

DRAFT

**Healthcare Recipient Sling and Lift Hanger Bar  
Compatibility Guidelines**

For Posting for Public Comment

June 15, 2015



American Association for  
Safe Patient Handling & Movement

Reference citations will be incorporated into the guidelines after the public comment period

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## GUIDANCE FOR PUBLIC COMMENT

The American Association for Safe Patient Handling and Movement (AASPHM) Sling Safety Committee is seeking public comment on the draft **Healthcare Recipient Sling and Lift Hanger Bar Compatibility Guidelines**.

This document contains proposed guidelines and related definitions for the proper use and care of healthcare recipient sling and lift hanger bars. Reference citations will be incorporated into the guidelines after the public comment period.

After completion of the public comment period, a final version will be published and be made available from the AASPHM.

The Sling Safety Committee requests your overall feedback of the:

- ❖ Scope of the guidelines, specifically whether they are universal, inclusive and applicable to all environments where healthcare recipients are moved and lifted with equipment such as lifts and slings
- ❖ Content and terminology of the document guidelines
- ❖ Recommendations for refinement.

**Comments must be received by 5pm ET on Friday, August 14, 2015.** For questions or technical issues, please email [info@asphm.org](mailto:info@asphm.org)

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## 1 I. INTRODUCTION

### 2 Purpose

3 The goal of these guidelines is to provide information and recommendations about the compatibility  
4 of healthcare recipient\* slings and lift hanger bars. These will assist healthcare facilities and  
5 organizations, healthcare workers, sling and lift manufacturers, and retailers to facilitate safe use of  
6 slings and lift hanger bars in any setting where healthcare recipients are lifted, moved and mobilized.

7 The guidelines offer a framework for reducing the risk of incorrect use of slings and lift hanger bars  
8 by healthcare workers through standardization of the design, inspection practices, use, and care of  
9 healthcare recipient slings.

10 The Sling Safety Committee envisions these guidelines will be adopted by healthcare organizations,  
11 regulators, manufacturers, professional associations and end users to improve the quality and safety  
12 of care, and prevent injuries among healthcare workers and healthcare recipients in the United  
13 States.

14 These guidelines are based upon:

- 15 1) Existing international standards for design of healthcare recipient slings and lifts; i.e., the  
16 International Organization for Standardization (ISO) 10535:2006 Hoists for the transfer of  
17 disabled persons — Requirements; and test methods and design requirements for healthcare  
18 recipient lifts by the Food and Drug Administration (FDA);
- 19 2) Guidelines and standards from building, equipment and professional organizations such as  
20 the American Nurses Association (ANA);
- 21 3) Review of mandatory reports to the FDA via the Manufacturer and User Facility Device  
22 Experience (MAUDE) database;
- 23 4) Articles published in peer reviewed journals;
- 24 5) Expert opinion based upon safe patient handling and mobility practices;
- 25 6) A survey of manufacturers, retailers and users of healthcare recipient slings and lifts that was  
26 conducted by the AASPHM Sling Safety committee from 2013 to 2014.

27 \* In the context of this document a healthcare recipient is an individual who is receiving healthcare in any  
28 healthcare facility or setting such as a hospital, rehabilitation, long & short term care, assisted living facility, or  
29 home environment.

## 30 Background

31 As the design of healthcare recipient lift equipment and slings has evolved and potential for use has  
32 increased in healthcare settings across the continuum, there is an increasing concern related to the  
33 unintended misapplication of lifts and slings by healthcare workers. This unintended misapplication  
34 may result in incompatibility and thus unsafe use of a lift with a healthcare recipient.

35 One unintended application is the use of a sling that may not be compatible with a lift hanger bar,  
36 creating an unsafe situation.

37 In 2012, in an effort to provide guidance related to safe use of healthcare recipient lifts and slings,  
38 the Food and Drug Administration (FDA) published a list of best practices to their [Medical Devices](#)  
39 [webpage](#).

40 However, based on questions fielded from its members, lift and sling vendors, and other safe patient  
41 handling professionals, the AASPHM concluded that the FDA guidance document created  
42 confusion with its statement, “A sling must be approved for use by the healthcare recipient lift  
43 manufacturer.” This statement does not state that the sling must be made by the same manufacturer  
44 as the lift. In addition, the FDA guidance is not a ‘standard.’ The FDA regulates only the mechanical  
45 lifts, not the slings used in conjunction with the lifts.

46 As a result of a 2013 AASPHM stakeholder meeting ‘Lifts and Slings: Can You Mix and Match?’ at  
47 the National Safe Patient Handling and Movement Conference, a collaborative interdisciplinary  
48 workgroup of key stakeholders was organized. The workgroup conducted a review of existing U.S.  
49 and International standards, guidelines and medical device reports related to the compatibility and  
50 safe use of healthcare recipient slings with lifts to develop the industry guidelines on sling and lift  
51 hanger bar compatibility in the U.S.

52 A second stakeholder meeting was conducted at the National Safe Patient Handling and Movement  
53 Conference in Orlando, FL in March 2014. The initial research findings and preliminary  
54 recommendations of the workgroup were presented and feedback was solicited from attendees. The  
55 workgroup continued to refine the draft ‘*Healthcare Recipient Sling and Lift Hanger Bar Compatibility*  
56 *Guidelines*’ document after this meeting.

## 57 II. DEFINING SLINGS AND HANGER BARS

58 This section describes common types of slings and hanger bars.

59 This list is not all inclusive. Types of slings and names for slings may differ among manufacturers  
60 and healthcare settings.

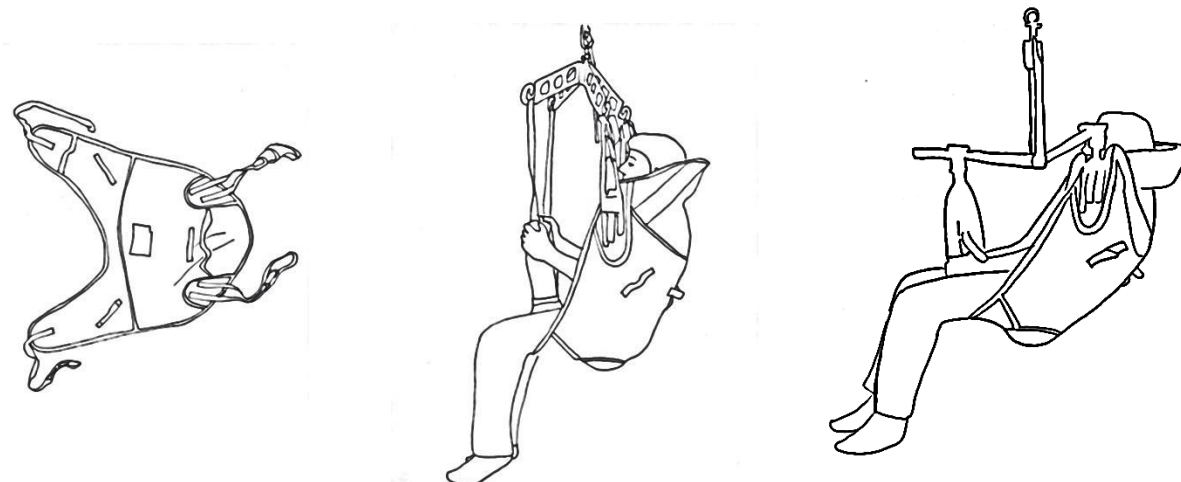
### 61 A. Slings

62 Sling: A device that is manufactured from flexible materials such as fabric, which adapts to the  
63 shape of the body, or from rigid materials such as plastic or stainless steel. Slings are used with  
64 mechanical lifting equipment to temporarily lift or suspend a body or body part in order to  
65 transfer, lift, turn, reposition or ambulate a healthcare recipient, or perform other similar direct  
66 care tasks. Slings may be laundered between uses with different healthcare recipients, may be  
67 disposable and designed for use with only a single healthcare recipient, or may be designed to be  
68 wiped cleaned between use with different healthcare recipients.

#### 69 1) Seated Slings (sometimes called Universal Slings or transfer/chair slings):

70 Seated slings transfer healthcare recipients in a seated position; e.g., bed to/from commode,  
71 wheelchair or chair. This type of task is sometimes called a *vertical transfer* because the lift and  
72 sling are used to raise and lower a healthcare recipient who is in a seated position. Seated slings  
73 may or may not have an opening to allow toileting of a healthcare recipient; in this case they are  
74 referred to as hygiene slings. They may or may not provide head support for the healthcare  
75 recipient.

76



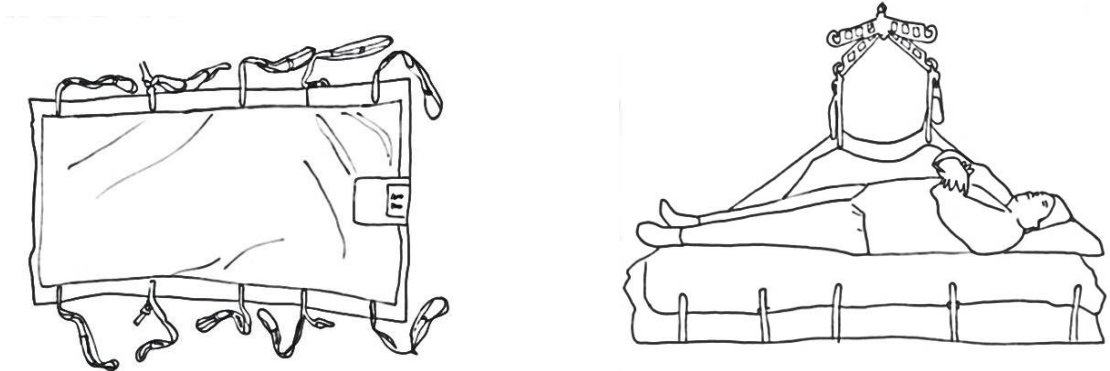


77 **2) Repositioning/Supine Slings:**

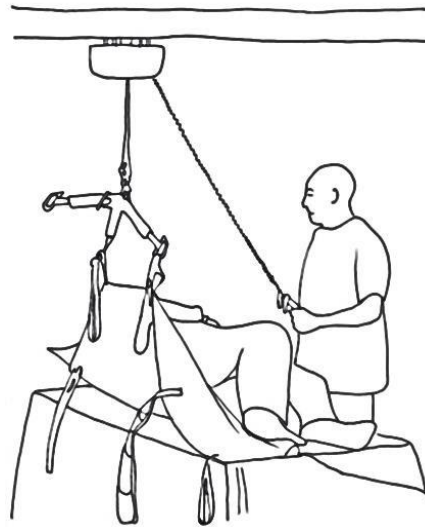
78 Repositioning slings are used to reposition and transfer healthcare recipients who are lying down  
79 in a supine position. Repositioning may occur from side to side, as a move or boost up toward  
80 the head of the bed, from surface to surface (such as bed to/from stretcher), as a lateral transfer,  
81 or from the floor.

82 Some repositioning/supine slings are designed for use with a special hanger bar configuration  
83 when used to lift a healthcare recipient from the floor or perform a transfer from surface to  
84 surface when the healthcare recipient's back or spine must remain as immobile as possible.

85

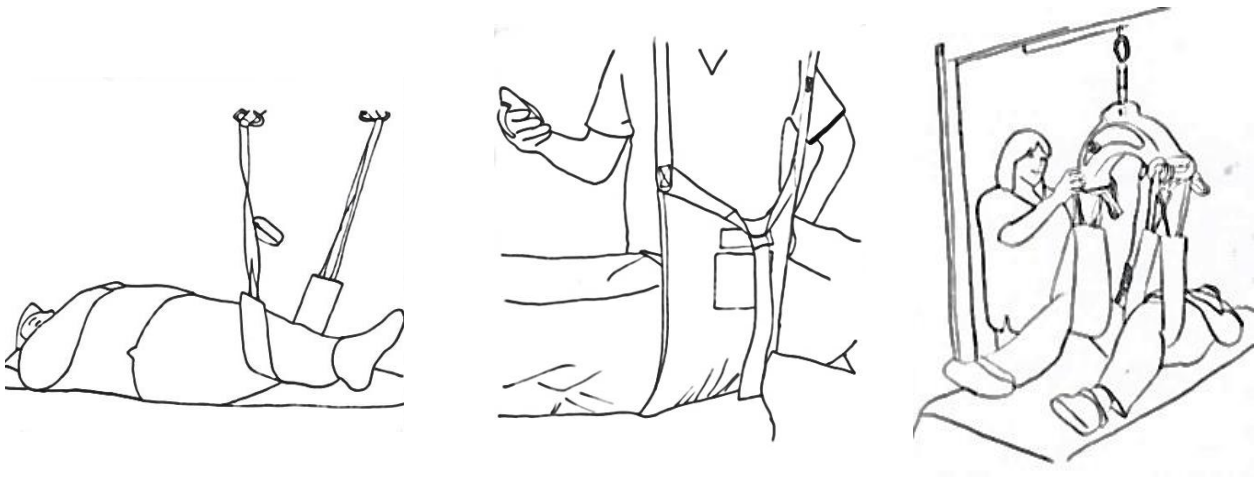


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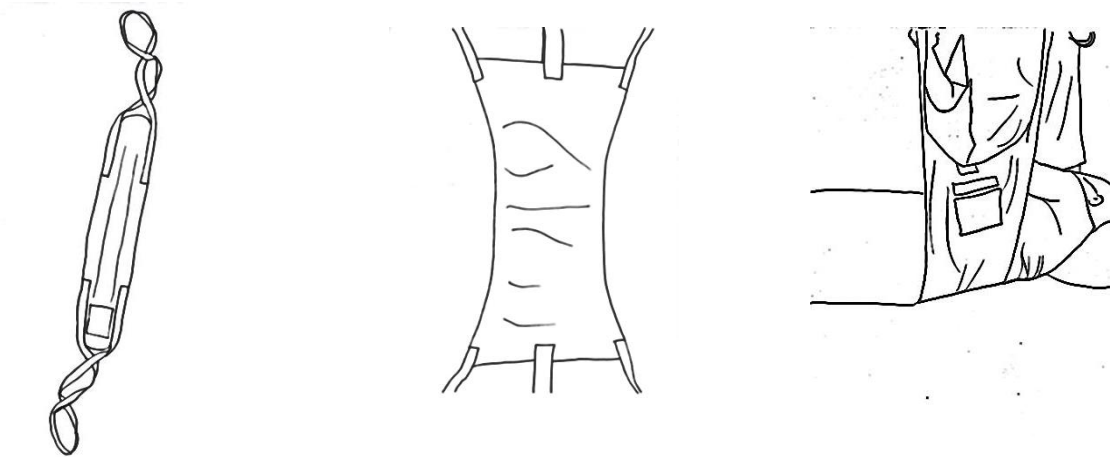


87 3) Limb Slings and Turning Bands:

88 Limb slings and turning bands assist with tasks such as supporting limbs during dressing changes  
89 and foot care, and when turning a healthcare recipient to view their back or bottom.



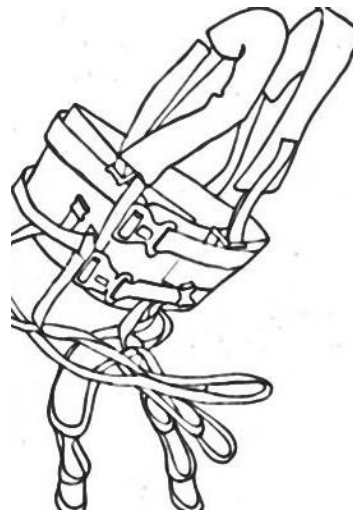
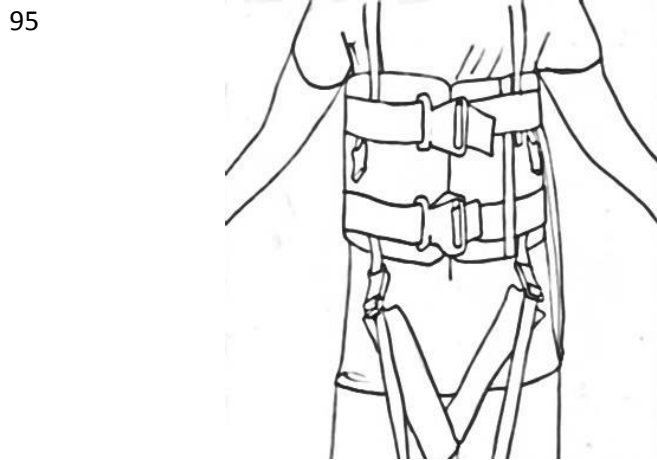
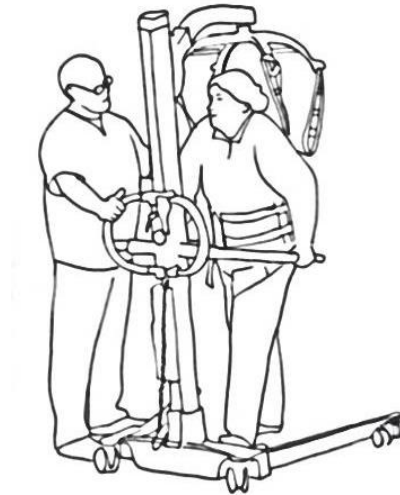
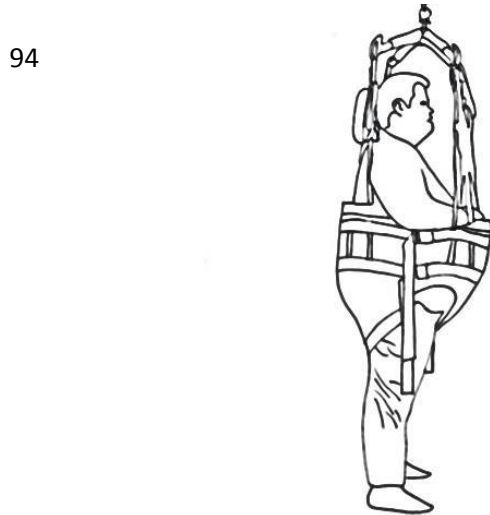
90



91

92 4) Walking/ambulating harnesses/gait trainers:

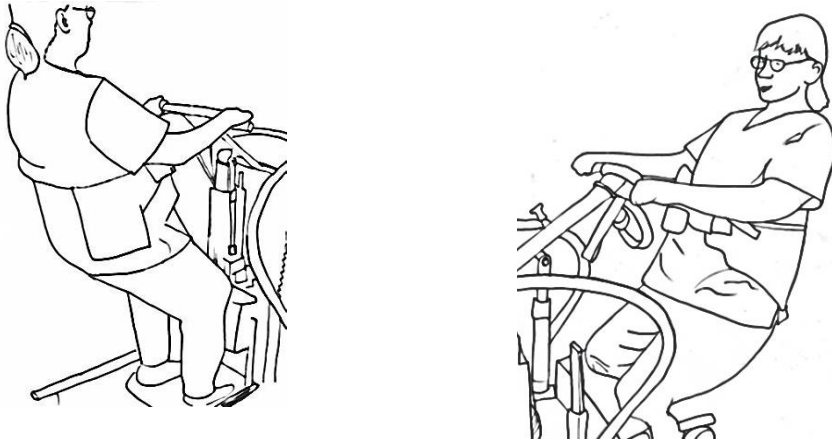
93 These slings assist healthcare recipients with walking (ambulation).



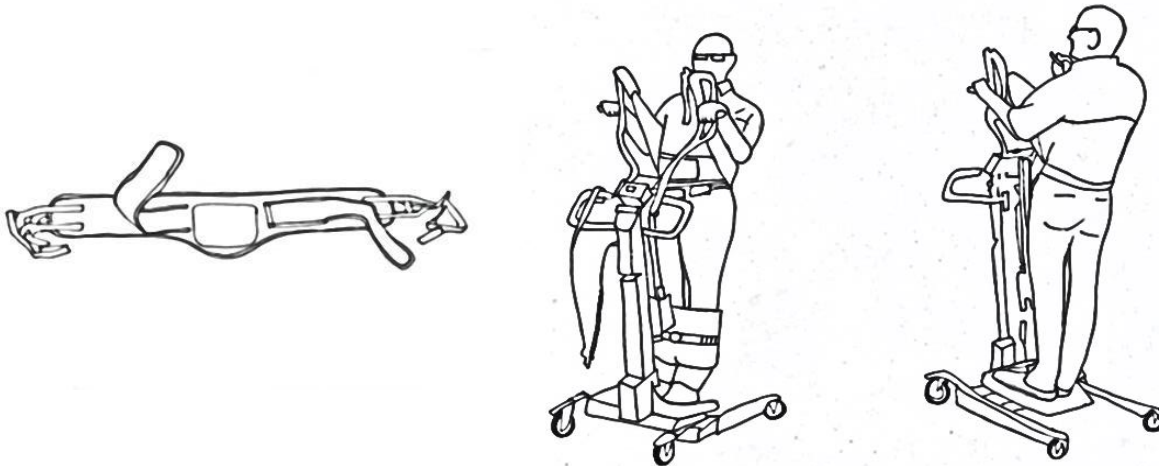
96 5) Sit to Stand – belts or slings:

97 These slings are used with powered and non-powered Sit-to-Stand or Stand Assist equipment.

98



99



100



## 101 6) Specialty slings:

102 Include - Amputee, Pannus, Continuous Passive Motion (CPM), Hygiene, Toileting Shower and  
103 Bathing, Bariatric Pediatric, and Morgue.

## 104 7) Rigid body slings:

105 These slings are manufactured from rigid materials such as plastic (which may or may not be  
106 padded) or from flexible materials encased by a frame. A rigid sling is shaped to allow the  
107 healthcare recipient to be in seated, recumbent/reclined, or supine positions. A rigid sling may  
108 also be used in the morgue.

## 109 B. Sling – Fabrics

### 110 1) Reusable:

111 a. **Fabric** - Can be laundered when soiled and before use with another healthcare  
112 recipient. May be made of solid or mesh material and/or may be padded.

113 b. **Wipeable** – Can be wiped down with appropriate sanitizer/disinfectant that is  
114 approved by the facility and manufacturer before use with each healthcare recipient.

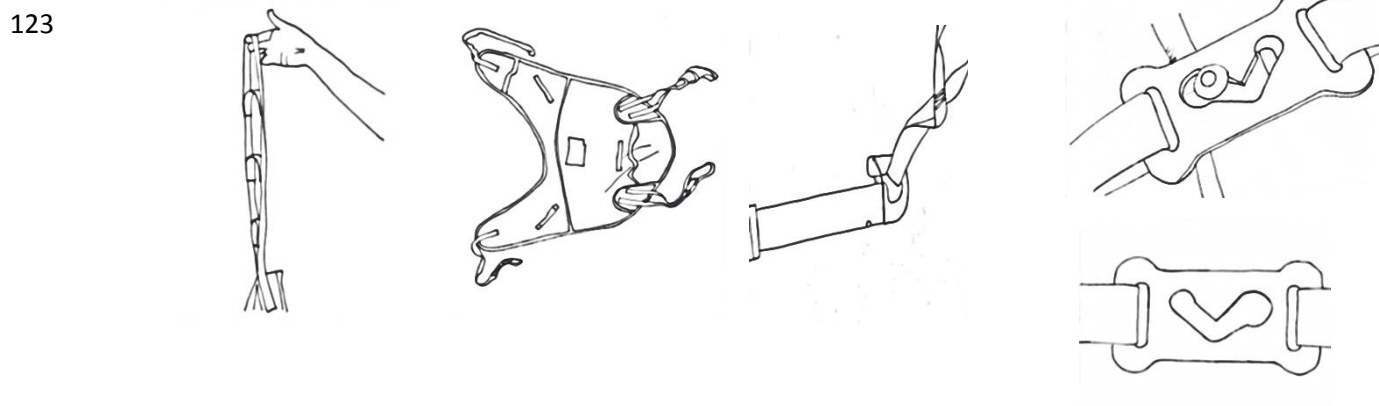
### 115 2) Disposable:

116 Disposable or single 'healthcare recipient' (patient) slings are designed to be used by only  
117 one healthcare recipient and disposed of once soiled, damaged or no longer needed by the  
118 healthcare recipient. Disposable slings should never be laundered and then reused.

## 119 C. Sling Attachment Points

120 A sling can have loop, clip or key attachment points (the parts of the sling that attach to a hanger  
121 bar).

122 Loop attachments can be fabric or plastic. Clip or key attachments are typically made of plastic.

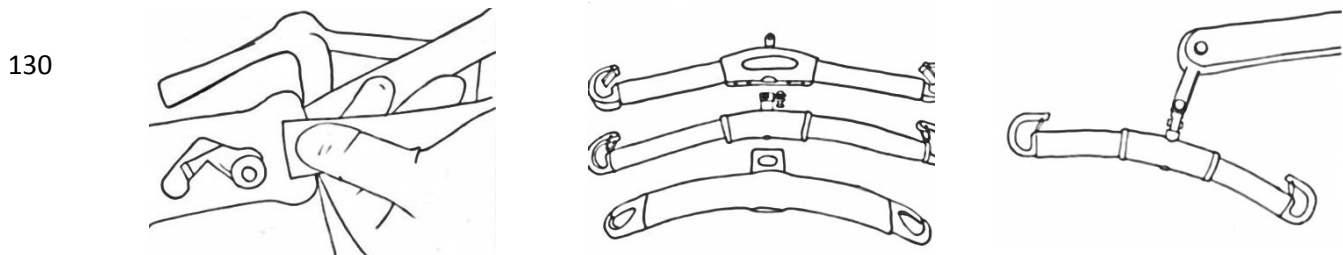


124 **D. Hanger Bars**

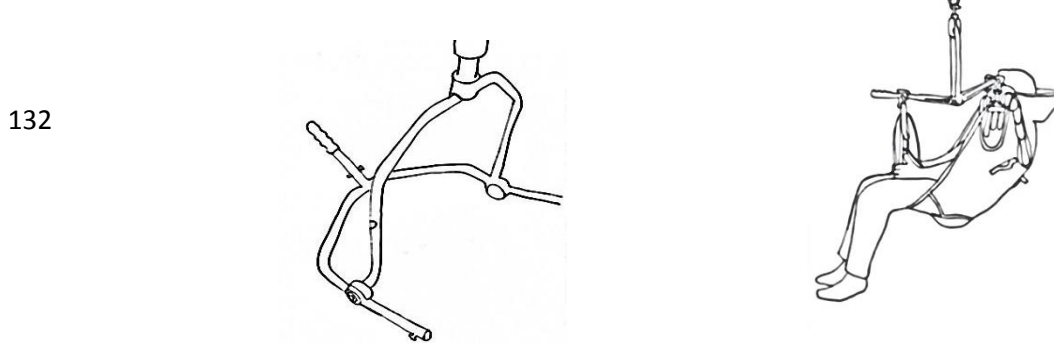
125 Hanger bars have rigid construction with more than one connection point, onto which a sling is  
 126 attached. A Hanger bar may attach to a flexible strap that is attached to a motor or may be  
 127 integrated with the lift motor itself.

128 Configuration and design of attachment points (coupling) varies.

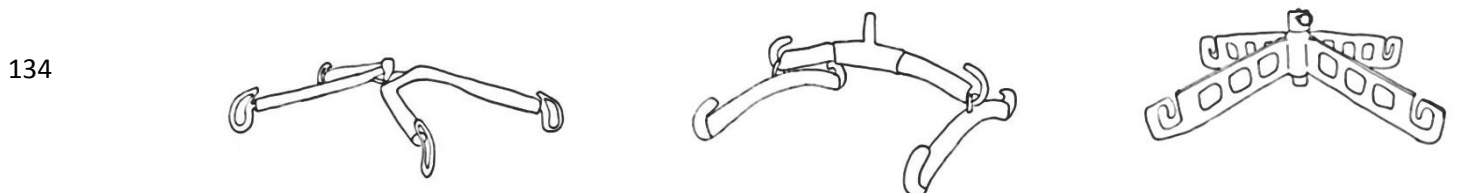
129 **1) 2 point**



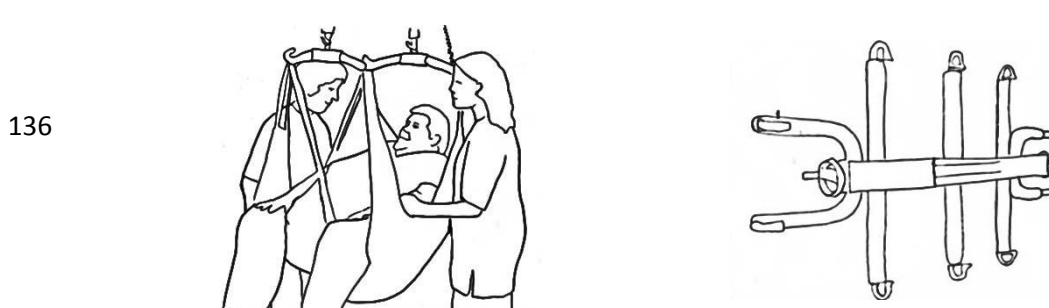
131 **2) 3 point and Pivot Frame**



133 **3) 4 point (H and X configurations)**



135 **4) Multiple configurations (e.g., 6, 8 point bar and use of dual hanger bars)**



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### 137 III. SLING AND HANGER BAR COMPATIBILITY

#### 138 A. Sling and Lift Manufacturers

- 139 1) Lift and sling manufacturers should meet current design, manufacturing and testing  
140 standards as required by ISO 10535 and FDA design of medical product standards.
- 141 2) Sling manufacturers should indicate what style(s)/type(s) of sling(s) is compatible with  
142 their hanger bars. Sling manufacturers should indicate 2, 3, 4, 6 and/or 8 point hanger  
143 bar compatibility.
- 144 3) Sling manufacturers should clearly state the method by which a sling can be adjusted or  
145 removed from a hanger bar in the accompanying operating instructions.
- 146 4) As a result of the research conducted by the committee (refer to Appendix I), we are of  
147 the opinion that healthcare worker and healthcare recipient safety would be enhanced  
148 through the adoption of a standardized labeling identification system. A color coded  
149 safety labeling system may reduce the chance of error, such as improper size selection  
150 and resulting incident(s).

151 A color coded sling system with weight limits for seated slings is listed below as a  
152 sample.

#### 153 Seated Slings

- 154 a. Red edging on Small slings with weight guide of \_\_\_-\_\_\_lbs/kgs  
155 b. Yellow edging on Medium slings with weight guide of \_\_\_-\_\_\_lbs/kgs  
156 c. Green edging on Large slings with weight guide of \_\_\_-\_\_\_lbs/kgs  
157 d. Purple edging on XL Large slings with weight guide of \_\_\_-\_\_\_lbs/kgs  
158 e. White edging on XXL Large slings with weight guide of \_\_\_-\_\_\_lbs/kgs

159 Other types of slings such as sit-to-stand, turning and limb slings should use the same  
160 standardized color coding to indicate size (e.g. red for a small size), and list maximum  
161 load capacity and weight range (if applicable) for use.

162 The committee suggests sling manufacturers consider phasing in the standardized weight  
163 guide for seated slings within two years of publication of this document, and that a  
164 standardized color system for all slings be phased in within four years of publication of  
165 this document.

- 166 5) Sling manufacturers should include on sling labels the information that is detailed in  
167 Section 4A.

## 168 B. Healthcare Organizations/Facilities

- 169 1) When purchasing healthcare recipient lifting devices (lifts, attachments and slings), the  
 170 organization/facility should ensure the devices comply with relevant Standards (e.g. ISO  
 171 10535). Current purchasing processes should be evaluated to ensure this criterion is  
 172 included.
- 173 2) Clip and loop slings should never be used interchangeably. A sling with a clip  
 174 attachment should only be used on a hanger bar that is designed for a clip attachment. A  
 175 sling with a loop attachment should only be used on a hanger bar designed for a loop  
 176 system.
- 177 3) When possible, standardization of lifts, hanger bars and slings is recommended within a  
 178 setting to reduce the risk of healthcare worker error and simplify training. A setting using  
 179 lifts with hanger bars accommodating loop slings should avoid, when possible, the use of  
 180 lifts with hanger bars accommodating clip slings.
- 181 4) If special needs should arise requiring a mix of hanger bars and sling types, the facility  
 182 must take precautions to prevent healthcare worker error, such as labeling of hanger bars  
 183 to indicate use with the appropriate sling and additional training for staff in appropriate  
 184 use of hanger bars and slings.
- 185 5) Slings should be laundered and maintained per manufacturers' instructions. (*Refer to*  
 186 *Section V of this document.*)
- 187 6) It is critical that slings and hanger bars are inspected prior to each use. If they are worn  
 188 or damaged they must not be used and must be removed from service. (*Refer to Section VI*  
 189 *of this document.*)
- 190 7) All clips, latches, loops and hanger bars must remain securely fastened during operation  
 191 of a lift.
- 192 8) Clinical risk assessment should be conducted before using any sling and lift for a  
 193 particular healthcare recipient, regardless of whether the manufacturer of the sling and  
 194 lift are the same or different. (*Refer to Section X of this document.*)
- 195 9) It is critical that a sling be compatible with a specific lift and meet the weight, shape and  
 196 clinical needs of the healthcare recipient.
- 197 10) Purchasers of healthcare recipient lifts should read or receive oral instructions provided  
 198 by the manufacturer in order to safely operate the device.
- 199 11) Healthcare workers should receive employer-sponsored training and demonstrate  
 200 understanding of how to safely use healthcare recipient lifts and slings. (*Refer to Section IX*  
 201 *of this document.*)

Reference citations will be incorporated into the guidelines after the public comment period



202 12) A system should be established to define how to properly clean, disinfect, maintain,  
 203 repair, and upgrade lifts, slings, and other Safe Patient Handling and Mobility (SPHM)  
 204 technology. SPHM technology may include equipment, devices, accessories and  
 205 software.

## 206 IV. SLING DESIGN AND TESTING

207 Sling manufacturers are required to meet current design, manufacturing and testing standards as  
 208 required by ISO 10535. This includes the following:

### 209 A. Sling labels

210 1) The following information should be included on a sling label:

- 211 a. The manufacturer's company name, website, address, telephone, and country of origin.
- 212 b. The maximum load capacity in lbs/kgs. *Note: for the purposes of this document maximum load*  
 213 *capacity is the same as 'safe working load.'*
- 214 c. A symbol for manufacturer recommended cleaning and/or written cleaning instructions.  
 215 Symbols used should comply with ISO 3758 *Textiles -- Care labelling code using symbols.*  
 216 *Refer to Appendix II for examples of laundry symbols.*
- 217 d. A symbol for and/or written description of intended use and manufacturer instructions  
 218 that are provided by the manufacturer when a sling is purchased.
- 219 e. A symbol and description of the hanger bar and a 2, 3, 4, 6 and/or 8 point bar that the  
 220 sling is to be used with, and the type of hangar bar connection point that is compatible  
 221 for the sling (e.g., a loop or key/clip).
- 222 f. A symbol for and/or written description that is color coded and indicates the size of the  
 223 sling by weight or weight range as applicable.
- 224 g. A place to mark 'Date of First Use.'
- 225 h. The sling serial or batch number.
- 226 i. A warning not to use a damaged or eroded/threadbare sling.

227 Information provided on sling labels as text and symbols should be easy to read and  
 228 meaningful for the US population.

229 Information provided on sling labels should be colorfast and not fade through repeated  
230 laundering.

231 2.) Other information to be included in instructions for use if it cannot be provided on the  
232 sling label:

233 a. Types of hanger bars that are appropriate to use with the sling. (e.g., a 2, 3, 4, 6 and/or 8  
234 point bar) and the type of hangar bar connection point that is compatible with the sling  
235 (e.g., a loop or key/clip).

236 b. Appropriate directions for use that include information on the choice of style and type  
237 of sling for the healthcare recipient and the appropriate application method.

238 c. A statement that a clinical assessment should be performed to ensure that the correct  
239 size, type and shape of sling are used for the healthcare recipient.

240 d. Information about the materials used in the sling fabric.

## 241 B. Fabric of the slings

242 The fabric or materials in the sling (e.g. synthetic, blend or natural fibers) should be  
243 identified.

## 244 C. Flammability standards

245 The manufacturer may/may not report flammability information. Refer to any local or state  
246 fire code related to flammability of fabrics and equipment used, such as in an operating  
247 room environment.

## 248 D. Load Testing

249 The manufacturer should comply with the process for load testing of slings as required by  
250 ISO 10535.

## 251 E. Sling Sizing - Refer to III A.4 above

# 252 V. LAUNDERING SLINGS

## 253 A. Reusable Fabric Slings

254 1) Laundering instructions should be made available by the manufacturer and/or supplier and  
255 include 1) types of washer and dryer systems that may be used, 2) washing and drying  
256 instructions, and 3) clarification on use of chlorine and/or oxygen based bleach systems.

- 257 2) Standard shrinkage of fabric should be 5 percent or less if manufacturers' laundry  
258 instructions are followed.
- 259 3) Laundering instructions should be followed to meet the following Environmental Infection  
260 Control in Health-Care Facilities guidelines published by the Centers for Disease Control  
261 (CDC):
- 262 a. Recommendations of CDC and the Healthcare Infection Control Practices Advisory  
263 Committee (HICPAC) June 6, 2003/52(RR10); Section IV Laundry Process for  
264 information about other laundry, package, transport, and storage requirements.  
265 [http://www.cdc.gov/hicpac/pdf/guidelines/eic\\_in\\_HCF\\_03.pdf](http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf)
- 266 b. CDC Recommendations to Prevent Healthcare-Associated Infections Centers for  
267 Disease Control and Prevention Laundry: Washing Infected Material Jan 2011.  
268 <http://www.cdc.gov/HAI/prevent/laundry.html>
- 269 *Refer to Section VI: Sling and Hanger Bar Inspection for more information about sling inspection and Section*  
270 *VIII for more information about Maintenance.*

## 271 B. Wipeable Slings

272 The manufacturer should provide information about the types of sanitizer or disinfectant that  
273 can be used to wipe down or clean a sling. Wipeable slings should be wiped down/disinfected  
274 with a sanitizer that is approved by the facility and manufacturer before use between different  
275 healthcare recipients.

## 276 C. Single 'Healthcare Recipient' (Patient) Use or One-Time Use Slings

277 This type of sling should never be laundered and reused. Sling labels should include  
278 identification that indicates that they must not be laundered and include a symbol that indicates  
279 if the sling has been inadvertently laundered and thus should not be reused.

## 280 VI. SLING AND HANGER BAR INSPECTION PROCESS

### 281 A. Slings should be visually inspected

- 282 a. When they are placed into first use -- the date of first use should be marked on the sling  
283 label
- 284 b. Prior to each use, and

- 285 c. At regular, documented intervals as decided by a risk assessment made by a ‘competent’  
 286 person assigned by the facility or organization. Inspections should be based upon frequency  
 287 of use and manufacturer’s recommendations.

## 288 B. Hanger bars should be visually inspected

- 289 a. When they are placed into first use
- 290 b. Before securing a sling each time they are used, and
- 291 c. At regular, documented intervals as part of a routine maintenance program. Inspections  
 292 should be based upon frequency of use and manufacturer’s recommendations

## 293 C. Healthcare workers should check for the following **each time** they use a sling:

- 294 a. The sling to be used:
- 295 ❖ is documented on the healthcare recipient’s care plan, nursing assistant assignment,  
 296 and/or communication hand-off tool
  - 297 ❖ is compatible with the hanger bar connection points
  - 298 ❖ is suitable for the healthcare recipient, in terms of
    - 299 ➤ size
    - 300 ➤ fabric
    - 301 ➤ style
  - 302 ❖ has a load capacity that exceeds the healthcare recipient’s weight
  - 303 ❖ is clean
  - 304 ❖ has stitching that is intact especially where the straps/loops are attached to the body of  
 305 the sling (checked by tugging the straps/loops)
  - 306 ❖ has no damage to the fabric/body or its clips/loops
  - 307 ❖ has no damage to any fastenings (e.g., its Velcro or security buckles)
  - 308 ❖ has no rips, tears, or holes
  - 309 ❖ has no “pin holes” when held up to the light, especially along the stitching lines
  - 310 ❖ has a manufacturer’s label and the label is easy to read (e.g., is not faded)
  - 311 ❖ shows the date of first use

- 312 b. The hanger bar:
- 313 ❖ is not damaged or bent
- 314 ❖ has connection points that have capping/safety locks on both ends if applicable per  
315 design.
- 316 ❖ has no sharp edges or burrs that could damage the sling connection point.
- 317 ❖ meets or exceeds the weight capacity of the sling to be used.
- 318 ❖ is compatible with the sling to be used (e.g., loop sling/loop hanger bar, 2, 3, 4, and/or 6  
319 point hanger bar.

320 D. The organization or facility should have specific criteria and a process for removing a  
321 defective or damaged sling and/or hanger bar from service that is clearly  
322 communicated to healthcare workers.

323 E. The organization or facility should have a process for return of a defective or  
324 damaged sling and/or hanger bar to the manufacturer or supplier.

325 *Also refer to Section X: Healthcare Recipient Assessment*

## 326 VII. HANGER BAR – DESIGN

327 Lift manufacturers are required to meet current design, manufacturing, and testing standards as  
328 required by ISO 10535 and FDA design of medical product standards.

329 **The following is related to the design of a hanger bar's attachment point to a sling only.**

- 330 1) The committee recommends that manufacturers label the maximum load capacity on each  
331 detachable hanger bar in such a manner that it is easily visible to the staff.
- 332 2) In the manufacturer's instructions for use, information shall be given about the type(s) and  
333 design(s) of slings (e.g., number of connection points, dimensions, and the type of material  
334 that is used to connect a sling to a hanger bar) which can be used in combination with the  
335 hanger bar. NOTE: This information can also be given on the hanger bar.
- 336 3) The design of the connection point for attaching a sling to the hanger bar should prevent  
337 accidental unhooking or release.
- 338 4) Edges, corners, or surfaces that will be in contact with the sling attachment point should be  
339 smooth – there should be no sharp edges or burrs that could damage the sling connection  
340 point.

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- 341 5) The hanger bar connection point should be large enough to allow the sling attachment (e.g.,  
 342 key or clip or a loop design) to be seated and secured in the connection point so that  
 343 multiple loops on a sling can be easily seated in the hanger bar connection point:
- 344 a. without risk of shearing, crushing, or trapping or damaging the sling and
  - 345 b. so that the locking device can be closed correctly
- 346 6) The design of the sling should not change the weight load/center of gravity or affect the  
 347 lift's stability.
- 348 7) The design of the sling and hanger bar combination should allow for the healthcare recipient  
 349 to be positioned safely and comfortably as needed to meet the healthcare recipient's physical  
 350 and clinical needs.
- 351 8) The spread bar or support boom should allow for sufficient clearance for taller healthcare  
 352 recipients when being moved in a sling.
- 353 9) The sling should be attachable to the hanger bar using minimal grip force and finger  
 354 dexterity.
- 355 10) Slings with key or clip attachment points should only be used with hanger bars designed for  
 356 this type of sling.
- 357 11) When applying a sling with key or clip attachment points to the hanger bar, the attachment  
 358 point should feel firmly attached to the hanger bar and should not become loose.
- 359 When a facility is purchasing equipment, slings and other SPHM devices, to meet the specialized  
 360 needs of specific healthcare recipients such as a pediatric, orthopedic, or bariatric population, the  
 361 facility should consult a competent and qualified professional for assistance.

## 362 VIII. MAINTENANCE – SLINGS & HANGER BAR ONLY

- 363 1) The facility or organization should establish a system for regular cleaning, disinfection,  
 364 maintenance, repair, and upgrade of SPHM technology that includes hanger bars and slings.  
 365 A thorough inspection at regular, documented intervals as decided by a risk assessment  
 366 should be made by a 'competent' person assigned by the facility or organization. Inspections  
 367 should be based upon 1) frequency of use and 2) manufacturer's recommendations, if any.
- 368 2) A process should be established by the 'competent person' for removal of defective,  
 369 damaged, and/or malfunctioning hanger bars and/or slings from service and for notification  
 370 of such to healthcare workers.

- 371 3) The facility or organization should prepare an inventory that tracks the purchase of SPHM  
 372 technology including slings. For each sling purchased, the inventory may track: 1) date of  
 373 purchase 2) date of first use 3) date of periodic sling inspection by “competent person”  
 374 assigned by the facility or organization, 4) date of sling maintenance or repair, if performed,  
 375 and 5) if maintained or repaired, who performed the task.
- 376 4) The responsibility for monitoring and acting on upgrade or recall notices for equipment or  
 377 software will be assigned to a specific position.

## 378 IX. EDUCATION AND TRAINING

- 379 1) An effective system of educating and training on the safe use of slings and hanger bars,  
 380 including reviews to maintain competence, should be established.
- 381 2) The facility or organization should provide this training to the appropriate healthcare and  
 382 ancillary/support workers at the following times:
- 383 ❖ at orientation
  - 384 ❖ annually
  - 385 ❖ with the introduction of new competencies or technology solutions
  - 386 ❖ following incidents or accidents as needed
- 387 3) The methodology should meet the needs of the adult learner and be as interactive as  
 388 possible.
- 4) The content of the education and training should be specific to the role and setting of the  
 healthcare or ancillary/support worker and inclusive of the following:
- 389 a. Types of slings with proper use for each.
  - 390 b. Physical, cognitive and clinical requirements of healthcare recipient for use.
  - 391 c. Proper sizing/fitting for each type of sling.
  - 392 d. Proper storage.
  - 393 e. Compatibility of each type of sling with each type of hanger bar used.
  - 394 f. Maximum load capacity for each type of sling (safe working load) and lift and hanger  
 395 bar.

- 396 g. The lowest maximum load capacity of a sling, lift or hanger bar must exceed  
397 healthcare recipient weight.
- 398 h. Proper attachment of sling to hanger bar and use of all sling safety features.
- 399 i. Safety concerns/features – inspection of sling and hanger bar before use.
- 400 j. Matching of the sling – size and style – to care plan, nursing assistance assignment  
401 sheet, communication or ‘white’ board in healthcare recipient room, and hand off  
402 tool.
- 403 k. Proper use of lift and safe transfer of healthcare recipient.
- 404 l. Proper laundering of slings, including knowing when a laundered sling is unsafe for  
405 use; when a single healthcare recipient (patient) use sling should not be used after  
406 laundering; and the proper cleaning method of slings that are designed to be wiped  
407 clean and knowing when a wipe able sling is unsafe to use.
- 408 m. Reporting all malfunctioning lift equipment to appropriate individual(s) or  
409 department and removal from use of damaged or unsafe slings.

410 At the completion of the education and training sessions, healthcare workers should  
411 demonstrate competence with slings and hanger bars prior to providing actual hands-on  
412 care. The facility or organization should monitor the effectiveness of the education and  
413 training on an ongoing basis.

414 Education and training should be designed and delivered to address the differing cultural,  
415 linguistic, clinical and non-clinical practice needs of healthcare workers to facilitate effective  
416 competency based learning.

## X. HEALTHCARE RECIPIENT ASSESSMENT

417 The employer and healthcare workers partner to adapt the plan of care to meet the SPHM needs of  
418 individual healthcare recipients and specify appropriate SPHM technology and methods (ANA,  
419 2013).

420 The written procedure outlines how to evaluate a healthcare recipient’s SPHM status, establish goals,  
421 select technology for specific care tasks, and address roles and responsibilities of the healthcare  
422 worker related to assessment and scoring, evaluation, plan of care, and documentation.

423 The healthcare recipient will be evaluated for physical, cognitive, clinical, and rehabilitative needs  
424 that impact mobility needs, both initially and on an ongoing basis. The outcome of the assessment,  
425 evaluation, or scoring system will be incorporated into the individual plan of care.



426 The individual plan of care will specify required SPHM technology, methods and expected  
427 outcomes.

428 **Perform initial and ongoing assessment of mobility and SPHM needs**

429 The licensed healthcare worker will perform initial and ongoing assessments of mobility and SPHM  
430 needs, per organizational policy (ANA 2013).

431 Such an assessment should include the following:

- 432 1) The healthcare recipient's
- 433 a. Clinical needs and precautions, such as hip precautions; unstable spine or pelvis;  
434 shoulder surgery; surgical incisions or wounds and their location; skin and fall  
435 precautions.
  - 436 b. Cognitive status such as ability to follow commands, be cooperative, and assist  
437 during the task to be completed.
  - 438 c. Mobility Status –the functional mobility level of the healthcare recipient including  
439 the ability to bear weight.
  - 440 d. Weight, torso width and girth, height and shape.
  - 441 e. Level of postural support required in a sling (e.g., support needs for the head and  
442 trunk or asymmetrical body position and the likelihood of unpredictable movement,  
443 spasm or pain during the process).
  - 444 f. Sensory deficits or disturbance.
  - 445 g. Dignity when using the equipment.
- 446 2) Attachments to the healthcare recipient (e.g., intravenous line, catheters, feeding tube, chest  
447 tube, tracheotomy; monitors, orthopedic supports such as Halo brace, Thoraco-Lumbo-  
448 Sacral-Orthosis (TLSO) brace, traction of extremities).
- 449 3) Task to be accomplished (e.g., repositioning in bed, lateral transfer from bed to gurney,  
450 vertical transfer to/from bed to chair, bathing, wound care, ambulation).

451 **GLOSSARY**

452 **Ambulation.** To walk from place to place; to move about (Nelson, 2009).

453 **Assistive Devices.** Devices used to facilitate safe patient handling and mobility (Nelson, 2009).

454 **Bariatrics.** The branch of medicine that deals with the causes, prevention, and treatment of obesity  
455 (Nelson, 2009).

456 **Overhead or Ceiling mounted lifts.** These are lifts that are attached to fixed track systems that are  
457 installed on ceilings or supported via wall installation. Ceiling track design options that are  
458 commonly used are traverse (i.e., room covering which travel along multiple paths within a room),  
459 single and curved track. Other options include an integrated track that is mounted on a head wall or  
460 utility column (FGI, 2010). Ceiling lift motors may also be used with freestanding gantry systems.  
461 Some ceiling lift motors may be portable so that they can be moved from room to room when  
462 needed and attached to existing track in the room. These lifting devices can be used for almost any  
463 type of healthcare recipient lifting or transfer related task.

464 **Connecting or attachment point(s) or coupling.** Refer to Section II C.

465 **Competent person.** An individual with the relevant technical knowledge and practical experience  
466 with SPHM technology to enable her/him to detect defects and/or weaknesses and to assess their  
467 importance in relation to the safety and continued use of the specific hanger bars and slings being  
468 examined (Health and Safety Executive, 2012).

469 **Competence.** An expected, measurable, and confirmed level of performance that integrates  
470 knowledge, skills, abilities, and judgment, based on established scientific knowledge and expectation  
471 for practice (ANA, 2013).

472 **Disposable or Single healthcare recipient (patient) use sling.** Refer to Section II C – Also  
473 commonly known as a Single Patient Use (SPU) sling.

474 **Education.** The transfer of information to others in order to raise awareness and increase  
475 understanding of the subject; includes relaying of information during orientation and in-service  
476 education.

477 **Floor based lift.** These portable/mobile lifts move along the floor surface on wheels attached to an  
478 expandable base for spreading around chairs/wheelchairs. They may use a battery (powered) or a  
479 hydraulic system to raise and lower the hanger bar. Ceiling and floor lifts are sometimes categorized  
480 as *Full-body sling* lifts and are designed to move and lift healthcare recipients who are dependent.

481 **Friction-Reducing Devices.** Often constructed of smooth synthetic fabrics, these devices offer  
482 friction reducing properties to facilitate the lateral transfer or repositioning of healthcare recipients  
483 that can offer limited or no assistance. They effectively reduce the forces required to execute the  
484 transfer, minimizing biomechanical loading on the healthcare workers' arms and back. Properly

485 designed handles and pull straps can improve the healthcare workers' grasp and reduce forward  
486 reach during transfers (Nelson, 2009).

487 **Gurney – Stretcher.** A wheeled cot or stretcher that is used to transport healthcare recipients.

488 **Hanger Bar** Refer to Section II D.

489 **Healthcare ergonomics.** The process of maximizing safety by designing all components of the  
490 healthcare environment, including furniture, equipment, tools, and tasks, to best accommodate the  
491 physical and cognitive capabilities and limitations of healthcare workers and healthcare recipients  
492 with the goal of preventing or reducing the risk of error and musculoskeletal and other  
493 injuries/disorders.

494 **Healthcare recipient.** In the context of this document a healthcare recipient is an individual who is  
495 receiving healthcare in any healthcare facility or setting such as a hospital, long term care facility,  
496 assisted living facility, or home environment (ANA, 2013).

497 **Healthcare worker.** An individual involved in the provision of care to another individual and who  
498 works for the employer at any level in the continuum of care. Examples of healthcare workers  
499 include, but are not limited to, nurses, nursing assistants, resident assistants, home health aides,  
500 direct care workers working in community settings, occupational therapists, physical therapists,  
501 therapist assistants, radiology technologists, infection control practitioners, peer leaders, social  
502 workers, morgue personnel, emergency medical technicians, paramedics, transporters, physicians,  
503 dentists, school nurses, and para-educators. Settings with organized labor should include union  
504 representation (ANA, 2013).

505 **Healthcare recipient or patient lifts** are sometimes called “hoists.” This document uses the term  
506 “lifts.” Lifts are designed to lift and transfer healthcare recipients from one place to another (e.g.,  
507 from bed to bath, chair to stretcher). These should not be confused with stairway chair lifts or  
508 elevators. Healthcare recipient lifts may be operated using a power source or manually. The powered  
509 models generally require the use of a rechargeable battery and the manual models are operated using  
510 hydraulics. While the design of healthcare recipient lifts will vary based on the manufacturer, basic  
511 components may include a mast (the vertical bar that fits into the base), a boom (a bar that extends  
512 over the healthcare recipient), a spreader bar (which hangs from the boom), a sling (attached to the  
513 spreader bar, designed to hold the healthcare recipient), and a number of clips or latches (which  
514 secure the sling) (FDA, 2014).

515 **Lateral Transfer.** These are transfers in which the healthcare recipient starts and ends lying in a  
516 prone or supine position, such as bed to stretcher, bed to bath trolley, stretcher to procedure table  
517 (Nelson, 2009).

518 **Lifting Equipment.** Equipment that lifts the healthcare recipient in either a seated or supine  
519 position from one place to another. This category includes ceiling lifts, floor-based lifts, and sit-  
520 to-stand lifts (Nelson, 2009).

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- 521 **Manual Handling.** Lifting, transferring, repositioning, and moving healthcare recipients using a  
 522 healthcare worker's body strength without the use of lifting equipment/aids that reduce forces on  
 523 the worker's musculoskeletal structure (FGI, 2010).
- 524 **Maximum Load Capacity.** *Note for the purposes of this document maximum load capacity is the same as 'safe*  
 525 *working load'.*
- 526 **Mechanical Lateral Transfer Aids.** Devices that provide mechanized or powered assistance for  
 527 healthcare recipient horizontal transfers and therefore eliminate the need to manually slide healthcare  
 528 recipients, substantially reducing the risk of injury to healthcare workers (Nelson, 2009).
- 529 **Non - Powered Sit to Stand Aid.** A non-powered sit to stand aid is a non-motorized healthcare  
 530 recipient transferring device. It is designed for healthcare recipients who can be active and engaged  
 531 in pulling themselves up into the stand aid, as well as have the ability to bear some weight.
- 532 **Powered Sit to Stand Lift.** These powered lifts are mobile and move along the floor surface on  
 533 wheels attached to an expandable base that can spread around chairs/wheelchairs. The lifts are used  
 534 for healthcare recipients who can provide some assistance in transferring and ambulating (i.e., those  
 535 with partial weight-bearing capability). These healthcare recipients must also have upper body  
 536 strength, the ability to grasp with at least one hand, and the ability to follow simple instructions. The  
 537 lifts are used for transfers from seated position to seated position (e.g., bed to wheelchair or  
 538 commode) and for assistance in dressing, pericare, toileting, and other activities. Sit-to-stand lifts  
 539 with ambulation capability can also be used for assistance in healthcare recipient mobilization and  
 540 ambulation therapy (FGI, 2010).
- 541 **Powered Transport Devices.** These devices can be attached to the head of a bed or stretcher  
 542 and are motorized to move the bed or stretcher, eliminating the need for manual pushing or  
 543 pulling. This device can be used for healthcare recipient transport throughout a hospital or long  
 544 term care facility, requiring only one healthcare worker to perform the task. Some stretchers and  
 545 hospital beds have integrated motorized capability (Nelson, 2009).
- 546 **Prone position.** Lying on the chest or having the face downward.
- 547 **Repositioning.** Adjusting healthcare recipient's position in a bed or chair to prevent pressure  
 548 ulcers and promote comfort (Nelson, 2009).
- 549 **Risk Assessment for SPHM.** Use of a scoring or other system to examine and evaluate the  
 550 physical, mental, cognitive, medical, and/or environmental conditions of a healthcare recipient to  
 551 determine appropriate SPHM methods, technology, and supplies. Assessment for SPHM may be an  
 552 interprofessional activity, with collaboration from several disciplines (ANA, 2013).
- 553 **Safe Patient Handling and Mobility.** The use of technology such as powered lifts and evidence  
 554 based work practices and processes that are used to facilitate movement of a healthcare recipient  
 555 with the goal of reducing the risk of injury to both the healthcare worker and the healthcare  
 556 recipient.

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- 557 **Safe Working Load.** Refer to Maximum Load Capacity.
- 558 **Sling.** Refer to Section II A.
- 559 **Supine.** Lying on the back or having the face upward (Nelson, 2009).
- 560 **Technology.** The assistive tools used, within the organization and at the point of care, to facilitate  
561 the healthcare worker's performance of SPHM tasks, thus minimizing the risk of injury to the  
562 healthcare recipient and the healthcare worker. Technology may include equipment, devices,  
563 accessories, software, and multimedia resources (ANA, 2013).
- 564 **Technology needs assessment.** An assessment done by using ergonomic principles of evaluation.  
565 The assessment includes evaluation of the physical, mental, and cognitive characteristics of the  
566 healthcare recipient or population, and the physical environment in which care is being delivered, so  
567 as to recommend appropriate SPHM methods and technology (ANA, 2013). *Also known as a mobility*  
568 *assessment or a patient handling assessment.*
- 569 **Training.** The process of bringing a person to an agreed standard of proficiency by hands-on  
570 practice or simulation applications (ANA, 2013).
- 571 **Vertical Transfer.** A transfer in which the healthcare recipient starts and ends in a seated  
572 position, such as transfer from bed to chair, chair to toilet, wheelchair to bedside chair, or car to  
573 wheelchair (Nelson, 2009).

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645 Healthcare Professional, Manufacturers and Consumers.  
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647 [ult.htm](http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HumanFactors/default.htm)

648 **MAUDE - Manufacturer and User Facility Device Experience** or MAUDE database  
649 houses medical device reports submitted to the FDA by mandatory reporters  
650 (manufacturers, importers and device user facilities) and voluntary reporters such as  
651 healthcare professionals, patients and consumers. Searchable data base provided  
652 <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfMAUDE/Search.cfm>

653 **MedSun: Medical Product Safety Network** adverse event reporting program designed to  
654 promote reporting of medical device issues by healthcare organizations. Searchable data base  
655 provided  
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658 **MedWatch Safety Alerts** – subscribe to receive email safety alerts about Medical products.  
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660 **Recognized Consensus Standards** – search for standards such as ISO 10535 that are  
661 recognized by the FDA  
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## APPENDIX I

### Summary of MAUDE report and other incidents related to the use of slings in lifting and transferring healthcare recipients 2004-2014

#### Main Issues related to healthcare recipient incidents:

##### 1. Sling Clips

- a. Broken, cracked, worn, defective
- b. Not applied or attached properly
- c. Incompatible with lift
- d. Not properly laundered (which contributed to cracks/defects)

##### 2. Sling Loops

- a. Torn during transfer
- b. Worn
- c. Not applied properly/ attached improperly
- d. Came off during transfer – missing safety clip/flap on lift hanger bar

##### 3. Other sling-related issues:

- a. Sling Sizing/Incorrect size - too large
- b. Sling fabric and seams – worn
- c. Defective sling placed back in use
- d. Used past anticipated lifetime
- e. Sling was incompatible with lift
- f. Wrong lift and sling used based on healthcare recipient's needs
- g. Healthcare worker didn't apply sling correctly

##### 4. Training and competency issues:

- a. Lack of or inadequate training related to:
  - i. Sling inspection
  - ii. Choosing the correct sling size
  - iii. Application of slings on healthcare recipients;
  - iv. Correct attachment of slings to lift hanger bars
  - v. Healthcare recipient assessment and choice of equipment to move healthcare recipient

APPENDIX II

**GUIDE TO COMMON HOME LAUNDERING AND DRYCLEANING SYMBOLS**

DOS/WIN Code Ref#	Care Symbol	Written Care Instructions	What Care Symbol and Instructions Mean
<b>Wash</b> MW_Norm		<b>Machine Wash, Normal</b>	Garment may be laundered through the use of hottest available water, detergent or soap, agitation, and a machine designed for this purpose.
MW30C		<b>Machine Wash, Cold</b>	Initial water temperature should not exceed 30C or 65 to 85F.
MW40C		<b>Machine Wash, Warm</b>	Initial water temperature should not exceed 40C or 105F.
MW50C		<b>Machine Wash, Hot</b>	Initial water temperature should not exceed 50C or 120F.
MW60C		<b>Machine Wash, Hot</b>	Initial water temperature should not exceed 60C or 140F.
MW70C		<b>Machine Wash, Hot</b>	Initial water temperature should not exceed 70C or 160F.
MW95C		<b>Machine Wash, Hot</b>	Initial water temperature should not exceed 95C or 200F.
MW_Pres		<b>Machine Wash, Permanent Press</b>	Garment may be machine laundered only on the setting designed to preserve Permanent Press with cool down or cold rinse prior to reduced spin.
MW_Genil		<b>Machine Wash, Gentle or Delicate</b>	Garment may be machine laundered only on the setting designed for gentle agitation and/or reduced time for delicate items.
Hndw		<b>Hand Wash</b>	Garment may be laundered through the use of water, detergent or soap and gentle hand manipulation.
W_DoNot		<b>Do Not Wash</b>	Garment may not be safely laundered by any process. Normally accompanied by Dry Clean instructions.
<b>Bleach</b> B_Any		<b>Bleach When Needed</b>	Any commercially available bleach product may be used in the laundering process.
B_NonChl		<b>Non-Chlorine Bleach When Needed</b>	Only a non-chlorine, color-safe bleach may be used in the laundering process. Chlorine bleach may not be used.
B_DoNot_S		<b>Do Not Bleach</b>	No bleach product may be used. The garment is not colorfast or structurally able to withstand any bleach.

**NOTE:**  
SYSTEM OF DOTS INDICATING TEMPERATURE RANGE IS THE SAME FOR ALL WASH PROCEDURES.

**NOTE:**  
All (98+%) washable textiles are safe in some type of bleach. IF BLEACH IS NOT MENTIONED OR REPRESENTED BY A SYMBOL ANY BLEACH MAY BE USED.

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Reference citations will be incorporated into the guidelines after the public comment period







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**GUIDE TO COMMON HOME LAUNDERING AND DRYCLEANING SYMBOLS**

DOSWIN Code Ref#	Care Symbol	Written Care Instructions	What Care Symbol and Instructions Mean
<b>Dry</b> TD_Nor		<b>Tumble Dry, Normal</b>	A machine dryer may be regularly used at the hottest available temperature setting.
TD_Nor_L		<b>Tumble Dry, Normal, Low Heat</b>	A machine dryer may be regularly used at a maximum of Low Heat setting.
TD_Nor_M		<b>Tumble Dry, Normal, Medium Heat</b>	A machine dryer may be regularly used at a maximum of Medium Heat setting.
TD_Nor_H		<b>Tumble Dry, Normal, High Heat</b>	A machine dryer may be regularly used at a High Heat setting.
TD_NoHet		<b>Tumble Dry, Normal, No Heat</b>	A machine dryer may be regularly used only at No Heat or Air Only setting.
TD_PP		<b>Tumble Dry, Permanent Press</b>	A machine dryer may be regularly used only at the Permanent Press setting.
TD_Gen_L		<b>Tumble Dry, Gentle</b>	A machine dryer may be regularly used only at the Gentle setting.
TD_DoNot		<b>Do Not Tumble Dry</b>	A machine dryer may not be used. Usually accompanied by an alternate drying method symbol.
Dr_DoNot		<b>Do Not Dry</b>	A machine dryer may not be used. Usually accompanied by an alternate drying method symbol.
Dry_Line		<b>Line Dry</b>	Hang damp garment from line or bar, in or out doors.
Dr_Drip		<b>Drip Dry</b>	Hang dripping wet garment from line or bar, in or out doors, without hand shaping or smoothing
Dr_Flat		<b>Dry Flat</b>	Lay out horizontally for drying.
Dr_Shade		<b>Dry In Shade</b>	Usually added to Line or Drip Dry. Dry away from direct sunlight.
<b>Wring</b> Wr_DoNot		<b>Do Not Wring</b>	Do not wring.










**NOTE**  
SYSTEM OF  
DOTS  
INDICATING  
TEMPERATURE  
RANGE IS  
THE SAME FOR  
ALL DRY  
PROCEDURES.

## GUIDE TO COMMON HOME LAUNDERING AND DRYCLEANING SYMBOLS

DOS/WIN Code Ref#	Care Symbol	Written Care Instructions	What Care Symbol and Instructions Mean
<b>Iron</b> Ir_Tall		<b>Iron, Any Temperature, Steam or Dry</b>	Regular ironing may be needed and may be performed at any available temperature with or without steam is acceptable.
Ir_Tall_L		<b>Iron, Low</b>	Regular ironing, steam or dry, may be performed at Low setting (110C, 230F) only.
Ir_Tall_M		<b>Iron, Medium</b>	Regular ironing, steam or dry, may be performed at Medium setting (150C, 300F).
Ir_Tall_H		<b>Iron, High</b>	Regular ironing, steam or dry, may be performed at High setting (200C, 290F).
Ir_NoStm		<b>Do Not Steam</b>	Steam ironing will harm garment, but regular dry ironing at indicated temperature setting is acceptable.
Ir_DoNt		<b>Do Not Iron</b>	Item may not be smoothed or finished with an iron.

**NOTE**  
SYSTEM OF  
DOTS  
INDICATING  
TEMPERATURE  
RANGE IS THE  
SAME FOR ALL  
IRONING  
PROCEDURES.

**NOTE:** IF IRONING IS NOT A NECESSARY, REGULAR CARE PROCEDURE IT NEED NOT BE MENTIONED.

<b>Dryclean</b> DC_Circle		<b>Dryclean</b>	Dry Clean, any solvent, any cycle any moisture, any heat.
DC_A		<b>Dryclean, Any Solvent</b>	Dry Clean, any solvent. Usually used with other restrictions on proper dry cleaning procedure.
DC_F		<b>Dryclean, Petroleum Solvent Only</b>	Dry Clean using only petroleum solvent. Usually used with other restrictions.
DC_P		<b>Dryclean, Any Solvent Except Trichloroethylene</b>	Any dry cleaning solvent other than trichloroethylene may be safely used.
DC_S_Cye		<b>Dryclean, Short Cycle</b>	May be used with A, P, or F solvent restriction.
DC_RMois		<b>Dryclean, Reduced Moisture</b>	May be used with A, P, or F solvent restriction.
DC_LHet		<b>Dryclean, Low heat</b>	May be used with A, P, or F solvent restriction.
DC_NSSt		<b>Dryclean, No Steam</b>	May be used with A, P, or F solvent restriction.
DC_DoNot		<b>Do Not Dryclean</b>	Garment may not be commercially drycleaned.

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