
Lynne Noring
Loan kits include items used during surgical operations such as implants, screws, plates and instrumentation.

The kits are transported using either road cases or tubs which requires manual handling such as lifting and packing.
For over twenty years sterilizing departments all over the world have been calling for help to develop a safety standard for the design and handling of surgical loan kits.

The handling of these kits had been identified at both National and State levels as problematic and a number of programs have targeted this issue since 1999.

HWSA recommended a national focus for Central Sterilizing Supply Departments (CSSD’s) to ensure implementation of control measures that reduce the risks associated with manual tasks.

Some of the controlled measures in place included but are not limited to;
- Breaking down the trays to more manageable weights
- Mechanical lifting devices
- Benches with rollers
- Loading directly onto the wash racks
- Team lifting
- Mobile transport trolleys

HWSA in addition recommended that particular attention be paid to the design of containers, handling of loan sets, use of lifting equipment, work area design, psychosocial issues and liaison with equipment suppliers and building designers.
In response to these recommendations and the continued high cost of manual handling claims in the health sector, WorkCover NSW (WCA) established and led a national working party that commenced in August 2009.
Sterilizing Research and Advisory Council of Australia.

- The standard will be developed in close consultation with SRACA and a working party is to be established to address current and emerging issues that impact on the design and handling of road cases and surgical loan sets.
- The group will include representatives from workplace safety jurisdictions across Australia, Healthcare, orthopaedic specialists, manufacturers, and suppliers of surgical loan sets.
Not an easy process

- Many hours had been spend developing the guidelines and including all parties handling these transport containers.
- Suppliers, healthcare workers, small and large courier companies including airport handlers.
- Work cover NSW organized all parties to attend these meetings regularly and when necessary broke these meetings into sub committees to achieve timely results.
It was discovered there was not a national industry safety standard that provides advice on the safe design of the transport containers and handling of surgical loan kits.

With technology advances the range and cost of surgical instruments has escalated, increasing the demand for the use of surgical loan sets.
Site inspections.

- Following a series of site visits by workplace safety inspectors to suppliers, hospitals, and couriers and transportation companies.
- Inspections confirmed that the transport and handling of road cases, tubs, and surgical instrument trays presented a significant risk, with serious implications across the industry sector.
Some of the manual handling risks and hazards associated with the use and handling of loan kits include:

- Loading and unloading of instrument trays and implants into and out of the road cases and tubs.
- Frequent sorting, packing and unpacking of instrument trays and implants and the associated sterilization process.
- Movement of the tubs and trays around the warehouses and hospitals.
- Repetitive bending forward, twisting motions and overreaching.
- Task repetition.
- Insufficient mechanical lifting aides.
- Moving objects that restrict leg and arm movements.
Some controls to reduce the manual handling hazards & risk associated to loan sets

- Delivery of adequate task specific manual handling training for all staff.
- Use of mechanical aids to adjust tub/road case to a height that ensures the packer/unpacker does not bend their neck or back more than 20 degrees.
- Assessing the process for handling loan sets and implants and review the risks.
- Documenting safe work procedures for each task involved in the handling of loan sets.
- Use adjustable height trolleys so that trays can be slid between sterilizers and benches instead of being lifted.
This survey was provided to a range of stakeholders over a period of three months (September to November 2009)

A survey of workers carrying out these tasks identified that many workers had some form of pain as a result of their work many suffering moderate to severe pain, particularly back and/or shoulder pain.

In particular, one of the biggest issues for hospital staff and couriers was the vast array of different road cases and tubs that are being used to transport loans kits and implants.

All the cases and tubs were poorly designed and resulted in very poor manual handling practices.
## Number of respondents by facility

<table>
<thead>
<tr>
<th>Facility</th>
<th>Number of respondents</th>
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<tr>
<td>John Hunter</td>
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<td>Toronto Private Hospital</td>
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<tr>
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<td>Sydney West Area Health service</td>
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<td>Knox Private Hospital</td>
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<td>Maitland Private Hospital</td>
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<tr>
<td>Calvary Mater Hospital Newcastle</td>
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<tr>
<td><strong>Total number of participants</strong></td>
<td><strong>135</strong></td>
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37% of respondents had worked at their present job for a period of 10 to 30 years.

60% of respondents claimed discomfort was related to the present job. Which involved handling of surgical loan kits.

55% that the most common activities associated with handling loan kits involve lifting followed by moving, pushing and handling, loading and unloading.

37% experience aches and pains.

21% reported stiffness.

11% reported pins and needles.

Majority of symptoms occurred in hands, back area and shoulders.
After the research phase and in consultation with the national working party it was decided that the most effective way to solve this problem was to design a single transport case that could be used by all suppliers across Australia.

After the initial discussion within the working party it was recommended that a National Industry Safety Guide for the ‘Safe Design and Handling Of Surgical Instrument transport cases be developed.

This involved engaging an industrial design expert to assist the working party to design a transport case, that when used in conjunction with this guide, would greatly reduce the manual handling risks involved with handling this equipment.
Safe Design Prototype Development and Testing

- Dr Lance Green (industrial Design Engineer), with extensive experience in the health industry, joined the working party October 2009.
- A prototype transport case was designed after extensive consultation with industry and as a result of assessing all the different types of manual task activities involved in handling cases, tubs and surgical instrument sets.
- The prototype was manufactured in June 2010 and a rigorous prototype testing regime was conducted during July/August 2010.
The testing

- The testing phase involved risk assessment and the comparative study found that the new model significantly reduced manual handling risks and improved work process flow in all work situations.
- Results were provided to all the working party members and relevant stakeholders for review and comments.
- A number of improvements were recommended and Dr Green worked with a range of manufacturing companies to develop final design specifications for the new product.
- The working party approved the final design specifications and the suppliers on the working party committed to funding the costs associated with the tooling and manufacturer of the new design through a supplies subgroup.
The new design
The guide

- During the design process the working party continued to develop the guide.
- The guide outlines all the responsibilities of all parties from designers to end users and outlines recommended practices for handling of this equipment in all workplaces.
The CSSD subgroup was formed in August 2010 to develop specific resources including a best practice loan set management footprint.

This group also developed a stakeholder review/feedback process to be used as part of the consultation phase and a communications plan for implementation on release of the guide.
CSSD subgroup
<table>
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<tr>
<td><strong>1.</strong> Research existing samples of Safe operating practices</td>
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| **2.** • obtain generic pre– start checklists and sample Assessments  
• Obtain loan set management Guidelines CHRISP  
• Provide Photograph of lever used |
| **3.** • Develop Draft templates – Safe Operating procedures (as per pages of the guide 25 &26)  
• Email Draft templates to Group |
| **4.** Research into existing training competencies from CHRISP, TAFE– report to group via email |
| **5.** Review of draft templates –provide feedback via email  
Ascertaining need for next meeting ( end of July to Early August 2011) |
| **6.** COMPILE PRESENTATION OF PROMOTIONAL Package for approval by WCA and HWSA  
And a Draft training program for CSSD |
| **7.** Obtain Information on Training DVD  
• PRICE – WHAT IS INCLUDED  
• HOW TO DEVELOP |
| **8.** OBTAIN PHOTOGRAPHS DURING Demo phase to add to SOP’s |
| **9.** Review and Agree on Complete Training program  
• promotional package  
• Training package |
| **10.** Promotional package to HWSA for approval and distribution to state regulators and FSRACA |

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<th>Responsibility</th>
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<td>Elinor Radke</td>
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<td>All –the group</td>
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<td>Patty and Shayne</td>
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<td>Lynne Noring</td>
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<td>WCA FSRACA</td>
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Project conclusions

- Poor Design
- Prototype
- The guide
- Education and promotion
- Transitional
- Responsibility
- Evaluation
Thank you

- John Sheppard, Joyce Kenyon, Sue Ison, Sharon Woods, Christine Seeto,
- Anne Hardy, Robyn Williams, Donna Lee, Carol Barber, Bronwyn Gorman,
- Colleen Henry, Elinor Radke
Where are we up to today

- Circulation /trial
- Education
- Feedback.
- Tender