FIRST AID AS AN IMPORTANT TRAFFIC SAFETY FACTOR
First aid

Worldwide every year 1.24 million people are killed and 50 millions are injured in road accidents.

50% of deaths happen in minutes after the accident.

Some lives can be saved only by the lay rescuers.

10% potential decrease of fatalities.
First aid

Worldwide every year 1.24 million people are killed and 50 millions are injured in road accidents.

FIRST AID IS A RELEVANT TRAFFIC SAFETY FACTOR
In the Czech Republic the percentage of people trained in the first aid is relatively low.
First aid

• The research in German speaking countries showed that only 12,5% of people is capable to provide the first aid. Most of the people do not respond at all.

• Myths, lack of information, worries and doubts.
• Low level of preparedness of the people that went through the trainings.

INNOVATIONS IN THE FIRST AID TRAINING ARE NECESSARY.
First aid – necessary competencies

- Knowledge
- Skills
- Psychological setup

Since the traditional 4 hour training seems not to be functional in the Czech Republic, we elaborated a new 16 hours experience-based conception.
First aid – experience-based training

• Reduction of the theoretical information

• Key skills drill

• Self-confidence

• Continual work with the emotion
First aid – pilot evaluation of the new conception

30 participants of the driving improvement courses were randomly divided into two groups:

Traditional 4 hour conception

Experience-based 16 hour conception
First aid – pilot evaluation of the new conception

Traditional 4 hour conception

Experience-based 16 hour conception

1. Knowledge
2. Skills
3. Performance in a simulated situation.
First aid – pilot evaluation of the new conception

1. **Knowledge**
   - There were six open questions, focusing on the main topics of the first aid. The accuracy of the answers was then evaluated by the trained lector.

2. **Skills**
   - The performance in three basic skills was evaluated by the skilled observer.

3. **Performance in a simulated situation.**
   - There were four main aspects evaluated – the activity, the fastness of the reaction, accuracy of the action and the safety risks awareness.
First aid – pilot evaluation of the new conception

There were six open questions, focusing on the main topics of the first aid. The accuracy of the answers was then evaluated by the trained lector.

1. Knowledge

SCALE 1 – 5 (1 THE BEST; 5 THE WORST)

The performance in three basic skills was evaluated by the skilled observer.

2. Skills

3. Performance in a simulated situation.

There were four main aspects evaluated – the activity, the fastness of the reaction, accuracy of the action and the safety risks awareness.
## First aid – pilot evaluation of the new conception

### Comparison of the level of knowledge (average ratings) – 1= the best; 5 = the worst

<table>
<thead>
<tr>
<th>Type of training</th>
<th>Emergency line number</th>
<th>Desired proceedings on the scene of traffic accident</th>
<th>Internal injury issues</th>
<th>Spinal injury issues</th>
<th>Priority issues - massive bleeding or resuscitation</th>
<th>When do you take casualties outside of the car</th>
<th>Average knowledge rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved Mean</td>
<td>1,00</td>
<td>1,60</td>
<td>1,07</td>
<td>1,07</td>
<td>1,00</td>
<td>1,53</td>
<td>1,2111</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>0,000</td>
<td>0,828</td>
<td>0,258</td>
<td>0,258</td>
<td>0,000</td>
<td>0,516</td>
<td>0,23117</td>
</tr>
<tr>
<td>Standard Mean</td>
<td>2,33</td>
<td>4,00</td>
<td>5,00</td>
<td>5,00</td>
<td>2,33</td>
<td>3,93</td>
<td>3,7667</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1,447</td>
<td>1,000</td>
<td>0,000</td>
<td>0,000</td>
<td>1,952</td>
<td>0,961</td>
<td>0,61978</td>
</tr>
</tbody>
</table>
# First aid – pilot evaluation of the new conception

Comparison of the level of skills (average ratings; 1= the best; 5 = the worst)

<table>
<thead>
<tr>
<th>Type of training</th>
<th>Life functions check - unconscious casualty treatment</th>
<th>CPR - artificial breathing</th>
<th>CPR - chest compression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>Mean 1,20,414</td>
<td>1,60,737</td>
<td>1,07,258</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation ,414</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>Mean 3,67,724</td>
<td>3,47,1,187</td>
<td>2,27,961</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation ,724</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# First aid – pilot evaluation of the new conception

The table below compares the performance in simulated situations:

<table>
<thead>
<tr>
<th>Type of training</th>
<th>Reaction (active - passive)</th>
<th>Reaction (fast - slow)</th>
<th>Accuracy of performance</th>
<th>Safety risks awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>Mean 1.53,743</td>
<td>1.73,799</td>
<td>1.20,414</td>
<td>1.36,633</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation 0.743</td>
<td>0.799</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>Mean 2.73,624</td>
<td>2.53,552</td>
<td>3.47,106</td>
<td>4.60,507</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation 1.624</td>
<td>1.552</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
First aid - pilot evaluation of the new conception

The pilot testing showed remarkable differences in knowledge, skills as well as the competency to act in the simulated situation.

High efficacy in all relevant levels of competency.
First aid as an important issue.

Higher costs.
Lack of qualified trainers.
Lack of research.
First aid - pilot evaluation of the new conception

The pilot testing showed remarkable differences in knowledge, skills as well as the competency to act in the simulated situation.

+ High efficacy in all relevant levels of competency.
First aid as an important issue.

- Higher costs.
Lack of qualified trainers.
Lack of research.
THANK YOU!

Division of Human Factors in Transport and Transport Modelling
Department of prevention, rehabilitation and education in transport (O41)

Lisenska 33a
636 00 Brno
Czech Republic

Veronika Kureckova
veronika.kureckova@cdv.cz
+420 541 641 212
+420 601 355 641