

The Blue Ribbon Panel for the Evaluation of
Advanced Technology
Airbags

Third Public Meeting
May 7, 2007, Washington DC

Susan Ferguson, Ph.D.
Chair

Federal Motor Vehicle Safety Standard 208

- Specifies the type of active and passive occupant restraints (e.g. seat belts, air bags) and performance requirements for test dummies seated in the front seats of passenger cars, multipurpose passenger vehicles, light trucks, and vans.
- The purpose of the standard is to reduce the number of fatalities and the number and severity of injuries to occupants involved in frontal crashes.

FMVSS 208 Occupant Protection (Airbags)

- ◆ In 1991, Congress mandated that by model year 1998 frontal air bags be phased into
 - All passenger cars, multipurpose passenger vehicles, light trucks and vans
 - Shall meet 48 km/h (30 mph) full frontal rigid barrier crash test requirements without seat belts fastened
 - Dual air bags by 1999

Unintended consequences

- ◆ It became clear in the early 1990s that deploying airbags were causing deaths and serious injuries in some low-severity crashes
- ◆ Recognition of this problem led quickly to responses by automakers and the government including a major public educational campaign
- ◆ At same time automakers and others urged NHTSA to lower the severity of barrier tests with unbelted dummies so that airbags could be depowered

Comprehensive Plan

NHTSA 1996

◆ Existing Vehicles

- Letters/labels to owners, disconnect policy
- Extensive media outreach and coalition efforts

◆ Near-Term Vehicles

- Enhanced warning labels
- Extending on-off switches for certain vehicles
- Sled option to quickly redesign air bags

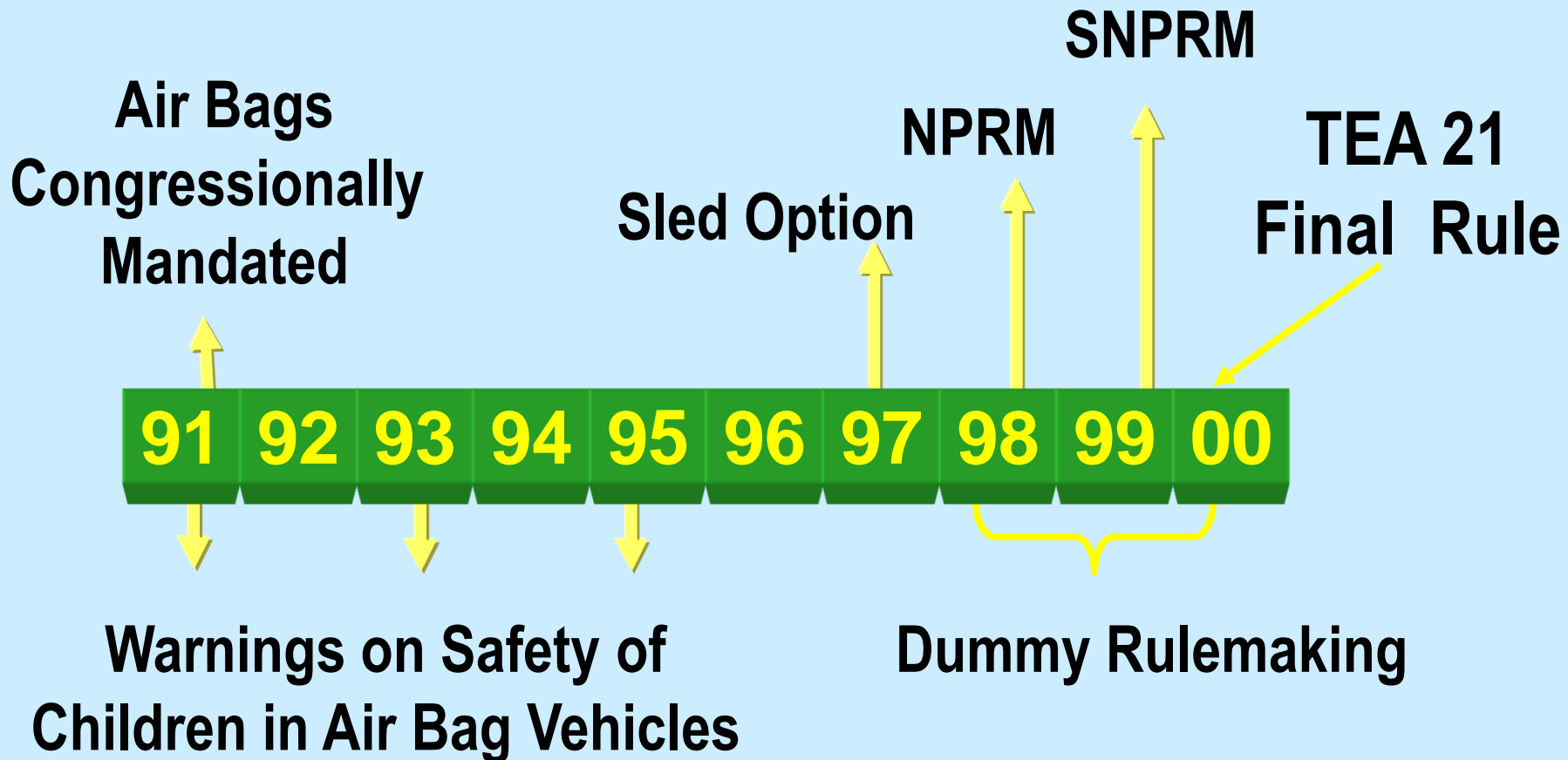
◆ Future Vehicles

- Advanced air bags

Three Goals of FMVSS 208 Advanced Airbag Rulemaking

- ◆ Minimize the risks
- ◆ Enhance benefits
- ◆ Encourage innovation

Rulemaking Chronology



FMVSS 208: Sled test option

- ◆ In March 1997 NHTSA issued a final rule allowing automobile manufacturers to quickly reduce the force at which their air bags deployed.
 - For the unbelted dummy test condition, manufacturers were given the option to certify vehicles using a 30 mph sled test instead of the 30 mph vehicle-into-barrier crash test
 - As a result airbag power was reduced by 20 to 35 percent in 1998 and newer vehicles

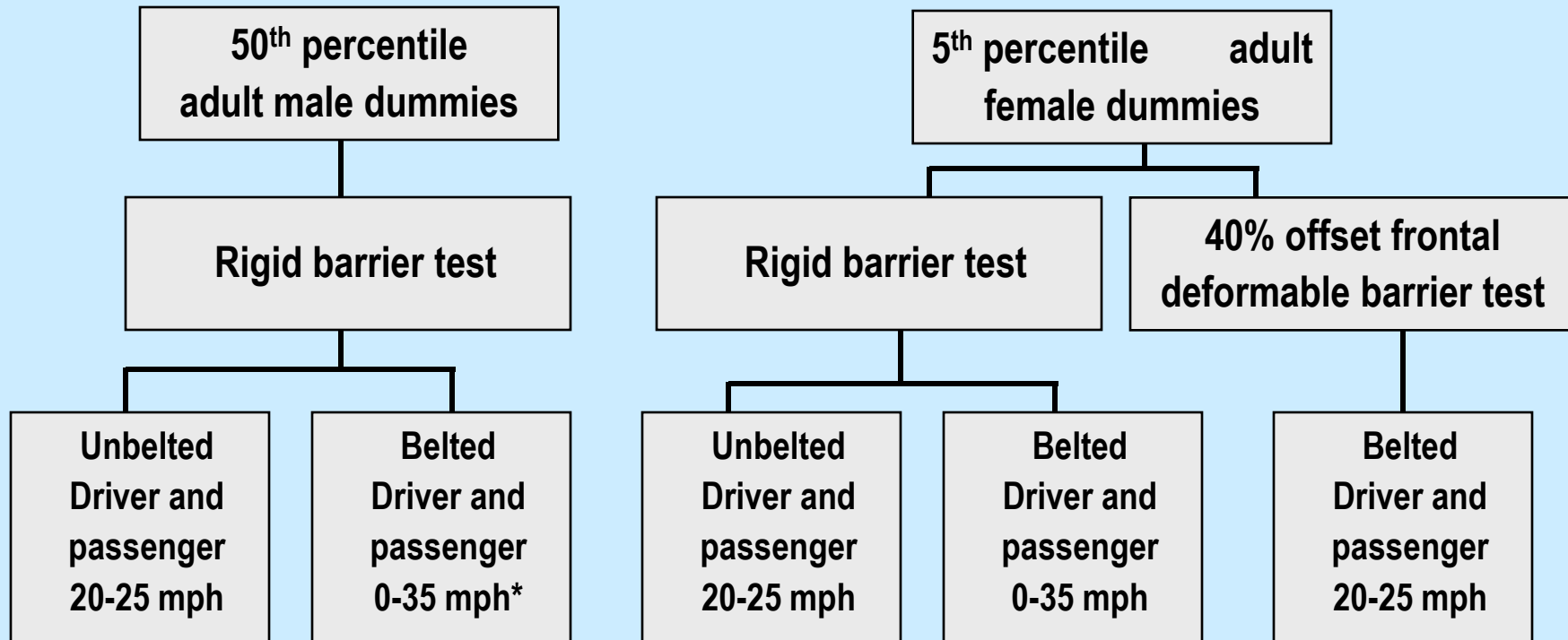
FMVSS 208 Advanced Airbags

Overview

- ◆ Most complex standard in NHTSA history
- ◆ Many new features
 - family of dummies
 - new Injury Criteria
 - out-of-position testing
 - offset deformable barrier testing

Frontal crash protection: NHTSA advanced airbag rule, phase-in effective Sept 2003

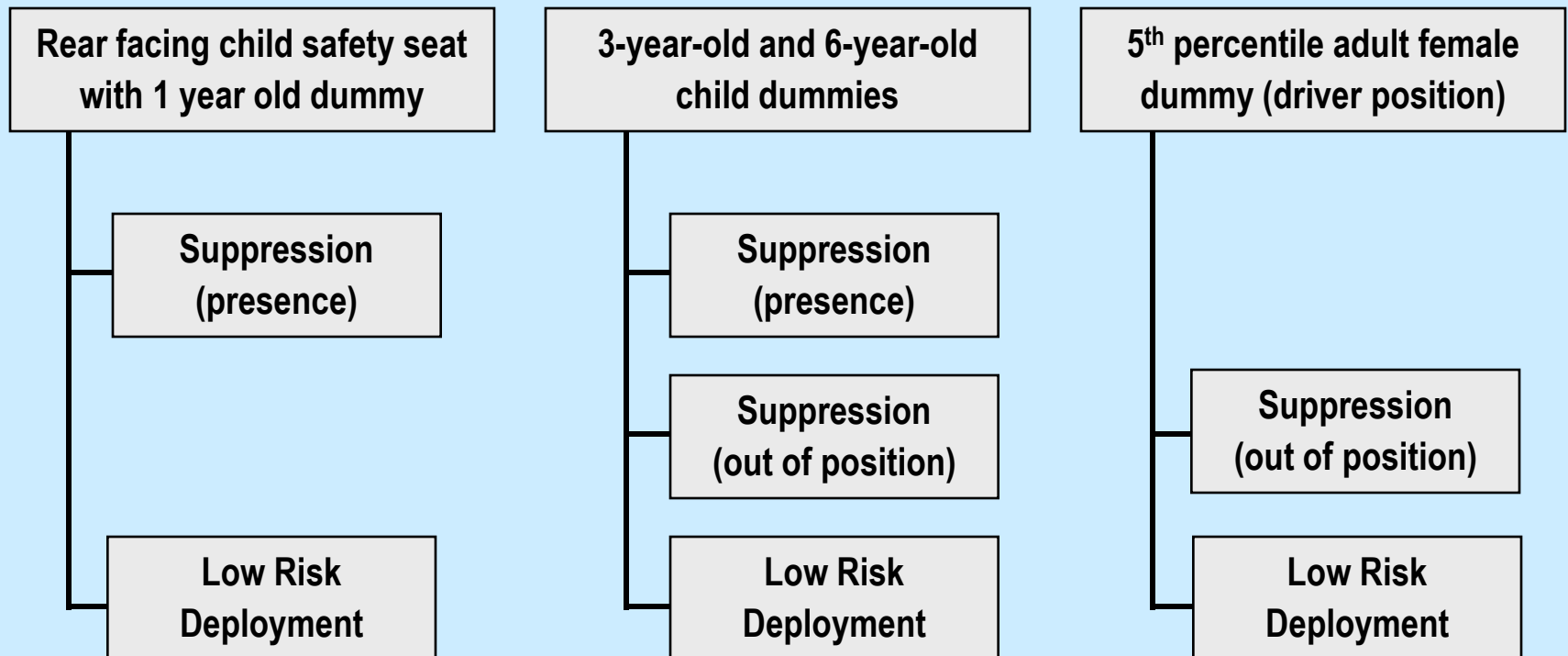
Crash tests



* Range is 0-30 mph during first stage of the phase-in of the final rule

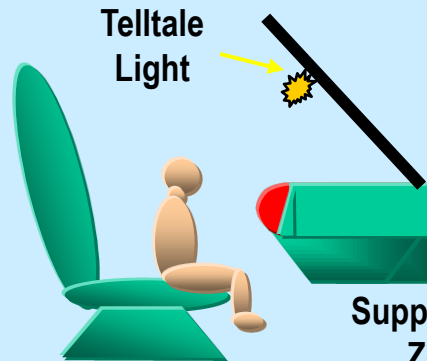
Frontal crash protection: NHTSA advanced airbag rule, phase-in effective Sept 2003

Tests to minimize airbag injuries

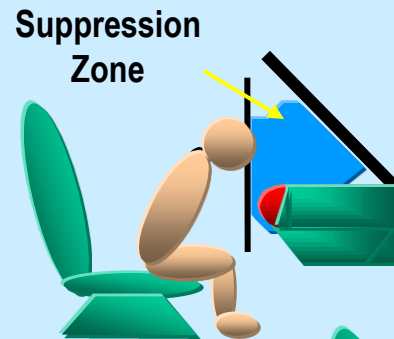


Minimize Risks – Test Options

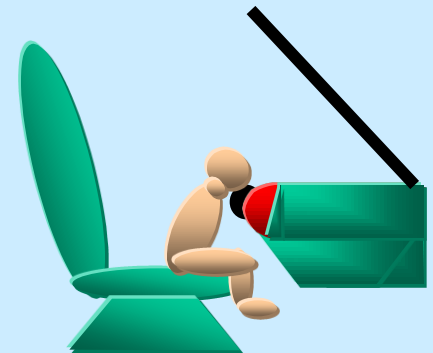
- Static Suppression



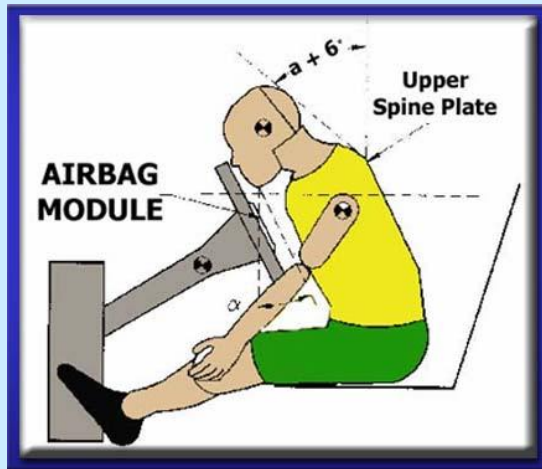
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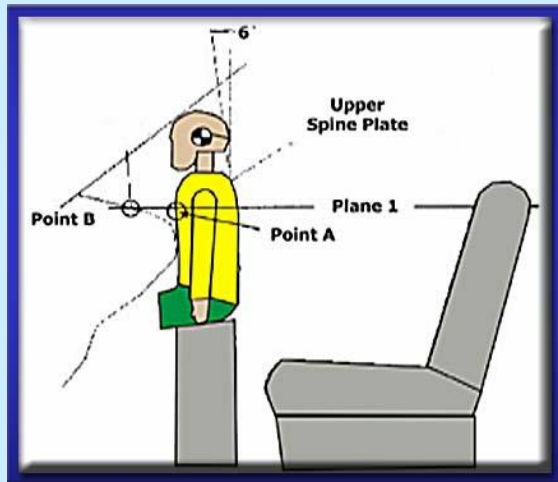
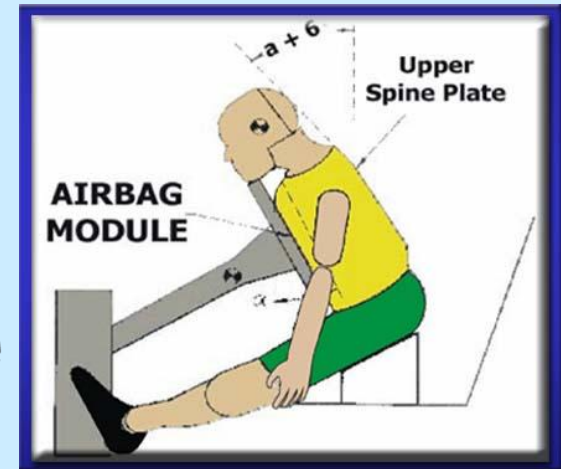
- Low Risk Deployment



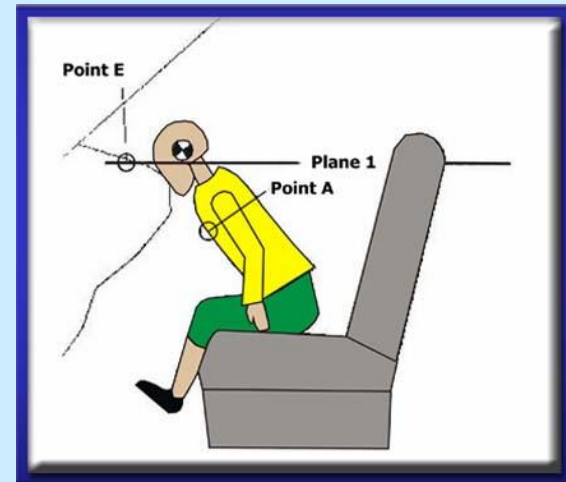
Minimize Risks – Test Options



**5%tile
Female
Driver Side**



**Children
Passenger
Side**



Minimize Risks - New Permanent Label

! WARNING

EVEN WITH ADVANCED AIR BAGS



- Children can be killed or seriously injured by the air bag
- The back seat is the safest place for children
- Always use seat belts and child restraints
- See owner's manual for more information about air bags

Formation of the Blue Ribbon Panel

Background

- ◆ Letter to DOT Secretary Slater 2-16-00
 - From NTSB, AAA, ATS, IIHS, NSC, GHSA
 - Recommended 35 mph belted/25 mph unbelted testing for FMVSS 208
 - A return to 30 mph barrier test with unbelted dummies only if justified by real-world evidence
 - NHTSA to expedite data collection
 - Auto manufacturers to commit funding to expedite examination of frontal crashes
 - Evaluation of data by panel of experts

Background

- ◆ The Alliance committed \$4.5M to sponsoring a major program of real-world crash investigations
- ◆ Data collection began January 2002 at three new sites funded by the Alliance:
 - Dade County, Florida
 - Dallas County, Texas
 - Multiple Counties, Alabama
- ◆ About 2250 new cases investigated at the 3 PSUs

Background

- ◆ Alliance originally committed to a 3-year program
 - Program to be managed by independent third party
 - Blue Ribbon Panel formed in February 2001 provided oversight
 - Transparent process
 - Data collected follows NASS protocols and is available to all as part of NASS
 - Analyses
 - Public Meetings to share research findings

Background

- ◆ In January 1, 2005, NHTSA added the three new Alliance PSUs to the existing NHTSA PSUs
- ◆ Ancillary benefits
 - NASS cases available to all on an accelerated schedule
 - Much easier to use XML Reader was adopted for downloading individual cases

Key Questions to be Answered

- ◆ Is the risk of serious injury to children and other vulnerable occupants in frontal crashes reduced for vehicles with redesigned/advanced airbags?
- ◆ Have there been any observable changes in frontal crash protection (positive or negative) for belted and unbelted adult occupants of vehicles equipped with redesigned/advanced airbag systems?

For more information

Blue Ribbon Panel Website

<http://groups.iihs.org/brp>