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## Review article

# Transport safety at evacuation for people with disabilities

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## ABSTRACT

At the onset of, or during the course of emergency events, when there is danger to life and health, it is necessary to provide protection to the population, and evacuation is one of the basic methods used to provide such protection. In the Slovak Republic, evacuation is legally described as the removal of endangered people, animals or things from a particular area. Any method of transport can be used, and it is clear that the method most often used for evacuation has been road transport. Disabled people present very serious problems and a number of factors impact on their safe and speedy evacuation, the most important of which are the method of evacuation adopted, the type of disabilities, the number of people, the number and type of suitable vehicles, etc. The road vehicles most frequently used are buses, but, although the vehicles are invariably suitable for the general population, only very small numbers are adapted to the needs of disabled people, particularly those with mobility disabilities. This article looks at the issues of risk involved in the selection of suitable vehicles, including ambulances, and the measures which need to be taken to minimize these risks during the process of the evacuation of disabled people.

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## Introduction

Disability often means for sufferers as restrictions on their inclusion in the normal processes of education or work, and at the least, many have difficulty in coping with activities which are for most people just a matter of routine. The same limitations apply also when ensuring their safety in the case of emergency or extraordinary events (EE), due to which it is

necessary to carry out an evacuation. When planning the traffic evacuation of disabled persons as well as during the entire evacuation it is necessary to take into account a number of risks that may endanger the safety and speed of its implementation. These risks are based on the types of disability and the specific conditions that must be met for an effective evacuation, but it is important at this stage of our discussion, to acknowledge the fact that disabled people do need at least consideration of the provision of special help during the process of an evacuation.

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### Safety of people with disabilities in an emergency

The term disability covers a number of different functional limitations occurring in the population of all countries of the world. It is characterized by differing degrees of permanent physical, sensory, mental or intellectual dysfunction [1].

The United Nations definition includes individuals who have long-term mental, mental (intellectual), physical and sensory dysfunctions which in interaction with various other barriers may prevent or hinder their full and effective participation in society on an equal basis with other citizens [1]. Such dysfunctions can be auditory, visual, mental or physical, and at the very least this means that rescuers, in saving lives, will have to cope with mobility issues or problems of orientation, and also people with combinations of various impairments. The number of people affected by diseases of our civilization has increased significantly over the years, perhaps because of improved survival rates, but it is also important to remember that everyone is vulnerable and may in time become disabled, temporarily or permanently. Persons with disabilities may live at home, or in state or private facilities (health or social).

The Convention on the Rights of Persons with Disabilities emphasizes the duty to ensure the protection and safety of persons with disabilities in situations of risk, including armed conflicts, humanitarian emergencies and natural disasters [2] and this includes the safe and rapid evacuation of persons from areas of danger.

For the purposes of planning and arranging evacuation the population can be divided into the following groups [3]:

- children of kindergarten, pupils from primary school and secondary, and children and pupils of other educational establishments;
- mothers and other eligible persons in households with children;
- persons placed in health care facilities, social service facilities and centers of social guardianship;
- people with disabilities in the home with a family member or a person who provides assistance to the disabled;
- the general population.

Traffic evacuation involves the planning, preparation and transportation of evacuees, animals and objects outside the threatened area, and should include the following:

- the type of incident, and its unfolding evacuation (long or short);
- the status and number of evacuees and their readiness to evacuate;
- the number, status and readiness of vehicles;
- the condition of and equipment for entry and exit sites for evacuees;
- specific weather conditions, etc.

An extraordinary event is a serious incident, unpredictable from the point of view of time or space, caused by a natural disaster, technical or technological accidents, operational accidents or intentional acts of man, which causes an unresponsive system on ongoing events and activities, threatening the lives and health of persons, causing loss of material and cultural property or damaging the environment [4]. A graphical description of an EE in accordance with applicable legal standards is shown in [Chart 1](#).

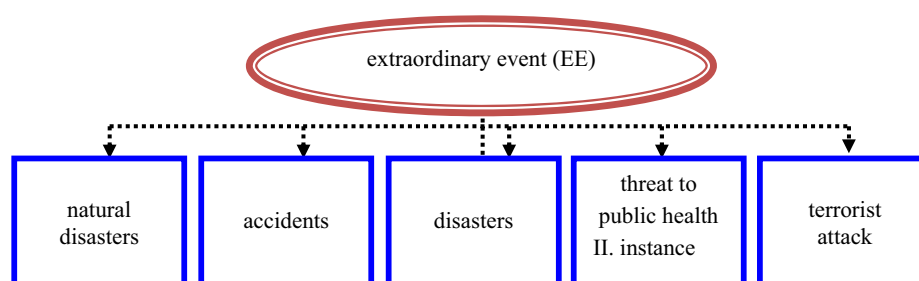
The immediate reaction to an EE always has the character of a rescue. At the formation of EE an evacuation may be declared, short-term with a possible return within 72 h, or long-term with a possible return of evacuees after 72 h.

### Evacuation of persons with disabilities

The evacuation of persons with disabilities should take into account the specific conditions relating to their transportation and everything that goes with it. Firstly, it is important to realize what kind of EE it is and whether an evacuation has been declared.

An evacuation of people with disabilities regardless of whether they are at home or in an institution could be declared in the following circumstances and implemented as indicated:

- a fire in a building, forest or on objects and substances released by burning hazardous emissions (evacuation is carried out around these objects and in the space downwind);
- the release of hazardous air pollutants, such as in a crash in nuclear facilities, terrorist attacks (especially with the use of chemical or biological agents), and when there is a leak of radiation, chemical and biological agents (evacuation from the vicinity of the leak and the area in the wind direction);
- the danger of explosion due to gas leaks, for example, terrorist attacks, fires store explosives' accident in transport,



**Chart 1 – Division of incidents.**

Source: modified according to [5].

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