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## **ANALYSIS OF THE CAR FIRST AID KITS OF UKRAINE AND GREAT BRITAIN ACCORDING TO THE NORMATIVE DOCUMENTS**

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*Key words: car first aid kit; first aid; labelling; normative documents*

*Many deaths in consequence of road traffic accidents could be prevented if first aid was given to the victim prior to the arrival of ambulances. This will require the presence of a first aid kit in a vehicle, the contents of which can provide aid in case of road traffic accidents and other injuries. First aid is the aid provided to the person, who suffered from sudden injury or illness. It includes a set of skills that have theoretical support and require some training. Today there are two regulations such as Order No. 187 and DSTU 3961-2000, and there are differences in the contents of the car first aid kit in Ukraine. The normative documents have been studied, and the difference between the contents of the car first aid kits in Ukraine and Great Britain has been determined. A comparative analysis has shown that citizens of Ukraine are more prepared for adverse situations that may arise in case of a road traffic accident. It is shown by the presence of drugs needed in case of emergency, while the British first aid kit contains mostly plasters and bandages. It has been also found that there is a difference in labelling of storage cases.*

Every year hundreds of thousands of people are seriously injured or killed in consequence of road traffic accidents (RTA). Taking into account the increasing number of vehicles such statistics in the future will increase [7, 10]. To prevent this, the General Assembly of UN (dated 02.03.2010) adopted the resolution, which declared the years of 2011-2020 as Decade of Action on Road Safety [6]. It should be noted that many deaths in consequence of road traffic accidents could be prevented if first aid was given to the victim prior to the arrival of ambulances. This will require the presence of a first aid kit in a vehicle, the contents of which can provide aid in case of road traffic accidents and other injuries.

First aid is the aid provided to the person, who suffered from sudden injury or illness. It includes a set of skills that have theoretical support and require some training.

For this purpose the British Red Cross, for example, offers video training sessions on first aid in situations such as heavy bleeding, heart attack, fractures and many others. In training on first aid the teams of St John's Ambulance help to the British. They have a wide variety of training courses, including many sections, throughout the country.

There are countries where one must have the car first aid kit by law, e.g. in Austria, Croatia, Great Britain, and there are countries where its presence in the car is not regulated by law, but highly recommended, e.g. in Belgium, Denmark, and Germany.

The aim of the work was to carry out analysis of normative documents regulating completeness of the car first aid kit in Ukraine and Great Britain, compare and characterize their contents.

### **Materials and Methods**

The contents of the car first aid kit for compliance with the Order of the Ministry of Public Health of Uk-

raine No. 187 dated 07.07.1998 and DSTU 3961-2000 dated 01.07.2000 "Car first aid kit. General requirements" and the EU kit with the contents regulated by the standard DIN13164 dated 01.01.1999, including the car first aid kit of Great Britain by the standard BS8599-2 dated 01.02.2014 have been studied [3, 5, 12].

### **Results and Discussion**

The car first aid kit is a complex of medical devices used to provide first aid to victims of the accident and in the current operation. The list of the contents of the car first aid kit in Ukraine is given in Tab. 1 [4].

According to the Order No. 187 there are two types of kits: car kit-1 – for passenger cars and trucks (up to 9 passengers); car kit-2 – for passenger vehicles – buses (the carriage of more than 9 passengers) [5].

Car first aid kits are manufactured according to DSTU 3961-2000. It should be noted that currently, in the Order No. 187 and DSTU 3961-2000, there are differences in the contents of the car first aid kit regarding the availability of nitroglycerin, bactericidal plasters, scissors, gloves, pins and the amounts of butorphanol tartrate, which are not regulated at the state level [1].

Kits must be enclosed in separate sealed plastic bags, which have an information sticker indicating the purpose of the car first aid kit (car first aid kit-1 or car first aid kit-2); number of the kit, medical products included in the bag, and their number [3].

The state register of medical equipment and medical products includes several producers of car first aid kits:

- Private Joint-Stock company "Viola" pharmaceutical factory, Ukraine;
- Private Joint-Stock company "AV-Farma", Ukraine;
- Limited liability company "Kyiv Pharmaceutical Society", Ukraine;
- Private Joint-Stock company "Eximed", Ukraine [2].

Table 1

## The list of the contents of the car first aid kit in Ukraine

Group	Name	Number	Purpose
Medical products for bleeding control and applying a bandage in injuries	Arresting bleeding tourniquet	1	Applied for temporary hemostasis from vessels in the limbs in the case if the bleeding can not be stopped in other ways
	Sterile bandage, 5 m×10 cm	1	Used for bandaging, fixation of wipes
	Wipes with chlorhexidine, 6×10 cm	2	Applied on an open wound as a pain reliever, have the antiseptic effect
	Styptic wipes with Furaginum 6×10 cm	2	Applied on an open wound as a pain reliever, have a pronounced hemostatic effect
	Sterile dressing pack	1	Consists of a gauze bandage, gauze and cotton swabs. Used for bleeding control
	Plaster in a roll 5 cm×5 m	1	Used for fixation of wipes
	Bactericidal plaster 2.3×7.2 cm	4	Applied in minor skin injuries
	Medical dressing kerchief 50×50 cm	1	Used for fixation of the extremities for fractures, dislocations, as well as for bandaging and for bleeding control
Antiseptics	5% Solution of iodine – 10 ml	1	Provides the antimicrobial and anti-inflammatory action
Analgesics and cardiac medicines	0.2% Butorphanol tartrate – 1 ml in a unit-dose syringe	2	Synthetic opioid analgesic. Effectively prevents a painful shock after injury
	Nitroglycerin 1% in capsules (0.0005) 20 tablets	1	Provides the vasodilatory effect, and is mostly used for relieving pain during angina attacks
Additional medical products	Scissors with blunt ends	1	Used for cutting bandages in the process of bandaging
	Medical gloves No. 8 of polyethylene	1	Used for short time protection of the skin from the aggressive environment
	Film (valve) for artificial ventilation of lungs	1	Used to protect the rescuer and the casualty when carrying out artificial lung ventilation by the "mouth-to-mouth method." Helps to avoid direct contact with mouth, nose (saliva or blood) of the victim
	20% Sulfacyl sodium – 1 ml in a unit-dose syringe	2	Eye drops. Applied to disinfect eyes if they are dirty
	English pins	6	Used for fixation of bandages, kerchief
	Instructions for the car first aid use	1	Used for available and comprehensive information about the application of each component of the kit
	A case for the first aid kit	1	Used for storage

Manufacturers offer two types of packaging for kits: a fabric case (cotton satin weave) or a plastic case.

The car kits under study are marked by these manufacturers and contain information about the purpose (car first aid kit-1, car first aid kit-2); they are not damaged and are fully packaged. Of all the drugs that are in the car kit butorphanol tartrate, nitroglycerin and solution of iodine have shorter shelf life. Because of this fact the recommended shelf life of car kits is 2 years. Such kit components as bandage, tourniquet, dressing kerchief have the longest shelf life – up to five years. Therefore, it is recommended to renew promptly or replace medicines after use or expiration.

In the UK the content of the car first aid kits is regulated by the British standard – BS8599-2 developed by the British Standards Institute (BSI) in 2014. The new national standard for first aid in cars became effective from February of 2014. This document aims to improve safety for all motorists in the UK.

Standard BS 8599-2 specifies the requirements to the content of components of the car kit and is presented in three sizes (small, medium, large). The size of the car kit required for a certain type of a motor vehicle is determined by the size and number of passengers. A small kit BS8599-2 is for moped, motorcycle and all-terrain vehicle (ATV) (maximum 3 passengers). The medium

kit BS8599-2 is for cars, taxis, vans and trucks (up to 8 passengers). The large kit BS8599-2 is for vans (maximum 16 passengers). If the number of passengers exceeds 17 or more, it is recommended to have two large kits BS8599-2. The list of the contents of the car kit in the UK is given in Tab. 2 [12].

There are several rules for labelling. It is allowed to put a white cross on a green background, or a green cross on a white background on the kit. The International Organization for Standards adopted this standard to facilitate the search of the kit for anyone who needs first aid. Sometimes kits are marked by a red cross on a white background, but the use of this emblem is permitted only to the International Committee of the Red Cross [11]. Otherwise it is considered as a violation of the terms of the First Geneva Convention adopted by the European Union.

#### CONCLUSIONS

Today there are two regulations such as Order No. 187 and DSTU 3961-2000, and there are differences in the contents of the car first aid kit in Ukraine. The normative documents have been studied, and the difference between the contents of the car first aid kits in Ukraine and Great Britain has been determined. A comparative analysis has shown that citizens of Ukraine are more prepared for

Table 2

The list of contents of the car first aid kit in the UK

Contents	Small	Medium	Large
Instructions for use	1	1	1
Medium trauma dressing	1	1	2
Large trauma dressing	–	–	1
Triangular kerchief	–	1	2
Bactericidal plaster	5	10	20
Plaster in a roll	–	1	2
Sterile wet wipes	5	10	20
Sterile dressing	–	1	2
Medical gloves – pair	1	2	5
Face shield	1	1	2
Foil blanket	–	1	3
Burn dressing 10×10 cm	1	2	4
Clothing shears	1	1	1

adverse situations that may arise in case of a road traffic accident. It is shown by the presence of drugs needed in case of emergency, while the British first aid kit contains mostly plasters and bandages. It has been also found that there is a difference in labelling of storage cases.

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## **АНАЛІЗ АПТЕЧКИ МЕДИЧНОЇ АВТОМОБІЛЬНОЇ УКРАЇНИ ТА ВЕЛИКОЇ БРИТАНІЇ ВІДПОВІДНО ДО НОРМАТИВНОЇ ДОКУМЕНТАЦІЇ**

**Т.В.Дядюн, С.О.Мамедова**

**Ключові слова:** аптечка медична автомобільна; перша медична допомога; маркування; нормативна документація

Багатьом випадкам загибелі в результаті ДТП можна було б запобігти, якби перша медична допомога потерпілому надавалась ще до прибуття карети швидкої допомоги. Для цього необхідно є наявність у транспортному засобі аптечки медичної автомобільної, вміст якої дозволяє надавати допомогу як у разі ДТП, так і при отриманні травм в інших випадках. Перша медична допомога (ПМД) – це допомога, що надається людині, яка постраждала від раптової травми або хвороби. ПМД включає в себе комплекс навичок, які мають теоретичне підкріплення і вимагають певної підготовки. Встановлено наявність двох нормативних документів, таких як Наказ №187 та ДСТУ 3961-2000, в яких існують розбіжності щодо вмісту автомобільної аптечки в Україні. Досліджено нормативну документацію та встановлено відмінність вмісту автомобільних медичних аптечок України та Великої Британії. Порівняльний аналіз показав, що громадяни України більш підготовлені до несприятливих ситуацій, які можуть виникнути в разі ДТП. Про це свідчить наявність препаратів, необхідних в екстрених випадках, в той час як британська аптечка наповнена здебільшого пластирами та пов'язками. Також встановлена відмінність у маркуванні футлярів для зберігання.

## **АНАЛИЗ АПТЕЧКИ МЕДИЦИНСКОЙ АВТОМОБИЛЬНОЙ УКРАИНЫ И ВЕЛИКОБРИТАНИИ СОГЛАСНО НОРМАТИВНОЙ ДОКУМЕНТАЦИИ**

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**Ключевые слова:** аптечка медицинская автомобильная; первая медицинская помощь; маркировка; нормативная документація

Многих случаев гибели в результате ДТП можно было бы избежать, если бы первая медицинская помощь потерпевшему оказывалась еще до прибытия кареты скорой помощи. Для этого необходимым является наличие в транспортном средстве аптечки медицинской автомобильной, состав которой позволяет оказывать помощь как в случае ДТП, так и при получении травм в иных случаях. Первая медицинская помощь (ПМД) – это помощь, которая предоставляется человеку, который пострадал от внезапной травмы или болезни. ПМД включает в себя комплекс навыков, которые имеют теоретическое подкрепление и требуют определенной подготовки. Установлено наличие двух нормативных документов, таких как Приказ №187 и ДСТУ 3961-2000, в которых существуют расхождения в содержимом автомобильной аптечки в Украине. Исследована нормативная документация и установлено отличие содержимого автомобильных медицинских аптечек Украины и Великобритании. Сравнительный анализ показал, что граждане Украины более подготовлены к неблагоприятным ситуациям, которые могут возникнуть в случае ДТП. Об этом свидетельствует наличие препаратов, необходимых в экстренных случаях, в то время как британская аптечка содержит в основном пластыри и повязки. Также установлено отличие в маркировке футляров для хранения.