

Risk*topics*

Wheelchair Safety

Introduction

Just like the people who use them, wheelchairs come in all shapes, sizes and conditions. There are manual and powered wheelchairs and wheelchairs that allow users to go from a standing to a sitting position. Some are equipped with removable arms that allow for easier lateral transfer. All wheelchairs need the user to fully understand the safety precautions to consider when operating the chair, as well as, the recommended inspection, maintenance and servicing requirements.

Inspection, Maintenance and Servicing

The inspection, maintenance and servicing of wheelchairs is often overlooked by the user or equipment supplier after the initial purchase. To operate safely and effectively, wheelchairs should be regularly inspected and maintained by the end user or supplier. In addition, it is advisable to have wheelchairs inspected and serviced by a qualified technician at least every six months. Routine care and maintenance will extend the life and efficiency of the wheelchair, while also providing the user with a safer mode of transportation. **Regular inspections should include the following areas as a minimum:**

- **General**-Wheelchairs should easily roll straight when the brake is in the released position and there should be no excessive drag or pull to one side.
- **Seat & Back**-Upholstery should be free of rips and sturdy, with no excessive sagging and no loose or broken hardware attachments.
- **Rear Wheel**-There should be no rough edges or peeling and there should be no wobbling. Check that quick release axle pins release easily and are adjusted so that they are slightly loose when in place.
- **Spokes**-Front and rear tires should be inspected for broken spokes.
- **Front Casters**-Proper tension should be present so that when spun, the caster comes to a gradual stop. If wobbling or binding, the locknut may need to be adjusted or replaced. The wheel bearings should be clean and moisture free.
- **Tires**-Tires should be inspected for flat spots, wear, or cracks and replaced if any of these conditions exists. Pneumatic tires should be properly inflated at all times.
- **Wheel Locks**-Wheel locks should not interfere when tires are rolling. Locks should be easily engaged, with pivot points free of wear and looseness.
- **Electric Brakes**-Check to ensure they stop the wheelchair without veering and that they hold on a slope.
- **Seat Straps**-Any positioning straps should be inspected for wear or missing/damaged hardware.
- **Foot Plates/Rests**-Should be present, not bent, and position easily. Latches should hold securely.

- **Tipping Lever**-Should be present and secure, to prevent wheelchair from tipping backwards.
- **Cleaning**-All upholstery, including armrests, backrest, and seat, should be kept clean and sanitary.
- **Glide test**-Push the chair on a smooth level floor and let it glide. It should go a long way in a straight line. If not, check the bearings, casters and wheels.
- **Electrical problems with power wheelchairs**-Note which side is affected. If the joystick box lights are flashing, note the pattern as they number of lights or blinks generally signals a specific error code.
- **Drive motors**-Listen for unusual noises from the motor or gearbox. Check drivebelts for slippage and wear. Check for jerking motion of the chair.
- **Joystick control**-The joystick should return to neutral freely, without binding. The seal to the joystick should be kept intact, as it keeps water and dirt out. All switches and controls should be tightly in place and the joystick clamp should hold the joystick firmly in place.

User Safety

Even a well-maintained wheelchair may be unsafe if general safety precautions are not followed by the user. **Some general wheelchair safety guidelines include:**

- Practice preventative maintenance-do not wait until it breaks!
- For power wheelchairs, always turn off the power before transferring. It is actually best to turn off the power when not driving.
- For manual wheelchairs, always set the wheel locks before transferring.
- Always lift the footplates up before getting in or out of a chair.
- Make sure removable arms or leg rests are secure before use, by lifting up on the arms and gently trying to swing the leg rest out away from the chair.
- When adjusting the elevating leg rest, support the frame while lowering or raising, to prevent a sudden release of the leg rest.
- Keep loose objects or lap covers away from wheel spokes.
- Do not pull backwards on doors or other objects when sitting in a manual wheelchair.
- Do not put heavy loads on the back of a manual wheelchair-it may tip over backwards!
- Do not remove the anti-tip wheels on a power wheelchair.
- Do not let children play on a wheelchair or ride on battery cases or footrests.
- When riding by/near the streets at night, use headlights and taillights. Pick bright colors for wheelchairs and consider a flag when riding outdoors near traffic.
- Avoid going up or down steep slopes.
- For power wheelchairs, have the speed control set to avoid going faster than can be safely handled in forward and reverse.
- If casters flutter (rapid side-to-side motion), get them fixed.
- Avoid use in wet weather conditions, as the electronics may be damaged and wheels may lose traction.
- For power wheelchairs, be aware of the effects of radio/TV stations and cell phones. The wheelchair should be turned off before using a cell phone.
- Read the operating manual for the wheelchair and observe all precautions.

Summary

A wheelchair is an important transportation aid to those in need but is only as safe as the user or provider ensures. A well-maintained wheelchair, operated in a safe manner, can offer

mobility to its user and be a valuable tool to those in need of assisted mobility.

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