

EYEWITNESS IDENTIFICATION TODAY

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EYEWITNESS IDENTIFICATION TODAY

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The National Best Practices Committee and Acknowledgements

The National Best Practices Committee (NBP), convened by Prosecutors' Center for Excellence (PCE), brings prosecutors together to share ideas, discuss challenges, and develop guidance on today's prosecution best practices.

The NBP includes experienced prosecutors from large and small offices in 30 states. The committee meets on a regular basis to collaborate on creating a vision for the prosecutor's office of the future and issuing papers related to that topic. The mission of the NBP is to improve the criminal justice system by providing support, guidance, and considerations for prosecutors. The NBP addresses the challenging issues impacting victims, witnesses, the accused, and the community. The guiding principles for NBP's work are a commitment to justice, integrity, ethics, fairness, and equity for all.

See NBP's work and NBP's members at the [National Best Practices Committee Webpage](#).

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The Most Significant Recent Research Findings

The Initial Identification (ID) is the Most Important

The most reliable identification procedure is the first one. The test itself contaminates memory for later procedures. An in-court identification by a witness who initially failed to identify the defendant quickly and with high confidence in the first identification procedure is unreliable. In a review of 91 cases where the defendant was identified with high confidence in court, and DNA later proved the defendant to be innocent, none of the witnesses initially identified the defendant with high confidence.¹

Confidence and Speed

An ID made at the first identification procedure with high confidence and speed are highly reliable. Studies have shown an approximately 97% degree of accuracy when a pristine lineup is used, though accuracy can be lower, for example, where an innocent suspect happens to look a lot like the perpetrator.²

Simultaneous Arrays are Better

Displaying a photo array simultaneously (all photos on one sheet) yields more correct identifications and fewer false ones than displaying a photo array sequentially (one at a time), as the latest research shows. This has been a point of contention for a long time. Even the most ardent proponent of showing the photographs one at a time, has recently found that simultaneous presentation is consistently better.³

Show Ups are Reliable

Research shows that an immediate high confidence identification at a show up is accurate, 80% or more of the time.⁴ The rate of accuracy for an immediate high confidence identification in a

¹ See Mickes & Wixted, *When eyewitness memory reliably exonerates the wrongfully convicted*, Memory (8/14/2025); Reference Manual on Scientific Evidence: Fourth Edition. Washington, DC: The National Academies Press, at 162 (2005) (“2025 NAS”) (“the rationale for ... the use of only the initial identification and confidence statement rests firmly on the cognitive science of memory and decision-making”), <https://doi.org/10.17226/26919>.

² See R.J. Mackenzie, *Memory on trial, the new science on when to trust eyewitness testimony*, Nature (May 27, 2026).

³ See Seale-Carlisle et al., *Designing Police Lineups to Maximize Memory Performance*, 25 J. Exper. Psych.: Applied 410 (2019), <https://doi.org/10.1037/xap0000222>; Mickes & Wixted, *Eyewitness Memory*, in Oxford Handbook of Human Memory, Chap. 80 (2024), cited in 2025 NAS at 431.

⁴ See Mickes, Amendola, Chen, et al. *Predicting accuracy in eyewitness show ups: confidence and response time in the laboratory, confidence in the field*, Cognitive Research (2026), <https://doi.org/10.1186/s41235-026-00734-w>.

pristine line up is higher at about 97%, indicating that it is preferable when possible. Nevertheless, a show up is highly reliable. On the flip side, a high confidence failure to identify a suspect at a show up is highly probative of innocence.⁵

Guidelines for Police ID Procedures

“Pristine” Procedures

- **Only one suspect should be in an array.** Adding more than one suspect to an array is confusing and reduces the number of fillers for each suspect.
- **The suspect should not stand out.** The fillers should match the *description* of the suspect, not the suspect. Research shows that there are more correct identifications and fewer false ones even if there is no resemblance between the suspect and the fillers other than the described features.⁶ However, the suspect should not be wearing clothing that matches that worn by the perpetrator during the crime or is a different color or style from the others in the array.
- **The witness should be given neutral instructions before viewing the array,** such as:
 - “The suspect may nor may not be in the array.”
 - “If you see the suspect, please pick him/her; otherwise indicate ‘not present.’”
- **The administrator should be blind** (a detective who does not know who the suspect is) **or blinded** (the detective cannot see the photos shown to the witness) to avoid inadvertent suggestion.
- **The administrator should take an immediate confidence statement:** If the witness has not already volunteered a level of confidence, (e.g., That’s him!!) then a confidence statement should be requested immediately. It can either be a scale of 1-10, or a three-point scale (low, medium, high). Research shows little difference between them.⁷ Witnesses also can be asked to state their level of confidence in their own words.

⁵ Mickes, Amendola, Chen, et al., *supra* note 4.

⁶ Facial recognition should NOT be used to select fillers as it as it will simply pick clones of the suspect and make it too difficult to accurately choose the perpetrator. “[C]hoosing fillers who match the description of the perpetrator but who are otherwise dissimilar to the suspect’s appearance yielded fair lineups and enhanced eyewitness identification performance.” 2025 NAS at 435, *citing* Melissa F. Colloff et al., *Optimizing the Selection of Fillers in Police Lineups*, 118 PNAS e2017292118 (2021) (Match to description protects innocent suspects; match to suspect protects guilty suspects), <https://doi.org/10.1073/pnas.2017292118>.

⁷ Mansour, *The confidence-accuracy relationship using scale versus other methods of assessing confidence*, *Journal of Applied Research in Memory and Cognition*, 9, 215–231 (2020); Tekin, Lin, & Roediger, *The relationship between confidence and accuracy with verbal and verbal + numeric confidence scales*, *Cognitive Research: Principles and Implications*, 3, Article 41 (2018).

These five procedures are “pristine” and are highly recommended.⁸ Following these procedures, research shows high confidence identifications are approximately 97% accurate.

Other Recommended Procedures

- **A photo array should be displayed simultaneously (all at once).** Generally, six photographs are used although some jurisdictions use more. The size of the array may not matter.⁹
- **A suspect’s photo should be shown to a witness only once.** The most reliable identification is the first one. This makes it important to use a current photograph of the suspect that has the features the witnesses described. You do not get a second chance to test the witness’s memory of the same suspect if you incorrectly use an outdated photograph or one that does not match the witness’s description.¹⁰
- **Photo arrays should be shown to only one witness at a time.** An array should be shown only to one witness at a time, away from other witnesses. Otherwise, they can corrupt each other’s identification.
- **The ID administrator should not comment on the ID or lack of ID.**
- **The ID should be recorded.** Law enforcement should write down what was done, how long the witness took to make an identification, what the witness said, and the witness’s level of confidence. Some police video-record the ID procedure to preserve the evidence. This can be powerful evidence at trial.
- **A single photo should only be shown to confirm an ID when the suspect is not a stranger.** If the suspect is *not a stranger*, a single photograph may be used to confirm the ID of the person the witness had named or otherwise identified as the perpetrator.

⁸ Wixted & Wells, *The Relationship Between Eyewitness Confidence and Identification Accuracy: A New Synthesis*, Psychological Science in the Public Interest, at 20, Box 3 (2017). See Mickes & Wixted, *supra* note 1 (“the reliability of positive identifications from an initial lineup is maximized when recommended procedures are used and we certainly agree that recommended procedures should be used precisely for that reason”), citing Wells, et al., *Policy and procedure recommendations for the collection and preservation of eyewitness identification evidence*, Law and Human Behavior, 44(1), 3–36 (2020), <https://doi.org/10.1037/lhb0000359>.

⁹ See Seale-Carlisle, note 3 *supra*. One study shows that there is not much difference between a three-person and a six-person array leading to the observation that “[t]here may be little gain in seeking to include fillers in a lineup beyond those that are well matched and immediately available, especially if the process of finding those fillers will delay the eyewitness identification procedure considerably.” Akan, et al., *The Effect of Lineup Size on Eyewitness Identification*, J. Experimental Psych: Applied, Abstract (2020). The high confidence-accuracy relationship for an in-person show-up ($\approx 80\%$ correct) is lower than that for a simultaneous six-person array ($\approx 95\%$ correct) but it is still significant. Wixted & Mickes, *Suspect Identification from Lineups, in the Lab, and in the Field*, Cognitive Research: Principles and Implications (9/19/2025).

¹⁰ Research shows that using a suspect’s photograph more than once contaminates memory and leads to more false identifications in subsequent procedures. (It’s called the mug shot effect.) The only reliable identification is the first one. Wells, Gary L., et al., *supra* note 9.

- **Filler photos can be altered to include distinctive features of the suspect.** Features, such as tattoos or scars, can be added to filler photos if the witness's description mentioned the feature (if not, then do not add the feature to the filler photos). If a feature does need to be added, it should be done carefully so it is not apparent that it is an alteration of the photo.
- **Instructions like the following should NOT be given:**¹¹
 - "It is as important to clear the innocent as to implicate the guilty."
 - "You do not have to make an identification."
 - "Take as much time as you need." Studies show that speed alone can be used to establish accuracy.¹²

Factors that May Affect an Eyewitness's Memory

Stress

Research shows that high levels of stress reduce the correct identification rate when the perpetrator is in the array; however, if an identification is made, it does not appreciably affect the accuracy of high confidence, quick identifications. It also does not appreciably affect the mistaken identification rate when the perpetrator is not in the array.¹³

Presence of a Weapon

Research shows that the use of a weapon during the crime may reduce the number of identifications; however, if an identification is made, it does not appreciably affect the accuracy of high confidence, quick identifications.¹⁴

¹¹ There is no research support for the first two instructions, and they place an inappropriate burden on the witness.

¹² A recent study on the speed of an identification found that high-confidence witnesses who identify the suspect within 5 seconds were 97% accurate; but even low- and moderate-confidence witnesses were 95% accurate in the same time frame. Seale-Carlisle, Colloff, Flowe, W. Wells, Wixted & Mickes, *Confidence and response time as indicators of eyewitness identification accuracy in the lab and in the real world*, Journal of Applied Research in Memory and Cognition (2019). Other studies have reached similar conclusions with different times and different statistical methods. See, e.g., Dodson & Dobolyi, *Confidence and eyewitness identifications: The cross-race effect, decision time and accuracy*, Appl. Cog. Psychol., 113, (2016), citing Sauerland & Sporer, *Fast and confident: predicting eyewitness identification in a field study*, J. Exp. Psychol.: Appl., 646 (2009) ("Fast identifications (6 seconds or less) and confident (90-100%) individuals showed an impressive 97% accuracy rate when they selected someone from a lineup."). There has been no dispute that "jump-out identifications" are "desirable witness expressions of absolute certainty." Klobuchar, Steblay & Caligiuri, *Improving Eyewitness Identifications: Hennepin County's Blind Sequential Lineup Pilot Project*, Cardozo Public Law, Policy & Ethics J., 381, 399-400 (April 2006).

¹³ Carey, et al., *Facing stress: No effect of acute stress at encoding or retrieval on face recognition memory*, Acta Psychologica, Volume 219 (2021) ("our findings add to a growing body of research demonstrating an absence of stress effects on recognition performance. That is, previous eyewitness and fundamental experiments alike have obtained null effects of acute stress at encoding for face identification tasks") (citations omitted).
<https://doi.org/10.1016/j.actpsy.2021.103376>.

¹⁴ Carlson, C. A., et al. *An investigation of the weapon focus effect and the confidence-accuracy relationship for eyewitness identification*, Journal of Applied Research in Memory & Cognition, 6, 82-92 (2017) ("can identifications

Cross-Race Identifications

Research shows that when the witness and perpetrator are racially different, there are fewer identifications; but high confidence IDs are still as accurate as same-race IDs. However, witnesses with significant exposure to the other race (parents, bosses, close friends) do not have the reduced ID rate.¹⁵

Length of Observation

Length of observation is a benefit because a witness is more likely to make a confident ID after long exposure than short exposure; however, a high confidence ID that does occur is as accurate with 5 seconds of exposure as it is with 90 seconds of exposure.¹⁶

Passage of Time

As time passes since the crime occurred, the proportion of high-confidence identifications decreases. However, assuming the witness has not been exposed to the suspect's face in the interim, a high confidence ID is as reliable 9 months later as it is one week later.¹⁷

Distance and Lighting

As distance increases and light decreases, there will be fewer identifications. But again, even under these less-than-ideal circumstances, a high confidence and fast ID remains reliable. Researchers are now investigating whether this is still true even under extremely poor conditions.¹⁸

made by highly confident eyewitnesses (those most likely to make it to trial) be trusted? In other words, are these identifications highly accurate? [The data] show that they are.”). <http://dx.doi.org/10.1016/j.jarmac>

¹⁵ Dodson & Dobolyi, *supra* note 13 at 18, Figure 1 (The data in this study were reanalyzed by Wixted & G. Wells, *supra* note 9, who found virtually no difference in accuracy for same-and cross-race identifications when witnesses are 100% confident and a very small difference in accuracy when witnesses are 80% confident), <http://dx.doi.org/10.1002/ac>.

¹⁶ Mickes, *Receiver operating characteristic analysis and confidence-accuracy characteristic analysis in investigations of system variables and estimator variables that affect eyewitness memory*, J. Appl. Res. Mem. & Cog., 93, 96 (2015).

¹⁷ Wixted, Read & D. Lindsay, *The Effect of Retention Interval on Eyewitness Identification Confidence-Accuracy Relationship*, J. Appl. Res. Mem. & Cog., 1, 9 (2016). (“high-confidence accuracy remained extremely reliable even as memory conditions deteriorated, so much so that high-confidence suspect ID accuracy was close to 100% correct whether the retention interval was as short as 1 week or as long as 9 months.”).

¹⁸ Lockamy, et al., *The effect of viewing distance on empirical discriminability and the confidence- accuracy relationship for eyewitness identification*, Applied Cognitive Psych. (Sept./Oct. 2020) (“high confidence identifications were associated with high accuracy at 3 meters ... and 10 meters...but not at 20 meters”); Nyman, et al., *The distance threshold of reliable eyewitness identification*, Law & Hum. Behav. (2019) (“high confidence and shorter response times were associated with identification accuracy up to 40 meters”); Wixted & Mickes, *supra* note 10) (“However, claims about the deleterious effect of suboptimal estimator variables on confident suspect ID accuracy come from mock-crime studies involving very few observations, without participants being given the opportunity to opt out because they did not get a good look at the perpetrator’s face (as often happens in real-

Overall, research has shown that sub-optimal circumstances reduce the ability to pick, but do not have a substantial effect on the reliability of strong initial eyewitness identifications.¹⁹

Past Mistaken Beliefs About Eyewitness Identification

“For decades, the field mistakenly believed that sequential lineups were diagnostically superior to simultaneous lineups, that confidence was, at best, only weakly predictive of accuracy, and that sub-optimal conditions (e.g., short exposure, poor lighting, weapon focus, etc.) reduced the reliability of eyewitness identifications. None of that is true.

“What went wrong?

- Applied psychology became divorced from basic experimental psychology.
- As a result, eyewitness identification research did not make use of theories from basic science.

“The reliability of any type of forensic evidence (e.g., forensic DNA) is assessed by testing its information value when it is not contaminated and is properly tested. Assessing the reliability of forensic *memory* evidence should be no exception to that rule. Unfortunately, testing a witness’s memory irretrievably contaminates it. Thus, only the first (properly conducted) test is relevant to the question of whether eyewitness memory is reliable. With few exceptions, the results of studies conducted in the lab and in the real-world show that confidence is highly predictive of accuracy on the first test, and high confidence often implies high accuracy. The fact that many eyewitnesses are known to have made high confidence misidentifications in the courtroom has cemented the almost universal misimpression that eyewitness memory is unreliable. However, it is the criminal justice system that is guilty of unwittingly using contaminated memory evidence (relying on the *last* memory test, in court) in conjunction with an improper testing procedure (namely, a courtroom show-up) to win convictions of the innocent. That mistake should no longer be blamed on the unreliability of eyewitness memory.”²⁰

world investigations), and without being corroborated by any real-world investigations. In our view, such evidence is not yet sufficient to guide expert testimony or policy”).

¹⁹ Mickes & Wixted, *supra* note 3, Abstract (“estimator variables are largely irrelevant once initial confidence is taken into account”). For the first five factors studied, a high confidence initial identification was found to be 97.1% accurate. Wixted & G. Wells, *supra* note 9 at 24.

²⁰ Wixted & Mickes, *Eyewitness memory is reliable, but the criminal justice system is not*, *Memory*, Vol. 30, Abstract (3/20/2022). See also Mickes & Wixted, *supra* note 1 (“The main mistake over the years has been made by the criminal justice system itself, not by eyewitnesses. The main mistake was failing to listen to reliable eyewitness decisions on the initial test when those decisions did not confirm police suspicions of the suspect’s guilt”).