

COMMONWEALTH OF MASSACHUSETTS

WORCESTER, ss

SUPERIOR COURT DEPARTMENT  
INDICTMENT NO. 03-0546 (1-4)

COMMONWEALTH

COMMONWEALTH'S  
OPPOSITION TO DEFENDANT'S  
MOTION TO EXCLUDE EXPERT  
TESTIMONY OF  
CHRISTINE BARRON, M.D.

v.

KELLY HOOSE, Defendant

Now comes the Commonwealth and moves this Honorable Court to deny the Defendant's Motion to Exclude the Expert Testimony of Christine Barron, M.D. for the following reasons:

FACTS

On Tuesday, January 14, 2003, Sturbridge Police Officer Christopher P. Donais received a telephone call from a Staff Analyst for the National Center for Missing & Exploited Children (NCMEC), in Alexandria, Virginia's Endangered Child Unit. The all advised the officer that on January 12, 2003 at approximately 1:01 AM, a call was placed to the Center's Cyber Tip line by a man self-identified as Kelly Hoose, the defendant in this matter. Mr. Hoose had called to advise the center that he intentionally downloaded child pornography form his computer from a website. Mr. Hoose stated he had other child pornography images for approximately six months. Mr. Hoose provided NCMEC with the names of the folders located on his home computer. Mr. Hoose provided the intake person of his name, date of birth, home address, place of birth and mother's maiden name. The call was traced and confirmed as a number listed to Kelly R. Hoose of the same Fiskdale, MA address provided to the intake operator. Officer Donais confirmed this information. The Officer then applied for and executed a Search Warrant for the Defendant's home and home computer on January 17, 2003. The computer was sent to the Massachusetts State Police Forensics Unit in New Braintree, MA. For examination of the computer and its hard drive. Sgt. Jude Buckley recovered 110 images consisting of children in various stages of undress as well as sexual acts.

On Monday, March 17, 2003, Officer Donais met with Dr. Christine Barron the then director of UMass/Memorial's Child Protection Program to get her medical expert opinion as approximate age of the children depicted in the images recovered from Mr. Hoose's computer. Dr. Barron was given all 110 images and selected the one's that she would and could testify to a reasonable degree of medical certainty were children. Dr. Barron based her results on her years of experience and training,(SEE ATTACHED CURRICULUM VITAE), the visual examination of the colored photo, (SEE ATTACHED

PHOTOS SELECTED BY DR. BARRON OF THE 100 IMAGES) and the Tanner staging (SEE EXPLAINATION BELOW).

## ISSUE

WHETHER OR NOT CHRISTINE BARRON MAY BE QUALIFIED AS AN EXPERT IN THIS CASE

The Supreme Court presented a nonexclusive five-factor test to assist trial judges in determining whether expert testimony is admissible: (i) whether the theory of technique is scientific knowledge and whether it will assist the jury; (ii) whether the theory or technique has been, or can be, tested, (iii) whether the theory or technique has been subjected to peer review and publication; (iv) whether there is a know or potential rate of error; and (v) whether the theory or methodology has been generally accepted within the scientific community. The Supreme Court stressed that the inquiry should be flexible, and that it should focus on the principles and methodology rather than on the conclusions that they generate. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

The *Daubert* criteria is somewhat akin to the Massachusetts decisions of *Commonwealth v. Lanigan*, 419 Mass. 15 (1994). In *Lanigan*, the Supreme Judicial Court accepted "Daubert's basic reasoning," and announced that the trial court has a gatekeeper role to preclude expert testimony when "the process of theory underlying a scientific expert's opinion lacks reliability." *Lanigan*, 419 Mass. At 25-61. Much as with the factor articulated by the federal courts in determining "reliability," the trial court may consider whether the scientific community generally accepts the theory or practice underlying the expert's opinion. *Commonwealth v. Senior*, 433 Mass. 453, 458 (2001). Even if the general acceptance test is not satisfied, the opinion may be admitted if the underlying theory of practice is reliable, can be or has been tested, or has been subject to peer review or publication." *Senior* at 433 Mass at 458-459.

**Qualification of Christine Barron as an expert:** Christine Barron, M.D. was trained undergraduate at SUNY at Binghamton with a Major in Biochemistry. Dr. Barron's Medical Degree was earned at SUNY Health Science Center at Brooklyn, New York in June of 1995. Dr. Barron participated in a Pediatric Residency at Brown University and completed a Fellowship in Child Abuse and Neglect in June of 2000. Dr. Barron was the Director of the Division of Child Protection Program at UMass/Memorial Children's Medical Center from July 2000 to 2004 when she left to become the Director of the Childsafe-Child Protection Program at Hasbro Children's Hospital in Providence, Rhode Island. Dr. Barron has testified in Superior Court, District Court on cases involving child abuse and has authored several publications concerning child abuse (see CV attached). Dr. Barron has had several Faculty Appointments where she has taught students on child abuse.

**General Principles of Reliability and Relevance:** Under the principles addressed in *Daubert* and *Lanigan*, the primary subject of the judicial gate keeping inquiry is to assess whether experts opinions are sufficiently reliable and relevant to assist the trial of fact. *Daubert*, 509 U.S. at 593 and *Lanigan*, 419 Mass. At 26. The issue of relevance is relatively straightforward. Evidence is relevant if it has any tendency to make the

existence of any fact that is of consequence to the determination of the action more probable or less probable that it would be without the evidence. *Commonwealth v. DiMonte*, 427 Mass.233 (1998). If an expert's testimony is irrelevant, the trial court should exclude it as it would in any other circumstances. *Commonwealth v. Pare*, 43 Mass. App. Ct. 566, 572

(1997). The testimony of Dr. Christine Barron is relevant since her medical testimony to identify the children is crucial to the prosecution of this case. Dr. Barron met with Officer Donais and based upon her training, experience and the *Tanner Scale*, picked the images which became the subject of the indictments above. Where there was doubt or a question as to the children being under the age of 18, the images were not shown to the Grand Jurors.

The issue of reliability is more complex. Expert testimony is permitted when it "will assist the trier of fact to understand the evidence or to determine a fact in issue..." *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S.579 (1993) The thrust of the Supreme Court's reasoning is that, for expert testimony to assist the fact finder, the underlying principles must have the requisite degree of scientific validity. The *Lanigan* court also held that the "ultimate test" of the gate keeping inquiry "is the reliability of the theory or process underlying the expert's testimony." *Lanigan*, 419 Mass. At 26. Dr. Barron relies, in addition to her years of education, clinical experience, teaching, research and publications on the Tanner Scale.

**The Tanner Staging** was developed in 1960's and 1970's by two British physicians who devised a method of 'staging' the development of puberty. (*Marshall, W.A., & Tanner, J. M. 1969, 1970 Variations in pattern of pubertal changes in girls. Arch Dis Child, 44(235), 291-303.* These physical changes noted on inspection of the male and female children have been shown to correlate with the hormonal changes occurring during adolescent development. For girls, as in the case at bar, Tanner staging by photographs is more obvious than boys. See Tanner staging in girls from the Publications Department of the American Academy of Pediatrics (Herman Gidens & Bourdony, 1995) for girls, breasts and pubic hair are elevated to determine "Tanner stages".

Specifically Dr. Barron relied on the stages of development of the breasts of the females depicted in the images recovered from Mr. Hoose's computer after execution of said search warrant. An expert looks at the following breast stages to assist in her medical opinions:

**Breast Stage 1. (B I):** this is the infantile stage which persists from birth until the onset of puberty. There is no actual breast tissue noted and the areola (the darker colored circle of tissue around the nipple) is flat.

**Breast Stage 2. (B II):** A small bud of tissue is found under the areola. The small bud of tissue is not larger than the areola.

**Breast Stage 3. (B III):** The breast and areola continue to enlarge. There is no separation in the contour of the breast and the areola. They have continuous, rounded contour.

**Breast Stage 4. (B IV):** The areola and the nipple increase in size. They form a secondary mound of tissue projecting about the contour of the breast.

Breast Stage 5. (B V): The breast shows adult configuration with prominent nipple a smooth, rounded contour. The secondary mound of the nipple and areola seen in Breast stage 4 is gone.

After Dr. Barron reviewed the 110 images and applied the Tanner Scale to each, she selected the photographs provided to and described to the Grand Jury. Dr. Barron provided the following opinion on Commonwealth v. Hoose.

"Tanner Staging provides a standard to describe physiologic pubertal development as it relates to age ranges. Recent multicenter studies have been completed to establish the current prevalence and mean ages of onset of pubertal characteristics (pubic hair and breast development) in young girls. The data reveals that Caucasian children with Tanner stage II breast development (breast bud diameter less than or equal to the areola width) are 9.96 years +/- 1.82 years. Caucasian children with Tanner Stage II pubic hair development (few, slightly pigmented hairs over mons or labia majora) are 10.51 years +/- 1.67 years.

Due to the fact that secondary sexual characteristics development is variable, to be conservative I have indicated those images of children whose development is Tanner stage II or less. This means that indicated images are of children whose age is not greater than 11.78 years by breast development and no greater than 12.18 by pubic hair development"

Neither *Daubert* nor *Lanigan* answered the question of the degree of reliability required for expert testimony to be admissible. It is clear that reliability may be established in a variety of ways, ranging from general acceptance by a large number of experts in the field (*Lanigan*) to the credibility of an expert

expert who is presenting novel scientific testimony (*Canavan's Case*, 432 Mass. at 312) to the accuracy of the results of the expert's methodology (*Kumho Tire*, 526 U.S. at 156). Dr. Barron's testimony relies on a method of staging which has been taught to forensic pediatricians since the 1970's suggesting an inherent reliability required satisfying the theory has been tested and whether it has been subjected to peer review and publication.

**Scientific Validity Under Lanigan and Daubert:** Under the *Daubert/Lanigan* standard, an expert opinion is admissible only if the proponent proves that: (i) the opinion is scientifically valid; and (ii) it can be properly applied to the facts as issue. *Vassallo v. Baxter Healthcare Corp.*, 428 Mass. 1 (1998); the court may rely on the following factors in determining scientific validity. However, the court has broad latitude to consider whatever factors it finds useful. The factors on which a trial court relies depend upon the unique circumstances of the expert testimony involved. *Kumho Tire*, 526 U.S. at 512.

A critical factor is whether an expert method is used and accepted by the relevant scientific community. This factor does not require absolute unanimity of scientific opinion. *Daubert*, 509 U.S. at 593-594; *Lanigan*, 419 Mass. at 27. Some courts have characterized the testability of an expert's theory as the "key" or "most important" factor. *Daubert*, 509 U.S. 592. Testability distinguishes "science" from speculation or instinct. *Daubert*, 509 U.S. 593. The expert's opinion must be based on "knowledge" which is defined as something more than a subjective belief or unsupported speculation. *U.S. v. Varoudakis*, 1998 WL 151238(D.Mass.1998). Courts may also consider whether an expert can identify recognized authorities that rely on the particular

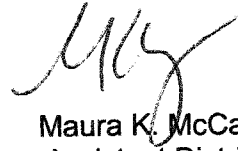
scientific method used by the expert. *Commonwealth v. Rosier*, 425 Mass. 807, 812 (1997). Peer review is an important factor in determining the validity of expert testimony because it increases the likelihood of discovering flaws in the expert's method. *Daubert*, 509 U.S. at 593. Dr. Barron testified that the Tanner staging method is used and accepted by the scientific community as a means of determining or 'staging' the development of puberty. The Tanner Method has been subject to peer review and has been utilized by the forensic pediatric community since the 1970's specifically for the above reasons; the duration of the existence of such a Method in forensic pediatrics suggests that the method has been rigorously peer-reviewed and subjected to the flushing out of flaws through the debate amongst experts.

Courts look to whether the expert has been permitted to testify in prior cases using the same method. Courts may be more likely to exclude expert testimony that other courts have excluded as unreliable. *Casey v. Agway Energy Prods.*, C.A. No. 96-382 at 14. Although Dr. Barron has employed the Tanner staging method on a number of cases; the case at bar is the first time she has testified to the method itself. No information suggests that the method has been declared unreliable by a Massachusetts Court. The subject Dr. Barron testified to is one that was derived by scientific method and her knowledge is based more on the subjective brief or unsupported certainty. *Daubert*, 509 U.S. at 593. The Tanner Method is an objective method applied and several steps are taken to review each picture believed to be a child. Dr. Barron employed these method's when she reviewed the initial 110 images by first, studying the quality of the images. The images provided from the defendant's computer were in color and of good quality. (See pictures with indictments attached). Second, grouping images containing in photos of the same child in order to observe the physical qualities if not all physical characteristics are obvious on any one photo. The images in this case have been grouped under the specific indictments with one indictment reflecting the child that is similar in several photos images. Third, and once the 'analyzable' photos are identified; it is helpful to have a specific protocol for collecting and recording data from the images. Noted in this case is that Dr. Barron placed a check mark on the photos identified using the Tanner method as children. Those marked with a check were children in Dr. Barron's medical opinion and the others not marked were not considered for indictment. The images were then referred to by Dr. Barron during her testimony. Dr. Barron's expert testimony is one based on her opinion on facts she has experienced as a clinician and teachers as well as from the data culled from her training as a physician. Further, the data is the type reasonably relied upon by other experts in the field. *Department of Youth Services v. A Juvenile*, 398 Mass. 516, 531 (1986). Dr. Barron is able to refer to the particular study and protocol followed to employ the Tanner Method with consistency and objectivity. Dr. Barron's reliance on the Tanner Method is scientifically valid and relevant to the issue of whether or not the children the Commonwealth allege to be under the age of 18 indeed are.

Dr. Barron's education, expertise in the field of forensic pediatrics, experience in the field of forensic pediatrics coupled credible testimony on a known scientific theory, with a reliable methodology which has been applied to the facts of this case renders her inherently qualified to be an expert witness for the Commonwealth in this case. For the above reasons the Defendant's Motion for the exclusion of Dr. Barron's expert testimony should be denied.

Date: 3-10-2005

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'MKC', written in a cursive style.

Maura K. McCarthy  
Assistant District Attorney