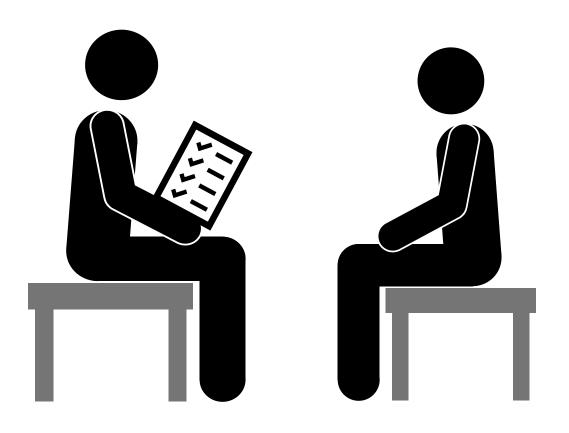


FREE WHEELCHAIR MISSION

WHEELCHAIR TRAINING MANUAL

FOR PARTNERS





INTRODUCTION TO FREE WHEELCHAIR MISSION (FWM)



Free Wheelchair Mission is a humanitarian, faith-based, nonprofit organization providing wheelchairs to partner organizations internationally.





Free Wheelchair Mission currently provides the GEN_1, GEN_2, and GEN_3 wheelchairs. Our three types of wheelchairs are manufactured at our factory in China. The container of 440-550 wheelchairs is shipped to our partner organizations.





Our partner organizations provide the wheelchairs to people living in their country who require a wheelchair for mobility.



Welcome to Wheelchair Training!

www.freewheelchairmission.org



FREE WHEELCHAIR MISSION STANDARDS

1	FWM wheelchair providers will screen applicants.	
2	FWM wheelchair providers will correctly assemble and adjust the wheelchair for each individual.	
3	FWM wheelchair providers will not give an unassembled wheelchair to the end user or to any untrained sub-distribution partner.	
4	FWM wheelchair providers will not knowingly give a wheelchair to someone with a pressure sore located on a weight bearing area. The partner needs to refer to a medical professional. It is important that the person is referred to a medical professional no matter where the pressure sore has formed. Exceptions include if the person was cleared by a medical professional or if the pressure sore is healed over/closed.	
5	FWM wheelchair providers will not give a FWM basic wheelchair to someone who cannot safely sit up or safely hold their head upright, unless the partner is trained to provide adaptations and has been approved by the Medical Programs Manager or Free Wheelchair Mission Regional Trainer. If the individual is put in an unsafe situation, you should not provide a wheelchair. The partner should refer out for an appropriate wheelchair (or a partner who can provide necessary supports).	
6	FWM wheelchair providers will never charge the end user for the wheelchair or wheelchair service.	
7	FWM wheelchair providers will ensure that all individuals who receive a wheelchair will also receive training on body care, pressure relief exercises and education, mobility skills, and transfers.	



BASIC OR INTERMEDIATE LEVEL PROVISION

Basic Wheelchair Provision

A basic wheelchair is best for a person who requires a wheelchair for mobility and that can sit upright and hold their head up safely.







Intermediate Wheelchair Provision

An intermediate wheelchair is best for a person who requires a wheelchair for mobility and that needs help to sit upright or hold their head up safely.







Why is this important?

Having a wheelchair that meets the person's needs will:

- Increase safety for the wheelchair user (ex. ability to breathe, prevent injury and pain)
- Help the client's body to grow in a healthy way
- •Help the client use their wheelchair to participate in activities they want or need to do for longer periods of time



FWM PROVISION & DISTRIBUTION PROCESS

RFF	BEFORE PROVIDING A WHEELCHAIR				
DEI	ACTION	RESOURCE TO USE			
1	Refer clients & do the assessment (application & measurements).	Application & Fit Form			
2	Review applications- Determine who will be safe in a FWM wheelchair and who needs a referral.	Application & Fit Form"Basic or Intermediate"			
3	Check the inventory for the appropriate wheelchair (model and size). Order if needed.	Application & Fit FormOrder Form			
4	Schedule & plan the event(s) or visit.	"Planning the wheelchair service event"			
5	Train or re-train everyone that will provide wheelchairs.	■ Contact FWM			
DUI	RING WHEELCHAIR PROVISION				
	ACTION	RESOURCE TO USE			
1	Review the application. If it was not completed prior, it should be completed as the first step.	Application			
2	Measure the wheelchair user to determine which size and adjustments are needed (or confirm the measurements).	Fit FormCrossbarsPosters			
3	Choose, assemble, & check the wheelchair to make sure it is safe and functional.	 "Prescription and Recommendation" Assembly Videos Assembly Manual Safe & Ready Checklist 			
4	Have the wheelchair user sit in the wheelchair and make any necessary adjustments.	Fit Confirmation Checklist			
5	Train the wheelchair user and/or caretaker, give the user manual, & share the Christian message.	User Training ManualUser Training Skills Checklist			
AFT	ER PROVIDING A WHEELCHAIR				
	ACTION	RESOURCE TO USE			
1	Update your database.	Your own database systemFWM sample database			
2	Make referrals to hospitals, clinics, or other organizations as necessary.	ISWPFWM Team Transformation			
3	Complete the Wheelchair Container Report.	Wheelchair Container Report			
4	Email or WhatsApp any quality control problems.	Phone #: +1 (323) 996-9198Field QC Report			
5	Follow-up with the wheelchair users & Free Wheelchair Mission.	Contact FWMFollow-up Form			



DISABILITY AWARENESS

"Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others."

UN General Assembly, Convention on the Rights of Persons with Disabilities



Treat people how you would want to be treated:

- Ask before you help
- Explain what you are doing
- Talk to the person who needs the wheelchair- the people with them may not be a caregiver
- When talking with someone try to be at eye level, so sit down if possible
- Do not move or touch a person's wheelchair without permission
- Talk with the person as you would with anyone else
- Focus on the person, not the disability
- Check the accessibility of places you go and make accommodations as needed



PRESSURE SORE EDUCATION

<u>Pressure sores:</u> Wounds caused by pressure, friction, or shear force.

- Pressure (pushing down)- Usually bony areas of the body pushing against a surface. Ex. Shoulder blades pressing on the backrest.
- Friction (rubbing against)- Usually movement against another surface. Ex. The back of your arm rubbing against the side of the wheelchair frame.
- Shear Force (pulling against): Usually more common in older adults with delicate skin. Ex. Transferring in and out of the wheelchair with your skin pulling against the seat.

Common areas pressure sores form:

People who have mobility impairments are more likely to get pressure sores due to decreased sensation and/or movement.

Sitting:

- Shoulder Blades
- Hips
- Tailbone
- Heels
- Elbow/Forearm

Laying:

- Knees
- Hips
- Head
- Shoulder Blades
- Heels







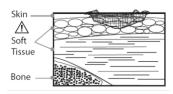
Pressure sores are dangerous because if these wounds are not taken care of, they can become infected and lead to many medical issues.

Skin Soft Tissue Bone

Stage 1

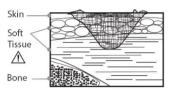
The skin turns a different color, red or purple.

Stage 2



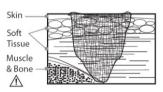
A blister forms and/or the skin opens.

Stage 3



The sore or wound grows deeper.

Stage 4



The sore goes deep into your muscle and bone.



ASSESSMENT & APPLICATION

The purpose of the assessment is to collect information to help you recommend a product or service.

1 Use the FWM application or WHO assessment forms specific to wheelchair provision. You are welcome to make your own, but please submit for approval by FWM.

Sit down near the person (and caregiver, if applicable). Introduce yourself, talk about the purpose of the assessment, and get to know the client.

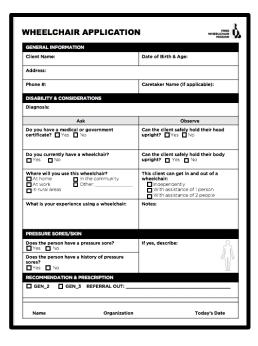
You will need to collect the following information:

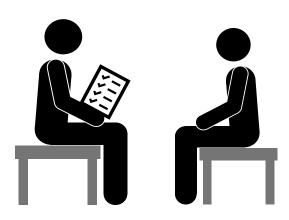
- Personal information
- Caretaker information
- Diagnosis/Reason the person requires a wheelchair
- Whether the person currently has a wheelchair or has used one in the past
- If the person uses public transportation or needs to go through narrow doorways
- Pressure sore history

You will need to observe the following:

- If the person can sit upright
- · If the person can hold his/her head upright
- How the person moves (transfers)

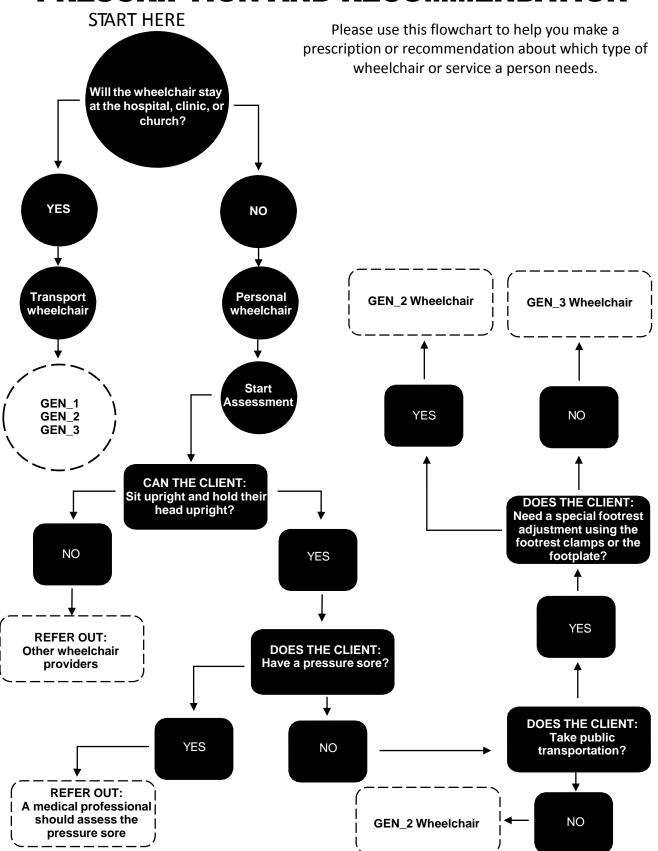
4







PRESCRIPTION AND RECOMMENDATION





MEASUREMENTS

Find your fit form. This is the 2nd page in the workbook. This will help you collect the measurements and help you with your assessment.



Explain that you will be taking measurements so you can recommend the right wheelchair or service for the client's situation.



Have the client sit on a flat, stable bench as shown below.



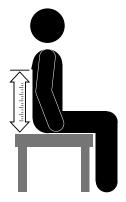
Measure at the widest point of the client's hips or legs.



Measure from the client's back to the back of the client's knee.



6 Measure from lowest point of the shoulder blade to the bench.





WHEELCHAIR ASSEMBLY

1

Prepare to assemble the wheelchair:

- Choose the wheelchair boxes based on your assessments and the size of the person.
- Find an open area to work
- Check that all the pieces needed were included in the box.
- Find the tools. A box of the four tools are provided in each container.

Remember these resources:

- Assembly manual
- Assembly videos
- Assembly/Adjustment handouts
- Tools in container
- Safe & Ready Checklist in workbook



2

Assembly:

Assemble the wheelchair according to the measurements you took for the fit form. Here is the recommended order to assemble the wheelchair. Once finished with assembly, check the wheelchair using the "Safe & Ready Checklist." See next page for wheelchair part labels.

- 1. Frame
- 2. Seat with the cushion
- 3. Backrest
- 4. All wheels (tires and castor wheels)
- 5. Brakes
- Seatbelt and calf strap



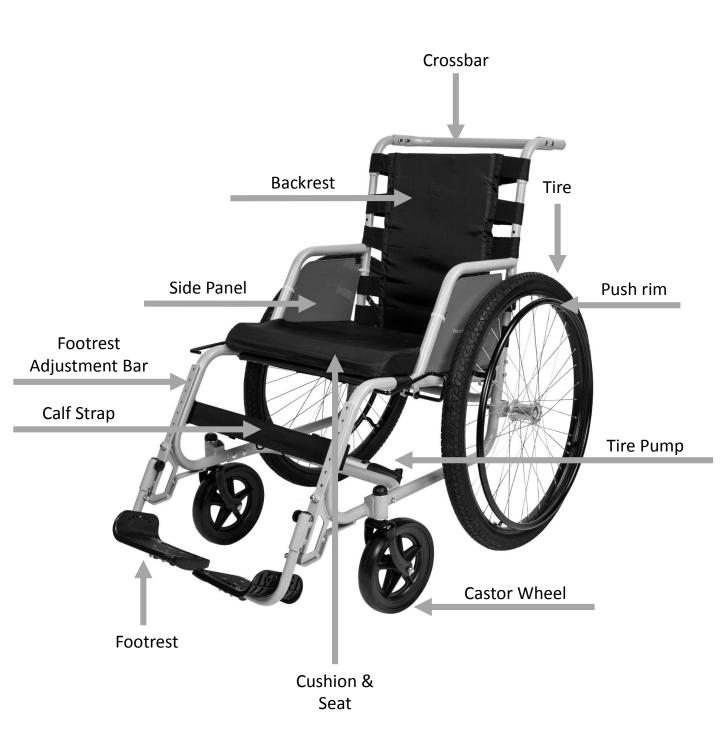
Report quality control issues:

You will need to do the following to help FWM follow up when the changes. Since we do not see the wheelchairs, we depend on you to alert us of any issues. This way we can improve the wheelchair and prevent future issues.

- Take a picture of the issue
 - Describe the issue
 - Write down the PO# located on the side panel or box
 - · Keep track of how many times you see the issue
 - Report using WhatsApp #: +1 (323) 996-9198



WHEELCHAIR ASSEMBLY





WHEELCHAIR SPECIFICATIONS



GEN 1

- · Color: White chair, black frame and wheels.
- Use: Best if used as a transport wheelchair at facilities.
- <u>Sizes</u>: One size only.
- <u>Seat/Backrest</u>: The seat and backrest are a single plastic chair. The resin includes UV-resistant additives to diminish damage from sunlight.
- <u>Rear Wheels</u>: 60.9cm x 5.4cm (24" x 2.125") with 36-spoke chrome-steel rims and 1.2cm (.47") diameter axles. Wheels include 1.6cm (.63") diameter, steel push-rims with four attachment points.
- <u>Castor Wheels</u>: Large, rubber castors (diameter: 20cm/7.87", width: 4cm/1.6") for increased wheelbase and stability.
- Footrest: Adjustable to four different leg lengths with a range of 31cm/12.2".
- Net Weight: 17.6kg/38.8lbs
- <u>Box Size:</u> Outside dimensions of big box is 84cm x 72cm x 60cm and weighs 47.6kgs for 10 wheelchairs. Outside dimensions of the small box: 72cm x 62xm x 16cm and weighs 13kgs. for 1 wheelchair.



WHEELCHAIR SPECIFICATIONS

GEN 2

- · Color: Light blue.
- <u>Use</u>: The GEN_2 is designed to fit a range of wheelchair users requiring a rigid-frame wheelchair with adjustable footrests. The US FDA cleared the GEN_2 for sale in the USA in 2012.
- Box Size & Weight: 68cm x 68cm x 26 cm; 18kg; Wheelchairs arrive unassembled in boxes.
- <u>Sizes</u>: Four sizes by seat width (crossbars): 35cm (small), 40cm (medium), 45cm (large) and 50cm (extra large); widths of wheelchair at widest points (hand rims) are 632.5mm/24.9" (small), 693.4mm/27.3" (medium), 718.1mm/28.3" (large), and 800.1mm/31.5" (extra large).
- <u>Seat</u>: Seat dump is 8° by default. The seat base is polypropylene and can be adjusted to three different depths. Each wheelchair has a cushion made of polyurethane foam that is covered with a water-resistant, fire-resistant nylon cover. The cushion is for users who *do not* have a high risk of pressure ulcer development or significant postural deformity.
- <u>Backrest</u>: Backrest is set at 90° to the seat and can be set at four height positions. It is composed of EVA foam padding inside a water-resistant, fire-retardant nylon cover.
- <u>Frame</u>: Push handle height determines height of backrest. Built-in armrest supports. The armrests have sides to protect both the user and the sides of the cushion from mud during use.
- Rear Wheels: Pneumatic, medium tread, 66cm x 5.4cm (26" x 2.125") tires with 36 spoke chrome steel rims and 1.2cm (.47") diameter axles with 1.6cm (.63") diameter steel push rims, attached in four places.
- <u>Castor Wheels</u>: Large, rubber castors (diameter: 20cm/7.87", width: 4cm/1.6") to increase wheelbase and stability.
- <u>Footrest</u>: Individual footrests have 14 different recommended positions, including flipped footrest adjustments. It can be tilted to 7 positions. Footrests swing away for transfers. The footrest clamps and footplate are adaptations.
- Other Information: Tools are provided separately in the container. The wheelchair kit includes: wheelchair parts, manuals, and tools.



WHEELCHAIR SPECIFICATIONS

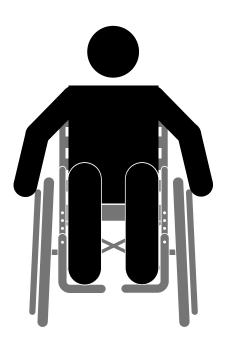
GEN_3 (same as the GEN_2 unless listed below):

- Color: Dark blue.
- <u>Use</u>: The GEN_3 is designed to fit a range of wheelchair users who require the wheelchair folded for storage and transport. The US FDA cleared the GEN_3 for sale in the USA in 2014.
- Box Size & Weight: 69cm x 69cm x 33cm; Weight 19.1kg/42lb (small), 19.9kg/43.8lb (medium), 20.9kg/46lb (large), and 22.2kg/49lb (extra-large).
- Seat: Seat dump is 10° by default.



WHEELCHAIR FIT

Picking out the right wheelchair and adjusting it for the client's body is the way you can achieve appropriate fit for a wheelchair user. Fit is a major part of wheelchair provision. Fit can affect how safe, comfortable, and useful the wheelchair is for the wheelchair user.





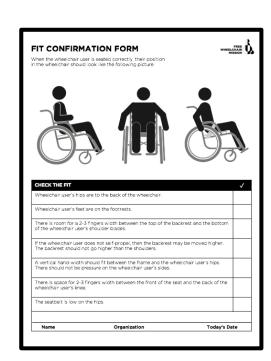
Why is it important?

Adjusting a wheelchair to fit a client appropriately is very important for a person's health.

If a wheelchair does not fit, the wheelchair user could:

- Hurt their shoulders when they move the wheelchair
- Feel tired faster
- Get pressure sores
- Be uncomfortable
- Get sore muscles or joints

The "Fit Confirmation Form" can help you check if a wheelchair fits.





ADJUSTMENTS

The adjustments mentioned below are those that we recommend. You may only make the FWM basic wheelchair intermediate level if you receive approval from FWM; this requires specialized training outside of FWM.

We will discuss 4 kinds of adjustments:

- 1. Seat width
- 2. Seat length
- 3. Backrest height
- 4. Footrest



Seat Width Adjustments:

Small, Medium, Large, Extra Large. Refer to the fit form to choose the size.



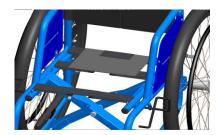


Seat Length Adjustments:

Short, Middle, Long. Refer to the fit form to choose the length.







^{*} Both 1 and 2 are available in both GEN_2 and GEN_3. There are slight variations to make the actual adjustments, but the idea is the same.



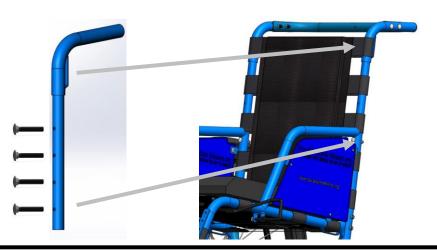
ADJUSTMENTS

3

Backrest Height Adjustments:

There are four settings. Refer to the fit form to choose the height.

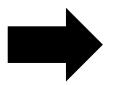
Lowest backrest height Mid-low backrest height Mid-high backrest height Highest backrest height



4

Footrest Adjustments:

Available on both GEN_2 or GEN_3:





Typical Footrest Height:

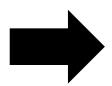
Raise or lower the footrest using the footrest adjustment bar.

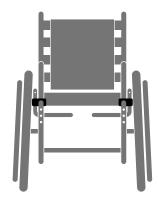


Flipped Footrest:

Used for people with amputations or people with short legs.

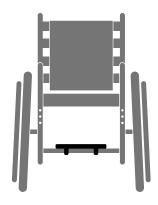






Footrest Clamps:

Used for people with short legs.



Footplate:

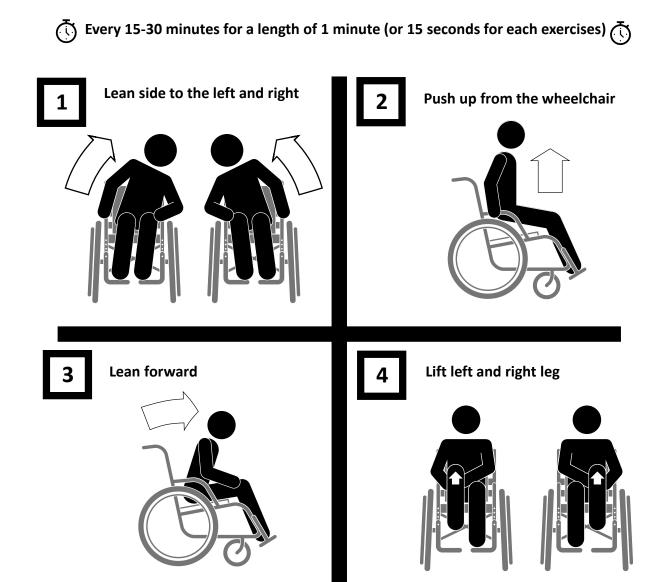
Used for people with short legs.



USER TRAINING: PRESSURE RELIEF EXERCISES

You can help prevent pressure sores by teaching clients and caregivers to:

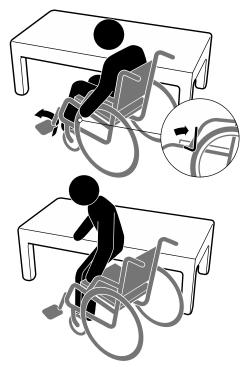
- Build up how long they sit in the wheelchair. This is especially important if they have not been sitting in a wheelchair for long periods before this new wheelchair.
- Stretch out at night and take pressure off the areas that touch the wheelchair.
- Check their body at night for redness or sores.
- Do the 4 Pressure Relief Exercises (see below). These should be completed:





USER TRAINING: TRANSFERS

You can help clients move in and out of the wheelchair safely by teaching transfers. There are more ways to transfer, but these 3 ways will be the focus on during our training.



Independent Transfer

- 1. Have the client move the wheelchair as close as possible to the chair they want to sit in (see two pictures to the left).
- 2. Make sure the client puts on the brakes!
- 3. Have the client move the footrests out of the way.
- 4. The client should move their body toward the front of the seat.
- 5. The client should place one hand on the seat they are sitting on and one hand on the place they will move to.
- 6. The client will then move to the other chair.

1-Person Assisted Transfer

- 1. Set the wheelchair as close as possible to the chair the client wants to sit in (see picture to the right).
- 2. Put on the brakes!
- 3. Move the footrests out of the way.
- Ask the client to move their body toward the front of the seat. If they cannot, ask if they would like help to move forward.
- 5. Ask the client to put their arms around your shoulders like a hug. You will do the same, but under their arms.
- 6. Squat down so you do not hurt your back.
- 7. Block their feet with your feet and place your knees on the outside of theirs to prevent sliding.
- 8. Have the client count 1-2-3, then stand up.
- 9. Take small steps, do not twist, and slowly set them





USER TRAINING: TRANSFERS



2-Person Assisted Transfer

- 1. Choose who will lift the client's upper body and who will lift the client's legs. The taller or stronger person should move the client's upper body.
- 2. Set the wheelchair as close as possible to the chair the client wants to sit in (see picture above).
- 3. Put on the brakes!
- 4. Move the footrests out of the way.
- 5. Ask the client to move their body toward the front of the seat. If they cannot, ask if they would like help.
- 6. Have the client cross their arms. Hold the client under the armpits from the back (see picture above). If it is not possible to cross arms, just be sure to watch where the client's arms are when moving and sitting down on the chair. Have the other person squat down and lift underneath the client's legs.
- 7. Ask the client to count 1-2-3 and both people lifting the client will lift at the same time.
- 8. Take small steps, do not twist, and slowly set the client on the other chair.



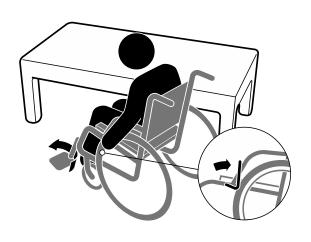
USER TRAINING: SAFETY

You can help clients learn wheelchair safety by teaching about the brakes, seatbelt, and fall recovery. If someone has a caregiver, they should be included for all user training.

Using the brakes

To put on the brakes, pull the brake lever up and back to lock the wheel.

To take the brake off, push the lever forward.



Using the seatbelt

The seatbelt should be worn for safety only. The straps should not be used to restrain someone in the wheelchair. The seatbelt should be worn low near the hips.



Fall Recovery

Teach people to call for help if they fall. If they can, transfer from the floor into the wheelchair or the floor onto a chair, then the wheelchair.





USER TRAINING: MOBILITY SKILLS



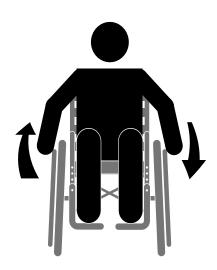
To move forward

Put your hands on the push rim and push forward.



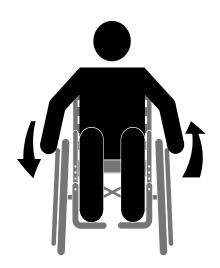
To move backward

Put your hands toward the front of the push rims and pull back.



To turn right

With both hands on the push rims, push forward with your left hand and pull back with your right hand at the same time.



To turn left

With both hands on the push rims, push forward with your right hand and pull back with your left hand at the same time.



USER TRAINING: MOBILITY SKILLS



To go up a curb

- 1. The client should be facing the curb. Go up the curb forward.
- 2. Tip the wheelchair back and roll the wheelchair forward until the castor wheels are on top of the curb.
- 3. Roll and lift the large wheels over the curb.

Alternative: Same way as up stairs.



To go down a curb

- 1. The client's back should be to the curb.
- 2. Roll the large wheels backwards over the curb followed by the castor wheels.

Alternative: Same way as down stairs.



To go up a slope

- 1. Lean forward.
- 2. Place hands on the push rims and move the wheels forward at the same time.



To go down a slope

- 1. Lean slightly backward.
- 2. Place hands on the push rims and push the wheels forward at the same time.

Note: Experienced, independent wheelchair users may use wheelies for curbs, slopes, and stairs.



USER TRAINING: MOBILITY SKILLS

You can help clients and their caregivers learn how to use and move the wheelchair safely by teaching mobility skills.

* Do not attempt alone if you cannot support the client's weight or feel uncomfortable. Ask for help.



When going upstairs

- The client's back should be to the stairs (see photo above). You will go up the stairs backward.
- 2. Tip the wheelchair back, so the front wheels are off the ground.
- 3. If the client can help, have them pull the push rims back as you pull the wheelchair up at the same time.
- 4. Count 1-2-3 so you and the client move the wheelchair backwards and up each step together. Remember to bend your knees and use your legs to prevent back injuries.
- 5. If you have help, have the other person hold onto the frame by the footrests (see photo below) and push the wheelchair forward up and over each step.



When going downstairs

- 1. The client's back should be to the stairs (see photo above). You will go down the stairs forward.
- 2. Tip the wheelchair back, so the front wheels are off the ground.
- 3. Count 1-2-3 and roll the wheelchair forward down each step, slowly. *Remember to bend your knees and lean slightly back to have control and prevent back injuries.
- 4. If the client can help, have them push the push rims forward slowly, as you push the wheelchair at the same time.
- If you have help, have the other person hold onto the frame by the footrests (see photo below) and slowly go down each step backward.







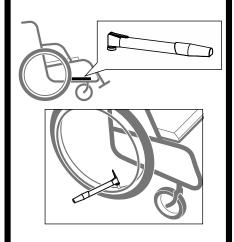
USER TRAINING: MAINTENANCE

Doing maintenance on the wheelchair is necessary to keep the wheelchair working how it should. We have included the most important maintenance activities here and in the user manual.

MAINTENANCE CHECKLIST	FREQUENCY
Pump the tires	WEEKLY
Check for broken or damaged spokes	WEEKLY
Check the cushion	MONTHLY
Tighten nuts and bolts (if loose)	MONTHLY
Check frame for rust & Clean the frame with oil	MONTHLY
Check upholstery	EVERY 3 MONTHS
If you notice damage to the wheelchair, fix as soon as possible or contact the partner (page 1)	AS NEEDED

Pump the tires

A pump is provided with each wheelchair. On the GEN_3 it is on the side of the frame. On the GEN_2 it is on the lower crossbar.



Clean the frame

Wipe the frame with cooking oil to prevent rust from forming. Rust weakens the steel.



Tighten nuts and bolts

Each wheelchair comes with a wrench in one of the footrests. This should be used to tighten all the frame bolts.

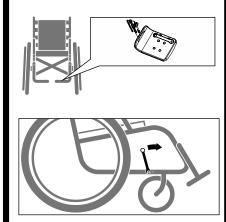




PHOTO GUIDE

For each container, you will return a report to FWM with 1 set of photos (before/after) and 1 story for each report. These photos will be used for fundraising or to report back to our donors. Be sure to ask for the person's permission for us to use the photo before turning it in with your report.

A good photo includes:

- Correct Fit
- Correct Assembly
- · See the whole wheelchair
- About 2 centimeters space around the wheelchair
- Quality resolution

Good Examples:





Needs Improvement:



- Needs adjustments
- Wrong assembly
- Low resolution
- No space
- Can not see the whole wheelchair



- Needs adjustments
- Can not see the whole wheelchair



CONTACT INFORMATION

Overall Strategy and Direction

Vanessa Mendoza: vmendoza@freewheelchairmission.org

Director of Programs

Main Point of Contact for Partnerships

Molly Brodersen: mbrodersen@freewheelchairmission.org

Partner Relationship Manager

Focus areas: Multinational, Asian, and African partnerships; Wheelchair Audits & Reporting

Thatiana Arias Morataya: tmorataya@freewheelchairmission.org

Central American Regional Facilitator

Focus areas: Central American Partnerships, Wheelchair Audits & Reporting

Tess Stansbury: tstansbury@freewheelchairmission.org
Partner Recruitment and Management Coordinator

Focus areas: Middle Eastern, Caribbean, South American, Eastern European, and prospective partnerships;

Wheelchair Audits & Reporting

Shipping/Invoicing

Lorena Hernandez: lhernandez@freewheelchairmission.org

Operations Specialist

Focus areas: Ordering, Shipping, Logistics, Design Change Management

Medical Programs: Training & Medical/Surgical GIK

Nicole VanderZouwen: nvanderzouwen@freewheelchairmission.org

Medical Programs Manager

Focus areas: Overall Curriculum, Training & Coaching

Ilse Caballeros: icaballeros@freewheelchairmission.org

Regional Trainer - Central America

Focus areas: Central American, Caribbean, and South American Training & Coaching

Crystal Jackson: cjackson@freewheelchairmission.org

Medical Programs Coordinator

Focus areas: GIK Ordering, Reporting, and Audits; Training & Training Coordination

Quality Control

Bonnie Gonzalez: bgonzalez@freewheelchairmission.org

Mechanical Engineer WhatsApp: +1 323-996-9198

Focus areas: Testing and Designing Products; Quality Control

Monitoring & Evaluation

Jennifer Wong: jwong@freewheelchairmission.org

Field Analysis Manager

Focus areas: Data Collection, Analysis, and Reporting