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REVIEW

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Rescue Glide Use in Emergency Large Animal Rescue

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ABSTRACT

The basis of animal rescue is to transfer an animal from a dangerous place to a safe place with the most appropriate method. The main principle is to use the simplest, safest, and most practical techniques while intervening in an incident, thus reducing the risk of injury to both the castaway animal and rescuers. As a general rule, the more detailed the procedure, the greater the risk to the rescuers' and victim's safety. Emergency rescue operations should optimize both rescuer safety and the victim's prognosis for post-incident recovery. Techniques and special equipment have been developed to rescue large animals more efficiently and safely. These techniques should be known without missing points. One of these rescue procedures is the transport of recumbent animals. This article deals with that transport of movement restricted animals and using the rescue glide, which is a basic procedure used in emergency rescue.

Keywords: animal, emergency rescue, rescue glide

Acil Büyük Hayvan Kurtarmada Kurtarma Kaydırağı Kullanımı

ÖZ

Hayvan kurtarma, bir hayvanı tehlikeli bir yerden güvenli bir yere, en uygun yöntemi kullanarak transfer etmek anlamına gelir. Hayvan kurtarmanın temel ilkesi, en basit, en güvenli ve en pratik teknikler kullanılarak, hayvanın ve personelin yaralanma riskini en aza indirecek şekilde müdahale etmektir. Genel bir kural olarak, prosedür ne kadar ayrıntılı olursa, kurtarıcıların ve mağdurun güvenliği için risk o kadar fazla olur. Acil kurtarma operasyonları hem personelin güvenliğini hem de kazazede hayvanın olay sonrası kurtarma için prognozunu optimize etmelidir. Büyük hayvanları daha verimli ve güvenli bir şekilde kurtarmak için teknikler ve özel ekipmanlar geliştirilmiştir. Bu tekniklerin net bir şekilde anlaşılması çok önemlidir. Bu kurtarma prosedürlerinden biri de yatan hayvanların taşınmasıdır. Bu makalede, yatan hayvanların taşınması ve acil kurtarma operasyonlarında kullanılan temel prosedürler olan kurtarma kaydırağının kullanılması açıklanmaktadır.

Anahtar Kelimeler: Hayvan, acil kurtarma, kurtarma kaydırağı

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INTRODUCTION

Disasters and catastrophies are important part of life. Situations that arise from natural or man-made incidents due to imprudence or unpredictable reasons and threatening health, life or the environment are defined as emergencies (Nikolovski et al. 2016). Emergencies are traumatic impacts with physiological, psychological and socio-economic dimensions and affect animals as much as people affect. In emergencies, people are sensitive to their own well-being. However, animal rescue and welfare work is not at the desired level when animals, our stakeholders in life are exposed to emergencies. It is common to be insensitive about an animal exposed to emergency situations and assume that it can found for itself in difficult circumstances. This is indicative of animal rescue training and equipment, which have been initiated and developed in recent years. Animals are our stakeholders in life and differ from us in that they cannot invent tools or instruments. Therefore, rescuing an animal exposed to emergency conditions by using technical opportunities and practical, safe methods is an area of responsibility for human beings as well as a scientific and ethical task.

Despite disasters and accidents affecting all animals, large, large animals have difficulties in reflexes such as escape, self defense and protection, and these animals require very serious consequences. Large animals often encounter accidents, such as falling into canals, pits, wells, creeks and streams and encounter life threatening risks. Common practices show that animals exposed to similar conditions are subjected to painful primitive methods during rescue efforts. Individuals who have not been trained can often lead to negative situations when they intervene with human emotions to an animal that has been exposed to an emergency. Interventions without regard to posture and animal-specific conditions, which are caused by the emotional state, physiological conditions, accidents, diseases and disasters regarding an animal exposed to emergency conditions and which must be protected, can lead to undesirable situations. Improving animal welfare such as not being timely intervened by a veterinarian or trained personnel exposed to an emergency, disaster or accident, not recovering the animal in a proper manner, using contemporary techniques during evacuation and transport, lifting animal welfare, increasing drowning, (Cengiz 2001), as well as the safety of individuals who want to help the animal. Emergencies, failure of animals exposed to disasters and accidents from interventions by a veterinary surgeon or trained personnel, failure to rescue animals according to proper procedure, failure to use modern techniques during evacuation and transport countermands animal welfare and increases animal losses, manifest serious tableaus such as drowning, cuts, broken and dislocated bones, ischemia, shock (Cengiz 2001**)** and endangers the lives of rescuers who want to help the animal.

Victim or survivor animal must receive treatment by an animal rescue team and subsequently be subjected to first aid. A rescuer with knowledge and experience must deliver first aid. We live in an era in which animal rights awareness and animal welfare practices are important and progressive, therefore, it is important to increase the number and capacity of specialized teams in emergency response (Biricik 2017, Fidan and Biricik 2018). It would be appropriate for veterinary faculties to deliver courses in such situations through protocols developed with relevant civil society and public organizations as well as include animal rescue and first aid in compulsory or elective curricula in 'Emergencies, Animal Rescue and First Aid.

Rescue operations require both the safety of the rescue team and well-managed post-event rescue and transport. Appropriate rescue procedures can be achieved through an organized approach between veterinary surgeons and other emergency response specialists (Biricik and Aksoy 2018).
The process starts with notification followed by first aid, transport, necessary treatment and rehabilitation and continues until the animal is fit to resume its normal life (Çakır et al. 2016). During this process, the equal importance of transport as well as rescue is manifested. The transport management of the injured animal is affected and varies as a result of numerous factors such as the number of injured animals, the species of the animal, the size of the injury, the health status of the rescued animal, the accessibility of the incident area as well as distance from health organizations (Nikolovskı et al. 2016).

As a different dimension of animal rescue, the use of rescue glides as an important rescue equipment in the transport of animals that cannot walk or stand up due to various reasons is addressed and technical information about application are given.

Transport in Animal Rescue

Transport which means to take something from one place to another, is an important part of first aid and animal rescue. The main objective of animal transport is to remove the victim from its current environment safely and deliver it to a health institution in the most appropriate way. Stabilization of the sick or injured animal is

ensured after first aid at the scene and subsequently it is delivered to the nearest health institution. When these procedures are carried out, the life of the animal and the first aid personnel should not be at risk and necessary precautions must be taken. Deciding how to transport the animal to the transporter once you are as confident as possible about the homeostasis of the victim's organism and using the equipment correctly and effectively during this procedure and acting according to the animal's physiological conditions and body mechanics are important parts of the transport procedure (MEB 2011, Çakır et al. 2016, Biricik 2017).

Transfer of the sick or injured animal takes place in three stages. 1) Removal of the animal from the site and transport to the ambulance (onsite transport). 2) Transfer of the animal taken to the ambulance to the health facility from the scene (primary transport). 3) Transportation of animals between health facilities (secondary transport) **(**MEB 2011). Every emergency situation has its own characteristics. Therefore, every situation for the transfer of animal must be assessed within itself and the method necessary for the transfer of the animal should be selected taking into consideration the basic principles. The method is determined according to the possible danger that could develop at the incident scene or the presence of hazardous substances, the ability of the personnel, the situation of the land and most importantly the status of the animal. Under normal conditions it is necessary to move the animal after stabilization at the scene. However, if there is a danger to the animal and the personnel, it is necessary to immediately remove the animal from the setting and take it to a safe place in case of unexpected and sudden developments such as disaster or accidents (MEB 2011).

The location where the incident has taken place may not always be easily accessible. An emergency may have occurred in a place that is difficult to reach, such as riverside, swamps, wells, inside vehicles, mountainous terrain, slopes, cliffs. In such cases, rescuing the animal from the conditions it requires special equipment and technical knowledge. The basic principle of animal rescue is to intervene with the most simple, safest, fastest, and most practical techniques to minimize the risk of injury to the animal and personnel. As the details of procedure and the number of required equipment increase, the safety risk to the animal and the personnel increases and the process becomes cumbersome and slow. For a successful rescue operation, it is important to provide a safe rescue medium for animals and personnel, to avoid iatrogenic injuries that cause permanent dysfunction or prolonged healing time and ensure that the staff at the scene are working with a team spirit (Gimenez et al. 2002).

Some basic principles for the transport of sick or injured animals are listed below (MEB 2011).

- Before deciding on how to transport the animal, an incident scene assessment shall be carried out to check for other possible hazards such as fire, explosion and necessary measures shall be taken.
- The injury status and area, the state of consciousness of the sick or injured animal shall be assessed.
- Stabilization of the animal, first aid before transport, the position of the victem during transport and the method of transport shall be planned within the available technical means.
- The most appropriate method for the transport of the animal is determined.
- The transport method is usually determined according by the clinical status of the victim, the distance of the incident scene to the nearest health facility, geography and available means.
- The transport is executed in an organized and unhurried manner.
- The animal is moved as little as possible during transport.
- The emergency relief team should know their capabilities and abilities. Necessary and appropriate equipment should be used during the transport process and applications which endanger the lives of the victim or the lives of the personnel.

Transport of Recumbent Animals

Small animals are also exposed to natural disasters and accident-based emergencies, but their small size facilitates recovery and transport. The difficulty of the rescue and transport of large animals is commensurate with their size, which is important in terms of process safety and success. Therefore, special equipment and technical know-how are needed to rescue all animals and especially for large animals. Large animals are often incapable of getting up after they have encountered a natural disaster or accident. This situation makes it difficult to transport recumbent animals. Transporting the animal safely from the incident scene to the ambulance, putting it into the ambulance, transporting it safely in the ambulance and countering all requirements is important for the transport.

First aid teams may be able to stabilize the animal at the scene; however transporting the animal in geographically difficult areas may be problematic. Problems such as the animal's current health condition, ability to walk, to stand or recumbency

and inability of the ambulance to access the incident scene due to geographical challenges are frequently encountered. Under the circumstances, the well-intentioned but erroneous behavior of those at the scene can endanger the lives of the animal as well as themselves. In such cases, technical personnel who can deal with the event and the necessary equipment must be available in the emergency call center. Therefore, the fire brigade and AFAD should provide necessary training to their personnel. It should not be forgotten that the basic principle of animal rescue is to intervene in the simplest, safest and least technological approach in a way with the least risk of injuring the animal and the personnel. Consequently, a simple and reliable method, which does not pose a threat to the health of the animal and personnel during transport of the animal from the incident scene to the ambulance, should be preferred. The role of veterinarian is rather important at this stage. When the decision to transport a sick or injured animal to the nearest health facility from the scene of the incident is made, the veterinarian has to organize the safe loading, transport and unloading of the animal. At this stage, the veterinary surgeon is not only responsible for the safety of the animal but the staff as well. It is always possible that the sick or injured animal develops a defense reflex that can cause harm. A veterinarian knows what reactions animals are capable of and is the person to take immediate measures at the scene. Therefore, efforts should not be made to transport the animal until it is calmed down and sedated under the control of a veterinarian. The animal must be under sedation before transport to avoid further injury during transport. The sick or injured animal's neurological and cardiovascular status should be carefully assessed before sedation or anesthetic protocol is selected. The equipment required to load the animal into the ambulance must be prepared and mounted before the animal is sedated. Once the necessary equipment is ready, sedation should be applied (Gimenez et al. 2002, Mccue et al. 2004, Biricik and Aksoy 2018).

The equipment to be used for transporting a recumbent animal with rescue glides is shown in Figure 1 below. These equipments should be prepared and mounted before the process.

Figure 1: 1. Rescue Glide (Anonymous 2018a:); 2. Glide Slip and J Hook for Glide Slip (Anonymous 2018b:); 3. Recovery Hood (Anonymous 2018c:); 4. Strap (Anonymous 2018d:); 5. Red Line Rescue Grade Nylon Rope (Anonymous 2018e); 6. Heavy Duty Ratchet Strap (Anonymous 2018f); 7. Fleece Pads For Ratchet Strap Comfort (Anonymous 2018g); 8. High Strength Nylon / Velcro Head Strap (Anonymous 2018h); 9. Nylon Hobbles (Anonymous 2018i); 10. Rescue Grade Heavy Duty Pulley For Nylon Rope (Anonymous 2018k); 11. Carabiner (Anonymous 2018l).

The procedures to be carried out during transport after the post-sedation phase are listed as follows (Gimenez et al. 2002, Gimenez et al. 2009, Leighton and Staples 2010,Thompson et al. 2015, Anonymous 2018m, Anonymous 2018n, Anonymous 2018o).

1. Even though the animal has been sedated, care must be taken against possible defensive reflexes when holding the animal's limbs. Since the animal will not be transported without being fully stabilized in the proper posture, the animal must be approached from the dorsal side and the extended limbs of the animal up to 45-degree angles should be avoided. This is important for the safety of the staff.

2. A recumbent animal must be fitted with recovery hood before transporting it to the ambulance as shown in Figure 2. Recovery hood designed to protect the heads of large animals is padded and designed for use during rescue operations or post-operative use. It can be used for rescue of large bulky animals, for protection during transport of injured animals or during recovery from some neurological conditions.

Figure 2: Protective headgear on a recumbent animal

3. Dragging sideways is the most practical and effective way of correctly positioning the animal on the rescue glide. Once the protective headgear has been fitted on the head of the sedated animal, a part of the glide slip, if any, is moved underneath the animal towards the back of the front legs, and the part underneath is moved over the animal towards the rear. This makes it easier to move the animal onto the Rescue Glide. During these operations, the J hook for Glide Slip can also be used (Figure 3). If there is no rescue glide, large plastic or woven belts or fire hoses can be used to carry out this operation. This will allow the recumbent animal to be moved safely.

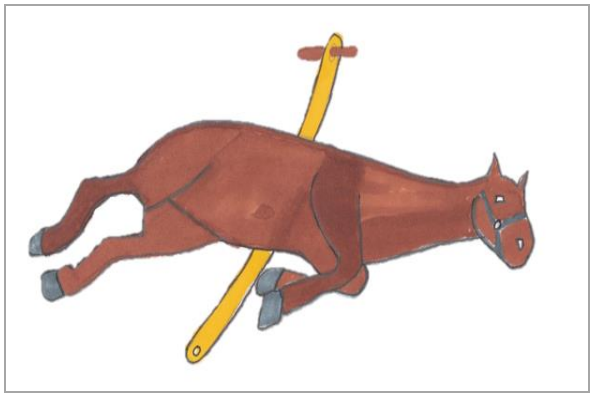

Figure 3: Using the Rescue Glide

4. The rescue glides is advanced underneath the dorsal part of the recumbent animal. By using the glide slip or wide straps, the animal is pulled over the animal rescue glide by lifting the animal's head and tail and pulled onto the glide (Figure 4). Necessary precautions shall be taken to prevent the slide from bending during pulling. During this process a staff member must always keep the animal's head in check. A rescue glide is a device used to remove a sick / injured animal on dry ground from the scene to be loaded into an ambulance. It is made of steel brackets with recessed bolts on the top and bottom for a smooth surface and is made of slip-promoting material such as soft Teflon or polyethylene. It usually measures 1.2 m x 2.4 m x 6 mm and modular joints can be made for the transport of larger animals. When the ring in the front is tied to a large pulley, the glide can be pulled into the ambulance with the animal.

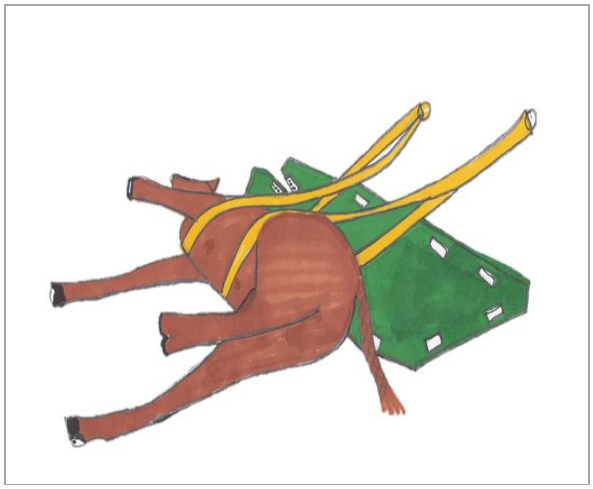

Figure 4: Hoisting an Animal onto the Rescue Glide

5. After being pulled onto the glide, the animal must be fixed on the slip. It is beneficial to use 2 ratchet straps when fixing the animal pulled onto the rescue glide. When attaching the strap to the rescue glide, the position to be taken is behind the animal's feet, the side with the feet must be

avoided. One of the ratchet belts is placed behind the front feet, both ends of the belt are passed through the holes on the glide, the ratchet belt is stretched until the sides of the rescue glide start to lift, and then it is fixed. However, an overly stretched strap can harm the animal. Therefore, felt pads are used to prevent the belts and the ratchets from harming the animal. The second ratchet strap is placed in front of the rear legs of the animal (Figure 5). An important issue here is that tightening a belt can cause the other one to loosen. Consequently, both belts must be checked for tightness and maintained that way.

Figure 5: Fixing the animal on the rescue glide

6. The next step is to fix the animal's legs. For this, the animal's feet must be tied to with a foot strap, pulled towards the body, and fixed. To do this, a staff member must position the animal's legs with the rescue hook without getting too close to the animal. Even if the animal is sedated it can kick spasmodically, so when the legs are fixed, a staff member approaches the back of the animal and ties the front legs first with foot ties and then the hind legs to each other. A rope is then passed through the rings on the foot ties after which the front and hind legs are bent and pulled as close to the body of the animal as possible with the help of the pulley and carabineer and the rope is fixed by passing it through the empty hole in the rescue glide (Figure 6). Felt pads should be used so that the equipment used during this process does not harm the animal. An important issue here is whether the animal has any injuries on its legs and feet. If the animal's leg is injured, only the uninjured legs are tied with the foot strap and the injured leg is left free, the injured leg is treated with bandages, splints, etc. During this process, the animal's tail must be positioned on top of the animal and tied with a strap to prevent it from getting caught in the rescue glide. The placement and fixing of a protective pad or pillow underneath the animal's shoulder is another important issue that must be accomplished prior to transport. If these procedures are carried out correctly, the animal is fixed on the glide.

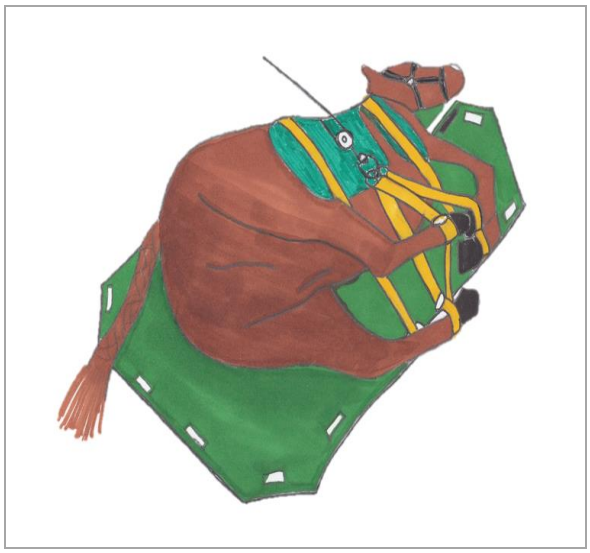

Figure 6: Fixing the Animal's Legs

7. Once the animal is fixed onto the glide it is ready to be moved. A rope is passed through the ring at the front of the glide and the glide is pulled while keeping the animal under control. In case the glide needs to be moved uphill, measures must be taken to prevent the animal from slipping backwards on the slide. Approaching the ambulance, the rope tied to the front of the glide is passed through the ring in the ambulance and the glide is loaded into the ambulance by pulling the glide into the ambulance manually or by means of a pulley (Figure 7).

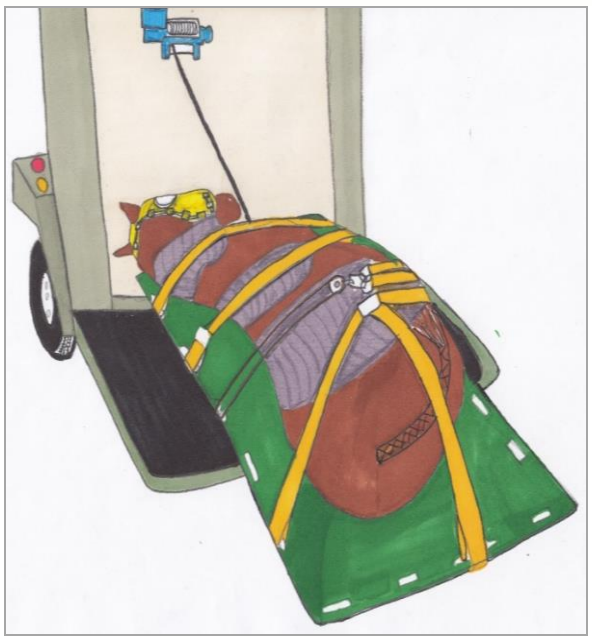

Figure 7: Moving the animal to the ambulance with rescue glides

8. After the animal is loaded into the ambulance, its posture is corrected and the animal is brought into a comfortable position. In order to protect this position, straw bales or other non-traumatic suitable materials are placed around to create a stable and safe environment.

CONCLUSION

Principle of whole times in animal rescue is to use the safest, the fastest, the most practical and easy techniques and equipments. Because rescue is against time. In this process, it is important to protect the homeostatic balance of the animal, prevent the deterioration of physiological and biochemical markers, and observe the safety of personnel. Experienced staff and appropriate equipment are essential to reduce the vital risks of animals and personnel to the minimum and for maximum safety, but to make them all so fast. For this reason, the most appropriate way to intervene in rescue and transport operations is to be sought and found as an option. The other important issue is personnel compliance and team work for rescue and transfer operations. A highly coordinated workflow is essential for emergencies. It is necessary to work quickly without forgetting that the race is against time, but without panic. It is important for the safety of the personnel to stand out from the hoof of the animal during restoration and transportation, to avoid the animal's mouth area which is prone to bite, to prevent the animal's claws which are known to be effective in this regard. Safety requirements should not be relaxed throughout the process. The vitality and health conditions of the animal should be constantly monitored. In order to complete the transfer process successfully, the capturing rapt, tightening of the loose belts and other fixing measures must be carried out without compromise. . This study is on the transport of restricted animals and the use of the rescue glide. Using rescue glide is the most important step for saving the animal health and staff safety in large animal rescue operations. For this reason, the article is an update that includes information, suggestions and techniques that can help researchers and institutions working on large animal rescue. .

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