

## **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,

Nurshafirah Binte Suhaimil

## **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

## **Name and Email of Project Contact Person(s)**

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# A REFRESHED EMERGENCY AIRWAY TROLLEY AS A COGNITIVE TOOL

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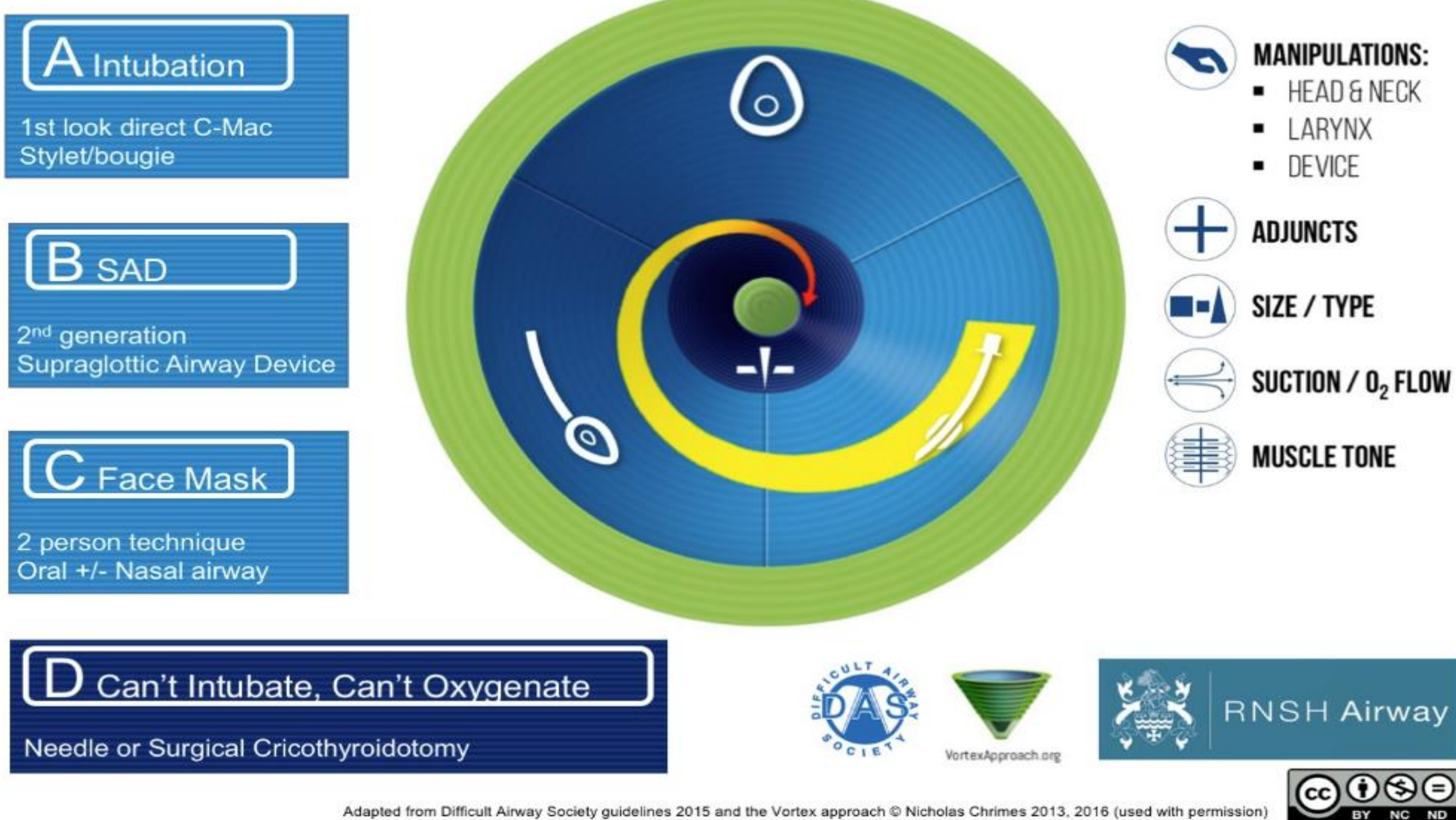
DEPARTMENT OF EMERGENCY MEDICINE

- ✓ 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

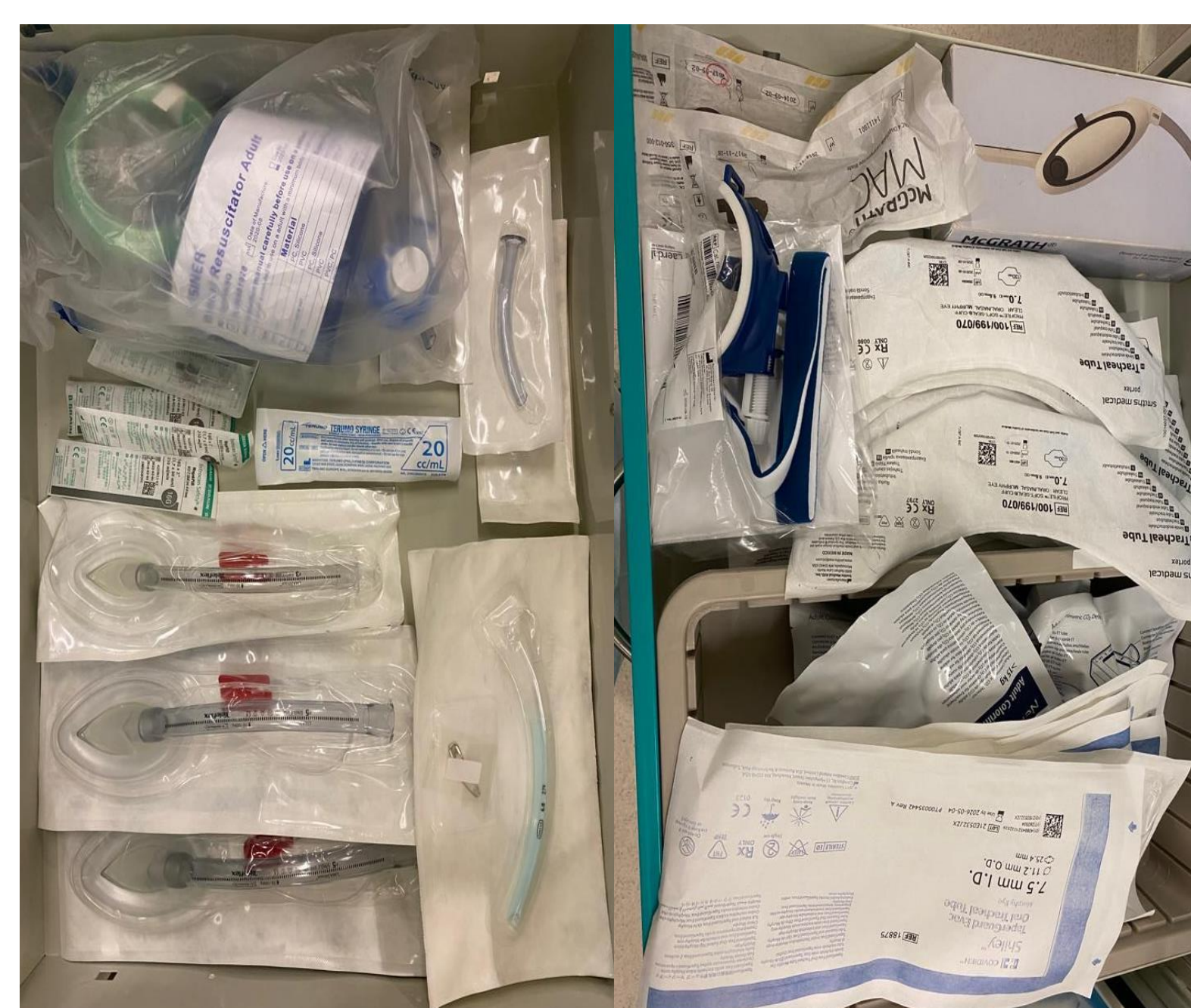


## Intervention – Airway Trolley Transformation

### 1) Clear labels (external and internal)



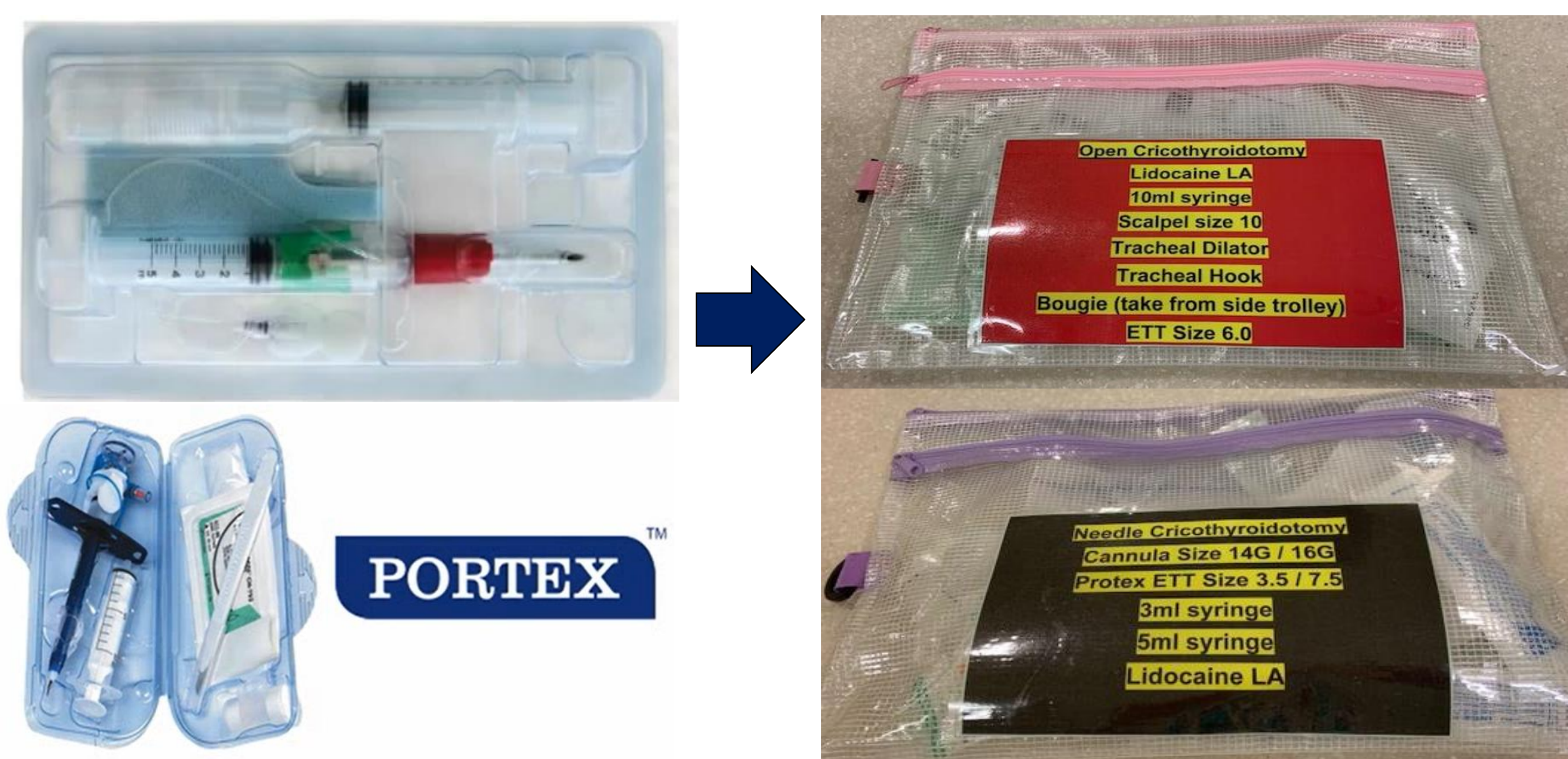
Individual drawers are organized into Vortex Plans A-D; every drawer has individual items labelled externally



Items are organized into trays with compartments that are clearly labelled

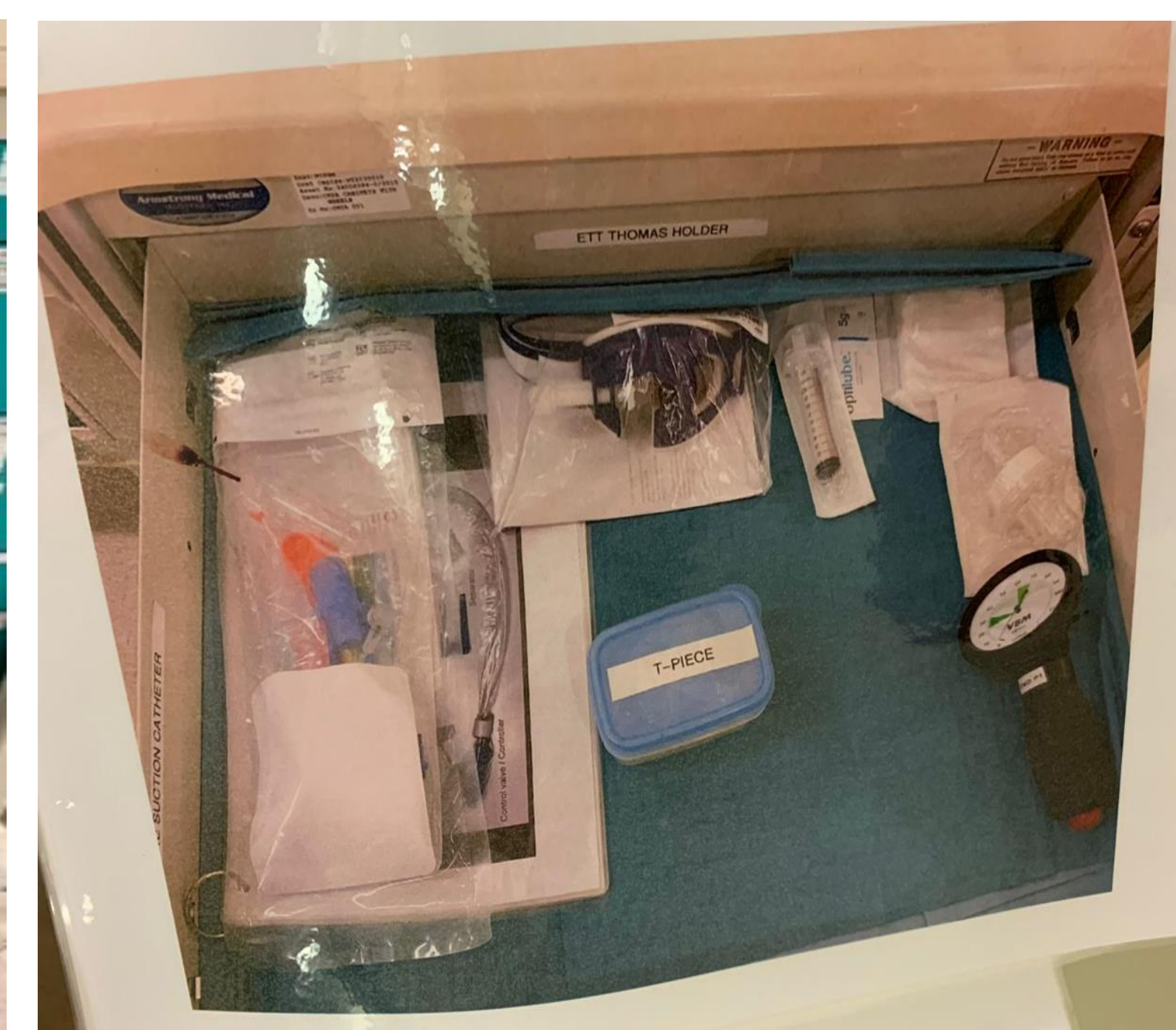


### 2) Surgical Airway Kits



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



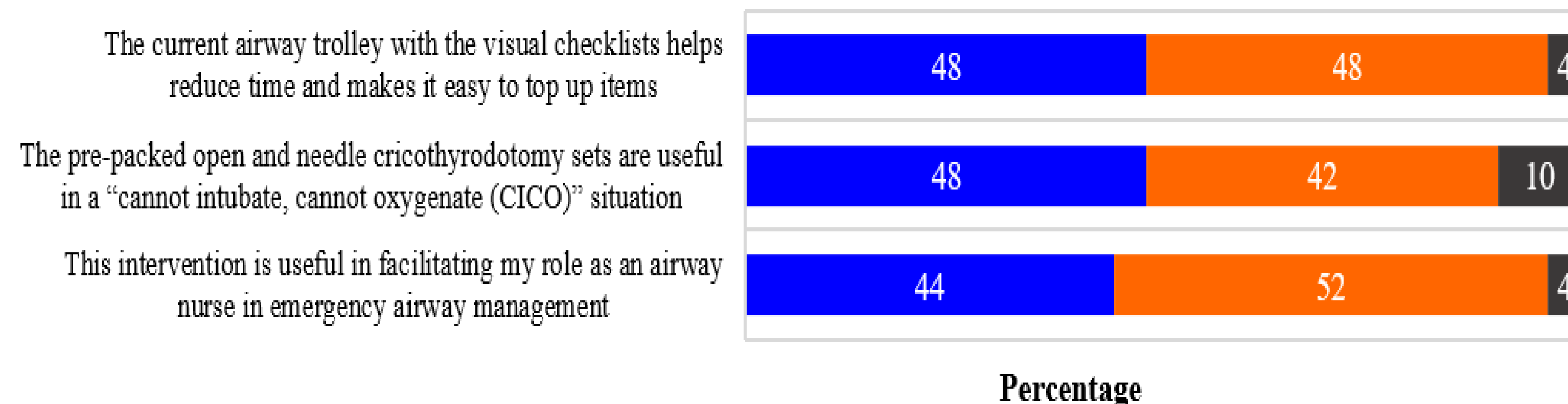
Visual checklists replace the existing manual checklist. Each checklist shows individual drawer display for easy checking and topping up of airway items

## 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



## Conclusion

## Reference

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.

N. Chrimes, The Vortex: a universal ‘high-acuity implementation tool’ for emergency airway management, BJA, Vol 117, Issue suppl\_1, Sep 2016:i20-27