AORN Survey Results

Jennifer Blocher
Clemson University, Masters Candidate
Advisors: Dr. Duncan Darby, Dr. Kay Cooksey
Co-contributors: Jennifer Neid, Curt Larsen, John Spitzley

March 3-5, 2009
www.healthpack.net
Agenda

• Purpose
• Modifications from Last Year
• Demographics
• Survey Questions and Results
• Future Improvements
• Acknowledgements
• Contacts
• Questions
Purpose

• Understand Customers
• Packaging Improvements
• Trend Concerns
• Changing Role of Sustainability
Survey Modifications

**Clemson Involvement**
- Worked together with IoPP representatives and industry volunteers
- Student exposure to medical device packaging industry

**Incorporation of Photos**
- Packaging photos were used to clarify packaging terminology
  - Chevron Pouch
  - Header Bag
  - Etc.

**Question Modifications**
- Use of 5-point scales
- Clarified question phrasing
- Introduced sustainability questions

**Survey Distribution**
- Distribution through regional representatives
- Use of online networking resources
- Survey Monkey
Questions and Results
Demographics

**Age**
- 51-60: 57.7%
- 41-50: 18%
- 31-40: 9%
- 61+: 12.6%
- 20-30: 1.8%
- No Answer: 0.9%

**Gender**
- Female: 90.9%
- Male: 8.2%
- No Answer: 0.9%
Demographics

Medical Experience
- 31+ yrs: 53.2%
- 21-30 yrs: 28.8%
- 11-20 yrs: 11.7%
- 6-10 yrs: 3.6%
- 1-5 yrs: 2.7%

Level of Education
- College (4 yr): 50.5%
- College (2 yr): 14.9%
- Graduate School: 26.7%
- Some College: 5.9%
- No Answer: 2%

HealthPack®
Demographics

Facility Type
- Hospital: 91%
- Outpatient Center: 9%

Geographic Location
- Southeast: 60%
- Southwest: 16%
- Northwest: 7%
- Midwest: 7%
- Pacific US: 1%
- Northeast: 9%
For medical device products where size/style/model number is selection criteria during a surgical procedure, which type of packaging is preferred?

*Question #1*
Overall, which type of package do you prefer for sterile non-implantable medical devices?
(rank each package type individually)

Question #2
Overall, which type of package do you prefer for long-term implantable devices?

*Question #3*
Do you believe a double entry packaging provides a more sterile device?

*Question #4*
Do you prefer a product with a double entry?

*Question #5*
If you prefer a device with double entry, which attributes are important?

*Question #6*

- Easier for dumping/flipping
- Room for error in preparing for surgery (dropping)
- Provides a more sterile device
- Ease of presentation
Which packaging characteristics have caused recurrent and/or significant issues for you in the past?

*Question #7*

- Labels or labeling
- Device Removal
- Snapfit trays/clamshells
- Tyvek® separating or shredding upon opening
- Paper separating or shredding upon opening
- Packaging material tearing
- Header Bag opening fixture
- Corner peel opening of peel pouch
- Chevron opening of peel pouch
- Opening mechanism for rigid or flexible trays

**Response Score Average**
Did you ever use a device where sterility was questionable?

Question #8
What happens when the circulating nurse drops the sterile package before presenting it to the sterile nurse?

Question #9

- Re-sterilize: 4.2%
- Inspect: 37.5%
- Present from inner package: 30.6%
- Discard: 27.8%
With respect to medical device packaging, please rank the following in order of most important (1) to least important (4).

**Question #10**

1. Speed of opening package
2. Least amount of packaging waste
3. Smallest possible package
4. Consistent packaging sizes from manufacturers
With respect to **labeling** of medical device packaging, please rank the following in order of most important (1) to least important (5)

*Question #11*

1. Identification of manufacturer, model number and use before date
2. Easily read text/font labeling
3. Color coded labeling
4. Manufacturer’s instructions for use in every package
5. Manufacturer’s instruction for use provided via the web or CD
Overall, which type of package do you prefer for presentation into the sterile field?

*Question #12*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Dislike</th>
<th>Dislike</th>
<th>Indifferent</th>
<th>Like</th>
<th>Strongly Prefer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Entry Trays</td>
<td>0.0</td>
<td>4.2</td>
<td>1.4</td>
<td>38.9</td>
<td>55.6</td>
</tr>
<tr>
<td>Double Entry Pouch</td>
<td>2.8</td>
<td>13.9</td>
<td>5.6</td>
<td>54.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Double Entry Tray inside Pouch</td>
<td>1.4</td>
<td>15.3</td>
<td>18.1</td>
<td>45.8</td>
<td>13.9</td>
</tr>
<tr>
<td>Single Entry Tray</td>
<td>12.5</td>
<td>41.7</td>
<td>18.1</td>
<td>20.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Single Entry Pouch</td>
<td>20.8</td>
<td>40.3</td>
<td>19.4</td>
<td>12.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Header Bag</td>
<td>25.0</td>
<td>33.3</td>
<td>26.4</td>
<td>5.6</td>
<td>0.0</td>
</tr>
<tr>
<td>CSR Wrap</td>
<td>6.9</td>
<td>20.8</td>
<td>38.9</td>
<td>23.6</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Do you read the "Use Before Date" on the package or in the labeling?

*Question #13*

- Yes: 98.6%
- No: 1.4%
Do you inspect the sterile package for damage/defects prior to opening the package?

Question #14

Yes
100%
Once a sterile package is opened, do you examine the seal for a "clean peel" or defects?

Question #15

[Pie chart showing 90.3% Yes and 9.7% No]
What layers of the sterile package get inspected for integrity?

Question #16

- Both: 79%
- Inner layer: 0%
- Outer layer: 21%
- Neither: 0%
Which of the following packaging defects would lead you to question the sterility of the contents?

Question #17

- Dirt/hair/foreign materials outside the package: 76.40%
- Dirt/hair/foreign materials inside the package: 98.60%
- Holes/Tears: 98.60%
- Folds/crease marks: 80.60%
- Dents: 84.70%
- Scuffs or scrape marks: 81.90%
How often do the following defects occur to pouches?

*Question #18*

<table>
<thead>
<tr>
<th>Defect</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scuffs or scrape marks</td>
<td>5.6</td>
<td>38.9</td>
<td>45.8</td>
<td>6.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Dents</td>
<td>9.7</td>
<td>43.1</td>
<td>36.1</td>
<td>8.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Folds/crease marks</td>
<td>1.4</td>
<td>27.8</td>
<td>47.2</td>
<td>22.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Holes/Tears</td>
<td>0.0</td>
<td>31.9</td>
<td>47.2</td>
<td>19.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Dirt/hair/foreign materials</td>
<td>18.1</td>
<td>61.1</td>
<td>16.7</td>
<td>2.8</td>
<td>0.0</td>
</tr>
</tbody>
</table>
How often do the following defects occur to trays?

*Question #19*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scuffs or scrape marks</td>
<td>5.6</td>
<td>55.6</td>
<td>33.3</td>
<td>4.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Dents</td>
<td>2.8</td>
<td>45.8</td>
<td>47.2</td>
<td>2.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Folds/crease marks</td>
<td>20.8</td>
<td>55.6</td>
<td>18.1</td>
<td>4.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Holes/Tears</td>
<td>12.5</td>
<td>56.9</td>
<td>27.8</td>
<td>1.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Dirt/hair/foreign materials</td>
<td>19.4</td>
<td>66.7</td>
<td>9.7</td>
<td>1.4</td>
<td>0.0</td>
</tr>
</tbody>
</table>
How often do you flip or dump a device rather than present it for picking?

Question #20

- Never: 5.6%
- Rarely: 19.4%
- Sometimes: 43.1%
- Frequently: 31.9%
- Always: 0%
How do you achieve aseptic presentation of devices that have multiple loose items contained within the same sterile package?

*Question #21*
From your experience, please rate the frequency of rejecting a device for the following reasons:

*Question #22*

<table>
<thead>
<tr>
<th>Reason</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package undamaged, but the shelf carton or shipping box is damaged</td>
<td>25.0</td>
<td>40.3</td>
<td>15.3</td>
<td>0.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Package material tore and/or shed fiber during opening</td>
<td>8.3</td>
<td>25.0</td>
<td>23.6</td>
<td>6.9</td>
<td>20.8</td>
</tr>
<tr>
<td>Labeling issues</td>
<td>12.5</td>
<td>34.7</td>
<td>18.1</td>
<td>2.8</td>
<td>15.3</td>
</tr>
<tr>
<td>Package damaged, but the shelf carton or shipping box is undamaged</td>
<td>9.7</td>
<td>20.8</td>
<td>18.1</td>
<td>1.4</td>
<td>31.9</td>
</tr>
<tr>
<td>Dirt/hair/foreign materials</td>
<td>9.7</td>
<td>27.8</td>
<td>6.9</td>
<td>0.0</td>
<td>41.7</td>
</tr>
</tbody>
</table>
Please indicate below which parts of the labels or labeling are most useful in the selection/use of medical products/devices

*Question #23*

- **Method of sterilization**: 36.10%
- **Bar code for inventory control**: 29.20%
- **Sterilization process indicator tape or label**: 79.20%
- **Expiration (use before) date**: 97.20%
- **Font size**: 70.80%
- **Color coding**: 31.90%
- **Model number**: 87.50%
- **Graphics**: 27.80%
How often do you place an unopened inner sterile package (after removing the outer barrier) back onto the shelf because it was not needed for that procedure?

*Question #24*
Sustainability Questions

• How are trays and pouches disposed of in your facility?
  90%: Trash

• Does your facility recycle sterile packaging?
  87.0%: No

• How easy is it to recycle sterile packaging at your facility?
  65.2%: Impossible, no place to recycle
Improvements

Distribution of Survey
• Mailers through AORN
• Incorporate with AORN Congress
• Nursing magazines
• Earlier distribution (August or September)

Photos
• More photos to define terms (ie. Chevron, Header Bags)
• Obtain unmarked samples
• Create sketches to show features that are difficult to photograph

Increase Industry Involvement
Acknowledgements

IoPP Representatives
Curt Larsen
John Spitzley
Jennifer Neid

Clemson Advisors
Dr. Kay Cooksey
Dr. Duncan Darby

Clemson Students
Ashley Wright
Brett Lund
Daniel Locke
Josef Majka
Kyle Cutler
Daniel Blackburn
Charles Robnett
Katelyn McInerney

Industry Involvement
PerfecSeal
Brent Janaky

Covidien
David Kirsch
Contacts
AORN Survey 2010

Jennifer Neid
IoPP Representative
Jennifer_Neid@tolas.com

Dr. Kay Cooksey
Clemson Faculty Sponsor
kcookse@clemson.edu

Dr. Duncan Darby
Clemson Faculty Sponsor
ddarby@clemson.edu
Questions?