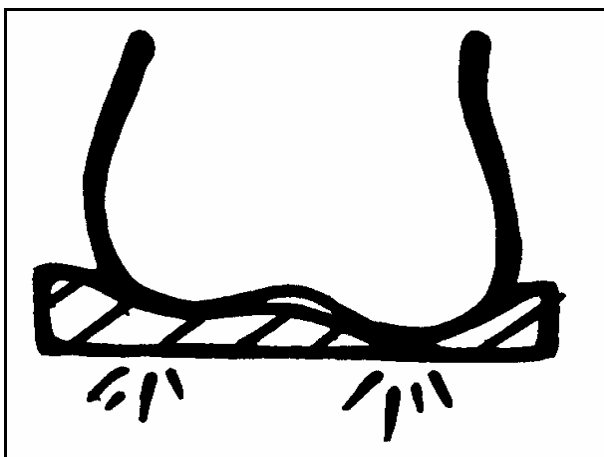


Fact Sheet 4: Common secondary injuries for wheelchair users

When a wheelchair is provided without measurement and fitting by a trained professional, the user can often suffer very serious secondary injuries. Most of these injuries can be easily prevented but are very difficult to treat and in many cases can threaten the life of a wheelchair user. Therefore it is crucial that wheelchair providers are aware of these injuries and take measures to ensure that the wheelchair provided to each user is appropriate and safe.

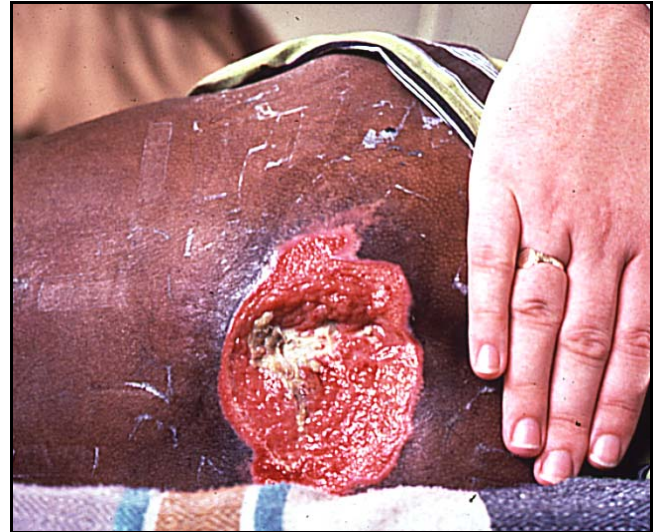
Pressure sores

A pressure sore is a very serious deep wound that usually occurs in bony areas such as the hips, seat bones and ankles. It is one of the leading causes of death of people with spinal injuries in low income countries. It occurs when an area of skin does not receive any pressure relief, causing the tissue to die because of lack of blood flow to that area. They can take up to a year to heal, and if left untreated the sore will become infected and cause death. Yet, pressure sores are relatively easy and inexpensive to prevent. A simple pressure relief cushion can save a wheelchair user's life.



If the cushion collapses, pressure from the wheelchair user's body weight can cut off blood supply to an area, causing a pressure sore.

A 1999 cost survey at Ragama Rehabilitation Hospital in Sri Lanka estimated the cost of care for a pressure sore patient at US \$2,483 per year. The simplest pressure relieving cushion available in Sri Lanka costs only US \$15.



Without treatment, a pressure sore could become infected and cause death.

Contractures

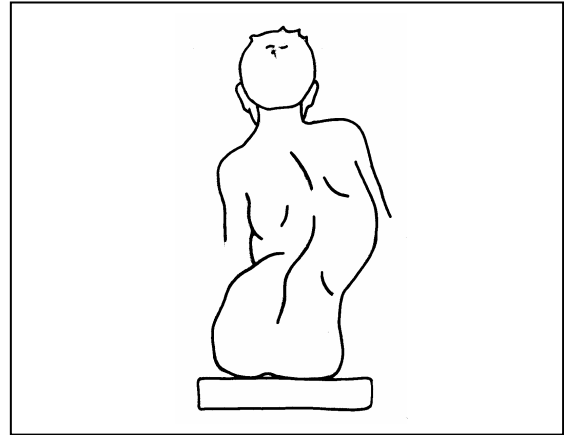
Contractures occur when a joint is kept in a bad position for a long period of time. The joint gets stiff and then the soft tissues tighten, making it impossible to straighten or bend the limb. Contractures usually occur at hips, knees and ankles and can be caused by a wheelchair which fits poorly or does not provide the user with adequate support of the trunk, legs and feet.

Shoulder injuries

Shoulder injuries often occur when a wheelchair user is using a wheelchair with the wheels positioned poorly in relation to the arms. The user then must strain his or her shoulders to push the wheelchair, causing permanent damage to the joints and tendons that will eventually make it very painful or impossible for the person to push the wheelchair.

Spinal curvature and back pain

Spinal curvature (or scoliosis) is very common in people with spinal cord injuries and post-polio. A lack of trunk and back muscles can gradually cause the spine to curve, leading to a permanent deformity and often chronic back pain. A wheelchair which lacks appropriate postural support or fits poorly (i.e. children being given adult-sized wheelchairs) can contribute to spinal curvature. A well fitting, appropriate wheelchair can help to prevent it.



When a wheelchair lacks adequate postural support, the user can develop permanent spinal curvature.

| | Common secondary injuries | Possible equipment related causes | Prevention |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure sores | Pressure sores are areas where the skin has broken open and the tissue has died, leaving a deep flesh wound that can sometimes extend to the muscle and bone. | Using a wheelchair that does not have a proper cushion; using an ill-fitting wheelchair; lying in bed without a proper mattress. | Provide the user with a cushion designed for pressure relief; provide a wheelchair that fits the measurements of the user; provide a pressure relieving mattress. |
| Contractures | Contractures are a stiffness or tightness in joints that can make it impossible to straighten limbs. | Using a wheelchair without proper postural and leg support; sitting in a wheelchair that is too large or too small. | Ensure the user's trunk, legs and feet have proper support; provide a wheelchair that fits the measurements of the user. |
| Shoulder injuries | Shoulder injuries are inflammation or damage to tendons and muscles which make the shoulder painful or impossible to use. | Improper positioning of the wheelchair user's body in relation to the wheels; using a wheelchair that is too big. | Position the wheels of the wheelchair so the user's shoulders are over the axle; provide a wheelchair that fits the user. |
| Spinal curvature (scoliosis) or back pain | Scoliosis is a permanent curvature of the spine often resulting in severe physical deformity. | Using a wheelchair which does not provide proper postural support. | Provide a well-fitting wheelchair that fits the measurements of the user. |

For more information, visit Motivation's website at: <http://www.motivation.org.uk> or contact us on +44 (0)1275 464012.