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(54) **Pediatric backboard**

Pädiatrisches Rückenbrett

Panneau arrière pédiatrique

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Description

[0001] The present invention relates to a backboard for total immobilization of injured patients (children and teenagers) before or during ambulance transportation.

[0002] A backboard is provided in the art that has two support surfaces only: a main rigid surface that is large enough to receive the body and back of a teenager patient; a second surface, lower than the former, that is designed to receive the head of a child.

[0003] One drawback of the prior art mainly consists in that only small patients can be properly positioned without damages to the spine.

[0004] It is known that the more the child is small the more his/her body, and especially his/her head of small children is prominent.

[0005] The muscular bundles of the neck are not developed enough to protect it from injuries caused by improper positioning and wrong immobilization.

[0006] US4757811 discloses a self contained infant restraining device used for performing cardiopulmonary resuscitation or other emergence treatment on a patient up to 2 years old. The device has two sections which are normally attached together by use of latches. Top section is used to carry and restrain the infant's body. Bottom section contains drawers which are used to carry drugs, medical supplies and instruments for treatment of the infant patient. The top section may be quickly released from bottom section if the user wants to make top section lighter and more portable. The infant's body is placed in indentation of the top surface and securely restrained by a plurality of straps using hook and pile fasteners. The infant's head is restrained in head indentation which is equipped with two small sand bag pillows attached to indentation by hook and pile fasteners.

[0007] US4757811 does not reveals a second and opposite surface terminating with two different levels for head supporting.

[0008] Another drawback is that an incorrect position of the child's head partly hinders breathing. This might cause poor oxygenation of tissues and organs of the patient body, and hence irreversible damages or even death of the patient.

[0009] The object of the present invention is to solve the above problem, while allowing immobilization of four types of patients in one solution:

- children aged less than 5 years;
- children aged from 5 to 10 years;
- patients older than 10 and 15 years;
- teenager patients.

[0010] Age ranges shall be obviously intended empirically; the rescuer will have to select which surface to use according to the type of patients to be immobilized.

[0011] The apparent advantage of the device of the present invention is that it provides a backboard that can meet four different situations while having the same size

as the pediatric backboard with two support surfaces. This is of critical importance in a medical rescue vehicle.

[0012] Another advantage is that it optimizes breathing of the patient immobilized on said device and causes irreversible damages or even death in case of children.

[0013] These objects and advantages are fulfilled by a pediatric backboard according to the present invention, which is characterized by the annexed claims.

[0014] This and other features will be more apparent upon reading of the following description of one preferred embodiment, which is shown by way of example and without limitation in the accompanying drawings, in which:

- Figure 1 is a side view of the pediatric backboard of the present invention;
- Figure 2 is a top view of the pediatric backboard;
- Figure 3 is a bottom view of the pediatric backboard.

[0015] Referring to the Figures, numeral 1 designates the main rigid support surface for immobilization of a teenager patient.

[0016] At the two ends, the head support surface 1a is coplanar with the surface 1, the surface 1b for the head of a smaller patient is lower than the surface 1.

[0017] Numeral 2 designates the adjacent surface opposite to the surface 1, terminating at its ends with the surface 2a and the surface 2b at two different levels lower than the surface 2.

[0018] Numeral 3 designates the six apertures at the sides of the board for the passage of the adjustable restraint straps.

[0019] The operation of the device of the present invention will be described below with reference to the numerals of the figures.

[0020] According to his/her age, the patient to be carried is laid on the surface 1 or the surface 2 of the pediatric backboard.

[0021] Upon neutral alignment of the head with the spine, the patient is secured to the board by passing the adjustable straps through the apertures (3) at the sides of the board.

[0022] The backboard as described above allows accommodation of patients of four age ranges for proper cervical positioning.

[0023] For proper positioning of a head restraint and proper surface selection, a cuff may be added, not shown, which is equipped with self-adhesive tear tapes for fixation of such head restraint.

Claims

1. A pediatric blackboard for immobilization of children or teenagers patients, **characterized in that** it comprises two adjacent and opposite support surfaces (1) and (2):

- said surface (1) being rigid and large enough

to receive the body of teenager patients; said surface (1) terminating at the two ends with a head support surface (1a) coplanar with the surface (1) and a head support surface (1b) placed lower than the surface (1);

- said opposite surface (2) being rigid for receiving the body of a child; said support surface (2) terminating at its ends with two head support surfaces (2a) and (2b) both placed at two different levels lower than surface (2) ;

according to his/her age, the patient to be carried is laid on the surface (1) or the surface (2) of the pediatric backboard for proper cervical positioning.

2. A pediatric backboard as claimed in claim 1, **characterized in that** the board has elongate apertures (3) through which restraint straps are passed and fixed for securing the body of the patient to be carried.
3. A pediatric backboard as claimed in claim 1, **characterized in that** it has a cuff equipped with self-adhesive tear tapes for proper positioning of a head restraint and selection of the surface.

Patentansprüche

1. Eine pädiatrische Rückwand zur Immobilisierung von Kindern und Jugendlichen Patienten, **dadurch gekennzeichnet, dass** sie zwei benachbarte und gegenüberliegende Stützflächen (1) und (2) umfasst:

- wobei die besagte Oberfläche (1) starr und groß genug ist, um den Körper von Jugendlichen Patienten aufzunehmen; wobei die besagte Oberfläche (1) an den zwei Enden mit einer Fläche einer Kopfstütze (1a) endet, die koplanar mit der Oberfläche (1) und mit der Oberfläche einer Kopfstütze (1b) ist, die niedriger als die Oberfläche (1) angeordnet ist;

- wobei die besagte gegenüberliegende Oberfläche (2) starr ist, um den Körper eines Kindes aufzunehmen; wobei die besagte Stützfläche (2) an ihrem Ende mit zwei Oberflächen (2a) und (2b) einer Kopfstütze endet, die beide auf zwei verschiedenen Ebenen niedriger als die Oberfläche (2) angeordnet sind;

je nach Alter, wird der zu tragende Patient entweder auf der Oberfläche (1) oder der Oberfläche (2) der pädiatrischen Rückwand für eine korrekte Positionierung seines Halses gelegen.

2. Pädiatrische Rückwand nach Anspruch 1, **dadurch gekennzeichnet, dass** die Rückwand längliche Öffnungen (3) aufweist, durch welche Rückhaltungs-

streifen hindurchgeführt und festgehalten werden, um den Körper des zu tragenden Patienten zu befestigen.

3. Pädiatrische Rückwand nach Anspruch 1, **dadurch gekennzeichnet, dass** sie einen mit selbstklebenden Aufreißbändern ausgestatteten Armband für eine korrekte Positionierung einer Kopfstütze und Auswahl der Oberfläche, aufweist.

Revendications

1. Panneau pédiatrique pour l'immobilisation des patients enfants ou adolescents, **caractérisé en ce qu'il** comprend deux surfaces de support adjacentes et opposées (1) et (2) :

- ladite surface (1) étant rigide et suffisamment grand pour recevoir le corps des patients adolescents ; ladite surface (1) terminant aux deux extrémités avec une surface de support de tête (1a) coplanaire avec la surface (1) et une surface de support de tête (1b) placée plus bas que la surface (1) ;

- lesdites surfaces opposées (2) étant rigides pour recevoir le corps d'un enfant ; ladite surface de support (2) terminant à son extrémité avec deux surfaces de support (2a) et (2b) toutes les deux placées à deux niveaux différents plus bas que la surface (2) ;

selon son âge, le patient à porter est déposé sur la surface (1) ou sur la surface (2) du panneau pédiatrique pour une positionnement correct du col.

2. Panneau pédiatrique selon la revendication 1, **caractérisé en ce que** le panneau présente des ouvertures allongées (3) à travers desquelles des bandes de retenue sont passées et fixées pour fixer le corps du patient à porter.

3. Panneau pédiatrique selon la revendication 1, **caractérisé en ce qu'il** présente un brassard équipé de bandes d'arrachage auto-adhésives, pour un positionnement correct d'un appui-tête et une sélection de la surface.

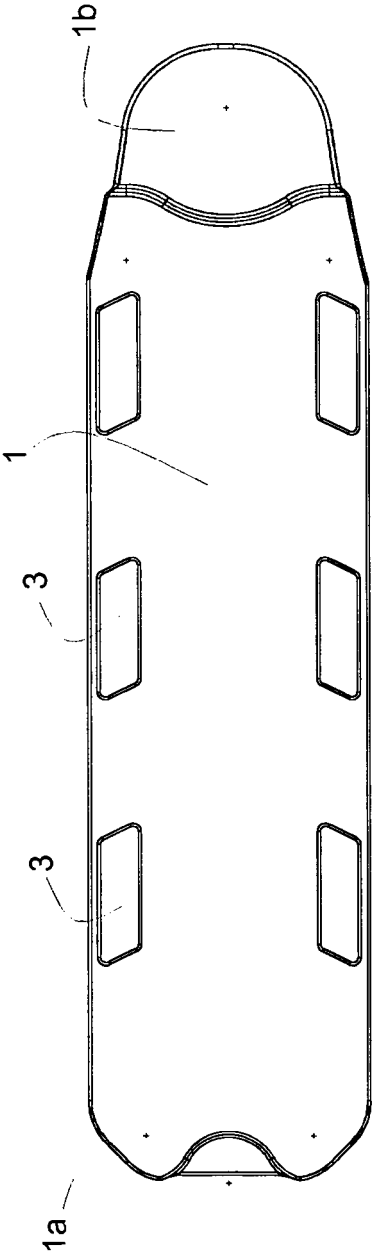


FIG. 3

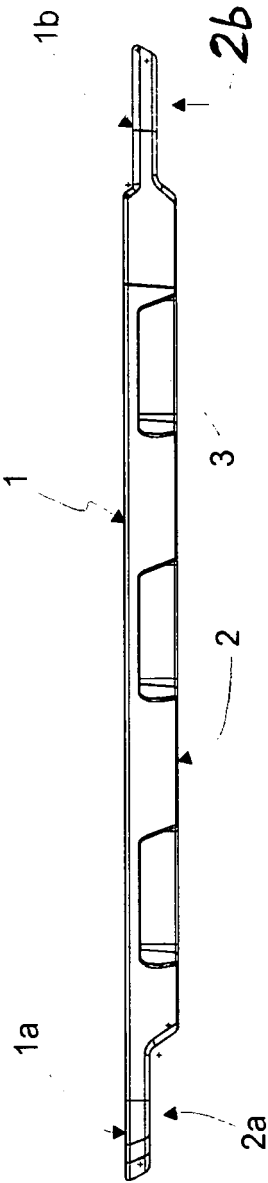


FIG. 1

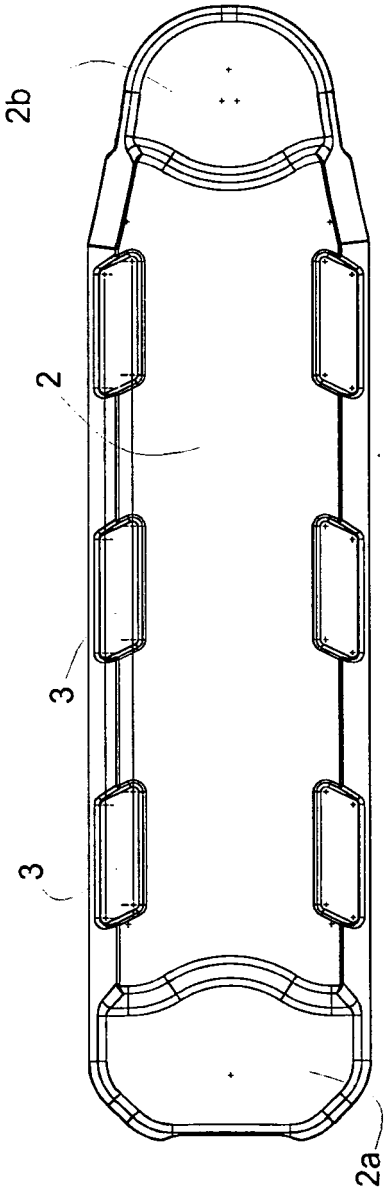


FIG. 2

REFERENCES CITED IN THE DESCRIPTION

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