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Guiding Principles for

Scene Investigation and

Reconstruction

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Crime Scene Investigation & Reconstruction Subcommittee
Scene Investigation Scientific Area Committee
Organization of Scientific Area Committees (OSAC) for Forensic Science





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Guiding Principles for Scene

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16 **Disclaimer:**

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18 the Organization of Scientific Area Committees (OSAC) for Forensic Science following a
19 process that includes an [open comment period](#). This Proposed Standard will be submitted to a
20 standards developing organization and is subject to change.

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22 development by OSAC. The information in the Proposed Standard, and underlying concepts and
23 methodologies, may be used by the forensic-science community before the completion of such
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27 equipment, instruments, or materials are necessarily the best available for the purpose.

28 **Foreword**

29 This standard was developed to provide guidance to scene investigators and scene
30 reconstructionists a baseline for the guiding principles for scene investigation and reconstruction.

31 This document has been prepared by the Organization of Scientific Area Committees (OSAC) for
32 Forensic Science Crime Scene Investigation and Reconstruction Subcommittee.

33 **Keywords:** *Crime scene, reconstruction, chain of custody, ethics, bias, safety, contamination,*
34 *validity, reconstructionist, scene investigation*

35 **Abstract:** This document provides minimum standards and recommendations for practicing
36 scene investigation and reconstruction. This document provides guiding principles for the
37 identification, documentation, collection, preservation of physical evidence, and scene
38 reconstruction.

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52 **Guiding Principles for Scene Investigation and Reconstruction**

53 **1 Scope**

54 This standard describes the minimum general standards of practice or guiding principles for
55 practicing scene investigators and reconstructionists. These Guiding Principles establish a
56 framework for expected behavior and for decision-making. These principles include legal
57 considerations, personnel safety, scientific reliability and validity, preserving context, maintaining
58 evidence integrity, transparency and ethics, and managing bias.

59 **2 Normative References**

60 There are no normative documents.

61 **3 Terms and Definitions**

62 For purposes of this document, the following definitions and acronyms apply.

63 **3.1**

64 **crime scene investigation**

65 **CSI**

66 A scene investigation that involves a potential criminal act.

67 **3.2**

68 **crime scene investigator**

69 **CSI**

70 An individual, however named, who is responsible for performing elements of a scene
71 investigation that involves a potential criminal act.

72 **3.3**

73 **crime scene reconstruction**

74 **CSR**

75 A scene reconstruction that involves a potential criminal act.

76 **3.4**

77 **crime scene reconstructionist**

78 **CSR**

79 An individual, however named, who is responsible for performing elements of a scene
80 reconstruction that involves a potential criminal act.

81 **3.5**

82 **scene**

83 A place or object that is subject to and/or requires forensic examination. (ISO/FDIS
84 21043-1:2018[E])

85 NOTE A crime scene is a common description of a scene where a presumed crime has been

86 committed. The scene can be a person or an animal.

87 **3.6**

88 **scene investigation**

89 An examination of a scene to locate, document, collect, and preserve items of potential
90 evidentiary value.

91 **3.7**

92 **scene investigator**

93 An individual, however named, who is responsible for performing elements of scene
94 investigation.

95 **3.8**

96 **scene reconstruction**

97 The utilization of information gathered from the investigative process to develop or eliminate
98 possible explanations for how an incident occurred.

99 **3.9**

100 **scene reconstructionist**

101 An individual, however named, who is responsible for performing elements of scene
102 reconstruction.

103 **4 Guiding Principles**

104 Each scene is unique and requires scene investigators and reconstructionists to continuously
105 evaluate how to proceed with processing in a manner that is safe and best preserves the evidence
106 and its context. All decisions made by a scene investigator or reconstructionist before, during, and
107 after a scene is processed should consider the following:

- 108 1. Legal Considerations
- 109 2. Personnel Safety
- 110 3. Scientific Reliability and Validity
- 111 4. Preserving Context
- 112 5. Maintaining Evidence Integrity
- 113 6. Transparency and Ethics
- 114 7. Managing Bias

115 Scene investigation and reconstruction are led by general guiding principles. Though all the guiding
116 principles listed in this document are important, some circumstances could require a scene
117 investigator or reconstructionist to give greater weight to one principle over another. A decision to
118 deviate from a guiding principle shall be documented and explained.

119 **4.1 Legal Considerations**

120 Scene investigators and reconstructionists shall conduct themselves with the expectation that their
121 work may be used in every step of the legal process, and therefore shall ensure that they comply
122 with applicable legal standards including those of search and seizure.

123 **4.2 Personnel Safety**

124 Scenes can present a wide variety of physical, biological, chemical, and situational hazards with a
125 level of personal risk of injury, illness, or exposure almost always present. Personnel shall not be
126 exposed to an unreasonable level of risk to personal safety and shall be provided with the
127 equipment and training necessary to mitigate risks.

128 a) Scene investigators and reconstructionists shall have appropriate personal protective
129 equipment (PPE) to mitigate hazards presented by the scene and by any processing tools,
130 equipment, or reagents used.

131 b) Scene investigators and reconstructionists shall be trained in the proper use of PPE. Some
132 forms of PPE may require fit testing or certification for safe use.

133 c) PPE protocols shall include:

134 i) Hazard assessment and PPE selection.

135 ii) PPE cleaning, maintenance, decontamination, and storage.

136 d) PPE considerations should include, but not limited to, protection of eyes and face, head, foot
137 and leg, hand and arm, body (torso), respiratory system, and hearing; and protection
138 against, falls, and drowning.

139 **4.3 Scientific Reliability and Validity**

140 Scene investigators and reconstructionists shall use scientifically reliable and valid methods,
141 practices, and analytical procedures.

142 a) Methods, practices and analytical procedures shall be based on best practices,
143 peer-reviewed studies, and/or validated techniques prior to use on scenes.

144 b) When applicable, methods, practices and analytical procedures published in the OSAC
145 Registry shall be employed.

146 **4.4 Preserving Context**

147 Scene investigators and reconstructionists shall document a scene in such a way that it preserves
148 the context of the evidence to ensure others can later understand not just what was collected, but
149 also where, how, and in what condition it was found.

150 **4.5 Maintaining Evidence Integrity**

151 Scene investigators and reconstructionists shall take appropriate steps to maintain evidence
152 integrity by preventing contamination, tampering, alteration, or loss of evidence. Procedures and
153 documents shall be utilized to account for the integrity and possession of evidence by tracking its
154 handling and storage from its point of collection to its final disposition.

155 **4.6 Transparency and Ethics**

156 The work of a scene investigator and reconstructionist generates the underlying basis for all
157 subsequent analysis of the scene. The scene investigator and reconstructionist shall provide
158 documentation and testimony of the scene that clearly represents its initial condition, their actions
159 on-scene, and any other relevant factors.

- 160 a) If an action by an investigator will intentionally deviate from, or set aside, one of the
161 principles, the circumstances and justification shall be fully documented.
- 162 b) Upon discovery of unintentional deviations, errors, omissions, or acts of nonconformance
163 with the principles, the circumstances shall be fully documented.
- 164 c) While an enumerated Code of Ethics is beyond the scope of this standard, scene
165 investigators and reconstructionists have professional duties that they are bound to and
166 shall execute. These include the duty to:
- 167 i) remain competent in a wide range of scientific fields.
- 168 ii) be as objective as reasonably possible.
- 169 iii) act thoroughly and to produce results and conclusions within the scope of the
170 expertise of the individual practitioner.

171 **4.7 Managing Bias**

172 Scene investigators and reconstructionists are uniquely positioned at the intersection of law
173 enforcement and scientific investigations, and shall ascertain the facts, without regard to external
174 influences.

- 175 a) Scene investigators and reconstructionists shall take steps to mitigate effects of cognitive
176 biases on their work.
- 177 b) A scene may be full of potentially biasing influences. Decisions made by scene investigators
178 and reconstructionists depend on and require some contextual information and hypothesis
179 formulation, which guide them in their search for evidence and/or analysis. It is critical that
180 hypotheses are well-determined, as they can lead to identification and collection of
181 important evidence or, alternatively, mislead the investigator.
- 182 c) As with forensic laboratory analysis, the scene investigator and reconstructionist shall
183 remain as independent as possible from non-scene-related and potentially biasing case
184 information (e.g., suspect or victim criminal history).

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Annex A **(informative)**

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204 Standards]²

205 ¹ Available free at <https://www.nist.gov/sites/default/files/documents/forensics/Crime-Scene-Investigation.pdf>

206 ² Available at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910>