AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

TRIM 65926

National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines

Evaluation of pre-printed labels for identification of medicines and fluids on the perioperative sterile field

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National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines

Evaluation of pre-printed labels for identification of medicines and fluids on the perioperative sterile field

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1. Introduction

The Australian Commission on Safety and Quality in Health Care (the Commission) is responsible for maintaining the *National Recommendations for User-applied Labelling of Medicines, Fluids and Lines* (the *Labelling Recommendations*) described at www.safetyandquality.gov.au/our-work/medication-safety/user-applied-labelling/. The Commission also identifies and reduces national barriers to implementation.

Implementation is an evolving process and *Labelling Recommendations* issues referred to the Commission's advisory groups are recorded in the *Labelling Recommendations Issues Register* on the Commission web site at www.safetyandquality.gov.au/our-work/medication-safety/user-applied-labelling/

IR11 from the *Labelling Recommendations Issues Register* provides advice on the suitability of, and specifications for, pre-printed labels used to identify medicines and fluids on the perioperative sterile field.

The perioperative area operating room is a closed practice environment. The *Labelling Recommendations* provide an abbreviated container label (see Figure 1 below) to identify all medicines and fluids on the sterile field in the perioperative area. Patient and user identifications are omitted as these details are recorded elsewhere in the operating theatre records.

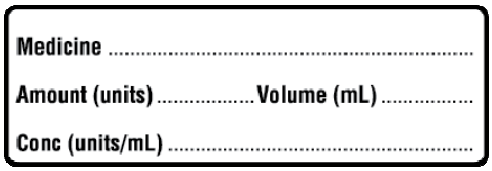


Figure 1: Abbreviated container label for closed practice environments e.g. perioperative sterile field

Pilot testing acknowledged pre-printed labels for use by scrub nurses and surgeons in the perioperative sterile field are a suitable alternative to the abbreviated container label for routine operations where the same medicines are used frequently. Pre-printed labels have advantages:

- No need for sterile marker
- Readily available
- Less time to select and apply

Calvary Wakefield Hospital (CWH) in South Australia is an acute private hospital with 180 beds located in the Adelaide central business district. It has a total of eight operating theatres within its perioperative suite and covers all operative specialities with a strong focus on neurosurgery, cardiac services and orthopaedic surgery.

CWH commenced implementation of the *Labelling Recommendations*[1] in July 2011. However, the perioperative suite encountered delays in implementation on the perioperative sterile field because it was unable to obtain the abbreviated container label and because of local concern about whether the label was suitable. Pilot testing by the Commission found that pre-printed container labels may be considered for routine procedures in the perioperative area. CWH developed a pre-printed label sheet which included medicines and fluids used regularly in the perioperative area operating theatres (see Appendix 1).

In October 2011, the Commission engaged CWH to evaluate pre-printed sterile container labels on the perioperative sterile field. Label sheets were prepared and which included medicines and fluids most frequently used in routine procedures. The sheets were individually packaged and sterilised and evaluated in relation to identification and label quality.

2. Aims and objectives

The *Labelling Recommendations* require identification of all medicines and fluids on the sterile field in the perioperative area.

Labelling requirements on the sterile field[1]

- All medicine containers, including jugs, basins and syringes, should be labelled according to the *Labelling Recommendations*.
- Container/conduit labels to be used on the sterile field must be packaged and sterilised.
- Sterile markers must be made available on the sterile field.
- All labelled containers on the sterile field must be discarded after the procedure.

The abbreviated container label was available (packaged and sterilised) prior to the CWH trial commencing, The label was designed to identify medicines and fluids removed from the original packaging and placed in containers (such as hollowware and syringes).

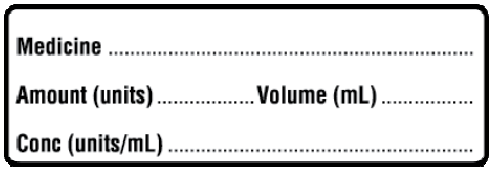


Figure 1: Abbreviated container label for closed practice environments e.g. perioperative sterile field

Health services indicated a preference for pre-printed labels to be used during routine operations. The abbreviated container label, and the need to write on it with a sterile marker during procedures, is viewed as time consuming and impractical. Consequently application of the Labelling Recommendations in perioperative areas has been slow. The proposal to use pre-printed labels supports pilot testing that confirmed pre-printing labels for routine procedures may provide a practical alternative.

The Commission engaged CWH to:

- prepare a label sheet including medicines most frequently used in routine procedures
- procure individually packaged sterile sheets
- evaluate them in terms of identification and label quality. Label quality must be such that labels are fit for purpose, progress through sterilisation intact and retain integrity throughout the procedure.

The trial aimed to determine the following for pre-printed labels on the sterile field:

- A pre-printed label set is suitable for identification of all medicines and fluids on the sterile field.
- If colour is used on pre-printed labels for the perioperative sterile field then it should be used consistently with anaesthetic standard ISO 26825:2008.
- The printed content on the labels ensures safe medication labelling and identification in the perioperative area.
- The label sizes are appropriate.
- The font sizes are appropriate.
- Where colour is used this is appropriate.

During the trial, the following information from the Commission's *Implementation Guide* [2] would also be considered.

- *Containers may be handled many times in one procedure. Exposure to fluids may be repeated in this time and label integrity must be retained.*
- *The surface of the label must not disintegrate to avoid transfer to the patient.*
- *Ensure label adhesion is retained during the procedure. Test compatibility of sterile field labels with commonly used medicines. The pilot test revealed papaverine released the test labels from their container.*
- *Ensure labels can be removed from any equipment required to be cleaned and resterilised for reuse. Any residue on a stainless steel container will render it unfit for sterilisation.*
- *Keep packaging size to a minimum to minimise waste and facilitate handling.*

3. Methodology

The pre-printed label sheet was designed to provide a quick and effective system for easily and accurately labelling medicines and fluids used in perioperative settings. Following education and testing, the label sheet was assessed by perioperative staff and feedback collected in relation to the label quality, ease of use and label content.

a) Label development

- Aligned the draft label sheet at CWH with the current Labelling Recommendations and implementation resources, and in consultation CWH users.
- The sample group consisted of all lists to be held within the eight operating theatres including neurosurgery, cardiac services and orthopaedic surgery.
- The Commission provided details of label stock issues in pilot testing.
- CWH established if label stock and presentation of the individually packaged label sheets would meet the requirements of the perioperative area. Three label manufacturers quoted for production and StirlingFILDES supplied labels sheets. Bard was selected to package and sterilise the label sheets for the trial.
- Labels consisted of the following::
    - full drug names; no abbreviations; no brand names; no medicine class names
    - colour coding, stripes and borders according to ASNZ4375:1996 and ISO26825:2008
    - text size as large as possible
    - plain sans serif font
    - black on white where no colour is specified in the standards
    - lower case letters
- A mock up label sheet was supplied to CWH and the Commission.
- Approved label sheets were produced and individually packaged and sterilised, on approval of mock up. (See Appendix 2a: Pre-Printed Label Template - Stages 1 and 2).
- The Labelling Recommendations Reference Group met and provided further guidance (and which was reflected in the *Issues Register*) on the application of colour and other identifiers according to Australian Standard AS/NZS 4375 and ISO 26825. This endorsed application of these standards to the label template.

- The label set was adjusted (Stage 3) to:
    - remove strengths on the labels carrying adrenaline and a local anaesthetic
    - remove the abbreviated container label from label sheet
    - add strengths to the medicines and fluids where pre determined
    - record adrenaline units as microgram/mL
    - record heparin in units/mL

b) Education

- Education provided by a CWH staff member for all CWH health service personnel in the perioperative area involved in testing.
- CWH provided an evaluation of current practice for identification of medicines on the sterile field.

c) Testing and evaluation

- Testing was intended to run over 6 weeks.
- CWH collated results from testing in each area, including evaluation of size, font size, content, colour, durability and acceptability.
- CWH document clearly, and with reasons, any situation where it was not possible to comply with the *Labelling Recommendations.*

d) Staged trial process

Stage 1: The trial was suspended after 9 days as some of the label sheets were reported faulty with the label sheet punched all the way through by the cutting block during manufacture. The manufacturer was asked to provide viable label sheets and trial was suspended.

Stage 2: Some labels tended to fall off containers in damp or wet conditions. This was a patient safety issue and the trial was again suspended.

Stage 3: The label manufacturer sourced two sets of paper with a fluid resistant surface to find a label that retains its integrity and remains adhered for the duration of the procedure. A set of labels printed on two types of paper were evaluated for adherence to containers in dry and wet conditions before printing and sterilisation. The performance of labels printed on gloss paper was preferred as they adhered well to curved surfaces and were retained when exposed to fluids.

The gloss paper is not suitable for writing with a sterile marker pen and labels were revised to be fully populated with medicine name and concentration according to the medicines used in routine procedures at CWH. The pre-printed labels were used and evaluated to trial completion.

4. Evaluation

Stage 1

Commenced: 13 February 2012

Duration: 9 days

Pre-printed label set: *Appendix 2a: Pre-Printed Label Template – Stages 1 and 2*

Total audits completed: 38

A total of 128 label sheets were used during the 9 day period in a total of 38 lists. One feedback sheet (Appendix 3a) per list was completed by the scrub nurse allocated to the list.

Outcome:

During the second week of the trial there were reports that the label sheets were falling apart and that the labels were difficult to remove from the sheet.

Samples of the sheets in question were collected which showed that, in some instances, the label sheet has been punched all the way through by the label cutting block which has resulted in some labels floating free or only being attached by one flap

The trial was suspended and labels withdrawn due to the faults in the label sheets. The die used by the manufacturer had cut the outline for the individual labels on the sheet. However, the die cutter had also cut through the backing sheet on some sheets. This meant individual labels came away from the whole sheet with the backing attached. It was impractical to try and remove the label from the backing because it was difficult to isolate a corner to peel them from the sheet.

An attempt was made to separate good quality sheets from the poor quality. However, it was too difficult to determine which sheets were intact and which were not.

StirlingFILDES were notified of the production error. Following discussions with the Commission it was decided to suspend the trial.

The evaluation (at *Appendix 3a: Perioperative Sterile Label Trial Evaluation Stage 1*) was conducted when viable label sheets were trialled and results are presented in Appendix 4a: Stage 1 Perioperative Sterile Label Trial Evaluation.

Fifteen staff members reported issues in response to Question 7 regarding durability and maintenance of surface quality:

- Two related to an issue of the paper section of the labels coming off the adhesive after being left in the jug for longer than five minutes.
- Four related to the labels floating entirely free from the sticker sheet prior to the labels being put into use
- Ten related to the above issue with the label sheet being punched all the way through

Stage 2

Commenced: 16 April 2012

Duration: 9 days

Pre-printed label set: *Appendix 2a: Pre-Printed Label Template - Stages 1 and 2*

Total Audits Completed: 41

Outcome:

One feedback sheet (see *Appendix 3b: Perioperative Sterile Label Trial Evaluation Stage 2*) per list was completed by the scrub nurse allocated to the list. The evaluation was conducted and results are presented in *Appendix 4b: Stage 2 Perioperative Sterile Label Trial Evaluation - Week One* and *Appendix 4c: Stage 2 Perioperative Sterile Label Trial Evaluation - Week Two*.

The majority of comments related to the ability of the labels to perform in damp or wet conditions. Many labels were reported as "falling off the item" once they came in contact with fluid of any type.

The trial was halted due to the unacceptably high number of labels that became detached from the container during a procedure. This appeared to be as a result of contact with fluid of any type.

The issue needed to be addressed for patient safety due to risk of labels being lost in wounds.

Again following discussion with the Commission it was decided to suspend the trial and attempt to procure labels with an alternative composition that may be suitable for the conditions in the perioperative area.

Stage 3

Commenced: 23 May 2012

Completed: 6 June 2012

Duration: 10 days to trial conclusion

Pre-printed label set: *Appendix 2b: Pre-Printed Label Template - Stage 3*

Total Audits Completed: 41

Outcome:

One feedback sheet (see *Appendix 3c: Perioperative Sterile Label Trial Evaluation Stage 3*) per list was completed by the scrub nurse allocated to the list. The evaluation was conducted and results are presented in *Appendix 4d: Stage 3 Perioperative Sterile Label Trial Evaluation*.

This stage used new gloss labels on the sterile label sheet as an alternative to the matt labels that had been used during stages 1 and 2. The addition of waterproofing on the label surface led to a significant increase in the durability of labels and they were able to maintain surface quality.

Label adhesiveness also improved in Stage 3. Two staff reported difficulties in maintaining adhesiveness when they were applying labels to one and two mL syringes. On further discussion it was found they were applying the labels vertically or diagonally onto syringe surface.

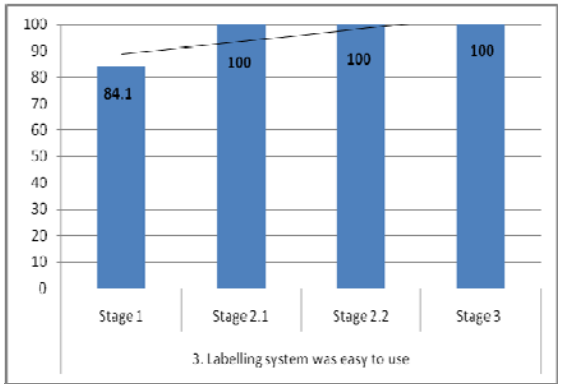
The staff were positive about the pre-populated labels and by the second week of the trial became familiar with using them and fitting the timing of using them into the setup process.

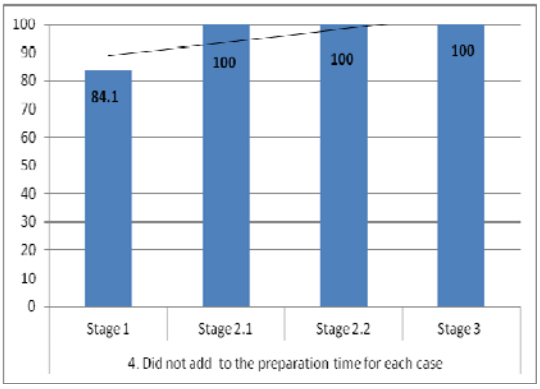
5. Summary and observations

Stage 3 results reflect the application of labels manufactured to be fit for purpose. The following conclusions can be drawn.

5.1 Acceptability

The pre-printed label sheet provided easy to use, practical set of labels used in the perioperative area at CWH. These were generally well accepted and did not significantly extend preparation time.





In Stage 3, conditions in the perioperative area required the manufacture of labels using a high gloss finish.

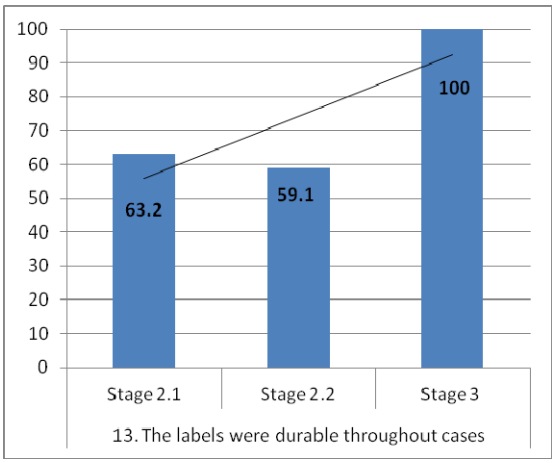
CWH had determined the medicines and fluids to be included on the label sheet to be common across all surgical specialties within the 8 theatre suite.

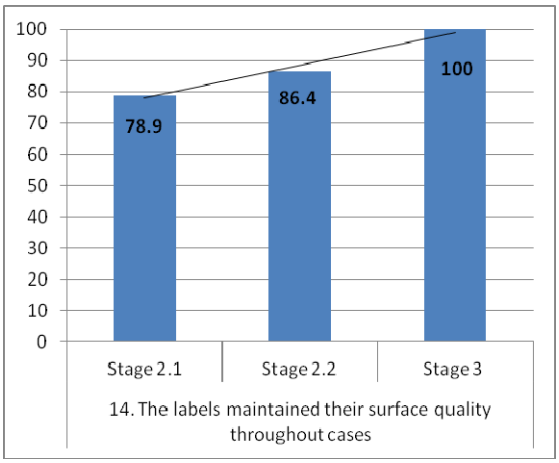
During the 2 weeks of Stage 3 testing, two fluids were required for which there was no pre-printed label. These were both skin preparation fluids.

For evaluation of setup time for each case, 78.1% of staff agreed the labelling system did not add to the preparation time for their cases. Any perceived increase was minimal and mainly affected fast lists with many small cases.

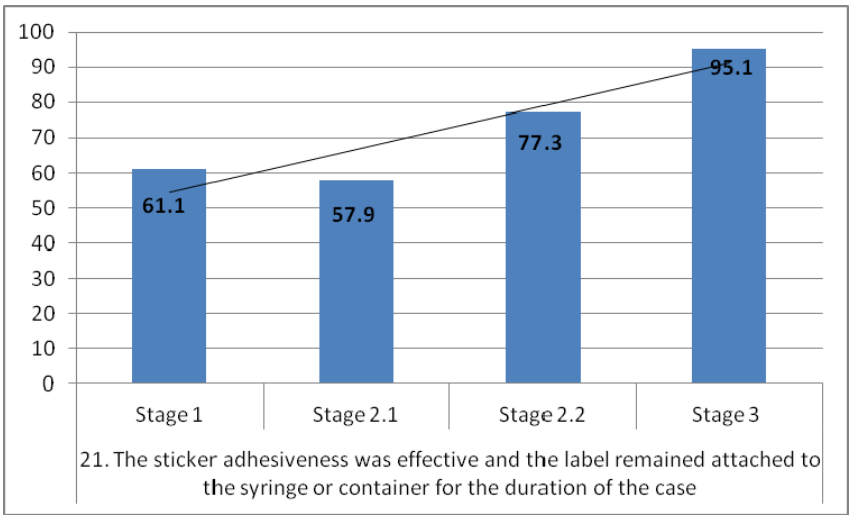
5.2 Label Strength and Durability

The labels manufactured with a high gloss finish used in Stage 3 were found to be fit for purpose in terms of strength and durability. The labels remained intact and no disintegration was reported.





Labels were reportedly unable to adhere during use with 1 and 2 mL syringes. However on investigation it was evident that the labels were applied vertically and diagonally rather than wrapped and flagged.



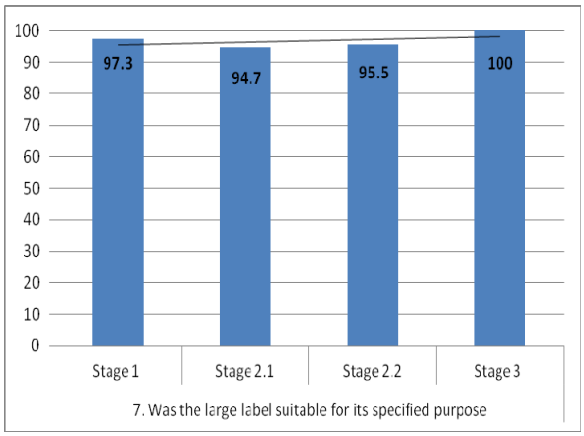
The scenario was replicated post-trial using small syringes and a wet environment applying the labels around the barrel of the syringe and pinching two label edges together to form a tag (or flagged). This method fully adhered the label to the syringe and it remained fully legible. In addition, the label remained intact when the syringe was immersed in fluid and did not lift off the syringe.

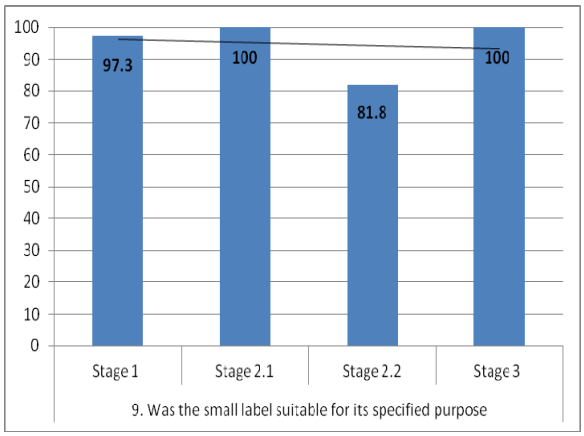
Labels on small syringes immersed in normal saline 0.9% for 12 hours overnight remained intact and could be handled without the label surface being disturbed.

5.3 Label Size

Two label sizes were used; a larger label for fluids (55mm x 20mm) and a smaller label for other medicines and fluids (40mm x 10mm).

The size of both labels was found by staff to be appropriate for their intended purpose.





5.4 Font

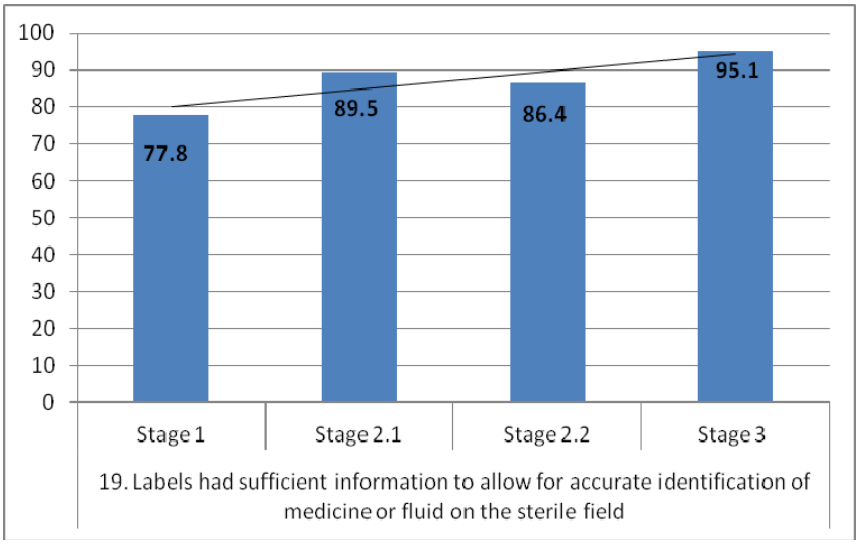
The font used was sans serif and font size was proportionate to the label sizes. The font used was 20 points for the larger labels and 12 points for the smaller labels. In addition, small labels with two medicine names (e.g. Bupivacaine / Adrenaline) were 11 point font.

The size of font used on all labels was found to be legible and appropriate for the intended purpose.

5.5 Printed Content

The introduction of waterproofing in Stage 3 led to the need to add concentration to pre-populated labels as writing on labels was thought not to be possible.

95.1% of staff reported there was sufficient information for accurate identification of medicines and fluid on the sterile field.



Comments indicated a need to identify preparation solutions as there were no labels for this purpose on the trial sheet.

CWH intend to address this omission when organising clinic specific sheets for future use.

Some staff tried to write on Stage 3 labels and reported that that this was achievable with a surgical marking pen with no run of ink if they become wet.

5.6 Colour

In Stage 3, 51.2% of responding staff stated that label colours were useful for identification and 46.4% were undecided. There was no feedback to indicate that colours were was detrimental to identification.

5.7 Packaging

Staff commented on the size of the packaging although this was not part of the evaluation.

They indicated the pack size was too large in Stage 1 and 3 and that the Stage 2 packaging was a better size as it was easier to handle when opening and presenting to be taken onto the sterile field.

5.8 Label Adhesive Residue

Labels were tested randomly throughout all stages of the trial for their ability to peel of containers cleanly. A variety of container types including steel reusable plastic and disposable plastic were tested.

Labels were left on for periods of 1 hour, 2 hours and 6 hours and no residue was observed when removed.

Labels were also exposed to different irrigation solutions and could be easily removed with little to no residual adhesive left receptacles. Any adhesive left was easily removed with alcohol wipes

Only when the label was immersed was there any issue with excessive residue being left on the plastic syringe which was disposable and thus discarded.

6. Conclusion

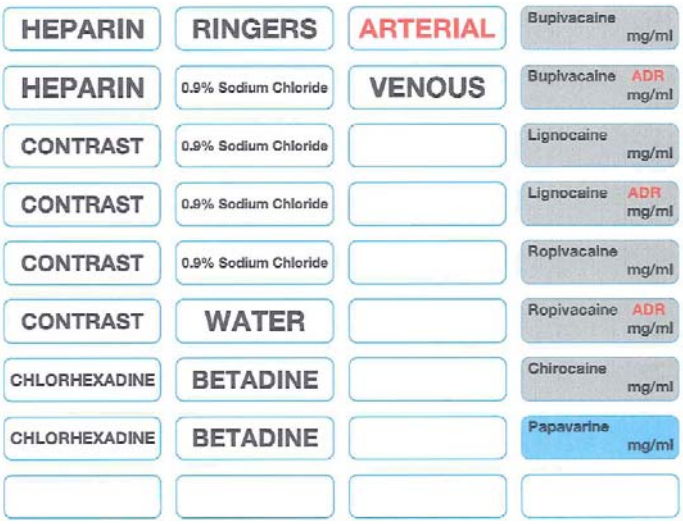
In summary, the results of this trial were positive. The pre-printed label sheet was successful with the improvement of the water resistant layer. The labels presented in this way were easy to use and in Stage 3, the labels were durable and fit for purpose. At CWH, the label sheet will require minor adaptation to include fluids used for which there was no label. CWH only use disposable containers and are likely to use labels with a stronger adhesive because there is no requirement to remove labels.

7. References

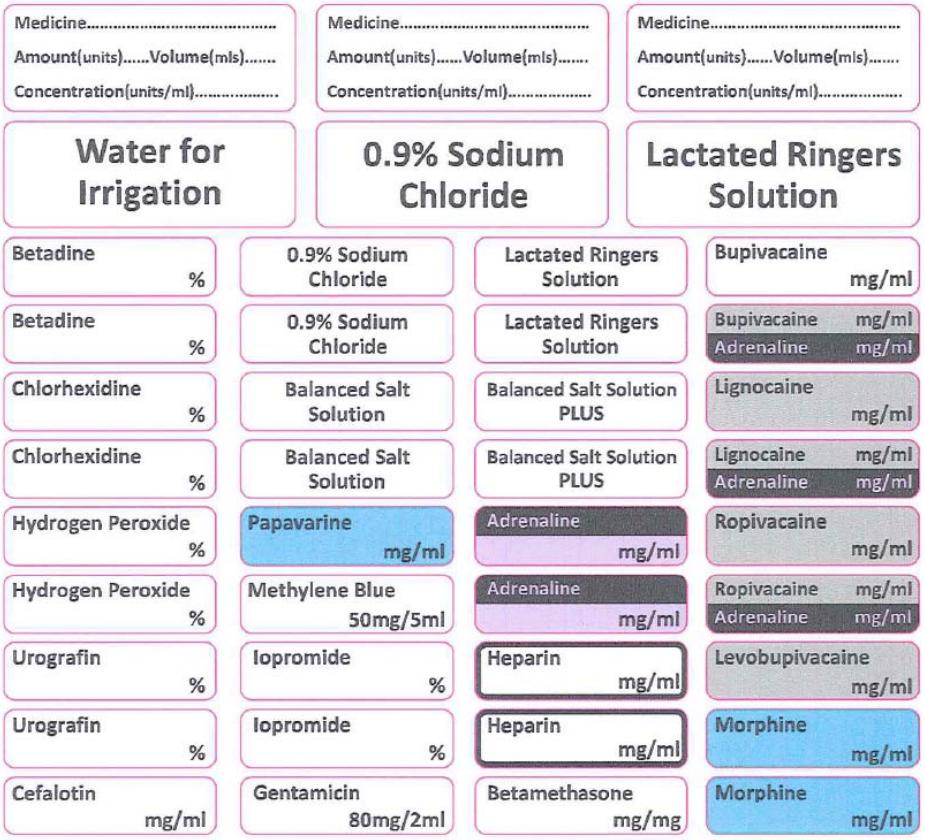
1. Australian Commission on Safety and Quality in Health Care 2012, *National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines: Issues Register*, ACSQHC, Sydney.
2. Australian Commission on Safety and Quality in Health Care 2012, *National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines: Implementation Guide,* ACSQHC, Sydney http://www.safetyandquality.gov.au/wpcontent/uploads/2012/02/38460ImplementationGuide.pdf. Accessed 27.06.12

8. Appendices

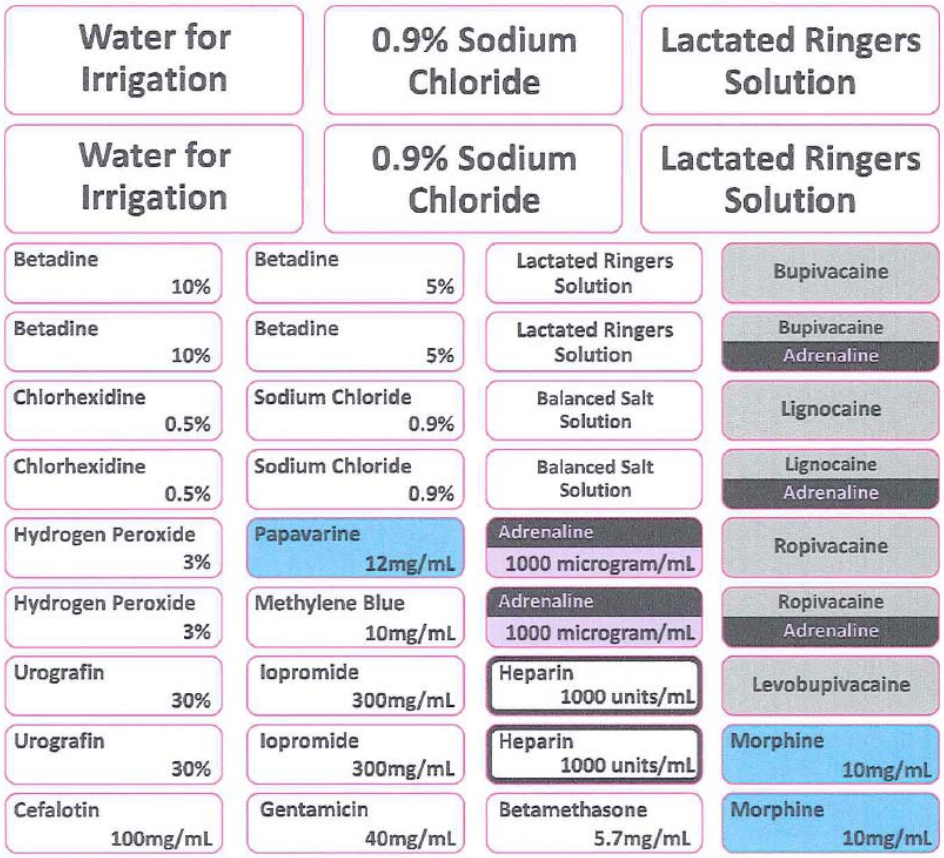
Appendix 8.1: Labels Developed At CWH Pre Trial



Appendix 8.2.1: Pre-Printed Label Template - Stages 1 and 2



Appendix 8.2.2: Pre-Printed Label Template - Stage 3



Appendix 8.3 Pre-printed label sheet product specifications

Print carrier	**Physical Properties**
White, one side cast coated, gloss finished, woodfree, printing paper	
Weight	80g/m²
Thickness	88µm
Adhesive	
NP2	
Peel adhesion 90º FTM 2	100N/m
Tackº FTM1	160N/m

Appendix 8.4.1: Perioperative Sterile Label Trial Evaluation Stage 1

Calvary Wakefield Hospital	**Perioperative Sterile Labelling Trial Evaluation**	AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

Week:		**Theatre:**		**Date:**		**Scrub Nurse:**	

- In order to effectively evaluate the new **Perioperative Sterile Label** and the **Labelling System** meets the needs of the Perioperative sterile fields it is imperative to review the label and process throughout the trial period.
- The labels were specifically designed to ensure easy and effective usage and you can actively participate in this process by completing one evaluation per list where you are the scrub nurse.
- Please evaluate the program using the following items as guidance, circling the item that best indicates your level of agreement:

1=Strongly Agree 2=Mostly Agree 3=Agree 4=Disagree 5= Strongly Disagree

The education given prior to the implementation of the labels and the labelling system was sufficient?	**1**	**2**	**3**	**4**	**5**
The packaging of the labels was suitable for your requirements?	**1**	**2**	**3**	**4**	**5**
The labelling system was simple and self explanatory to use?	**1**	**2**	**3**	**4**	**5**
The labelling system ensured minimal delays in preparation of each case?	**1**	**2**	**3**	**4**	**5**
The size of each label was suitable for their specified purpose	**1**	**2**	**3**	**4**	**5**
The type on each label was clear and easy to read?	**1**	**2**	**3**	**4**	**5**
The labels were durable and maintained their surface quality throughout case?	**1**	**2**	**3**	**4**	**5**
The labels required sufficient information to allow for quick, effective labelling of each solution on the sterile field?	**1**	**2**	**3**	**4**	**5**
The sticker adhesiveness was effective and remained tactile for the duration of the case?	**1**	**2**	**3**	**4**	**5**
The stickers were able to be easily and effectively removed at completion of case?	**1**	**2**	**3**	**4**	**5**
The stickers on removal did not leave residue?	**1**	**2**	**3**	**4**	**5**
Overall I was happy with the labels and labelling system?	**1**	**2**	**3**	**4**	**5**

Did you require the "Abbreviated Container Label" during any of your cases? Yes / No

If yes could you please specify?

Did you require any information to be added to any other labels provided other than the "Abbreviated Container Label"? Yes / No

If yes could you please specify?

Do you have any other comments:

☺ Thankyou for your time in completing this evaluation ☺

Appendix 8.4.2: Perioperative Sterile Label Trial Evaluation Stage 2

Calvary Wakefield Hospital	**Perioperative Sterile Labelling Trial Evaluation**	AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

Week:	**Date:**
Theatre:	**Scrub Nurse:**

- In order to effectively evaluate the new **Perioperative Sterile Label** and the **Labelling System** meets the needs of the Perioperative sterile fields it is imperative to review the label and process throughout the trial period.
- The labels were specifically designed to ensure easy and effective usage and you can actively participate in this process by completing one evaluation per list where you are the scrub nurse.
- Please evaluate the program using the following statements as guidance, circling the item that best indicates your level of agreement:

1=Strongly Agree 2=Mostly Agree 3=Agree 4=Disagree 5= Strongly Disagree

1.	The education given prior to the implementation of the labels and the labelling system was sufficient.	**1**	**2**	**3**	**4**	**5**
2.	The packaging of the labels was suitable for your requirements.	**1**	**2**	**3**	**4**	**5**
3.	The labelling system was simple to use.	**1**	**2**	**3**	**4**	**5**
4.	The labelling system did not add to the preparation time for the case.	**1**	**2**	**3**	**4**	**5**
5.	Was the time for preparation: (Circle Choice) **a)** was more than before or **b)** less than before					
6.	What do you believe was the reason for the time difference?					
7.	Was the large label size suitable for the specified purpose?	**1**	**2**	**3**	**4**	**5**
8.	Please indicate the preferred label size and why.					
9.	Was the small label size suitable for the specified purpose?	**1**	**2**	**3**	**4**	**5**
10.	Please indicate the preferred label size and why.					
11.	For the large labels used on the trial sheet please indicate if the font size is: **a)** too small **b)** about right **c)** too large					
12.	For the small labels used on the trial sheet please indicate if the font size is: **a)** too small **b)** about right **c)** too large					
13.	Colour coding for each label was based on the Anaesthetic Standard. Was the colour for each suitable for the specified purpose?	**1**	**2**	**3**	**4**	**5**

14. For each label not suitable, indicate the preferred colour (including black on white) and why					
15. The labels were durable and maintained their surface quality throughout case.	**1**	**2**	**3**	**4**	**5**
16. If surface quality was compromised, explain what occurred and where possible identify solutions that came into contact with the label?					
17. The labels had sufficient information to allow for accurate identification of each medicine or fluid on the sterile field.	**1**	**2**	**3**	**4**	**5**
18. If not, for each medicine or fluid list additional information required?					
19. The sticker adhesiveness was effective and the label remained attached for the duration of the case.	**1**	**2**	**3**	**4**	**5**
20. If the label did not adhere, give details of duration of adherence and medicines or fluids?					
21. The stickers were able to be easily and effectively removed at completion of case with no residue remaining.	**1**	**2**	**3**	**4**	**5**
22. If not describe the extent of residue remaining. **a)** no residue **b)** small amount of residue **c)** large amount of residue					
23. If the stickers left a residue and the container was reusable, was the residue completely removable?	**1**	**2**	**3**	**4**	**5**
24. If so what method was used?					
25. Overall, I was happy with the labels and labelling system.	**1**	**2**	**3**	**4**	**5**
26. Did you require the "Abbreviated Container Label" during the case? **Yes / No** **27.** If yes, please specify the container and contents that required identification with this label.					
28. If yes, please indicate which prompts were completed. **a)** Medicine Yes/No **b)** Amount Yes/No **c)** Volume Yes/No **d)** Concentration Yes/No					
29. Did you require the information for strength or volume added to any of the pre-populated labels (i.e. any labels other than the "Abbreviated Container Label")? **Yes / No** **30.** If yes, please specify information entered?					
31. Do you have any other comments:					
☺ **Thankyou for your time in completing this evaluation** ☺					

Appendix 8.4.3: Perioperative Sterile Label Trial Evaluation Stage 3

Calvary Wakefield Hospital	**Perioperative Sterile Labelling Trial Evaluation**	AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

Week:	**Date:**
Theatre:	**Scrub Nurse:**

- In order to effectively evaluate the new **Perioperative Sterile Label** and the **Labelling System** meets the needs of the Perioperative sterile fields it is imperative to review the label and process throughout the trial period.
- The labels were specifically designed to ensure easy and effective usage and you can actively participate in this process by completing one evaluation per list where you are the scrub nurse.
- Please evaluate the program using the following statements as guidance, circling the item that best indicates your level of agreement:

1=Strongly Agree 2=Mostly Agree 3=Agree 4=Disagree 5= Strongly Disagree

1.	The education given prior to the implementation of the labels and the labelling system was sufficient.	**1**	**2**	**3**	**4**	**5**
2.	The packaging of the labels was suitable for your requirements.	**1**	**2**	**3**	**4**	**5**
3.	The labelling system was simple to use.	**1**	**2**	**3**	**4**	**5**
4.	The labelling system did not add to the preparation time for the case.	**1**	**2**	**3**	**4**	**5**

5. Was the time for preparation: (Circle Choice)
- **c)** was more than before or
- **d)** less than before
- **e)** no change in preparation time

6. If there was a time difference what do you believe was the reason for the time difference?

7.	Was the large label size suitable for the specified purpose?	**Yes / No**
8.	Please indicate the preferred label size and why.	
9.	Was the small label size suitable for the specified purpose?	**Yes / No**
10.	Please indicate the preferred label size and why.	

11. For the large labels used on the trial sheet please indicate if the font size is:
- **d)** too small
- **e)** about right
- **f)** too large

12. For the small labels used on the trial sheet please indicate if the font size is:
- **d)** too small
- **e)** about right
- **f)** too large

13.	The labels were durable throughout cases.	**Yes / No**
14.	The labels maintained their surface quality throughout case.	**Yes / No**

15. If surface quality was compromised, explain what occurred and where possible identify solutions that came into contact with the label?					
16. Where colour has been used was it useful for identification? **a)** Yes **b)** No **c)** Undecided **17.** Please Comment:					
18. For each label not suitable, indicate the preferred colour (including black on white) and why.					
19. The labels had sufficient information to allow for accurate identification of each medicine or fluid on the sterile field.	**1**	**2**	**3**	**4**	**5**
20. If not, for each medicine or fluid list additional information required?					
21. The sticker adhesiveness was effective and the label remained attached to the syringe or container for the duration of the case.	**1**	**2**	**3**	**4**	**5**
22. If the label did not adhere, give details of duration of adherence and medicines or fluids?					
23. Do you have any other comments:					
☺ **Thankyou for your time in completing this evaluation** ☺					

Appendix 8.5.1: Perioperative Sterile Label Trial Results - Stage 1

Calvary Wakefield Hospital	**Perioperative Sterile Labelling Trial Evaluation**	AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

- Stage One of ACSQHC Sterile Labelling Trial was commenced on the 13th of February 2012 within the Calvary Wakefield Hospital Operating theatres.
- The sample group consisted of all lists to be held within the eight operating theatres within the set time and covered all the speciality groups.
- This primary stage of the trial was completed over a 9 day period at which time on discovery of a fault in the Sticker Sheet the Trial was halted until the fault could be rectified
- A total of 128 label sheets were used during the 9 day period in a total of 38 lists
- 38 feedback sheets were completed by the scrub nurse allocated per list, a total of one per list.

CRITERIA RESULTS:

1. The education given prior to the implementation of the labels and the labelling system was sufficient?
    a. **38.9% = Strongly Agree**
    b. **22.2% = Mostly Agree**
    c. **25.0% = Agree**
    d. **5.6% = Disagree**
    e. **8.3% = Strongly Disagree**
2. The packaging of the labels was suitable for your requirements?
    a. **30.6% = Strongly Agree**
    b. **27.8% = Mostly Agree**
    c. **27.8% = Agree**
    d. **11.1% = Disagree**
    e. **2.8% = Strongly Disagree**
3. The labelling system was simple and self explanatory to use?
    a. **41.7% = Strongly Agree**
    b. **19.4% = Mostly Agree**
    c. **233.3% = Agree**
    d. **2.8% = Disagree**
    e. **2.8% = Strongly Disagree**
4. The labelling system ensured minimal delays in preparation of each case?
    a. **11.1% = Strongly Agree**
    b. **22.2% = Mostly Agree**
    c. **41.7% = Agree**
    d. **16.7% = Disagree**
    e. **8.3% = Strongly Disagree**
5. The size of each label was suitable for their specified purpose?
    a. **30.6% = Strongly Agree**
    b. **30.6% = Mostly Agree**
    c. **36.1% = Agree**
    d. **2.8% = Disagree**
6. The type on each label was clear and easy to read?
    a. **27.8% = Strongly Agree**
    b. **33.3% = Mostly Agree**
    c. **36.1% = Agree**
    d. **2.8% = Disagree**
7. The labels were durable and maintained their surface quality throughout case?
    a. **22.2% = Strongly Agree**
    b. **16.7% = Mostly Agree**
    c. **27.8% = Agree**
    d. **13.9% = Disagree**
    e. **19.4% = Strongly Disagree**

8. The labels required sufficient information to allow for quick, effective labelling of each solution on the sterile field?
    a. **16.7% = Strongly Agree**
    b. **22.2% = Mostly Agree**
    c. **38.9% = Agree**
    d. **19.4% = Disagree**
    e. **2.8% = Strongly Disagree**

9. The sticker adhesiveness was effective and remained tactile for the duration of the case?
    a. **22.2% = Strongly Agree**
    b. **16.7% = Mostly Agree**
    c. **22.2% = Agree**
    d. **19.4% = Disagree**
    e. **19.4% = Strongly Disagree**

10. The stickers were able to be easily and effectively removed at completion of case?
    a. **5.6% = Strongly Agree**
    b. **22.2% = Mostly Agree**
    c. **55.6% = Agree**
    d. **9.1% = Disagree**

11. The stickers on removal did not leave residue?
    a. **38.9% = Mostly Agree**
    b. **61.1% = Agree**

12. Overall I was happy with the labels and labelling system?
    a. **5.6% = Strongly Agree**
    b. **22.2% = Mostly Agree**
    c. **50.0% = Agree**
    d. **16.7% = Disagree**
    e. **5.6% = Strongly Disagree**

Did you require the "Abbreviated Container Label" during any of your cases?

- **17.4% = Yes (4)**
- **82.6% = No (19)**
- **N/A (13)**

If yes could you please specify?

- Surgi flow
- Heparin, Sodium chloride, water, papaverine
- No isoptin label, had a solution mixed by Perfusionist
- Fentanyl, celestone

Did you require any information to be added to any other labels provided other than the "Abbreviated Container Label"?

- **13.0% = Yes (3)**
- **87.0% = No (20)**
- **N/A (13)**

If yes could you please specify?

- Fentanyl 100 mcg / surgiflow
- Betadine 1/2 strength
- Some drugs used in neuro not on sheet

Do you have any other comments:

- I used only one label (0.9% sodium chloride), so the other labels were wasted
- Labels don't say what the percentage of the solution eg. Betadine - Alcoholic & antiseptic etc
- Waste of money
- More ringer solution stickers would be helpful.
- Labels at times come off of syringe.
- Two labels required with Bupivacaine and adrenaline, in a list with a quicker turn over and shorter cases, this would potentially cause delays.
- As soon as the labels became wet, they fell apart.
- Why do you have to remove stickers?
- Only used one of the labels, so it felt like a bit of a waste.
- Did When syringes were submerged in saline, the sticker came off the syringes have to remember to do the saline but over all a long day
- What does have to be labelled and what doesn't
- Sticker did not stick onto container during the case due to grease on the container.
- These stickers seem very cheap and tacky.
- These stickers I think it is potentially dangerous for labelling syringes - comes off very easy when wet and can potentially end up in a cavity and stay behind and will not be picked up with x-ray, and is not part of the count. Did not seem as adhesive as the batch I used previously. Kept falling off this time
- Labels wouldn't stick to any syringes. Labels hard to peel off.
- Occasionally difficulty removing label from sheet.
- Same as before not peeling of the backing properly.
- Total waste of time.
- Be good if there was smaller sheets with specialty specific drugs, could cut down on waste.

SUMMARY:

Through data collected from Criteria 7 and comments in the "*Do you have any other comments*" section, During the second week of the Commission Sterile Label Trial there were reports that the label sheets were faulty with comments that the sheets were falling apart and that the stickers were difficult to remove.

Samples of the sheets in question were collected which showed that in some instances the sticker sheet has been punched all the way through by the sticker cutting block which has resulted in some stickers floating free or only being attached by one flap.

Further responses were sought from 15 staff members whose responses to the criteria 7 had led to the investigation.

Of the 15 responses:

- 2 related to an issue of the paper section of the stickers coming off the adhesive after being left in the jug for longer than five minutes.
- 4 related to the stickers floating entirely free from the sticker sheet prior to the stickers being put into use
- 10 related to the above issue with the sticker sheet being punched all the way through

With the latter two responses comments were made on by staff about the stickers being difficult to remove from the sheet because they were not intact and this made it difficult to isolate a corner to peel them from the sheet.

Once aware of the problem an attempt was made to separate good quality sheets from the poor quality, however it was determined that it was too difficult to determine which sheets were intact and which were not with any accuracy.

StirlingFILDES were contacted to report the production problem

After discussions with the Commission it was decided to suspend the trial until the production problem was resolved to preserve the integrity of our data.

Appendix 8.5.2: Perioperative Sterile Label Trial Results - Week One –Stage 2

CWH/ACSQHC Sterile Label Evaluation Report - Stage Two Week One

- Stage One of ACSQHC Sterile Labelling Trial was commenced on the 13th of February 2012 within the Calvary Wakefield Hospital Operating theatres.
- The sample group consisted of all lists to be held within the eight operating theatres within the set time and covered all the speciality groups.
- This stage was completed over a 5 day period and 19 Audits were completed by staff

CRITERIA RESULTS:

1. The education given prior to the implementation of the labels and the labelling system was sufficient?

	Total	%	
Strongly Agree	9	47.4	
Mostly Agree	4	21.1	
Agree	6	36.6	100%
Disagree	0	0	
Strongly Disagree	0	0	

2. The packaging of labels was suitable for your requirements?

	Total	%	
Strongly Agree	7	36.8	
Mostly Agree	3	15.8	
Agree	8	42.1	94.7%
Disagree	1	5.26	
Strongly Disagree	0	0	

3. The labelling system was simple to use?

	Total	%	
Strongly Agree	8	42.1	
Mostly Agree	6	31.6	
Agree	5	26.3	100%
Disagree	0	0	
Strongly Disagree	0	0	

4. The labelling system did not add to the preparation time for the case?

	Total	%	
Strongly Agree	6	31.6	
Mostly Agree	6	31.6	
Agree	4	21.1	84.2%
Disagree	3	15.8	
Strongly Disagree	0	0	

5. Was the time for preparation a) more then before, b) less then before or c) no change?

	Total	%
a) More than before	7	36.8
b) Less than before	0	0
c) No change	12	63.2

6. If there was a time difference in preparation time, what do you believe was the reason?

- *Finding the correct labels and removing them from the sheet then adhering them to the correct syringes*
- *Small amount of time x2*
- *Fast list not much time for putting stickers onto containers*

7. Was the large label suitable for their specified purpose?

	Total	%
Yes	**18**	**94.7**
No	**1**	**5.26**

8. If no, please indicate the preferred size for the large label and why

- *Smaller label as only using smaller syringes in ophthalmics*
- *All good*
- *Both label sizes have a purpose*
- *Was great for the jug but too big for syringes*

9. Was the small label suitable for their specified purpose?

	Total	%
Yes	**19**	**100**
No	**0**	**0**

10. If no, please indicate the preferred size for the large label and why

- *Both label sizes have a purpose*
- *All good*

11. For the large labels please indicate if the font size was a) too small, b) about right or c) too large

	Total	%
Too small	**0**	**0**
About Right	**19**	**100**
Too Large	**0**	**0**

12. For the small labels please indicate if the font size was a) too small, b) about right or c) too large

	Total	%
Too small	**0**	**0**
About Right	**19**	**100**
Too Large	**0**	**0**

13. The labels were durable throughout cases?

	Total	%
Yes	**12**	**63.2**
No	**7**	**36.8**

14. The labels maintained their surface quality throughout cases?

	Total	%
Yes	**15**	**78.9**
No	**4**	**21.1**

15. If the surface quality was compromised, explain what occurred and where possible identify causes.

- *When they get wet the glue dissolves and they fall off*
- *Labels don't stick well when wet with saline*
- *The labels maintained their integrity but kept coming off irrigation syringe despite being kept dry x2*

16. Where colour has been used was it useful for identification a) Yes, b) No or c) Undecided?

	Total	%
Yes	9	47.4
No	1	5.26
Undecided	9	47.4

17. Where colour has been used was it useful for identification - please comment

- *Quickly identify local*
- *Colour same as uniform drug label colours which is good*
- *Different colours assisted in quick identification*

18. For each label not suitable, indicate the preferred colour (including black on white) and why.

- *No comments made by participants*

19. The labels had sufficient information to allow for accurate identification of each medicine or fluid on the sterile field

	Total	%	
Strongly Agree	5	26.3	
Mostly Agree	6	31.6	
Agree	6	31.6	89.5%
Disagree	2	10.5	
Strongly Disagree	0	0	

20. If not, for each medicine or fluid list additional information required

- *Betadine full and half strength x2*
- *Prefer Marcain and Naropin than current labels*
- *Surgiflow, Celestone, Fentanyl as extra stickers*

21. The sticker adhesiveness was effective and the label remained attached to the syringe or container for the duration of the case?

	Total	%	
Strongly Agree	5	26.3	
Mostly Agree	4	21.1	
Agree	2	10.5	57.9%
Disagree	2	10.5	
Strongly Disagree	6	31.6	

22. If the label did not adhere, give details of duration of adherence and medicines

- *When it came into contact with saline the label lifted off x 2*
- *Labels come off at the first hint of dampness x 2*
- *As soon as labels become wet/moist they fell off into the saline being irrigated into the patient*
- *10 minutes - Ringers*

23. Did you require the "Abbreviated Container Label" during the case?

	Total	%
Yes	1	5.26
No	18	94.7

24. If you did require the "Abbreviated Container Label", (please specify the container and medication)?

- *Vancomycin - Label not used as too large for syringe (?generic antibiotic on smaller label)*

25. If you did require the "Abbreviated Container Label", please indicate which prompts were completed?

	Total	%
Medicine	**1**	**5.26**
Amount	**0**	**0**
Volume	**0**	**0**
Concentration	**0**	**0**
N/A	**18**	**94.7**

26. Did you need to complete the concentration (ie mg/ml or %) for any of the pre-populated labels (i.e. any labels other than the "Abbreviated Container Label")?

	Total	%
Yes	**1**	**5.26**
No	**18**	**94.7**

27. If you needed to complete the concentration for any pre-populated labels which were they?

- *No comments made*

28. Do you have any other comments?

- *Black and white labels easy to read*
- *Stickers came off irrigating syringe and stuck to the assistants hand then flicked into surgical field*
- *When sticker on irrigation syringe was stuck vertically along length of syringe it seemed to stay put better then when stuck horizontally beneath plunger grips*

SUMMARY:

- The general acceptance at this stage of the trial by staff is good.
- Most Criteria has been supported by the staffs appraisal of the trial stickers.
- Comments have however constantly been made in reference to the stickers ability to perform in damp or wet conditions.
- Many stickers were reported as "falling off the item they were attached to once they came in contact with fluid of any type.
- There were even times that there was risk for the label to have been lost into the wound.

Evaluation Completed by:	**Date:**
Yvette Salamon - Perioperative Educator Calvary Wakefield Hospital	26th April 2012

Appendix 8.5.3: Perioperative Sterile Label Trial Results - Week Two - Stage 2

CWH/ACSQHC Sterile Label Evaluation Report - Stage Two Week Two

- The ACSQHC Sterile Labelling Trial was commenced on the 13th of February 2012 within the CWH operating theatres.
- This report is the result of data from week two of the second stage which commenced on the 23rd April 2012, which was completed over a 5 day period and 22 audits were completed by staff.
- The sample group consisted of all lists to be held within the eight operating theatres within the set time and covered all the speciality groups.
- Reports were completed by the scrub staff after they had utilised the labels on several occasions and were familiar with the sheet and its use.

CRITERIA RESULTS:

1. The education given prior to the implementation of the labels and the labelling system was sufficient?

	Total	%	
Strongly Agree	14	63.6	
Mostly Agree	6	27.3	
Agree	2	9.1	100%
Disagree	0	0	
Strongly Disagree	0	0	

2. The packaging of labels was suitable for your requirements?

	Total	%	
Strongly Agree	9	40.9	
Mostly Agree	5	22.7	
Agree	6	27.3	90.9%
Disagree	2	9.1	
Strongly Disagree	0	0	

3. The labelling system was simple to use?

	Total	%	
Strongly Agree	10	45.5	
Mostly Agree	4	18.2	
Agree	8	36.4	100%
Disagree	0	0	
Strongly Disagree	0	0	

4. The labelling system did not add to the preparation time for the case?

	Total	%	
Strongly Agree	5	22.7	
Mostly Agree	5	22.7	
Agree	6	27.3	72.7%
Disagree	6	27.3	
Strongly Disagree	0	0	

5. Was the time for preparation a) more then before, b) less then before or c) no change?

	Total	%
a) More than before	8	36.4
b) Less than before	1	4.55
c) No change	13	59.1

6. If there was a time difference in preparation time what do you believe was the reason?

- Unfamiliar process
- Very quick fast paced list, we prepare as the procedure progresses there is no extra time for prep
- Just taking the time to label the containers before scout dispenses fluids
- Two minutes extra

7. Was the large label suitable for their specified purpose?

	Total	%
Yes	21	95.5
No	1	4.55

8. If no, please indicate the preferred size for the large label and why

- *Size of label is o.k. x2*
- *Large and easy to read*
- *Easy to see on trolley*
- *Large label too big for eye surgery*

9. Was the small label suitable for their specified purpose?

	Total	%
Yes	18	81.8
No	4	18.2

10. If no, please indicate the preferred size for the large label and why

- *For small syringe is good*
- *Large and easy to read x2*
- *Easy to see on trolley*
- *Large label too big for eye surgery*

11. For the large labels please indicate if the font size was a) too small, b) about right or c) too large

	Total	%
a) Too small	0	0
b) About Right	22	100
c) Too Large	0	0

12. For the small labels please indicate if the font size was a) too small, b) about right or c) too large

	Total	%
Too small	0	0
About Right	22	100
Too Large	0	0

13. The labels were durable throughout cases?

	Total	%
Yes	13	59.1
No	9	40.9

14. The labels maintained their surface quality throughout cases?

	Total	%
Yes	19	86.4
No	3	13.6

15. If the surface quality was compromised, explain what occurred and where possible identify causes.

- *In eye surgery preparing fluids is a priority.*
- *Wet syringes affects adhesiveness*
- *Waterproofing and more sticky*

16. Where colour has been used was it useful for identification a) Yes, b) No or c) Undecided?

	Total	%
Yes	14	63.6
No	0	0
Undecided	8	36.4

17. Where colour has been used was it useful for identification - please comment

- *Colours good - handy*
- *Colour doesn't make any difference to me*
- *If there are many different syringes otherwise no issues*
- *Did not use any specific colours in cardiac*

18. For each label not suitable, indicate the preferred colour (including black on white) and why.

- *No comments made by participants*

19. The labels had sufficient information to allow for accurate identification of each medicine or fluid on the sterile field

	Total	%	
Strongly Agree	6	27.3	
Mostly Agree	5	22.7	
Agree	8	36.4	86.4%
Disagree	2	9.05	
Strongly Disagree	1	4.55	

20. If not, for each medicine or fluid list additional information required

- *Different types of prep x2*
- *Different percentages*
- *Strength of solution*

21. The sticker adhesiveness was effective and the label remained attached to the syringe or container for the duration of the case?

	Total	%	
Strongly Agree	3	13.6	
Mostly Agree	9	40.9	
Agree	5	22.7	77.2%
Disagree	2	9.1	
Strongly Disagree	3	13.6	

22. If the label did not adhere, give details of duration of adherence and medicines

- *With repeated use the labels "fell off" the syringes and into the irrigation fluid x2*
- *Sticky not sticky enough*
- *Water for Irrigation*
- *Sticker not waterproof*
- *Got wet*

23. Did you require the "Abbreviated Container Label" during the case?

	Total	%
Yes	1	4.5
No	21	95.5

24. If you did require the "Abbreviated Container Label", (please specify the container and medication)?

- *Strength of each solution*

25. If you did require the "Abbreviated Container Label", please indicate which prompts were completed?

	Total
Medicine	**1**
Amount	**1**
Volume	**0**
Concentration	**2**
N/A	**20**

26. Did you need to complete the concentration (ie mg/ml or %) for any of the pre-populated labels (i.e. any labels other than the "Abbreviated Container Label")?

	Total	%
Yes	**3**	**13.6**
No	**19**	**86.4**

27. If you needed to complete the concentration for any pre-populated labels which were they?

- Bupivicaine with adrenaline
- Lignocaine 1% 50mg in 5mls plus BSS
- Strength of each solution

28. Do you have any other comments?

- Poor adhesive quality when exposed to fluid repeatedly
- Seem good
- Only used one label on sheet
- Don't get enough time for eye cases
- Good idea but need to be more sticky and waterproof
- The labels are really good, but sometimes due to fluid they could drop off

SUMMARY:

- The staff remain positive about the concept of the pre-populated labels and now that they are in the second week of the trial are more used to using them and fitting the timing of using them into the setup process.
- Majority of the criteria have been positively supported by the staffs appraisal of the trial stickers and the success of the process.
- Comments are still however made in reference to the stickers ability to perform in damp or wet conditions.
- Stickers are still being reported as "falling off" once they came in contact with fluid of any type which needs to be addressed for patient safety.
- With Stage Two of the trial is completed, it is recommended to proceed with trialling waterproof stickers using the same template.
- The introduction of waterproofing leads to the need to add concentration to pre-populated labels as writing on label will be no longer possible.

Evaluation Completed by:	**Date:**
Yvette Salamon - Perioperative Educator Calvary Wakefield Hospital	23th April 2012

Appendix 8.5.4: Perioperative Sterile Label Trial Results - Stage 3

Stage Three ACSQHC Perioperative Sterile Labelling Trial Evaluation

- Stage 3 of ACSQHC Sterile Labelling Trial was commenced on the 23rd of May 2012 in the CWH perioperative area and completed on the 6th June.
- In Stage 2 labels were reported to "fall off" on contact with fluid of any type. With the ability of the labels to perform in damp or wet conditions. The trial was again halted.
- It was recommended to recommence only on production of a suitable fluid resistant label sheet.
- Stage 1 and 2 were conducted with label sheets produced on matt finish paper. For Stage 3, a label sheet was printed on gloss finish paper. The water resistant nature of the paper does not allow for writing on the label. The template was modified to remove the abbreviated container label and to include the strengths to pre-populated medicine labels used in the perioperative area
- The sample group consisted of all lists to be held within the eight operating theatres within the set time and covered all the speciality groups.
- This stage of the trial was completed over a 10 day period
- 41 feedback sheets were completed by the scrub nurse of the unit after they had utilised the labels on several occasions

CRITERIA RESULTS:

1. The education given prior to the implementation of the labels and the labelling system was sufficient?

	Total	%	
Strongly Agree	19	46.3	
Mostly Agree	17	41.5	
Agree	4	9.8	97.6%
Disagree	1	2.4	
Strongly Disagree	0	0	

2. The packaging of labels was suitable for your requirements?

	Total	%	
Strongly Agree	14	34.1	
Mostly Agree	20	48.8	
Agree	7	17.1	100%
Disagree	0	0	
Strongly Disagree	0	0	

Stage Two Result: 90.9% ↑ 9.1%

Comments made by several staff during trial relating to the size of the packaging stating that it was too large and that the second stage packaging was a better size as it was easier to handle when opening onto the sterile field.

3. The labelling system was simple to use?

	Total	%	
Strongly Agree	22	53.7	
Mostly Agree	10	24.4	
Agree	9	21.9	100%
Disagree	0	0	
Strongly Disagree	0	0	

Stage Two Result: 100% - No change

4. The labelling system did not add to the preparation time for the case?

	Total	%	
Strongly Agree	11	26.9	
Mostly Agree	12	29.3	
Agree	9	21.9	78.1%
Disagree	9	21.9	
Strongly Disagree	0	0	

Stage Two Result: 72.7% ↑ 6.4%

5. Was the time for preparation a) more then before, b) less then before or c) no change?

	Total	%	
More than before	11	26.9	
Less than before	1	2.4	73.1
No change	29	70.7	

6. If there was a time difference in preparation time what do you believe was the reason?

- *Only a little, less than a minute (2 responses)*
- *Yes but very fast moving list in eye surgery*
- *Labels took time to select and apply in very quick surgical procedures*

7. Was the large label suitable for their specified purpose?

	Total	%
Yes	41	100
No	0	0

Stage Two Result: 95.5% ↑ 4.5%

8. If no, please indicate the preferred size for the large label and why

- *No comments made*

9. Was the small label suitable for their specified purpose?

	Total	%
Yes	41	100
No	0	0

Stage Two Result: 81.8% ↑ 18.2%

10. If no, please indicate the preferred size for the large label and why

- *No comments made*

11. For the large labels please indicate if the font size was a) too small, b) about right or c) too large

	Total	%
Too small	0	0
About Right	41	100
Too Large	0	0

Stage Two Result: 100% - No change

12. For the small labels please indicate if the font size was a) too small, b) about right or c) too large

	Total	%
Too small	0	0
About Right	41	100
Too Large	0	0

Stage Two Result: 100% - No change

13. The labels were durable throughout cases?

	Total	%
Yes	41	100
No	0	0

Stage Two Result: 59.1% ↑ 40.9%

14. The labels maintained their surface quality throughout cases?

	Total	%
Yes	41	100
No	0	0

Stage Two Result: 86.4% ↑ 13.6%

15. If the surface quality was compromised, explain what occurred and where possible identify causes.

- *No comments made*

16. Where colour has been used was it useful for identification a) Yes, b) No or c) Undecided?

	Total	%
Yes	21	51.2
No	0	0
Undecided	20	48.8

17. Where colour has been used was it useful for identification - please comment

- *Coloured labels shouldn't make any difference*
- *Colours common with others used which is coordinated*
- *Not sure if colour really matters*

18. For each label not suitable, indicate the preferred colour (including black on white) and why.

- *No comments made*

19. The labels had sufficient information to allow for accurate identification of each medicine or fluid on the sterile field

	Total	%	
Strongly Agree	11	26.9	
Mostly Agree	18	43.8	
Agree	10	24.4	95.1%
Disagree	2	4.9	
Strongly Disagree	0	0	

Stage Two Result: 86.4%↑ 8.7%

20. If not, for each medicine or fluid list additional information required

- *2% Tinted Alcoholic Chlorhexidine x 5*
- *Alcoholic Betadine x 2*

21. The sticker adhesiveness was effective and the label remained attached to the syringe or container for the duration of the case?

	Total	%	
Strongly Agree	13	31.7	
Mostly Agree	13	31.7	
Agree	13	31.7	95.1%
Disagree	1	2.5	
Strongly Disagree	1	2.4	

Stage Two Result: 77.3%↑ 17.8%

22. If the label did not adhere, give details of duration of adherence and medicines

- *Was good, tried hard to disrupt adhesive but it held well*
- *Don't adhere as well to smaller syringes where labels are on a curved surface, have to hold label onto syringe for five to ten seconds*
- *Labels were not properly adhesive and stickers came off when administering local into oral cavity*
- *Edges of labels lifted whether placed around syringe or on a flat surface x 2*

Significant increase in sticker adhesiveness with the addition of waterproofing to label surface. On discussion with the two staff who had difficulty it was found they were applying labels to one and two ml size syringes when they incurred the issues.
Further discussion with them found they were applying the stickers vertically or diagonally onto syringe surface.
When we replicated the scenario using small syringes and a wet environment, instead of applying the labels vertically or diagonally, we applied the labels to the syringes the same way the line label is applied to intravenous tubing, (going around the syringe and pinching two sticker edges together to form a tag).
This method was successful in obtaining full adherence to syringe while allowing label to still be fully read.
When syringe was immersed sticker remained intact and did not lift off syringe and was durable even with excessive handling over several hours.

23. Overall comments

- *Labelling items on trolley is a safe practice*
- *The labels were fine and even though they were gloss we could still write on them x 3*
- *Nil Issues with stickers*
- *Labelling should avoid any problems in the future*