

Upper Extremity Protection for Wheelchair Users

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Fact Sheet

Keys to **MOBILITY** without **INJURY** to Upper Extremities in Wheelchair Users

59% of people with tetraplegia

41% of people with paraplegia

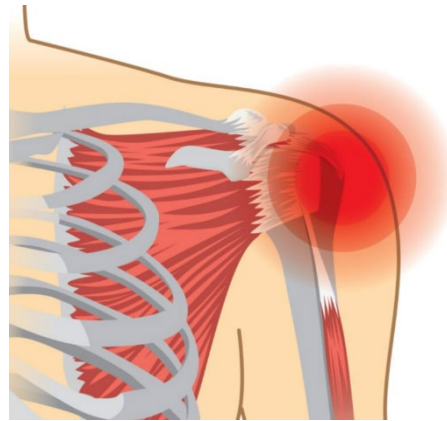
REPORT PAIN

Shoulder

Elbow

Wrist

Injuries in **30-60%** of people with paraplegia and tetraplegia



PROTECT during mobility, **KNOW** the signs, **STOP** if it hurts!

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Certain positions can **INCREASE FORCE** on muscles of the shoulder:

Reaching overhead

TIP: think “thumbs up” if need to perform



Position in bed to decrease strain on shoulder

TIP: position arm in abduction and external rotation, alternate arms



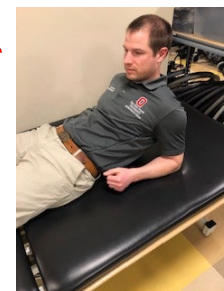
Stretching front of shoulders

TIP: bring elbows forward when resting to keep in line with shoulder



Certain arm positions when coming to sitting places the shoulder at risk

TIP: come to elbow first when sitting up



Carrying objects with straight arm

TIP: bring closer to body with flexed arm to decrease stress on muscles



Poor posture can increase pinching of muscles and impair ROM

TIP: always maintain good postural alignment



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PROTECT during transfers

Uneven transfers can combine pinching, stretching, and loading of shoulder muscles

TIP: perform even transfers whenever possible, consider use of lift device

Extreme wrist motion—especially extension—can lead to pain

TIP: use closed fist with wrist in neutral



Excessive transfers with same lead arm can lead to overuse injury and pain

TIP: vary arm that leads transfer

Improper mechanics can cause pain and injury

TIP: flex trunk over weight bearing arm while performing protraction and depression**

PROTECT during wheelchair mobility

Positioning of rear wheels for optimal arm positioning

TIP: bring as forward as possible without compromising stability

Improper alignment in wheelchair can cause increased stretching and loading at shoulders

TIP: 100-120 degrees elbow flexion at top of wheelchair OR middle finger aligned with rear wheel axle



KNOW the signs

Pain at shoulder region—in front, on side, in back

Pain radiating down arm

Pain at shoulder with over-head motions, wheelchair mobility, transferring, activities of daily living

Pain at night

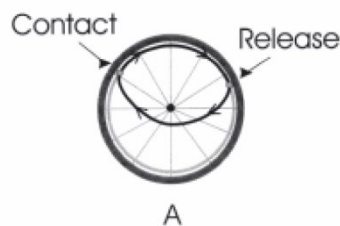
STOP

CONTACT physician!

EXERCISE to maintain strength and flexibility

Exercises should be tailored to each individual and their level of strength and mobility

CONTACT your therapist prior to starting exercise program in order to receive appropriate exercises and modifications to ensure safety



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