

# **The role of crime-scene personnel when responding to scenes of mass disaster**

**An exclusive Evidence Technology Magazine interview with  
John S. Morgan, Ph.D.  
Assistant Director for Science and Technology  
at the National Institute of Justice**

*Disaster response has always been an important role for government agencies at all levels. Every part of the country faces its own special disaster threats that stem from natural causes: snow-storms in the Rocky Mountains and the Northeast; tornadoes in the Midwest; wildfires in the plains of Texas and Oklahoma; hurricanes in Florida and the Gulf Coast; and earthquakes on the West Coast and in Alaska. But since September 11, 2001, there has been an increased emphasis across the country on response readiness. One federal agency in particular has been actively working to help responders prepare for the range of potential disasters. The National Institute of Justice (NIJ) has a number of programs in this area. We recently spoke with Dr. John S. Morgan, NIJ's assistant director for science and technology. Our first question had to do with the role that the NIJ serves in the field of disaster response.*

**DR. MORGAN:** NIJ is the research-development and evaluation agency of the U.S. Department of Justice. Part of our work is the development of forensic technologies that can help improve the capacities of state and local crime laboratories. That work involves improving the response of state and local law enforcement to mass-casualty situations.

**EVIDENCE TECHNOLOGY:** *How did the NIJ get started along this line?*

**DR. MORGAN:** We got involved in this area quite seriously after the World Trade Center incident on 9/11 when we funded the Kinship and Data Analysis Panel (KADAP) that advised the Office of the Medical Examiner in New York on protocols for victim identification. The staff of the Office of the Medical Examiner wanted to make sure that they would have an appropriate basis for making those identifications. They were looking for policies that would provide assurance to the victims' families and to the public. So the NIJ formed the Kinship and Data Analysis Panel to help them out.

**EVIDENCE TECHNOLOGY:** *What were the results of your efforts?*

**DR. MORGAN:** Out of that panel and NIJ's other work, several key items have come forward. First: new technology. There were new DNA-analysis techniques that came out of the World Trade Center work. In particular, there was the application of short STR (short tandem repeats) primers from John Butler's work at the National Institute of Standards and Technology. This allowed the use of STR technology to provide a broader range of identifications. Second: In June of last year, we finished working on another major project that I think your readers will find interesting. It's a printed guide for human identification that is entitled Mass Fatality Incidents.

**EVIDENCE TECHNOLOGY:** *I have seen that publication listed on your website.*

**DR. MORGAN:** It contains the basic information that any law-enforcement agency should be familiar with if it is concerned about mass-disaster response. It identifies resources and policies that we—and the community—believe are critical for law-enforcement planning. The guide is really a large checklist of important considerations and it can be used to plan for responding to a mass-fatality incident. Every agency, no matter how large or small, needs to be aware of the information in this report so they can develop their own mass-disaster response plan.

**EVIDENCE TECHNOLOGY:** *You obviously feel strongly about this. Why is that?*

**DR. MORGAN:** Law-enforcement agencies need to determine the extent of agency resources that they can bring to bear on a mass disaster in their jurisdiction. That would include several items, including personnel resources for a wide range of duties: the rescue of injured individuals at the scene; establishing and maintaining security at the scene, even if that scene is quite large, geographically, as it was after Katrina; and how the victims' remains will be removed, stored, and identified. They should also identify which internal resources will not be sufficient, because once they know that, they will be able to figure out how they can draw on external resources—those from neighboring municipal jurisdictions, as well as state and federal agencies.

**EVIDENCE TECHNOLOGY:** *You are obviously an advocate of planning...*

**DR. MORGAN:** We encourage agencies—regardless of their size—to be aware of what do to when a disaster strikes. Why? Because that knowledge will allow a much more timely overall response for their recovery efforts. It can also help them make sure that any forensic evidence is less likely to be contaminated at the scene. And it also allows for better confidence in the local community—confidence that everything that can be done is being done from the very first moment. Being prepared can provide you with a secure environment, both at the scene and for the citizens of the surrounding community. Having a proper plan in place will help ensure that whoever responds to the scene will be able to conduct their work so it will have a positive impact.

**EVIDENCE TECHNOLOGY:** *Do you consider rescue to be the top priority?*

**DR. MORGAN:** You obviously want to go in and rescue everyone you can. Yes, that is your first priority. But there are ways to do that so there will be as little damage as possible to the site, forensically. You don't want unplanned or inappropriate actions to detract from your long-term ability to recover or identify victims' remains.

**EVIDENCE TECHNOLOGY:** *But where does a plan come from?*

**DR. MORGAN:** When agencies put together a plan, you should make sure that it reflects plans that exist at other local, regional, or state levels. Every state should have an emergency-response plan under funding from the Office of Domestic Preparedness (ODP), which is a branch of the Department of Homeland Security. Your plan needs to have an inventory of the resources that will be available right away in your jurisdiction. It needs to have all of the literature that would be of assistance to your responders...

**EVIDENCE TECHNOLOGY:** *Such as the Mass Fatality Guide, of course...*

**DR. MORGAN:** And you should know which organizations can help with the collection and identification of remains. Certainly, the Department of Home-land Security’s Disaster Mortuary Operational Response Teams—the DMORT teams—are very important. The FBI has both a Critical Instant Response Group and an Evidence Response Team—as well as other services—that can be helpful. The Department of Justice can help by establishing a Victim Assistance Center through the Office for Victims of Crime. The Department of Defense can often help. The Armed Forces Institute of Pathology can play a role. And of course, there is a wide range of state and local resources. Many of them are listed in our Mass Fatality Guide... You’ll even find a listing for the Funeral Directors Association.

**EVIDENCE TECHNOLOGY:** *And a local agency can call on any of them?*

**DR. MORGAN:** Yes. If they’ve planned it out appropriately.

**EVIDENCE TECHNOLOGY:** *You keep coming back to “planning”...*

**DR. MORGAN:** That’s a big part of it—especially for law enforcement. We strongly suggest that law-enforcement agencies work with and be a part of the overall emergency-response team. And we emphasize that whatever plan is developed, it should be rehearsed carefully in order to determine its sufficiency—and so everyone will be well aware of their respective roles. Law-enforcement agencies have a number of duties: collecting evidence, providing security, identifying the deceased. But there are other issues in emergency response that must be dealt with: Are there injured victims? Is there a fire? What is the command structure? All of these things need to work together. And law enforcement needs to be a part of that ...they need to be a part of the overall emergency-response team.

**EVIDENCE TECHNOLOGY:** *Earlier, you mentioned evidence. In the case of a mass disaster, do you consider body parts to be evidence?*

**DR. MORGAN:** Potentially, everything is evidence. Everything needs to be treated as carefully as possible. When remains are identified, it is desirable that photographs be taken to create a permanent record of the scene. Those photos can then be part of the written incident report. The World Trade Center is a good example. Individual remains that were found in the same location were not always from a single individual. That’s why proper documentation can help enormously down the road. When you have an airplane crash or a terrorist incident, you will probably have remains that are not well segregated.

**EVIDENCE TECHNOLOGY:** *In general, how long would you say an initial disaster response lasts?*

**DR. MORGAN:** It depends. Weeks. Maybe months. Maybe even years. But one thing that we try to emphasize is that the initial response really determines everything that happens for the months or the years that the disaster response occurs. It establishes the framework for how you are going to manage the incident itself. It establishes how you are going to preserve the life and property at the scene. And, later on, it establishes the assumptions of the identification effort.

**EVIDENCE TECHNOLOGY:** *Can you give us a shorthand version of what should happen at a disaster scene?*

**DR. MORGAN:** Several things need to happen. The first responders need to identify the hazards at the scene. Then, they need to identify what type of emergency services may be necessary—and request them without delay. Even though NIJ’s focus is on human remains and evidence, the primary objective should always be helping those who require help.

**EVIDENCE TECHNOLOGY:** *Of course.*

**DR. MORGAN:** Emergency-management teams need to establish a command post at the scene in order to maintain a sense of order. Additionally, it is important to assess the scope of the situation and determine what resources might be necessary. As soon as possible, you should think about the evidentiary considerations. For example: What kinds of evidence might be important, given the nature of the disaster.

**EVIDENCE TECHNOLOGY:** *And next?*

**DR. MORGAN:** Safety can be a real concern during almost any emergency response, but especially during a terrorist incident. Hopefully, those on the scene will be able to quickly identify the scene hazards and mitigate them to some degree. The next step would be to establish some safety zone, inside which all of the emergency-response personnel can operate. Or maybe you establish a perimeter beyond which the public can be safely moved.

**EVIDENCE TECHNOLOGY:** *And what should the responders do next?*

**DR. MORGAN:** After those initial concerns are taken care of, there is a transition from search-and-rescue to search-and-recovery. The incident commander can then establish the procedures and direct the teams that will collect and preserve remains, personal effects, and evidence. But there is a transition that must occur there, based on the judgment of the commander of the incident scene.

**EVIDENCE TECHNOLOGY:** *Can you be a little more specific about the recovery of evidence?*

**DR. MORGAN:** We recommend that all human remains, personal effects, and other items be considered as evidence when they are recovered, regardless of the type of incident, mainly because they might be very useful later in the identification of the remains. Even if there has been a mass disaster, personal effects might be very critical in leading to an identification of the deceased. A truly accurate identification of human remains really begins at the scene of a mass-fatality incident. It is important to assume from the outset that any mass fatality—other than a natural event—could be a crime scene. But even at natural disasters, you need to be able to maintain as much evidence recovery as necessary in order to get appropriate identifications. Also, remember that a natural disaster can produce ancillary crime scenes that are caused by the breakdown of the rule of law. We saw this in New Orleans after Katrina.

**EVIDENCE TECHNOLOGY:** *In your opinion, what is the most important thing an agency can do in planning a response to this sort of thing?*

**DR. MORGAN:** Communication. There needs to be proper communication among all parts of the local government so that everyone is aware of all aspects of the plan and so

that all responsibilities are well delineated. Regular communication is the key to good planning—and it is also important in terms of building relationships.

**EVIDENCE TECHNOLOGY:** *Can you expand on that?*

**DR. MORGAN:** Relationship-building was a very big deal for us at NIJ when the Pentagon was hit on 9/11. We work very closely with several responders in the Washington, D.C. area. What they'll tell you is that when our response personnel started showing up at the Pentagon to help, the job was made easier because many of them had already worked together on response planning. That had a very positive impact on their effectiveness on 9/11. Relationship-building is very important in emergency response.

**EVIDENCE TECHNOLOGY:** *Thank you for speaking with us today.*

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### **A brief look at John S. Morgan's background and experience**

John S. Morgan, Ph.D. is Assistant Director for Science and Technology at the National Institute of Justice (NIJ). He manages the agency's science-and-technology portfolios and provides strategic-science advice for the Director and the Department of Justice. Dr. Morgan directs a wide range of technology programs for criminal justice, including the President's DNA Initiative, less lethal technologies, body armor, information technology, and communications. Prior to coming to the NIJ, he conducted research in the detection and mitigation of weapons of mass destruction at the Johns Hopkins University Applied Physics Laboratory. He developed mass spectrometry systems for detection of chemical and biological warfare agents; studied methods to protect aircraft from terrorist attack; and developed building and infrastructure protection strategies. His research interests have included non-destructive evaluation, spacecraft contamination control, high-temperature superconductivity, and high bandgap semiconductors. Dr. Morgan received his Ph.D. in Materials Science and Engineering from Johns Hopkins University in 1990.

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