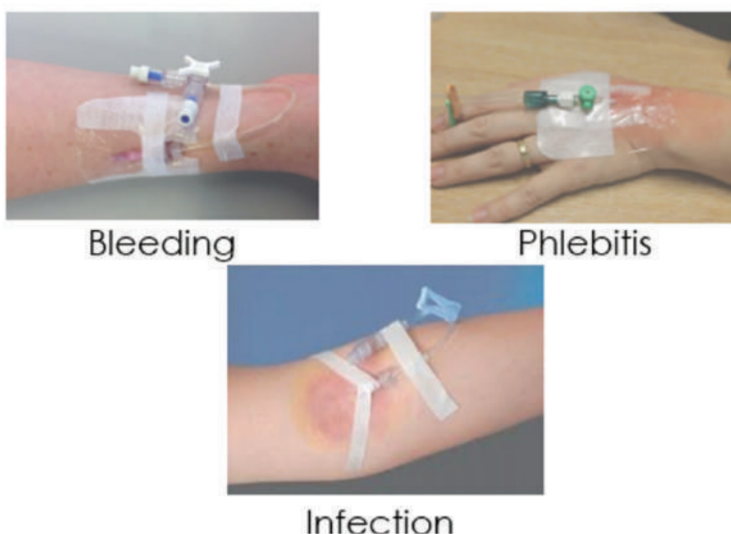
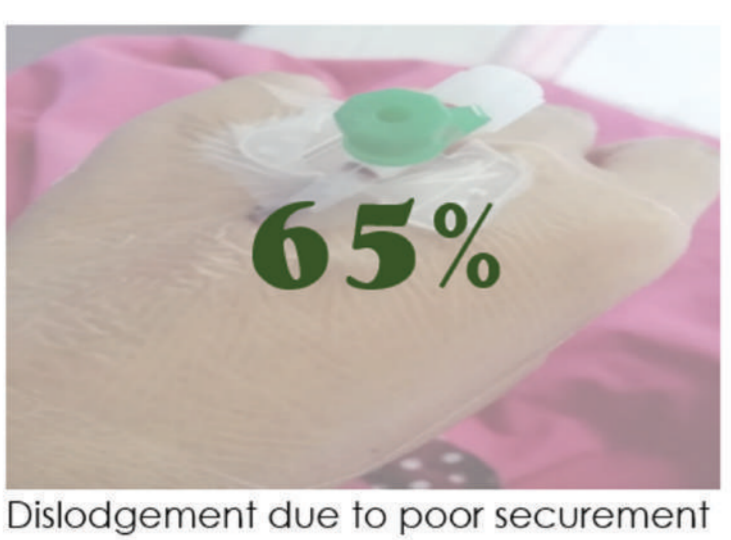
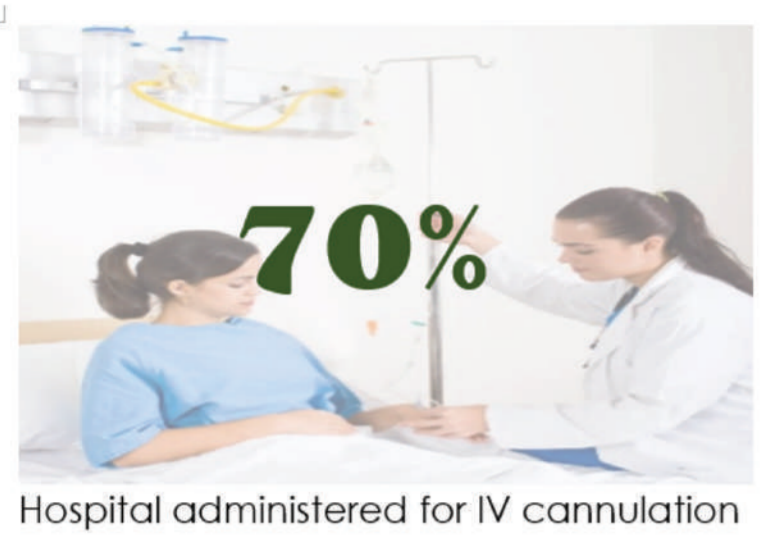


# Intravenous Protector (IV Protector)

PATENT NO. PI 2020006748

## PROBLEM STATEMENT & CURRENT ISSUES

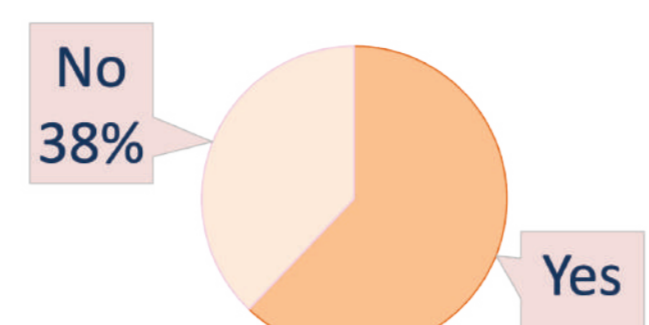
### PIVC DISLOGEMENT ISSUES



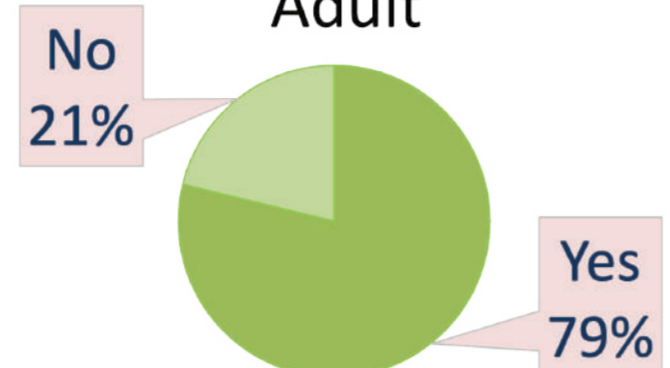
### SURVEY STUDIES

100 Malaysian Medical Practitioners

Experience of Dislodgement in Paediatric

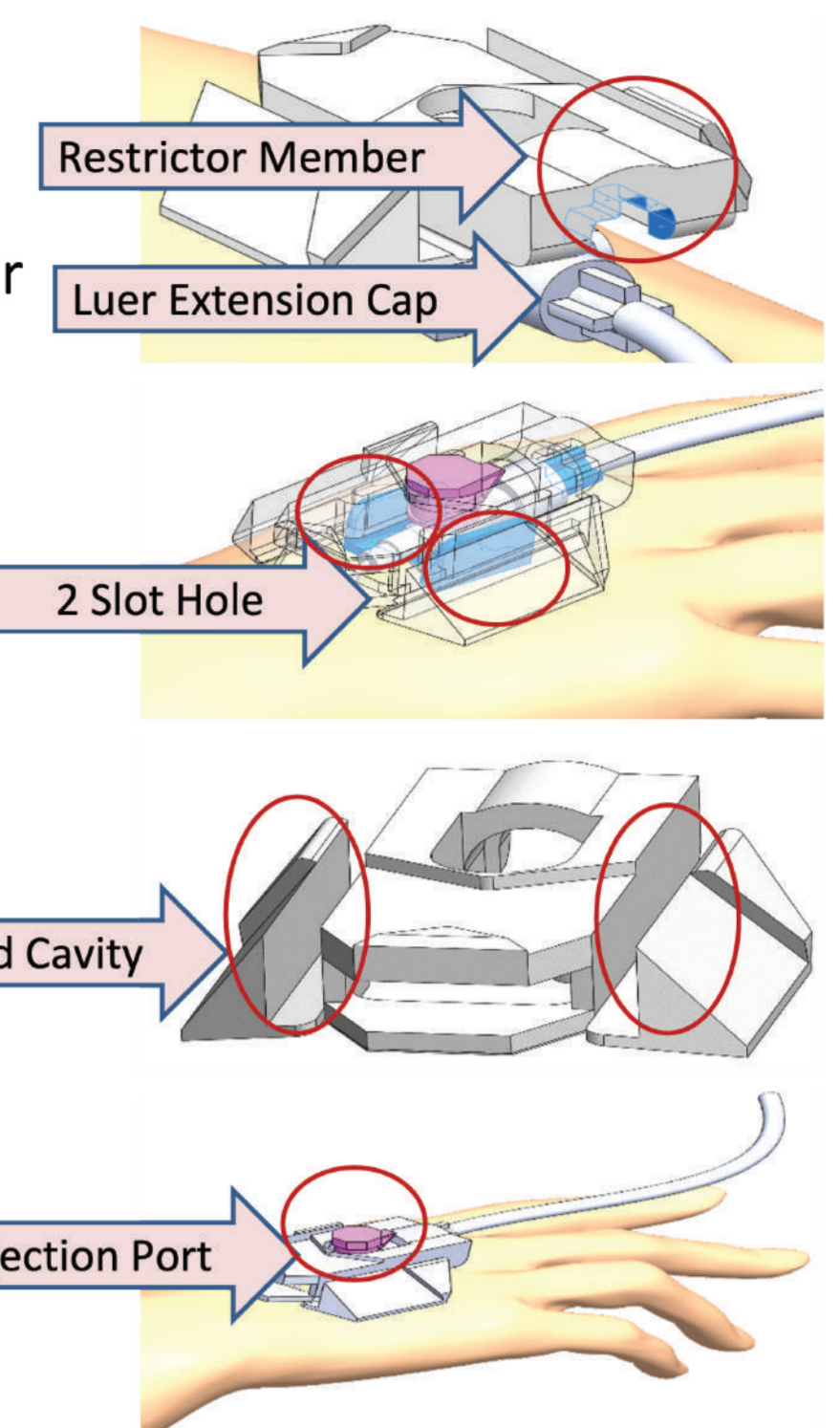


Experience of Dislodgement in Adult



## INVENTIVENESS & NOVELTY

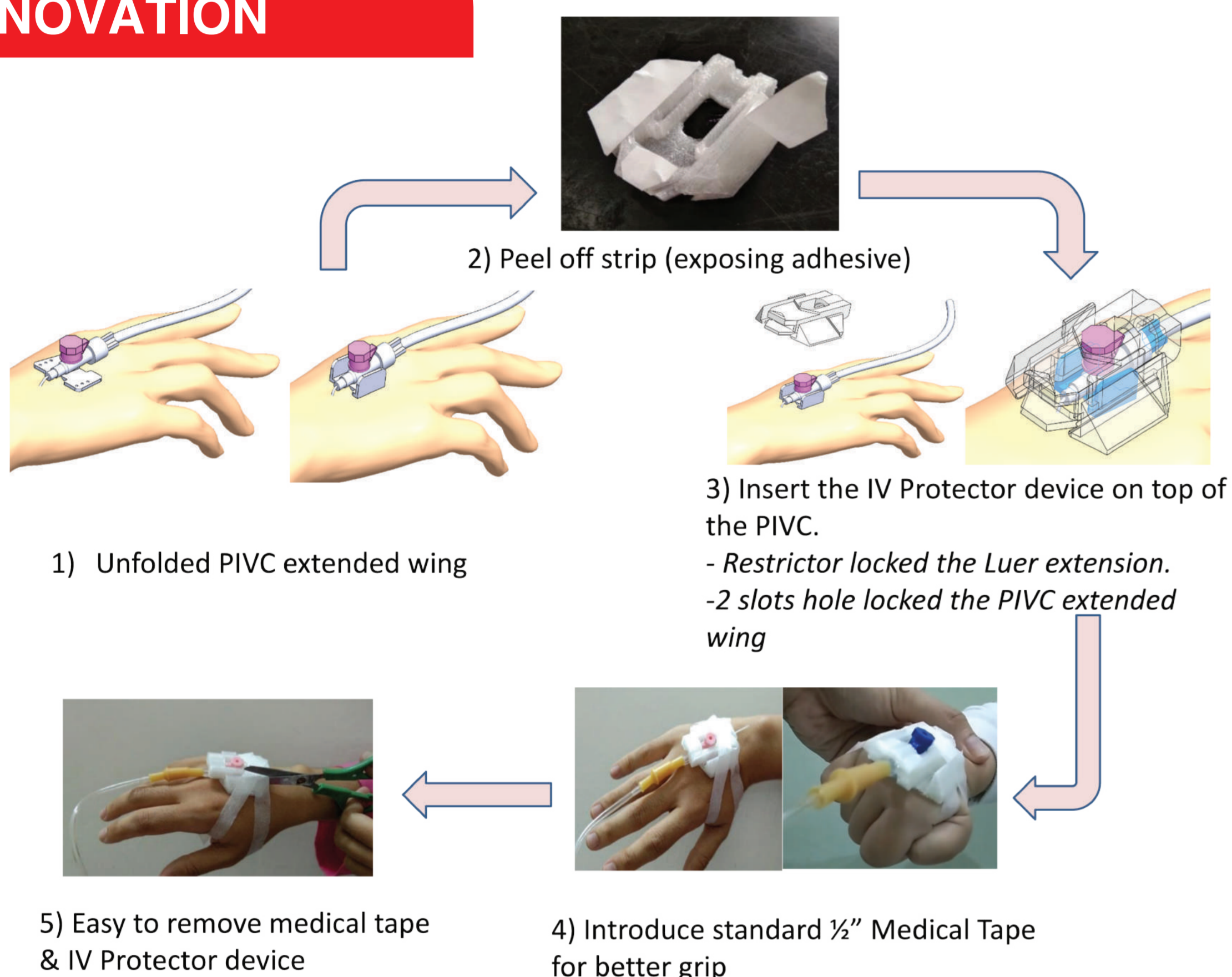
- 1 restrictor member designed to integrate with Luer extension cap  
*Purpose: for cannula securement*
- 2 slot holes designed as restrictors members to integrate with part of catheter/cannula (Extended wing)  
*Purpose: for cannula securement*
- Engraved cavity for usage of standard medical tape  
*Purpose: for easier for medical tape removal*
- Hole space for injection port  
*Purpose: for liquid medicine injection*



## BRIEF TECHNOLOGY

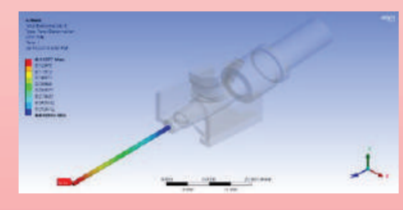
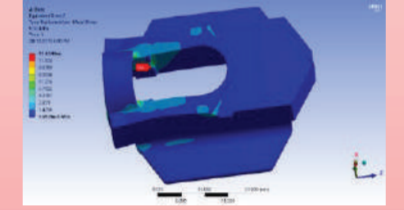
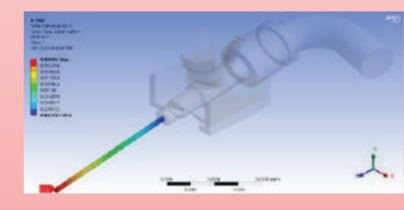
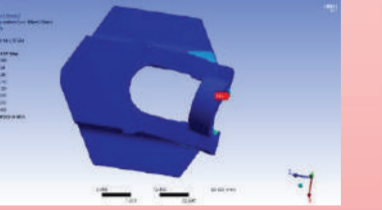
IV Protector is a handheld device integrating hand securement technology with the insertion of an intravenous cannula. IV Protector guides the paramedic to correctly cannulate, reducing dislodgement and increasing confidence in the IV process for both patient and practitioner. Hence, this technology help to reduce the pain of complication during IV cannulation.

## INNOVATION

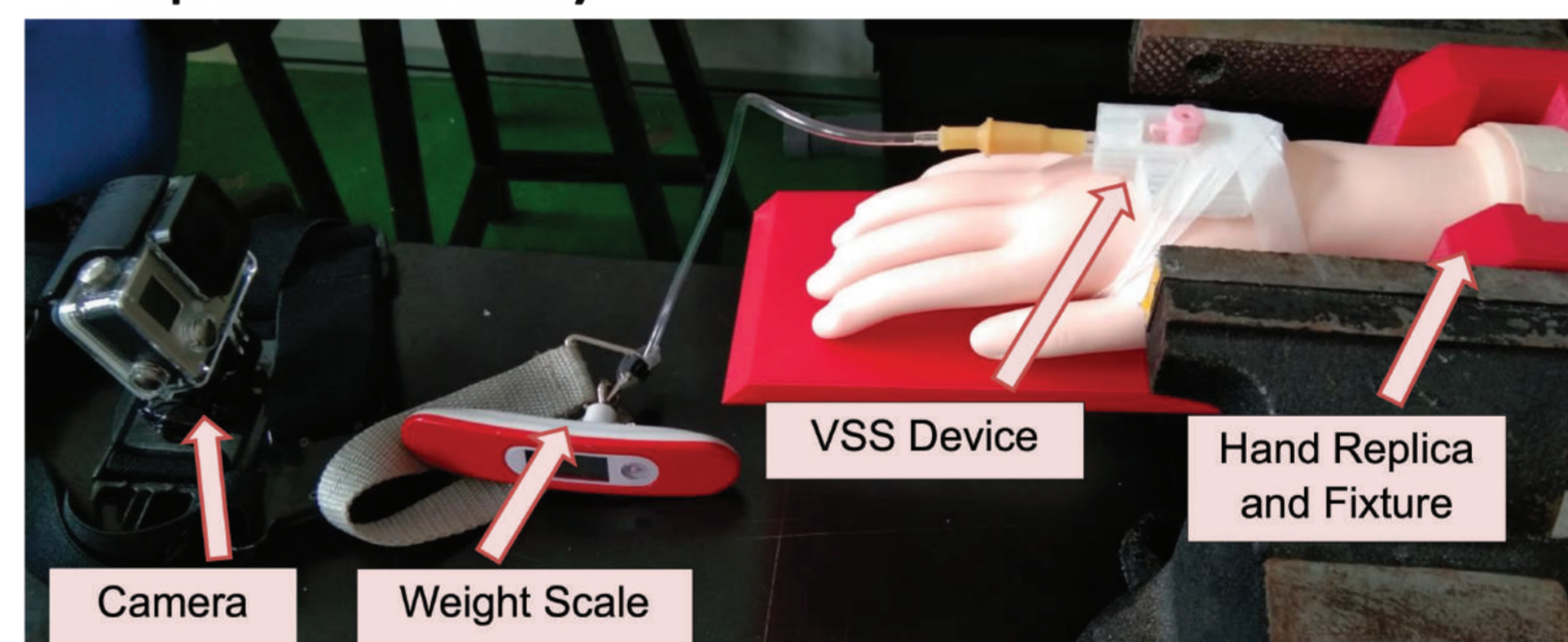


## FINITE ELEMENT & EXPERIMENTAL ANALYSIS

### Structural Analysis

Condition	Backward		Sideward	
	Flexible Tube Tip Displacement (mm)	VMS (MPa)	Flexible Tube Tip Displacement (mm)	VMS (MPa)
Medical Tape (Current practice)	0.31	78.1	2.80	854.1
IV Protector	0.14	13.3	0.10	83.7
FEA				
RATIO SAFETY FACTOR (SF)	2 X SF	6 X SF	28X SF	10X SF

### Experimental Study



70% more secured with IV Protector

## MARKET POTENTIAL

### Public & Private Hospital Growth

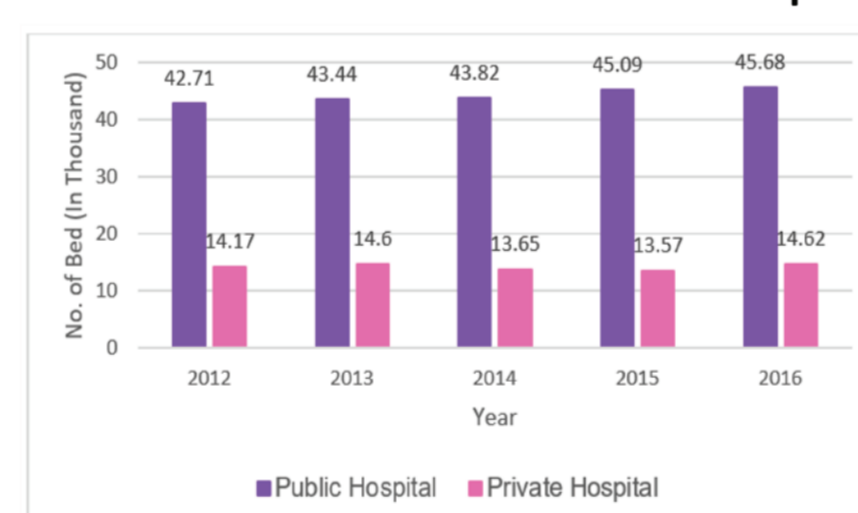


Figure 5: No. of Bed in Malaysia Hospital 2012-2016

Item	No. of Bed
Total No. of Bed	60,000
Bed Occupancy Rate (70%)	43,400
Expected Intravenous Treatment (70%)	30,380
Round Off Total (Per Day)	30,000

- ✓ Malaysia market size: 10 mil-set/year
- ✓ ASEAN market size: 50 - 70 mil set/year
- ✓ For medical device market in Malaysia is estimated to be US\$1.4 billion (<https://asiaactual.com/malaysia-cited-on-3/10/2021>)
- ✓ Projected growth rate 16.1% (<https://asiaactual.com/malaysia-cited-on-3/10/2021>)

## ADVANTAGES

- The design is non-destructive standard PIVC securement protocol (As per norm by medical practice)
- Fast and easy to apply
- Fast and easy to remove
- Universal design (pediatrics and adult use)
- Better securement (70% more secured)
- Usage as per norm by today's practice

## ENVIRONMENTAL FRIENDLINESS

- Solve the issue of IV cannula dislodgement, IV protector 70% secured
- Reduce the painful of cannula needle inside the vein when movement
- IV Protector can be reusable with sterilizer procedure
- Reduce the cost of replacing IV cannula rapidly
- Reduce the issue of inflammation, phlebitis, bleeding, infection
- Cost effective

## INNOVATION



## INDUSTRY COLLABORATORS



TRL : 5 - Validation in Real Environment Ready to Enter Technology Development



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3 GOOD HEALTH AND WELL-BEING



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