁸⁶

New Jersey. In New Jersey two cases have overridden the state's exclusionary statute. In *Malavasi v. Malavasi*,⁸⁷ the court accepted HLA testing as medical evidence in a paternity determination. The court considered the test's probative value as well as the scientific community's acceptance of HLA testing as reliable and accurate. In *Camden County Board of Social Services v. Kellner*,⁸⁸ the court followed the *Cramer v. Morrison*⁸⁹ argument and found positive test results to be admissible.

Additionally, the court in *Camden County* found the test results to be probative under Rule 1(2) of the New Jersey Rules of Evidence which defines relevant evidence. The court held that the probative value of a calculation of the probability of paternity outweighed its possible prejudicial effect.⁹⁰

An argument similar to that used in *Camden County* has been advanced by courts in states that have adopted the Uniform Rules of Evidence. In Michigan the Kent County Circuit Court,⁹¹ a trial court, found that it could admit positive blood test results, notwithstanding the 1957 Michigan statute allowing the admission of exclusionary testimony only. The court concluded that where statistical probabilities approached ninety-eight percent, the evidence was relevant under Rules 401 and 402 and, therefore, admissible.⁹²

85. 6 FAM. L. REP. 2660 (Ill. Cir. Ct. Cook County 1980).

86. *Miller v. Smith*, 6 FAM. L. REP. at 2661.

87. 167 N.J. Super. 513, 401 A.2d 270 (1979).

88. 6 FAM. L. REP. 2412 (N.J. Juv. Dom. Rel. Ct. 1980).

89. 88 Cal. App. 3d 873, 153 Cal. Rptr. 865 (1979).

90. *Camden County Bd. of Soc. Services v. Kellner*, 6 FAM. L. REP. at 2413.

91. *Tuinstra v. Chorley*, 7 FAM. L. REP. 2069 (Kent County Cir. Ct. 1980).

92. The Court found, first, that the use of the seven basic tests in paternity actions can give a statistical probability of paternity of 98%. It then discussed Rules 401 and 402 of the Michigan Rules of Evidence. Rule 401 defines relevant evidence as "evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Rule 402 provides that "[a]ll relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, the Constitution of the State of Michigan, these rules, or the rules adopted by the Supreme Court." Rule 101 of the Michigan Rules of Evidence holds that any statutory rule of evidence not in conflict with the Michigan Rules is effective until superseded by rule or decision of the Michigan Supreme Court. *Tuinstra v. Chorley*, 7 FAM. L. REP. at 2070. However, in *Cardenas v. Chavez*, __ Mich. App. __, 303 N.W.2d 3 (1980), the Court of Appeals for Michigan rejected this same argument and found that the court had

Arkansas. A trial court in Arkansas used much the same reasoning in *Winston v. Robinson*⁹³ to admit into evidence blood test results which did not exclude the putative father. The admission was in violation of state statute. Nevertheless, Arkansas has adopted the Uniform Rules of Evidence, and the trial court found that the Uniform Rules repealed the exclusionary statute. The Arkansas Supreme Court reversed the trial court's decision and upheld the statute.⁹⁴

Summary. It is obvious that trial courts look with favor at the positive, yet not self-serving, evidence that HLA and the other blood tests can give in a paternity case, particularly since paternity cases must frequently be based upon subjective criteria. Courts in at least two "exclusionary" states, New York and Maryland,⁹⁵ have suggested that it is the legislature's prerogative to allow the admission of inclusionary test results. The New York court commented that it was "concerned that the new statute as written might be in violation of due process of law," and it urged the legislature to reexamine section 532 in the light of present-day scientific information. The court was disturbed that the uncorroborated testimony of the mother could be used as evidence to prove paternity while results of a reliable scientific test would be excluded.

NON-STATUTORY STATES

Nine states do not regulate the admissibility of blood tests in paternity proceedings by statute.⁹⁶ Therefore, case law must be examined. Five of the states⁹⁷ have not considered the question at the appellate level. Florida, Missouri, Nebraska, and South Carolina have case law on the subject.

Florida. When the Florida District Court of Appeals considered the question of the admissibility of HLA blood test results,⁹⁸ the court admitted that Florida traditionally had only allowed the admission of blood test results when the results excluded the defendant. However, the court decided that when counsel laid the proper foundation as to

no authority to amend or repeal an act of the Michigan legislature. It is the legislature's prerogative to allow the admission of HLA test results at trial.

93. Ark. ___, 606 S.W.2d 757 (1980).

94. The Arkansas Supreme Court held that since the legislature had specifically listed the statutes they repealed when the Uniform Rules were adopted, and one of those statutes listed was part of the bastardy statutes, the legislature had not intended to repeal the exclusionary statute. The court continued that under well-established rules of statutory construction a statute of a general nature does not repeal an earlier statute on the same subject of a specific nature unless there is a conflict between the two. Under Rule 402 there was no specific conflict in this case. *Winston v. Robinson*, 606 S.W. 2d 757, 760 (Ark. 1960).

95. *Goodrich v. Norman*, 100 Misc. 2d 33, 421 N.Y.S.2d 285 (1979); *Thompson v. Thompson*, 40 Md. App. 256, 390 A.2d 1139 (1978).

96. Alaska, Delaware, Florida, Iowa, Missouri, Nebraska, New Mexico, South Carolina, and Vermont.

97. Alaska, Delaware, Iowa, New Mexico, and Vermont.

98. *Carlyon v. Weeks*, 387 So. 2d 465 (Fla. Dist. Ct. App. 1980).

the reliability and validity of HLA test, the court could admit the evidence as probative on the issue of paternity.⁹⁹

Missouri. Missouri courts have also admitted blood test results that were probative of paternity. In *Stegemann v. Faulk*,¹⁰⁰ the trial court allowed plaintiff's counsel to present testimony of inclusionary blood test results.¹⁰¹ The appellate court did not comment on the admission of the evidence. In *Claude T. v. Claire T.*,¹⁰² the trial court allowed the admission of laboratory blood tests that indicated that the plaintiff could be the biological father.

Nebraska. At least one Nebraska court has allowed the introduction of blood tests when the results did not exclude the putative father as the biological father of the child.¹⁰³ The court did not state its basis for admitting the evidence.

South Carolina. South Carolina courts in at least two cases have allowed the admission of positive blood test results.¹⁰⁴ In one case the court allowed the parties to stipulate to the admission without giving a reason.¹⁰⁵ In the other case the court found that the evidence made a *prima facie* case of paternity.¹⁰⁶

Summary. Of the nine states that do not regulate the admissibility of blood test results by statute, five also have no case law on the subject. The remaining four states allow the admission of inclusionary test results. Therefore, the number of states that allow the admission of test results that do not exclude the putative father is twenty-eight: twenty-two by statute and six by case law.

CONCLUSION

Currently, twenty-eight states, either by statute or through case law, allow the admission of blood test results in paternity cases when the results do not exclude the putative father. Seventeen states retain ex-

99. The Florida courts decided to admit only exclusionary test results at a time when only red blood tests were available. However, the Court of Appeals said that "[t]he doors and minds of the courts need not be closed and remain closed to developing scientific and medical knowledge." *Carlyon v. Weeks*, 387 So. 2d at 467.

100. 571 S.W.2d 697 (Mo. Ct. App. 1978).

101. The results showed that the putative father could have been the biological father; they also excluded the mother's former paramour from potential fatherhood on the basis of his blood type.

102. 579 S.W.2d 141 (Mo. Ct. App. 1978).

103. *Snay v. Snarr*, 197 Neb. 375, 238 N.W.2d 234 (1976).

104. S.C. Dep't of Soc. Services v. *Johnson*, __ S.C. __, 266 S.E.2d 878 (1980); *Davis v. Holloway*, __ S.C. __, 265 S.E.2d 264 (1980).

105. S.C. Dep't of Soc. Services, 266 S.E.2d 878.

106. In *Davis v. Holloway*, the appellant mother presented evidence at trial that the blood tests did not exclude the putative father, that she had not had sexual relations with anyone except the putative father, and that he had never denied paternity. The court found that the evidence made a *prima facie* case of paternity and that the burden shifted to the respondent, so the case should not have been dismissed by the court.

clusionary statutes, although at least two of those statutes, New Jersey's and Michigan's, have been overturned in trial and appellate court decisions. Five states have neither case law nor statutes on the subject, and one state has an ambiguous statute with no interpreting case law.

The trend is to allow the admission of inclusionary test results. Only two states have passed exclusionary statutes since 1970, while sixteen states have enacted inclusionary statutes.¹⁰⁷ The constant development of new HLA tests and the identification of more antigens continues to increase the sophistication of the tests that can be used to identify the biological father of a child.

Several commentators have indicated potential problems with the admission of test results in paternity actions. These problems can be separated into two areas, those relating to proper procedures and those relating to admissibility. Like any evidence of this type, the tests must have been properly performed to be admissible.¹⁰⁸ For this reason the AMA-ABA Committee recommended that procedures to guarantee the reliability of the test results be followed in administering the tests.¹⁰⁹

The admission of blood test evidence into a jury trial can create serious problems, particularly if the expert calculates a probability of paternity. For example, the jury may give extraordinary weight to "scientific" evidence and thus overemphasize that evidence to the detriment of other evidence. In addition, the expert who calculates the probability of paternity may use an inaccurate variable in solving Bayes' Theorem, the formula from which the probability of paternity is derived.¹¹⁰ If that happens, the results of the calculation would be skewed.

The problems connected with the introduction of inclusionary test results can be overcome. First, the Joint AMA-ABA Guidelines should be followed so that no question of the reliability and accuracy of the test results arises. Second, proper procedures must be followed in the calculation of Bayes' Theorem so that the resulting probability of paternity is not misleading to the trier of fact. Third, the judge must carefully supervise the presentation of the test results to the jury so that they are not over-awed by scientific evidence. It is the judge's responsibility to verify that the tests were properly administered and the technicians qualified.

In states that do not have an inclusionary blood test statute, the legislatures should consider the adoption of a statute similar to Section Twelve of the Uniform Parentage Act, which gives judges discretion to admit blood test results, if probative. Section Twelve discretion is

107. See Appendix.

108. See note 28 *supra*.

109. See note 3 *supra*.

110. Ellman & Kaye, *supra* note 32, at 1149. This article gives a thorough description of the problems associated with calculating the probability of paternity and makes recommendations to avoid the problem. Even with all the problems, the authors find that the test results are "too probative to withhold from the jury." *Id.* at 1143.

available whether or not the test results identify or exclude the alleged father as the actual father of the child. The statute should allow the results to be weighted with statistical probabilities, if available. The judge can then rule on the admissibility of the evidence in the same manner as state law provides for the admission of any scientific evidence.¹¹¹

It is true that "scientific" test results may carry inordinate weight with a jury. Nonetheless, it is illogical to forbid the admission of evidence which, in many cases, would be infinitely more reliable as to the identity of the child's father than the unsubstantiated word of a child's mother. Frequently, the other evidence introduced in a paternity action is equally suspect. Blood test results should not be the only evidence relied upon in a paternity determination, but they have a rightful place, along with any other probative evidence, in the presentation of a paternity action to the trier of fact.

Mary G. Persyn*

111. This may vary from state to state. The most widely used standard is found in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923). For a discussion of the admissibility of HLA test results and the problems connected therewith, see *Phillips v. Jackson*, 615 P.2d 1228 (Utah 1980). For a proposed jury instruction on the admissibility of test results, see Comment, *supra* note 29, at 529.

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APPENDIX STATE LAWS ON BLOOD TEST ADMISSIBILITY

State	Blood test statute	Date of adoption	Include or exclude blood test results	Judicial decision		Source
				modify	in place of statute	
Alabama	ALA. CODE § 26-12-5 (1975).	1961	exclude			New Jersey Statute
Alaska	No statute located					
Arizona	ARIZ. REV. STAT. ANN. § 12-847 (Supp. 1980).	1971	include			own
Arkansas	ARK. STAT. ANN. § 34-705.1 (1962).	1955	exclude			New Jersey Statute
California	CAL. EVID. CODE § 895 (West 1966).	1965	exclude	X		Uniform Parentage Act with variations
Colorado	COLO. REV. STAT. § 13-25-126 (Supp. 1979).	1977	include			Uniform Parentage Act
Connecticut	CONN. GEN. STAT. ANN. § 46b-168 (West Supp. 1979).	1957	exclude			New Jersey Statute
Delaware	No statute located					
District of Columbia	D.C. CODE ANN. § 16-2343 (Supp. 1979).	1970	exclude		X	own
Florida	No statute located					
Georgia	GA. CODE ANN. § 74-307(a) (1980).	1980	include			own
Hawaii	HAWAII REV. STAT. § 584-12 (1976).	1975	include			Uniform Parentage Act
Idaho	IDAHO CODE § 7-1115 (1979).	1969	exclude			New Jersey Statute
Illinois	ILL. ANN. STAT. ch. 106½ § 1 (Smith-Hurd Supp. 1980-1981).	1957	exclude	X		New Jersey Statute
Indiana	IND. CODE ANN. § 31-6-6.1-8 (Burns 1980).	1980	include			own
Iowa	No statute located					
Kansas	KAN. STAT. § 23-131 (1974).	1970	ambiguous			own

Appendix-continued

State	Blood test statute	Date of adoption	Include or exclude blood test results	Judicial decision		Source
				modify	in place of statute	
Kentucky	KY. REV. STAT. § 406.111 (1979).	1964	include			Uniform Act on Paternity
Louisiana	LA. CIV. CODE ANN. art. 209(4) (West 1980).	1980	include			own
Maine	ME. REV. STAT. ANN. tit. 19, § 280 (Supp. 1980-1981).	1967	include			Uniform Act on Paternity
Maryland	MD. ANN. CODE art. 16, § 66G (1981).	1951	exclude*			New Jersey Statute
Massachusetts	MASS. ANN. LAWS ch. 273, § 12A (Michie/Law. Co-op Cum. Supp. 1978).	1954	exclude			New Jersey Statute
Michigan	MICH. COMP. LAWS ANN. § 722.716 (1974).	1956	exclude			New Jersey Statute
Minnesota	MINN. STAT. ANN. § 257.63 (West Supp. 1981).	1980	include			Uniform Parentage Act
Mississippi	MISS. CODE ANN. § 93-9-27 (1972).	1962	ambiguous		X	Uniform Act on Paternity
Missouri	No statute located					
Montana	MONT. REV. CODES ANN. § 40-6-113(3) (1978).	1975	include			Uniform Parentage Act
Nebraska	No statute located				X	
Nevada	NEV. REV. STAT. § 126.131 (1979).	1979	include			Uniform Parentage Act
New Hampshire	N.H. REV. STAT. ANN. § 522:4 (1974).	1953	include			Uniform Act on Paternity
New Jersey	N.J. STAT. ANN. § 2A:83-2 (West 1976).	1939	exclude	X		New Jersey Statute
New Mexico	No statute located					
New York	N.Y. FAM. CT. LAW § 532 (29A McKinney Supp. 1980-1981).	1962	exclude*			New Jersey Statute
North Carolina	N.C. GEN. STAT. §§ 8-50.1 & 49-7 (Supp. 1979).	1979	include			own
North Dakota	N.D. CENT. CODE § 14-17-11 (Supp. 1977).	1975	include			Uniform Parentage Act
Ohio	OHIO REV. CODE ANN. § 3111.16 (Page 1980).	1976	exclude			own
Oklahoma	OKLA. STAT. ANN. tit. 10, § 504 (West Supp. 1980-1981).	1967	exclude			own

Appendix-continued

State	Blood test statute	Date of adoption	Include or exclude blood test results	Judicial decision		Source
				modify	in place of statute	
Oregon	OR. REV. STAT. § 109.258 (1979).	1963	include			Uniform Act on Paternity
Pennsylvania	42 PA. CONS. STAT. ANN. § 6136 (Purdon 1981).	1976	ambiguous			Uniform Act on Paternity with omission
Rhode Island	R.I. GEN. LAWS § 15-8-14 (Supp. 1980).	1979	include			own
South Carolina	No statute located				X	
South Dakota	S.D. COMP. LAWS ANN. § 25-8-18 (1976).	1960	include			own
Tennessee	TENN. CODE ANN. § 36-228 (1977).	1955	exclude*			New Jersey Statute
Texas	TEX. FAM. CODE ANN. tit. 2, § 13.06(c) (Vernon Supp. 1980-1981).	1975	include			own
Utah	UTAH CODE ANN. § 78-25-21 (1977).	1955	include			Uniform Act on Paternity
Vermont	No statute located					
Virginia	VA. CODE § 20-61.2 (Supp. 1980).	1977	include			own
Washington	WASH. REV. CODE ANN. § 26.26.110 (Supp. 1981).	1976	include			Uniform Parentage Act
West Virginia	W. VA. CODE § 48-7-8 (1980).	1957	exclude			New Jersey Statute
Wisconsin	WIS. STAT. ANN. § 52.36(3) (West Supp. 1980-1981).	1959	exclude			New Jersey Statute
Wyoming	WYO. STAT. § 14-2-110 (1977).	1977	include			Uniform Parentage Act

* Revised statute introduced in 1981 legislative session.