Forensic scientists help Las Vegas detectives link impounded guns to unsolved crimes

Any Lester, forensic scientist for the Metropolitan Police Department, holds a gun before shooting bullets into a water tank for a demonstration at the department's forensic laboratory on Friday, Feb. 17, 2017, in Las Vegas. (Erik Verduzco/Las Vegas Review-Journal) @Erik_Verduzco
Anya Lester loaded the weapon with shiny, fresh bullets. Wearing eye and ear protection, she aimed the gun into a cold, coffin-like water tank, took a deep breath and fired.

"Bam, bam, bam" the gun went as the forensic scientist pulled the trigger. Again, again, again.

“This is the purest possible sample,” she said a few seconds later, scooping up the warm, spent cartridge cases, which fell safely into a red net.

Away from the crime scenes, the bodies and the blood, Lester and three other Metropolitan Police Department forensic scientists are working around the clock to help solve crimes in bulk.

Their specialty? Firearms. And at a time when violent crime is climbing in the Las Vegas Valley, they are working more than ever.

“You're expecting to walk in and see NASA in here, but this is it,” Lester said of the nondescript Metro laboratory where she and her tiny team of mostly women work. It's housed within an unassuming southwest valley office building and includes a makeshift gun range, where Lester had been shooting.

Lester spruces up her plain workspace with photos and colorful mementos. But it's the work that's exciting: connecting cartridge cases from impounded guns to open criminal cases.

The cartridge cases — which are essentially a bullet's container — are filled with gunpowder, and when they're fired and ejected, the cases are marked up with a pattern unique to the gun used. The patterns are what Lester is looking for.

“This is the first time since I've been here where it's actually been one of the most popular requests that we've had," said Kim Murga, who heads the Metro laboratory where Lester works. "And DNA has taken kind of a back seat."

The technology isn’t new. The sheriff’s support is.

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If the valley’s crime scenes were marked on a broad canvas map, matched cartridge cases would link those scenes together with giant brushstrokes of watercolor paint.

In one connecting sweep, the color spreads, soaking into the nooks and crannies between those scenes. It's not exact, but the matches give investigators a peek at what may have happened before and after separate crimes occurred, and where criminals may have traveled and conducted business in the meantime.

“From a strategic perspective, it gives you a more holistic perspective," said Matt McCarthy, deputy chief of Metro’s investigative services, which oversees homicides and robberies. Instead of isolating an investigation to one street corner, the cartridge cases may connect crimes miles away.

“It allows an investigator to ask more questions,” he said.

The main tool scientists like Lester use to make these connections is a federal
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Lester input the samples into the database. Cases from crime scenes are compared.

“It’s kind of like Match.com,” Murga said.

Once the system identifies possible hits, the scientists put the cartridge cases under a comparison microscope before officially determining a possible match.

“People are really excited about it because it is actually hooking these smaller crimes to larger crimes and providing leads for the investigators,” Lester said.

MORE RESOURCES

Metro has been able to use the federal database for about a decade. But it wasn’t until last summer that Metro began dedicating more resources to it.

Murga, the lab’s director, made proposals in both 2008 and 2014 to get more staff. It made sense — her four firearms forensic scientists were responsible for about 3,000 impounded firearms a year, which all needed to be test-fired. It was almost impossible to process all that evidence, so they didn’t.

“We would just recover the brass, and we wouldn’t be able to do anything further,” Sheriff Joe Lombardo said.

But violent crime changed that. With a surge of killings and robberies last year, Lombardo agreed that NIBIN could be useful. There was a compromise: Metro allowed the lab to hire a shooter — basically a retired officer paid part time to fire weapons for science.

That cost-effective move freed up more time for the scientists to work on entering evidence into the database, because the more entries in the database, the more likely scientists will get a hit.

“We’re already seeing the fruits of our efforts,” Lombardo said. “We’ve had numerous cases solved. And we’ve also had the ability to charge individuals with additional charges.”

The sheriff said the system has been so successful in such a short amount of time that he’s already approved two additional scientist positions for the lab and a few more shooters.

He’s also invited all neighboring police agencies to send in their cartridge cases to Metro for processing.

“Quite often, our criminals associated with violent crime commit more than one crime,” Lombardo said. “I put a request in to all the local chiefs to ensure they’re utilizing the system also. The criminals don’t know the boundaries.”

MAKING A DIFFERENCE

A matched cartridge case doesn’t mean a single suspect is guilty. It means a single gun can be placed at multiple scenes.

With a piece of the puzzle, detectives can fill in the blanks, even in investigations they’ve essentially exhausted.

In a recent case, a homeless man was fatally shot at random. The only evidence at the scene was a collection of cartridge cases.

Using NIBIN, scientists matched the homicide cartridge cases to cartridge cases from a database, called NIBIN, or National Integrated Ballistic Information Network.

Though the database is managed by the Bureau of Alcohol, Tobacco, Firearms and Explosives, the work is local.

Impounded guns are fired. Ejected cartridge cases are collected, then scientists like Lester input the samples into the database. Cases from crime scenes are compared.

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separate robbery, for which the suspect was already in custody.

Through the investigation, police determined that the man already in jail was in possession of the same gun at the time of the homeless man’s death and was in the area the night of the slaying.

“I’ve been amazed at how often we’re getting hits that are leading us to criminals,” said David Lewis, captain of Metro’s criminalistics bureau. “It’s been pretty impressive.”

In the lab, Lester and her colleagues don’t know anything about the cases they are assisting with. Even the high-profile ones. They keep their heads down, and they keep going.

“I am a non-biased scientist,” Lester said. “I speak for the evidence. I tell you what it means.”

Still, though, Lester understands the implications of her work.

“It’s not just pictures on a screen. What we’re doing is really making a difference for people in the community, and their families, and victims, and victims’ families,” Lester said. “It’s just a really powerful thing.”

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