Emergency Transport System

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Technology description

A new patient transport system that addresses all the major flaws found in currently used backboards for patient transport.
Using this innovative device, patients can be rolled into a comfortable transport system, without sliding them, which reduces the risk for injury. This system also accommodates large and small patients on a compact backboard. Furthermore, there is no need to slide the patient onto a hospital bed, when using this device. This transport system has innovative features that allow the loading procedure to be reversed without moving the patient.

Background

Ambulances transport about 5 million injured patients each year in the United States. Although only a few of these patients have neck or back injuries, an injury often cannot be ruled out; therefore full spinal immobilization is done. This includes a hard cervical collar that is placed on the patient who is then rolled onto their side and slid to the middle of a board, where they are then tied down for transport. Unfortunately, this current system has several well-known flaws. The cervical collar makes access to the neck difficult and pushes the jaw shut. This makes it very difficult to manage the airway, intubate the patient if necessary or even clear the airway if the patient vomits while tied on their back. It also stretches the cervical spine and concentrates any forces on the upper and lower levels. A hard board is painful and can cause decubiti. Since the board needs to be slippery so that the patient can be slid to the center, the patient must be firmly strapped down for transport. This restricts breathing and increases the risk of pressure injury. These are such serious problems that paralyzed patients are immediately placed onto a thick mattress as soon as their injury is diagnosed in the hospital. Backboards are also, “one size fits all”. This means that they do not fit either obese or small patients very well. This again means that the straps must be tight to restrain movement.
A current market need exists for a patient transport system that is sturdy and comfortable, not slippery or hard, yet allows the patient to be easily placed on it. A transport system that also protects the patient from the forces generated by the moving ambulance, without tightly binding them, while leaving the neck exposed to allow for easy access to the mouth if needed, is also ideal.

Technology Description

Researchers at the University of New Mexico have developed a new patient transport system that addresses all the major flaws found in currently used backboards for patient transport. Using this innovative device, patients can be rolled into a comfortable transport system, without sliding them, which reduces the risk for injury. This system also accommodates large and small patients on a compact backboard. Furthermore, there is no need to slide the patient onto a hospital bed, when using this device. This transport system has innovative features that allow the loading procedure to be reversed without moving the patient.

Application area

Device can be padded comfortably, reducing the chance of causing additional injury
The back of the head is designed to fit into a padded depression which makes it comfortable and helps reduce movement
Device has innovative components that can make the system wider, allowing for accommodation of different sized patients with ease
No collar is used and full access to the neck and mouth is maintained
Used for emergency medical situations, ambulance services or paramedic services

Institution

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