A Multi-State, Multi-Year Analysis of Tree Stand Incidents

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Methodology

Retrospective Review

• Convenience sample (DNR Reports)
• 2009 thru 2014
• 334 incidents
• Special Thank you
  • Major Portieus, Indiana
  • Captain Downer, South Carolina
  • David Dodson, Virginia
Descriptive Statistics Analysis

- Year
- Month
- Age
- Stand Type
- Fall Height
- Fall Event
- Harness
- Injury/Fatality
- Cause
When are they falling?
Falls Evaluated
Month

81% occurred Oct. - Dec.
Falls Evaluated

Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Falls Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>17</td>
</tr>
<tr>
<td>2010</td>
<td>35</td>
</tr>
<tr>
<td>2011</td>
<td>44</td>
</tr>
<tr>
<td>2012</td>
<td>69</td>
</tr>
<tr>
<td>2013</td>
<td>96</td>
</tr>
<tr>
<td>2014</td>
<td>73</td>
</tr>
</tbody>
</table>

N=334 (100%)
Who is falling?
Range: 8 - 84
Avg. Age: 46.2
Median: 50

Two groups account for 2/3 of falls.
How high are they falling?
75% of Falls 10 - 21 ft.
Avg.: 16.97 ft.
Range: 2 - 40 ft.
How many had a harness on or with them?
Harness On or With Them

11.4% YES

88.6% NO

4/29 (13.7%) Fatalities
34/332 (10%) Survivors
Which stand types are involved?
All types contribute despite perceptions.
When during the process are they falling?
59% outside/off stand

Fall Event

- Ascent: 21%
- Transfer: 13%
- On-stand: 41%
- Descent: 19%
- Install/Uninstall: 6%

N=297 (89%)
What’s attributing to the falls?
Attributing Causes

Top 4 account for 62% of all incidents

Loss of Grip, Balance, Missed Step: 82
Strap Loose/Break: 40
Stand Shift: 31
Stand Break: 23
Human Error: 20
Step/Ladder Failure: 16
Chain/Cable Break: 13
Limb Break: 13
Bottom Fell: 13
Other: 10
Medical: 9
Fell Asleep: 7
Alcohol: 6

N=283 (84.7%)
Injury Scenario Description

- 46 yr. old male
- Range 8 – 84
- No FBH
- Lock-on style stand
- Looses his grip/balance or missed step
- Out of the stand
- Falls 17ft.
- Range 2 - 40

- 51 year Terry Wheeler of New Harmony, IN
- Lost footing transitioning out of the stand
- Fell 14 ft onto his back
- Called for help
- Medevac
- Intensive Care
Fatality Scenario Description

- 52 yr. old male
  - Range 22 - 70
- No FBH
- Lock-on style stand
- Majority of causes unreported
- Falls 22ft.
  - Range 9 – 38
- Almost 9% or 1:11
Has anyone heard of NEISS?
National Electronic Injury Surveillance System (NEISS)

CPSC's National Electronic Injury Surveillance System (NEISS) is a national probability sample of hospitals in the U.S. and its territories. Patient information is collected from each NEISS hospital for every emergency visit involving an injury associated with consumer products. From this sample, the total number of product-related injuries treated in hospital emergency rooms nationwide can be estimated. This web access to NEISS allows certain estimates to be retrieved on-line. These estimates can be focused by setting some or all of the following variables (and an example of each):

- Date (one year maximum range; e.g., how many injuries were treated in 1996)
- Product (e.g., how many bicycle injuries occurred)
- Sex (e.g., how many injuries occurred to women)
- Age (e.g., how many injuries occurred to people aged 35-55)
- Diagnosis (e.g., how many lacerations occurred)
- Disposition (e.g., how many people were admitted to the hospital)
- Locale (e.g., how many injuries occurred at a school)
- Body part (e.g., how many injuries involved the knee)

Treadmill Injury Statistics

Injuries associated with treadmills seen in hospital emergency departments (ED)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Number of Injuries</th>
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<tbody>
<tr>
<td>2014</td>
<td>24,400</td>
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<tr>
<td>2013</td>
<td>23,900</td>
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<tr>
<td>2012</td>
<td>24,600</td>
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</tbody>
</table>

There have been 30 reported deaths associated with treadmills for the ten year period from 2003-2012 or an average of about 3 per year (2012 is the last year for which fatality reporting is nearly complete).

The NEISS total for all injuries seen in EDs
<table>
<thead>
<tr>
<th>CPSC Case #</th>
<th>trmt_date</th>
<th>psu</th>
<th>weight</th>
<th>stratum</th>
<th>age</th>
<th>sex</th>
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<tbody>
<tr>
<td>150108502</td>
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<td>72</td>
<td>78.59</td>
<td>S</td>
<td>42</td>
<td>1</td>
<td>1</td>
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<tr>
<td>150112192</td>
<td>1/4/2015</td>
<td>58</td>
<td>15.06</td>
<td>V</td>
<td>65</td>
<td>2</td>
<td>0</td>
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<tr>
<td>150126232</td>
<td>1/10/2015</td>
<td>58</td>
<td>15.06</td>
<td>V</td>
<td>65</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>150136251</td>
<td>1/17/2015</td>
<td>29</td>
<td>78.59</td>
<td>S</td>
<td>37</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>diag</th>
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<th>disposition</th>
<th>location</th>
<th>fmv</th>
<th>prod1</th>
<th>narr1</th>
<th>narr2</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>79</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>1895</td>
<td>42 YOM WAS HUNTING; FELL OUT OF DEER STAND; FELL ABOUT 15 FEET.</td>
<td>LOW BACK STRAIN.(FELL ON GROUND)</td>
</tr>
<tr>
<td>62</td>
<td>31</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>1895</td>
<td>65 YOF FELL OUT OF DEER STAND ONTO RIGHT SIDE INJURING RIB &amp; CHEST</td>
<td>DX PNEUMOTHORAX</td>
</tr>
<tr>
<td>57</td>
<td>79</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>1895</td>
<td>65 YOM FELL WHILE CLIMIBING UP TO DEER STAND AND INUURED PELVIS</td>
<td>DX FX PELVIS</td>
</tr>
<tr>
<td>53</td>
<td>79</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>1895</td>
<td>37YOF HELPING PUT UP A DEER STAND IN THE DEER WOODS, FELL AND HURT HER COCCYX</td>
<td>DX. CONTUSION COCCYX</td>
</tr>
</tbody>
</table>
Recorded Falls by Month 2010 – 2015 N=693

- **December**: 104
- **November**: 211
- **October**: 166
- **September**: 80
- **August**: 29
- **July**: 16
- **June**: 9
- **May**: 4
- **April**: 10
- **March**: 5
- **February**: 8
- **January**: 51

81% Sept. - Dec.
Take Aways

• Falls continue to be a significant issue
• Educate the middle age group
• Stress removing your stands and inspecting them
• Continue emphasizing the use of a FBH
• Emphasize being connected 100% of the time
• Further research
What further analysis would you like?

How can TSSA help you promote tree stand safety?

How can you help complete the puzzle?
Contact Information
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