Please ensure that this booklet is read prior to first use of any moving and handling practice. Choosing the right sling is of vital importance. This ensures that patient comfort and safety are adhered to at all times. Mackworth Healthcare Ltd recommend that prior to using any sling, a full risk assessment must be completed by a qualified professional, in order to determine that the correct sling, positioning and transfer procedure is suitable for each individual. Please refer to the information in this booklet as a guideline only.
Contents Page

Page 3 - 6  - Sling Compatibility & Safety Statement
Page 7  - Sling Size Assessment Guide
Page 8 - Clip Stud Measurement Chart
Page 9 - 10 - Dosec® Clip Installation Instructions
Page 11 - 12 - Dosec® Clip Converters Installation Instructions
Page 13 - 14 - HSE Checklist (Figure 1)
Page 15 - Label Explanation
Page 16 - Sling Product Range

For general guidance on how to fit a sling please visit www.mackworth-healthcare/category/guides. To view our clip fitting video please visit www.mackworth-healthcare.com/training. Alternatively should you have any queries then please contact our Customer Services Team on +44 (0)800 779 7218.
SLING COMPATIBILITY & SAFETY STATEMENT

Mackworth Healthcare Ltd are proud manufacturers of high quality moving and handling products, manufactured to standards of BS EN ISO 10535, whilst maintaining quality management systems to those of BS EN ISO 9001 (2008). We ensure that all products are appropriately CE marked and our designs are tested fully on our specialist rigs prior to dispatch.

Appropriate legislation & documentation in relation to sling manufacturing:

Mackworth Healthcare Ltd manufactures it’s products as set out in European Norm / British Standards 10535:2006 ‘Hoists for the transfer of disabled persons - Requirements and test methods’. Extensive testing is conducted on batch samples and appropriate certification is available for reference as required (CE Files & Quality Manuals).

As with any other healthcare manufacturer, Mackworth Healthcare are obliged to provide any information as required to the appropriate bodies if challenged (for example MHRA). The Medicines and Healthcare products Regulatory Agency (MHRA) under the Medical Devices Directive 93/42/EEC ensure that harmonised standards are met.

As a result of document reference “Lifting Operations and Lifting Equipment Regulations” (LOLER 5 Dec 1998) Mackworth Healthcare has a responsibility to ensure that each product manufactured is to be of a safe standard and of course be fit for purpose**. They are to be marked with any relevant information required for a safe transfer including patient / product weight capacity, product design, inspection instructions and unique serial numbers for identification. Under LOLER regulations, regular 6-monthly checks (and interim, pre use inspections) should be undertaken. Service Labels are offered accordingly.
**“Providing that a thorough written risk assessment is conducted by a competent assessor”**


Sling Sizes and coding often varies greatly between manufacturers. However, there is no evidence to suggest that slings and hoists can’t be “appropriately matched” with other manufacturer’s designs. That is providing that the clip or loop applications are applied relevant to the male fitting and of course a thorough risk assessment is conducted by the clinician / carer beforehand. Mackworth Healthcare has patented Dosec® clips, Sloop® & Cloop® (clip & loop) fittings that are suitable for application to various hoists. Interchangeable slings can provide the right solution for a patients clinical requirements. Mackworth Healthcare provide this solution at a much reduced cost and without compromise towards clinical ability.

Ensure you are aware of the hoist manufacturer's fitting instructions. Please identify if the hoist requires a loop or clip fitting. If a clip fit sling is required, please refer to the enclosed clip instructions for use. (Do NOT use a clip fit sling on a loop designed spreader bar. Do NOT use a loop designed sling on a stud/clip designed spreader bar.) For all other sling information/clip & hoist size compatibility, please refer to pages 8 & 9 of this document.

Therefore when ordering Dosec® clip or Cloop® fitting slings, please refer to page 9 onwards of this booklet or liaise with our Customer Service Team. This ensures accurate application to the relevant clip fitting system / hoist at time of order, thus minimising incorrect order and application. All slings are constructed from a polyester based material and are BS EN ISO 1021:1 & 2 compliant. Please feel free to visit our website on www.mackworth-healthcare.com/training to watch a video of the clip application in process.

Therefore, we can confirm that Mackworth slings are compatible with multiple hoisting products manufactured by the following (but do not exhaust):-

- Mackworth Healthcare Ltd
- Arjo / Huntleigh
- Liko
- Joern’s
- Oxford
- DMA
- Horcher
- Invacare (Birdie, Birdie Compact & Reliant 350 models)
- Reval
- Handicare
For further specific information in relation to exact hoist models outside of these guides, please call our Customer Service Team on +44 (0)800 779 7218. Please always specify which hoist the sling is being applied to at time of order.

It could be interpreted that some manufacturers may be seen to unintentionally “scaremonger” customers by stating that they can only purchase their own products or designs alongside their hoists in order to allow full compatibility or compliance. However, providing that a full risk assessment is conducted (Reference: LOLER 1998/PUWER 1998) and the equipment is fit for purpose, then many alternative suppliers’ products can usually be used.

There is always a risk of an inappropriately sized sling being used if one assumes that one size fits all or that the assessment is rushed or not taken appropriately. If you experience or suspect varying sling designs, always consult with either our Customer Service Team and/or your local Moving & Handling Advisor to guide you further.

**Choosing the Right Sling**

Choosing the correct sling for your patient is of vital importance. This ensures that patient comfort and safety are adhered to at all times. Mackworth Healthcare Ltd recommend that before using a sling, a full risk assessment is completed by a qualified professional in order to determine that the correct sling and size is suitable for each individual.

Other factors such as patient disabilities, weight distribution and individual characteristics will also determine the appropriate size and sling design relevant for your patient. However, the clinician using the sling must apply an appropriate assessment prior to use.

Published in 2012, the document titled ‘**Getting to grips with hoisting people**’ produced by the Health & Safety Executive (HSE) highlights the problems associated with hoisting people and sets out guidance to deal with these.

**Extracts from this document include:**

**What can go wrong?**

People can fall during hoisting for a number of reasons. Problems include:

- **Selection of the wrong size sling** - resulting in discomfort if the sling is too small and a risk of the person slipping through the sling if it is too large.*
- **Selection of the wrong type of hoist or sling for the individual, or for the specific task** - resulting in inadequate support and increased risk of falling from the sling.
- **Incompatibility of the hoist and sling** - resulting in insecure attachment between the two.
- **Failure of equipment due to poor maintenance, lack of inspection, inappropriate laundering processes or as a result of inadequate repair or modification.**
- **Leaving a vulnerable person unattended in a hoist, or in a position where they may be at risk of falling from the bed or chair**
- **Not using the safety harness/attachment (if applicable).**
- **Instability when moving someone on a mobile hoist** - resulting in them striking objects. This is likely to cause injury, especially to those with vulnerable skin, and will increase the risk of a fall or overturn.
*Note:

Sling sizes and coding varies between manufacturers. There is a risk of using an inappropriately sized sling if you make assumptions without checking the suitability of a specific sling for the individual. For example, two large slings from different manufacturers may be different sizes - the body of the sling may be a different length or the number of loop attachments may differ, resulting in a different lifting position. Additionally, sling designs can alter over time, so a new sling from a manufacturer may differ in size or attachment strap length from on previously purchased. Some slings come with a range of different length loops for attachment to the hoist. These can be used to increase the comfort of the individual or put them in a more reclined or upright position. However, you should take great care to choose the correct loops for the individual so that they are not at risk of slipping from the sling, and to use the same loop configuration on both sides to reduce the risk of the person falling from the sling sideways.

Equipment safety checks for slings prior to each use, need to ensure that:

- The sling is the correct size and type for the client and is fit for purpose;
- The sling and hoist are compatible;
- All labels are legible and show the SWL and unique identifier and size;
- There are no signs of fraying, tears or deterioration;
- All stitching is present and intact;
- The velcro (if applicable) is clean and free of fibres/fluff etc;
- The buckle (is applicable) has no signs of damage etc;
- The loops/clips have no obvious signs of damage/fraying etc; and
- It has been cleaned.

For a copy of this HSE document please go to www.hse.gov.uk/pubns/hsis3.pdf

**‘Contains public sector information published by the Health and Safety Executive and licensed under the Open Government Licence’. A copy of this licence can be found at http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/**.

The HSE have also produced a very useful flowchart (Figure 1) which provides a check list for carers when using a mobile hoist and sling. A copy of this chart is provided, with their permission, on page 13 of this document.
# SLING SIZE ASSESSMENT GUIDE

## STANDARD SLING RANGE

<table>
<thead>
<tr>
<th>Girth</th>
<th>Height</th>
<th>Sling Size</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot; - 21&quot;</td>
<td>2' 8&quot; - 3' 3&quot;</td>
<td>XXX SMALL</td>
<td>BLUE STRIPED</td>
</tr>
<tr>
<td>43 cm - 53 cm</td>
<td>81 cm - 99 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19&quot; - 25&quot;</td>
<td>3' 3&quot; - 3' 9&quot;</td>
<td>XX SMALL</td>
<td>PURPLE</td>
</tr>
<tr>
<td>48 cm - 63 cm</td>
<td>99 cm - 114 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24&quot; - 30&quot;</td>
<td>3' 9&quot; - 4' 4&quot;</td>
<td>X SMALL</td>
<td>BROWN</td>
</tr>
<tr>
<td>61 cm - 76 cm</td>
<td>114 cm - 132 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27&quot; - 36&quot;</td>
<td>4' 3&quot; - 4' 11&quot;</td>
<td>SMALL</td>
<td>RED</td>
</tr>
<tr>
<td>68 cm - 91 cm</td>
<td>129 cm - 150 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31&quot; - 41&quot;</td>
<td>4' 10&quot; - 5' 6&quot;</td>
<td>MEDIUM</td>
<td>YELLOW</td>
</tr>
<tr>
<td>79 cm - 104 cm</td>
<td>147 cm - 168 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40&quot; - 51&quot;</td>
<td>5' 5&quot; - 5' 10&quot;</td>
<td>LARGE</td>
<td>GREEN</td>
</tr>
<tr>
<td>102 cm - 129 cm</td>
<td>165 cm - 178 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49&quot; - 59&quot;</td>
<td>5' 7&quot; - 6'</td>
<td>X LARGE</td>
<td>BLUE</td>
</tr>
<tr>
<td>124 cm - 150 cm</td>
<td>170 cm - 183 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58&quot; - 69&quot;</td>
<td>5' 7&quot; - 6' 4&quot;</td>
<td>XX LARGE</td>
<td>BLACK</td>
</tr>
<tr>
<td>147 cm - 175 cm</td>
<td>170 cm - 193 cm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## PAEDIATRIC SLING RANGE

<table>
<thead>
<tr>
<th>Girth</th>
<th>Height</th>
<th>Sling Size</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot; - 21&quot;</td>
<td>32&quot; - 39&quot;</td>
<td>UNDER 4</td>
<td>BLUE STRIPED</td>
</tr>
<tr>
<td>43 cm - 53 cm</td>
<td>81 cm - 99 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19&quot; - 25&quot;</td>
<td>39&quot; - 45&quot;</td>
<td>4 - 6 YEARS</td>
<td>RED STRIPED</td>
</tr>
<tr>
<td>48 cm - 63 cm</td>
<td>99 cm - 114 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24&quot; - 30&quot;</td>
<td>45&quot; - 52&quot;</td>
<td>6 - 10 YEARS</td>
<td>YELLOW STRIPED</td>
</tr>
<tr>
<td>61 cm - 76 cm</td>
<td>114 cm - 132 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27&quot; - 36&quot;</td>
<td>51&quot; - 59&quot;</td>
<td>10 - 14 YEARS</td>
<td>GREEN STRIPED</td>
</tr>
<tr>
<td>68 cm - 91 cm</td>
<td>129 cm - 150 cm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Using the Guide

Choosing the right sling is of vital importance. This ensures that patient comfort and safety are adhered to at all times. Mackworth Healthcare Ltd recommend that a full risk assessment is completed by a qualified professional in order to determine that the correct sling and size is suitable for each individual.

This size chart is intended as a guide only. Other factors such as patient disabilities, weight distribution and individual characteristics will also determine the appropriate size sling for your patient. All of our slings have colour coded binding to help identify the sling size.

## Taking the Measurements

Using a soft, flexible measuring tape, take and record the measurements suggested below:

**Girth** - For men and children this is the measurement around the chest, measured just under the arms. For women, this is measured around the hips. These measurements can either be taken lying down or in a seated position.

**Height** - In order to achieve the most accurate measurement, this is best carried out with the patient in a lying position.

Once the girth and height measurements are recorded, please refer to the above chart to determine the correct sling size for your patient. If in doubt, please seek advice from your clinician or call our Customer Service Dept. on the number below.

For assistance please contact our Customer Service Team on +44 (0)800 779 7218. Alternatively you can visit our website at www.mackworth-healthcare.com.

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N.B. This colour coded sizing system applies to Mackworth Healthcare slings only.
Prior to use:

1. Ensure you are aware of the hoist and sling manufacturer's fitting instructions.
2. Inspect the sling for wear and damage, with particular attention being paid to the body of the sling, webbings and stitch lines.
3. Check the condition of the plastic clip every time the sling is used. Particularly if the sling is used with clients over 200kg, the clip should be inspected prior to every use / application for stretch or distortion, signs of stress or fatigue. Should any clip show signs of stretch or distortion, signs of stress or fatigue, the sling should not be used and replaced immediately.
DOSEC® CLIP (Patent No. GB 2448727 B)
INSTALLATION INSTRUCTIONS

⚠️ Check the sling before each use. Bleached, torn, cut, frayed, or broken slings are unsafe and could result in serious injury or death to the patient.

Check the condition of the plastic clip every time the sling is used. Particularly if the sling is used with clients over 200kg, the clip should be inspected every use for stretch or distortion, signs of stress or fatigue. Should any clip show signs of stretch or distortion, signs of stress or fatigue, the sling should be replaced immediately.

Destroy and discard worn slings. Do not alter slings. Never leave a patient unattended whilst in a sling. These clips should ONLY be used on spreader bars with clip stud fittings and not those with loop attachments.

**Step 1.** Align the clip with the spreader bar, the clip needs to be in this position before moving onto step 2.

**Step 2.** Place top of large hole over one side of stud.
Step 3. Push firmly until clip is fully over the end of the stud.

Step 4. Pull clip firmly into it's working position (the small hole).

Finally, the clip should be orientated as shown with the large hole nearest the sling body. Make sure the clips selected are the same either side of the sling and it is essential to check that they are securely attached BEFORE lifting the patient.
DOSEC® CLIP CONVERTERS
INSTALLATION INSTRUCTIONS

⚠️ Check the sling before each use. Bleached, torn, cut, frayed, or broken slings are unsafe and could result in serious injury or death to the patient.

Check the condition of the plastic clip every time the sling is used. Particularly if the sling is used with clients over 200kg, the clip should be inspected every use for stretch or distortion, signs of stress or fatigue. Should any clip show signs of stretch or distortion, signs of stress or fatigue, the sling should be replaced immediately. 200kg is the maximum weight application for standard slings.

Destroy and discard worn slings. Do not alter slings. Never leave a patient unattended whilst in a sling. When applying Dosec® clip convertors to loop slings, this system when used in accordance with manufacturers instructions only can be applied to a clip stud spreader bar.

Fitting Instructions

The purpose of the Dosec® clip converter is to enable a looped sling to be used on a spreader bar designed for the use of clips; this is a cost effective way of utilising your equipment to its full potential. It is recommended that if possible the correct sling to hoist combination is used and clip converters are only used when that is not achievable.

When using the clip converter, care must be taken to make sure that the converters are attached to the loop which is closest to the body of the sling on both the shoulders and the legs. This ensures that when fitted to the hoist, the patient will be sitting straight and that the best lift is achieved. as there is a loss in hoist lift due to the distance that the clip is from the sling.

Attaching of the converter is done by passing the loop of the converter through the loop closest to the sling and wrapping the webbing around that loop the clip is then passed through the loop on the clip converter and pulling tight the clip cannot then come undone until the loop is again passed through clip converts own loop, AS SHOWN IN THE PHOTOGRAPHIC SEQUENCE ON THE NEXT PAGE.

When fitting the Dosec® clip to the spreader bar, please follow the instructions on the clip fitting instructions on the next page. Instruction video's are also available on our website, showing how to fit the Dosec® clip to the spreader bar and fitting a clip converter to a standard looped webbing. To view these video’s please go to the website listed below.

http://www.mackworth-healthcare.com/training/.
Fitting Instructions (Dosec® Clip Converters - provided in sets of 4)

Wrap the clip webbing around the loop of the sling and pass the handle and the clip itself through the loop of the clip converter.

1. 2.

Pull the webbing tight so that it cannot then come undone until the clip is again passed through clip converters own loop to remove it.

3. 4.
**Figure 1** Checklist – using a mobile hoist

**START THE TASK**

- Had up-to-date moving and handling training, including hoist training? [ ] Feel confident to use hoist? ▼ **YES**
- Current and relevant person-specific handling plan for using hoist? [ ] ▼ **YES**
- Person’s condition/ability same as when they were assessed for this equipment? [ ] Do you have consent? ▼ **YES**
- Number of handlers available as per handling plan? [ ] ▼ **YES**
- Familiar with this specific hoist & sling? [ ] ▼ **YES**

**ENVIRONMENT AREA** safe for hoisting, ie
- Sufficient space? [ ] Clear of obstacles? [ ] Access around/under furniture? [ ] Clean/dry? ▼ **YES**

**HOIST**
- Familiar with emergency stop and lowering systems? [ ] ▼ **YES**

**SLING**
- Sling compatible for use with this hoist? [ ] ▼ **YES**
- Sling is one identified in handling plan and is still appropriate (ie right size and type, cross reference with care plan)? [ ] ▼ **YES**
- Visual check made of sling, ie
  - Clean and undamaged? [ ] Label legible – SWL clearly displayed? [ ] Unique identifier? [ ] LOLER examination/service up to date (6 monthly)? ▼ **YES**

**Visual check made of hoist, ie**
- Battery charged? [ ] LOLER examination/service up to date (6 monthly)? [ ] No obvious signs of damage? [ ] Hoist moves freely on castors backwards and forwards? [ ] Base adjustment and lifting/lowering mechanisms move freely? [ ] Emergency button set in correct position? [ ] SWL clearly displayed and not exceeded? ▼ **YES**

**DO NOT USE**
Check with supervisor

**NOTE**
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<table>
<thead>
<tr>
<th>DURING TASK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Hoist brakes OFF (unless otherwise specified in manufacturer’s instructions)?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Sling loops/clips attached securely and correctly to hoist?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Sling safety harness/belt secured if there is one?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Person looks safe and comfortable? □ Sling smooth under person? □ Sling leg configuration correct?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Person’s legs safe distance from mast?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Hoist with hoist legs widened (unless handling plan states otherwise) until straps tight \ Recheck person is safe, comfortable and correctly positioned □ Start full hoist</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AFTER TASK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Person’s position correct? □ Are they comfortable?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Detach sling from hoist □ Remove sling (if applicable) ensuring person left in safe position</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Hoist &amp; sling suitable for next use, ie clean, undamaged?</td>
<td>▼ YES</td>
</tr>
<tr>
<td>□ Store hoist in suitable, safe place □ Recharge hoist (if applicable)</td>
<td></td>
</tr>
</tbody>
</table>

### Unlock hoist brakes (unless otherwise assessed)

### Re-attach and re-check

### Fit as per handling plan

### Re-fit sling

### Turn spreader bar, giving person more leg room

### Hoist again, then reposition

### Clean hoist and/or report damage and/or launder sling – following organisational procedures
Figure A
Sewn into every sling is a high temperature compatible, launderable label for user guidance and traceability purposes.

Label Symbol Explanation

- Contact details of manufacturer
- Design, brand or type of sling
- The colour coded binding of the sling helps identify the sling size.
- **SPECIAL** Slings have a maximum weight limit of 200kgs/32 stone unless otherwise specified.

- Suitable for maximum weight of 200kgs/32 stone.
- Suitable for maximum weight of 300kgs/48 stone.
- Always read user or manufacturers instructions
- High temperature launderable at 85°.
- Tumble dry on a cool setting.
- Do NOT dry clean.
- Do NOT iron.
- Do NOT use bleach.

To be used as required for patient/client details.

Figure B
Sewn into every sling is a unique embroidered label, identifying maximum patient weight and serial number for traceability and LOLER compliance. This label will not wash out.
SLING PRODUCT RANGE

- UNIVERSAL
  - Oak
- UNIVERSAL WITH HEAD
  - Oak H/D
- PATIENT SPECIFIC
  - Elm
- UNIVERSAL EASIFIT
  - Yew
- UNIVERSAL EASIFIT WITH HEAD
  - Yew H/D
- CLASSIC UNIVERSAL
  - Hazel
- CLASSIC UNIVERSAL WITH HEAD
  - Hazel H/D
- LUXURY TOILET WITH HEAD SUPPORT
  - Willow H/D
- SIT TO STAND BACK SUPPORT
  - Maple
- SIT TO STAND BELT - Poplar
- HAMMOCK
  - Pine
- HAMMOCK WITH HEAD
  - Pine H/D
- HAMMOCK TOILETING
  - Pine Toileting
- HAMMOCK TOILETING WITH HEAD
  - Pine Toileting H/D
- HAMMOCK EASIFIT
  - Beech
- HAMMOCK EASIFIT WITH HEAD
  - Beech H/D