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Standard Guide for Characteristics for Extremity Splints[1]

This standard is issued under the fixed designation F 1555; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

The objective of this guide is to begin to address the recognized need to support and immobilize the injured extremity. Although this guide does not quantitatively address performance standards for this device, it does address the characteristics of the device(s) used to provide support and immobilization of the extremities in a patient suspected of receiving trauma to that portion of the body.

1. Scope

1.1 This guide covers minimum standards for devices, designated here as extremity splint(s) (ES), commonly known as splints. Extremity splints are designed to be used for the immobilization of an extremity by emergency medical service personnel.

1.2 This guide does not identify specific degrees of limitation of motion achieved by placement of a extrication device (ED) on a patient. Definitive requirements for immobilization of extremities in the out of hospital environment, and, in particular, the degree of limitation associated with the use of an ED in the out of hospital setting, has not been established in the medical literature.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

F 1177 Terminology Relating to Emergency Medical Services[2]

2.2 *Centers for Disease Control Standard:*

Guidelines for Prevention of Transmission of HIV and HBV to Healthcare and Public Safety Workers[3]

2.3 *OSHA Standard:*

29 CFR 1910.1030 Occupational Exposure to Bloodborne Pathogens; Final Rule[4]

3. Terminology

3.1 *Definitions:*

3.1.1 *extremity(ies)*—limb; arm or leg.

3.1.2 *extremity immobilization*—immobilization of the injury site and its contiguous proximal and distal joints or bones.

3.1.3 *retention system*—a retention system is an adjunct to, or an integral part of a device that allows the device to be securely attached to the patient, used in whatever configuration and size necessary to accomplish the goal, while still allowing reasonable and necessary access to the patient.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *directions of movement*—movements include flexion, extension, rotation, distraction, lateral motion, and axial compression motion.

3.2.2 *extremity splint*—a device that can be secured to the extremity that will maintain the position and limit motion of the extremity.

3.2.3 *immobilization*—limitation of motion.

3.2.4 *pneumatic devices*—devices utilizing air pressure or vacuum to limit the motion of an extremity.

3.2.5 *traction device*—a device that aligns the extremity and limits its motion.

3.3 For definitions of other terms used in this guide, refer to Terminology F 1177.

4. Significance and Use

4.1 The intent of this guide is to identify characteristics that an ES should possess.

4.2 Varied clinical situations may require differing combinations of devices for adequate extremity immobilization, including traction or pneumatic devices, or both.

4.3 A device intended for use with adult patients shall accommodate the 95th percentile adult American male.

4.4 Devices that are labeled as intended for pediatric use shall not be required to accommodate adult patients.

[1] This guide is under the jurisdiction of ASTM Committee F-30 on Emergency Medical Services and is the direct responsibility of Subcommittee F30.01 on EMS Equipment.

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[2] *Annual Book of ASTM Standards*, Vol 13.01.

[3] Available from Centers for Desease Control, Atlanta, GA 30333.

[4] Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.