E34 Smartphone Uses in Medicolegal Death Investigation

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After attending this presentation, attendees will better understand the methods in which a smartphone may be utilized in the death investigation process.

This presentation will impact the forensic science community by offering another important tool to use during death investigations.

Telecommunication technology has greatly advanced in recent years, providing users with a wealth of information at their fingertips. According to recent figures, approximately 64% of American adults now own some type of smartphone and the number of users in the United States will surpass two billion in 2016.[1,2] As a result, encountering a smartphone or electronic device on a decedent or at a death scene is more common than not. Information obtained from these devices can provide important information for medicolegal death investigators and law enforcement personnel. Applicable laws must be followed, though, when accessing an individual's cell phone.

Password-protected devices may prohibit forensic investigators from accessing this important information. Some cell phones, as well as computers, have built-in fingerprint scanners to provide a more secure way to lock and unlock the device. Fingerprint readers on the newer devices work by capacitance and radio frequency. The addition of the radio frequency allows for discrimination between an actual finger and a single-dimension copied fingerprint. This allows the possibility for a decedent's non-decomposed finger to be utilized to unlock a device. As is true with living individuals, cold temperatures may affect the appearance of the print and the ability of the device to read it; therefore, warming of the decedent's finger is recommended. A recent court ruling determined that a person can be compelled to provide their fingerprint to unlock a smartphone because it is considered physical evidence; however, they cannot be compelled to provide a passcode because that is considered knowledge and not a physical object.

Accessing recently sent text messages could provide information as to the emotional mindset of the individual. Suicide notes are being sent as text messages and as social media posts by the younger generations more frequently than handwritten notes. Visualizing the time/date stamp on the devices for calls made and text messages sent can provide information regarding when the individual was last known to be alive. Text messages may also mention or contain photographs depicting drug use, suicidal ideations, or violent tendencies. It is important to take photographs of important text messages or photographs for documentation purposes.

Smartphones can be used by medicolegal death investigators in other ways as well. Scrolling through the contacts on a phone typically provides information on the potential legal next of kin. Most phones now have a contact listed as "ICE" which stands for "in case of emergency." This information should also be documented photographically.

Cell phone use has also been implicated in deaths due to distracted driving or walking. Finding an open cell phone with a partially written text message in the lap of a motor vehicle operator or in the hand of a pedestrian struck by a vehicle could indicate the person was utilizing the device when the accident occurred. Finding headphones in the ears of a pedestrian struck by a vehicle may be an important finding to explain why they may not have noticed a vehicle approaching.

Law enforcement personnel may also be able to obtain important documentation from devices for the death investigator or pathologist assigned to the case. Photographs taken days before or the day of a death may show the absence of injuries and help establish a timeline for the injuries. This is especially helpful with infants and young children. Tracking a device's Global Positioning System (GPS) coordinates may assist with following the individual's movements prior to death. The key is to think about and know how to obtain this information. This presentation will show a variety of case examples illustrating the various ways smartphone technology can assist with a death investigation.

Reference(s):

1. http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/.
2. http://www.emarketer.com/Article/2-Billion-Consumers-Worldwide-Smartphones-by-2016/1011694.

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