



OAPC 2014
EMS Safety Presentation
September 25, 2014

Evolving Safety Concepts The Cutting Edge of Innovation in EMS Safety *better, safer AND cheaper*

Nadine Levick, MD MPH
Research Director, EMS Safety Foundation
CEO, Objective Safety, New York, USA
Chair, TRB, EMS Subcommittee, National Academies



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Who am I?

- ▶ Nadine Levick MD, MPH
- ▶ Emergency Medicine Physician and Public Health Academic, (USA-Hopkins, Columbia SUNY, Montefiore & Australia – Royal Melbourne, Royal Childrens Hospitals, Royal Australian Flying Doctor Service)
- ▶ Chair, National Academies Subcommittee TRB EMS Transport Safety, USA
- ▶ Founder of EMS Safety Foundation
- ▶ Recipient, International Society of Automotive Engineers, Women's Leadership Award for EMS Safety



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EMS Safety Crisis

"The **Chinese** word for '**crisis**' (危機) is made up of the words '**danger**' (危) and '**opportunity**' (機)"

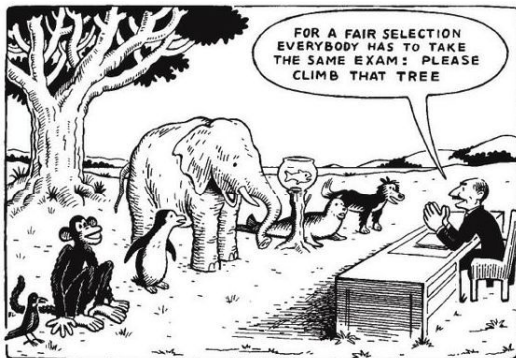
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- EMS operations are identified to be high risk. This presentation outlines the concept of a systems engineering safety approach and innovations developed and developing to address the key determinants of the safe operation of an EMS system.

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Your electronic Handout
awaits you online at...

- www.objectivesafety.net

This WILL be FAST!!
No need to take any notes – all text slides will be awaiting you in your online Handout

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Your electronic handout



Objective Safety
Safety and Injury Awareness

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Or if you are < 30 years



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Your electronic presentation handout/resource link



Or if you are < 30 years



www.objectivesafety.net/PDFHO.htm

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January 19, 2014

Doctor killed in latest mowdown horror

By Karin Shaheen and Kristin Conley January 19, 2014 | 8:08am



The ambulance that hit a woman near the intersection of 95th Street and Broadway early on Sunday morning.

Photo: G. N. Miller

A 36-year-old doctor on Sunday became the third pedestrian killed this month around 96th Street on the

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This could be you....



An EMT walks in a daze after his ambulance knocked the doctor into a car's path.

Lee had graduated from the University of California, San Diego School of Medicine this past June, hospital and school officials said Sunday.

She grew up in Sunnyvale, Calif., and did her undergraduate work at the prestigious University of California, Berkeley, UCSD officials said.

"Samantha was an outstanding student whose warmth and compassion brightened the lives of her patients and our school community," said Dr. Carolyn Kelly, associate dean for admissions and student affairs at the UCSD School of Medicine.

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He sure did not expect to be in that situation when he started his shift that day

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Metamora woman killed when ambulance hits her car

By Thomas Bruch of the Journal Star
Posted Mar. 5, 2014 @ 10:31 pm

ROANOKE — A Metamora woman died Wednesday after her car was hit by an ambulance.

Galeen M. Driscoll, 63, was pronounced dead at 6:05 p.m. at the scene of the two-vehicle accident, said Woodford County Coroner Tim Ruestman.

The crash occurred shortly after 5 p.m. on Illinois Route 116 between Metamora and Roanoke, according to the Woodford County Sheriff's Office.

The city of Peru ambulance was driven by Daniel Dempsey, 44, of Peru and had a passenger, James Zborowski, 61, of Peru, but was not transporting anyone during the crash, according to a fax from the Coroner's Office. Dempsey and Zborowski were taken to an unknown Peoria hospital with unknown injuries.

The cause of the crash remains under investigation by the Sheriff's Office and the Coroner's Office. No citations had been issued as of late Wednesday.

Routes 116 and 117 were closed to traffic for more than an hour while emergency crews assessed the scene and investigated the crash. Woodford County Sheriff's officers reopened the road about 7:20 p.m.

Road conditions across the Tri-County Area were deteriorating as the weather worsened. The city of Peoria issued a traffic collision alert as ice began to cover streets. Numerous minor accidents caused by road conditions were reported.

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EMS Safety timeline

- Didn't know it was an issue – 60's-70's
- Knew it was an issue – but didn't really know what to do – 80's-90's
- Safety technical data rolls out – past 10 years
- Change and adoption challenges – *we are here now*

A System of Safety

Loss Prevention is a key goal here

Very Important Principle

Ambulance transport safety is part of a SYSTEM, the overall balance of risk involves the safety of all occupants and the public



Much of what you shall hear today is thanks to the work of all of those in the:



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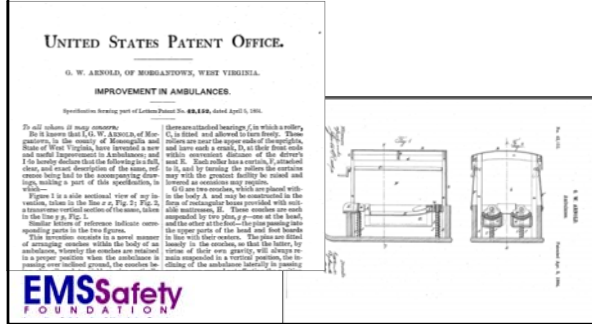


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Letter to Abe Lincoln – 1864 re: safety of ambulance design



1864 Ambulance Design Patent and diagrams Almost 150 years ago



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and tweeted...



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INDEMO 1.0

Big Data and Mobile Health

U.S. Department of Health & Human Services

NIH National Institutes of Health
Office of Behavioral and Social Sciences Research

ABOUT DSRR | FUNDING OPPORTUNITIES | SCIENTIFIC AREAS | TRAINING & EDUCATION | NEWS & EVENTS | PUBLICATIONS | JOB OPPORTUNITIES | CONTACT US

BIOPSYCHOSOCIAL INTERACTIONS | GENES, BBI & ENVIRON | HEALTH & BEHAVIOR | METHODOLOGY | SOCIAL & CULTURAL FACTORS IN HEALTH | TRANSLATION

METHODOLOGY

Community Based Participatory Research

Systems Science

NEWS

Education and Health: New Frontiers Meeting Summary | August 25, 2014

Wireless Health 2014: Call for Submissions | Deadline: September 15, 2014

Emotional Stress a Stronger Risk Factor for Heart Disease in Women Compared To Men | July 31, 2014

Workshop Agenda

Home » Scientific Areas » Methodology » Health » Big Data Opportunities and Challenges in Mobile Health (KDD 2014)

Big Data Opportunities and Challenges in Mobile Health (KDD 2014)

Workshop Agenda
Scenarios for Team Project
Invited Speakers
Program Committee
Registration


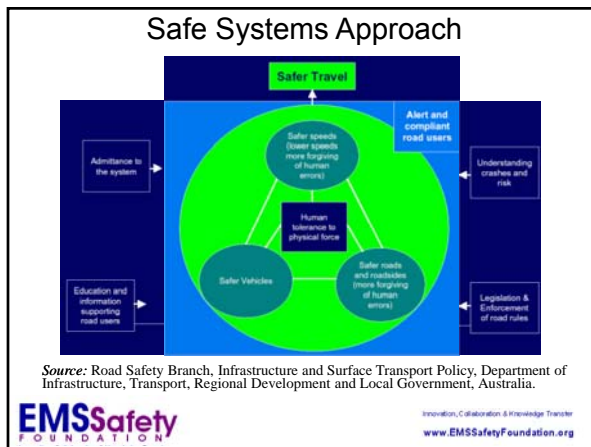
Workshop Agenda

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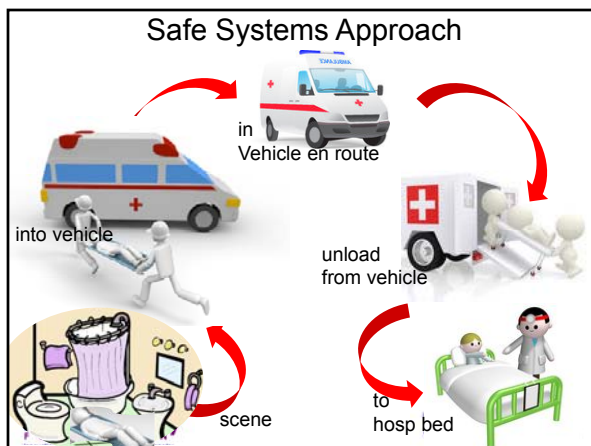
SFGate News Sports Business A&E Food Living Travel Columns

If only Uber operated an ambulance service ...

Andrew S. Ross
Updated 10:22 am, Monday, August 25, 2014

- ### Systems safety of:
- Dispatching a vehicle
 - Getting you, your patient and equipment to, in and out of the vehicle
 - Providing patient care inside the vehicle
 - Occupant protection in crash and near miss situations
 - Public safety
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- ### System Design Constraints
- Do the clinical work that is required and essential
 - Not get hurt or killed
 - Not hurt or kill anyone else
 - So...
 - Clinical need
 - Human tolerance of injury
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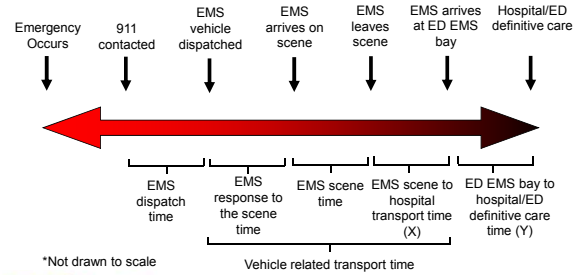
Real world answers to real world questions -

- What features will enhance safety of my new vehicle purchase?
- What color scheme do I want on my vehicle to make it safest?
- Do I need a helmet, and if so which one?
- What policies offer the safest system?
- How do I get my team to address safety issues?
- What data should I collect when something goes wrong, and how to analyze it?

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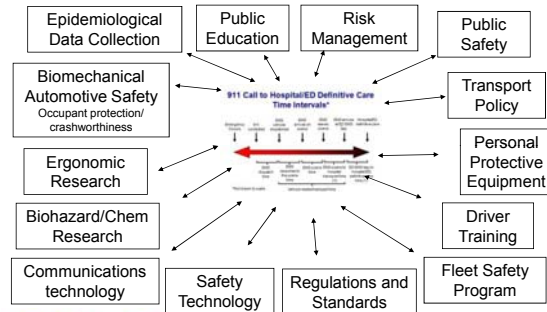
911 Call to Hospital/ED Definitive Care Time Intervals*



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Ambulance Transport Safety IS Complex AND Multidisciplinary



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Safety of the...

- Provider
- Public
- Patient

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Safety is a tool to save

- Lives
- Time
- Money

must be evidenced based

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In the USA there are more safety standards for moving cattle than for moving patients



Absence of standards and oversight

- Challenges in identifying best practice
- Myriad of unregulated commercial products
- No safety performance standards
- Absent national safety oversight

Safety Performance

- Measurement
- Outcomes
- Technical expertise

- What we need to consider, where is the 'bang for buck' in ambulance transport safety
- Where is the low hanging fruit?

Safety Dimensions

- Safe systems – CRM / transport system safety
- Risk perception
- Fleet and operations management
- Vehicle design safety
- Scene safety
- Patient Handling
- Health and wellness

Some new aspects

- Vehicles – smarter, sleeker, safer – CHEAPER!
- Operations – new technology tools
- Interdisciplinary infrastructure – new global platforms

Data...

- What is your transport safety record in your service?
- How can you improve if you don't have a meaningful measure of safety performance?
- Transport safety is not guesswork, it is a science

Safer Better Cheaper is NOW

- What are the practices that are costing us
- How to identify optimal safety improvements
- How to facilitate the integration of new safer practices

Sure a Culture of Safety,
but the road map to get there is the key

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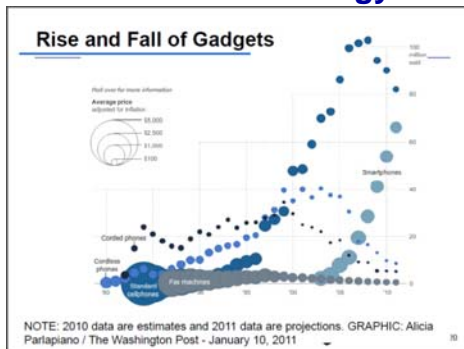
Safety concepts out there now

- Wireless physiological sensors
- Driver feedback technologies
- Tiered dispatch
- Enhanced ambulance vehicle design
- Intelligent Transport Technologies – ITS
- New platforms for interdisciplinary exchange
- New Safety Standards

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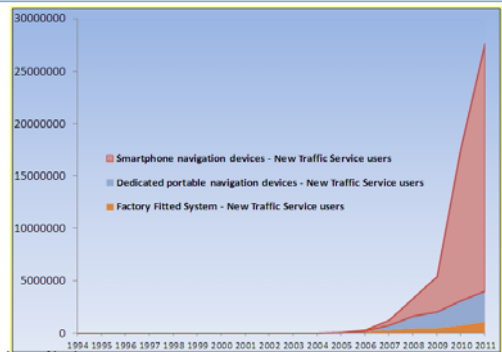
Communication Technology trends



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Smartphone navigation devices US New Traffic Subscribers 1996 to 2011



Courtesy: Navteq

U.S. Department of Transportation

Wearable tech..



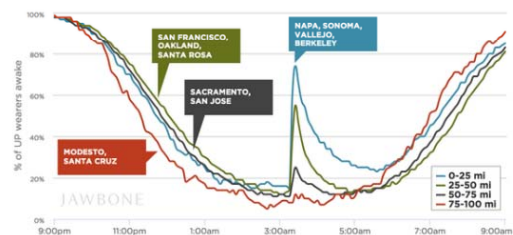
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93 per cent of Jawbone users in cities < 24 kms from epicentre woke up suddenly at 3:20 a.m

jawbone.com/blog/napa-eart...
[@llucartes](https://twitter.com/2p10rgTXRM)

Reply Retweet Favorite More



A lot is now possible and for less!

- Driver behavior
- Vehicle behavior
- Roadside ITS
- Fuel consumption/Economics
- Resource modeling



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1980's Then....



And NOW!...



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USA 1980's Then....



And yes now...



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Equipment hard to reach



Innovation Yes Now...



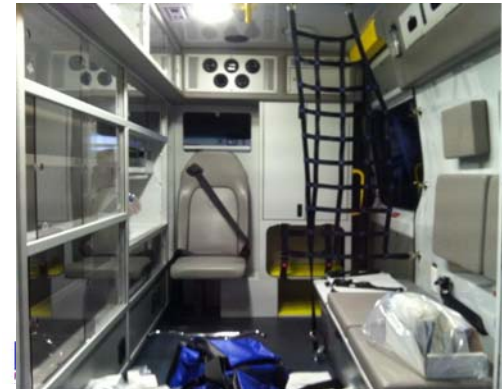
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But avoid repeating old mistakes!



Other EMS officials say vans aren't big enough to carry specialized equipment and personnel, a key reason the box-style ambulances are much more widely used.

But a Pittsburgh hospital and a Dallas-area ambulance service are among those that use a van to transport newborn patients, as Meriter's box-style vehicle did. Meriter will consider switching to a van, an administrator said.

Van ambulances are safer for patients, medical workers and other passengers because they're designed to absorb energy, equipped with stability controls and undergo extensive safety testing, Dr. Nadine Levick said.

Levick, of New York, is founder of the EMS Safety Foundation and chairwoman of the Transportation Research Board's EMS safety subcommittee, part of the National Academies that advise Congress.

Box models like the Meriter ambulance don't have such safety features, Levick said.

"You have a physician dying in a vehicle that was largely designed by health care providers, not automotive safety engineers," Levick said. "It's a big box stacked on a truck chassis."

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When is it safe to do what... ?

- What are your policies???
- If your patient is pink, warm and talking?
- Are you required to notify the driver if you are out of your seat belt?
- Are 'routine procedures' putting you at risk?

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What is a safe speed and how do we identify that?

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What is a survivable impact?

$$E = \frac{1}{2} mv^2 \quad v^2 = 2as$$



~ 30 mph - survivable

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What is a survivable impact?

$$E = \frac{1}{2} mv^2 \quad v^2 = 2as$$



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~ 60 mph – not survivable

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A survivable impact??



A serious problem...

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Is there an acceptable rate of morbidity and mortality for pre-hospital transport systems??

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There are now places to turn for independent safety technical info and resources

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TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

EMS Safety Systems Strategies and Solutions Summit, February, 29, 2012

- What are global best practice models
- Making it happen
- How can we translate global interdisciplinary best practice initiatives to North American EMS

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TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

2012 EMS Safety Systems, Strategies and Solutions Summit

- One Day event, 30 presentations
- Held in Washington DC, Keck Center
- Simulcast Live to EMS Today
- Live Webinar Access - globally
- Over 100 participants live across 3 continents
- Greater than 10,000 downloads of handouts within the first week!!

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Safety Systems, Strategies and Solutions Summit Feb 2012

- ~50 onsite – lead representatives
- Live online participation with international representation
- 7 focus areas and a panel
- >120,000 downloads of presentation handouts
- Multi-Media 'e-document' with QR tags
- You tube overview

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TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

2012 EMS Safety Systems, Strategies and Solutions Summit

Feb 2012, Washington DC, Keck Center

The National Academies Transportation Research Board (TRB) and EMS Today, a leading national emergency medical services (EMS) journal, have joined forces to present the 2012 EMS Safety Systems, Strategies and Solutions Summit. This summit is a unique opportunity for emergency medical services (EMS) professionals to share their experiences and expertise with peers from around the world. The summit will feature 30 presentations, a panel discussion, and a live webinar. The summit is being simulcast live to EMS Today, and recordings will be available on the summit website.

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<http://www.emssafetyfoundation.org/2012TRBSummitMultimedaiwithLinksBW.pdf>

TRB EMS Safety Systems Strategies and Solutions Summit Session 1

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Its out there NOW

- TRB 2012 Summit – addressed the key and interdisciplinary applied solutions issues, in one day – please seek that information out. www.objectivesafety.net/TRBSummit2012.htm
- There have been two prior TRB Summits held, 2008, 2009 and both with vehicle engineering and transportation systems technical expertise
- See www.trb.org, and for the Summit archives: www.objectivesafety.net/TRBSummit2008.htm www.objectivesafety.net/TRBSummit2009.htm

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Your TRB EMS Safety Systems Strategies and Solutions Summit Multimedia Document

<http://www.emssafetyfoundation.org/2012TRBSummitMultimediawithLinksBW.pdf>



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Some info about the



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Typical EMS Safety Foundation Webinar agenda

- Montreal IIE 2014 lessons learnt
- SETONP white paper
- INDEMO 1.0 and 2.0
- New Tech task force
- Safety Road Map project
- Applied design solutions
- Google Glass and EMS
- ASTM 1517
- OSHA Emergency Responder safety meeting
- JNEMSLF and U.S. Bureau of Labor Statistics
- The EMS and Highway Safety Connection: New Website
- Evidence-Based Guidelines for Prehospital Care Published
- FICEMS 2014 Strategic Plan
- Rettmobil update
- Rettmobil LIVE! 2014 Recorded Webinar

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EMS Safety Foundation

- Established in 2008 to fill a gap in
 - technical knowledge transfer
 - practical interdisciplinary R & D
 - evaluation and implementation of system safety enhancements for EMS and Medical Transport
- It is a not-for-profit institute

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The EMS Safety Foundation: A practical and functional model

Interdisciplinary and Operational
and International

- Innovation
- Collaboration
- Knowledge transfer

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R & D “Ripoff and Duplicate”

- Avoid reinventing the wheel at all costs
- Where are the best practices that we need to transfer knowledge from

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Mission

- This is a team of like minded innovators across EMS Medical Transport and a number of technical disciplines, who share the common mission of enhancing the safety of EMS delivery for all involved by promoting and advancing EMS safety innovation, collaboration, research, knowledge transfer, education and safety information dissemination



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In a nutshell

- EMS Safety Foundation is a not-for-profit multidisciplinary virtual think – tank and test bed for safety innovation and knowledge transfer
- It is a virtual network integrating the end users and the technical experts
- A tool to enhance the safety of delivery of EMS services



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World Expo/EMS Safety Foundation 2012 and 2013 Safety Innovation Awards

- 12 product winners
- 4-5 special mentions
- Criteria
 - Safety Innovation
 - Practical/Usability
 - Cost Efficiency



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EMS Safety Foundation Ambulance Vehicle & Ergonomics Workshop



Automotive engineers addressing EMS Safety Foundation Workshop



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EMS Safety Foundation Ambulance Innovation Workshop and Design Clinic

Session A
Vehicle Safety and Occupant Protection
Gene Lukianov

Session B
Hands-on human factors operational safety and task analysis
Chris Fitzgerald

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EMS Safety Foundation Safety Road Map Project

focus steps in safety as a system of improvement with milestones eg. BHP example



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Safety Road Map

- Not just a conceptual model
- Must have tangible steps
- Must be systems focused
- Measurable elements
- Immediate, short, medium and long term goals
- Reward and recognition driven

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Rules/Policies Addressing Known Hazards



- Federal Motor Carrier Safety Administration (FMCSA)
 - Cell phone use – November 2011
 - Hours of Service – December 2011

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Federal Motor Carrier Safety Administration - FMCSA


<http://www.fmcsa.dot.gov/>



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Nov 2011, Hand Held Cell Phone Ban

<http://www.fmcsa.dot.gov/about/news/news-releases/2011/Secretary-LaHood-Announces-Step-towards-Safer-Highways.aspx>



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<http://www.ems1.com/ambulance/articles/1991321-Ohio-EMT-admits-to-using-cellphone-GPS-in-fatal-crash/>

September 16, 2014

Ohio EMT admits to using cellphone GPS in fatal crash

She said she took her eyes off the road in an ambulance rollover that killed a patient on board.

By EMS1 Staff

MANFIELD, Ohio — An EMT said in statement that she was using the GPS on her cellphone at the time of an ambulance crash that killed a patient on board.

Amber D. Brown, 30, of Cleveland, told Ohio Highway Patrol she was on her phone because the GPS in the ambulance wasn't working. She said she may have taken her eyes off the road for five to 10 seconds, the *Standard-Journal* reports.

Around 11:45 p.m. on Aug. 15, she was in the center lane of I-71 and traveling about 75 mph when she went off the left side of the exit ramp, through a guardrail and over an embankment. The ambulance rolled several times.

"I was looking at the GPS to see the time of arrival," Brown told a trooper. "I guess I drifted over and ended up sideways going off the roadway."

Patient Michael L. Willis, 56, of Cleveland, was pronounced dead at the scene. Willis and EMT James A. Phillips, 30, were both ejected from the vehicle. Phillips and Brown were transported to OhioHealth Medical Center Mansfield Hospital with minor injuries.

Brown said in her voluntary statement that she did not have lights and sirens activated, and she was transporting a patient between hospitals when the crash occurred.

The speed of the ambulance and the cause of the crash are under investigation. No charges have been filed against Brown pending a toxicology and autopsy report.

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Dec 2011, New FMCSA Hours of Service

<http://www.fmcsa.dot.gov/rules-regulations/topics/hos/index.htm>



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DOT HOS Rules

- Limits established for on-duty hours
- Establishes minimum levels of off-duty time- 8 hours if on duty less than 12 hours FRA or if over 12 hours then 10 hour off-duty time
- Commercial airline pilot can fly up to 100 hrs/month
- Adopts 60/70 hour weekly maximum for truck drivers, 10 hour off-duty time

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Fleet Management technologies

- ACETech/Ferno
- FleetEyes – Intermedix
- Zoll rescuenet and roadsafety fleet management systems
- Marvlis
- Telematicus
- Optima
- Northrop Grumman

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What do we know works...

- Vehicle Operations Safety Policies
- Squad bench lap seat belts
- Patient over the shoulder belts
- Securing equipment
- Forward and rear facing seating
- Some electronic technical devices
- Safety awareness
- Cultural change

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Generation - Y



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'Safety' approaches being driven by manufacturers claims and sales rather than by science and data

JEMS
Ambulance Manufacturers Showcase
40 JEMS 2007 Ambulance Manufacturers Showcase
Ambulance Innovations
58 The Risky Side of Response

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Yes, the ride of your life....

- Sure... these vehicles all parade around the EMS and Fire shows BUT...
- NOT ONE of these vehicles has been to the automotive safety shows or scrutinized by the automotive safety industry

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CONFERENCE & EXPO | 2014
May 31 - June 3, 2014 - Palais des Congrès de Montréal - Montréal, Canada

Health Care Systems
Rm 511-A

Enhancing Ambulance Operational Practice with a Systems Safety Approach

Nadine Levick, MD MPH
Research Director, EMS Safety Foundation
CEO, Objective Safety
New York, NY

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ANNUAL CONFERENCE & EXPO | 2014
May 11 - June 3, 2014 - Palais des Congrès de Montréal - Montréal, Canada

ISERC 2014 Itinerary

This site will allow you to create your own itinerary for the ISERC 2014 Conference. You may build your itinerary by searching the program or adding items directly. Once you have created your itinerary, it will be displayed while you are updating it. Please be sure to print your itinerary before you leave. Your printed will include your itinerary number for future reference. You will also have the option, when printing to create a pdf and save it to your files or forward it to your smartphone for on-site viewing.

If you have previously created your itinerary, please enter your itinerary number below to pull up your itinerary.

Innovation in Operational Modeling of Ambulance Design - the INDEMO Project

368
Nadine Levick, EMS Safety Foundation, nlevick@attglobal.net (Presenter)
Ronald Roifsen, r2@online.no
Chris Fitzgerald, chrsf142@gmail.com

Healthcare Modeling
Innovation in Operational Modeling of Ambulance Design - the INDEMO Project
The design of ambulance vehicle interiors involves interrelationship of transportation

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A3 Document

Problem

Background

Current Condition

Problem Analysis

Target Condition

Countermeasures

Implementation Plan

Cost / Savings

Follow-up

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PROBLEM AREA
Problems with Qs causing machine delay...
This is causing machine delays, long waits for the patient, and reduced throughput time.

DATA COLLECTED
May 1 - May 15
1) Qs do not start Qs
2) Qs do not start Qs
3) Qs do not start Qs
4) Qs do not start Qs
5) Qs do not start Qs

WE SHOULD HAVE
We should have no more than 4 cases a month with machine Qs.

COUNTERMEASURES
1) The Qs should be Qs to be machine...
2) Qs should be machine...
3) Qs should be machine...
4) Qs should be machine...
5) Qs should be machine...

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A3 Sustainability

Problems with Queuing Causing Machine Delay

Month	Number of Missed Qs
May	12
June	5
July	4

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KDD2014

KDD2014
Data Science for Social Good
August 26-29, 2014 - New York City

See you at KDD 2015, Aug 10-13, 2015, Sydney!

SOLD OUT!
KDD in Sydney will exceed 2000 attendees registered to attend.

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SAE: Future Vehicles

Connect with the leading technical authorities from government, industry, and academia

SAE 2015 Government/Industry Meeting
January 21-23, 2015
Walter E. Washington Convention Center
Washington, DC, USA

Future Vehicles: Integrating Safety, Environment and the Technology

Understanding how technology, regulations and legislation will affect the design of light and heavy duty vehicles in terms of safety, environment and energy conservation is essential to vehicle development. This forum will provide opportunities for technical authorities from government, industry and academia who are leading advanced automotive technology, regulations and pending legislation to address issues that will influence future decision making for those within the industry. [Read More](#)

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TRB Annual Meeting begins in 107 days!

Transportation Research Board 94th Annual Meeting
January 11-15, 2015 • Washington, D.C.

Thank You! TRB 94th Annual Meeting Patrons



The Transportation Research Board (TRB) 94th Annual Meeting will be held in Washington, D.C. at its new venue, the Walter E. Washington Convention Center. The information-packed program is expected to attract 12,000 transportation professionals from around the world to Washington, D.C. January 11-15, 2015.

The TRB Annual Meeting program covers all transportation modes, with more than 4,500 presentations in nearly 800 sessions and workshops addressing topics of interest to all attendees—policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions.

The spotlight theme for the 2015 TRB Annual Meeting is *Corridors to the Future: Transportation and Technology*. A number of sessions and workshops will focus on this theme.

Titles, dates, times, and brief descriptions for the more than 110 [specialty workshops](#) being held on Saturday, Sunday, and Thursday as part of the TRB 94th Annual Meeting, January 11-15, 2015, in Washington, D.C., are now available. Annual Meeting registration, for at least the day of the workshop, is required. All workshops are included as part of the Annual Meeting registration fee, with the exception of the Human Factors.

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Social Media Week

NEXT CONFERENCE: SEPTEMBER 22-24, 2014

SOCIAL MEDIA WEEK
Microsoft

REIMAGINING HUMAN CONNECTIVITY



SMW LONDON

The South East of England is generating the interest of our Millennial crowd.

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The 7 Most Important Fitness Tracker Measurements

How they work and what healthy data looks like

By Peter Koch | Posted 09/22/2014 at 1:45 pm












Gaining Your Health: Illustration by Peter and Blake Holey

In early 2015, Apple will release its first major product since 2013 – a health tracker dubbed Apple Watch – that will reportedly log a litany of biometric information using 10 different sensors. The

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SCIENCE

GALLERIES • VIDEOS • BLOGS

How Tweets Can Save Lives

In times of crisis, social media can paint a picture of areas in need

By Stevanna Oskier | Posted 08/18/2014 at 11:14 am



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SCIENCE

GALLERIES • VIDEOS • BLOGS

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Twitter is the #1 social media tool for emergency services - @squeakywheelcom at #oapc2014.

7 years question...Karen Gordon on the use of social media in Emergency Services #oapc2014 pic.twitter.com/uOlqzNsgwB

8:00 AM - 24 Sep 2014

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This addresses some very real risks, very creatively – and currently ONLY available in London Ontario!

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Canadian National EMS Research Agenda

www.emscc.ca/nra

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2 | Canadian National EMS Research Agenda

11. Summary of Findings

11.1 SUMMARY OF CONTENT AREAS

13. Conclusion

Canadian National EMS Research Agenda

Great pic on page 42

But Patient Safety is just one part of this system

Patient Safety in Emergency Medical Services
Revisiting and Rejoicing the Culture of Patient Safety in EMS

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EMSA

CPA/CSP

Are the right things being studied ? Are funds being spent on the right projects



AUTO21 Video Contest - Human Factors Evaluation of AHS EMS Ambulance Design - ASSOCIATE
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Another concerning project

<http://www.theglobeandmail.com/globe-drive/culture/technology/its-this-the-ambulance-of-the-future/article20135891/>



PROTOTYPES
SurvivER: Is this the ambulance of the future?

CHARLES BOMBARDIER
 Special to The Globe and Mail
 Published Wednesday, Aug. 20 2014, 1:59 PM EDT
 Last updated Wednesday, Aug. 20 2014, 6:31 PM EDT

6 comments 2K 2K 24 1 1 AA

GLOBE UNLIMITED

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Our Prototypes column introduces new vehicle concepts and presents visuals from designers who illustrate the ideas. Some of them will be extensions of existing concepts, others will be new, some will be production ready, and others really far-fetched.

The concept

The SurvivER is a prototype of a new generation of ambulance that would be quieter, smoother to ride, and easier to work in, compared to existing models.

Engineering research is different

Hazardous journeys

Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials

Gordon C S Smith, Jill F Pitt

Abstract

Objective: To determine whether parachutes are effective in preventing major trauma related to gravitational challenge.
Design: Systematic review of randomised controlled trials.
Data sources: Medline, Web of Science, Embase, and the Cochrane Library databases, appropriate reference sites and citation lists.
Study selection: Studies showing the effects of using parachutes during free fall.
Main outcome measures: Death or major trauma, defined as an injury severity score > 15.
Results: We were unable to identify any randomised controlled trials of parachute intervention.

Conclusions: As with many interventions intended to prevent ill health, the effectiveness of parachutes has not been subjected to rigorous evaluation. In using randomised controlled trials, Advances of evidence based medicine have not been fully utilised. The methodological quality of reporting of some studies is poor. The method for assessment of overall risk of publication bias on randomised trials of parachute use on randomised trials of parachute use is unclear. The Cochrane Library, appropriate reference sites, and citation lists, health with structured search terms, and other methods were used to identify randomised controlled trials. The review included 10 studies. The overall risk of bias was low to moderate. The

Introduction

The parachute is used in recreational, military, and military settings to reduce the risk of orthopaedic trauma, and 'soft' tissue injury after gravitational challenge, especially in the context of jumping from an aircraft. The perception that parachutes are a protective intervention is based largely on anecdotal evidence. Observational data have shown that free fall is associated with morbidity and mortality, due to both failure of the intervention^{1,2} and inherent complications. In addition, 'natural history' studies of free fall indicate that failure to take or deploy a parachute does not inevitably result in an adverse outcome.³ We therefore undertook a systematic review of randomised controlled trials of parachutes.

Methods

Protocol search: We conducted the review in accordance with the EQUATOR quality of reporting of non-randomised studies. We searched for randomised controlled trials of parachute use on Medline, Web of Science, Embase, the Cochrane Library, appropriate reference sites, and citation lists, health with structured search terms, and other methods were used to identify randomised controlled trials. The review included 10 studies. The overall risk of bias was low to moderate. The

Discussion

Evidence based practice and observational practice: It is a truth universally acknowledged that a medical intervention justified by observational data may be of poor or ineffective through a randomised controlled trial.



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Key Safety dimensions

- Clinical task performance
- Ergonomics/Human factors
- Biomechanics and crashworthiness

ALL THREE ARE INTERRELATED

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Community Paramedicine

The Toronto EMS Community Paramedicine Program was created in the fall of 1999. The program is a non-emergency, community-based service with a focus on health promotion, system navigation and injury prevention. Among emergency medical services, Toronto is at the forefront with a number of innovative community programs.

CRMS (Community Referrals by EMS) has been extremely successful since its inception in the early spring of 2006. In this program, referrals are made by paramedics who respond to 911 calls based on a determination that a patient is in need of additional healthcare or support services. These referrals are made to the appropriate Community Care Access Centre for further assessment and determination of the types of service best suited to the patient's needs.

The Community Paramedicine Program took the lead in bringing together the Foundation Canada (formerly CNDCA) and the Paramedic Chiefs of Canada (formerly EMSCC) to form the Partners Promoting Window and Balcony Safety for Children program. Partners Promoting Window and Balcony Safety has created an educational website with various prevention and supervision tips for parents and caregivers as well as information brochures that can easily be printed. Please visit www.windowandbalconysafety.ca for more information. Thirteen EMS agencies across Canada have joined Foundation Canada and the Paramedic Chiefs of Canada to pursue the goal of preventing children's falls from windows and balconies through education, proper supervision and the use of safety devices.

The perspectives and faces of the Community Paramedicine Program change with the seasons. In the early spring and summer, Toronto EMS is a member of the Hot Weather Response Plan Committee. Before the cold winter months set in, the CFP helps train Northville outreach teams and agencies for their 'Out of the Cold' program by providing seminars on recognition of hypothermia and cold-related injuries.

Beginning in 1999, Toronto was one of the first EMS agencies in Ontario to provide influenza vaccination to homeless and marginally-housed persons through clinics held in shelters and drop-in centres and by appointment, to 'at-risk' persons living in the community. Immunization was also provided by the staff of Toronto EMS. Toronto EMS has in the past assisted Toronto Public Health with Hepatitis A and Meningitis C vaccinations.

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Ebola!

Ebola Patient to be Transported Through Specially Equipped Ambulance

EBOLA PATIENT TO BE TRANSPORTED THROUGH SPECIALLY EQUIPPED AMBULANCE
 CREATED: AUGUST 4, 2014

Withobut, a North Carolina-based missionary, was infected with Ebola while working in Liberia

Aug. 03 - When Nancy Withobut touches down on American soil Tuesday to be treated for Ebola, her ambulance ride from Debbie Air Force Base through Atlanta to Emory should be seamless, experts say.

"A lot of the hysteria is like when HIV was discovered," said Michael Powell, an expert on infectious diseases who specializes in HIV research. "It is better to be safe than sorry. But I think the consensus that something will happen should be minimal."

Withobut, a North Carolina-based missionary, was infected with Ebola while working in Liberia. He will be the second American to be infected with the disease to be treated at Emory University Hospital.

On Saturday, Dr. Kent Brantly arrived at Debbie Air Reserve Base aboard an air ambulance. Escorted by police cars, an ambulance transported him to Emory. The ambulance did not use one light or siren.

Emory officials on Monday would not comment on when Withobut is scheduled to arrive, nor go into details surrounding her transport from the base to the hospital.

But if it mirrors Brantly's transport, she will be carried in an ambulance specifically lined with absorbent drapes covering the shelves on the walls to catch any fluids. Everyone in the ambulance will be wearing specialized Tyvek suits. The ambulance driver's compartment will be pressurized so air from the patient's compartment won't come in.

Powell, who teaches at the Morehouse School of Medicine, said it would be naive to assume there would be any chance of an accident. He added that even an accident would have little risk of the Ebola virus.

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Vehicle Crashworthiness testing



USA - 2000 research

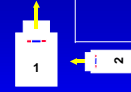


Europe - 2007 to meet CEN



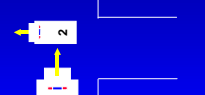
Full Vehicle Crash Tests

Test 1 - Right side impact



- 1 - Target vehicle, Type I ambulance
- 2 - Bullet vehicle, Type II ambulance
- Closing speed 44 mph

Test 2- Frontal



- 1 - Bullet vehicle, Type III ambulance
- 2 - Target vehicle, Type II ambulance
- Closing speed 34 mph

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2000 Full Vehicle Crash Testing

Pre-impact CTD positioning



Preparation of test vehicles



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Testing the real world



And this all takes place in 60 milliseconds - the blink of an eye



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A few key words about restraint systems...

NOT new technical data...



Richardson S.A., et al, *Int. J. of Crash.*, 4:3, 239 – 259, 1999

Side facing 4-point harnesses demonstrated to be lethal, even at slow ground vehicle speeds

Beware some provider restraint systems are dangerous



Side facing 4-point harnesses demonstrated to be lethal, even at slow ground vehicle speeds

Innovation

Leadership and Innovation

- “Being responsible sometimes means pissing people off... By procrastinating on the difficult choices, by trying not to get anyone mad, and by treating everyone equally "nicely" regardless of their contributions, you'll simply ensure that the only people you'll wind up angering are the most creative and productive people in the organization.”



A Leadership Primer from General (Ret.) Colin Powell, Former Secretary of State, USA

New Technologies, Innovation and You!



Technical Collaboration is key

- We are NOT the experts in this science
- We cannot afford to play the silo game here, it is costing lives, time and money
- We MUST have a meaningful evidenced based approach to design, operations and policy
- We must be outcomes driven

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And what is the loading height of your ambulance??

Size matters.... Less than 27 inches will save your back!!!!



Emergency Vehicles – Viewer Awareness

For a timely, appropriate and safe response

- Location
- Size
- Shape
- Speed
- Intended path



Policy and practice ignorant of existing technical safety data

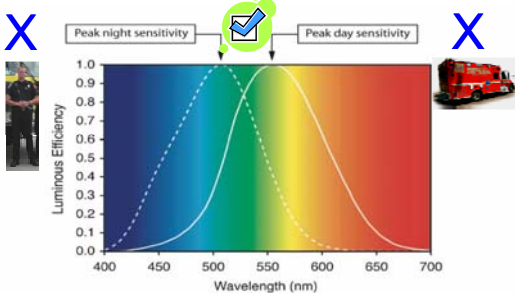


Figure 1. The scotopic (dashed line) and photopic (solid line) luminous efficiency functions, describing the spectral sensitivities of night and day vision, respectively.

But whatever color If you run a red light someone will be killed



this vehicle is safety crash tested by automotive experts



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Unlike this vehicle



EM
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So....

- Which vehicle do you want to be in ?
- Which vehicle is the best for efficient, and effective patient care?
- Which vehicle provides optimal risk management ?
- What is the optimal fleet mix?

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Spectrum of dimensions

- Vehicle design innovation
- CAD
- Resource allocation
- Fleet performance –
 - Monitoring: System that gives management data of vehicle efficiency and use
 - Feedback: Directly to drivers at the wheel
- Public Alerts



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Fleet Management technologies

- FleetEyes – Intermedix
- ACETech/Ferno
- Zoll rescuenet and roadsafety fleet management systems
- Drivecam
- Marvlis
- Telematicus
- Optima
- Northrop Grumman



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Telematics

- How much technology and data and of what type do you need to improve fleet safety performance

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Telematics

Telematics
Improving Fleet Efficiency, Safety and Environmental Impact

Desktop Login

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Global Green Drivers
Changing the way that private business data is collected, analyzed and feedback with an innovative software application that runs on all major mobile and handheld platforms.

Efficiency
Improving operational efficiency by providing drivers with real-time information that requires the flexibility and capability to respond proactively in a cost-effective way with a rapid return on investment.

Safety
Improving driver safety with the ability of the fleet to manage the data that requires providing the tools to manage time and providing information at the right time and in the right place.

Environmental
Increasing the awareness of the environmental impact of drivers by providing the right information at the right time with innovative software.

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GGD views

A smart phone App that is a safety tool

GPS and GPRS status







Driver and vehicle ids

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Telematics

Fleet Management capability

Vehicle database


- Individual vehicle/ data
- Fleet mileage collection/Checklists
- Link to other systems (SAP, Fleet)


Maintenance & Service Plans

- Repair history & Scheduling
- Action planning

Reporting

- Export to Excel for manipulation
- Scorecards views, Crystal Reports reporting
- Direct Feedback





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TODAY

FAMILY

Take mobile devices out of the drivers seat.

FLEET

Keep employee drivers focused on the road.

DRIVEID

Callcom's 2014 CES award winning solution. The ONLY App Store Approved iPhone solution!

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Soterawireless & Intel's Eric Dishman



Health Summit
TECHNOLOGY • BUSINESS • RESEARCH • POLICY

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Sotera

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<http://www.visimobile.com/visi-product-info/>

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From Wired August 2014

This \$500 Display Makes Your Junker Car Feel Like a Fighter Jet

BY ALEXANDER GEORGE @BLSH | 12:00 PM | PERMALINK

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Hot off the Press!!!

CAMTS reference entitled:
“Safety and Quality in Medical Transport Systems: Creating an Effective Culture”

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Get it at Amazon

<http://www.amazon.com/Safety-Quality-Medical-Transport-Systems/dp/1409435407>

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Safe Practices for Motor Vehicle Operations

ASSE/ANSI Z15.1 2012

https://www.asse.org/cartpage.php?link=Z15_1_2012&utm_source=ASSE+Members&utm_campaign=b4472c203c-Z15_5_12_125_11_2012&utm_medium=email

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Newly Revised ANSI/ASSE Z15.1-2012 Standard is now available.

- ANSI/ASSE Z15.1-2012 Revised Standard is now available. “ Safe Practices for Motor Vehicle Operations“
- These practices are designed for use by those having the responsibility for the administration and operation of motor vehicles as a part of organizational operations.

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Z15.1 Technical Brief

<http://asse.us2.list-manage.com/track/click?u=c607f19210bc178f7ceb6d716&id=a311862ffc&e=8007d740a6>



ASSE Tech Brief
April 30, 2012

MOTOR VEHICLE OPERATIONS – AN UPDATE
The South Region ASSE Z15.1 Standard

ASSE members and the IHFE Professions overall have submitted numerous inquiries addressing the pending release of the newly revised Z15.1 Standard, "Safe Practices for Motor Vehicle Operations." This document will hopefully answer some of these questions.


The scope of the standard is: This standard sets forth practices for the safe operation of some vehicles owned or operated by organizations, including:

- Definitions
- Management, leadership and administration
- Operational environment
- Driver considerations
- Vehicle considerations
- Incident reporting and analysis

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What Z15 encompasses

- Safety Program
- Safety Policy
- Responsibilities and Accountabilities
- Driver Recruitment, Selection and Assessment
- Organizational Safety Rules
- Orientation and Training
- Reporting Rates and Major Incidents to Executives
- Oversight



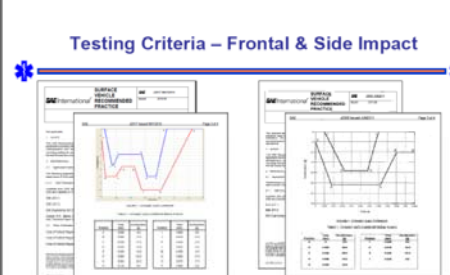
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SAE equipment restraint

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For restraint systems – not vehicle design & not based on crashworthy vehicles

Testing Criteria – Frontal & Side Impact



SAE J2917- Ambulance Patient Compartment Frontal HYGE Sled Pulse, May 2010

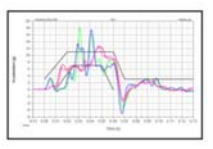
SAE J2956- Ambulance Patient Compartment Lateral HYGE Sled Pulse, June 2011

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Again, for equipment anchors, NOT vehicle crashworthiness

Testing Criteria – Rear Impact

Crash response of two vehicles used to develop new SAE Recommended Practice for Rear Impact Testing



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International approaches

- European, non-north American vehicles have NO squad bench nor after market structural vehicle modifications that can potentially decrease crashworthiness integrity

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Rettmobil 2014, May 14-16
<http://www.rettmobil.org/index.php/en/>

RETTmobil 2014
 14. Europäische Konferenz für Rettung und Mobilität
 14th European Leading Exhibition for Rescue and Mobility
 14th - 16th May 2014 (Wednesday - Friday)
 Fulda, Messe Fulda 14 - 16 May 2014 (Wednesday - Friday, 9h - 17h)

News
 RETTmobil 2014
 14. - 16. Mai 2014 (Dienstag - Freitag)
 09:00 Uhr bis 18:00 Uhr, Admission: 10,00 Euro
 Free parking for visitors
 Free conference for exhibitors etc.
 Free entry tickets: 30000 (Fulda, Germany) and 50000 (all Europe)

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So What is RETTmobil??

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RETTmobil is -

- A major European Emergency Rescue Congress, Trade show and Symposium
- Held in Fulda, Germany
- Established in 2001
- Attended by ~ 25,000 attendees
- Brainchild of Prof Peter Sefrin
- Over 500 exhibitors, >20 Countries!

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Prof. Dr. Peter Sefrin

- Prof. Dr. med. Peter Sefrin
- Chief Physician of German Fire Services Association, Würzburg Germany
- Founder of RETTmobil

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EMS Safety Foundation Delegation seeking out International Innovation

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Birds eye view

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Clever knowledge transfer, a game changer from Dlouhy in Europe



The old expensive and not versatile

and the new...

Rapidly and game changing technology and cheaper, better, very versatile







Pensi **Special platform**

Modelo PL 300 01

Technical details	
Length	2000 mm (internal) with ramp & handles 2200 mm
Width	570 mm
Weight	40,2 kg
Height	65 mm with side-rails sliding 165 mm
Load capacity	200 kg

- Made of anodized aluminum (stable top 3 mm thick)
- With a foldable ramp, which is assisted with gas spring
- Out diameter: 400 mm
- Forward movement in vehicle: 200 ± 200 mm

Strong aluminum profiles and roller bearings guarantee smooth and quiet operation.

The platform can be inserted directly into the ambulance floor or on a driver's base. When it can be equipped with case for scoop stretcher or with the side-rails sliding.

The platform is tested according to the EN 1789 standard. It is reinforced for different kind of

Modelo PL 300 01

reference drawing 6-1611 12-01-01 400 mm 7-parameter weight 10,2 kg

600 mm

165 mm

Reinforcement for driver's base loading

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Challenges of change – even if it makes sense

- Innovation demonstration model, INDEMO 1.0, a new knowledge transfer tool

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**Ambulance Safety Innovation
Design Module 1.0**

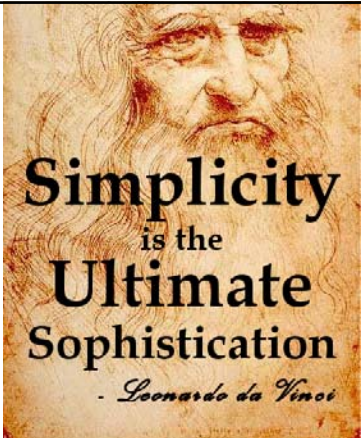
www.INDEMO.info

INDEMO 1.0
POWERED BY EMS SAFETY FOUNDATION



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**Simplicity
is the
Ultimate
Sophistication**
- Leonardo da Vinci

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**Launched @EMS Expo 2013
– EMS Safety Foundation
INDEMO 1.0
Ambulance Safety
Innovation Design Module
Safer, Better, Cheaper!**

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**Ambulance Safety Innovation
Design Module 1.0**

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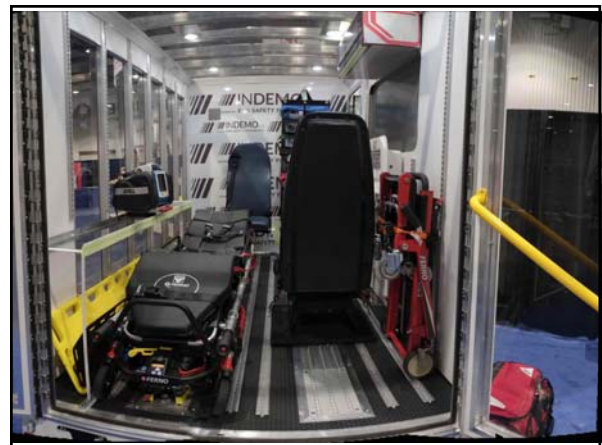


**Innovation Design Module
(INDEMO) 1.0**

- A full scale interactive physical model
- change in ambulance design based on technically sound automotive and ergonomic science
- improvement potential could be developed, visualized, demonstrated and evaluated.

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EMS Safety Foundation's new demonstration Project:
Ambulance Safety INDEMO 1.0

- Designs so that you can do your work with optimum safety and efficiency.
- Based on state of the art science, practice and input from the world's leading experts in automotive safety and human factors.
- Designs that are cheaper, better, safer.

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- This project focused on system of safety as a central part of the operational process, not a parallel aspect. Vehicle dimension selection was based on automotive safety testing parameters, the interior layout based on integrating pilot task analyses with a range of ergonomic technical data across a spectrum from seating to reach parameters and across body size range.

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http://www.youtube.com/watch?v=q0kPYOzqNyQ&feature=c4-overview&list=UUQj31V_yV1cvduWyBETc80w



youtube video
http://www.youtube.com/watch?v=q0kPYOzqNyQ&feature=c4-overview&list=UUQj31V_yV1cvduWyBETc80w
– taken as we were getting set up at EMS Expo



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Even on twitter...



7:47 AM - 7 Feb 2014

Flag media

EMS World Expo

- 84,771 downloads of 2012's presentation
<http://www.emssafetyfoundation.org/2012EMSEXPoNewOrleansHO.pdf>
- Strategies and Solutions for Ambulance Transport Safety Systems
Sep 10 2013 - Handout:
<http://www.objectivesafety.net/2013EXPOLasVegasHO.pdf>
- How to Design Your Next Ambulance
Sep 11 2013 - Handout
<http://www.objectivesafety.net/2013EXPoDesignHO.pdf>



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Michael Hartford – Limington Fire Dept https://www.youtube.com/watch?v=3T2fAVK_Xs



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Take homes

- Technical info is key
- Invaluable info from EMS Safety Foundation
- Basic principles
 - Forward and rear facing
 - Remaining seat belted
- Design work areas around people



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Other new tools we have now

Google Glass May Help Emergency Physicians Improve Patient Care

By Carol Fennell | on July 8, 2014 | 0 Comment



Last September, emergency physicians at Beth Israel Deaconess Medical Center in Boston began testing a new technology that may forever change the way they deliver patient care. It weighs less than a pound, instantly retrieves critical patient data and clinical information, and takes pictures and records videos that other physicians can see in real time.

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July 17, 2014

<http://www.marketwatch.com/story/crowdoptic-signs-software-deal-with-protransport-1-to-install-google-glass-in-ambulances-2014-07-17>

July 17, 2014, 12:01 p.m. EDT

CrowdOptic Signs Software Deal With ProTransport-1 to Install Google Glass in Ambulances

Companies Aim to Enhance Emergency Medical Services Using Google Glass



SAN FRANCISCO, CA AND SACRAMENTO, CA, Jul 17, 2014 (MarketWired via COMTEX) -- CrowdOptic, a maker of mobile and wearable broadcasting solutions, and ProTransport-1, Northern California's premier medical transport provider, today announced a software sales agreement under which ProTransport-1 will deploy the CrowdOptic Google Glass broadcasting solution in its ambulances and mobile medicine units.

ProTransport-1 will use Google Glass to broadcast real-time video evaluations of patients from ambulances during transport to the receiving healthcare institutions. This technology solution will aim to improve documentation and expand medical consultative opportunities for patients en route.


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July 22, 2014

<http://www.governing.com/news/headlines/paramedics-might-benefit-from-google-glass.html>

Why Paramedics Might Soon Get Google Glass

BY MCOLLATCHY NEWS | JULY 22, 2014



By Ameet Sachdev

While Google Glass' potential as a consumer device remains to be seen, Lauren Rubinson-Morris is excited about its possibilities in her workplace.

Rubinson-Morris is president and chief executive officer of MedEx Ambulance Service, a Skokie-based company that provides transportation to hospitals and other health care sites throughout the Chicago area.

The company has acquired two pairs of Google Glass installed with software and connected to the Internet, allowing paramedics to transmit live video and audio from an ambulance to a doctor in an emergency room who will be able to watch the video stream on a tablet or desktop computer.

The additional eyes on a patient can provide paramedics with advice, diagnosis and treatment options. MedEx plans to launch a test with Advocate Illinois Masonic Medical Center in Chicago

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http://thehealthcareblog.com/blog/2013/10/08/why-badly-designed-ipad-apps-put-patients-at-risk/

The Health Care Blog

Why Badly Designed iPad Apps Put Patients at Risk: EMS and ePCR

By JONATHAN S. FEIT

Everyone who knows my writing can attest that I neither pull punches nor play politics. It may distress people, and hopefully it won't haringer my demise. But as CEO of a young firm bringing overdue innovations to the Fire and Emergency Medical Services industry, there are only four groups to whom I am duty-bound: our partner-clients, their patients, our team members, and our investors (in no specific order). To remain mum on topics that could affect the physical or financial health and wellbeing of any of these parties would be a disservice.

WASHINGTON
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Health
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OSHA Trade News Release

U.S. Department of Labor
OSHA, Office of Communications

June 4, 2014
Contact: Office of Communications
Phone: 202-693-1999

OSHA schedules stakeholder meeting to consider proposed standard to protect safety, health of emergency responders

WASHINGTON - The Occupational Safety and Health Administration has scheduled an informal stakeholder meeting to gather information as it considers developing a proposed standard for emergency response and preparation. The meeting will be held July 30, 2014, in Washington, D.C.

OSHA issued a Request for Information on Sept. 11, 2007, that requested comments from the public to evaluate what action, if any, the agency should take to further address emergency response and preparation. Recent events, including the West, Texas, explosion that killed several emergency responders, and additional information gathered in response to the RFI show that responder health and safety continues to be an area of ongoing concern.

The meeting will convene at 8 a.m., July 30, 2014, at the U.S. Department of Labor, 200 Constitution Ave., NW, Washington, DC 20210. If needed, a second session will be held July 31. Those interested in attending can register at <https://www.dhs.gov/e-verify> by facsimile or mail. See the Federal Register notice for registration details. The registration deadline is July 2, 2014. The meeting will not include formal presentations but instead will be conducted as a group discussion. OSHA will focus on issues such as scope and approach surrounding emergency response and preparation.

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthful workplaces for their employees. OSHA's role is to ensure these conditions for America's working men and women by setting and enforcing standards, and providing training, education and assistance. For more information, visit <http://www.osha-slc.com>.

U.S. Labor Department news releases are accessible on the Internet at www.dhs.gov. The information in this release will be made available in alternative format upon request (large print, braille, audiotape or disc) from the Central Office for Assistive Services and Technology. Please specify which news release when placing your request. Call 202-693-7628 or TTY 202-693-7755.

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The Joint National EMS Leadership Forum (JNEMSLF) & U.S. Bureau of Labor Statistics

<https://www.nasemso.org/Advocacy/Supported/documents/JNEMSLF-Letter-to-SOCPC-21July2014.pdf>



July 21, 2014

Standard Occupational Classification Policy Committee
U.S. Bureau of Labor Statistics,
2 Massachusetts Avenue NE, Suite 2115
Washington, DC 20212

Subject: 2018 Standard Occupational Classification Revision Process Input

Standard Occupational Classification Policy Committee Members

The Joint National EMS Leadership Forum (JNEMSLF) is a group of federal agencies and 18 national organizations which support and represent professionals and agencies responsible for the delivery of emergency medical services (EMS) across our country. The JNEMSLF meets

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The EMS and Highway Safety Connection: New Website

<http://safety.fhwa.dot.gov/hsp/shsp/ems/connection>

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EMS evidence-based guidelines

<http://www.nhtsa.gov/staticfiles/nti/pdf/811643.pdf>

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FICEMS Strategic Action Plan

http://www.nhtsa.gov/staticfiles/nti/pdf/811990-FICEMS_Strategic_Plan_march2014.pdf

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Science behind Policy

- “For successful technology, reality must take precedence over public relations, for Nature cannot be fooled.”

Richard P. Feynman 1988

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- Innovation
- Collaboration
- Knowledge transfer

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Conclusion

- EMS has serious hazards and safety issues
- Major advances in EMS safety research, infrastructure and practice over the past 5 years
- New technologies for vehicle design, occupant PPE and equipment restraint, driver performance and fleet management are now available
- Development of substantive EMS safety standards is a necessity and a reality
- Failure to transfer knowledge from transportation and automotive safety is unacceptable and dangerous
- EMS is still way behind the state of the art in vehicle safety and occupant protection

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And....

- It is no longer acceptable for EMS to be functioning outside of automotive safety and PPE safety standards for prevention of and protection of EMS providers and the public from injury and death

Key dimensions

- 1) safety must be inherent to operational process design
- 2) engagement of appropriate interdisciplinary expertise in systems design and safety analysis is essential
- 3) an understanding of the complex interplay between patient, provider and public safety from a systems perspective and culture is key to addressing effective and safe operational EMS performance.

Your electronic handout/resource link



Or if you are < 30 years



This presentation handout



www.objectivesafety.net/PDFHO.htm

Thank you! Any Questions??

Electronic handout and resources available online
<http://www.objectivesafety.net>

