

Our Experience – Sling Wear & Tear, & Life Expectancy

Pelican has been designing and making Slings since 1989. We have observed that many Pelican Slings are still in use, more than ten years since they were purchased. Some of the Slings may have been repaired by Pelican during this time, and then put back in to service. When a Sling comes in to our factory for inspection, we examine it and make any repairs if necessary, or decommission the Sling, if it is no longer safe to use. We cannot guarantee the lifespan of a Sling as this depends on many factors outside our control. This does not include Single Patient Use Disposable Slings.

Slings, like any other product made from material, will deteriorate over time, just like a shirt, jeans or chair fabric. Not only do Slings suffer wear and tear during use, but they always deteriorate during the washing process where they are under great stress in the washing machine. We recommend air-drying the Slings in the shade to prolong their life. If the Slings need to be tumble dried, we recommend tumble drying on a cool setting. A tumble dryer on a hot setting can make the drum so hot that the nylon material may be damaged. If you do tumble dry on a cool setting, ensure the drum of the machine is also cool because if the material touches a hot drum it may still be damaged.



Premier Sling



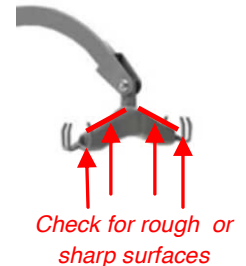
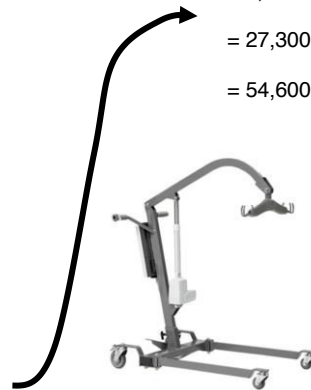
Washing Bag

When a Sling is used to lift someone, it is vital that it is safe to use. A safety check should be done before each lift, and this should be carried out by the people who are involved in the lift. Look for any fraying or torn material or webbing. Check the stitching of the webbing on the separate loops. The Sling fabric can get caught in a washing machine at the top of the drum or under the agitator. We also make a large Washing Bag that holds the Sling and the webbing straps to help prevent the sling material or webbing getting caught in the machine. We recommend removing any damaged Slings from use, and cutting the webbing straps off, to ensure they cannot be used again.

It is possible that Slings may be used thousands of times during their life. The table below outlines common sling usage:

| Time of day | Transfer | # of lifts |
|----------------|--|-------------------|
| Early Morning | Bed to wheelchair | 1 |
| Early Morning | Wheelchair to toilet | 1 |
| Early Morning | Toilet to shower chair | 1 |
| Early Morning | Shower chair to wheelchair | 1 |
| Morning | Assuming breakfast is had in wheelchair | |
| Morning | Wheelchair to lounge chair | 1 |
| Late Morning | Lounge chair to wheelchair | 1 |
| Late Morning | Wheelchair to toilet | 1 |
| Late Morning | Toilet to wheelchair | 1 |
| Lunchtime | Assuming lunch is had in wheelchair | |
| Lunchtime | Wheelchair to lounge chair | 1 |
| Late Afternoon | Lounge chair to wheelchair | 1 |
| Late Afternoon | Wheelchair to toilet | 1 |
| Late Afternoon | Toilet to wheelchair | 1 |
| Early Evening | Assuming dinner is had in wheelchair | |
| Early Evening | Wheelchair to toilet | 1 |
| Early Evening | Toilet to wheelchair | 1 |
| Early Evening | Wheelchair to bed | 1 |
| TOTAL | | 15 per day |

= 105 lifts per week
 = 5,460 lifts per year
 = 27,300 lifts every 5 years
 = 54,600 lifts every 10 years



Sometimes we repair Slings where the webbing straps which hook on to the lifter have frayed a lot and become fluffy. This is almost always caused by a rough surface where the strap hooks on to the lifter. It is best to run your finger over the area where the webbing strap hooks on to, as there may be a small sharp metal edge or rough patch which is causing the damage. If there is any foam or plastic shaping on the hanger bar, these can often have a ridge where the plastic has been shaped, which can also be sharp.



Small 'laddering' marks

Sling material may start to deteriorate over time. In the past we have seen damage to Slings caused deliberately by residents with dementia. General wear and tear may include small laddering in the material, or the Sling may be fraying in some areas. Although small amounts of laddering and fraying may be visible, this might not necessarily mean the Sling needs to be replaced. Facilities should be familiar with the amount of general wear and tear which is acceptable and safe, and can contact Pelican if there is concern. Large amounts of laddering and fraying may be a sign that the Sling is coming to the end of its useful life, and should be replaced.

We suggest that all Carers are told that if there is an accident with any Sling or Hoist that causes death, they would be cross-questioned by a solicitor in the Coroner's court. This can be a very stressful time and causes a lot of heartache for everyone involved.

The life expectancy of a Sling can vary from one patient to another. Some patients may be incontinent and soil their Sling so it will need washing perhaps a few times a day. Another patient may never soil their Sling so it may not be washed for months. Washing normally damages the Sling more than lifting. Remember that bleach will greatly reduce the lifespan of a Sling. Ask your laundry if they use bleach, and if so, if they can reduce or eliminate using it when washing Slings.

Sometimes the Nursing Home can purchase a small sized Sling for a new patient. The patient may only use the Sling for six weeks and then not require it. The small Sling can then be stored in a cupboard, away from U.V. light. It may be seven or eight years later when another small patient is admitted and the Sling will be used again. In this case the Sling would have little use over many years.

We have read that some Hoist Manufacturers may give a Sling life expectancy of five years. Another Manufacturer may give four to seven years. There is a German Manufacturer that states that their Keyhole Plate Slings must be replaced every twelve months, whether or not there is any sign of wear and tear.

The International Standard for Slings, ISO10535, requires manufacturers to state a life expectancy of their Slings. We state 6 to 10 years, remembering that they may last longer or shorter, depending on their condition and use. We understand that each Sling may be used differently, depending on the number of lifts and times of washing as well as the fact that the Sling could be in storage for years. However, we stress the importance of always inspecting a Sling before use, as even a new Sling may be damaged during its first wash. The Standard also states that all Slings must have a Thorough 6 Monthly Inspection, or more frequently if stipulated by the manufacturer. These Inspection Records must be maintained and able to be produced if ever there is an accident.

Slings should be removed from under a patient for pressure care and dignity reasons, but sometimes it is necessary to leave the Sling under a patient. If a patient is in a wheelchair, the webbing lifting straps can get caught in the wheels, and therefore it is important to check the webbing before lifting. The Mesh, Hammock with Chair Pad, or All Day Sling material Slings are better if the Sling is to be left in-situ, or the Pelican Bosun Chair Sling may be even better as the material is not underneath the patient's bottom.

There have been many accidents with Lifting Slings but a lot of staff working in Nursing Homes or Hospitals do not know this, as the accidents are normally kept confidential. Sometimes there may be a 'near miss' with no injury. At other times the patients are injured or die as a result of a Hoist and Sling accident. In the U.S.A. the Food and Drug Authority (FDA) have stringent rules on reporting accidents whether they are 'near misses' or accidents. A 'near miss' is just seconds away from an accident!

Keyhole Plate Slings used on Tilt Frame Hoists have a disadvantage with the actual Keyhole Plates. The Keyhole Plate can be damaged when being washed, or caught in wheelchair wheels, etc. However we believe it is not possible to predict if a Keyhole Plate is about to fail. The naked eye cannot detect a hairline fracture on the Keyhole Plate but under pressure when lifting a patient, it can break. Pelican incorporates Safety Straps with our Keyhole Plate Slings. If the Keyhole Plate fails, the Safety Straps will prevent the patient falling to the floor. Also Keyhole Plates have small lugs that should help keep the Keyhole Plate in position. Over time these lugs wear down, so the Keyhole Plate can slide up and down freely. Unfortunately many Carers do not understand how dangerous this can be. Research into the FDA and UK Accident Reports reveal that there are far more accidents from the Slings slipping off the Hoist, compared to the actual Keyhole Plate breaking. Again the Pelican Safety Straps can prevent a serious accident if a Keyhole Plate slips off the Hoist.

Pelican offers a Sling Inspection and Repair Service for most brands of Slings. Please contact us to enquire about this service.

Key points:

- Slings do **deteriorate** over time, like anything made from material
- If a visual inspection shows signs of wear or fraying, etc., the sling should be **withdrawn from use**
- Wear and tear can be due to both the **use**, and the **washing** of the product
- Slings should be **inspected for safety before every use**, and thoroughly inspected **at least every 6 months**
- Pelican offers a **Sling Inspection & Repair Service**
- Slings may be used for **many thousands of lifts** during their lives
- Ensure the 'coat hanger' is smooth