

University and Law Enforcement Collaboration: Distracted Driving Education and a Tool to Assess for Cognitive Impairment

presented by

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TREDS

**TRAINING, RESEARCH AND EDUCATION
FOR DRIVING SAFETY**

TREDS



-
- Training, Research and Education for Driving Safety
 - Based at UC San Diego School of Medicine
 - Develops programs for professionals and public
 - Recognized for research, training programs, and Screening Tool for Cognitive Impairment

Our Mission



To promote safety for all road users

- Aging Road Users
- Distracted Driving
- Pedestrians
- Underage Drinking and Driving
- Driving Under the Influence of Drugs

Collaboration



COMMON GOAL:
Reduce crash-related
injuries and deaths

UC San Diego
SCHOOL OF MEDICINE

PUBLIC SAFETY

- Education
- Engineering
- Enforcement

PUBLIC HEALTH

- Research
- Education
- Evaluation



Partnership increases effectiveness

Distracted Driving



2013 Just Drive – “Take Action Against Distraction” (General Public)



2016 Distraction Overload – “Risk Reduction for First Responders”



2017 Just Drive – “Deliver Distraction-Free” (Commercial Drivers)



Just Drive

DELIVER DISTRACTION-FREE



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FOR DRIVING SAFETY



Course Design



- **Format:** one hour program delivered by law enforcement
- **Instructional Tools:** PowerPoint, videos, audience participation, pledge cards and handouts
- **Evaluation:** pre-and post-surveys measure change in knowledge and behavioral intentions

Curriculum Topics



- Distracted driving overview and risks
- Codes and statutes
- Legal and personal consequences
- Practical strategies to reduce distracted driving
- Resources



Curriculum Highlights

What is Distracted Driving?



- Any activity that could divert a person's attention away from the primary task of driving
- All distractions endanger driver, passenger, and bystander safety

More People are Using Phones



	1985
Population	240 million
Cell phone subscriptions	340,000
% of population	1.4%

More People are Using Phones



	1985	2017
Population	240 million	326 million
Cell phone subscriptions	340,000	400,000,000 +
% of population	1.4%	122%

Caught on Camera



<https://abc7ny.com/video/embed/?pid=36931>

Fatal Crashes are Increasing



From 2009 to 2016,
large truck and bus
fatal crashes
increased by
29%



Distracted Driving



Distraction is the **second** leading cause of death for all large truck drivers involved in fatal crashes

California Highway Patrol





How does this happen?

The Forces Collide



There are three types
of distraction



Visual
Distraction



Manual
Distraction



Cognitive
Distraction



Texting
involves all three!

Cognitive Distraction



- With two thinking tasks, brain switches quickly between them
 - **Attention to driving secondary to phone conversation**
- Drivers on cell phones **look at, but fail to see,** up to **50 percent** of information in driving environment

Let's Multi-Task



Say out loud:

- Alphabet **A-K**, then
- Numbers **1-11**

Now alternate...

A-1, B-2...

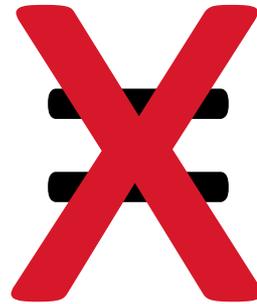


What are the risks?

Is Risk The Same?



Talking to a co-driver



Talking on a cell phone

No, due to “Shared Awareness”

Is Hands-Free Safer?



Talking Hands-free

=



Talking Handheld

No, both have up to 4x crash risk

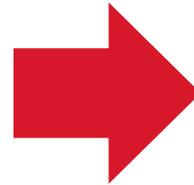
Texting



that is so funny...LOL

Send

Is it still LOL ? 😂



Crash risk up to 23x greater

Voice-to-text
more distracting than typing

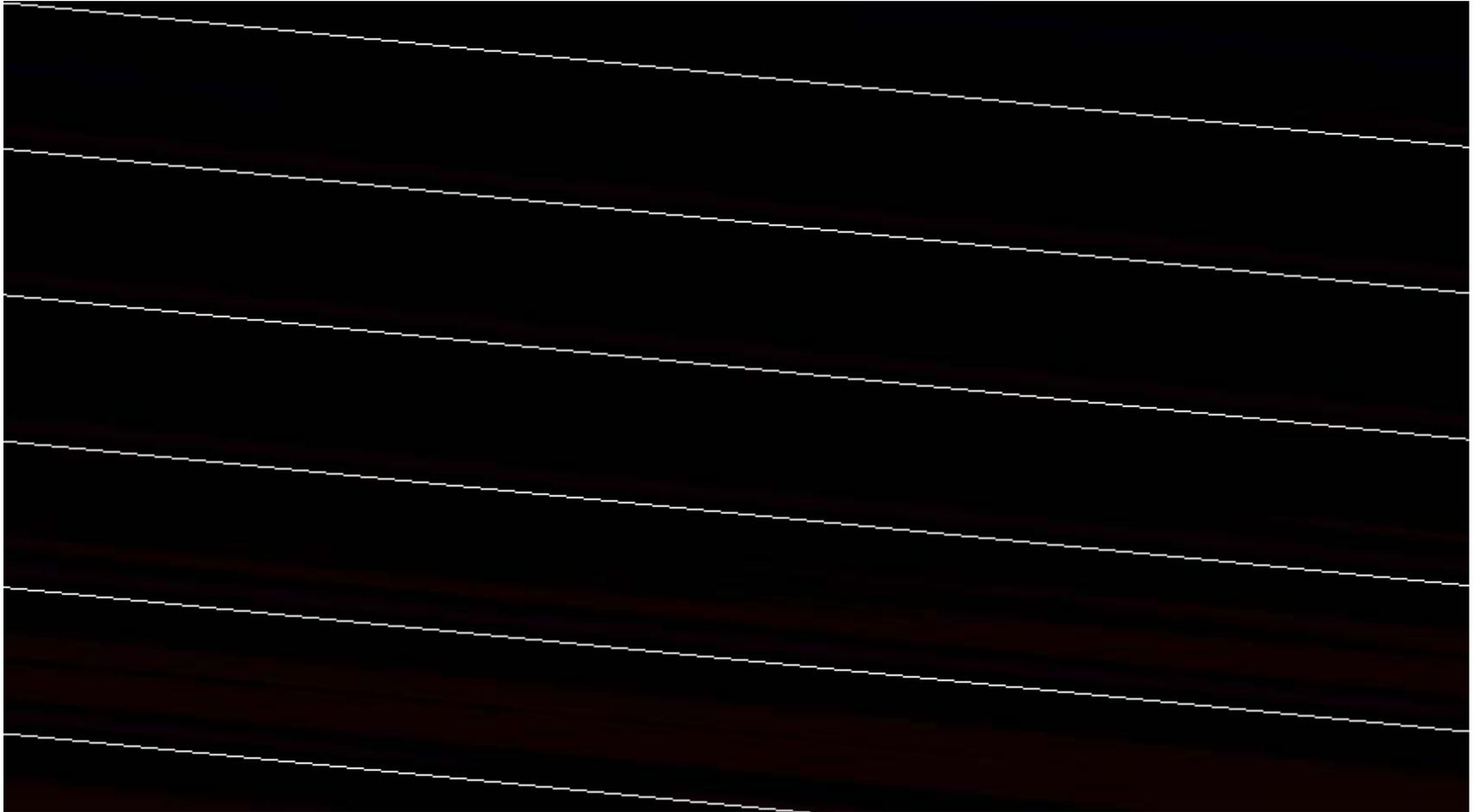
Consequences



CRIMINAL?



Criminal?



<https://www.youtube.com/watch?v=rWPRzdG6CpQ>

The Outcome



Six-year Prison Sentence



Behavior Change



Pledge Card



Who loves me, who needs me:

My spouse

My child

My parents

With these people in
to take steps to stop d

Drive

I commit to this first step:

"Silence" my phone while driving

Not Worth the Risk





DOSCI

DRIVER ORIENTATION SCREEN
FOR COGNITIVE IMPAIRMENT



- Nine questions assess drivers for orientation to person, place and time
- Developed and validated at UC San Diego School of Medicine
- Adopted by law enforcement, licensing agencies
- Applicable to other disciplines: DREs, dispatchers

Driver Orientation Screen for Cognitive Impairment - DOSCI

Laminated Card



APPLICABLE FOR


DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT

RULE OUT INTOXICATION AND URGENT MEDICAL CONDITIONS

ASK ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT

1. What is your date of birth?
¿Cuál es su fecha de nacimiento?
1 PT

Month, day, and year required; must match documents
2. What is your full home address?
¿Cuál es su dirección (número, calle, ciudad, estado)?
1 PT

Address provided must match documents; if not, prompt for address listed on documents
3. What state are we in now?
¿En qué estado estamos en este momento?
1 PT
4. What city/town are we in now?
¿En qué ciudad estamos en este momento?
1 PT
5. Without looking at your watch, can you estimate what time it is now?
¿Sin mirar su reloj, puede decirme aproximadamente qué hora es?
1 PT

Answer provided must be plus or minus one hour of correct time
6. What day of the week is it?
¿Qué día de la semana es hoy?
1 PT
- 7-9. What is today's date?
¿Cuál es la fecha de hoy?
1 PT

Prompt for month, day, and year if needed

 - Month (Mes) _____ 1 PT
 - Day (Día) _____ 1 PT
 - Year (Año) _____ 1 PT

SCORING CRITERIA

5 OR MORE INCORRECT	→	PRIORITY RE-EXAM <small>Unsafe to drive; refer to department procedures for alternative transportation and vehicle removal</small>
3-4 INCORRECT	→	REGULAR or PRIORITY RE-EXAM <small>Potentially unsafe to drive; consider totality of circumstances</small>
0-2 INCORRECT	→	NO REFERRAL or REGULAR RE-EXAM <small>Based on totality of circumstances</small>

Smartphone App



DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT

This application is intended for use by Law Enforcement Officers.

It is a screening tool to assist in the identification of cognitively impaired drivers encountered during the course of patrol duties. It is to be used as part of an officer's investigation of the totality of circumstances to determine when a driver reexamination referral to DMV should be completed.

NEXT

Training, Research and Education for Driving Safety
University of California, San Diego
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DOSCI

Rule Out

Cognitive
Assessment

Scoring
Criteria



APPLICABLE FOR


DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT

RULE OUT INTOXICATION AND URGENT MEDICAL CONDITIONS

ASK ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT

1. What is your date of birth? _____ 1 PT
¿Cuál es su fecha de nacimiento?
Month, day, and year required; must match documents
2. What is your full home address? _____ 1 PT
¿Cuál es su dirección (número, calle, ciudad, estado)?
Address provided must match documents; if not, prompt for address listed on documents
3. What state are we in now? _____ 1 PT
¿En qué estado estamos en este momento?
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Prompt for month, day, and year if needed
 - Month (Mes) _____ 1 PT
 - Day (Día) _____ 1 PT
 - Year (Año) _____ 1 PT

SCORING CRITERIA

5 OR MORE INCORRECT	→	PRIORITY RE-EXAM Unsafe to drive; refer to department procedures for alternative transportation and vehicle removal
3-4 INCORRECT	→	REGULAR or PRIORITY RE-EXAM Potentially unsafe to drive; consider totality of circumstances
0-2 INCORRECT	→	NO REFERRAL or REGULAR RE-EXAM Based on totality of circumstances

Nine Assessment Questions

ASK ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT

1. What is your date of birth? _____ 1 PT

¿Cuál es su fecha de nacimiento?

Month, day, and year required; must match document

2. What is your full home address? _____ 1 PT

¿Cuál es su dirección (número, calle, ciudad, estado)?

7-9. What is today's date?

Prompt for month, day and year

- *Month*
- *Day*
- *Year*

7 -9. What is today's date?

¿Cuál es la fecha de hoy?

Prompt for month, day and year if needed

• Month (*Mes*) _____ 1 PT

• Day (*Día*) _____ 1 PT

• Year (*Año*) _____ 1 PT

Scoring Criteria

SCORING CRITERIA

- | | | |
|----------------------------|---|--|
| 5 OR MORE INCORRECT | → | <u>PRIORITY RE-EXAM</u>
Unsafe to drive; refer to department procedures for alternative transportation and vehicle removal |
| 3-4 INCORRECT | → | <u>REGULAR</u> or <u>PRIORITY RE-EXAM</u>
Potentially unsafe to drive; consider totality of circumstances |
| 0-2 INCORRECT | → | <u>NO REFERRAL</u> or <u>REGULAR RE-EXAM</u>
Based on totality of circumstances |

Referral to Licensing

DRIVER CONDITION (Observations after Stop/Collision)—

- | | |
|---|---|
| <input type="checkbox"/> Confused, disoriented, incoherent, or unaware of actions | <input type="checkbox"/> Alcohol/Drug Use (Describe below) |
| <input type="checkbox"/> Reported/Observed Medical Condition | <input type="checkbox"/> Confused by traffic |
| <input type="checkbox"/> Little or no recollection of incident | <input type="checkbox"/> Lost or confused while driving near home |
| <input type="checkbox"/> Medicated | <input type="checkbox"/> Blackout/Seizure/Fainting |
| <input type="checkbox"/> Vision Condition/Visual Impairment | <input type="checkbox"/> Driver appears to need help with hygiene and/or dressing appropriately |
| <input type="checkbox"/> Mental/Emotional Condition | <input checked="" type="checkbox"/> Other Observations _____ |
| <input type="checkbox"/> Driver reported he/she did not see cars, pedestrians, etc. | |

Other Observations Mr. Jones was unable to
correctly state date, year, day of the week, city,
time of day and current address.

treds.ucsd.edu

Identifying and Referring Cognitively Impaired Drivers



UC San Diego
SCHOOL OF MEDICINE



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CALIFORNIA OFFICE
OF TRAFFIC SAFETY

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For More Information

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