NIOSH and the Department of Homeland Security’s Science and Technology Directorate partnered with other federal agencies and the ambulance manufacturing industry to conduct ambulance crash testing to reduce and eliminate crash-related injuries and deaths to Emergency Medical Services (EMS) workers in the patient compartment. These dynamic crash tests contributed to the development of 10 test methods published by the Society of Automotive Engineers (SAE).

**Ambulance Crash Test Methods**

**Keeping Emergency Medical Services Workers Safe on the Job**

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**DYNAMIC CRASH TESTS**

- **17** full vehicle crash tests
- **15** storage cabinet tests
- **60+** patient cot tests
- **100+** equipment mount tests
- **150** seat and restraint tests
- **400** head impact tests

**TEST METHODS – EXTERIOR**

- SAE J3057: Modular body (or box style) roof crush test
- SAE J2917: Crash pulse from frontal impact
- SAE J3044: Crash pulse from rear impact
- SAE J2956: Crash pulse from side impact

**TEST METHODS – INTERIOR**

- SAE J3026: EMS worker seating and restraints
- SAE J3027: Patient cot, floor mount, and restraint system integrity test
- SAE J3043: Ambulance equipment mount devices and systems integrity test
- SAE J3058: Storage device integrity test
- SAE J3059: Measurement of EMS worker head movement during a crash event
- SAE J3102: Patient cot subfloor integrity test

Watch our video series to learn more about the many changes impacting ambulance design, testing, and manufacture: www.cdc.gov/niosh/topics/ems/videos.html