I. Patient Transport Injuries

Patient transport activities are the second leading activity related to TFD injuries (~17% of all injuries). Approximately 80-85% of TFD response calls are medically oriented.

As part of the SPIFi risk management process, the mapping of activities and corresponding hazards encountered during patient transport operations (Figure 1) led to the identification of control strategies. The majority of intervention strategies identified by this group relate to education, engineering, and enforcement of protocols.

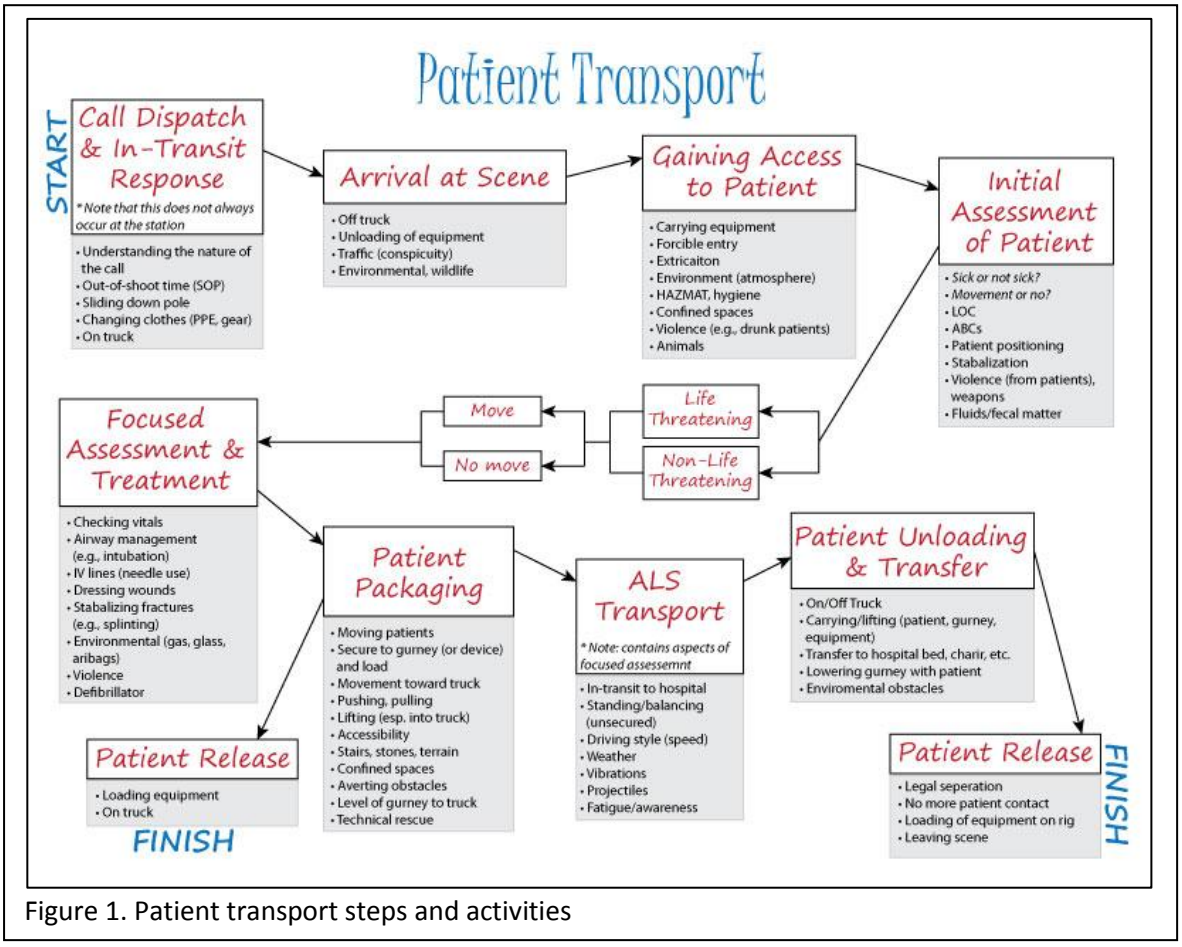


Figure 1. Patient transport steps and activities

II. Patient Transport Intervention Strategies

The potential for sprains and strains is prevalent throughout the patient transport process, given the need for lifting both equipment and patients. To help decrease the loads, a few strategies have been recommended:

1. *Improved communication between crew members to ask for and offer assistance during patient lifting.*
2. *Test the use of patient transfer devices* for possible implementation across the department.
3. *Request, record, and make available the "tips and tricks" used for heavy patient lifting.*

TFD participated in the Ohio State University study implementing the use of a slide board (later transfer) and a carry strap (for patient lift assist). The slideboards were outfitted on every gurney to help reduced repetitive strains throughout the shift. In addition, at the end of the intervention period, ambulances were updated with

electric gurneys to reduce the strains from increasing vertical loads; however, there has not yet been enough time to evaluate their effectiveness.

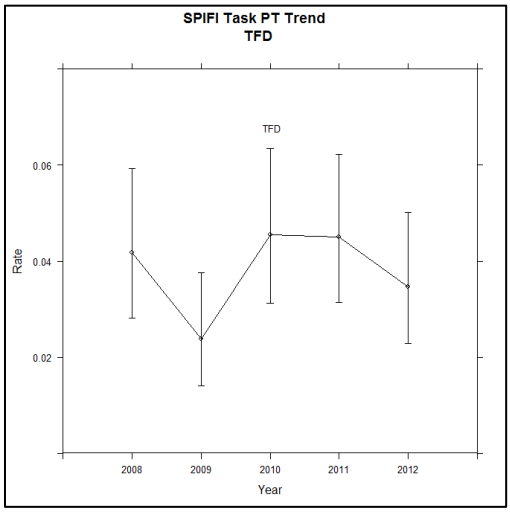
Given the high frequency of patient transport and regular use of equipment, *it is warranted to complete the patient transport module for probationary officers at the beginning of their first year*, with an early emphasis (i.e., day 1) on gurney design and proper operation. It is also suggested that gurney manufacturer (Stryker) be contacted to *investigate design options* for future models.

Cardiopulmonary resuscitation (CPR) can frequently be a fatiguing activity, performed in awkward (often static) positions increasing the likelihood for injury and deficient compressions. Currently, vital signs and patient assessment occurs approximately every 200 compressions. As such, *rotating CPR responsibility every 200 compressions, when appropriate personnel are available and prepared, is recommended as a standard operation procedure (SOP).*

The need for improved and maintained fitness levels was also stressed. Given the frequency of lifting and moving (equipment, patients, and obstacles) from various ergonomic positions, in addition to the potential for static postures throughout the course of a shift, *core strength should be emphasized.*

III. Preliminary Patient Transport Results…

- As compared with 2008-2010, prior to the interventions, TFD injury rates have not changed significantly. However, it is still too early to see the full effects of the changes implemented.
- TFD commissioned employees thought the patient transport risk management process was very useful. Participants described how the process increased awareness because they thought through each step of lifting a patient, which helped clearly identify when injuries could occur.



IV. More evaluation and results to come

Additional details and contact information can also be found on the project website:
http://www.spifi.publichealth.arizona.edu/

KEY POINTS

- A systematic risk management approach was used to identify, design, and implement strategies to reduce patient transport injuries.
- Three primary interventions were implemented in the area of patient transport.
- It is still too early to determine the full effectiveness of the interventions implemented on reducing injuries.
- The interventions have also been evaluated using surveys, focus groups and interviews.