Firefighter Pre-Hospital Care Program
Module 9

Securing, Lifting & Moving Patients

SUNNYBROOK - OSLER
CENTRE FOR PREHOSPITAL CARE
We wish to express our sincere THANKS & APPRECIATION to the members of Toronto E.M.S. Education for their assistance with this module.
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At the end of the lesson and upon completion of the FETN post test quiz, the participant will demonstrate an understanding of how to:

• safely lift and set-up a wide variety of patient carrying equipment used currently by paramedics

• safely secure a patient onto the equipment for extrication and transportation purposes

• ensure the equipment is safely assembled for patient use

• locate the patient carrying equipment within a Toronto EMS ambulance
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Proper Lifting Techniques
Preparing for a Lift

When assisting TEMS paramedics with a lift, it is always important to:

- Get ready for the lift
- Get set for the lift
- Complete the lift
Getting Ready for the Lift

- Get balanced
- Shoulder girdle should be aligned over the pelvis

Base of support: feet shoulder width apart
Getting Ready for the Lift

- Get a good grip
Getting Ready for the Lift

• Get neutral

• Lifting should be done with legs

• Weight should be kept close to the body
Getting Set for the Lift

- Tighten up
- Communicate to coordinate

Verbally

Visually
Complete the Lift

- Use a smooth lifting motion
- Use your legs to lift
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Equipment Locations within an Ambulance
Driver’s Side / Rear Compartment

The items that can be found in this compartment are the:

- Backboard
- Scoop stretcher (Ferno EXL 65 Stretcher)
- Stair chair (Ferno EZ-Glide)
Patient Compartment

The items that can be found in this compartment are the:

- 35 A Modified Stretcher
- Model 9 Adjustable Backrest Emergency Stretcher (behind jump seat)
Passenger Side / Side Door

The items that can be found in this compartment are the:

- #9 Portable Stretcher (behind jump seat)
- Spare oxygen cylinders
Passenger Side / Side Door

Be Aware!

- On some vehicles, when you open the side door, a step will automatically extend from the vehicle.
- If you are standing too close, leg injuries may occur.
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Ferno 35A-Modified
Patient Transport
Stretcher
Ferno 35A-Modified Patient Transport Stretcher

- Weight of stretcher is 81 lbs / 37 kg
- 8 bed positions
- Load limit is 650 lb / 295 kg
Components and Features

- **HEAD END**
  - Drop Frame Control Handle
  - Fastener Release Lever (35-P only)
  - Loading Wheels (2)
  - Safety Bar (35-P only)
  - Telescoping Side Lift Handles (2)
  - Head-End Leg Protectors (2)

- **SIDE END**
  - Sidearm Release Handle
  - Side Control Handle

- **FOOT END**
  - Swing-Down Sidearms (2)
  - Shock Frame
  - Main Frame
  - Lead Handle
  - 6" Wheels (4)

- **LOWER FRAME**
  - Lower Frame Lift Handle
  - 175 Fastener Post (35-P only)
  - Wheel Locks (2)
  - Upper/Lower Control Handle
Bed Positions

**Loading (7-8)**

- Loading Position 2
  - 33 in. (82 cm)
- Loading Position 1
  - 29 in. (72 cm)
- Bed Position 8
  - 37 in. (94 cm)
- Loading Position 7
  - 35 in. (88 cm)

**Rolling (5-6)**

- Position 6
  - 33 in. (83 cm)
- Position 5
  - 30 in. (75 cm)

**Transfer (2-4)**

- Pos. 4
  - 27 in. (67 cm)
- Pos. 3
  - 23 in. (57 cm)
- Pos. 2
  - 18 in. (46 cm)

**Folded Position (Position 1)**

- Position 1
  - 12 in. (30 cm)
Pinch Points

- Safety bar release lever on both sides
- Stretcher frame that makes contact with undercarriage on both sides
- Sidearm release handle on both sides
Carrying the Stretcher

<table>
<thead>
<tr>
<th>Helpers</th>
<th>Changing Positions</th>
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<th>Loading/Unloading</th>
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<tbody>
<tr>
<td>Two Operators + Two Helpers</td>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
<td><img src="image3" alt="Diagram" /></td>
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<tr>
<td>Two Operators + Four Helpers</td>
<td><img src="image4" alt="Diagram" /></td>
<td><img src="image5" alt="Diagram" /></td>
<td><img src="image6" alt="Diagram" /></td>
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*Key: O = Operator  H = Helper  P = Patient*

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating **ANY** control handle.
Removing & Preparing the Stretcher

- Ensure vehicle bumper is raised and secured
- Push in the end of the wall mounted locking bar in order to release the stretcher

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Removing & Preparing the Stretcher

- Hold on to the Upper/Lower Control Handle and remove stretcher from vehicle
- While partner is supporting undercarriage, lower the frame

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Removing & Preparing the Stretcher

- Release safety bar and remove stretcher
- Position stretcher on a level surface and lock wheels

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Removing & Preparing the Stretcher

- Lower stretcher to bed positions 2, 3 or 4 (approx. knee height of patient)
- Ensure stretcher is locked into position
- Lower sidearm on the side the patient will be entering stretcher
- Ensure straps are undone

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Preparing to Load the Stretcher

• As directed by the paramedics, assist them in raising the stretcher to rolling position 5 and 6 or loading position 7 and 8

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Preparing to Load the Stretcher

- Ensure the drop frame is extended
- Ensure vehicle bumper is raised and secured

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Preparing to Load the Stretcher

- Position loading wheels on compartment floor and engage safety hook
- Remove all non-essential equipment and place in ambulance

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Preparing to Load the Stretcher

- Get close to the side of the stretcher
- Communicate to coordinate a smooth lifting motion of the wheels

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
Preparing to Load the Stretcher

- To prevent the wheels from dropping while the stretcher is being loaded, DO NOT let go of the undercarriage until all wheels are loaded.

Note: Whenever a patient is on the stretcher, a paramedic should be the only person operating ANY control handle.
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Ferno 35A-Modified
Bariatric (Heavy) Patient Transport Stretcher
Ferno 35A-Modified Bariatric Patient Transport Stretcher

- Weight of stretcher is 132 lbs / 60 kg
- Motorized Lifting Mechanism
- Motor Lift Capacity is 700 lb / 318 kg
- Stretcher Capacity is 1000 lb / 454 kg
Ferno 35A-Modified Bariatric Patient Transport Stretcher

- Two located within the city limits
- Only use stretcher under direct supervision of paramedics
- Use caution when removing from ambulance as stretchers batteries are wired into ambulance for charging
Ferno 35A-Modified Bariatric Patient Transport Stretcher

- May need to use an alternate method for loading the stretcher
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Ferno EZ-Glide
Evacuation Stairchair
Components of the Ferno EZ-Glide Evacuation Chair

- Will comfortably hold 500 lbs. / has been tested to 1000 lbs.
- Weighs 33 lbs. / 15 kg
- 6 inch locking wheels on back of chair and 4 inch swivel caster wheels on front of chair which aid in chairs movement
- Stair Glide Track which aids in going down stairs **only**
Components of the Ferno EZ-Glide Evacuation Chair

- All handles performing mechanical functions are coded red
- Easily located and identified
Components of the Ferno EZ-Glide Evacuation Chair

- Extendable lift handles extends when needed, retracts when not in use
- Ergonomic advantage for most operators
Components of the Ferno EZ-Glide Evacuation Chair

- Stair-Glide Track System aids in moving a patient down a staircase **ONLY**
- To open - pull on the track cross bar
- To close - push down on the track release lever
Components of the Ferno EZ-Glide Evacuation Chair

- Fold out foot rest gives increased comfort and safety for patient
- Ability to engage shoe heels
- Plastic buckle strap can be used for securing lower legs to chair
Components of the Ferno EZ-Glide Evacuation Chair

- IV pole telescopes to 5” and 10” heights
- Hook and loop strap secures IV bag

- Headrest has a vinyl coated head pad which slides on 2” strap
- Vinyl coated head strap can be used to prevent head movement during chair use
Components of the Ferno EZ-Glide Evacuation Chair

- Lift handles have 1.5” diameter hand grips
- Mounted on the outside of the frame
- Can be used to assist lifting up stairs.
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Assisting Paramedics
In the Use of the
Ferno EZ-Glide
Evacuation Stairchair
Assisting Paramedics with Set-Up and Use

- In order to aid removal of the chair from the ambulance, extend the head lift bar
- Be careful of pinch points as chair is a tight fit in the compartment
Assisting Paramedics with Set-Up and Use

- Ensure the chair is in the open and locked position
- Ensure the Stair-Glide Track is closed and secured
- Ensure the brakes are activated on the rear wheels
- Ensure the straps are undone
Assisting Paramedics with Set-Up and Use

- Assist paramedics with bringing patient close to the staircase
- Ensure lift handles are extended appropriately
- Ensure Stair-Glide Track is deployed
Considerations for Descending Stairs

- Ensure the Stair-Glide is engaged on two steps for proper operation.
- Allow the Stair-Glide to gently operate as it descends. **DO NOT** force the chair.
- Always have a spotter gently supporting the person’s back who is at the foot end of the chair.
Considerations for Ascending Stairs

- Ensure the Stair-Glide is in the closed and locked position
- If space permits utilize four rescuers to carry the patient
- Always have a spotter gently supporting the person's back who is at the foot end of the chair
- Always hold handrail for extra support
**Things To Consider**

- If the lift is lengthy, the spotter may rotate into the carrying team in order to provide breaks.

- When you reach a landing, place the stairchair down and roll the chair towards the next staircase or the stretcher.
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Ferno 65EXL
Scoop Stretcher
Ferno 65 EXL Scoop Stretcher

- Weight of stretcher is 18 lbs / 8 kg
- Extends from 47 inches to 65 inches
- Load limit is 350 lb / 150 kg
Ferno 65 EXL Scoop Stretcher

- Head End
- Headrest Area
- Head-End Coupling
- Operator Handholds (2)
- Torso Panel
- Lock Pin Lever (2)
- Foot Section
- Foot-End Coupling
- Foot End
- Side Handholds (8)
- Leg Panel
- Operator Handholds (2)
Ferno 65 EXL Scoop Stretcher

Push area in for hinge to disengage

double aluminum hinge
Ferno 65 EXL Scoop Stretcher

- Adjust stretcher to appropriate length
- Lift patient slightly and slide stretcher into place, one side at a time
- Lock the stretcher ends together avoiding pinching
- Secure patient to the scoop stretcher and transfer the patient to the stretcher
IMPORTANT

- **DO NOT** attach lifting devices (such as ropes or bridles) to the stretcher

- Always lift and carry the stretcher by hand, using handholds and main frame
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Ferno Model 9
Adjustable Backrest
Emergency Stretcher
Ferno Model 9 Adjustable Backrest Emergency Stretcher

- Weight of stretcher is 17 lbs / 8 kg
- Backrest adjustable to 8 angles
- Folds in half for compact storage
- Load limit is 350 lb / 159 kg
Ferno Model 9 Adjustable Backrest
Emergency Stretcher

- Head End
- Operator Handholds (2)
- 4 Inch Wheel (2)
- Hinge for Collapsing Stretcher
- Stationary Post (2)
- Adjustable Backrest
- Patient Securing Straps
- Foot End
- Operator Handholds (2)
Ferno Model 9 Adjustable Backrest Emergency Stretcher

• May be used during a Multiple Casualty Incident
• Can be found in many TEMS vehicles
• May be used individually in an ambulance or for multiple patients within the TEMS Support Units
Ferno Model 9 Adjustable Backrest Emergency Stretcher

- Ferno Model 9 Stretcher is secured to the bench in the patient compartment of the ambulance by the seatbelts located on the bench.
- The stretcher holders are specific to the location of the stretcher.
Ferno Model 9 Adjustable Backrest Emergency Stretcher

- Ferno Model 9 Stretcher must be secured to the bench by the seatbelts located on the bench

- Patient must be secured to the Ferno Model 9 Stretcher to ensure for safe transportation to a health care facility
For All Questions Pertaining to this Module,
Contact Your E.M.S. Command Coordinator.

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