

IN THE SUPREME COURT OF IOWA

No. 103 / 99-2001
Filed September 6, 2001
STATE OF IOWA,

Appellee,

vs.

LINCOLN DUANE BELKEN,

Appellant.

On review from the Iowa Court of Appeals.

Appeal from the Iowa District Court for Dickinson County, Frank B. Nelson, Judge.

Appeal from judgment and sentence entered on convictions for first-degree kidnapping and second-degree sexual abuse. **DECISION OF COURT OF APPEALS VACATED; DISTRICT COURT JUDGMENT AFFIRMED AS MODIFIED.**

Linda Del Gallo, State Appellate Defender, and Dennis D. Hendrickson, Assistant State Appellate Defender, for appellant.

Thomas J. Miller, Attorney General, Thomas S. Tauber, Assistant Attorney General, and Edward Bjornstad, County Attorney, for appellee.

CADY, Justice.

The primary issues we confront in this appeal from a judgment and sentence for kidnapping and sexual abuse is whether the district court erred at trial in admitting rebuttal evidence that an investigating officer failed to disclose to the defendant during a deposition, and in admitting evidence of a DNA match between the defendant's DNA and the crime-scene DNA together with a random match probability of one in 431 billion. The court of appeals determined the district court abused its discretion in admitting the rebuttal testimony and reversed the conviction after concluding the evidence was highly prejudicial to the defendant. On our review, we vacate the decision of the court of appeals and affirm the decision of the district court as modified in this opinion.

I. Background Facts and Proceedings.

On July 3, 1998, Tanya Ross accompanied several girlfriends to the Lake Okoboji area to celebrate the Independence Day holiday. This was Tanya's first visit to the Okoboji area, and she was unfamiliar with her surroundings. The girls checked into a motel located on the east side of West Okoboji called "The Inn" at approximately 6:00 p.m. The college-aged girls took turns in the bathroom getting ready to go out for the evening. They also began to consume alcoholic beverages, and other girls began to arrive at the motel room. Tanya consumed a couple of alcoholic beverages while at the motel.

Eventually, everyone left the motel room to go to Arnold's Park, an amusement park located on the south side of West Okoboji. The group of girls left in two cars. However, Tanya somehow was left behind. After waiting, to no avail, for her friends to return to the motel, Tanya decided to walk to Arnold's Park. At approximately 11:00 or 11:30 p.m., Tanya started walking in the direction where she believed Arnold's Park was located. Tanya had been walking for about fifteen minutes when a young man stopped and offered her a ride into town. The man appeared "harmless to her," so she accepted the ride. They engaged in a brief conversation. The man asked for her name and where she lived. Although Tanya did not ask the man for his name, he did tell her he was from Okoboji.

When they reached what appeared to be the town, Tanya requested to be dropped off. Instead of letting Tanya out of the car, the man accelerated speed and locked the doors with the automatic power locks. After parking in a wooded area near a lake, the man obtained a gun from the trunk, and threatened to kill Tanya if she attempted to leave. The man then raped Tanya at gunpoint. When the man completed the sex act, he left Tanya in the woods by herself.

Tanya then started walking down the road in search of help. After she had been walking for some time, a man named Heath Richter passed by and offered her assistance. As Heath was driving Tanya to the police department, he saw Officer Dan Schaffer. Officer Schaffer interviewed Tanya and called her an ambulance. These events took place at approximately 12:50 a.m. At the hospital, medical personnel examined Tanya and obtained evidence for subsequent deoxyribonucleic acid (DNA) analysis.

Tanya provided investigators detailed descriptions of the assailant, the car, and the gun. She described the assailant as a white male, approximately twenty-one years old, thin build, short—approximately 5' 8", light brown hair, clean-shaven, a little acne, wearing gold-framed eyeglasses. He was wearing a green t-shirt on the night of the assault. Tanya described the car as a white four-door mid-1990's model with red interior and automatic door locks. She believed the gun was a semiautomatic with a blue or dark-colored finish.

On August 18, 1998, Tanya identified Lincoln Belken from a photographic array as the assailant. The photograph of Belken matched the detailed description Tanya had provided to the authorities. On a previous date, Tanya had viewed a photographic array that did not include Belken for one hour and was unable to find the assailant. However, Tanya's identification of Belken on August 18 was instantaneous. Tanya subsequently identified Belken's white Achieva from a photograph as the car driven by the assailant on July 3.

A search warrant was executed at Belken's parents' residence in Spirit Lake, where he was residing at the time of the assault. A gun resembling the one described by Tanya was seized and later identified by Tanya. Several green

t-shirts were also seized. Based on the positive identifications and the items seized, Belken was charged with first-degree kidnapping and second-degree sexual abuse.

On May 8, 1999, Tanya believed she saw Belken at her place of employment in Fort Dodge, Iowa. Tanya had been working as a bartender at Applebee's restaurant all day until 10:00 p.m. The young man she believed to be Belken was wearing a baseball cap low on his head. Tanya also claimed she saw a white Achieva in the parking lot when she left Applebee's at 10:30 p.m.

However, at a bond review hearing held a few days later, Belken presented evidence in the form of receipts, canceled checks, and witnesses that on May 8 he was in Sioux Falls, South Dakota, with his wife and daughter.

Belken filed a pretrial motion requesting the State to produce all written or oral statements made by anyone interviewed by the State during the investigation of the July 3 assault. The district court granted the motion, and ordered the State to produce all statements taken by its investigating officers. The district court also granted Belken's request for additional money for a private investigator to obtain voluntary statements from witnesses not listed in the minutes of testimony.

Trial commenced on November 17, 1999. State witnesses included Terry Klooster, an Iowa Department of Criminal Investigation (DCI) agent, and Thomas Loebach, a deputy police officer. Both of these officers were involved in the investigation of Tanya's assault.

The State also introduced expert testimony of the DNA analyses performed on seminal fluid found on the undergarments worn by Tanya on July 3 and DNA samples obtained from Tanya and Belken. Maria Sides, a DCI criminalist in the state DNA analysis laboratory, testified Belken was a potential donor of the seminal fluid found on Tanya's undergarments, as were one in 1000 Caucasians. The method used by Sides to analyze the DNA is known as polymerase chain reaction (PCR), and Sides used a 310 analyzer manufactured by Perkin-Elmer to conduct her analysis. The kit provided by the manufacturer permitted Sides to use six genetic sites in analyzing the DNA. The manufacturer also provided a data base to assist in generating the random match probability of one in 1000 Caucasians. Sides limited the probability match to Caucasians because Belken is Caucasian.

Jami Harman, the scientific director of a private forensic paternity and DNA testing laboratory in St. Louis, Missouri, named Genetic Technologies, Inc., was the State's other expert witness. The district court denied Belken's motion to exclude Harman's testimony, finding she was qualified to testify as an expert witness. Harman detailed her experiences and education in DNA testing and the process she conducted in analyzing the DNA and reaching the statistical probabilities in this specific case. Like Sides, Harman used a 310 analyzer manufactured by Perkin-Elmer, and relied on the data base provided by the manufacturer to obtain a random match probability.

However, Harman used a profiler kit that permitted her to look at nine

genetic sites. Harman concluded the DNA from the seminal fluid found on Tanya's undergarments matched Belken's genetic profile. Harman further testified that the probability that another Caucasian would match Belken's genetic profile was one in approximately 431 billion Caucasians.

Belken presented an alibi defense. Defense witnesses testified Belken was in a boat on the lake with his wife (then-fiancée) Jennifer, his parents Barry and Kari Belken, and his relatives Peter, Vickie, Rachaelle, and Aaron Larsen, to watch the fireworks display on the evening of July 3, 1998. The boat ride ended around 10:30 p.m., and Belken, Jennifer, and Aaron then went to the Belken residence in Spirit Lake. The other occupants of the boat arrived at the residence between midnight and 1:00 a.m. Belken was taking a shower at the residence at the time.

The only alibi witness that accounted for Belken's whereabouts during the period of time when the assault occurred was Jennifer. Aaron did not testify at the trial. Jennifer testified that after she, Belken, and Aaron left the boat landing, Belken and Aaron went to the restroom at the park, and they then drove directly to Belken's parents' home, which was located five miles from the park.

The State attempted to discredit Jennifer's testimony with its theory that Jennifer was providing false testimony to protect her husband. On cross-examination, Jennifer admitted she and Belken had an argument on July 3, but denied the State's suggestion that the reason for the argument was Belken's desire to go to Arnold's Park that evening instead of on the boat with his family. Jennifer also refuted the State's assertion that the argument resumed when they reached Belken's parents' home and that Belken subsequently left her alone for a period of time. In addition, Jennifer denied telling Wanda Garloff, her former manager at Dairy Queen, in September 1998 that she was uncertain whether Belken had not committed the offense. The State proffered the rebuttal testimony of Wanda Garloff to impeach the statements made by Jennifer the preceding day at trial. Because the State had not previously disclosed Garloff's testimony, the court granted Belken's request to interrogate Garloff before the presentation of her testimony to the jury. Garloff stated that sometime around September 1998 Jennifer told her she was not sure whether Belken did or did not commit the assault against Tanya. Garloff further stated she informed Thomas Loebach of the conversation with Jennifer approximately three times, and that Terry Klooster was present on one of those occasions. Garloff testified she last talked to Loebach only one month prior to trial.

Belken moved to exclude Garloff's testimony as impeachment on a collateral issue and, alternatively, as a sanction for the State's failure to disclose Garloff's testimony. Neither Loebach nor Klooster mentioned Garloff's statements during their depositions. In explaining its lack of compliance, the county attorney asserted he only learned of Garloff's specific testimony two

days earlier as he was preparing for the rebuttal portion of the trial. The court subsequently overruled Belken's motion to exclude.

Although the State was permitted to present Garloff as a rebuttal witness, the testimony derived from Garloff on direct examination was confusing.

Q. Did Jennifer Belken tell you she was not certain that Lincoln Belken had not committed that acts? [sic]

A. Yes, she was.

Neither the State nor Belken attempted to clear up Garloff's ambiguous response through further questions. However, during closing arguments, the State twice mentioned Garloff's testimony as a factor to consider in judging Jennifer's credibility. Belken did not object nor did he address these statements during his closing argument.

The jury returned guilty verdicts on both counts. The district court subsequently entered judgment and sentence on both the first-degree kidnapping charge and the second-degree sexual abuse charge.

Belken appealed. He argued the district court erred in entering judgment and sentence on the second-degree sexual abuse charge as that offense merged with the first-degree kidnapping conviction. He also contended the district court erroneously admitted Harman's expert testimony and Garloff's rebuttal testimony. We transferred the case to the court of appeals, which reversed and remanded for a new trial, finding the district court should have excluded Garloff's testimony as a discovery sanction.

The State appealed, and we granted further review. The State alleges the district court did not abuse its discretion in admitting Garloff's testimony, and even if there was an abuse of discretion, the error did not prejudice Belken.

II. Scope of Review.

We review rulings on general evidentiary issues and the admissibility of expert testimony for an abuse of discretion. See *State v. Schutz*, 579 N.W.2d 317, 319 (Iowa 1998) (expert testimony); *State v. Smith*, 573 N.W.2d 14, 17 (Iowa 1997) (evidentiary issues). Likewise, we review the imposition of sanctions for discovery abuses for an abuse of discretion. See *State v. Gates*, 306 N.W.2d 720, 725 (Iowa 1981).

We review alleged violations of the merger doctrine under Iowa Code section 701.9 (1997) for errors at law. *State v. Mulvany*, 600 N.W.2d 291, 293 (Iowa 1999). Additionally, we review ineffective assistance of counsel claims de novo. *State v. DeCamp*, 622 N.W.2d 290, 292 (Iowa 2001).

III. Rebuttal Testimony.

A. Impeachment on Collateral Issue.

Belken first argues the trial court should have excluded Garloff's rebuttal testimony as impeachment evidence on a collateral issue. Generally, the State may impeach a defense witness by introducing out-of-court oral statements inconsistent with the testimony presented by the witness at trial. Iowa R. Evid. 613; see 7James A. Adams & Joseph P. Weeg, *Iowa Practice* §

613.1, at 475 (1998) [hereinafter *Iowa Practice*]. In doing so, the State may use the impeachment evidence only for the purpose of undermining the witness' credibility, and not as substantive evidence. 7 *Iowa Practice* § 613.1, at 476; 88 C.J.S. *Trial* § 89, at 197 (1955). Furthermore, impeachment evidence is admissible only if it addresses a non-collateral issue. *State v. Odem*, 322 N.W.2d 43, 45 (Iowa 1982). Impeachment evidence is non-collateral if its contents are admissible for any purpose independent of the contradiction. *State v. Roth*, 403 N.W.2d 762, 767 (Iowa 1987); *Odem*, 322 N.W.2d at 46; 7 *Iowa Practice* § 607.4, at 412, § 613.2, at 482.

We have identified two categories of independently admissible impeachment evidence. See *Roth*, 403 N.W.2d at 767; *State v. Blackford*, 335 N.W.2d 173, 176 (Iowa 1983). The evidence is either relevant to resolving an issue material to the case, or it pertains to the general credibility of the witness. *Id.*; 7 *Iowa Practice* § 613.2, at 482-83. We conclude the impeachment evidence introduced in this case involved a non-collateral issue and, consequently, was independently admissible. In addition to contradicting Jennifer's statements on cross-examination, Garloff's testimony undermined Jennifer's credibility. Additionally, Belken's whereabouts during the time frame in which the assault occurred was a material issue, and Garloff's testimony concerned Belken's alibi defense. See *Odem*, 322 N.W.2d at 46 (defendant's whereabouts at time of crime material); see also *State v. Hilleshiem*, 305 N.W.2d 710, 714 (Iowa 1981) (relationship between defendant and deceased child material). Thus, Garloff's testimony was permissible impeachment evidence.

B. Exclusion Based on Nondisclosure.

The request to exclude Garloff's testimony was predicated on the failure of an investigating officer to disclose the complete contents of his unrecorded interview with her during his pretrial deposition. Generally, discovery sanctions are predicated on the violation of an order or rule requiring discovery. See 23 Am. Jur. 2d *Depositions and Discovery* § 373, at 647-48 (1983). In this case, however, the discovery order required the State to produce statements by witnesses obtained by the State, and any reports or narratives by investigators which contained statements of witnesses. The statement at issue on appeal was never recorded or reduced to writing and was not included in any written report. Typically, a statement must be recorded in some manner to be discoverable under an order requiring the production of a statement. See *United States v. McClure*, 734 F.2d 484, 493 (10th Cir. 1984). Thus, the statement that the investigating officer failed to disclose in his deposition was not within the parameters of the pretrial discovery order in this case. The basis for Belken's request to preclude testimony came from the failure to disclose information in a deposition. The defendant in a criminal case is permitted to depose witnesses listed by the State on the trial information in the same manner and effect as in civil

cases, except as otherwise limited by rule or statute. Iowa R. Crim. P. 12(1). The State is required to name each witness in the trial information who is expected to testify at trial, as well as the contents of their testimony. Iowa R. Crim. P. 5(3). Rebuttal witnesses, however, are not required to be disclosed by the State. See Iowa R. Crim. P. 18(3). The State is not precluded from calling witnesses to rebut testimony presented by a defendant when it fails to endorse the name of the witness on the trial information. *State v. Nelson*, 261 Iowa 204, 208, 153 N.W.2d 711, 714 (1967).

Our Iowa Rules of Civil Procedure define the uses for depositions. Iowa R. Civ. P. 144. Depositions may be used at a trial or a hearing, when admissible under the rules of evidence, for a variety of purposes enumerated in the rule. *Id.* Yet, the rule does not contemplate the use of depositions for discovery, although a deposition is commonly viewed as a discovery tool. See *Osborn v. Massey-Ferguson, Inc.*, 290 N.W.2d 893, 897 (Iowa 1980). While our rules of discovery are broader, we recognize that the federal rules of criminal procedure generally do not utilize depositions as a discovery device. *United States v. Edwards*, 69 F.3d 419, 437 (10th Cir. 1995). Instead, a defendant may only depose a government witness to preserve testimony. Fed. R. Crim. P. 15(a); *United States v. Cutler*, 806 F.2d 933, 935-36 (9th Cir. 1986). A deposition may, of course, always be used to contradict or impeach the deponent as a witness. Iowa R. Civ. P. 144(a). Yet, it does not replace a discovery order for purposes of sanctions for nondisclosure.

In this case, Belken claims he was denied a fair trial because the State impeached an alibi witness with testimony presented on rebuttal which an investigating officer failed to disclose in his pretrial deposition. Thus, Belken attempts to use the deposition of the investigating officer as a discovery device to pin sanctions on the State. However, there was no record made to support a finding of misconduct or bad faith on the part of the prosecutor or the investigating officer. See *State v. Dye*, 371 N.W.2d 47, 50 (Minn. Ct. App. 1985) (court considered whether violation was intentional); *State v. Parson*, 453 N.E.2d 689, 692 (Ohio 1983) (same). The investigating officer never explained the reason he failed to disclose the disputed statement during the course of his deposition or the reason he failed to reduce the statement to writing in a report. The county attorney only learned of the statement during the course of the trial, and only after he personally spoke with Garloff in preparation for her rebuttal testimony. Moreover, the questions propounded to the investigating officer during the deposition concerning his investigation of Garloff were broad and open-ended. Defense counsel simply asked the officer to recall everything the witness told him. There was no effort to specify the requested information by asking the officer if Garloff said anything to him that would rebut an alibi defense. Broad, open-ended discovery requests make it difficult to assess whether or

not nondisclosure occurred or whether it was done in bad faith. *Reid v. State*, 372 N.E.2d 1149, 1153 (Ind. 1978).

Nevertheless, the State does not dispute the need for disclosure of the disputed testimony. Instead, the State asserts the district court properly denied the request to exclude the rebuttal testimony because no prejudice resulted to Belken.

In reviewing the decision of the trial court to admit Garloff's rebuttal testimony, we reverse only if Belken was substantially prejudiced by the evidence. *State v. Anderson*, 517 N.W.2d 208, 214 (Iowa 1994); *Gates*, 306 N.W.2d at 725. Generally, we defer to the trial court on discovery matters, absent an abuse of discretion, because the trial court is in the best position to determine whether prejudice resulted. See *Gates*, 306 N.W.2d at 725.

In determining whether to exclude evidence as a sanction for the nondisclosure of evidence in the course of pretrial discovery, trial courts typically consider a myriad of factors. These factors include the reason for the nondisclosure, any resulting prejudice, the ability to cure any prejudice short of exclusion, and any other relevant circumstances. See *State v. Veal*, 564 N.W.2d 797, 811 (Iowa 1997), *overruled on other grounds by State v. Hallum*, 585 N.W.2d 249 (Iowa 1998).

We have previously observed that the circumstances of the failure to disclose the disputed rebuttal evidence are limited to the contents of the deposition itself and the prosecutor's statement that he was not aware of the statement until trial. These circumstances do not necessarily support the sanction of exclusion. Thus, we turn to the prejudice prong of the analysis. Belken claims the undisclosed rebuttal evidence undermined his entire alibi defense because the State was able to impeach his main alibi witness, and he would not have called Jennifer if he knew the State would have been able to impeach her.

In examining the presence of prejudice, we observe that the disputed testimony was offered by the State at trial only for impeachment, not as substantive evidence of the crime. Generally, the risk of prejudice from a discovery violation is reduced when the only value of the evidence is for impeachment. *Veal*, 564 N.W.2d at 811. Additionally, the actual testimony presented in rebuttal was extremely ambiguous.^[1] See *State v. Love*, 302 N.W.2d 115, 120-21 (Iowa 1981). By itself, it offered the jury little impeachment value.

Nevertheless, we must examine the claim of prejudice in the context of its effect on Belken's trial strategy. Undisclosed evidence that likely would have caused a defendant to materially alter the trial strategy if it had been known is more likely to be prejudicial than undisclosed evidence that was merely cumulative. John E. Theuman, Annotation, *Exclusion of Evidence in State Criminal Action for Failure of Prosecution to Comply With Discovery Requirements as to Statements Made by Defendants or Other Nonexpert Witnesses—Modern Cases*, 33 A.L.R.4th 301, 307-08 (1984). Yet, we must

also keep in mind that the undisclosed statement was offered to rebut, disprove, or contradict the alibi defense evidence offered by the defendant. Thus, it is helpful to analyze the existence of prejudice from the perspective of the contradictory nature of the testimony.

Garloff's rebuttal testimony contradicted Jennifer's alibi testimony. Yet, if Jennifer's alibi testimony was truthful, advance knowledge of Garloff's impeachment testimony would have only enabled Belken to investigate Garloff to expose her untruthfulness or to find a reason for the contradiction. See *Reid*, 372 N.E.2d at 1155. Additionally, it would have permitted Jennifer to fully explain the inconsistent statement testified to by Garloff. See *id.* However, in either event, a continuance in the trial would have given Belken the same opportunities. *Id.* A continuance, however, was never requested by Belken. See *Sparks v. State*, 393 N.E.2d 151, 153 (Ind. 1979) (normal remedy is to move for continuance). Moreover, the court had provided Belken with an opportunity to interview Garloff. See *Nelson v. State*, 440 So. 2d 1130, 1133 (Ala. Crim. App. 1983). If, after the interview, Belken believed he needed more time, he could have moved for a continuance. See *id.*

On the other hand, if Jennifer's alibi testimony was untruthful, advance knowledge of Garloff's testimony may very well have caused Belken not to call Jennifer as a witness. See *United States v. Jefferson*, 445 F.2d 247, 250 (D.C. Cir. 1971); *Reid*, 372 N.E.2d at 1155. Yet, if Jennifer's alibi was untruthful, Belken necessarily would have known she was providing a false alibi by testifying she was with him at all relevant times. See *Jefferson*, 445 F.2d at 250. If that was the situation, the prejudice Belken now complains of did not come from the failure of the investigating officer to disclose the existence of the inconsistent statement, but Jennifer's own failure to disclose to Belken that she made a prior inconsistent statement. *Reid*, 372 N.E.2d at 1155; *Dye*, 371 N.W.2d at 50. Belken was simply trapped by the failure of his own witness to warn him of the existence of a previous conflicting statement, and the damage to his defense at trial resulted from his own decision to offer a false alibi. *Reid*, 372 N.E.2d at 1155.

In this light, the only real prejudice that could result to Belken was if the alibi evidence was false. Yet, no defendant should be protected from that type of prejudice. The prejudice which courts guard against could have been alleviated by a continuance. See *id.* We conclude the court properly acted within its discretion in admitting the rebuttal testimony.

Even if the trial court had erred in admitting the rebuttal evidence, we conclude any error would have been harmless. See *State v. Griffin*, 576 N.W.2d 594, 597 (Iowa 1998). Ordinarily, when the State's evidence of guilt is overwhelming, we deem a trial error to be harmless. *Id.*; *State v. Rice*, 543 N.W.2d 884, 887-88 (Iowa 1996).

We conclude there was overwhelming evidence of Belken's guilt introduced by the State in its case-in-chief. Two independent tests matched Belken's

DNA to the DNA from the seminal fluid found in Tanya's undergarments. Moreover, the probable frequency that a person other than Belken would match the crime-scene DNA was astronomical. Additionally, Tanya positively identified Belken as the assailant and the car he drove as well as his clothing and the gun he used.

III. Expert DNA Testimony.

A. Background.

We have previously examined the nature of DNA and the scientific principles that permit it to be used for forensic identification. See *State v. Williams*, 574 N.W.2d 293, 297 (Iowa 1998); *State v. Brown*, 470 N.W.2d 30, 31 (Iowa 1991). Clearly, DNA analysis has gained widespread acceptance since it was first introduced to the field of law enforcement sixteen years ago. See Edward J. Imwinkelried & D. H. Kaye, *DNA Typing: Emerging or Neglected Issues*, 76 Wash. L. Rev. 413, 413-14 (2001). Today, the initial controversy over the scientific validity of forensic DNA testing has largely disappeared, and the courtroom disputes are now typically limited to issues of criminal procedure and evidence. *Id.*

The methods of analyzing DNA have also advanced over the years. Today, the PCR method has emerged as the predominate method of DNA typing. See *id.* at 457. It is based on scientific principles and methods that are accepted in both forensic and non-forensic settings, *United States v. Shea*, 957 F. Supp. 331, 338 (D.N.H. 1997), and allows many DNA polymorphisms, or variables, to be quickly and unambiguously analyzed. Imwinkelried & Kaye, 76 Wash. L. Rev. at 457. Courts have readily approved the admission of expert testimony based on PCR analysis. See *Shea*, 957 F. Supp. at 338-39 & n.20; Imwinkelried & Kaye, 76 Wash. L. Rev. at 457-58.

The PCR method of typing has two components, amplification and allele identification. *Shea*, 957 F. Supp. at 333. Amplification is the "process of making many copies [of] selected portions of a DNA sample," which permits the amplified alleles, or the arrangement of base pairs at a polymorphic site, to be identified. *Id.* at 334.^[2] Once a DNA sample is amplified, the polymorphic sites can then be typed and identified. *Id.*

The DNA analysis at the studied sites allows laboratories to determine if a suspect's DNA matches the crime-scene DNA. See Imwinkelried & Kaye, 76 Wash. L. Rev. at 416. A match between the two samples tends to incriminate the suspect, while a non-match normally excludes the suspect as a source of the DNA left at the crime site. *Id.*

DNA analysis in criminal cases does not end with the matching of a crime-scene DNA profile with a suspect's DNA. To put the significance of a match into perspective, prosecutors also offer evidence about the probability of finding two matching profiles. This is called random match probability, which represents the expected frequency of another human matching the same DNA profile in a relevant population class. *Shea*, 957 F. Supp. at 335.

The process of calculating a random match probability involves several principles of genetics and statistics, and utilizes a data base of DNA samples. See *id.* at 335-37. These principles and statistical methods are widely accepted as valid, and questions about the reliability of random match probability have generally concerned the size and selection of the data base. See Imwinkelried & Kaye, 76 Wash. L. Rev. at 456-57. Data bases of DNA samples are used because it is not practical to test the entire population to determine whether an actual match exists. However, it is always possible for error to occur by chance when a data base does not contain the entire population being studied, and adjustments are then made to account for the possibility of random error. See *Shea*, 957 F. Supp. at 341-43. The statistical methods to support the random match probability are generally accepted by scientists and experts in the field. See *id.*

The process of PCR amplification and identification can be largely automated, which has contributed to the creation of improved data bases in recent years. David H. Kaye, Symposium, *Bioethics, Bench, and Bar: Selected Arguments in Landry v. Attorney General*, 40 Jurimetrics J. 193, 202 & n.35 (2000). PCR-based tests also make it easier to examine more loci, which generally yields a more discriminate random match probability.^[3] *Id.* at 203 n.38.

B. Objections to DNA Testimony.

Belken does not challenge the validity of the testing methods used by Harman or the science to support the testing results. Instead, he claims Harman was not qualified to present her testimony. Belken asserts she lacked sufficient education and experience, her laboratory was not accredited, and she failed to provide any statistical foundation for her random match probability opinion.

1. Qualifications.

Like all expert testimony, the admissibility of DNA evidence must satisfy our accepted standards for admission of expert testimony. Yet, we have traditionally adhered to a liberal rule when reviewing claims concerning the admissibility of expert testimony. *Mensink v. Am. Grain*, 564 N.W.2d 376, 379 (Iowa 1997); *State v. Buller*, 517 N.W.2d 711, 713 (Iowa 1994); *Cook v. State*, 476 N.W.2d 617, 620 (Iowa 1991). As a general rule, we permit expert testimony if it consists of specialized knowledge that will aid the jury in understanding the evidence or in deciding a material issue. Iowa R. Evid. 702; *Iowa-Illinois Gas & Elec. Co. v. Black & Veatch*, 497 N.W.2d 821, 827 (Iowa 1993); *Brown*, 470 N.W.2d at 32. We have previously found expert testimony explaining DNA evidence to be quite helpful to the trier of fact. See *Williams*, 574 N.W.2d at 297-98; *Brown*, 470 N.W.2d at 31-33. Additionally, the witness through whom the testimony will be offered must be sufficiently qualified as an expert in that particular field. Iowa R. Evid. 702. We afford the

trial court wide latitude in its rulings on the admissibility of expert testimony, and reverse only if the court abused its discretion and the defendant was prejudiced. *Buller*, 517 N.W.2d at 713; *Brown*, 470 N.W.2d at 32.

Any special “knowledge, skill, experience, training, or education” can qualify a witness as an expert. Iowa R. Evid. 702. However, no precise rule governs how a witness may acquire the requisite qualifications. 32 C.J.S. *Evidence* § 525, at 329 (1996). The witness need not be considered a specialist in the particular field as long as the testimony is within the general area of expertise. *Hunter v. Bd. of Trs. of Broadlawns Med. Ctr.*, 481 N.W.2d 510, 519 (Iowa 1992); *DeBurkarte v. Louvar*, 393 N.W.2d 131, 138 (Iowa 1986). Furthermore, the witness need not possess a particular license, certification, or educational degree. See 7 *Iowa Practice* § 702.3, at 520; 32 C.J.S. *Evidence* § 524, at 327, § 525, at 329-30. On the contrary, witnesses may acquire expert knowledge through practical experience and training, as well as through formal education. *DeBurkarte*, 393 N.W.2d at 138; see *Buller*, 517 N.W.2d at 714.

We conclude the trial court did not abuse its discretion in admitting Harman’s testimony regarding the DNA analysis she performed for this case. Although Harman did not obtain a special license or graduate degree, she received a bachelor’s of science degree from the University of Missouri and took graduate courses focusing on DNA and statistical analysis from the Federal Bureau of Investigation Academy. Moreover, Harman received ongoing training in the field of serology, studying blood and body fluids, while employed as a forensic scientist by the St. Louis County Police Department for thirteen years. In addition, Harman attended numerous intensive seminars at a variety of institutions throughout the country involving DNA typing. Harman had been testing DNA samples for five years before she and her husband formed their own DNA testing laboratory in 1998. The evidence also reveals that Harman used a 310 genetic analyzer manufactured by Perkin-Elmer and received extensive training from the manufacturer on the use of the analyzer. Furthermore, Harman has engaged in proficiency testing five times a year by the American College of Pathologists. She has never failed any of the tests.

Considering Harman’s education, training, and experience, we conclude she was sufficiently qualified to testify as an expert witness in this case. See *Buller*, 517 N.W.2d at 714 (years of experience and training with dog qualified dog handler as expert witness regarding dog’s reactions); *Iowa-Illinois Gas & Elec. Co.*, 497 N.W.2d at 827-28 (extensive experience sufficient). Additionally, we do not believe the State was required to show Harman’s laboratory was certified in order to independently establish she was competent to apply and use the DNA technology. The standards for admission of expert testimony relate to the ability of the analytical method to produce accurate results when properly applied. See *Shea*, 957 F. Supp.

at 340-41. They do not necessarily relate to the skill of the particular individual using the analytical method. *Id.* at 340. The ability of an expert to perform the accepted method typically affects the weight of the evidence, not its admissibility. *Id.* at 341.

2. Random Match Probability.

Statistical analysis is important in DNA profiling, but the basis for the average match probability is based upon methods of computation that are readily accepted in the field and have been adopted by the National Academy of Sciences. See *Imwinkelried & Kaye*, 76 Wash. L. Rev. at 456. Computer programs are used by DNA profilers to make the calculations based on the information they have attained from their analysis, which are accepted and relied upon in the field of DNA profiling. See *Shea*, 957 F. Supp. at 341. In this case, Harman utilized nine STR loci to arrive at her random match probability of one in 431 billion Caucasians.

Although Harman is not a specialist in statistics, she has had significant training and experience in using statistical analysis in DNA profiling. See *Mercy Hosp. v. Hansen, Lind & Meyer, P.C.*, 456 N.W.2d 666, 671 (Iowa 1990) (considering witness' experience and other education, he need not be an accountant to render an expert opinion on the computation of hospital profits); see also 7 *Iowa Practice* § 702.3, at 522. Furthermore, we find Harman adequately detailed at trial the statistical process used in reaching her conclusion that Belken's genetic profile could be found in only one in 431 billion Caucasians. In explaining how she calculated her conclusions, Harman explained the number of loci tested, the variations per locus, and the alleles frequency. She was also generally familiar with the mathematical and genetic principles which formed the basis for the calculation.

Harman was not obligated to explain the specific mathematical computations utilized during the DNA process. See Iowa Rs. Evid. 703 (bases of expert witness' opinion testimony), 705 (expert witness need not disclose underlying data); *Mercy Hosp.*, 456 N.W.2d at 671 (expert witness need not introduce the records reviewed in formulating opinion); see also 7 *Iowa Practice* § 703.1, at 529, § 705.1, at 555. To the contrary, Belken was responsible for bringing out the underlying data when cross-examining Harman. See Iowa R. Evid. 705; *Mercy Hosp.*, 456 N.W.2d at 672. As the evidence of the DNA match was accompanied by the statistical probability, Harman's expert testimony satisfied the statistical foundation requirements delineated in our prior opinions. See *Williams*, 574 N.W.2d at 298 (finding error when DNA match evidence not accompanied by statistical probability); *Brown*, 470 N.W.2d at 32-33 (expert testimony regarding mathematical probability would assist jury in considering DNA evidence). Moreover, any asserted deficiencies in Harman's qualifications and the statistical foundation were considered by the jury in determining what weight to attribute to the expert testimony. See *Hunter*, 481 N.W.2d at 520; *Brown*, 470 N.W.2d at 33.

V. Ineffective Assistance of Counsel.

Belken asserts several ineffective assistance of counsel claims, all of which we deem to be without merit. He first argues his counsel was ineffective for failing to object to the admission of Garloff's rebuttal testimony as inadmissible hearsay. Although Garloff was testifying to an out-of-court statement made by Jennifer, the State was not offering it to prove the truth of the matter asserted but for impeachment purposes only. See Iowa R. Evid. 801(c) (defining hearsay as an out-of-court statement by someone other than declarant offered "to prove the truth of the matter asserted"); *State v. Sowder*, 394 N.W.2d 368, 370 (Iowa 1986); *State v. Wycoff*, 255 N.W.2d 116, 118 (Iowa 1977). As such, it was not hearsay. *Sowder*, 394 N.W.2d at 370; see Iowa R. Evid. 801(c). Moreover, we find the State's real purpose in offering Garloff's testimony was in fact to impeach Jennifer. *Sowder*, 394 N.W.2d at 371. The State limited its examination of Garloff to the specific statement conveyed by Jennifer, and did not attempt to establish the truth of the assertion. See *id.* Thus, as Garloff's testimony was not hearsay, Belken's counsel was not ineffective for failing to make a meritless objection. *State v. McPhillips*, 580 N.W.2d 748, 754 (Iowa 1998) (counsel not ineffective for failing to raise objection without merit). Additionally, Belken claims his counsel rendered ineffective assistance by not moving for a mistrial for prosecutorial misconduct and for not objecting to Garloff's testimony on due process grounds. Even if the State's conceded violation of the discovery order constituted prosecutorial misconduct, Belken was not prejudiced or deprived of a fair trial. *State v. Anderson*, 448 N.W.2d 32, 33 (Iowa 1989). As previously determined, the evidence against Belken was strong. See *id.* at 34 ("significant that the evidence against the accused is strong"). Considering the entire record, we cannot conclude Belken would have been acquitted absent Garloff's testimony. See *id.* at 33. Consequently, Belken's counsel was not ineffective. See *McPhillips*, 580 N.W.2d at 754.

VI. Merger.

Belken argues, and the State concedes, the district court erred in entering judgment and sentence on both the first-degree kidnapping and second-degree sexual abuse charges. The State presented the abduction and sexual assault of Tanya as a single continuous occurrence. *State v. Constable*, 505 N.W.2d 473, 478 (Iowa 1993); *State v. Newman*, 326 N.W.2d 788, 793 (Iowa 1982); *State v. Williams*, 334 N.W.2d 742, 743 (Iowa 1983). Moreover, the sex act underlying the sexual abuse charge was a necessary element of the kidnapping charge. *State v. Davis*, 328 N.W.2d 301, 307 (Iowa 1982); see Iowa Code § 710.2 ("Kidnapping is kidnapping in the first degree when the person kidnapped . . . is intentionally subjected to torture or *sexual abuse*." (emphasis added)). Consequently, we conclude the sexual abuse offense was necessarily included in the kidnapping conviction. *State v. Morgan*, 559 N.W.2d 603, 611 (Iowa 1997); *Williams*, 334 N.W.2d at 743. We merge the sexual abuse conviction, and vacate the judgment and

sentence entered on that conviction. See Iowa Code § 701.9 (merger of lesser included offenses); see also Iowa R. Crim. P. 6(2) (defendant may not be convicted of both greater and lesser included offenses).

VII. Conclusion.

We conclude the admission of Garloff's rebuttal testimony did not prejudice Belken. However, because we find the sexual abuse offense merged with the kidnapping charge, we vacate the judgment and sentence entered on the second-degree sexual abuse conviction. We otherwise affirm the district court.

DECISION OF COURT OF APPEALS VACATED; DISTRICT COURT JUDGMENT AFFIRMED AS MODIFIED.

Snell, S.J.,* participates in lieu of Streit, J., who takes no part.

*Senior judge assigned by order pursuant to Iowa Code section 602.9206 (2001).

^[1] Although Belken does not raise this issue, we must address the State's two attempts during closing arguments to clarify Garloff's ambiguous testimony. We must consider the comments within the context of the entire closing arguments and the evidence admitted. See *State v. Greene*, 592 N.W.2d 24, 32 (Iowa 1999); *State v. Thornton*, 498 N.W.2d 670, 676 (Iowa 1993). Furthermore, we presume the jury adhered to the trial court's curative instruction that the jury was not to consider the closing arguments as evidence during deliberations. See *State v. Proctor*, 585 N.W.2d 841, 845 (Iowa 1998); *State v. Glaus*, 455 N.W.2d 274, 278 (Iowa Ct. App. 1990).

^[2] DNA molecules are found in the chromosomes in cell nuclei. See Thomas M. Fleming, Annotation, *Admissibility of DNA Identification Evidence*, 84 A.L.R.4th 313, 319 (1991). The DNA molecules are composed of millions of units called "base pairs." *Shea*, 957 F. Supp. at 333. "There are four types of bases: adenine (A), thymine (T), guanine (G), and cytosine (C)." *Id.* The manner the base pairs are arranged makes up the genetic code that distinguishes humans from nonhumans and makes each individual unique. *Id.* Although 99.9% of the sequence of base pairs are identical in humans, there are regions known as polymorphic sites where substantial variations exist from one person to another. See Imwinkelried & Kaye, 76 Wash. L. Rev. at 445 n.183. The different arrangement of the base pairs at a polymorphic site is called an allele. *Id.* "Among these alleles is a class known as 'short tandem repeats,' or STRs." *Id.* These regions contain sets of specific DNA sequences of various lengths. *Id.* For example, in the DNA fragments that come from what has been identified as locus D7S820, "one individual [may] have an allele that consists of . . . six repeats of the sequence GATA, while another person might have an allele with ten repeats." David H. Kaye, Symposium, *Bioethics, Bench, and Bar: Selected Arguments in Landry v. Attorney General*, 40 *Jurimetrics J.* 193, 203 n.39 (2000). Generally, STRs are "the most widely used . . . alleles for forensic DNA identification." See Imwinkelried & Kaye, 76 Wash. L. Rev. at 445 n.183.

^[3] The specificity of PCR-based tests depends not only on the number of loci tested, but also on the number of alleles per locus, and the allele frequencies. Kaye, 40 *Jurimetrics J.* at 203 n.38. The thirteen loci selected by the Federal Bureau of Investigation for data basing, for example, "yield an average match probability of one in 180 trillion." *Id.*