What is your role in Perioperative Medication Safety?

Joy Jensen – ACORN Honorary Treasurer & Qld Director
NUM OT Redcliffe Hospital
Character Survey
INTELLIGENT
Strong decision makers

LATERAL THINKERS
Prepared to look at all sides

CREATIVE
Strong imagination / Leaders

Preoccupied with
Sex and Booze
Objectives

- ACORN’s role in Medication Safety
- ACORN Representation on Australian Commission on Safety and Quality in Health Care (ACSQHC)
- QH “sterile field” Pilot
Medication safety and quality

Medicines can cause harm

- Adverse drug reactions (Preventable, non preventable)
- Medication errors
  - Knowledge based (Lack of knowledge)
  - Rules based (Bad rule, misapplying a good rule)
  - Action based (Slips e.g. selecting wrong drug)
  - Memory based (Lapses e.g. forgetting pt allergic)

- Aronson JK Medication errors: what are they, how do they happen, and how to avoid them. Q J Med 102:513-521
Nationwide hospital alert aims to prevent another epidural tragedy

Julie Robotham HEALTH EDITOR August 31, 2010

HOSPITAL doctors have been warned against keeping skin antiseptics on the same tray as epidural pain-relieving drugs...

Eight millilitres of the antiseptic chlorhexidine were infused into her spinal canal... during Alexander's birth, when the clear solution - poisonous to the nervous system - was confused with an anaesthetic drug after both were decanted into unlabelled containers.

Grace Wang’s partner Jason Zheng with son Alexander
...a key message of this substantial body of research is that simply trying harder to avoid errors is unlikely to be successful on its own: it is also necessary to make processes and systems intrinsically safer...

Merry, Shipp & Lowinger, BP&RCA 25 (2011)
National safety and quality

Australian Commission on Safety and Quality in Health Care

- Established in 2006
- Reports to Health Ministers
- Remit across public, private, acute and primary
- Nine priority programs including medication safety
- Lead and coordinate safety and quality in health care
What’s ACORN involvement?

PS 15 – Medication Safety
(Position Statement)
PS 15 – Medication Safety

9 Standard Statements

• Awareness of relevant Legislations/Regulations
• Supply and storage of medications
• Clear, unambiguous prescribing
• Transferring, handling and administering of medications
• 7 “rights” – patient, medication, dose, time, route, indication, documentation
• Care & handling of hazardous medications
• Education & training: initial and ongoing
• Medication competency
• Participation in quality improvements
PS 15 – Medication Safety

Contributing Factors

- Inadequate patient identification
- Lack of policies and controls
- Poor communication amongst surgical team members
- Confusion about medication order
- Sensory distractions intrinsic to the environment
- Look-alike/sound alike medications stored in close proximity
- Patient care complexity & acuity requiring rapid interventions
- Extended work hours – fatigue
- Surgical Team changes
- Inaccurate, illegible or out-dated surgical preference cards
- Medication dispensed to sterile field that is removed from original packaging
What’s ACORN involvement?

ACORN Representation on Australian Commission on Safety and Quality in Health Care (ACSQHC)
However, prior to ACORN representation on Australian Commission on Safety and Quality in Health Care (ACSQHC) the National Labelling Guidelines were released – and initially this included……..
The National Guidelines

**The Labelling Recommendations**

- A national standardisation for clinical practice in Australia
- Identifies medicines and fluids removed from original manufacturer’s packaging prior to patient administration
- Identifies line route
Labelling Recommendations

Aims

- Provide standardisation for user-applied labelling of injectable medicines
- Provide minimum requirements for user-applied labelling of injectable medicines
- Promote safer use of injectable medicines
Labelling Recommendations
Minimum requirements

- Medicines or fluid removed from original packaging must be identifiable
- All containers (e.g. bags and syringes) containing medicines must be labelled on leaving the hands of the person preparing the medicine
- Prepare and label one medicine at a time
- Discard medicines or fluids in unlabelled containers
**Sterile field** (i.e. aseptic conditions)

- Any container holding medicines or fluids on the sterile field must be identifiable.
- Select the required sterile label according to route of administration.
- Use the abbreviated container label in a closed practice environment when patient identification is established and other means of recording labelling and preparation signatories are available (e.g. operating rooms).
- Sterile markers must be available in sterile field with this label.

Initial Label

<table>
<thead>
<tr>
<th>Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount (units)</td>
</tr>
<tr>
<td>Volume (mL)</td>
</tr>
<tr>
<td>Conc (units/mL)</td>
</tr>
</tbody>
</table>
After Reference Group commenced.....

The Commission is working with health services to establish **practical** tools for identification of injectable medicines and fluids on the perioperative sterile field.
Practical Considerations for Labels on the Sterile Field

Several major hurdles identified by reference group included:-

1. What type of labels are practical for labelling on the sterile field? For example: Generic Label + Marker Pen or Pre-printed labels
2. Can the labels be removed from reusable hollowware containers?
3. What method of sterilisation is preferred for paper labels?
4. Is the sterile field confined to the operating room?
Practical Considerations for Labels on the Sterile Field

Lessons Learnt from Calvary Wakefield trial of user-applied labels found:-

• Route can change during a procedure
• Medicine name and concentration prompts are required

Endorsement of abbreviated container label for user-applied identification in the closed practice environment e.g. the perioperative sterile field
User-applied Labelling of Injectable Medicines, Fluids and Lines*

Label Guide

**Containers**

<table>
<thead>
<tr>
<th>Bag, bottle and syringe labels</th>
<th>Conduits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RouteLabel</strong></td>
<td>Durete label</td>
</tr>
<tr>
<td>Intrathecal</td>
<td>Yeast-off catheter</td>
</tr>
<tr>
<td>Epidural</td>
<td>Line and catheter labels</td>
</tr>
<tr>
<td>Subcutaneous</td>
<td>Epidural</td>
</tr>
<tr>
<td>Regional</td>
<td>Epidural</td>
</tr>
<tr>
<td>Epidural, Use Only</td>
<td>Epidural</td>
</tr>
<tr>
<td>Subcutaneous, Use Only</td>
<td>Epidural</td>
</tr>
<tr>
<td>Regional, Use Only</td>
<td>Epidural</td>
</tr>
<tr>
<td>Subcutaneous, Use Only</td>
<td>Epidural</td>
</tr>
</tbody>
</table>

0.9% sodium chloride ‘flush’

0.9% Sodium Chloride

Perioperative sterile field (a closed practice environment)

<table>
<thead>
<tr>
<th>Water for Irrigation</th>
<th>0.9% Sodium Chloride</th>
<th>Ropivacaine</th>
</tr>
</thead>
</table>

**Medicine Label**

*To be used in conjunction with National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines, February 2012 and Perioperative Recommendations (Infect Care)

Example of Pre-Printed Labels for closed Practice Environments
## Water for Irrigation

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Amount(units)</th>
<th>Volume(mls)</th>
<th>Concentration(units/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betadine</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorhexidine</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urografin</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cefalotin</td>
<td>mg/ml</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## 0.9% Sodium Chloride

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Amount(units)</th>
<th>Volume(mls)</th>
<th>Concentration(units/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9% Sodium Chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced Salt Solution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methylene Blue</td>
<td>50mg/5ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iopromide</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gentamicin</td>
<td>80mg/2ml</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Lactated Ringers Solution

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Amount(units)</th>
<th>Volume(mls)</th>
<th>Concentration(units/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactated Ringers Solution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced Salt Solution PLUS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrenaline</td>
<td>mg/ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>mg/ml</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Example:

- **Betadine**: %
- **Hydrogen Peroxide**: %
- **Urografin**: %
- **Cefalotin**: mg/ml
- **0.9% Sodium Chloride**: 50mg/5ml
- **Methylene Blue**: 80mg/2ml
- **Gentamicin**: mg/ml
- **Heparin**: mg/ml
- **Adrenaline**: mg/ml
- **Morphone**: mg/ml
On Sterile Field Labelling

Q: Is each health facility required to use this Pre-Printed set?
A: No, Health services may choose to produce label sets for the perioperative area in the same way. Alternatively, labels may be pre-printed and sterile packed individually or provided in label sets to cover a particular procedure.
National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines

Perioperative Labelling of Medicines and Fluids

**CLOSED PRACTICE ENVIRONMENT**

**Label syringes** containing medicines used during anaesthesia

*For example:*

- **Morphine** mg/mL
- **Atropine** mg/mL
- **Ephedrine** mg/mL
- **Ketamine** mg/mL
- **Suxamethonium** mg/mL


**OPEN PRACTICE ENVIRONMENT**

**Label all containers** (including syringes) containing medicines to continue beyond the operating room

**Label containers** in the sterile field

- **Sodium chloride** 0.9%
- **Adrenaline** 1000 microgram/mL
- **Bupivacaine**
- **Morphine** 10mg/mL
- **Heparin** 1000 units/mL

**Label lines** to identify route

**Label lines** to identify medicine in a dedicated continuous infusion line, for example:

- **Medicine**
- **Medicine**
- **Morphine**
- **Noraadrenaline**
Labelling Reusable or Disposable Containers?

Q: Do the Pre-Printed & Abbreviated container labels for the sterile perioperative area required to be ‘peel off’?
A: If using reusable hollowware containers; these labels will be required to be removed in its entirety without leaving residue.
Need more information – other queries or questions - Australian Commission on Safety & Quality in Healthcare: www.safetyandquality.gov.au
Queensland Initiatives

QH “sterile field” Pilot – currently in progress (PA and RH sites).
References & Suggested Readings

- Australian Commission on Safety & Quality in Health Care, ACSQHC, Sydney: www.safetyandquality.gov.au
- ACORN Standards 2012-2013
- ANZAC, 2009, Guidelines for the safe administration of drugs used during anaesthesia, PS51.
- Australian/New Zealand Standard User-applied labels for use on syringes containing drugs and during anaesthesia: AS/NAS4375:1996
- Merry, Shipp & Lowinger, 2011, The contribution of labeling to safe medication administration in anaesthesia, Best Practice & Research Clinical Anaesthesiology 25, pp. 145-159
Thank You & Questions