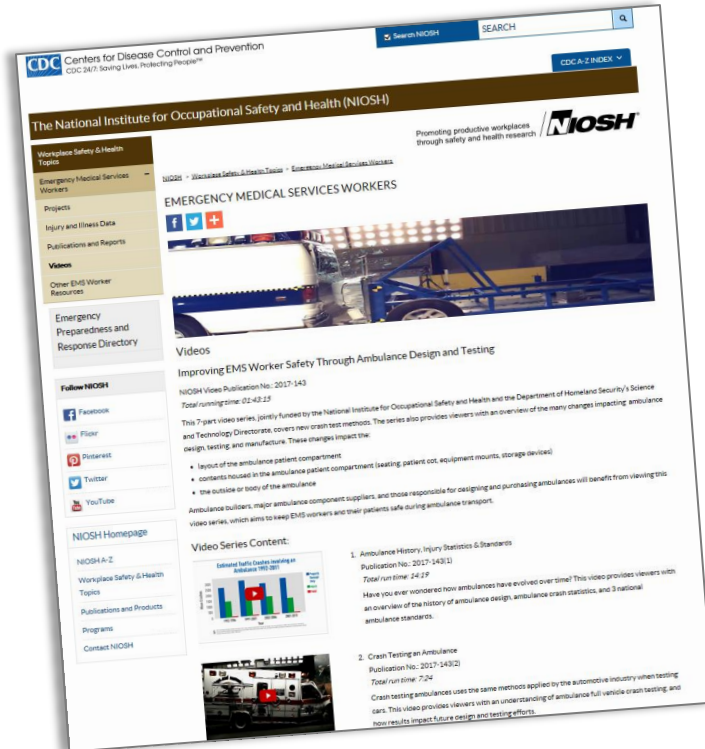


NIOSH Informational Video Series



NIOSH partnered with Department of Homeland Security's Science and Technology Directorate as well as other federal agencies and the ambulance industry to develop a 7-part video series that covers new crash test methods.

Video series became available on the NIOSH EMS Workers webpage the week of May 22, 2017

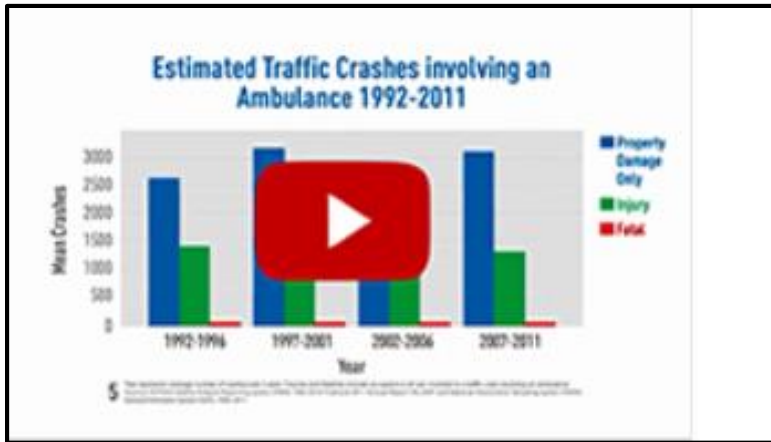
www.cdc.gov/niosh/topics/ems/videos.htm

Video Series Goals & Distribution

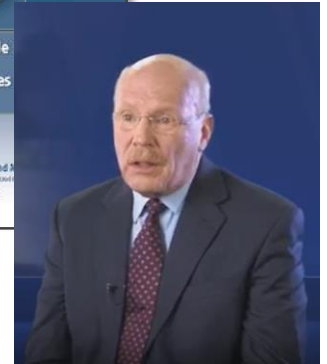
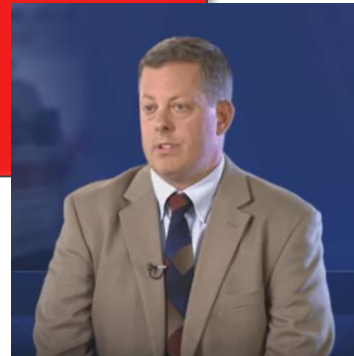


- Desire is to push information out to EMS workers and ambulance purchasers nationwide.
- Tried to make the video informative without a lot of technical detail.
- Over 30 participants on camera.
- Video series available on NIOSH website and hopefully linked by others including NASEMSO.
- DVDs will be mailed soon to all State EMS Directors, State Medical Directors, and ambulance manufacturers. These could also be reproduced by states or others for training on distribution.
- Hopefully, state offices will push the link out broadly within their respective EMS communities.
- We also expect builders to use some of this information to encourage buyers to seek safer solutions

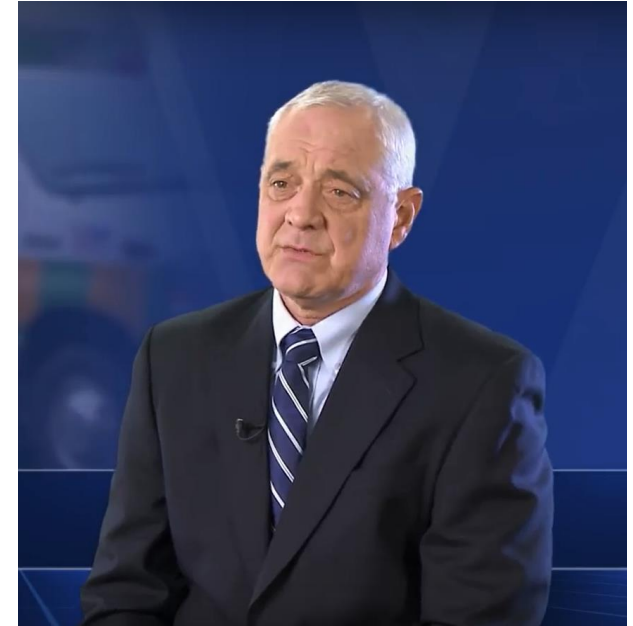
Video 1: History, Injuries & Standards



NFPA 1917
Standard for
Automotive
Ambulances
Effective 2016
2nd Edition



Video 2: Crash Testing an Ambulance



This video highlights the value of crash testing to the development of all our subsequent test methods.

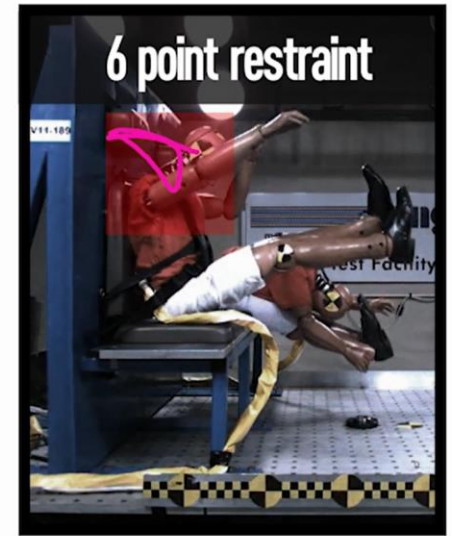
The energy measured in these crash tests is used as the input to all of our other testing.

Video 3: Patient Compartment Seat Testing



This video covers the new seat testing requirements including the measurement of head travel during a crash.

At the end of this video we also provide some seating demos from research partners EVS and Wise.



Video 4: Patient Cot & Restraint Testing



This video covers the new cot testing requirements including the change in patient excursion derived from the change in restraint location.



At the end of this video we also provide demos of manual and powered cots from research partners Ferno and Stryker.

Video 5: Equipment Mounts & Cabinets



This video highlights the risks of flying equipment and supplies as described by several providers and manufacturers.



Our goal is to encourage EMS workers to get away from the habit of placing loose equipment on the action area or bench seat.



Video 6: Body and Floor Strength



This video covers testing requirements designed to improve roof and floor strength.



Partners explain the value of the new tests to worker and patient safety.



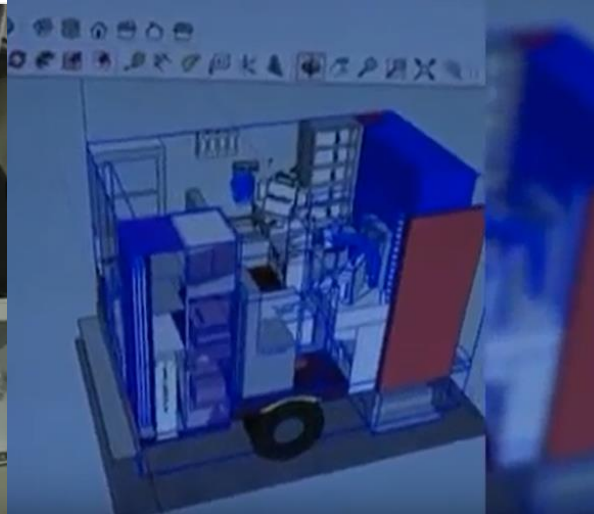
Industry leading rollover strength testing!!

Video 7: Human Factors Design Guidebook



This video hopes to pull everything together for providers and ambulance builders.

The goal is to help buyers know they can influence the design of their ambulance based on their unique needs.



NIOSH Infographic



Ambulance Crash Test Methods

Keeping Emergency Medical Services Workers Safe on the Job

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).



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 J2917

Crash pulse from
frontal impact



SAE J3057

Modular body (or box
style) roof crush test



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

- Provides a quick overview of all SAE Test Methods
- Highlights the breadth of this effort based on number of tests completed
- Great hook to help lead EMS providers to the video series

<https://www.cdc.gov/niosh/topics/ems/pdfs/Ambulance-INFOGRAPHIC-051617.pdf>

Contact Information



Jim Green

304-285-5857

JGreen@cdc.gov

“The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the National Institute for Occupational Safety and Health (NIOSH). Mention of company names or products does not imply endorsement by NIOSH.”