

Project Title

A Refreshed Emergency Airway Trolley as a Cognitive Tool

Project Lead and Members

Project lead: Goh Ee Ling

Project members: Ng Su Yin, Muhammad Shafiq Bin Senin, Jessica Lee Shu Ting,
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Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group(s) Involved in this Project

Medical, Nursing

Applicable Specialty or Discipline

Emergency Department

Aims

- 1) Reduce cluttering and ease topping up of airway items
- 2) Re organize the trolley as per Vortex model to complement our in house airway training and aid in emergency airway management
- 3) To pre pack items for surgical airways to facilitate procedure and reduce costs by eliminating commercial kits

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

This QI project demonstrated the use of innovation to re-organize and optimize existing resources to improve workflow efficiency, reduce cost and improve patient care in challenging emergency airway management.

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Quality Improvement, Job Effectiveness

Keywords

Emergency Airway Trolley, Visual Management

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A REFRESHED EMERGENCY AIRWAY TROLLEY AS A COGNITIVE TOOL

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DEPARTMENT OF EMERGENCY MEDICINE

- ✓ SAFETY

✓ QUALITY

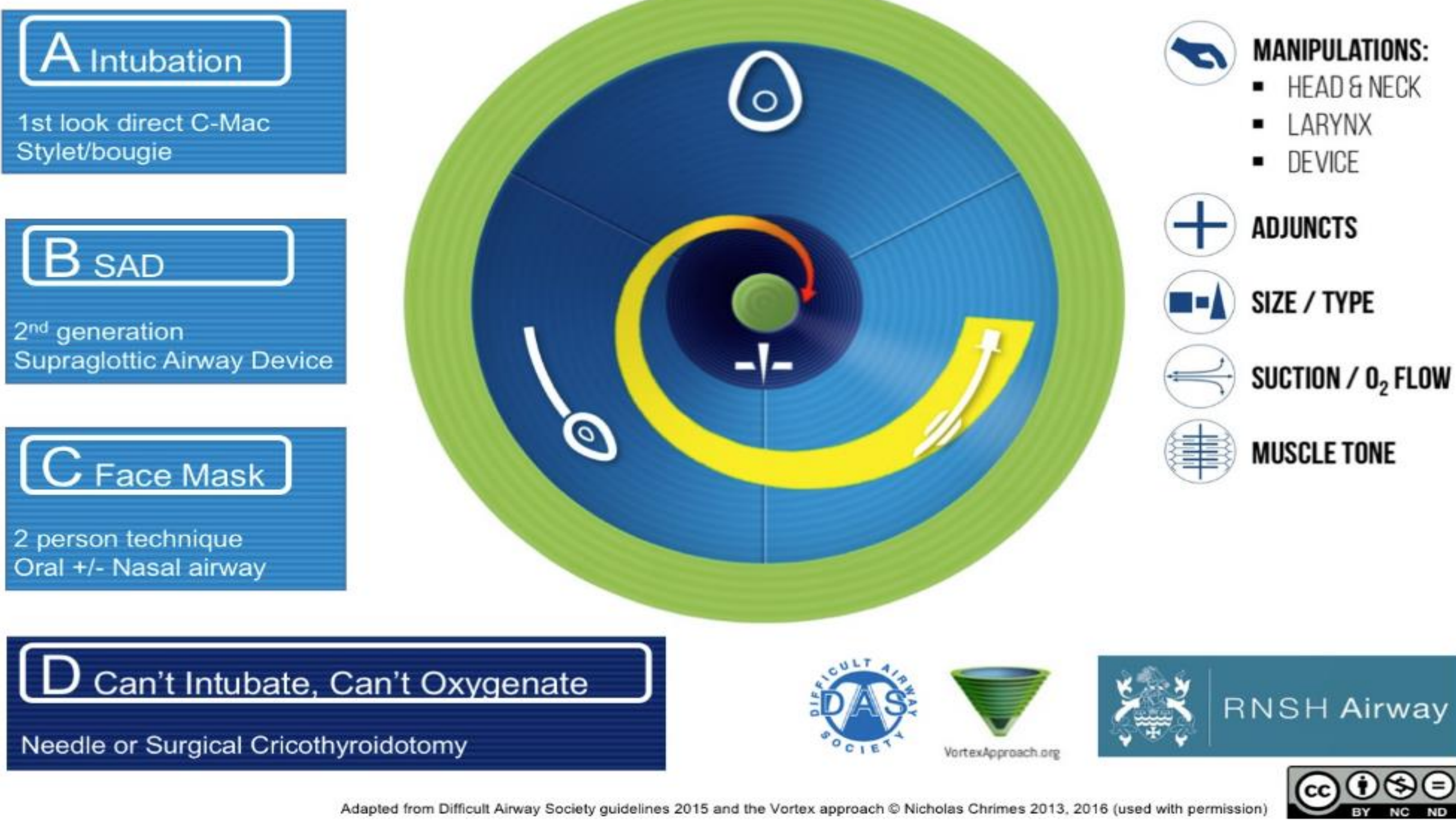
❑ PATIENT EXPERIENCE
- ❑ PRODUCTIVITY

✓ COST

Background and Aims

- Emergency airway management in critically ill patients poses significant challenges with high risk for adverse events and poor clinical outcomes
- The Vortex model has been proposed as a simple, novel visually-based cognitive aid used in real time to optimize team function and target recognized failings in airway crisis management.
- Our project aims to:
 - Reduce cluttering and ease topping-up of airway items
 - Re-organize the trolley as per Vortex model to complement our in-house airway training and aid in emergency airway management
 - To pre-pack items for surgical airways to facilitate procedure and reduce costs by eliminating commercial kits

The Emergency Airway Cognitive Tool

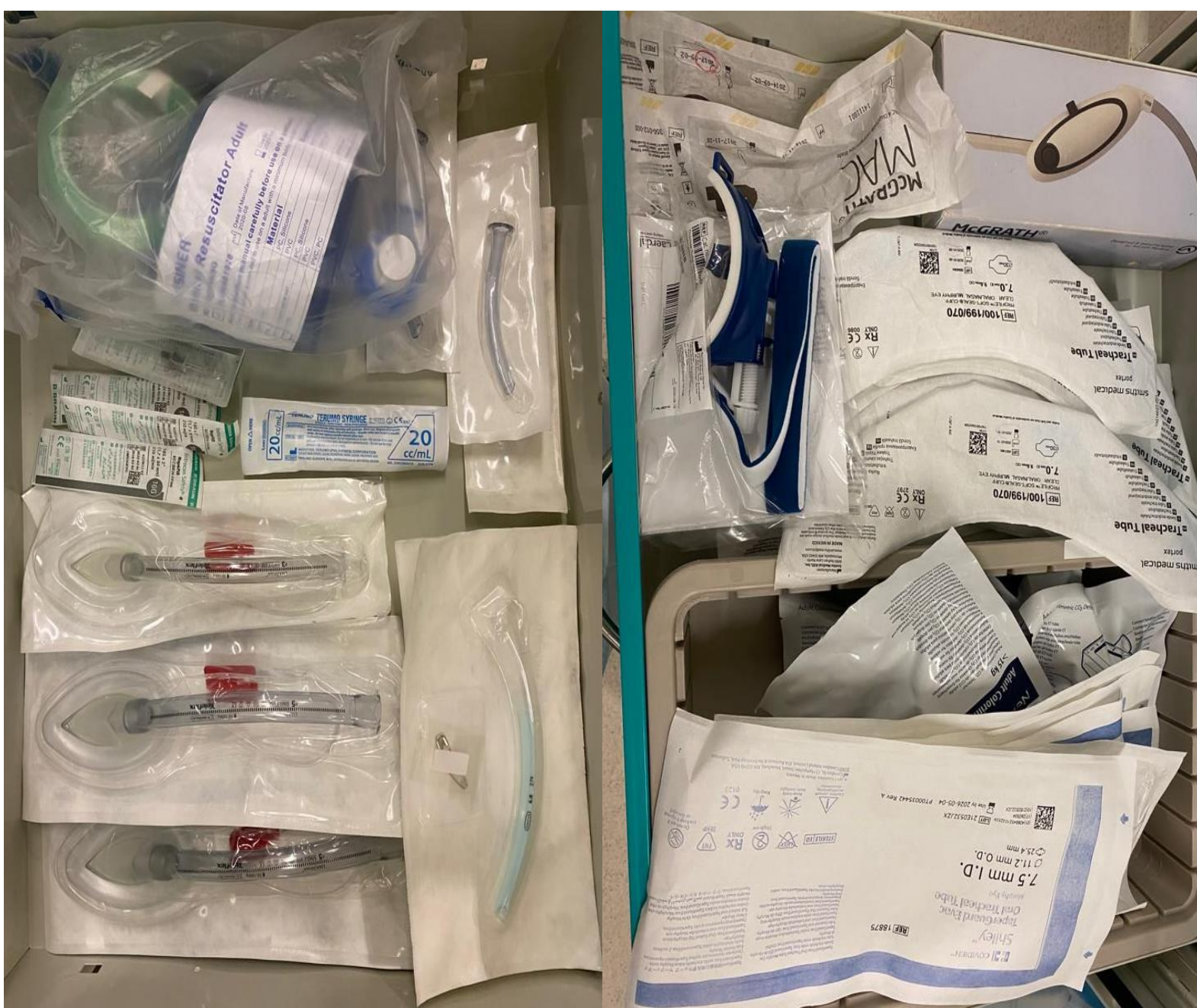


Intervention – Airway Trolley Transformation

1) Clear labels (external and internal)

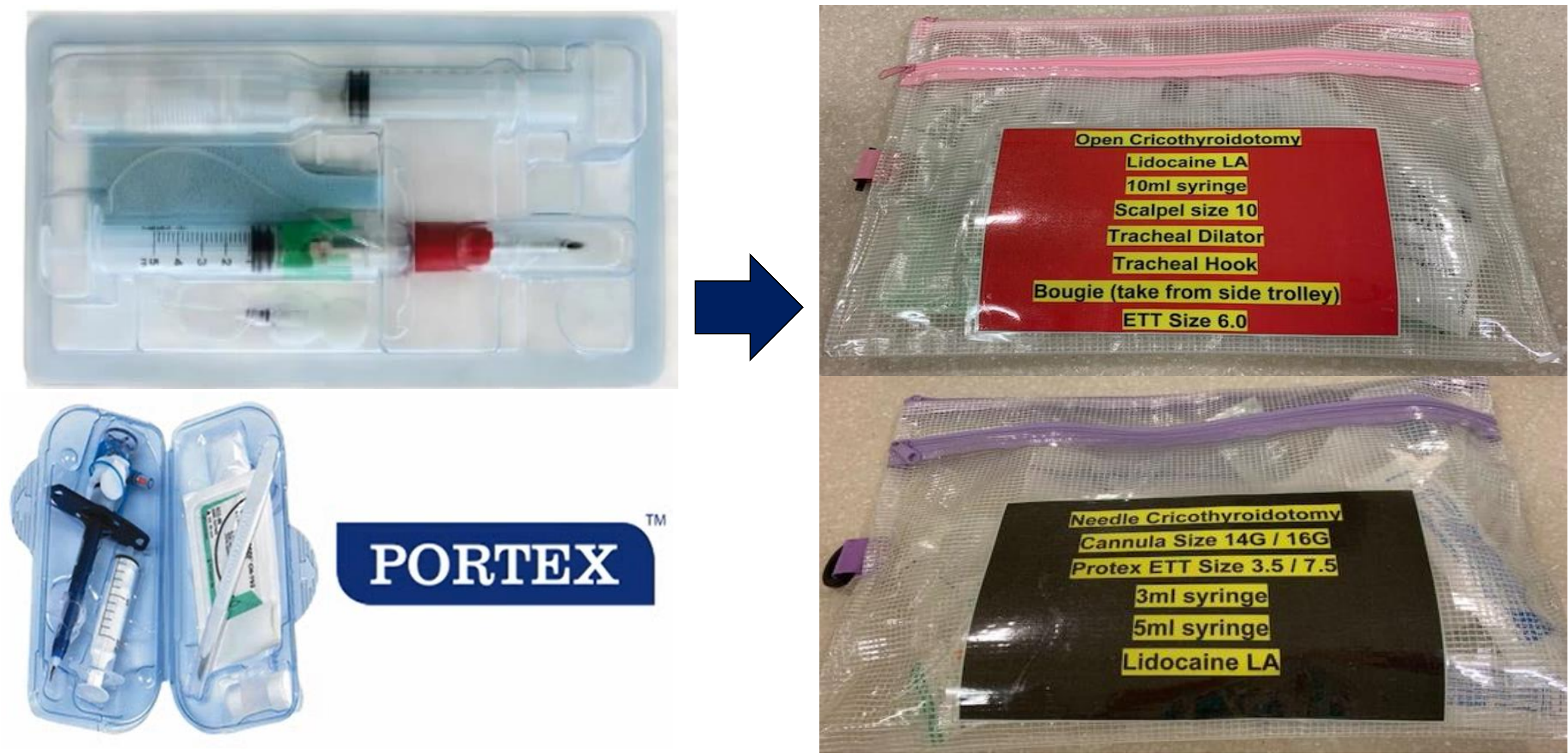


Individual drawers are organized into Vortex Plans A-D; every drawer has individual items labelled externally



Items are organized into trays with compartments that are clearly labelled

2) Surgical Airway Kits



Pre-packed surgical airway kits replace existing commercial kits. The items in the kits are readily available, cheaper and helps promote the recommended “scalpel-bougie-finger” technique in a “cannot intubate, cannot oxygenate” situation

3) Visual Checklists



Visual checklists replace the existing manual checklist. Each checklist shows individual drawer display for easy checking and topping up of airway items

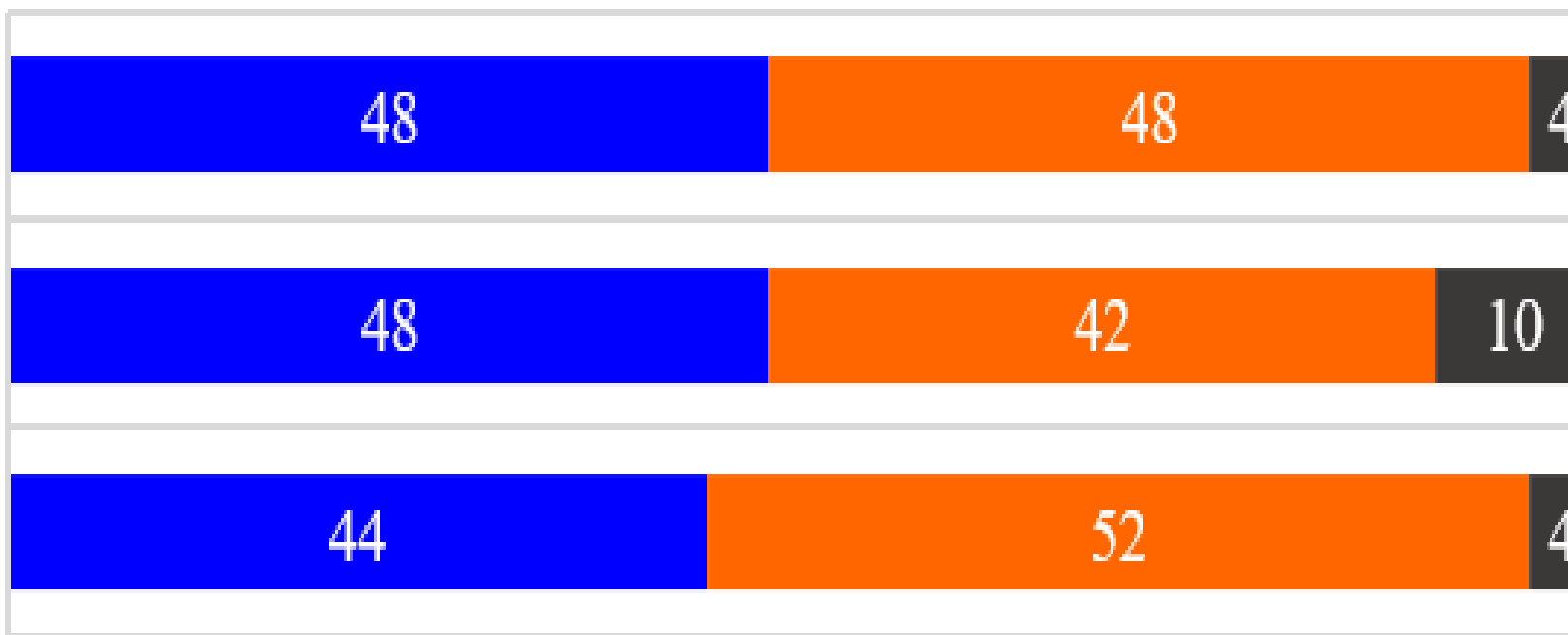
Results

- An anonymous online survey was administered to the ED nurses 6 months post-implementation to rate their degree of agreement with 3 statements on a 5-point Likert scale.
- The findings from the survey shows:
 - >90% agree and strongly agree that the initiative aids in topping up airway items, surgical airway management and facilitates their role as an airway nurse
 - Positive comments: “well done team for making it easier for us”, “much neater and systematic”, “easy to find things”, “Like the vortex concept”

Nurses' Responses (N = 52)

Strongly Agree Agree Neutral

- The current airway trolley with the visual checklists helps reduce time and makes it easy to top up items
- The pre-packed open and needle cricothyrotomy sets are useful in a “cannot intubate, cannot oxygenate (CICO)” situation
- This intervention is useful in facilitating my role as an airway nurse in emergency airway management



Percentage

Conclusion

This QI project demonstrated the use of innovation to re-organize and optimize existing resources to improve workflow efficiency, reduce cost and improve patient care in challenging emergency airway management.

Reference

N. Chrimes, The Vortex: a universal ‘high-acuity implementation tool’ for emergency airway management, BJA, Vol 117, Issue suppl_1, Sep 2016:i20-27