Chapter 7
Opinions and Expert Testimony
Table of Contents

CHAPTER 7

OPINIONS AND EXPERT TESTIMONY

I. OVERVIEW

Opinion testimony can come from three types of witnesses: (1) lay witnesses; (2) skilled witnesses, who have a degree of knowledge short of that sufficient to be declared experts, but somewhat beyond that possessed by ordinary jurors, Mariscal v. State, 687 N.E.2d 378 (Ind. Ct. App. 1997); and (3) expert witnesses. The difference between a skilled witness and an expert is that a skilled witness bases his opinion on his perception; whereas an expert bases his opinion on a theory or phenomenon. Kubsch v. State, 784 N.E.2d 905, 922 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016).

For lay and skilled witnesses' opinions to be admissible, they must meet the foundational requirements set forth in Indiana Rule of Evidence 701. For expert witnesses' opinions to be admissible, they must meet the foundational requirements set forth in Indiana Rule of Evidence 702 (qualifications and reliable scientific basis) and Rule 703 (factual basis). Indiana Rule of Evidence 705 allows only experts to give an opinion prior to asserting their factual reasoning. Lay witnesses must provide their factual basis before asserting their opinions. Indiana Rule of Evidence 704 makes some areas of inquiry, like guilt or innocence or truth or falsity of testimony, off limits for opinion evidence regardless of the type of expert.

Thus, whenever an issue arises with opinion testimony, carefully consider each rule in Article VII (Rules 701 through 705). The opinion testimony must meet all Article VII requirements.

II. OPINION TESTIMONY BY LAY WITNESSES- RULE 701

A. OFFICIAL TEXT:

If a witness is not testifying as an expert, testimony in the form of an opinion is limited to one that is:

(a) rationally based on the witness's perception; and

(b) helpful to a clear understanding of the witness's testimony or to a determination of a fact in issue.

B. APPLIES ONLY TO LAY AND SKILLED WITNESSES

Rule 701 applies to the admissibility of lay and skilled witness opinion, and Rule 702 applies to the admissibility of expert witness opinion. Kubsch v. State, 784 N.E.2d 905 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016). The difference between a skilled witness and an expert is that a skilled witness bases his opinion on his perception, whereas an expert bases his opinion on a theory or phenomenon. Id. at 922.

C. REQUIREMENTS

The admission of opinion testimony is within the trial court's discretion. Gibson v. State, 709 N.E.2d 11, 15 (Ind. Ct. App. 1999). "Three factors must be shown before the admission of lay opinion testimony: (1) the lay witness must set forth enough facts to allow the trial court to find, pursuant to Evidence Rule 104(a), that the opinion is based on the witness's personal perceptions, [citation omitted]; (2) the opinion must be 'rationally' based on the witness's perception [citation omitted]; and (3) the opinion must be helpful to a clear understanding of the witness's testimony or to the determination of a fact in issue." Prewitt v. State, 819 N.E.2d 393, 414 (Ind. Ct. App. 2004) (*citing* Ackles v. Hartford Underwriters Ins. Corp., 699 N.E.2d 740, 743 (Ind. Ct. App. 1998)).

Hawkins v. State, 626 N.E.2d 436 (Ind. 1993) (case law prior to adoption of rules of evidence holding lay witnesses may express opinion on numerous subjects if opinion is based on personal knowledge and proper factual basis is laid, is consistent with new IRE 701.)

1. Rationally based on witness's perception

a. Sufficient facts on which to base opinion

The proponent of lay opinion testimony must set forth sufficient facts to show that the opinion is based on the witness's personal perceptions. Hawkins v. State, 626 N.E.2d 436 (Ind. 1993). See Miller, 13 *Indiana Evidence* 8 § 701.103 (4th ed.); Tanford, *Indiana Trial Evidence Manual* § 34.03(A) (5th ed.); see also Rule 602 (prohibiting witness from testifying to a matter unless evidence is introduced to support a finding that the witness has personal knowledge of the matter).

Unlike an expert witness, a lay witness may not generally give an opinion based on hearsay and the proponent of the lay witness opinion must set forth the facts on which the opinion is based prior to offering the opinion. Cf. Ind. R. Evid. 703 (expert may give an opinion based on reliable hearsay); Ind. R. Evid. 705 (expert witness may, if court permits, testify in opinion form before giving facts on which opinion is based, but facts may be brought out on cross-examination).

Kubsch v. State, 784 N.E.2d 905 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016) (because detective's opinion was based on a suspect/victim relationship theory or phenomenon rather than anything that the detective either saw or heard at the scene of the crime, or became aware of through his other senses, his opinion that the attacker would cover the face of his victim because he knew her was inadmissible under Evid. Rule 701).

Stroud v. State, 809 N.E.2d 274 (Ind. 2004) (officer's testimony that he had purchased both Adidas and Reebok shoes approximately twenty times each was a sufficient basis to support his opinion that Reebok shoe sizes run smaller than Adidas; fact that foundation for police officer's opinion testimony was not laid until immediately after his testimony was harmless error).

Ashworth v. State, 901 N.E.2d 567 (Ind. Ct. App. 2009) (suggesting that "perception" within the meaning of IRE 701 excludes an officer's opinion that is based on a colleague's investigation).

Koziol v. Vojvoda, 662 N.E.2d 985 (Ind. Ct. App. 1996) (where officer talked with parties in an accident, examined lighting conditions in area of accident, completed accident report, observed intersection, and based on grade of roadway and other facts, formed an opinion as to fault, officer possessed special knowledge which could be helpful to the jury).

b. Reasonable connection between facts and opinion

(1) Lay witness

Rule 701(a) requires that "the opinion must be one that a reasonable person normally could form from the perceived facts, which are facts received directly through any of the [witness's own] senses." Satterfield v. State, 33 N.E.3d 344, 352 (Ind. 2015). Thus, a lay witness opinion cannot be based on speculation or testimony based on improper inferences. Ackles v. Hartford Underwriters Ins. Corp., 699 N.E.2d 740 (Ind. Ct. App. 1998).

Dunn v. State, 919 N.E.2d 609 (Ind. Ct. App. 2010) (girlfriend's voicemail message about defendant's motive was admissible opinion under Rule 701 because it was one a reasonable person could form based on the perceived facts; girlfriend had dated defendant for several years and she was with him during incident).

Dickens v. State, 754 N.E.2d 1 (Ind. 2001) (police officer testifying as lay witness to shooting of fellow officer had sufficient familiarity with the crime scene to testify regarding his opinion of how many people were present and whether anyone could have escaped unnoticed).

(2) Skilled witness; specialized knowledge

"In some cases, an opinion offered by a lay witness cannot be said to be 'rationally based on the perception of the witness' unless the witness possesses specialized knowledge. Such witnesses are often called 'skilled lay observers.'" Committee Commentary, Ind. Evid. R. 701 (*citing* Wagner v. State, 474 N.E.2d 476 (Ind. 1985) and Almodovar v. State, 464 N.E.2d 906 (Ind. 1984)). A skilled witness is a person with a degree of knowledge short of that sufficient to be declared an expert, but somewhat beyond that possessed by ordinary jurors. Mariscal v. State, 687 N.E.2d 378 (Ind. Ct. App. 1997).

Not only can "skilled witnesses" testify about their observations, but also, they can testify to opinions or inferences that are based solely on facts within their own personal knowledge. Riggle v. State, 151 N.E.3d 766 (Ind. Ct. App. 2020). The difference between skilled witnesses and ordinary lay witnesses is their degree of knowledge concerning the subject of their testimony; neither has the scientific, technical, or other specialized knowledge of experts, and both ordinary lay witnesses and skilled witnesses testify from their perceptions alone, not necessarily established scientific principles.

Wilburn v. State, 177 N.E.3d 805 (Ind. Ct. App. 2021) (police sergeant's testimony regarding comparisons between clothing worn by robber in robbed store's infrared surveillance footage and infrared and non-infrared photographs of clothing either recovered from defendant's person or between store and defendant's location at time of his arrest, constituted skilled witness testimony, not expert witness testimony, and thus local rule requiring that a defendant be given 14 days of notice of an expert's opinions prior to trial did not apply; sergeant merely testified regarding differences in how items appear under ambient lighting and infrared lighting, which jurors could observe for themselves in footage and photographs, and sergeant did not testify regarding scientific principles or methodology).

(a) Areas of skilled witness testimony

(i) Cause of injuries

Mariscal v. State, 687 N.E.2d 378 (Ind. Ct. App. 1997) (eyewitness properly testified that the defendant, and not the victim, "probably stabbed himself in leg or hip" during the fight; although the witness' training as security guard, reserve police officer and martial artist did not qualify witness as expert under Ind. R. Evid. 702, it was sufficient to qualify him as skilled witness).

Kent v. State, 675 N.E.2d 332 (Ind. 1996) (officer who had EMT training and was an eyewitness had basis to testify that defendant was trying to harm rather than help victim by roughly thrusting on victim's abdomen, and that condition of victim was not consistent with fall in bathtub, to rebut defendant's theory that he was trying to resuscitate victim).

(ii) Firarms/ballistics

A.J.R. v. State, 3 N.E.3d 1000 (Ind. Ct. App. 2014) (police officer experienced with military-style equipment could opine, based on location of shell casings, where shots came from).

(iii) Cell phone data-recovery

Taylor v. State, 101 N.E.3d 865 (Ind. Ct. App. 2018) (trial court properly allowed detective to testify about evidence he recovered from defendant's phone by using the "Chip-Off" forensic technique to remove memory chip from phone and retrieve the data; testimony was not scientific in nature, but rather "technical" or "specialized knowledge").

(iv) Drugs and dealing

Vasquez v. State, 741 N.E.2d 1214 (Ind. 2001) (where police officers testified that based on their observations and experience a substance smelled and looked like toluene, the trial court could readily find that this inference was rationally based on the officers' perceptions). See also West v. State, 805 N.E.2d 909 (Ind. Ct. App. 2004); and Montgomery v. State, 22 N.E.3d 768 (Ind. Ct. App. 2014).

Buelna v. State, 20 N.E.3d 137 (Ind. 2014) (a properly qualified skilled witness can opine the amount of methamphetamine that would be produced from the "intermediate mixture" of methamphetamine precursors discovered).

O'Neal v. State, 716 N.E.2d 82 (Ind. Ct. App. 1999) (where a witness was a patrolman for five years and had made hundreds of arrests related to the use of crack cocaine, even though his experience and training may not have qualified him as an expert witness, he could testify as a skilled witness on the issue of the defendant's intent to deal crack cocaine). See also Davis v. State, 791 N.E.2d 266 (Ind. Ct. App. 2003).

Hape v. State, 903 N.E.2d 977 (Ind. Ct. App. 2009) (even if an officer is a skilled witness as to the amount of methamphetamine constituting personal use, the officer is not an expert and cannot testify to how much methamphetamine it takes for a person to get high; such requires scientific knowledge).

Davis v. State, 948 N.E.2d 843 (Ind. Ct. App. 2011) (in trial for possession of cocaine, trial court abused its discretion by allowing a detective to testify as a

skilled witness that the denomination of currency found on defendant were indicative of drug dealing; testimony failed to satisfy requirement under Rule 701 that skilled witness testimony be helpful to a determination of a fact in issue).

Jones v. State, 957 N.E.2d 1033 (Ind. Ct. App. 2011) (officer was qualified to testify that the methamphetamine lab was based on the one-pot reaction method).

Romo v. State, 929 N.E.2d 805 (Ind. Ct. App. 2010) (it can be inferred that a Drug Task Force detective possesses knowledge beyond that of the average juror about the dealing of narcotics and is thus sufficiently familiar with the language of trafficking to provide testimony regarding drug-dealing terminology).

However, even a qualified expert cannot testify to opinions that violate Indiana Rule of Evidence 704(b).

> Scisney v. State, 690 N.E.2d 342 (Ind. Ct. App. 1997) (officer qualified as an expert in the area of drugs, drug trade or drug trafficking, may not be presented with a hypothetical set of facts which reflect the facts of the case and be asked to conclude whether a hypothetical individual is more likely a dealer or a user; this violates Indiana Rule of Evidence 704(b)), *aff'd by* 701 N.E.2d 847 (Ind. 1998).
>
> Williams v. State, 43 N.E.3d 578 (Ind. 2015) (in dealing in cocaine prosecution, detective's testimony that he had "zero doubt" that what he saw was a drug transaction was an outright opinion of defendant's guilt that violated Indiana Rule of Evidence 704(b)).

(v) Staged scene

Angleton v. State, 686 N.E.2d 803 (Ind. 1997) (police officer's opinion testimony in murder trial that he did not believe a burglary had occurred at the house where victim was killed was admissible).

Stephenson v. State, 742 N.E.2d 463 (Ind. 2001) (crime scene technician's opinion that defendant's car had been cleaned was rationally based on his perceptions of finding a damp floorboard and discovering no hair evidence in defendant's car, and upon his observations of numerous investigations of other vehicles), *cert. den'd*. See also Hawkins v. State, 884 N.E.2d 939 (Ind. Ct. App. 2008).

(vi) Identity

Vinson v. State, 735 N.E.2d 828 (Ind. Ct. App. 2000) (trial court properly allowed officer to testify re: his opinion of defendant's identity as person depicted in the surveillance video because officer's experience viewing videotapes was basis for the trial court to conclude that the officer was more

likely to identify the defendant correctly from video than the jury), *disapproved of on other grounds,* Long v. State*,* 743 N.E.2d 253, 257 n.6 (Ind. 2001).

(vii) Child molestation issues

All vouching, whether direct or indirect, of a child witness is inadmissible under Ind. Rule of Evidence 704. Hoglund v. State, 962 N.E.2d 1230 (Ind. 2012). Thus, the adoption of Rule 704 *overruled* prior common law, such as Lawrence v. State, 464 N.E.2d 923 (Ind. 1984), that allowed testimony regarding whether kids are prone to exaggerate or fantasize. Id.

Haycraft v. State, 760 N.E.2d 203 (Ind. Ct. App. 2001) (an officer who had superior knowledge of procedures that child molesters employ compared to the average person could testify about grooming techniques of child molesters as a skilled witness, although he did not consider himself an expert).

DeMotte v. State, 555 N.E.2d 1336 (Ind. Ct. App. 1999) (the defendant has corresponding right to offer testimony as to child's inability to perceive or remember sexual encounter; trial court committed reversible error by prohibiting defendant from cross-examining stepmother about victim's sexual knowledge, police officer about victim's ability to describe events and school counselor about victim's emotional and academic problems).

Matter of A.F., 69 N.E.3d 932, 949 (Ind. Ct. App. 2017) (no abuse of discretion to admit guardian ad litem's testimony that children suffered emotional trauma from being removed from then returned to parent's home).

U.S. v. Vallejo, 237 F.3d 1008 (9th Cir. 2001) (defendant whose testimony about what he said during interrogation differed in key ways from the interrogator's recollection should have been allowed to present psychologist from school who would testify, based on his school records, as to the nature of his language difficulties; the issue was beyond the common knowledge of jurors, and the psychologist's testimony could have assisted the jury in assessing whether the discrepancies in the two accounts were the result of the defendant's language problems).

(viii) Victims' behavior

Otte v. State, 967 N.E.2d 540 (Ind. Ct. App. 2012) (domestic violence expert's testimony that victims of domestic violence routinely recant their stories did not have to be based upon reliable scientific principles because expert was testifying as to her experience and specialized knowledge).

Lyons v. State, 976 N.E.2d 137 (Ind. Ct. App. 2012) (child psychologist could testify to mannerisms and behaviors that are common among child molest victims because it was not based on a recognized syndrome or profile but rather her experience).

NOTE: When dealing with a scientific expert making opinions, argue that experience cannot substitute for reliable scientific methodology or principles. Indiana Mich. Power Co. v. Runge, 717 N.E.2d 216, 236 (Ind. Ct. App. 1999) (allowing a self-professed expert to base his opinions merely upon his 'years of experience' would be 'inconsistent with the clear intent of [Evid. R. 702] that scientific experts demonstrate their testimony is based on reliable scientific principles."). In fact, Lyons, *supra*, provides a method of circumventing the Indiana Supreme Court's holding in Steward v. State, 652 N.E.2d 490 (Ind. 1995), that child abuse accommodation syndrome is not a proven scientifically reliable psychological theory admissible as evidence of child abuse. Experience should not be able to support theories where science does not.

(b) Interaction with Rules 403 and 704

Although an opinion of an officer or a skilled witness as to an issue in the case may be admissible under Indiana Rule of Evidence 701, the testimony may be inadmissible under other Rules of Evidence.

Ackles v. Hartford Underwriters Ins. Corp., 699 N.E.2d 740 (Ind. Ct. App. 1998) (even if evidence is admissible under Rule 701, the court may choose to exclude lay testimony under Rule 403 if its probative value is outweighed by its prejudicial effect).

Scisney v. State, 690 N.E.2d 342 (Ind. Ct. App. 1997) (officer qualified as an expert in the area of drugs, drug trade or drug trafficking, may not be presented with a hypothetical set of facts which reflect the facts of the case and be asked to conclude whether a hypothetical individual is more likely a dealer or a user; this violates Ind. Evid. R. 704(b)), *aff'd by* 701 N.E.2d 847 (Ind. 1998).

(c) Notice not required

There is no requirement that a party provide notice that its witness will testify as a skilled witness.

A.J.R. v. State, 3 N.E.3d 1000 (Ind. Ct. App. 2013) (juvenile was not denied due process or a fair hearing by admitting police officer's testimony about juvenile's location when he shot and killed two cows, despite fact State did not provide notice that it would call the officer as a skilled witness; A.J.R. was notified that officer was on State's witness list).

2. Helpful to a clear understanding of witness's testimony or determination of fact in issue

"The requirement that the opinion be 'helpful' means, in part, that the testimony gives substance to facts which were difficult to articulate." Mariscal v. State, 687 N.E.2d 378 (Ind. Ct. App. 1997). Opinions are not properly permitted where the jurors are as well qualified to form an opinion upon the facts as the witness. Hensley v. State, 448 N.E.2d 665, 667 (Ind. 1983).

Dunn v. State, 919 N.E.2d 609 (Ind. Ct. App. 2010) (girlfriend's voicemail message about Defendant's motive met helpfulness criterion of Rule 701 because message helped determine whether Defendant instigated or participated willingly in the fight).

Prewitt v. State, 819 N.E.2d 393 (Ind. Ct. App. 2004) (based on observations of his son, parent's testimony that alleged murder victim would never have committed suicide was admissible to counter defense theory of suicide).

Satterfield v. State, 33 N.E.3d 344 (Ind. 2015) (detective's testimony that defendant was evasive in his interview was properly admitted as a lay opinion – a helpful summary of observations any juror could have made while listening to the defendant's responses).

Hanson v. State, 704 N.E.2d 152 (Ind. Ct. App. 1998) (where a police officer who had more knowledge than the jury, including his general experience, training and handling of firearms, as well as his assessment of the particular weapon at issue and viewing of the gun found in the defendant's room, his testimony conveyed to the jury facts helpful in determining whether the weapon's serial numbers had been obliterated and was admissible).

State v. Farr-Lenzin, 970 P.2d 313 (Wash. Ct. App. 1999) (it was error for officer to give opinion that defendant was trying to elude him based on the defendant's driving pattern; determining whether a driver is attempting to elude a police officer is not beyond the understanding of the ordinary lay person).

Whedon v. State, 900 N.E.2d 498 (Ind. Ct. App. 2009), *aff'd*, 905 N.E.2d 408 (Ind. 2009) (trial court properly excluded opinion testimony regarding "incentivized testimony" from Executive Director of Center on Wrongful Convictions at Northwestern School of Law because it is not a "scientific, technical or other specialized" area and would not be helpful to a jury; it is within common sense of jury).

PRACTICE POINTER: Testimony of a lay person or skilled witness as to a child's behavior after an alleged abuse may not be helpful to the jury and, thus, inadmissible under 701. In Steward v. State, 652 N.E.2d 490 (Ind. 1995), the Indiana Supreme Court held that child sexual abuse syndrome, profile or pattern evidence is not admissible to prove that child abuse occurred because the scientific reasoning is unreliable under 702(b). However, if defense discusses or presents evidence of behavior by child inconsistent with child abuse, or if during testimony child recants prior allegation of abuse, trial court may consider permitting expert testimony on child sexual abuse if it meets the requirements of 702(b), 403 and does not include opinions as to the child's truthfulness. Id. If the theory abused children act in a predictable manner is not reliable, then a lay person's testimony as to the child's behavior lacks probative value to be helpful to the jury. Therefore, the same limitations applied to expert testimony should apply to lay testimony in the area of child abuse opinion.

Concrete descriptions are favored over the abstract. See, McCormick on Evidence, 72-73 § 11 (7th ed.) (examiner's questions should call for the most specific account the witness can give).

But see Kirby v. State, 481 N.E.2d 372 (Ind. 1985) (even though officer later was able to testify regarding the observations of the defendant's conduct which formed the basis of his conclusory statement, trial court determined it was impossible or extremely difficult for the officer to convey to the jury his mental impressions of observable facts; thus, officer could testify that the defendant "faked crying" when he was told of his son's death with which he is charged).

D. EFFECT OF LAY WITNESS OPINION

Where there is conflicting evidence from expert and lay witnesses, the finder of fact is free to accept or reject any of the evidence it hears from any of the witnesses. Motana v. State, 468 N.E.2d 1042 (Ind. 1984); Wilson v. State, 333 N.E.2d 755 (Ind. 1975).

Gambill v. State, 675 N.E.2d 668 (Ind. 1996) (where all four expert witnesses testified that defendant was legally insane and two lay witnesses testified that defendant was able to appreciate wrongfulness of her actions, the jury could and did disregard the expert testimony).

E. EXAMPLES OF OPINION TESTIMONY

The following is a non-exclusive list of examples of areas in which courts have traditionally allowed lay opinions prior to and after the 1994 adoption of the Rules of Evidence. Whether similar lay opinion testimony has or has not been admitted in past cases will not always be dispositive of its admissibility in later cases. Whether a lay opinion is rationally based on the witness' testimony and is helpful to the jury should be determined on a case-by-case basis.

1. Identity

a. Of person

"Any witness may express opinion as to the identity of the person who committed the crime. The facts on which the opinion is based may then be attacked on cross examination." Rhodes v. State, 154 Ind. App. 594, 290 N.E.2d 504, 507 (1972). Even lay opinions to identity that are not given with absolute certainty are helpful to the jury and admissible. Gibson v. State, 709 N.E.2d 11 (Ind. Ct. App. 1999). An opinion or belief as to identity may even be sufficient to support a conviction. Poe v. State, 445 N.E.2d 94, 98 (Ind. 1983).

Goodson v. State, 747 N.E.2d 1181 (Ind. Ct. App. 2001) (the lay opinion of a police officer that a person depicted in a videotape was the defendant was admissible, where the officer testified that he had known the defendant for two or three years, and the opinion was 'helpful to the jury' in determining the identity of the person in the video). See also Keller v. State, 25 N.E.3d 807 (Ind. Ct. App. 2015), *aff'd in part, vacated in part on other grounds*, 47 N.E.3d 1205 (Ind. 2016); Gibson v. State, 709 N.E.2d 11 (Ind. Ct. App. 1999); and Vinson v. State, 735 N.E.2d 828 (Ind. Ct. App. 2000), *disapproved of on other grounds,* Long v. State, 743 N.E.2d 253, 257 n.6 (Ind. 2001).

Pritchard v. State, 810 N.E.2d 758 (Ind. Ct. App. 2004) (no error in admitting testimony of two prison officials regarding what they saw in a video recording that was later destroyed and was not hearsay because the testimony merely recounted what they saw in recording; the "silent witness theory" did not apply to case since the video was never admitted).

Connell v. State, 470 N.E.2d 701 (Ind. 1984) (it was error to allow witness to testify that he was absolutely certain that defendant was same person who robbed his apartment; witness should not be allowed to characterize own testimony).

b. Of things

(1) Footprint or shoeprint comparison

A lay witness can state an opinion based on the witness's comparison of a foot or shoe to a footprint, provided the opinion is based upon measurements or some definitive statement about the peculiarities or identifying characteristics. Halbig v. State, 525 N.E.2d 288, 291 (Ind. 1988); see also Miller, 13 *Indiana Evidence* 24-25 § 701.111 (4th ed.).

(2) Handwriting

A document can be authenticated by a non-expert who gives an opinion on the genuineness of handwriting, based upon familiarity not acquired for purposes of the litigation. Lockhart v. State, 671 N.E.2d 893 (Ind. Ct. App. 1996) (*citing* Indiana Rule of Evidence 901(b)(2)). An authenticated document can be compared with an unknown by the trier of fact or by an expert witness. Id. (*citing* Indiana Rule of Evidence 901(b)(3)).

(3) Of sounds

Testimony that noises "sounded like gunshots" is admissible. Gerrick v. State, 451 N.E.2d 327 (1983).

(4) Controlled substances

"Although chemical analysis is one way, and perhaps the best way, to establish the identity of a compound, persons experienced in the area may be able to identify cigarette smoke, marijuana, and even toluene. This is true even if every citizen may not be up to that task." Vasquez v. State, 741 N.E.2d 1214, 1217 (Ind. 2001).

Vasquez v. State, 741 N.E.3d 1214 (Ind. 2001) (where police officers testified that based on their observations and experience a substance smelled and looked like toluene, the trial court could readily find that this inference was rationally based on the officers' perceptions).

Clark v. State, 6 N.E.3d 992 (Ind. Ct. App. 2014) (no error in allowing detectives to testify as to their opinion the substance recovered from defendant's pocket was marijuana and detective's testimony was sufficient to establish it was marijuana).

2. Intoxication or sobriety

If a sufficient foundation is laid under Rule 701, a lay witness may give an opinion of another's intoxication. Mehidal v. State, 623 N.E.2d 428 (Ind. Ct. App. 1993).

State v. Snyder, 732 N.E.2d 1240 (Ind. Ct. App. 2000) (in a civil case, where the lay witness was an eyewitness to an accident, her opinion as to whether the defendant could have avoided the accident if he were sober is one that a reasonable person normally could form from viewing such an accident and was helpful to the jury).

Weaver v. State, 643 N.E.2d 342 (Ind. 1994) (DeBruler, J., concurring on basis that although the victim cannot testify to the defendant's intent as to whether the alleged offense was accidental, the victim could have given opinion on intoxication and whether the defendant had the ability to form intent).

3. Sanity

A lay person has traditionally been permitted to express an opinion about a person's mental condition or sanity if the witness has known or personally observed the person over a long period of time. Some cases indicate that limited familiarity with the subject of the opinion goes to the weight and not admissibility of the opinion. See Blake v. State, 390 N.E.2d 158 (Ind. 1979). Proof that the lay witness saw and spoke to the person concerning whose sanity he is giving an opinion is adequate. Ferguson v. State, 478 N.E.2d 673 (Ind. 1985).

Green v. State, 469 N.E.2d 1169 (Ind. 1984) (detective properly gave opinion that defendant was sane, based solely upon observing him on day after murder). See also Blake v. State, 390 N.E.2d 158 (Ind. 1979).

A lay witness is not required to understand the legal definition of sanity in order to testify to his opinion of the defendant's sanity. Williams v. State, 265 Ind. 190, 352 N.E.2d 733 (1976); Greenlee v. State, 170 Ind. App. 39, 354 N.E.2d 312, 315 (1976).

4. State of health

A lay witness may give an opinion about his own state of health, so long as the testimony is based on facts of which he has personal knowledge. Morphew v. Morphew, 419 N.E.2d 770, 777 (Ind. Ct. App 1981); Collins v. Kibort, 143 F.3d 331, 337 (7th Cir. 1998). Also, subject to the other requirements of Rule 701, a lay witness may be able to testify about the objective symptoms or outward health of another person but may not offer an expert opinion about a disease diagnosis. Walker v. Cuppett, 808 N.E.2d 85 (Ind. Ct. App. 2004); Gerrick v. State, 451 N.E.2d 327 (Ind. 1983); Western & Southern Life Insurance Co. v. Danciu, 26 N.E.2d 912 (Ind. 1940); Miller, 13 *Indiana Evidence* 23 § 701.110 (4th ed.) (non-expert witness may not give opinion testimony on a medical diagnosis, causes and effects of disease, or permanency of impairment).

Sibbing v. Cave, 922 N.E.2d 594, 599 (Ind. 2010) (plaintiff was not testifying as an expert; the question eliciting plaintiff's response did not ask for her medical expertise regarding causation of her pain; it merely asked, "What did you believe was causing your pain?" Her resulting answer, merely stating her own personal belief about source of her pain, was permissible as testimony by a lay witness pursuant to Ind. Evidence Rule 701).

5. Age

Opinions as to another's age have been generally held admissible if based on personal perception, see Miller, 13 *Indiana Evidence* 20 § 701.108 (4th ed.); Woods v. State, 267 Ind. 581, 372 N.E.2d 178, 178-79 (1978). Opinion testimony on age is not barred merely because age may be an ultimate issue in the case. Rule 704(a).

6. Demeanor/ Physical condition

A witness may testify as to demeanor and the witness' experience in assessing credibility, as long as the witness allows the jury to make its own conclusion on credibility. See Indiana Rule 704(b).

> Shepard v. State, 538 N.E.2d 242 (Ind. 1989) (in a murder case, the trial court committed reversible error in permitting a lay witness to testify that she did not believe the defendant was telling truth when she denied killing the victim).
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> Malinski v. State, 794 N.E.2d 1071 (Ind. 2003) (trial court did not violate Indiana Rule of Evidence 704(b) by allowing state to call several witnesses who testified that murder victim was upset that her house had been burglarized several days before she disappeared since testimony concerned victim's demeanor, not victim's credibility).

However, when it is difficult to convey the witness' mental impressions of the person in question to the jury, a witness may be given more latitude to draw conclusions about the person's actions or demeanor.

> Kirby v. State, 481 N.E.2d 372 (Ind. 1985) (even though officer later was able to testify regarding the observations of the defendant's conduct which formed the basis of his conclusory statement, trial court determined it was impossible or extremely difficult for the officer to convey to the jury his mental impressions of observable facts; thus, officer could testify that the defendant "faked crying" when he was told of his son's death with which he is charged).

7. Speed of a vehicle

Admissibility of opinion testimony on vehicle speed is generally within the trial court's discretion. Gates v. Rosenogle, 452 N.E.2d 467 (Ind. Ct. App. 1983) (reviewing cases and factors governing admissibility).

8. Value of property and services

An owner is competent to testify as to the value of his own personal property, U.S. v. Rivers, 917 F.2d 369 (8th Cir. 1990), or real property, Harper v. Goodin, 409 N.E.2d 1129 (Ind. Ct. App. 1980). A person performing services is competent to testify to their value. Walker v. Statzer, 152 Ind. App. 544, 284 N.E.2d 127 (1972). Further, a person with some familiarity with the services may give an opinion as to the value of the services. Cf. Broughton v. Reihle, 512 N.E.2d 1133 (Ind. Ct. App. 1987).

9. Motive and state of mind

Indiana traditionally has forbidden one person's opinion testimony on another person's mental process. Hirsch v. State, 697 N.E.2d 37 (Ind. 1998). Nonetheless, witnesses occasionally have been allowed to state opinions about another person's motivation or intent as long as the opinion was rationally based on the witness's perception of the other person. But the opinion must also be helpful to the trier of fact.

Dunn v. State, 919 N.E.2d 609 (Ind. Ct. App. 2010) (girlfriend's voicemail message about defendant's motive was admissible opinion under Rule 701 because it was one a reasonable person could form based on the perceived facts; girlfriend had dated defendant for several years and she was with him during incident; voicemail message met helpfulness criterion of Rule 701 because message helped determine whether defendant instigated or participated willingly in the fight).

Prewitt v. State, 819 N.E.2d 393 (Ind. Ct. App. 2004) (State established a sufficient foundation for admission of father's opinion of his son's personality and whether he would consider suicide).

III. TESTIMONY BY EXPERTS - RULE 702

A. OFFICIAL TEXT:

(a) A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue.

(b) Expert scientific testimony is admissible only if the court is satisfied that the expert testimony rests upon reliable scientific principles.

PRACTICE POINTER: Besides the requirements that an expert be qualified and rely on reliable scientific principles, the unfair prejudice caused by the expert's testimony cannot substantially outweigh the probative value of the expert's testimony. "Introduction of evidence with an unknown probative value regarding the only issue to be decided by the jury could be prejudicial to the opposing party and could cause confusion amongst the jury by giving them extraneous information to consider." Ollis v. Knecht, 751 N.E.2d 825, 831 (Ind. Ct. App. 2001).

B. AN EXPERT MUST BE QUALIFIED

1. Trial court's discretion

Whether a proposed expert witness has been sufficiently qualified is for the trial court's determination based on the witness' testimony. Willis v. State, 512 N.E.2d 871 (Ind. Ct. App. 1987). There is no precise quantum of knowledge. Jenkins v. State, 627 N.E.2d 789 (Ind. 1993); Wissman v. State, 540 N.E.2d 1209 (Ind. 1989).

2. Requirements

"Two requirements must be made in order for a witness to qualify as an expert: (1) the subject matter is distinctly related to some scientific field, business or profession beyond the knowledge of the average lay person; and (2) the witness is shown to have sufficient skill, knowledge, or experience in that area so that the opinion will aid the trier of fact." Bacher v. State, 686 N.E.2d 791 (Ind. 1997). The burden to show the witness is qualified as an expert to give an opinion is on the party offering the opinion. McCraney v. Kuechenberg, 144 Ind. App. 629, 248 N.E.2d 171, 173 (1969).

Rule 702 does not require a showing that the expert testimony is *needed*, only that it will "assist the trier of fact." Evidence Rule 702 assigns to the trial court a "gate keeping function" of ensuring that an expert's testimony both rests on reliable foundation and is relevant to the task at hand. Hannan v. Pest Control Serv., 734 N.E.2d 674, 679 (Ind. Ct. App. 2000).

T.H. v. Ind. Dept. of Child Svcs., 989 N.E.2d 355 (Ind. Ct. App. 2013) (although Ind. Code 25-23.6-4-6 prohibits a licensed social worker from providing expert testimony,

Ind. Rule of Evid. 702 contains no social-worker exclusion and trumps the statute; social worker qualified as an expert regarding the Child Abuse Potential Inventory).

a. Subject matter must be beyond average lay person

When jurors are faced with evidence that falls outside common experience, the courts allow specialists to supplement the jurors' insight. Carter v. State, 754 N.E.2d 877 (Ind. 2001).

Indiana case law suggests that the requirement that the subject matter must be beyond the knowledge of an average lay person is a low hurdle. In fact, the modern trend under Rule 702 is to permit expert testimony whenever it will assist the jury in resolving a difficult issue. Even when the subject is not completely beyond the knowledge of the average juror, an expert may nevertheless testify within the expert's field of specialty if the opinion will be helpful to the jury. See Miller, 13 *Indiana Evidence* 46-47 § 702.103 (4th ed.); but see Bacher v. State, 686 N.E.2d 791 (Ind. 1997); Hannon v. Pest Control Serv., 734 N.E.2d 674, 679 (Ind. Ct. App. 2000). However, expert testimony, which is merely helpful, but not needed, may be subject to exclusion under Rule 403.

b. Expert must possess sufficient knowledge, skill, experience, training, or education

An expert need only possess knowledge, skill, experience, training, or education to qualify as an expert. Kubsch v. State, 784 N.E.2d 905 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016). Thus, an expert does not need training, experience, and education; anyone may suffice.

Green v. State, 65 N.E.3d 620 (Ind. Ct. App. 2016) (defendant's psychologist was not licensed, nor was her methodology and diagnosis of PTSD done according to standards recognized by the scientific community; thus, no abuse of discretion in not allowing her to testify at defendant's murder trial).

(1) Lack of training, license or certification does not disqualify expert

The witness need not be licensed in the field in which he or she is tendered as an expert. Tunstall v. Manning, 124 N.E.3d 1193, 1198 (Ind. 2019) (disciplinary issues might be pertinent for impeachment),

Harford Steam Boiler Inspection & Ins. Co. v. White, 775 N.E.2d 1128 (Ind. Ct. App. 2002) (fact that boiler inspector who had inspected thousands of steam boilers and was licensed in many states had never been licensed in Indiana went only to his credibility and not admissibility of his testimony).

Burnett v. State, 815 N.E.2d 201 (Ind. Ct. App. 2004) (witness who identified defendant's latent fingerprint in victim's car was sufficiently qualified by experience and training to testify as expert witness even though he was not certified as latent fingerprint examiner).

Brackens v. State, 480 N.E.2d 536 (Ind. 1985) (fingerprint expert with no formal training but eighteen years' experience was qualified).

Balfour v. State, 427 N.E.2d 1091 (Ind. 1981) (four hours of laboratory training concerning testing for trace metals and experience since the four-hour training qualified witness as expert).

Turner v. State, 720 N.E.2d 440 (Ind. Ct. App. 1999) (forensic registered nurse was qualified to testify that striation in the genital area was indicative of some type of abuse and could be from finger manipulation in that area).

(2) Education and training, alone, is sufficient

Gambill v. State, 479 N.E.2d 523 (Ind. 1985) (pathologist with education and training but no experience with stabbings was qualified to give opinion in stabbing case).

Fox v. State, 506 N.E.2d 1090 (Ind. 1987) (although witness' expertise in area of blood spatters was limited (witness' first trial, study consisted of 1–2-week short course), no abuse of discretion found; limited experience goes to weight rather than admissibility).

(3) Practical experience, alone, is sufficient

A witness may qualify as an expert based on practical experience alone. Kubsch v. State, 784 N.E.2d 905, 921 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016).

Hare v. State, 467 N.E.2d 7 (Ind. 1984) (officer qualified to give opinion as to street price for drugs as an expert in this field (employed in narcotics division for four years and received special education offered in drug enforcement administration)).

White v. State, 630 N.E.2d 215 (Ind. Ct. App. 1994) (fact that officer was nineteen-year veteran of police department and had spent two years as evidence tech qualified him as an expert on the gases escaping from gun during shooting). See also Hanson v. State, 704 N.E.2d 152 (Ind. Ct. App. 1999).

Bacher v. State, 686 N.E.2d 791 (Ind. 1997) (paramedic for six years was qualified to give approximate time of death opinion).

Johnston v. State, 69 N.E.3d 507 (Ind. Ct. App. 2017) (police officer qualified as expert in forensic analysis of social media records and digital trails).

However, without experimentation, some opinions, based on experience, are nothing more than speculation.

Pinkins v. State, 799 N.E.2d 1079 (Ind. Ct. App. 2003) (highway maintenance worker was not qualified to testify that glass shattered in winter would still be on side of road in spring based on his experience of cleaning roads).

3. Limitations on qualified experts

a. Cannot testify beyond experience

The background and knowledge of the witness must relate to the specific subject in question. McCraney v. Kuechenberg, 144 Ind. App. 629, 248 N.E.2d 171 (1969). An expert may not render an opinion beyond their area of expertise. See Clark v. State, 562 N.E.2d 11 (Ind. 1990), *cert. denied*, 112 S. Ct. 425 (1991).

Albright v. State, 501 N.E.2d 488 (Ind. Ct. App. 1986) (despite expertise in sexual dysfunction and therapy, work with sixty persons from community with severe sexual problems does not qualify the witness to express opinions about entire community's attitudes towards sexually explicit material; counsel failed to show expert had training, education, or experience in identifying contemporary community standard). See also Bacher v. State, 686 N.E.2d 791 (Ind. 1997).

Wooley v. State, 716 N.E.2d 919 (Ind. 1999) (trial court did not abuse its discretion in concluding that extensive experience as emergency nurse was insufficient to qualify the witness as an expert on the standard of care for a doctor).

Armstrong v. Cerestar USA, Inc., 775 N.E.2d 360 (Ind. Ct. App. 2002) (an OSHA expert could not testify as to the health risks of exposure to hydrogen sulfide being that he was not a licensed physician with training, knowledge, and experience to the proximate cause determination of why plaintiff fell).

Stephenson v. State, 742 N.E.2d 463 (Ind. 2001), *cert. den'd,* 534 U.S. 1105, 122 S. Ct. 905 (2002) (coroner was not qualified to testify to time of death; error harmless).

Hape v. State, 903 N.E.2d 977 (Ind. Ct. App. 2009) (officer qualified to testify about personal use versus dealing amounts of methamphetamine was not qualified to testify to how much methamphetamine is needed to get high; such opinion requires scientific knowledge).

Weisheit v. State, 26 N.E.3d 3 (Ind. 2015) (Commissioner of the Department of Correction could testify, in penalty phase of death case, as to capital defendant's past prison adjustment, but was not qualified to opine regarding defendant's future prison adjustment, i.e., predict the defendant's future dangerousness, or lack thereof, in prison).

Tate v. State, 161 N.E.3d 1225 (Ind. 2021) (in murder prosecution, trial court did not commit fundamental error in allowing medical professionals' testimony that child's bruises did not look as if they had been caused moments earlier in car accident, despite defendant's contentions that witnesses were unqualified to give expert testimony and that their testimony did not rest on reliable scientific data; witnesses based their testimony on their experience treating trauma victims, and there was no indication that challenged testimony deprived defendant of any chance of fair trial).

If an expert's education is not in a specific field upon which the expert is testifying, the expert must have experience or knowledge to support his or her testimony.

Clark v. State, 562 N.E.2d 11 (Ind. 1990) (arson investigator, who was not a medical doctor, was not qualified to discuss the healing and treatment of burns, although he may have been able to testify to the appearance of burns caused by arson fires prior to healing), *cert. den'd*, 112 S. Ct. 425 (1991).

Taylor v. State, 710 N.E.2d 921 (Ind. 1999) (pathologist's extensive experience performing autopsies qualified him to offer an opinion on the position of the shooter, regardless of whether he was certified as a "forensic pathologist" or merely a pathologist).

b. Methodology, regardless of qualifications, must still be reliable

An expert's experience or training, however extensive, cannot satisfy the reliability requirement of 702(b). "An expert cannot rely solely on his or her own stature, intellect, or intuition to support an opinion admissible to aid the trier of fact. The basis – the 'reasoning' and 'facts and data' – of an opinion is distinct from the expert's qualifications as an expert in the field." Porter v. Whitehall Laboratories, 791 F. Supp. 1335, 1345 (S.D. Ind. 1992), *aff'd,* 9 F.3d 607 (7th Cir. 1993).

Indiana Mich. Power Co. v. Runge, 717 N.E.2d 216 (Ind. Ct. App. 1999) (allowing a self-professed expert to base his opinions merely on his years of experience was inconsistent with the clear intent of this rule that scientific experts demonstrate their testimony based on reliable scientific principles; expert opinion properly excluded).

Porter v. Whitehall Laboratories, 791 F. Supp. 1335, 1345 (S.D. Ind. 1992) (even though physician was highly trained and experienced in the subject matter his opinion as to causation was an unsupported, unproven hypothesis and was inadmissible), *aff'd,* 9 F.3d 607 (7th Cir. 1993).

4. Method of qualifying witness as expert

a. Should be done outside the presence of the jury

The qualifying of a witness as an expert should be done outside the presence of the jury. Only the jury is permitted to determine the weight to be given to a witness' testimony. Thus, a trial court should not comment on an expert's credentials in front of the jury, nor should counsel "[ask] the trial court to expressly accept a witness as an expert." Campbell v. Shelton, 727 N.E.2d 495, 500 (Ind. Ct. App. 2000).

"[Indiana Rule of Evidence 702] does not require a formal tender of the witness as an expert. The committee believes that the judges normally should not announce their ruling that a witness is qualified as an expert because the jury may misinterpret such a ruling as an endorsement of the witness's testimony." Committee Commentary D, Part (a) to Rule 702. However, because the Indiana Supreme Court did not adopt the Committee Commentary to the Rules of Evidence, the appellate courts are not bound by the commentary. Campbell v. Shelton, 727 N.E.2d 495, 500 (Ind. Ct. App. 2000).

b. Once qualified, witnesses should not be referred to as "experts"

Neither counsel nor trial court should refer to witnesses as "experts" in the presence of the jury. Farmer v. State, 908 N.E.2d 1192 (Ind. Ct. App. 2009).

Tate v. State, 161 N.E.3d 1225 (Ind. Ct. App. 2021) (distinguishing Farmer, Court noted that no rule prohibits the State from asking a witness about her history testifying as an expert witness).

C. SCIENTIFIC REASONING OR METHODOLOGY MUST BE RELIABLE

1. Purpose

"Indiana's Rule 702 is not intended 'to interpose an unnecessarily burdensome procedure or methodology for trial courts.' '[T[he adoption of Rule 702 reflected an intent to liberalize, rather than to constrict the admission of reliable scientific evidence.'" Turner v. State, 953 N.E.2d 1039, 1051 (Ind. 2011).

NOTE: To challenge Indiana's court's liberal reading of Rule 702(b), see the National Academy of Science's report, S*trengthening Forensic Science in the United States, A Path Forward* (2009). Chapter 3, The Admission of Forensic Science Evidence in Litigation, explains how courts in criminal cases have failed to live up to their duty as gatekeepers.

2. Standard under 702(b)

In determining the reliability of expert scientific evidence, there is no specific test which must be considered to satisfy the rules of evidence. Ingram v. State, 699 N.E.2d 261 (Ind. 1998). In determining whether scientific evidence is reliable, the trial court must determine whether it appears sufficiently valid or trustworthy to assist the jury. Ford Motor Co. v. Ammerman, 705 N.E.2d 539 (Ind. Ct. App. 1999), *cert. den'd* (2000). Inherent in any reliability analysis is the understanding that, as scientific principles become more advanced and complex, foundation required to establish reliability will necessarily become more advanced and complex as well. McGrew v. State, 682 N.E.2d 1289 (Ind. 1997).

a. Applies only to scientific reasoning or methodology

Observation by a witness with specialized knowledge, and the physical evidence related to it, are not scientific principles governed by Indiana Rule of Evidence 702(b). Carter v. State, 766 N.E.2d 377 (Ind. 2002). Thus, expert testimony based on skill or experience rather than scientific principles does not have to pass the reliability test of Rule 702(b). Lytle v. Ford Motor Co., 696 N.E.2d 465, 470 (Ind. Ct. App. 1998).

McGrew v. State, 682 N.E.2d 1289 (Ind. 1997) (trial court did not abuse its discretion in admitting evidence of a hair comparison analysis where the analysis consisted of observation of the hairs under a microscope by a state police analyst; the less complex the principles upon which the opinion is based, the less foundation required). See also Wentz v. State, 766 N.E.2d 351 (Ind. 2002).

West v. State, 755 N.E.2d 173 (Ind. 2001) (court did not abuse its discretion in admitting expert testimony regarding footwear, although expert testimony as to

footwear comparison was in the margins of testimony governed by 702(b); it is simply observations of persons with specialized knowledge).

Carter v. State, 766 N.E.2d 377 (Ind. 2002) (no error in finding bite mark evidence to be sufficiently reliable for admission into evidence; bite mark method of identification does not involve "scientific principles" governed by Ind. Evid. Rule 702(b), but rather it is simply a matter of comparison of physical evidence).

Jervis v. State, 679 N.E.2d 875 (Ind. 1997) (microscopic identification of sperm cells was not a matter of scientific principles).

Turner v. State, 953 N.E.2d 1039, 1052 (Ind. 2011) (suggesting that firearms tool mark analysis may not be based on scientific principles).

Malinski v. State, 794 N.E.2d 1071 (Ind. 2003) (trial court did not violate Indiana Rule of Evidence 702 by allowing state to ask forensic pathologist about whether photographs of victim in handcuffs and partially nude with bruises on her body indicated that victim was willing participant in events that were occurring when photographs were taken; the testimony was not based on scientific principles but rather specialized knowledge of anatomy and physiology).

But see McIntire v. Commonwealth, 192 S.W.3d 690 (Ky. 2006) (pediatrician's opinion that non-abusing parent would have been aware that her child was being abused still needed to be supported by a reliable theory; thus, opinion was inadmissible under Rule 403).

Even if not based on scientific principles, the proponent of the testimony must demonstrate that the testimony is beyond the knowledge of lay persons and that the expert possesses sufficient skill, knowledge or experience that would assist the trier of fact. Lytle v. Ford Motor Co., 696 N.E.2d 465, 470 (Ind. Ct. App. 1998).

Wahl v. State, 148 N.E.3d 1071 (Ind. Ct. App. 2020) (in involuntary manslaughter prosecution where supervision of a 20-month-old child in an in-home daycare was at issue, trial court did not abuse discretion in excluding defendants' expert physician because the expert had limited education and professional experience as to in-home daycare for children under three years of age. Thus, the doctor's testimony would not have assisted the jury in understanding the evidence or determine a fact in issue, i.e., whether defendants provided adequate supervision to the toddler prior to his death).

Lytle v. Ford Motor Co., 696 N.E.2d 465, 470 (Ind. Ct. App. 1998) (where engineer failed to perform any tests to support his opinion and failed to show his specialized knowledge about forces necessary to support his opinion that the seatbelt could be released with very little force, his opinion, based solely on his observations of the belt, was properly excluded).

PRACTICE POINTER: Although a proponent of an expert making a comparison does not have to prove the reliability of the principles upon which the comparison is based, the proponent still should have to prove the reliability of the principles upon which any conclusion is based. See, e.g., Patterson v. State, 729 N.E.2d 1035 (Ind. Ct. App. 2000) (statistical analysis in DNA conclusions must be proven reliable). If the only conclusion reached is that the evidence is consistent with that of the defendant or victim, argue that the prejudice substantially outweighs the probative value of the comparison testimony. "Introduction of evidence with an unknown probative value regarding the only issue to be decided by the jury could be prejudicial to the opposing party and could cause confusing amongst the jury by giving them extraneous information to consider." Ollis v. Knecht, 751 N.E.2d 825, 831 (Ind. Ct. App. 2001). Also, argue that Indiana should modify its procedural jurisprudence and apply the reliability requirement to all expert testimony as the federal courts do, pursuant to Kumho Tire Co. Ltd v. Carmichael, 119 S. Ct. 1167 (1999). Carter v. State, 766 N.E.2d 377, 381 (Ind. 2002) (holding that Kumho Tire, *supra*, is not binding on Indiana Courts, but recognizing that the defendant did not ask the Court to apply the reasoning in Kumho Tire, *supra*, as a matter of policy). When determining admissibility, the Court in Kumho Tire, *supra*, recognized, there is no valid reason to distinguish between scientific and non-scientific areas of expert testimony. In fact, the comparison-type expert testimony, such as hair, fiber, and bite mark, are the very types of testimony presented in many wrongful conviction cases. See *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial,* Edward Connors et al, National Institute of Justice Research Report (June 1996) (many of the wrongful convictions were based on forensic evidence, such as a comparison of non-victim specimens of blood, semen, or hair at the crime scene to that of the defendants.").

b. Nexus: scientific methodology must be reasonably applied to facts in the case

Although a scientific methodology may have been found to be reliable in certain cases, such methodology may not necessarily be able to be reasonably applied in all situations. Camm v. State, 908 N.E.2d 215, 235 (Ind. 2009).

(1) The expert cannot overstep the limits of the scientific methodology or reasoning

Not only must the trial court assess whether the reasoning or methodology underlying the testimony is scientifically valid, but also whether the reasoning or methodology can be properly applied to the facts at issue. Norfolk Southern Ry v. Estate of Wagers, 833 N.E.2d 93, 103 (Ind. Ct. App. 2005); Messer v. Cerestar USA Inc., 803 N.E.2d 1240 (Ind. Ct. App. 2004). There are important differences between the quest for truth in the courtroom and the quest for truth in the laboratory. Hottinger v. Trugreen Corp., 665 N.E.2d 593, 596 (Ind. Ct. App. 1996) (*citing* Daubert, 509 U.S. at 5906, 113 S. Ct. at 2798). "Pseudoscientific conjectures that are probably wrong are of little use in the project of reaching a quick, final and binding legal judgment." Id.

For instance, it is accepted that the scientific reasoning behind DNA comparisons is reliable. However, the same scientific reasoning may not be sufficiently reliable to support an expert's opinion that the unknown owner of a DNA profile is five foot, seven inches. Although maybe one day we will be able to determine the physical characteristics of a person from their DNA, the science may not yet be there. Experts cannot overstep the limits of their science.

> Turner v. State, 953 N.E.2d 1039, 1051-52 (Ind. 2011) (using a scientific principle for a purpose other than the purpose for which it was developed will not

meet the reliability requirement of Rule 702(b); *citing* to Steward v. State, 652 N.E.2d 490 (Ind. 1995) in which the child abuse syndrome was misused as an example).

(2) The reasoning cannot be speculative

Indiana Rule of Evidence 702 requires more than subjective belief or unsupported speculation. Messer v. Cerestar USA Inc., 803 N.E.2d 1240 (Ind. Ct. App. 2004). "'Although experts may provide opinions in the form of a hypothetical fact situation, the scientific foundation or reasoning process may not be based on merely hypothetical causal relationships. Unsupported subjective opinion is unhelpful speculation and not admissible under Rule 702 . . . An expert opinion must have some basis other than hypothesis before the opinion may have the privilege of being assailed by cross-examination.'" Indiana Mich. Power Co. v. Runge, 717 N.E.2d 216, 237 (Ind. Ct. App. 1999) (*quoting* Porter v. Whitehall Laboratories, Inc, 791 F. Supp. 1335, 1345 (S.D. Ind. 1992), *aff'd*, 9 F.3d 607 (7th Cir. 1993).

Lytle v. Ford Motor Co., 814 N.E.2d 301 (Ind. Ct. App. 2004) (trial court properly excluded expert testimony that did not establish nexus between their data and accident in question, failed to demonstrate scientific reliability of testimony and did not consider all contributing factors; years of experience does not replace the need for reliability).

Wallace v. Meadow Acres Manufactured Housing Inc., 730 N.E.2d 809 (Ind. Ct. App. 2000) (where expert's extrapolation was based on speculative assumption as to decay rate, the expert's methodology was unreliable).

Howerton v. Red Ribbon, Inc., 715 N.E.2d 963 (Ind. Ct. App. 1999) (where an engineer did not perform a myriad of tasks to test a construction which failed, trial court did not err in excluding his opinion of a defect in the construction; his opinion was not scientifically connected to the principles of engineering and, thus, was more likely to be subjective belief or unsupported speculation and would confuse the jury).

Hannan v. Pest Control Servs, 734 N.E.2d 674 (Ind. Ct. App. 2000) (where experts were relying on mere temporal coincidence of pesticide application and plaintiffs' alleged and self-reported illness, such a relationship was insufficient to establish a prima facie case on element of causation and opinions were tantamount to subjective belief or unsupported speculation).

Porter v. Whitehall Laboratories, 791 F. Supp. 1335, 1345 (S.D. Ind. 1992) (admissible opinions relate instant facts to known relationships; an opinion relating instant facts to an unknown relationship (a hypothesis) does not further the trier of fact's ability to determine a fact dependent upon that hypothetical relationship), *aff'd,* 9 F.3d 607 (7th Cir. 1993).

Further, "nothing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." General Electric Co. v. Joiner, 118 S. Ct. 512, 519 (1997).

(3) Underlying data must be reliable

Unreliable underlying data may make the results inadmissible. Hagerman Construction, Inc. v. Copeland, 697 N.E.2d 948, 957 (Ind. Ct. App. 1998). "In determining whether the scientific principles upon which the expert testimony rests are reliable, Evid. R. 702(b), the trial court may look to whether the proffered evidence is of a type reasonably relied upon by experts in the field. Evid. R. 703." Id.

Hagerman Construction, Inc. v. Copeland, 697 N.E.2d 948 (Ind. Ct. App. 1998) (trial court did not abuse its discretion in excluding blood alcohol test results from unrefrigerated blood samples after sixteen months of storage, in light of evidence that standard procedure was to freeze samples so that they could be reliably tested later and that experts testified they would not rely on the unrefrigerated samples; this was more than a possibility of error or a minor irregularity in procedure).

Smith v. State, 702 N.E.2d 668 (Ind. 1998) ("while a case may exist wherein substantial irregularities in the [DNA] testing procedures would be a basis for prohibiting admission of test results, in general, any irregularities go to the weight of the evidence, not its admissibility").

c. Effect of other tests and standards

(1) Frye test replaced

Prior to the adoption of the reliability standard in Indiana Rule of Evidence 702(b), Indiana followed the Frye standard when determining the admissibility of scientific evidence, i.e., whether the principles from which deduction is made are sufficiently established to have gained general acceptance in particular field to which it belongs. Cornett v. State, 450 N.E.2d 498 (Ind. 1983) (adopting Frye v. US, 293 F. 1013 (D.C. Cir. 1923)).

However, since the adoption of Indiana Rule of Evidence 702(b), the "reliability" standard has replaced the "general acceptance" or Frye test. Steward v. State, 652 N.E.2d 490 (Ind. 1995). Although general acceptance in the community is still a factor to be considered when determining reliability, it is not the only factor. See Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S. Ct. 2786 (1993).

(2) Federal Rule 702, Daubert and Kumho

Federal Rule of Evidence 702 and Indiana Rule of Evidence 702 differ. Federal Rule of Evidence 702 was adopted as Indiana Rule of Evidence 702(a), but Indiana Rule of Evidence 702(b) is unique in its express requirement that expert testimony must be based upon reliable scientific principles. Steward v. State, 652 N.E.2d 490 (Ind. 1995). Thus, when analyzing evidence under Indiana Rule of Evidence 702(b), federal case law is helpful but not controlling.

(a) Daubert test

When faced with a proffer of expert scientific testimony, the trial judge must make a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issues. Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S. Ct. 2786, 2796 (1993). Many factors will bear on the inquiry, including, but not limited to, whether the theory or technique can be tested, been subjected to peer review and publication, the known or potential rate of error, and the general acceptance in the community. Id. at 2796-97.

The concerns in Daubert coincide with express requirement of Ind. Rule of Evidence 702(b) that the trial court be satisfied of reliability of scientific principles involved; although not binding, Daubert and its progeny are helpful, in applying Rule 702(b). Steward v. State, 652 N.E.2d 490 (Ind. 1995); Carter v. State, 766 N.E.2d 377 (Ind. 2002).

(b) Kumho Tire

Under Federal Rule 702, all expert testimony, including non-scientific technical evidence, is subject to the Daubert reliability test. Kumho Tire Co. Ltd. v. Carmichael, 119 S. Ct. 1167 (1999). There is no valid reason to distinguish between scientific and non-scientific areas of expert testimony. Id. Kumho Tire is not binding on Indiana Courts. Carter v. State, 766 N.E.2d 877 (Ind. 2001). However, the Indiana Supreme Court recognized that Carter never asked the court to adopt the reasoning of Kumho Tire as a matter of policy.

d. Daubert factors

"Daubert is merely instructive in Indiana, and we do not apply its factors as a litmus test for admitting evidence under Indiana Evidence Rule 702(b)." Turner v. State, 953 N.E.2d 1039, 1051 (Ind. 2011). Thus, the proponent's failure to meet all the Daubert factors is not dispositive of scientific reliability under Rule 702(b). Id. However, the federal evidence law of Daubert and its progeny is helpful to the bench and bar in applying Indiana Rule 702(b). Hyppolite v. State, 774 N.E.2d 584 (Ind. Ct. App. 2002).

Kubsch v. State, 784 N.E.2d 905 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016) (because the State presented no evidence of the Daubert factors, being whether the methodology can be tested, has been subjected to peer review and publication, has a known or potential error rate, and has been accepted in the community, the reasoning behind the opinion that the perpetrator knew the victim because the victim's face was covered did not meet 702(b) requirements).

Compare with Turner v. State, 953 N.E.2d 1039, 1051 (Ind. 2011) (the uncertainty of the expert's opinion, as well as the lack of formal testing and his inability to pinpoint other research, all inform the fact finder's judgment on weighing this evidence but does not render it inadmissible).

NOTE: Instead of relying solely on Daubert factors when making a Rule 702(b) argument, argue, if possible, that the State's expert is misapplying any scientific principles. In Turner*, supra*, the Indiana Supreme Court noted that a misapplication argument is still a reason to exclude scientific opinions under Rule 702(b). Turner, 953 N.E.2d at 1051-52.

(1) Testing of theory

Whether the theory or technique can be (and has been) tested. Daubert, 113 S.Ct. at 2796; Hannon v. Pest Control Serv., 734 N.E.2d 674 (Ind. Ct. App. 2000) (this is a key question to ask).

The courts should consider, when determining reliability, whether an expert who has tried to test his opinion considered all variables and contributing factors when testing. Wallace v. Meadow Acres Manufactured Housing Inc.*,* 730 N.E.2d 809 (Ind. Ct. App. 2000) (finding unreliable reasoning); Lytle v. Ford Motor Co., 696 N.E.2d 465 (Ind. Ct. App. 1998) (finding unreliable reasoning).

Howerton v. Red Ribbon, Inc., 715 N.E.2d 963 (Ind. Ct. App. 1999) (where an engineer did not perform myriad tasks to test a construction which failed, trial court did not err in excluding his opinion of a defect in the construction; his opinion was not scientifically connected to the principles of engineering and, thus, was more likely to be subjective belief or unsupported speculation and would confuse the jury).

Smith v. State*,* 506 N.E.21 31, 36 (Ind. 1987) (in a pre-Daubert and 702(b) case, before allowing testimony from an expert about powder residue tests for the purpose of showing the distance between the gun barrel and the target, the court should consider: 1) whether the murder weapon is used to conduct the tests; 2) if a similar weapon is used, whether it is in the same relative condition as the murder weapon; 3) whether the same make and grade of ammunition is used; and (4) whether the conditions prevailing at the experiment were substantially similar to those at the time of the homicide).

(2) Peer review and publication

Whether the theory has been subjected to peer review and publication. Daubert, 113. S. Ct. at 2797.

Publication in a peer-reviewed journal is relevant, but not dispositive, of reliability. Ollis v. Knecht, 751 N.E.2d 825 (Ind. Ct. App. 2001). See Reference Manual on Scientific Evidence, 2d Ed., 73-75 and n.11 (Federal Judicial Center, 2000) (discussion of the significance and function of the scientific peer review process).

Wallace v. Meadow Acres Manufactured Housing Inc.*,* 730 N.E.2d 809 (Ind. Ct. App. 2000) (where expert was published in a peer review journal in an area of science about which he was testifying, but expert did not follow his own methodology set forth in the article, methodology in testimony was unpublished and ultimately, unreliable).

(3) Error rate

The known or potential rate of error. Daubert, 113 S. Ct. at 2797; U.S. v. Smith, 869 F.2d 348, 353-54 (7th Cir. 1989).

PRACTICE POINTER: If there is no known or potential rate of error, the expert's opinion may be inadmissible under Rule 403 even if the underlying reasoning is reliable. "Introduction of evidence with an unknown probative value regarding the only issue to be decided by the jury could be prejudicial to the opposing party and could cause confusion amongst the jury by giving them extraneous information to consider." Ollis v. Knecht, 751 N.E.2d 825, 831 (Ind. Ct. App. 2001).

(4) General acceptance in community

Whether the theory has been generally accepted within the relevant scientific community. Daubert, 133. S. Ct. at 2797; Burnett v. State, 815 N.E.2d 201, 209 (Ind. Ct. App. 2004).

A technique which has attracted only minimal support may properly be viewed with skepticism. Hannon v. Pest Control Serv., 734 N.E.2d 674, 680 (Ind. Ct. App. 2000).

Smith v. Yang, 829 N.E.2d 624 (Ind. Ct. App. 2005) (trial court should not have permitted testimony concerning the "faked left syndrome" which led to the automobile accident because there was no evidence of the error rate of the application of the syndrome or the standards controlling it; the only evidence that the theory had general acceptance in the field of accident reconstruction was the statement of the expert testifying to the syndrome).

Hyppolite v. State, 774 N.E.2d 584 (Ind. Ct. App. 2002) (defendant failed to demonstrate that the scientific principles upon which voice analysis expert's testimony rested was reliable for purposes of Ind. R. Evid. 702(b) where the expert agreed that the method could not possibly be widely accepted because it was not yet widely known). See also Cornett v. State, 450 N.E.2d 498 (Ind. 1983).

But see Ford Motor Co. v. Ammerman, 705 N.E.2d 539 (Ind. Ct. App. 1999) (instead of a wholesale exclusion under an uncompromising "general acceptance" test, appropriate means of attacking scientific evidence which has only minimal support in the scientific community include vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof).

e. Factors going to weight and not admissibility

The trial court's function is to control the admission of proffered expert testimony rather than merely admitting whatever is offered and leaving it to the jury to determine what weight it should be given. Norfolk Southern Ry v. Estate of Wagers, 833 N.E.2d 93 (Ind. Ct. App. 2005). Once a trial court is satisfied that the expert's testimony will assist the trier of fact and that the expert's general methodology is based on reliable scientific principles, then the accuracy, consistency, and credibility of the expert's opinions may properly be left to vigorous cross-examination, presentation of contrary evidence,

argument of counsel, and resolution by the trier of fact. Id. at 103.

Kennedy v. State, 934 N.E.2d 779 (Ind. Ct. App. 2010) (whether DNA expert exercised too much discretion in calling (or not calling) the existence of alleles recovered from material on asphalt and the subsequent matching of those alleles to defendant's DNA profile went to the weight of the evidence and not the admissibility).

Blinn v. State, 677 N.E.2d 51 (Ind. Ct. App. 1997) (because defendant was free to cross-examine state's expert and present his own evidence regarding conversion of serum alcohol content to whole blood alcohol content, the trial court did not err in admitting expert testimony regarding the relation between serum blood alcohol content and whole blood alcohol content which conflicted with published authorities).

Jervis v. State, 679 N.E.2d 875 (Ind. 1997) (inconsistency in the testimony of lab technicians at defendant's first and second trials was not a matter of scientific principles governed by this rule, but an issue of the technicians' credibility which the jury could judge).

Ford Motor Co. v. Ammerman, 705 N.E.2d 539 (Ind. Ct. App. 1999) (conflicting opinions between experts as to the validity of testing procedures do not necessarily render the opinion of one expert inadmissible, but will simply to the weight of the evidence unless the conflict is such as to persuade the court that the testimony of one expert is so much in error, or so lacking in scientific basis that it will not, in fact, assist the jury to correctly determine a fact in issue).

Schmid v. State, 804 N.E.2d 174 (Ind. Ct. App. 2004) (the fact that the State's proffered expert, who had more than thirty years of experience, testified that psychiatry was inexact science that involved educated guesses, does not make psychiatry inadmissible).

Prewitt v. State, 819 N.E.2d 393 (Ind. Ct. App. 2004) (a claim of improper application of the product rule to obtain a statistically phrased estimate of likelihood goes to the weight, and not the admissibility, of the expert's opinion). See also Smith v. State, 702 N.E.2d 668 (Ind. 1998).

Nelson v. State, 792 N.E.2d 588 (Ind. Ct. App. 2003) (trial court erred by preventing counsel from attacking in closing argument results of cocaine testing and measurements from crime scene to public park as it was for jury to determine credibility of expert testimony; error harmless).

PRACTICE POINTER: If a 702(b) challenge is lost, the defendant still has a right to introduce evidence of and argue to the jury that the State's expert's opinion is based on unreliable principles and therefore should not be relied upon to convict. Chambers v. Mississippi, 410 U.S. 284, 93 S. Ct. 1038 (1973) (state evidentiary rules which preclude a defendant from introducing critical and reliable evidence violate due process).

3. Methods of establishing reliability

The proponent of expert testimony has the burden of proving the reliability of the principles upon which the testimony rests. Wallace v. Meadow Acres Manufactured Housing Inc., 730 N.E.2d 809 (Ind. Ct. App. 2000). Reliability may be established either by judicial notice or, in its absence, by proponent of scientific testimony providing sufficient foundation to convince trial court that the relevant scientific principles are reliable. Steward v. State, 652 N.E.2d 490 (Ind. 1995); West v. State, 755 N.E.2d 173, 181 (Ind. 2001). According to the Committee Commentary to Indiana Rule of Evidence 702, the court may determine scientific reliability in any one of three ways:

(1) Courts may take judicial notice of simple scientific principles which are well known or indisputable to all people of ordinary understanding and intelligence. See, e.g., Highshew v. Kushto, 126 Ind. App. 584, 131 N.E.2d 652 (1956).

(2) The reliability of established scientific evidence is normally proved by showing that the principles on which it is based have achieved general acceptance in the scientific community. See Hopkins v. State, 579 N.E.2d 1297 (Ind. 1991).

(3) The reliability of new scientific procedures will have to be established at a pretrial hearing by the testimony of properly qualified expert witnesses. See Cornett v. State, 450 N.E.2d 498 (Ind. 1983) (to establish the reliability of a new scientific procedure, a party must call neutral expert witnesses from a number of related scientific fields). In addition to the expert's testimony that the procedure is reliable, the court can look to cases in other jurisdictions to see if they admit such evidence. Jones v. State, 425 N.E.2d 128 (Ind. 1981).

a. Judicial notice

Reliability may be established by judicial notice. Steward v. State, 652 N.E.2d 490 (Ind. 1995); West v. State, 755 N.E.2d 173, 181 (Ind. 2001).

(1) Other Indiana opinions

West v. State, 805 N.E.2d 909 (Ind. Ct. App. 2004) (because the reliability of Draeger test has not been established under Indiana law, the court could not take judicial notice of such and the State had to meet its burden of proving reliability; the court found that a sheriff deputy's testimony that he received training from an environmental clean-up agency and the DEA did not establish the test as reliable scientific evidence under Ind. Evid. Rule 702(b)). See also Fleener v. State, 656 N.E.2d 1140 (Ind. 1995).

(2) Theories

Theories that are so firmly established as to have attained the status of scientific law, such as the laws of thermodynamics, properly are subject to judicial notice. Daubert v. Merrell Dow Pharmaceuticals, Inc., 113 S. Ct. 2786 n.11 (1993).

(3) Techniques applying the principles

A court may sometimes also take judicial notice of the techniques applying the principles. Imwinkelried *et al*., 1 *Courtroom Criminal Evidence* 6-3 § 602 (Lexis 2016). If a scientific technique is not well-accepted, it is not a proper subject for judicial notice. Id. at 6-5. However, a court should never judicially notice the proper application of a technique on a given occasion; such a fact is not indisputable or capable of certain verification. Id. at 6-6.

(4) Limitations to judicial notice

Even if the judge takes judicial notice of a theory or principle, the defendant still has the right to challenge the reliability of the theory or principle for the jury.

(a) Right to a jury trial and confrontation

Judicial notice of the proper application of a scientific technique would infringe upon a defendant's right to a jury trial and right of confrontation. Imwinkelried *et al*., 1 *Courtroom Criminal Evidence* 6-6 § 602 (Lexis 2016).

(b) Due process

The defendant in a criminal case has a due process right to challenge an unreliable theory regardless of whether it has been admitted in other cases. Gianelli & Imwinkelried, 1 Scientific Evidence 77, n. 484, (3d Ed. 1999); Chambers v. Mississippi, 410 U.S. 284, 93 S. Ct. 1038 (1973) (state evidentiary rules which preclude a defendant from introducing critical and reliable evidence violate due process); Ind. R. Evid. 104(e).

b. Legislative recognition of scientific principles

Where the legislature has adopted a statute admitting certain evidence, the defendant in a criminal case may still attack both its admissibility and reliability. Rule 104(e); Crane v. Kentucky, 476 U.S. 683, 106 S. Ct. 2142 (1986); Imwinkelried *et al*., 1 *Courtroom Criminal Evidence* 6-10 § 604 (Lexis 2016).

(1) Breath Test Results

Courts are required to take judicial notice of the regulations adopted by the State Department of Toxicology, but juries are not. Baran v. State, 639 N.E.2d 642, 647 (Ind. 1994); Mullins v. State, 646 N.E.2d 49 (Ind. 1995); Rule 201(g). Although the State is not required to establish the reliability of the test results by expert testimony in each case, the defendant may rebut the statutory presumptions in Ind. Code 9-30-6-15 with expert testimony.

The proponent of breath test evidence of blood alcohol content only must show that:

(1) the test operator;

(2) the test equipment;

(3) the chemicals used in the test, if any; and

(4) the techniques used in the test;

Have been approved in accordance with the rules adopted by the state department of toxicology under Ind. Code 9-30-6-5(a). Ind. Code 9-30-6-5, Ind. Code 9-30-6-15 and 260 IAC 1.1 *et seq.*, establish standards for breath alcohol testing machines.

Under Ind. Code 9-30-6-5(c), certified copies of certificates issued by the State Department of Toxicology are admissible in proceedings under Ind. Code 9-30-5, Ind. Code 9-30-6, Ind. Code 9-30-9, and Ind. Code 9-30-15, and are prima facie evidence that the prescribed procedures were followed. See Ind. Code 9-30-6-5.

Portable breath test machines are not covered by 260 IAC 1.1 *et seq*. and are not admissible at trial. State v. Johnson, 503 N.E.2d 431 (Ind. Ct. App. 1987); Curley v. State, 778 N.E.2d 58 (Ind. Ct. App. 2002). However, the results of a PBT test may be admitted to show the existence of probable cause to offer defendant a certified breath test.

(2) DNA

Ind. Code 35-37-4-13 states:

(a) As used in this section, "forensic DNA analysis" means an identification process in which the unique genetic code of an individual that is carried by the individual's deoxyribonucleic acid (DNA) is compared to genetic codes carried in DNA found in bodily substance samples obtained by a law enforcement agency in the exercise of the law enforcement agency's investigative function.

(b) In a criminal trial or hearing, the results of forensic DNA analysis are admissible in evidence without antecedent expert testimony that forensic DNA analysis provides a trustworthy and reliable method of identifying characteristics in an individual's genetic material.

PRACTICE POINTER: Be aware that "DNA evidence that does not constitute a match or is not accompanied by statistical data regarding the probability of a defendant's contribution to a mixed sample is not relevant." Deloney v. State, 938 N.E.2d 724, 730 (Ind. Ct. App. 2010) (where DNA analyst is unable to exclude Defendant as contributor to DNA profile and unable to give any statistical analysis of the probability of a match, the DNA should have been excluded as irrelevant). Further, if the DNA analysis is based on unreliable principles or being improperly applied to the facts in a case, still move to exclude and for a 702(b) hearing. When the Rules of Evidence and statutory law conflict, the Rules of Evidence prevail. McEwen v. State, 695 N.E.2d 75 (Ind. 1998); see also Harrison v. State, 644 N.E.2d 1243 (Ind. 1995) (by denying defense motions without conducting any pre-trial inquiry into the admissibility of DNA tests employing new methodologies which the state moved to introduce, trial court ran serious risks of violating important evidentiary principles, i.e., that the scientific principles upon which the testimony rests were reliable, that the witnesses were properly qualified, and that the danger of the unfair prejudice did not outweigh the probative value).

4. Wrongful exclusion of defense expert's testimony

The improper exclusion of defendant's expert testimony violates the right to present a defense and will result in reversible error if it affects the jury's verdict.

Hastings v. State, 58 N.E.3d 919 (Ind. Ct. App. 2016) (reversible error in OWI prosecution to exclude expert testimony regarding specific breath test used on defendant, the effects of alcohol on the human body and how alcohol is absorbed and metabolized by the body; subject matter (pharmacokinetics) was beyond the knowledge of the average person and expert had sufficient knowledge and expertise that would have been helpful to the jury under Rule 702(a)).

Mitchell v. State, 813 N.E.2d 422 (Ind. Ct. App. 2004) (in trial for battery of child, trial court erred in determining without hearing evidence that defendant's wife, a doctor, could not be medical expert witness for purpose of testimony on "bruises" because she was not unbiased third party; potential bias of an expert goes to weight, not admissibility, of the evidence).

Walker v. Cuppett, 808 N.E.2d 85 (Ind. Ct. App. 2004) (trial court committed reversible error in automobile accident case by excluding and limiting testimony of expert medical witnesses regarding possible alternative causes for plaintiff's medical problems).

5. Waiver of issue for appeal

Be aware that Indiana courts have held that calling one's own experts to combat the State's experts may waive a defendant's challenge to the underlying sciences' reliability. Camm v. State, 908 N.E.2d 215, 235 (Ind. 2009).

6. Advances in Science

Advances in forensic science that occur post-conviction can rise to the level of newly discovered evidence resulting in post-conviction relief. See, e.g., Bunch v. State, 964 N.E.2d 274 (Ind. Ct. App. 2012) (advances in fire victim toxicology analysis and expert's opinion based on such analysis were newly discovered evidence requiring the granting of post-conviction relief of Defendant's felony murder conviction based on allegations of arson); but see Bradford v. State, 988 N.E.2d 1192 (Ind. Ct. App. 2013).

7. Examples of reliability challenges in different scientific fields

Practice pointer: If making a Rule 702(b) challenge, it is essential to read the National Academy of Science's recent report on the state of forensic sciences, *Strengthening Forensic Science in the United States* (2009). In this report, the National Academy of Science identifies problems facing all forensic sciences, such as law enforcement bias, and reliability issues with certain forensics, such as fingerprints, toolmark and firearms identification, pattern evidence, hair analysis, fiber analysis, explosives evidence and fire debris analysis, bloodstain pattern analysis, and digital and multimedia analysis. This report provides support for many Rule 702(b) challenges.

a. Arson

Julian v. State, 811 N.E.2d 392 (Ind. Ct. App. 2004) (it was not error to allow arson investigator to testify that fire was intentionally set).

However, courts and the public are beginning to recognize the limitations to arson investigations. See Nelson v. Safeco Ins. Com. of North America, 396 F.Supp.2d 1274 (C.D. Utah 2005); Steven Mills and Maurice Possley, *Texas Man Executed on Disproved Forensics*, Chicago Tribune, Dec. 9, 2004 (discussing report of arson experts claiming that, based on new technology, we know the fire for which the defendant was put to death was accidental).

Bunch v. State, 964 N.E.2d 274 (Ind. Ct. App. 2012) (advances in fire victim toxicology analysis and expert's opinion based on such analysis were newly discovered evidence requiring the granting of post-conviction relief of defendant's felony murder conviction based on allegations of arson).

Bradford v. State, 988 N.E.2d 1192 (Ind. Ct. App. 2013) (distinguishing Bunch, Court held that where testimony of post-conviction arson expert was not based on "transformative advancements" or even "considerably different" methods from experts presented at trial, and conclusions were largely cumulative of testimony of defense trial expert, such testimony did not meet the standard for newly discovered evidence; moreover, relevant data could have been discovered through testing techniques that were available at time of trial).

b. Eyewitness Identification

The admissibility of eyewitness identification expert testimony must be determined on a case-by-case basis. Cook v. State, 734 N.E.2d 563 (Ind. 2000). Cases that more typically lend themselves to the admission of expert eyewitness identification testimony generally involve a single eyewitness and identification is the primary issue at trial. Id. at 571.

Farris v. State, 818 N.E.2d 63 (Ind. Ct. App. 2004) (no abuse of discretion to prohibit expert evidence on unreliability of eyewitness identification where expert was going to testify that he questions the veracity of the identifications, there was more than one eyewitness and identification was not the primary issue).

Vega v. State, 656 N.E.2d 497 (Ind. Ct. App. 1995) (trial court did not error in refusing to allow expert on human memory to testify, where it determined that the testimony would not have been of assistance to jury in understanding evidence or in making its final determination; the trial court concluded that the expert could not predict whether memory of the state's witness was accurate).

U.S. v. Hines, 55 F.Supp.2d 62 (D.Mass. 1999) (applying Daubert and Kumho, eye-witness identification expert testimony is admissible because it will give jurors additional information with which they can make a more informed decision, and because the expert was not testifying to a prediction or a conclusion regarding accuracy of the eye-witness identification in this case).

The Court of Appeals has recently noted the "close scrutiny" eyewitness identification has been given since Farris, *supra*. Woodson v. State, 961 N.E.2d 1035 (Ind. Ct. App. 2012) (*citing* Perry v. New Hampshire, 132 S. Ct. 716 (2012)).

c. Fingerprinting

Burnett v. State, 815 N.E.2d 201 (Ind. Ct. App. 2004) (sufficiently established the ACE-V fingerprint method's reliability as the expert mentioned it being taught at two schools outside the state showing a general acceptance within the relevant field of study).

d. Voice stress tests

Hyppolite v. State, 774 N.E.2d 584 (Ind. Ct. App. 2002) (defendant failed to demonstrate that the scientific principles upon which voice analysis expert's testimony rested was reliable for purposes of Ind. R. Evid. 702(b) where the expert agreed that the method could not possibly be widely accepted because it was not yet widely known).

e. Medical testimony

"Merely because an opinion of scientific causation comes from a person learned in medical science does not provide the opinion with a sufficient scientific basis." Porter v. Whitehall Laboratories, 791 F. Supp. 1335, 1345 (S.D. Ind. 1992), *aff'd*, 9 F.3d 607 (7th Cir. 1993).

Porter v. Whitehall Laboratories*,* 791 F. Supp. 1335, 1345 (S.D. Ind. 1992) (even though physician was highly trained and experienced in the subject matter, his opinion as to causation was an unsupported, unproven hypothesis and was inadmissible), *aff'd,* 9 F.3d 607 (7th Cir. 1993).

McIntire v. Commonwealth, 192 S.W.3d 690 (Ky. 2006) (experienced and qualified pediatrician did not have a reliable scientific basis for her testimony that non-abusing parent would have been aware that her child was being abused).

f. Psychiatry/psychology

(1) Syndrome evidence

Child sexual abuse syndrome, profile or pattern evidence is not admissible to prove that child abuse occurred. However, if the defense discusses or presents evidence of behavior by child inconsistent with child abuse, or if during testimony the child recants prior allegation of abuse, the trial court may consider permitting expert testimony on child sexual abuse if it meets the requirements of 702(b), 403 and does not include opinions as to the child's truthfulness. Steward v. State, 652 N.E.2d 490 (Ind. 1995).

Fleener v. State, 656 N.E.2d 1140 (Ind. 1995) (where State failed to present a foundational showing of reliability, it was error to permit expert testimony regarding child sexual abuse syndrome following defendant's objection, particularly in light of the questionable reliability of child sexual abuse syndrome evidence for purposes of proving abuse).

Battered woman's syndrome is accepted as a valid scientific theory in Indiana and numerous other jurisdictions. Carnahan v. State, 681 N.E.2d 1164, 1167 (Ind. Ct. App. 1997) (*citing* Barrett v. State, 675 N.E.2d 1112, 1115 (Ind. Ct. App. 1997).

Although rape syndrome evidence has been held to be admissible with some limitations in Simmons v. State, 504 N.E.2d 575 (Ind. 1987), Henson v. State, 535 N.E.2d 1189 (Ind. 1989), and Ross v. State, 516 N.E.2d 61 (Ind. 1987), none of these cases have directly addressed the reliability of rape syndrome evidence.

(2) MMPI

Expert opinion, whether based on a personality profile (MMPI) or not, is not an appropriate way to prove a defendant's character for a particular trait. Byrd v. State, 593 N.E.2d 1183, 1187 (Ind. 1992)

> Byrd v. State, 593 N.E.2d 1183 (Ind. 1992) (while MMPI-based testimony has been admitted in Indiana on issue of the defendant's potential for rehabilitation, there is no suggestion that MMPI is accurate indicator of whether the defendant has the character to commit an offense, and thus, is inadmissible to prove such).

However, MMPI may be admissible for other purposes. For instance, MMPI can be considered as part of expert's scientific basis for concluding that the plaintiff suffered from repressed memory. Doe v. Shults-Lewis Child & Family Servs., Inc., 718 N.E.2d 738 (Ind. 1999). It may also be admissible to show whether the defendant is, or is not, susceptible to give an involuntary statement. See, e.g., Watson v. State, 784 N.E.2d 515 (Ind. Ct. App. 2003).

(3) CAPI

T.H. v. Ind. Dept. of Child Svcs., 989 N.E.2d 355 (Ind. Ct. App. 2013) (Child Abuse Potential Inventory (CAPI) is a scientifically reliable parenting assessment and admissible under Rule 702(b)).

(4) Profiling

Kubsch v. State, 784 N.E.2d 905 (Ind. 2003), *habeas relief granted*, Kubsch v. Neal, 838 F.3d 845 (7th Cir. 2016) (State failed to show general subject of victim/suspect relationships is based on reliable scientific methodology to support the detective's testimony that when the victim's face is covered, the perpetrator knows the victim).

(5) False confessions

Expert testimony on police techniques used and on false confessions in general are admissible, but opinion testimony regarding the truth or falsity of the defendant's statement is not. Miller v. State, 770 N.E.2d 763 (Ind. 2002); Callis v. State, 684 N.E.2d 233 (Ind. Ct. App. 1997).

> Miller v. State, 770 N.E.2d 763 (Ind. 2002) (in murder prosecution where defendant's statement played a prominent role in the State's case, the trial court erroneously excluded testimony of a psychologist called by the defense as an

expert in the field of police interrogation and false confessions; in the event the testimony would have invaded Rule 704(b)'s prohibition on opinion testimony as to the truth or falsity of the defendant's statements, individualized objections at trial could have been sustained). See also Carew v. State, 817 N.E.2d 281 (Ind. Ct. App. 2004).

Miller v. State, 825 N.E.2d 884 (Ind. Ct. App. 2005) (State must be permitted to present evidence on the issue of defendant's mental capacity for the same purpose that the defendant's is permitted to present evidence of mental capacity, i.e., to assist jury in determining the defendant's statement's weight and credibility).

Jimerson v. State, 56 N.E.3d 117 (Ind. Ct. App. 2016) (trial court did not abuse its discretion in not permitting false confession expert to testify regarding particular circumstances surrounding defendant's confession or whether a particular technique had been applied in his case); see also Kincaid v. State, 171 N.E.3d 1036 (Ind. Ct. App. 2021) (Reid technique).

NOTE: Be sure to have the expert interview your client prior to litigating the admissibility of his testimony. See, e.g., Ruiz v. State, 926 N.E.2d 532 (Ind. Ct. App. 2010) (where at time of hearing on the admissibility of expert testimony regarding false confessions, expert had not examined defendant to determine if he had any personality traits that would make him susceptible to police influence and whether the interrogation was psychologically coercive, his proffered testimony was speculative, and the trial court did not error excluding it).

(6) Defendant's state of mind

Roach v. State, 695 N.E.2d 934 (Ind. 1998) (although "a close call," trial court did not abuse discretion in determining that defendant did not satisfy requirements of Indiana Evidence Rule 702 for admitting expert testimony on defendant's state of mind during and after incident; considering that substance of the offer to prove dealt with why frightened individual might act and speak irrationally, the trial court may have felt that this evidence was within jury's understanding and, thus, expert witness would not assist jury as is required by Rule 702).

(7) Suggestive interviewing techniques of children

Jenkins v. Commonwealth, 308 S.W.3d 704 (Ky. 2010) (defendant established the scientific reliability of the principle that suggestive interviewing techniques could affect the reliability or accuracy of a child's memory or recall, and thus, the trial court erred by excluding the expert testimony).

g. Handwriting analysis

U.S. v. Hines, 55 F.Supp.2d 62 (D.Mass. 1999) (applying Daubert and Kumho, handwriting analysis testimony which points out similarities and differences between defendant's exemplar and note are admissible, but analyst's conclusions are not because ability to draw these conclusions has not been subjected to empirical testing).

Richardson v. State, 486 N.E.2d 1058 (Ind. Ct. App. 1985) (where no witness testified regarding the genuineness of signatures/writings on standards used for comparison, handwriting comparison was improperly admitted).

PRACTICE POINTER: Although handwriting analysis itself may be considered a comparison not subjected to a 702(b) analysis, the conclusions should be subjected to Rule 702(b). See *this Chapter, Section IInd. Code1.a, Scientific reasoning or methodology must be reliable; Standard under 702(b); Applies only to scientific reasoning and methodology.*

h. DNA analysis

DNA evidence is not automatically admissible. Ingram v. State, 699 N.E.2d 261 (Ind. 1998). However, DNA tests are scientifically reliable, as attested to by qualified expert witnesses, and as such are admissible evidence. Smith v. State, 702 N.E.2d 668 (Ind. 1997). The vast majority of questions concerning the manner in which DNA tests were conducted go to the weight of the evidence, not its admissibility. Id.

Hopkins v. State, 579 N.E.2d 1297 (Ind. 1991) (publishing laboratory's protocols, probes and test data was not necessary for admission of test results because procedures were generally accepted, and validity of protocol goes to weight).

Jervis v. State, 679 N.E.2d 875 (Ind. 1997) (no abuse of discretion in admitting "poly marker" DNA analysis of blood stain on defendant's clothing, where technician who performed the test clearly explained the methodology used to perform test and defendant did not contend that the process was novel or untrustworthy); see also Kennedy v. State, 934 N.E.2d 779 (Ind. Ct. App. 2010).

Ingram v. State, 699 N.E.2d 261 (Ind. 1998) (proper foundation had been established as to scientific principles of PCR analysis of DNA, where defendant chose not to cross-examine the expert witness and conceded that the type of foundation, he was requesting in this case was not required as a foundation for RFLP/DNA testing).

Overstreet v. State, 783 N.E.2d 1140 (Ind. 2003), *cert. den'd* (trial court did not abuse its discretion in admitting DNA evidence derived from short tandem repeat (STR) process instead of more traditional PCR process, where several experts testified that STR was recognized approach in scientific community).

Kennedy v. State, 934 N.E.2d 779 (Ind. Ct. App. 2010) (whether DNA expert exercised too much discretion in calling (or not calling) the existence of alleles recovered from material on asphalt and the subsequent matching of those alleles to defendant's DNA profile went to the weight of the evidence and not the admissibility).

Alcantar v. State, 70 N.E.3d 353 (Ind. Ct. App. 2016) (State adequately established the scientific reliability of expert testimony on the use of 2p formula to calculate minor-profile DNA).

However, DNA evidence that does not constitute a match or is not accompanied by statistical data regarding the probability of a defendant's contribution to a mixed sample is not relevant and should not be admitted. Deloney v. State, 938 N.E.2d 724 (Ind. Ct.

App. 2010). Without statistical data, evidence of a non-match is meaningless, and does not assist the trier of fact in determining the guilt or innocence of the defendant. Id.

Deloney v. State, 938 N.E.2d 724 (Ind. Ct. App. 2010) (where DNA analyst could not exclude or include defendant and co-defendant as contributors to a mixture of DNA found on a hat at the scene, the admission of the DNA was erroneous).

PRACTICE POINTER: 1) Courts cannot deny the defendant the opportunity to exonerate herself through DNA. Lacey v. State, 829 N.E.2d 518 (Ind. 2005); Sewell v. State, 592 N.E.2d 705 (Ind. Ct. App. 1992); Ind. Code 35-38-7-1 *et. seq.* (procedure for post-conviction DNA testing). 2) Ind. Code 35-37-4-13 states: "[i]n a criminal trial or hearing, the results of forensic DNA analysis are admissible in evidence without antecedent expert testimony that forensic DNA analysis provides a trustworthy and reliable method of identifying characteristics in an individual's genetic material." However, if faced with a new method of DNA analysis, the new method must be deemed reliable before admission into evidence being Indiana Rule of Evidence 702(b) controls over Ind. Code 35-37-4-13. McEwen v. State, 695 N.E.2d 75 (Ind. 1998); see also Harrison v. State, 644 N.E.2d 1243 (Ind. 1995).

i. Lost income theories

Ollis v. Knecht, 751 N.E.2d 825 (Ind. Ct. App. 2001) (trial court did not abuse its direction by excluding economist's testimony about lost income where defendants failed to carry their burden of proving scientific reliability of underlying mirror image approach employed by economist).

j. Statistical analysis

Davis v. State, 476 N.E.2d 127 (Ind. Ct. App. 1985) (trial court did not error in allowing expert testimony regarding mathematical probability of the defendant's parentage using Bayes theorem and based on blood tests).

Patterson v. State, 729 N.E.2d 1035 (Ind. Ct. App. 2000) (because statistical testimony derived from DNA analysis was based on published, empirical scientific data and not on mere speculation or unsubstantiated estimates, the trial court did not abuse its discretion in finding evidence reliable and admissible).

Jenkins v. State, 485 N.E.2d 625 (Ind. 1985) (rejecting defendant's contention that testimony of serologist should have been excluded because the defendant was a member of too large a group (30% of male population); fact that probative value of evidence is weak goes to its weight not its admissibility).

k. Breath tests

Keys v. State, 811 N.E.2d 961 (Ind. Ct. App. 2004) (exposure to second-hand smoke did not equate to smoking and at trial defendant did not argue that it was a foreign substance; defendant could have but failed to challenge evidence on reliability grounds by presenting expert testimony that showed that exposure to second-hand smoke renders a chemical breath test unreliable). See also Molnar v. State, 803 N.E.2d 261 (Ind. Ct. App. 2004).

PRACTICE POINTER: Courts have repeatedly excluded portable breath test results from trial because they are not certified tests under I.C. 9-30-6-5. Sharber v. State, 750 N.E.2d 796 (Ind. Ct. App. 2001); Curley v. State, 777 N.E.2d 58 (Ind. Ct. App. 2002). However, still attempt to show the reliability of the portable test for the purpose for which it is being offered. If the defendant can establish the reliability of the portable test, it is admissible under Rule 702(b) and I.C. 9-30-6-5 then conflicts with the Rules of Evidence. If there is a conflict between the Rules of Evidence and a statute, the Rules trump the statute. McEwen v. State, 695 N.E.2d 75 (Ind. 1998).

l. Drug Analysis

West v. State, 805 N.E.2d 909 (Ind. Ct. App. 2004) (because the reliability of Draeger test has not been established under Indiana law, trial court could not take judicial notice of such and the State had to meet its burden of proving reliability; a sheriff deputy's testimony that he received training from an environmental clean-up agency and the DEA did not establish the test as reliable scientific evidence under Ind. Evid. Rule 702(b)).

Burkett v. State, 691 N.E.2d 1241 (Ind. 1998) (holding field test to detect marijuana was reliable; officer testified that he had been trained to administer field test, that he followed proper procedures, that test consisted of three ampules of acid that change color to show presence of marijuana and that field test was routinely performed by sheriff's department).

Doolin v. State, 970 N.E.2d 785 (Ind. Ct. App. 2012) (State failed to prove the reliability of an in-court "field test" conducted by officer of plant substance that was seized form the defendant's car; to the extent Burkett*, supra*, stands for the broad proposition that any unnamed in-court field test for marijuana is admissible, so long as the testifying officer states he or she has experience with the test and that the department routinely uses it, the court declined to follow it).

Sciaraffa v. State, 28 N.E.3d 351 (Ind. Ct. App. 2015) (distinguishing Doolin v. State, 970 N.E.2d 785 (Ind. Ct. App. 2012), court found that an experienced lab analyst who described the scientific test performed and testified it was generally accepted in the relevant community provided a sufficient basis or reliability under Rule 702(b) for the results of a presumptive test for methamphetamine).

Penrod v. State, 611 N.E.2d 653 (Ind. Ct. App. 1993) (in pre-evidence rule case, results of urinalysis performed with ADX Abbott machine were properly admitted in probation revocation because machine has reached appropriate level of acceptance in scientific community to meet Frye test). See also Carter v. State, 706 N.E.2d 552 (Ind. 1999).

Barnhart v. State, 15 N.E.3d 138 (Ind. Ct. App. 2014) (probation officer who merely took custody of urine sample could not establish proper scientific basis under Evid. Rule 702(b) to support the admission of the drug screen's negative results).

m. SCRAM bracelets

Mogg v. State, 918 N.E.2d 750 (Ind. Ct. App. 2009) (State proved that technology behind the SCRAM bracelet that monitors for alcohol consumption was sufficiently reliable for the resulting data to be admissible in probation revocation proceeding; court considered Daubert factors).

n. Gun residue and firearms test

Before allowing testimony from an expert about powder residue tests for the purpose of showing the distance between the gun barrel and the target, the court should consider: 1) whether the murder weapon is used to conduct the tests; 2) if a similar weapon is used, whether it is in the same relative condition as the murder weapon; 3) whether the same make and grade of ammunition is used; and (4) whether the conditions prevailing at the experiment were substantially similar to those at the time of the homicide. Smith v. State, 506 N.E.21 31, 36 (Ind. 1987).

Smith v. State, 506 N.E.2d 31 (Ind. 1987) (no error in excluding defendant's expert testimony regarding powder residue tests performed on handgun which was not murder weapon).

Yeagley v. State, 467 N.E.2d 730 (Ind. 1984) (trial court did not err in admitting cardboard background from shooting test during State police firearms examiner testimony; examiner had fired defendant's shotgun at cardboard to produce shot patterns which he then compared with shot patterns in victims' screen door, clothes, and flesh to determine how far away defendant stood when he fired).

o. Toolmark identification

Turner v. State, 953 N.E.2d 1039 (Ind. 2011) (methodology behind opinion that tool mark on unfired cartridge matched tool marks found on four discharged cartridge casings at crime scene was sufficiently reliable to be admissible under Rule 702(b); the fact that the linkage demonstrated is simply weaker where no weapon is available for comparison purposes goes to the weight, not the admissibility, of the evidence).

p. Bullet lead analysis

Ragland v. Commonwealth, 191 S.W.3d 569 (Ky. 2006) (CBLA testimony fails the Daubert test for admissibility; the National Research Council report and other recent studies raise serious doubts about the two assumptions underlying CBLA- -that lead from which a single batch of bullets is made is uniform in composition, and that lead in each batch is unique; FBI Lab that produced CBLA evidence in this case no longer considers such analysis reliable to continue producing it). See also State v. Behn, 868 A.2d 329 (N.J. Super. 2005); Clemons v. State, 896 A.2d 1059 (Md. 2006).

Dickens v. State, 997 N.E.2d 56 (Ind. Ct. App. 2013) (even though comparative bullet lead analysis used at first trial would be inadmissible at second trial because of advances in forensic science, defendant was not entitled to new trial because his conviction was largely based on eyewitness identification, not forensic analysis of bullets).

q. Polygraph

Since conflict still exists regarding the reliability of polygraph evidence, an evidentiary rule barring admissibility of all polygraphs is not unconstitutional. U.S. v. Scheffer, 523 U.S. 303, 118 S. Ct. 1261 (1998).

PRACTICE POINTER: Although results of a polygraph examination are not admissible into evidence, statements made in response to the questioning during the course, before or after, the polygraph examination may be if the statements are voluntary, and the defendant has been afforded his Fifth and Sixth Amendment and Article 1 Section 13 rights. Greenlee v. State, 477 N.E.2d 917 (Ind. Ct. App. 1985); Callis v. State, 684 N.E.2d 233 (Ind. Ct. App. 1997).

(1) Admissible pursuant to valid stipulation

In Indiana, polygraph results are only admissible if there is a written stipulation signed by the prosecutor, defense counsel and the person taking the polygraph test providing for the witness' submission to test and for subsequent admission at trial of the results and the examiner's opinion on behalf of either the defendant or the State. Hovenden v. State, 721 N.E.2d 1267 (Ind. Ct. App. 1999). When an unrepresented defendant signs a polygraph stipulation, he must be advised of his right to counsel and knowingly and voluntarily waive such right. Caraway v. State, 891 N.E.2d 122 (Ind. Ct. App. 2008).

Holden v. State, 149 N.E.3d 612 (Ind. Ct. App. 2020) (admission of stipulated polygraph result signed without consulting with counsel was not fundamental error, where defendant did not argue on appeal that his waiver of counsel was unknowing or involuntary prior to signing the polygraph stipulation and he was informed in the agreement that if he could not afford an attorney, one would be appointed).

Hovenden v. State, 721 N.E.2d 1267 (Ind. Ct. App. 1999) (because parties clearly intended those results of all three polygraphs be admissible, absence of signature by the defendant or his counsel on victim's and victim's mother's stipulations did not render their results inadmissible).

Helton v. State, 479 N.E.2d 538 (Ind. 1985) (counsel's failure to object to stipulation signed by the defendant and the investigating officer, rather than the defendant and the prosecutor was ineffective assistance of counsel).

Willey v. State, 712 N.E.2d 434 (Ind. 1999) (trial court erred by permitting the polygraph examiner to testify as to the defendant's truthfulness because the stipulation signed was ambiguous and all ambiguities must be resolved in favor of the defendant).

Newman v. State, 483 N.E.2d 36 (Ind. 1985) (defendant's contention that he did not understand stipulation was unpersuasive in light of the defendant's certification that he had discussed stipulation with his attorney and understood its effect and meaning).

Harris v. State, 481 N.E.2d 382 (Ind. 1985) (trial court did not err in admitting evidence of polygraph in defendant's second trial, although stipulation was for the first trial on the greater offense).

Hubbard v. State, 742 N.E.2d 919 (Ind. 2001) (trial court did not err in excluding results of unstipulated polygraph examination administered to person whom defendant argued committed murders).

Minneman v. State, 441 N.E.2d 673 N.E.2d (Ind. 1982) (no error in prohibiting defense from stating that defendant had taken or was willing to take polygraph). See also Howell v. State, 493 N.E.2d 473 (Ind. Ct. App. 1986).

When polygraph examination results are admitted due to stipulation, the jury must be instructed that, at most, polygraph examiner's testimony tends only to show whether the defendant was being truthful at the time of the examination and that it is for the jury to determine the weight and effect to be given to such testimony. Sanchez v. State, 675 N.E.2d 306 (Ind. 1996); see also State v. Wroe, 16 N.E.3d 462, 466 (Ind. Ct. App. 2014).

(2) Admissible when one party opens the door

A party can open the door to otherwise inadmissible polygraph examination results.

Brown v. State, 587 N.E.2d 111 (Ind. 1992) (it was error to admit testifying co-defendant's un-redacted plea agreement, which included a condition that the co-defendant take a polygraph; the defendant did not open the door to the admission of the results by questioning the co-defendant about the plea). But see Majors v. State, 773 N.E.2d 231 (Ind. 2002).

Shriner v. State, 829 N.E.2d 612 (Ind. Ct. App. 2005) (because the defendant opened the door by testifying that he told the police he would take a polygraph, the trial court did not err in allowing the prosecutor to ask the defendant whether he took a polygraph before and whether he was willing to do so today).

(3) Curing prejudice caused by reference to polygraph

To avoid a mistrial, the following admonishment should be given after a witness mentions a polygraph: "A suggestion has been made that the witness took a polygraph examination, yet there has been no suggestion as to what the subject matter of the polygraph test was. Because scientific research has found that polygraph tests are not reliable, they are inadmissible. I would ask that you disregard the last comment made by the witness." Glenn v. State, 796 N.E.2d 322 (Ind. Ct. App. 2003).

Couch v. State, 527 N.E.2d 183 (Ind. 1988) (trial court erred in denying mistrial after officer testified that the defendant was still a suspect after taking a polygraph). See also Baker v. State, 506 N.E.2d 817 (Ind. 1987).

r. Blood stain pattern analysis

Blood stain pattern analysis is "an area of forensic science generally beyond the ken of the ordinary layperson and thus is a proper topic for expert testimony." Grindstead v. State, 684 N.E.2d 482, 486-87 (Ind. 1997) (*citing* James v. State, 613 N.E.2d 15 (Ind. 1993), *appeal after remand*, 643 N.E.2d 321 (Ind. 1994), and Hampton v. State, 588 N.E.2d 555 (Ind. Ct. App. 1992)). See also Camm v. State, 908 N.E.2d 215, 234, n.9 (Ind. 2009).

Simpson v. State, 628 N.E.2d 1215 (Ind. Ct. App. 1994) (no error in admitting conclusions of blood stain pattern analyst, concluding that two people were involved

in commission of crime, where the victim was located in the house at the time of injury, number of times victim was struck, tools used at different times to inflict injury, force of impact, whether victim struggled and whether physical evidence supported or contradicted the defendant's explanation of the crime).

s. Cell phone tracking evidence

United States v. Evans, 892 F.Sup.2d 949, 956-57 (N.D. Ill. 2012) (finding cell phone tracking evidence to be unreliable, in part, because the expert assumed that a cell phone always uses the cell phone tower closest to it; Court held that special agent did not qualify as an expert witness in the field of historic cell phone analysis, and his testimony failed to establish the reliability of the granulation theory he used, which was untested by the scientific community).

t. Radars

Charley v. State, 651 N.E.2d 300 (Ind. Ct. App. 1995) (officer's testimony that he tested the radar unit and checked calibration along with explanation that unit was in good working order and inspected annually has been held sufficient to meet foundation requirements).

IV. BASES OF OPINION TESTIMONY BY EXPERTS - RULE 703

A. OFFICIAL TEXT:

An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. Experts may testify to opinions based on inadmissible evidence, provided that it is of the type reasonably relied upon by experts in the field.

B. REQUIREMENT: FACTUAL FOUNDATION

Rule 703, which refers to "[t]he facts or data in the particular case," governs the expert's "minor premise," being the "case-specific information he uses to draw his opinion or inference." Imwinkelried, *The 'Bases' of Expert Testimony: The Syllogistic Structure of Scientific Testimony,* 67 N.C.L. Rev. 1 (Nov. 1988). The "major premise" of expert testimony is made up of the "scientific, technical and other specialized knowledge" that the expert possesses, and is governed by Rule 702, not Rule 703. Id. Thus, Rule 702 requires a scientific basis for the opinion, and Rule 703 requires a factual basis for the opinion.

> Buzzard v. State, 669 N.E.2d 996 (Ind. Ct. App. 1996) (testimony of psychologist regarding profiles exhibited by molested children and pedophiles, where she had neither interviewed the children allegedly molested nor defendant, had little relevance to whether defendant committed the acts for which he was charged, and the problem was later exacerbated by the prosecutor who argued that it was of no import that psychologist lacked knowledge of the specific facts of the case). But see Carnahan v. State, 681 N.E.2d 1164 (Ind. Ct. App. 1997).

PRACTICE POINTER: Remember expert testimony must also be admissible under the other Rules of Evidence, such as Rule of Evidence 403. In Buzzard v. State, 669 N.E.2d 996 (Ind. Ct. App. 1996), the court held that the expert's testimony concerning a profile of a child molester had little relevance to whether the defendant committed the acts for which he was charged and should have been excluded under Ind. Evid. R. 403. The Court in Myers v. State, 887 N.E.2d 170, (Ind. Ct. App. 2008), held that a pathologist's opinion that victim had been raped before being shot was inadmissible under Rule 403 because there was no physical evidence to support the opinion.

C. TYPES OF FACTUAL FOUNDATIONS

Under Rule 703, "[e]xpert opinion testimony may be based on three different types of facts." Gianelli & Imwinkelried, 1 *Scientific Evidence*, § 5-5 (3d. ed.); Wright & Gold, 27 *Fed. Prac. & Proc.: Evidence* 298, 300 § 6271. These are "(1) the expert's personal knowledge, (2) assumed facts supported by evidence in the record, typically in the form of a hypothetical question, and (3) information supplied to the expert outside of the trial." Gianelli & Imwinkelried, 1 *Scientific Evidence*, § 5-5 (3d. ed.).

1. Personal knowledge

"If an expert witness has firsthand knowledge of material facts, he may describe what he has observed and give his inferences under both traditional views and the Federal Rules of

Evidence." McCormick, 1 *Evidence* 119 § 14 (7th ed.). The result is the same under prior Indiana law and the Indiana Rules of Evidence. Miller, 13 *Indiana Evidence* 141 § 703.102. A few examples of expert opinion based on personal knowledge are: (1) a forensic chemist performs laboratory tests on a substance, and based on the results, expresses an opinion on its identity; and (2) a forensic pathologist expresses an opinion about the cause of death in a homicide case after personally conducting an autopsy. Gianelli & Imwinkelried, 1 *Scientific Evidence*, § 5-5 (3d. ed.).

2. Assumed facts supported by the record: hypothetical questions

"When an expert has no personal knowledge of the situation at issue and has made no firsthand investigation of the facts," a party may ask the expert "to assume certain facts and then, on the basis of this hypothesis, to state opinions or inferences. These questions are known as hypothetical questions." McCormick, 1 *Evidence* 119 § 14 (7th ed.). An expert witness may express her opinion regarding hypothetical question if the following foundational prerequisites are satisfied: 1) expert's ability to give such opinion must be established through testimony showing she has requisite knowledge, skill, education, or experience on which to base opinion; and 2) there must be proper evidentiary foundation supporting the facts that are included in the hypothetical question. Johnson v. State, 699 N.E.2d 746 (Ind. Ct. App. 1998).

PRACTICE POINTER: While expert opinions may be based on inadmissible evidence, most federal court decisions after the enactment of the Rules of Evidence have assumed that hypothetical questions should be based on admissible evidence. See Wright & Gold, 29 *Fed. Prac. & Proc. Evid.* 6294, n. 34. This approach seems consistent with Indiana law.

a. To be relevant, hypothetical must be based on facts in evidence

A hypothetical question must be based upon facts in evidence, or upon inferences which could be drawn from the evidence. Saylor v. State, 765 N.E.2d 535 (Ind. 2002). If not based on facts in evidence, the testimony is irrelevant. Odom v. State, 711 N.E.2d 71 (Ind. Ct. App. 1999); Johnson v. State, 699 N.E.2d 746 (Ind. Ct. App. 1998).

Johnson v. State, 699 N.E.2d 746 (Ind. Ct. App. 1998) (State's forensic serologist was qualified to answer hypothetical question of whether it was consistent to not detect seminal fluid on oral swabs taken after incident if perpetrator did not ejaculate in victim's mouth; facts contained in the hypothetical had been introduced into evidence).

Schmidt v. State, 816 N.E.2d 925 (Ind. Ct. App. 2004) (had defendant intended to elicit his expert's opinion regarding his level of intoxication through hypothetical questions, the facts included in the questions would have had to have been admitted into evidence, but the defendant had not testified, nor did he place those facts into evidence).

People v. Colon, 238 A.2d 18 (N.Y. Sup. 1997) (expert testimony on structure and operation of street-level drug conspiracies offered to show why the defendant had no drugs or marked money on him at the time of arrest shortly after alleged sale to

undercover officer was inadmissible absent evidence that such conspiracy actually existed).

Odom v. State, 711 N.E.2d 71 (Ind. Ct. App. 1999) (although expert testimony explaining why victim recanted is usually admissible, expert testimony must also be based upon some fact presented in hypothetical or some reasonable inference drawn therefrom; expert's suggestion that victim might have recanted because she had learned to forgive her assailant was not based on hypothetical because there was no evidence that the defendant had apologized to victim or that victim had forgiven him).

But see Carnahan v. State, 681 N.E.2d 1164 (Ind. Ct. App. 1997) (although expert did not interview victim, trial court did not abuse discretion in admitting expert testimony regarding BWS, particularly involving cycle of violence and reasons battered women do not leave their husbands, to explain why victim recanted her earlier allegation of abuse; there was a proper foundation that witness was a battered woman; complaining witness's testimony that she had previously stayed at battered women's shelter, and police reports and photos documenting abuse and injuries).

b. Hypothetical need not include all the facts

A hypothetical question need not contain all of the facts shown by the evidence, or which are pertinent to the ultimate issue. Fleener v. State, 648 N.E.2d 652 (Ind. Ct. App. 1995), *aff'd.*, 656 N.E.2d 1140 (Ind. 1995). However, it must contain "sufficient facts and inferences to present a true and fair relationship to the whole evidence in the case." Walters v. Kellam & Foley, 360 N.E.2d 199, 219 (1977); Miller, 13 *Indiana Evidence* 148 § 703.103 n.21 (4th ed.). The usual remedy for an incomplete hypothetical question is to ask a more complete question on cross-examination. Klagiss v. State, 585 N.E.2d 674, 679 (Ind. Ct. App. 1992), *cert. den.*; Henson v. State, 535 N.E.2d 1189, 1192 (Ind. 1989); Miller, 13 *Indiana Evidence* 148 § 703.103 (4th ed.).

The expert may testify in terms of opinion or inference and give reasons therefor without first testifying to the underlying facts or data unless the court requires otherwise. Ind. R. Evid. 705.

c. Hypothetical cannot ask for opinion on intent, guilt or truth or falsity

"Abuse of discretion has been found where an expert is placed on the witness stand, presented with a hypothetical scenario nearly identical to the case at bar, and allowed to testify as to the intent, guilt, or innocence of the 'hypothetical' individual." Id. at 345 (*quoting* Ross v. State, 516 N.E.2d 61, 63 (Ind. 1987)). This violates Ind. R. Evid. 704(b).

3. Information supplied to the expert outside of trial

If the evidence upon which the expert relied would be otherwise inadmissible, it must be of the type reasonably relied upon by experts in the field.

a. Hearsay

An expert may use hearsay in forming his opinion, provided that the information is of the type reasonably relied upon by experts in the field. Bunch v. Tiwar, 711 N.E.2d 844, 848 (Ind. Ct. App. 1999).

(1) Reports and records of other experts

For example, a medical doctor may testify to a medical opinion formed on the basis of information from hospital records which would themselves be inadmissible as hearsay. Jordan v. Deery, 609 N.E.2d 1104, 1110-11 (Ind. 1993).

Meisberger v. State, 640 N.E.2d 716 (Ind. Ct. App. 1994) (it was not error to allow one dentist to testify that comparison of dental x-rays led him to believe body he examined was that of victim, even though dental records belonged to other dentist and were never admitted in evidence).

Bixler v. State, 471 N.E.2d 1093 (Ind. 1984) (no error in allowing pathologist to testify that he had consulted orthopedic surgeon who had helped him reach opinion).

Hall v. State, 796 N.E.2d 388 (Ind. Ct. App. 2003) (trial court abused its discretion in rejecting doctor's expert testimony for defense as to cause of murder victim's death because the doctor relied on autopsy and radiology reports prepared by others rather than inspecting victim himself; this fact went to weight, not admissibility, of testimony).

U.S. v. Smith, 964 F.2d 1221, 1223 (D.C. Cir. 1992) (supervising chemist's opinion that substance was cocaine, based on results of tests performed by another chemist in same laboratory, was admissible).

But see Norris v. State, 498 N.E.2d 1203 (Ind. 1986) (no error to exclude testimony of defendant's expert who would have interpreted results of psychological tests given to murder victim by someone else six years earlier; expert and victim had never met).

An expert witness who lacks detailed knowledge about the past and current medical condition of the person in question has no basis to give an opinion on causation. Clark v. Sporre, 777 N.E.2d 1166 (Ind. Ct. App. 2002).

Clark v. Sporre, 777 N.E.2d 1166 (Ind. Ct. App. 2002) (trial court properly prohibited neuropsychologist testimony that brain injury was caused by hypotoxic event during surgery and hospitalization because the neuropsychologist never reviewed any of the records of the patient's hospitalization, and there was nothing in the records that indicated that a hypotoxic event occurred; thus, opinion was without a factual basis and amounted to speculation).

(2) Treatise, publications

Statements in published treatises, periodicals, or pamphlets that contradict the expert's testimony and are from reliable authority are admissible under Ind. Evid. Rule 803(18). If a publication supports the expert's position in that the expert relied on the publication, the publication is admissible under Ind. Evid. Rule 703 if reasonable experts in the same field would also rely on the publication.

Fleener v. State, 648 N.E.2d 652 (Ind. Ct. App. 1995) (reprint from manual with the diagnosis criteria for post-traumatic stress disorder and was used both by testifying expert and others in her field could be admitted into evidence), *aff'd by* 656 N.E.2d 1140 (Ind. 1995).

(3) Photographs

Knapp v. State, 9 N.E.3d 1274, 1282–83 (Ind. 2014) (it is permissible for an expert to rely on the date and timestamp of photographs of a body in determining a time of death, as such evidence is reasonably relied upon by other experts in the field).

(4) Out of court statements of parties

Bunch v. Tiwar, 711 N.E.2d 844 (Ind. Ct. App. 1999) (personal, telephonic, interview with plaintiffs to ascertain additional facts not readily apparent in medical records, particularly in light of factual dispute regarding informed consent, was the type of information an expert witness would have reasonably relied upon as a witness in a medical malpractice action, and the trial court erred in striking the witness' affidavit).

b. Limitations

(1) 702 requirements

To be admissible, medical opinions in medical records must still meet the requirements of Indiana Rule of Evidence 702. Wilkinson v. Swafford, 811 N.E.2d 374 (Ind. Ct. App. 2004).

Schaefer v. State, 750 N.E.2d 787 (Ind. Ct. App. 2001) (medical records were inadmissible where no foundation was laid for doctor's opinion evidence in the medical records; there was no evidence of doctor's specialty, how long he had practiced or his credentials, and defendant did not have an opportunity to cross examine him).

(2) Right to cross-examination

Admission of expert testimony based largely on hearsay may violate a defendant's right to confrontation, unless the defendant has the opportunity to cross-examine the persons who prepared the data on which the expert opinion is based. U.S. v. Lawson, 653 F.2d 299, 302 n.8 (7th Cir. 1981), *cert.den*. The defendant must always, in the least, have had access to the hearsay prior to the testimony. Id.

The Sixth Amendment right of confrontation requires that the analyst who conducted the tests and prepared a report testify in order to admit the report into evidence, if that report is testimonial in nature. A lab report from a state lab whose task is to assist in criminal investigations will generally be considered testimonial. See, e.g., Bullcoming v. New Mexico, 131 S. Ct. 2705 (2011); and Melendez-Diaz v. Massachusetts, 129 S. Ct. 2527 (2009). However, it is unclear to what extent a surrogate expert can testify to his or her own opinion by relying on the facts and conclusions made in a testimonial report of the unavailable witness. Williams v. Illinois, 132 S. Ct. 2221 (2012) (plurality holding that a DNA analyst could rely on the profile identified in a report of a non-testifying expert in order to determine the profile matched the unknown DNA on the alleged victim without violating the Sixth Amendment).

Ackerman v. State, 51 N.E.3d 171 (Ind. 2015) (autopsy report prepared by a doctor who is now deceased was not made for the primary purpose of assisting in a criminal investigation and thus was not testimonial; as such, introduction of the report and a surrogate pathologist's testimony about information contined in the autopsy report did not violate defendant's Sixth Amendment confrontation rights; under Indiana Evidence Rule 703, pathologist could give his own independent opinion regarding the cause of victim's death based on his review of the 1977 autopsy report and photographs).

PRACTICE POINTER: If a prosecutor intends to introduce a laboratory report as evidence in a criminal trial, the prosecutor must file a notice of intent to do so not later than twenty days before trial. Ind. Code 35-36-11-2. If the defendant wishes for the person who prepared the report to be present at trial for cross-examination, the defendant must file a demand for cross-examination not later than ten days after the defendant receives notification. Ind. Code 35-36-11-3. If the prosecutor fails to file the notice, the prosecutor may not introduce the report without testimony of the person who conducted the test and prepared the report. Ind. Code 35-36-11-4. Likewise, if the prosecutor does file a notice and the defendant fails to respond with a demand, the defendant waives the right to confront and cross-examine the person who prepared the report. Ind. Code 35-36-11-5.

(3) Evidence suppressed due to State misconduct

A prosecution expert witness should not be permitted to testify to an opinion based in part on evidence seized from a defendant in violation of the Fourth Amendment or the Miranda rule. Wright & Gold, 27 *Fed. Prac. & Proc.: Evidence* 315-316 § 6273 (1997) ("Rule 703 should not be used as a pretext to admit evidence seized in violation of a defendant's constitutional rights.")

4. Testimony of other witnesses at trial

Although not addressed in any Indiana criminal case, it has been suggested that expert witnesses may be permitted to remain in the courtroom under Rule 615(3), even when separation of witnesses is in effect, so that they can hear the testimony of other witnesses and later offer an opinion based on it. Miller, 13 *Indiana Evidence* 150 § 703.105 (4th ed.); Wright & Gold, 29 *Fed. Prac. & Proc.: Evidence* 82 § 6245 (1997). "The cross examiner

may inquire into the facts the expert assumed to be true in formulating an opinion." Miller, 13 *Indiana Evidence* 150 § 703.105 (4th ed.).

D. CANNOT BE BASED ON UNRELIABLE DATA

1. Based on data that experts on which experts in field would not rely

Expert opinion based on unreliable data is inadmissible under Ind. Rule of Evidence 702(b) for being based on unreliable reasoning and/or under Ind. Rule of Evidence 703 for being based on an insufficient factual basis. See, e.g., Hagerman Construction, Inc. v. Copeland, 697 N.E.2d 948, 957 (Ind. Ct. App. 1998). "In determining whether the scientific principles upon which the expert testimony rests are reliable under Evid. R. 702(b), the trial court may look to whether the proffered evidence is of a type reasonably relied upon by experts in the field. Evid. R. 703." Id.

> Hagerman Construction, Inc. v. Copeland, 697 N.E.2d 948 (Ind. Ct. App. 1998) (trial court did not abuse its discretion in excluding blood alcohol test results from unrefrigerated blood samples after sixteen months of storage, in light of evidence that standard procedure was to freeze samples so that they could be reliably tested later and that experts testified they would not rely on the unrefrigerated samples; this was more than a possibility of error or a minor irregularity in procedure).

Similarly, under the Federal Rules of Evidence, the trial judge has the authority under Rule 703 to exclude expert opinion testimony based on unreliable data whether the data is itself admissible in evidence or not. Federal Judicial Center, *Reference Manual on Scientific Evidence* 106 (1994). A court is not required to find that a given type of data is "reliable," within the meaning of Rule 703, merely because an expert has so testified. General Electric Co. v. Joiner, 118 S. Ct. 512, 519 (1997). "[N]othing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." General Electric Co. v. Joiner, 118 S. Ct. 512, 519 (1997).

2. Based on an insufficient amount of data

Where an expert has reached an opinion without considering important data, as determined by what other experts in the same field would or would not be willing to base opinions upon, the trial court may exclude the expert's opinion. Viterbo v. Dow Chemical Co., 826 F.2d 420, 423 (5th. Cir. 1987); Federal Judicial Center, *Reference Manual on Scientific Evidence* 107-108 (1994).

> Court View Centre, L.L.C. v. Witt, 753 N.E.2d 75 (Ind. Ct. App. 2001) (where expert's opinion as to value of burned building was based upon a few photos of the building, conversations with a few people, and guesswork, the testimony lacked a proper foundation and was properly excluded by the trial court); Cf. Whitham v. State, 49 N.E.3d 609 (Ind. 2016) (doctors can base opinions on photos of a person even without personal knowledge).

Viterbo v. Dow Chemical Co., 826 F.2d 420, 423 (5th. Cir. 1987) (expert's opinion that the plaintiff's medical condition was caused by sensitivity to one chemical was undermined by clinical tests in which the plaintiff exhibited no reaction to the chemical, and by the fact that tests revealed that the plaintiff's blood contained a high level of a second chemical which the expert ignored in forming his conclusion).

PRACTICE POINTER: When challenging expert testimony due to unreliable or insufficient factual basis, always object under Ind. R. Evid. 702, 703 and 403. See, e.g., Myers v. State, 887N.E.2d 170 (Ind. Ct. App. 2008) (pathologist's opinion that victim had been raped before being shot was inadmissible under Rule 403 because there was no physical evidence to support the opinion). If the factual basis is based on admissible evidence Ind. R. Evid. 703 is unclear as to whether the factual basis must also be the type of evidence relied upon by other experts in the field. However, the fact that other experts may not rely on the evidence to make a determination may cause the opinion to be inadmissible under 702(b) and/or 403.

V. OPINION ON ULTIMATE ISSUE – RULE 704

A. OFICIAL TEXT:

(a) **In General - Not Automatically Objectionable.** Testimony in the form of an opinion or inference otherwise admissible is not objectionable just because it embraces an ultimate issue.

(b) **Exception.** Witnesses may not testify to opinions concerning intent, guilt, or innocence in a criminal case; the truth or falsity of allegations; whether a witness has testified truthfully; or legal conclusions.

B. ADMISSIBLE OPINIONS TO ULTIMATE ISSUES - RULE 704(a)

Rule 704(a) eliminates the former ground for objection that an opinion invades the province of the jury, except as provided in Rule 704(b). Although the trier of fact retains the power to decide the ultimate issues in the case, Rule 704 reflects the view that the search for truth may in some instances be advanced by admitting opinion testimony on ultimate issues. See Wright & Gold, 29 *Fed. Prac. & Proc.* § 6282. For example, in a prosecution for possession of narcotics, expert testimony that a substance found in a defendant's possession is a narcotic drug would not be objectionable merely because the makeup of the substance was an element of the crime. Id.

However, opinion or inference testimony that bears directly on a fact in issue may be objectionable for other reasons. Opinion testimony is objectionable if it is not "helpful" under Rule 701, or if it does not "assist" the finder of fact under Rule 702(a). Wright & Gold, 29 *Fed. Prac. & Proc*. § 6282 n.10. The opinion may not be relevant under Rule 401. Miller, 13 *Indiana Evidence* 170 § 704.101 (4th. ed.). The opinion may be excludable under Rule 403 (danger of prejudice, confusion, or undue delay outweighs probative value). Miller, 13 *Indiana Evidence* 171 § 704.101 (4th ed.); U.S. v. Schatzle, 901 F.2d 252, 257 (2d Cir. 1990).

Moreover, although Indiana Rule of Evidence 704(a) generally allows witness opinion testimony to "embrace" an ultimate issue, as a matter of constitutional right, only a jury may "resolve" an ultimate issue. Williams v. State, 43 N.E.3d 578 (Ind. 2015).

C. INADMISSIBLE OPINIONS - RULE 704(b)

1. Opinion concerning intent, guilt, or innocence

Rule 704(b) bars opinion evidence concerning intent, guilt, or innocence in criminal cases. Prior to the adoption of the Rules of Evidence, the law produced the same result. Weaver v. State, 643 N.E.2d 342, 345 (Ind. 1994). The pre-evidence rules law was that a witness could not give an opinion as to the state of mind or thought process of another, but only testify to observable facts. Id.

Opinion testimony may include "evidence that *leads* to an [incriminating] inference, even if no witness could state [an] opinion with respect to that inference." Steinberg v. State, 941

N.E.2d 515, 526 (Ind. Ct. App. 2011) (second alteration in original) (emphasis added) (quoting 13 Robert L. Miller, Jr., *Indiana Practice Series* § 704.201 at 589 (3d ed. 2007)). "But an opinion must stop short of the question of guilt - because under Rule 704(b) and our constitution, that is one 'ultimate issue' that the jury alone must resolve. Williams v. State, 43 N.E.3d 578, 582 (Ind. 2015).

a. Police officers/fire marshals

Williams v. State, 43 N.E.3d 578 (Ind. 2015) (in dealing in cocaine prosecution, detective's testimony that he had "zero doubt" that what he saw was a drug transaction was an outright opinion of defendant's guilt that violated Indiana Rule of Evidence 704(b)).

Prouse v. State, 105 N.E.3d 1109 (Ind. Ct. App. 2018) (fire marshal's testimony indicating that whoever set the house fire did so to cover up something did not constitute fundamental error).

Neal v. State, 175 N.E.3d 1193 (Ind. Ct. App. 2021) (harmless error in child molesting prosecution in allowing investigating detective to testify that guilty defendants typically give "a little bit more truth" with each statement they make to law enforcement, as defendant had in speaking with him; this is precisely the type of opinion testimony that Evid. R. 704(b) prohibits because it invades the province of the jury in determining what weight to place on a witness's testimony).

Hill v. State, 137 N.E.3d 926, 943 (Ind. Ct. App. 2019) (officer's statement that there was substantial evidence on defendant almost thirty years ago did not constitute improper opinion testimony concerning the ultimate issue of guilt but rather the impediments to filing charges in 1980).

Weisheit v. State, 109 N.E.3d 978, 991 (Ind. 2018) (testimony on cause of fire not barred by Rule 704(b)).

b. Lay opinions

Weaver v. State, 643 N.E.2d 342 (Ind. 1994) (trial court properly excluded victim's testimony as to what she believed caused the defendant's attack, and whether she believed the defendant intended to kill her; DeBruler, J., concurring noting that "while the rules prohibit opinion testimony of a person's intent, the rules do not prohibit opinion testimony of a person's capacity to form intent.").

Jackson v. State, 728 N.E.2d 147 (Ind. 2000) (witness's testimony that he thought the shooting was accidental was inadmissible because it was an expression of opinion as to intent).

Tolliver v. State, 922 N.E.2d 1272 (Ind. Ct. App. 2010) (disapproving of "body language testimony," which portrays a testifying officer as a "human lie detector," the court held that an officer is not a "skilled witness" uniquely qualified to assess someone's truthfulness; however, where officer only testified as to his observations of the witness's demeanor and not to his opinion of the truthfulness of the witness, any error was harmless).

Gall v. State, 811 N.E.2d 969 (Ind. Ct. App. 2004) (no error in excluding testimony from the passenger who was shot as to her opinion that the defendant did not intend to hurt her).

Springer v. State, 437 N.E.2d 998 (Ind. 1982) (inquiry to co-workers regarding their belief of whether the defendant could have committed the child molesting/incest was improper).

Myers v. State, 887 N.E.2d 170 (Ind. Ct. App. 2008) (detective's statement that he, the defendant and another person know facts about the case no one else knows inferred the detective's opinion that defendant was guilty and violated Rule 704 but was not an intentional evidentiary harpoon requiring a mistrial).

c. Defendant's testimony

Rule 704(b) should not be read to prevent a defendant from testifying that he is innocent of the crime charged. See Miller, 13 *Indiana Evidence* 181 § 704.203 n.12. (*citing* Graham Handbook § 704:1 at 400, n. 11 (6th ed. 2006 and suggesting that testimony by the defendant as to whether he committed the crime is either not 'opinion', or should be admitted as a matter of policy); but see United States v. Hach, 162 F.3d 937, 944-45 (7th Cir. 1998) (interpretation of Fed. R. Evid 701 allowing trial court to prohibit defendant from answering whether he "knowingly and intentionally became a member of a conspiracy" and whether he "ever joined a conspiracy").

d. Expert opinions

An expert may comment on the facts of the case but must refrain from making any conclusions as to the defendant's intent, guilt, or innocence. Scisney v. State, 690 N.E.2d 342, 346 (Ind. Ct. App. 1997), *sum. aff'd. on these grounds,*701 N.E.2d 847 (Ind. 1998). "Abuse of discretion has been found where an expert is placed on the witness stand, presented with a hypothetical scenario nearly identical to the case at bar, and allowed to testify as to the intent, guilt, or innocence of the 'hypothetical' individual." Id. at 345 (*quoting* Ross v. State, 516 N.E.2d 61, 63 (Ind. 1987)). This has been the rule prior to and after the adoption of the Rules of Evidence. Id.

Scisney v. State, 690 N.E.2d 342, 346 (Ind. Ct. App. 1997) (harmless error where officer testified that the person in a hypothetical identical to the facts of the case was a dealer and not a user; "we stress it is improper to solicit testimony from a witness as to whether the evidence suggests the defendant is more likely a dealer than user. It is improper to do so in any form whatsoever"), *sum. aff'd on these grounds,* 701 N.E.2d 847 (Ind. 1998).

But see O'Neal v. State, 716 N.E.2d 82 (Ind. Ct. App. 1999) (without engaging in a 704(b) analysis, court held that officer could give opinion that the amount of drugs possessed by the defendant was consistent with a dealer).

Ross v. State, 516 N.E.2d 61 (Ind. 1987) (it was highly improper to have the State's entire case presented as a hypothetical question and then have the expert witness to testify that the 'hypothetical' defendant was guilty of a 'power rape').

Julian v. State, 811 N.E.2d 392 (Ind. Ct. App. 2004) (in arson trial, court did not err in permitting State's expert witness, an arson investigator, to testify that the fire was intentionally set; the witness testified that the fire was set intentionally, not that defendant intended to set the fire). But see Taylor v. State, 689 N.E.2d 699, 706 (Ind. 1997) (704(b) does not distinguish between the defendant's intent and other's intent).

Moore v. State, 771 N.E.2d 46 (Ind. 2002) (psychiatrist's opinion that the defendant did not think a police officer was present when he shot was an opinion regarding intent), *cert. den'd*.

Griffin v. State, 692 N.E.2d 468 (Ind. Ct. App. 1998) (psychologist's testimony that planning and thought and/or careful activity is beyond the defendant" in a criminal trial was excludable under R 704(b)), *sum. aff'd on these grounds, reversed on others,* 717 N.E.2d 73 (Ind. 1999).

But see Weaver v. State, 643 N.E.2d 342 (Ind. 1994) (DeBruler, J., concurring, noting that "while the rules prohibit opinion testimony of a person's intent, the rules do not prohibit opinion testimony of a person's capacity to form intent.").

e. Out-of-court statements

Same reasoning underlying Rule 704(b)'s prohibition of opinions of guilt during in-court testimony applies to statements offered at trial that were made at another time or place. Smith v. State, 721 N.E.2d 213 (Ind. 1999).

1) Police accusations during interrogation

For instance, police questions and comments in an interview that are designed to elicit responses from the defendant are admissible. However, officer statements that are not mere questions, but rather accusations, are inadmissible. Smith v. State, 721 N.E.2d 213 (Ind. 1999).

Smith v. State, 721 N.E.2d 213 (Ind. 1999) (trial court erroneously admitted detective's statements during his interrogation of the defendant that "half of the people at the jail's [sic] called me wanting to tell me that you did it," and "[witness] said you did it because it was over him [victim] ripping you off your dope, your stash" violated 704(b)). See also Lampkins v. State, 778 N.E.2d 1248 (Ind. 2002); Butler v. State, 951 N.E.2d 641 (Ind. Ct. App. 2011).

Bostick v. State, 773 N.E.2d 266 (Ind. 2002) (although interrogator's accusations and the defendant's responses had little probative value in establishing the defendant's guilt, repeated accusations, in context of entire statement, did not create substantial risk of unfair prejudice under Ind. Evid. Rule 403).

Kindred v. State, 973 N.E.2d 1245 (Ind. Ct. App. 2012) (investigator's testimony that child was not coached, in addition to his respected assertions in an interview played for the jury that the child was truthful and believable constituted impermissible vouching and fundamental error).

2) Non-police accusations

Steinberg v. State, 941 N.E.2d 515 (Ind. Ct. App. 2011) (although Rule 704(b) applied to statements of disbelief mother made and her questioning of her son's story during a recorded jail phone call with him, these statements did not constitute a direct opinion as to his guilt, the truth of his statements or his sanity).

f. Guilt or innocence of persons other than the defendant

Indiana's Rule 704(b), unlike Federal Rule 704(b), "does not distinguish between opinions as to a defendant's intent, guilt, or innocence and the intent, guilt, or innocence of someone other than the defendant," and bars opinion testimony about either. Taylor v. State, 689 N.E.2d 699, 706 (Ind. 1997).

Taylor v. State, 689 N.E.2d 699, 706 (Ind. 1997) (trial court erred in allowing witness to testify that it was improbable that a third party committed the crime).

2. Truth or falsity of allegations

Rule 704(b) bars opinion evidence concerning the truth or falsity of allegations. Miller advocates limiting the interpretation of the "allegations" clause to opinions on the truthfulness of pretrial statements by the witnesses or parties. Miller, 13 *Indiana Evidence* 183-84 § 704.204 (4th ed.). Thus, under Rule 704(b), a witness cannot testify to the truthfulness of out of court statements.

Bradford v. State, 960 N.E.2d 871 (Ind. Ct. App. 2012) (DCS investigator's testimony that after investigation she substantiated sexual abuse, meaning "our office feels that there was enough evidence to conclude that sexual abuse occurred" constituted an inadmissible opinion as to the truth or falsity of the allegations and reversible error).

Bean v. State, 15 N.E.3d 12 (Ind. Ct. App. 2014) (DCS investigator's testimony that after conducting his investigation, he "draw[s] a conclusion [as] to my belief, did it happen, did it not happen, whatever the allegation may be," and he "drew the conclusion to substantiate the allegation, and it was upheld by our director and agreed with by the child[-]protection team" constituted impermissible vouching).

Heinzman v. State, 970 N.E.2d 214 (Ind. Ct. App. 2012) (DCS investigator's testimony that she substantiated the allegations but also explained that it means DCS simply has a "reason to believe" that the report of inappropriate touching "may have some factual foundation" and not that the allegations were "absolutely true" was not an inadmissible opinion as to the truth or falsity of the allegations).

3. Whether a witness has testified truthfully or falsely

Rule 704(b) bars opinion evidence on whether a witness has testified truthfully or falsely. Callis v. State, 684 N.E.2d 233 (Ind. Ct. App. 1997). Prior to the Rules of Evidence, common law held similarly that "neither lay witnesses nor expert witnesses are competent to testify that another witness is or is not telling the truth." Shepherd v. State, 538 N.E.2d 242, 243 (Ind. 1989). However, a witness may testify as to demeanor and the witness' experience in assessing credibility as long as the witness allows the jury to make its own conclusion on credibility.

Shepard v. State, 538 N.E.2d 242 (Ind. 1989) (in a murder case, the trial court committed reversible error by permitting a lay witness to testify that she did not believe the defendant was telling truth when she denied killing the victim).

Malinski v. State, 794 N.E.2d 1071 (Ind. 2003) (trial court did not violate Indiana Rule of Evidence 704(b) by allowing state to call several witnesses who testified that murder victim was upset that her house had been burglarized several days before she disappeared since testimony concerned victim's demeanor, not victim's credibility).

Opinion testimony that the evidence is inconsistent with the defendant's theory or statement is not an attack on credibility.

Prewitt v. State, 819 N.E.2d 393 (Ind. Ct. App. 2004) (pathologist's remark, based on his ordinary experience with firearms, that it seemed unlikely that murder defendant would have slept through gunshot fired a few feet away was not impermissible opinion on defendant's credibility but rather permissible means of explaining pathologist's related expert opinion that it was unlikely that victim committed suicide).

Angleton v. State, 686 N.E.2d 803 (Ind. 1997) (officer's testimony that the home where the victim was found murdered was not burglarized was not an attack on credibility under 704(b)).

PRACTICE POINTER: Rule 704(b) does not bar opinion testimony about a witness's character for truthfulness under Rule 608(a). Miller, 13 *Indiana Evidence* 186 § 704.205 (4th ed.). Opinion testimony contradicting another witness's testimony is not an opinion on the other witness's credibility. Id.; Angleton v. State, 686 N.E.2d 803, 812 (Ind. 1997).

a. False confessions and interrogation techniques

Expert testimony on police techniques used and on false confessions in general are admissible, but opinion testimony regarding the truth or falsity of the defendant's statement is not. Miller v. State, 770 N.E.2d 763 (Ind. 2002); Callis v. State, 684 N.E.2d 233 (Ind. Ct. App. 1997). In the event that testimony invades Rule 704(b)'s prohibition on opinion testimony as to the truth or falsity of the defendant's statements, the individualized objections at trial can be made and sustained. Miller v. State, 770 N.E.2d 763 (Ind. 2002). Although Miller can be read to provide for admissibility of expert testimony on techniques used in a particular interrogation, this is not to say that such testimony is always admissible or that an expert may review a confession frame by frame

for the jury. Jimerson v. State, 56 N.E.3d 117 (Ind. Ct. App. 2016).

Miller v. State, 770 N.E.2d 763 (Ind. 2002) (in murder prosecution where defendant's statement played a prominent role in the State's case, the trial court erroneously excluded testimony of a psychologist called by the defense as an expert in the field of police interrogation and false confessions. See also Carew v. State, 817 N.E.2d 281 (Ind. Ct. App. 2004).

Miller v. State, 825 N.E.2d 884 (Ind. Ct. App. 2005) (State must be permitted to present evidence on the issue of defendant's mental capacity for the same purpose that the defendant's is permitted to present evidence of mental capacity, i.e., to assist jury in determining the defendant's statement's weight and credibility).

Jimerson v. State, 56 N.E.3d 117 (Ind. Ct. App. 2016) (trial court did not abuse its discretion in not permitting false confession expert to testify regarding particular circumstances surrounding defendant's confession or whether a particular technique had been applied in his case).

Kincaid v. State, 171 N.E.3d 1036 (Ind. Ct. App. 2021) (trial court's refusal to allow the expert to offer an opinion as to whether the officers who questioned her used the Reid technique and whether that could have contributed to her false confession did not deprive defendant of a fair trial).

U.S. v. Vallejo, 237 F.3d 1008 (9th Cir. 2001) (defendant whose testimony about what he said during interrogation differed in keyways from the interrogator's recollection should have been allowed to present expert testimony on his difficulties with language; the defendant was special education student with a long-standing, severe language disorder; he spoke both Spanish and English but had difficulties with English while under stress).

b. Eyewitness

If an eyewitness identification expert testifies that he questions the veracity of the identifications in the case, the expert's opinion is inadmissible being it comments on the truth of the eyewitness' testimony. See, e.g., Farris v. State, 818 N.E.2d 63 (Ind. Ct. App. 2004). However, if an expert testifies only about the general problems associated with eyewitness testimony, his testimony is inadmissible being it does not assist the jury in understanding evidence of making its final decision in the case. See, e.g., Vega v. State, 656 N.E.2d 497 (Ind. Ct. App. 1995). Thus, for eyewitness expert testimony to be admissible, the expert must be able to testify as to the general problems associated with eyewitness testimony and how these problems exist in the instant case without testifying that the eyewitness is unbelievable. Arguably, a procedure such as is used with false confession testimony should be used with eyewitness testimony. An expert should be allowed to testify, and the parties must make the 704(b) objections when necessary. See Miller v. State, 770 N.E.2d 763 (Ind. 2002).

c. Defendant's memory loss

Byrd v. State, 579 N.E.2d 457 (Ind. 1991) (it was error to exclude psychiatric testimony

regarding defendant's memory loss; defendant attempted to use it to explain why he could not remember what happened on the night the victim was murdered; because the state missed few opportunities to attack the defendant's credibility by questioning the validity of his claimed memory loss, memory loss was essential to the issue of credibility).

d. MMPI

MMPIs have been used to argue that the defendant's statements were or were not coerced without any 704(b) objection.

Watson v. State, 784 N.E.2d 515 (Ind. Ct. App. 2003) (no error in admitting results of MMPI completed by defendant during CHINS action because the defendant waived doctor-patient privilege by using his mental condition as an affirmative defense and where the defendant's expert testified that defendant's statement to police was involuntary based on another MMPI).

But see Byrd v. State, 593 N.E.2d 1183 (Ind. 1992) (generally defendant cannot present evidence, through MMPI that his character is not of the type that would commit the crime).

e. Incentivized testimony from informants

Whedon v. State, 900 N.E.2d 498 (Ind. Ct. App. 2009) (trial court did not abuse discretion in excluding testimony from Executive Director of Center on Wrongful Convictions at Northwestern University School of Law on "incentivized testimony" from informants; credibility is not a proper subject for expert testimony).

f. Suggestive interviewing techniques of children

Jenkins v. Commonwealth, 308 S.W.3d 704 (Ky. 2010) (expert testimony regarding suggestive interviewing techniques of a child accusing someone of molest is not an opinion as to the truthfulness of the child witness, but rather the expert testimony assumes the child is testifying truthfully, but may be mistaken; thus, the expert testimony is admissible).

g. Child abuse

All vouching, whether direct or indirect, of a child witness is inadmissible under Ind. Rule of Evidence 704. Hoglund v. State, 962 N.E.2d 1230 (Ind. 2012). Thus, the 1994 adoption of Rule 704 *overruled* prior common law, such as Lawrence v. State, 464 N.E.2d 923 (Ind. 1984), which allowed testimony regarding whether kids are prone to exaggerate or fantasize. Id. at 1234 (also disapproving of Rose v. State, 846 N.E.2d 363, 367 (Ind. Ct. App. 2006); Krumm v. State, 793 N.E.2d 1170, 1178-79 (Ind. Ct. App. 2003); Fleener v. State, 648 N.E.2d 652, 657 (Ind. Ct. App. 1995), *summarily aff'd in pertinent part by* 656 N.E.2d 1140, 1142 (Ind. 1995)).

Gutierrez v. State, 961 N.E.2d 1030 (Ind. Ct. App. 2012) (repeated statements from witnesses that they believed the child victim and the prosecutor's closing in which he

expressed his opinion that he believed the child also constituted improper vouching and fundamental error).

Kindred v. State, 973 N.E.2d 1245 (Ind. Ct. App. 2012) (investigator's testimony that child was not coached, in addition to his respected assertions in an interview played for the jury that the child was truthful and believable constituted impermissible vouching and fundamental error).

Wilkes v. State, 7 N.E.3d 402 (Ind. Ct. App. 2014) (detective's statements that complaining witness's reports were "consistent" and there is no reason why he would make up something like this were impermissible vouching; harmless error).

Kress v. State, 133 N.E.3d 742 (Ind. Ct. App. 2019) (repetitive testimony can become insidious vouching testimony).

NOTE: Hoglund's interpretation of Rule 704 prohibiting even indirect opinions of guilt or innocence or the credibility of a witness arguably *overruled* many cases that distinguished between direct and indirect opinions but were not explicitly referenced by the Hoglund Court. See, e.g., Velasquez v. State, 944 N.E.2d 34 (Ind. Ct. App. 2011) (statement that child suffered from PTSD was admissible as it was not a direct opinion as to guilt or innocence); and Steinberg v. State, 941 N.E.2d 515 (Ind. Ct. App. 2011) (mother's questioning of her son in a jail house phone call was admissible because it was not a direct opinion as to his guilt or the truth of his story).

(1) Expert testimony

Sampson v. State, 38 N.E.3d 985 (Ind. 2015) (disagreeing with Archer v. State, 996 N.E.2d 341 (Ind. Ct. App. 2013), subtle distinction between an expert's testimony that a child has or has not been coached versus an expert's testimony that the child did or did not exhibit any signs or indicators of coaching is insufficient to guard against the dangers that such testimony will constitute impermissible vouching. Thus, testimony about the signs of coaching and whether a child exhibited such signs or has or has not been coached is admissible only if the defendant opens the door to such testimony). See also Hamilton v. State, 43 N.E.3d 628 (Int. Ct. App. 2015), *aff'd on rehearing*, 49 N.E.3d 554 (vouching constituted reversible error).

Norris v. State, 53 N.E.3d 512 (Ind. Ct. App. 2016) (testimony of forensic interviewer about the indicia of a child's reliability and whether she observed that indicia in the complaining witness constituted improper vouching as to whether the child fit "the behavioral profile," when defendant did nothing to open the door to the testimony; harmless error).

Baumholser v. State, 62 N.E.3d 411 (Ind. Ct. App. 2016) (expert witness's opinion that delayed reporting was common in child sexual abuse cases did not improperly vouch for the credibility of the victim or express an opinion on defendant's guilt).

Carter v. State, 31 N.E.3d 17 (Ind. Ct. App. 2015) (interviewer's testimony concerning dynamics of child abuse, the disclosure process and when and why a child may recant his disclosures of abuse did not constitute improper vouching

testimony; She made no mention of complaining witness (C.W.) in her testimony, nor did she make any statement or opinion regarding the truth or falsity of C.W.'s allegations of molestation).

Alvarez-Madrigal v. State, 71 N.E.3d 887 (Ind. Ct. App. 2017) (pediatrician's testimony that less than two to three children out of 1,000 make up claims of sexual abuse did not constitute impermissible vouching testimony).

Douglas v. State, 484 N.E.2d 610 (Ind. Ct. App. 1985) (trial court erred in allowing psychiatric social worker to give opinion regarding truthfulness of a child in a molestation case; witness testified: "I believe M.R. I think he's telling the truth").

Head v. State, 519 N.E.2d 151 (Ind. 1988) (psychologist's opinion that child's allegations were true impermissibly invaded province of jury).

Jones v. State, 581 N.E.2d 1256 (Ind. Ct. App. 1991) (testimony by child welfare worker that she believed alleged victim had been molested improperly vouched for the child's testimony and invaded the province of the jury).

Ulrich v. State, 550 N.E.2d 114 (Ind. Ct. App. 1990) (trial court erred in allowing psychiatrist to testify that the victim's consistency in remembering major events in her life indicated that she was reliable and credible; victim was mentally retarded twenty-five-year-old with mental age of seven to nine).

Carter v. State, 754 N.E.2d 877 (Ind. 2001) (expert's testimony that autistic children find it difficult to deceive came close to, but did not cross the line into, impermissible Rule 704 vouching).

Palilonis v. State, 970 N.E.2d 713 (Ind. Ct. App. 2012) (examining nurse's testimony that victim's case was noteworthy to her because her statement that she was raped was believable was impermissible vouching).

Kelley v. State, 566 N.E.2d 591 (Ind. Ct. App. 1991) (no fundamental error to allow child molest victim's therapist testify that she believed the child was telling the truth). See also Sims v. State, 601 N.E.2d 344 (Ind. 1992); and Stout v. State, 612 N.E.2d 1076 (Ind. Ct. App. 1993).

(2) Lay testimony

DeMotte v. State, 555 N.E.2d 1336 (Ind. Ct. App. 1990) (the defendant has corresponding right to offer testimony as to child's inability to perceive or remember sexual encounter; trial court committed reversible error by prohibiting defendant from cross-examining stepmother about victim's sexual knowledge, police officer about victim's ability to describe events and school counselor about victim's emotional and academic problems).

Thompson v. State, 529 N.E.2d 877 (Ind. Ct. App. 1988) (trial court erred in allowing child's father to testify, "as hysterical and crying that she was I knew she was telling the truth...").

Dietrich v. State, 641 N.E.2d 679 (Ind. Ct. App. 1994) (where prosecutor asked complaining witness's mother whether she had told her daughter to lie during testimony, in no way did the question elicit, nor did her answer provide, improper voucher testimony, since it did not involve direct assertion as to mother's belief in complaining witness's testimony).

Stout v. State, 528 N.E.2d 476 (Ind. 1988) (social worker who had talked with child molest victim twenty-four times was allowed to testify that the victim's matter-of-fact testimony was not unusual and that she just wanted to get it over with).

Weis v. State, 825 N.E.2d 896 (Ind. Ct. App. 2005) (officer's statement did not invade the province of the jury as the deputy explained the course of investigation after speaking with the alleged victim and not her specific belief in the child's truthfulness; case worker's statement also did not invade province as that she explained protocol for visitation between alleged abuser and victim).

Halliburton v. State, 1 N.E.3d 670 (Ind. 2013) (witness's mother's testimony that she begged her daughter to tell the truth to law enforcement about her boyfriend's involvement in murder was not inadmissible vouching under Rule 704).

PRACTICE POINTER: Arguably, testimony of a lay person or skilled witness as to a child's behavior after an alleged abuse may not be helpful to the jury and inadmissible under 701. In Steward v. State, 652 N.E.2d 490 (Ind. 1995), the Indiana Supreme Court held that child sexual abuse syndrome, profile or pattern evidence is not admissible to prove that child abuse occurred because the scientific reasoning is unreliable under 702(b). However, if defense discusses or presents evidence of behavior by child inconsistent with child abuse, or if during testimony the child recants prior allegation of abuse, trial court may consider permitting expert testimony on child sexual abuse if it meets the requirements of 702(b), 403 and does not include opinions as to the child's truthfulness. Id. If the theory that the child abused act in a predictable manner is not reliable, then a lay person's testimony as to the child's behavior lacks probative value to be helpful to the jury. Therefore, the same limitations applied to expert testimony should apply to lay testimony in the area of child abuse opinion.

h. Battered woman syndrome

If there is a proper foundation that the complaining witness is a battered woman, expert testimony concerning battered woman syndrome is admissible not to show the woman was previously battered but to explain some reasons why she would recant. Carnahan v. State, 681 N.E.2d 1164 (Ind. Ct. App. 1997). Although battered woman's syndrome is accepted as a valid scientific theory in Indiana and numerous other jurisdictions, an expert cannot comment on the truthfulness of the victim. Id. at 1167 (Ind. Ct. App. 1997) (*citing* Barrett v. State, 675 N.E.2d 1112, 1115 (Ind. Ct. App. 1997)).

Iqbal v. State, 805 N.E.2d 401 (Ind. Ct. App. 2004) (admission of expert testimony which merely educated jury on complexity of behavior of domestic violence victims did not cross the line into impermissible vouching; it did not violate Ind. R. Evid. 403).

Odom v. State, 711 N.E.2d 71 (Ind. Ct. App. 1999) (fact that victim testified as to why she recanted her statement prior to trial did not make expert testimony on same subject irrelevant; expert can testify to other reasons provided they are based on facts in evidence). See also Otte v. State, 967 N.E.2d 540 (Ind. Ct. App. 2012).

Thevenot v. State, 121 N.E.3d 679 (Ind. Ct. App. 2019) (expert was qualified to testify generally about the dynamics of domestic violence and did not offer an opinion about facts of case).

i. Rape trauma

Rape trauma syndrome explaining that victim's actions were consistent with the actions of a rape victim is admissible only to explain why a rape victim may have waited to report the rape, recanted, or gave conflicting stories. Simmons v. State, 504 N.E.2d 575 (Ind. 1987).

Henson v. State, 535 N.E.2d 1189 (Ind. 1989) (trial court erred in refusing to allow the defendant to present expert testimony that the complaining witness' actions after the alleged rape were inconsistent with rape trauma syndrome; testimony that actions of the victim were inconsistent or consistent with a rape victim does not directly attack the credibility of the witness).

Ross v. State, 516 N.E.2d 61 (Ind. 1987) (although expert could testify as to why the victim may have waited two years to report rape, expert went too far in testifying as to the different types of rape and what type of rape this one was).

PRACTICE POINTER: Rape trauma syndrome has not been challenged in the above cases under Ind. Rule of Evidence 702(b). But see Henson v. State*, supra*, which suggests, without any pinpoint cite, that the *Simmons* court determined that rape trauma syndrome passed the Frye test. The same problems and limitations on child abuse syndrome as set forth in Steward v. State, 652 N.E.2d 490 (Ind. 1995), may apply in rape trauma syndrome. Id. at 500-01 (Sullivan, J., dissenting and stating that he sees "no basis for having different rules for child sexual abuse and for rape.").

j. Police officer testimony

(1) Accusatory statements in interrogation

The court, in Nordstrom v. State*,* 627 N.E.2d 1380 (Ind. Ct. App. 1995), has held that police officer's out-of-court accusations to the defendant that the officer does not believe the defendant, or the defendant is lying are admissible. Id. at 1384. Arguably, this holding is implicitly *overruled* by Smith v. State, 721 N.E.2d 213 (Ind. 1999), which holds that the 704(b) limitations apply to out-of-court statements, including those made by police officers during interrogations, and documents. Id. at 217.

(2) Vouching testimony as to witness or victim

Bufkin v. State, 700 N.E.2d 1147 (Ind. 1998) (testimony from a police officer that the

officer found the reporting witness "credible" is improper). See also Edgin v. State, 657 N.E.2d 445 (Ind. Ct. App. 1995).

Powell v. State, 714 N.E.2d 624 (Ind. 1999) (detective's testimony that it was not unusual for crime victims, such as victims in the case at issue, to be reluctant to talk to the police, was not improper, since such a suggestion does not vouch for a witness's truthfulness).

k. Opening the door

A party can open the door to otherwise inadmissible opinions concerning the truth or falsity of a witness, or intent, guilt, or innocence.

Willner v. State, 612 N.E.2d 162 (Ind. Ct. App. 1993) (where on direct examination, the defense asked officer whether State's witness could be summed up as a "con artist," he opened door to admissibility, on cross examination, of the officer's opinion about whether the witness was telling the truth).

Wilder v. State, 91 N.E.3d 1016 (Ind. Ct. App. 2018) (defendant opened the door to detective's testimony that he "felt the evidence was sufficient that a battery had occurred" by attacking the sufficiency of the police investigation).

4. Legal conclusions

Legal conclusions are inadmissible under Rule 704(b). "A legal conclusion is where an expert states his opinion as to how the case should be decided." Columbia City v. Utility Regulatory Commission, 618 N.E.2d 21 (Ind. Ct. App.1993); McCormick on Evidence, § 12 (7th ed.).

Butler v. State, 658 N.E.2d 72 (Ind. 1995) (it was error to allow deputy prosecutor to testify to the Class A misdemeanor status of a second offense at a post-conviction hearing where opinion pertained to an issue of law).

Estate of Shebel v. Yaskawa Electric America, 713 N.E.2d 275, 280 (Ind. 1999) (expert's opinion as to who was the first user/consumer of a lathe, for purposes of triggering a statute of repose, was a legal conclusion).

McManus v. State, 814 N.E.2d 253 (Ind. 2004) (in the sentencing phase of a trial, opinion that the defendant's mental depression did not mitigate the crime was a legal conclusion and inadmissible).

Brown v. State, 698 N.E.2d 1132, 1141 (Ind. 1998) (in post-conviction relief hearing, State objected to post-conviction counsel's question to trial counsel whether he believed he gave ineffective assistance of counsel at trial; held, no error to exclude this testimony).

Mitchell v. State, 535 N.E.2d 498 (Ind. 1989) (it was error for the trial court to allow a police officer to testify, for forty pages, that certain pieces of evidence did or did not have probative value; error was harmless due to judge's repeated admonishment to only consider testimony as to why subsequent conduct was or was not taken by police officer).

However, the trend is "to allow expert opinion testimony even on ultimate issue of the case, so long as the testimony concerns matters which are not within the common knowledge and experience of ordinary persons and will aid" the trier-of-fact. Major v. OEC-Diasonics, 743 N.E.2d 276, 285 (Ind. Ct. App. 2001) (*quoting* Koziol v. Vojvoda, 662 N.E.2d 985, 991 (Ind. Ct. App. 1996)).

> Major v. OEC-Diasonics, 743 N.E.2d 276 (Ind. Ct. App. 2001) (without addressing Appellant's argument that the opinion was a legal conclusion, court held it was within trial court's broad discretion to permit law school dean to testify in a bench trial to opinion that attorney's conduct violated the Rules of Professional Conduct).

VI. DISCLOSURE OF FACTS OR DATA UNDERLYING EXPERT OPINION - RULE 705

A. OFFICIAL TEXT:

Unless the court orders otherwise, an expert may state an opinion and give the reasons for it without first testifying to the underlying facts or data. But the expert may be required to disclose those facts or data on cross examination.

B. EFFECT OF RULE 705

Some common law required experts to state their factual basis before giving an opinion. See Mutual Life Ins. Co. of N.Y. v. Jay, 112 Ind. App. 383, 44 N.E.2d 1020 (1942); Snow v. Cannelton Sewer Pipe Co., 138 Ind. App. 119, 210 N.E.2d 118 (1976). Indiana Rule of Evidence 705 has changed that requirement.

1. Hypothetical unnecessary

Prior to Rule 705, "[t]he prior-disclosure requirement commonly was satisfied by eliciting expert opinions in response to hypothetical questions that identified the facts and data on which those opinions were based." Wright & Gold, 29 *Fed. Prac. & Proc. Evid.* § 6291. Rule 705 "eliminate[s] the need for the lengthy hypothetical question." U.S. v. Mangan, 575 F.2d 32 (2d Cir.), *cert. den*. 439 U.S. 931 (1978).

PRACTICE POINTER: Indiana Rule of Evidence 705 did not change the requirement that a hypothetical be based on evidence. The requirements for a hypothetical question are set forth in Subsection III of this Chapter discussing Indiana Rule of Evidence 703, which requires a factual basis for an opinion. Facts can be proved by subsequent witnesses. Ecker v. Ecker, 163 Ind. App. 339, 323 N.E.2d 683 (1975).

2. May state opinion without data

Rule 705 avoids complex and time-consuming testimony by permitting an expert to state his opinion and reasons without first specifying the data upon which it is based. Wright & Gold 29 *Fed. Prac. & Proc. Evid*. § 6294 n.12; Symbol Technologies, Inc. v. Opticon, Inc., 935 F.2d 1569, 1576 (Fed. Cir. 1991).

3. Does not relieve prosecutor of duty to provide pretrial discovery

The language "without first testifying to the underlying facts or data" in Rule 705 does not preclude pretrial discovery of the basis for an expert's opinions. Wright & Gold, 29 *Fed. Prac. & Proc. Evid*. § 6291 n.13. In a criminal case, the right to confrontation may compel prior disclosure. See U.S. v. Lawson, 653 F.2d 299, 302 (7th Cir. 1981), *cert. den.* (effective cross-examination is impossible unless the criminal defendant has access to the hearsay information relied upon by the expert witness).

Indiana Rule 705 does not limit discovery. Its language is the same as Federal Rule 705, which originally provided that an expert could testify "without prior disclosure of" the underlying facts or data but was amended to conform to the expanded discovery provisions of the 1993 amendments to the Federal Rules of Civil and Criminal Procedure. Saltzburg, 2 *Federal Rules of Evidence Manual* 1438-39.

C. AN EXPERT MAY BE REQUIRED TO DISCLOSE UNDERLYING FACTS OR DATA BEFORE GIVING AN OPINION

1. Court's discretion

The trial court may, in its discretion, require the expert to disclose the facts or data underlying the opinion before admitting the testimony.

> Prewitt v. State, 819 N.E.2d 393 (Ind. Ct. App. 2004) (pathologist was not required to explain source of his statistics to render his testimony concerning statistical likelihood that victim's death had been result of suicide admissible).

Opposing counsel may request permission to ask preliminary questions before the opinion testimony is admitted. Imwinkelried, *The Methods of Attacking Scientific Evidence* 18 § 1-2(c); Fox v. State, 506 N.E.2d 1090, 1095 (Ind. 1987). Preliminary questioning should be limited to the issue of admissibility, rather than the weight, and is not simply an advance opportunity to cross-examine. Miller, 13 *Indiana Evidence* 207, § 705.103 (4th ed.).

2. When the court should require basis before opinion

a. Where serious questions of admissibility exist

Where serious questions exist as to admissibility under Rules 702 and 703, prior disclosure of the underlying data may be necessary to allow the trial court to determine whether the opinion is "reliable" under Rule 702. See, e.g., Kumho Tire Co. Ltd. v. Carmichael, 526 U.S. 137, 119 S. Ct. 1167 (1999).

b. Where cross-examination would be ineffective

Cross examination may be ineffective for the following reasons: (1) the import of the cross-examination may go over the heads of the factfinder, especially when the expert's testimony is complex and difficult to understand. Wright & Gold 29 *Fed. Prac. & Proc. Evid*. § 6294; (2) the opinion may be unfairly prejudicial or inflammatory, so that the remedy of striking it later and instructing the jury to disregard it would not be effective. See Rule 403; Wright & Gold 29 *Fed. Prac. & Proc. Evid*. § 6294; and (3) The party offering the expert opinion testimony has failed to provide discovery, impairing the opponent's ability to cross-examine the expert. Miller, 13 *Indiana Evidence* 207, § 705.103 (4th ed.); see Wright & Gold 29 *Fed. Prac. & Proc. Evid*. § 6294.

c. Avoiding confusion

Where prior disclosure of the underlying facts is necessary to save time, avoid confusing the trier of fact, or to protect the witness from unfair tactics. See Rule 611(a). Wright & Gold 29 *Fed. Prac. & Proc. Evid*. § 6294.

D. DISCLOSURE ON CROSS-EXAMINATION

1. Underlying facts or data

Opposing counsel may always cross-examine the expert witness on the underlying facts or data. Even when the opinion is based on inadmissible evidence (under Rule 703), the opposing party may require the underlying facts to be revealed on cross-examination (pursuant to Rule 705), subject to the prejudice/probative value test of Rule 403. See generally U.S. v. A & S Council Oil Co., 947 F.2d 1128, 1134-35 (4th Cir. 1991).

> U.S. v. Mangan, 575 F.2d 32 (2d Cir. 1978), *cert. den*. 439 U.S. 931 (1978) (government had a "serious obligation not to obstruct a criminal defendant's cross-examination of expert testimony" and should have told its fingerprint expert to be prepared to respond in Court to defense requests about the basis of the expert's opinion.)

"[A]n expert may be required to disclose the underlying facts or data for his or her opinion on cross-examination. 'The cross examiner may limit her examination to facts or data that undermine the witness's opinion, . . . or may elicit other opinions related to that stated on direct examination.' Walker v. Cuppett, 808 N.E.2d 85, 98-99 (Ind. Ct. App. 2004) (*citing* Miller, *Courtroom Handbook on Indiana Evidence* 234 (2002) *(alteration in original))*.

E. FAILURE TO LAY FOUNDATION

If no foundation is laid for the opinion testimony either before or after it is admitted, the court may order it stricken and instruct the jury to disregard it. In Re Paternity of K.G., 536 N.E.2d 1033, 1034-36 (Ind. Ct. App. 1989) (party moved to strike opinion testimony for lack of foundation, held error not to have sustained objection); Benjamin v. Peter's Farm Condo. Owners Ass'n, 820 F.2d 640 (3d Cir. 1987); U.S. v. Sepulveda, 15 F.3d 1161, 1183 (1st. Cir. 1993).

PRACTICE POINTER: Be alert for situations where an expert witness is permitted to give an opinion without first being required to disclose the facts or data underlying the opinion in open court. On cross-examination, demand that the expert disclose the underlying facts or data, *citing* Rule 705. If the expert is unprepared to do so, move to strike the opinion testimony.

However, some aspects of the foundation, or lack thereof, may go to the weight, and not the admissibility of the evidence.

> Delaware v. Fensterer, 106 S. Ct. 292, 474 U.S. 15 (1985) (admission of expert opinion testimony, when the expert admits on cross-examination that he is unable to remember the theory on which his opinion was based, does not necessarily violate the Confrontation Clause of the U.S. Constitution, although it may be inadmissible under State Rules).
>
> Krumm v. State, 793 N.E.2d 1170 (Ind. Ct. App. 2003) (defendant's argument in child molestation case that expert's opinion was not supported by research on which it was allegedly based went to weight of evidence, which was up to the jury and not admissibility).
>
> Myers v. State, 887 N.E.2d 170 (Ind. Ct. App. 2008) (pathologist's opinion that victim had been raped before being shot was inadmissible under Rule 403 because there was no physical evidence to support the opinion; however, defendant's cross-examination exposing lack of foundation cure prejudiced; no fundamental error).

PRACTICE POINTER: The Court in Krumm, quoting Dorsett v. R.L. Carter, Inc., 702 N.E.2d 1126, 1128 (Ind. Ct. App. 1998), reasons that pursuant to Indiana Rule of Evidence 705, "the admissibility of expert testimony does not hinge on the expert's disclosure of the facts and reasoning that support his opinion." Id. However, this statement is incorrect for scientific evidence which must be based on proven reliable reasoning under 702(b). See, e.g., West v. State, 805 N.E.2d 909 (Ind. Ct. App. 2004) (State's failure to disclosure reasoning to support opinion made opinion inadmissible under 702(b)).