

# RISKTOPICS

Power Assisted Cots

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Power assisted cots (PACs) have the potential to reduce injuries because lifting and lowering, to and from the ground, is not required in the patient loading or unloading process. These devices may prove to be the greatest step to date toward eliminating the back injuries so common in EMS and non-emergency transport.

## INTRODUCTION

During patient loading, the front wheels are placed on the ambulance floor, far enough inside the vehicle to engage the restraint bar to prevent the cot from rolling back out. While the attendant at the foot holds the cot in place the motor is activated so that the frame and wheels are raised. The cot is then rolled into the patient compartment and locked into place the same as a traditional manual cot.

In unloading, as the cot is withdrawn from the ambulance it is stopped by the restraint bar when the wheels at the head of the cot are at the edge of the floor. The cot is held in place by the attendant and the motor is activated to lower the frame and wheels to the ground. The restraint bar is then manually disengaged.

## DISCUSSION

PACs have become less expensive and cumbersome, and are now found in many ambulances in emergency and non-emergency service. These cots are now powered by a long-lasting, rechargeable batteries – similar to the batteries that run our reciprocating saws, drills, and other power tools. Manual backup is available in case of power system failure.

The mere presence of a PAC does not necessarily mitigate all risk of injury. PACs are significantly heavier than traditional cots, although technological innovations have reduced the weight significantly since PACs first became available. When moving the cot, loaded or unloaded, across terrain and on stairs proper technique needs to be used to prevent injury to the cot handlers (as well as to prevent injury to the patient). Assessment of the scene environment should include evaluation of whether the cot should be taken to the patient or vice versa.

## **GUIDANCE**

Some considerations when using PACs:

- Policies and procedures should be in place to address the use of adequate manpower and lateral transfer aids. Additional help and transfer aids may help reduce risk when moving the patient to a PAC or an intermediate device, such as a stair chair. PACs do not necessarily reduce the need for additional manpower.
- Back injuries occur when moving 'average' patients, not just those who are obese. PACs are intended for everyday use, not just for bariatrics.
- PACS still require two people for loading and unloading. The person at the side of the cot can help 'steer' the wheels into the bracket; shoulder injuries have occurred when the vehicle was on an incline and the PAC drifted.
- One study revealed that operating the hand controls on a traditional cot required 35 pounds of force; the PAC operates at the touch of a button.
- Some users report that PACs are more stable in the raised position than traditional cots due to the weight of the mechanism at the bottom of the frame.
- PACs may need supplemental 'bariatric boards' to increase the surface area available for the more even distribution of the weight, for patient comfort, and to avoid patient injury.

## **CONCLUSION**

Power Assisted Cots are an important part of the patient movement process. They are an engineering control which must be evaluated in the context of other engineering, administrative and behavioral controls to protect the safety of employees.

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