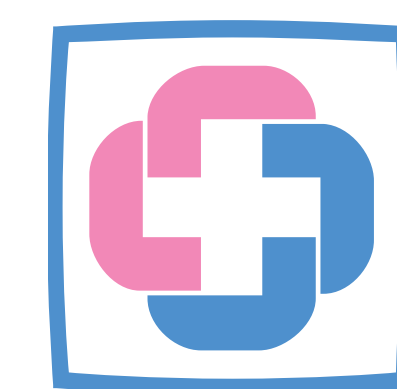




Singapore Healthcare
Management 2015

SMaRT Splints

Save Money , Resources and Time



KK Women's and
Children's Hospital
SingHealth

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1. Introduction

Splints are used on pediatric patients to provide support and to stabilize both the upper and lower limbs where IV cannulas are being set. The use of reusable splints has been a practice in KK Women's and Children's Hospital (KKH) and it has provided good support for limbs with cannula in situ. Splinting of the limbs reduces excessive movement of the limb and thus prevent the inadvertent dislodgement of IV cannula, thus reduces the need for repeated painful re-cannulation. Majority of patients admitted through Children's Emergency have IV cannulas set up before going up to the wards. Reusable splint are used to immobilize the limbs to prevent accidental dislodgement of IV cannula.

Currently inventory of the reusable splints are maintained by individual department. Wards maintain their own par level and excess splints will be returned to Children's Emergency on daily basis. In addition, Children's Emergency porters will perform routine round to all inpatient wards every Saturday to collect back extra splints that were not returned on daily basis. However, these reusable splints often go missing and the clinical areas periodically met with shortage of splints.



Re-usable splint that need to be wrap with paper linen

2. Project Selection

The current interventions are not effective as the wards still face shortage of splints every few months. Valuable time were wasted which include the time spent by porters on retrieving splints and also the time the nurses spend on disinfecting the splints and re-wrapping it with disposable linen. The team also collected data on the number of missing splints over a period of eight months and it showed a loss of total 1,820 splints which amount to \$14,560 .

3. Our Aim

The aim of this project is to **reduce the loss of hand splints** in Children's wards, which in turn will **reduce amount spent on splint purchases**.

4. Methodology

The team started by quantifying and account for the actual loss of splints. The counting of splints were conducted from Nov' 2013 to June' 2014. Data collection was performed three monthly. The average cost price of a reusable splint is \$8. The total amount expensed off due to the lost of splints is \$14,560.

MONTH	Nov'13	Jan'14	Mar'14	Jun'14
No. of Splints	955	1395 (Purchased additional 1000 splints)	795	135
Loss of splints: Nov'13 – Jan'14: Loss of 560 splints = \$4,480 Jan'14 – Mar'14: Loss of 600 splints = \$4,800 Mar'14 – Jun'14: Loss of 660 splints = \$5,280				

We brainstormed on possible solutions and selected the solutions based on Effectiveness, Impact and Cost . The proposed possible solutions were:

- 1) To label splints with "Do not throw the splints after use"
- 2) Increase awareness and education (Orientation and circulars)
- 3) Changing to reusable splints to disposable splints.

5. Results

The first two solutions were put on trial for one month but did not work out as there were still significant losses of splints. The team then work into the third possible solution. We shortlisted two disposable splints vendor: MedAid (Neoboard splint) and Novatech. The splints from different vendors were put on trial in paediatric wards. Feedback collated by staff were based on the comfort level for patient, ease of use, the amount of support provided when use with IV cannulation and cost of splint. Finally the team decided to select MedAid-Neoboard splint because it provides strong support, foam padding which cushions the hands and waterproof sides which prevent splints from being soaked.

Below table reflect the result collected from the three solutions:

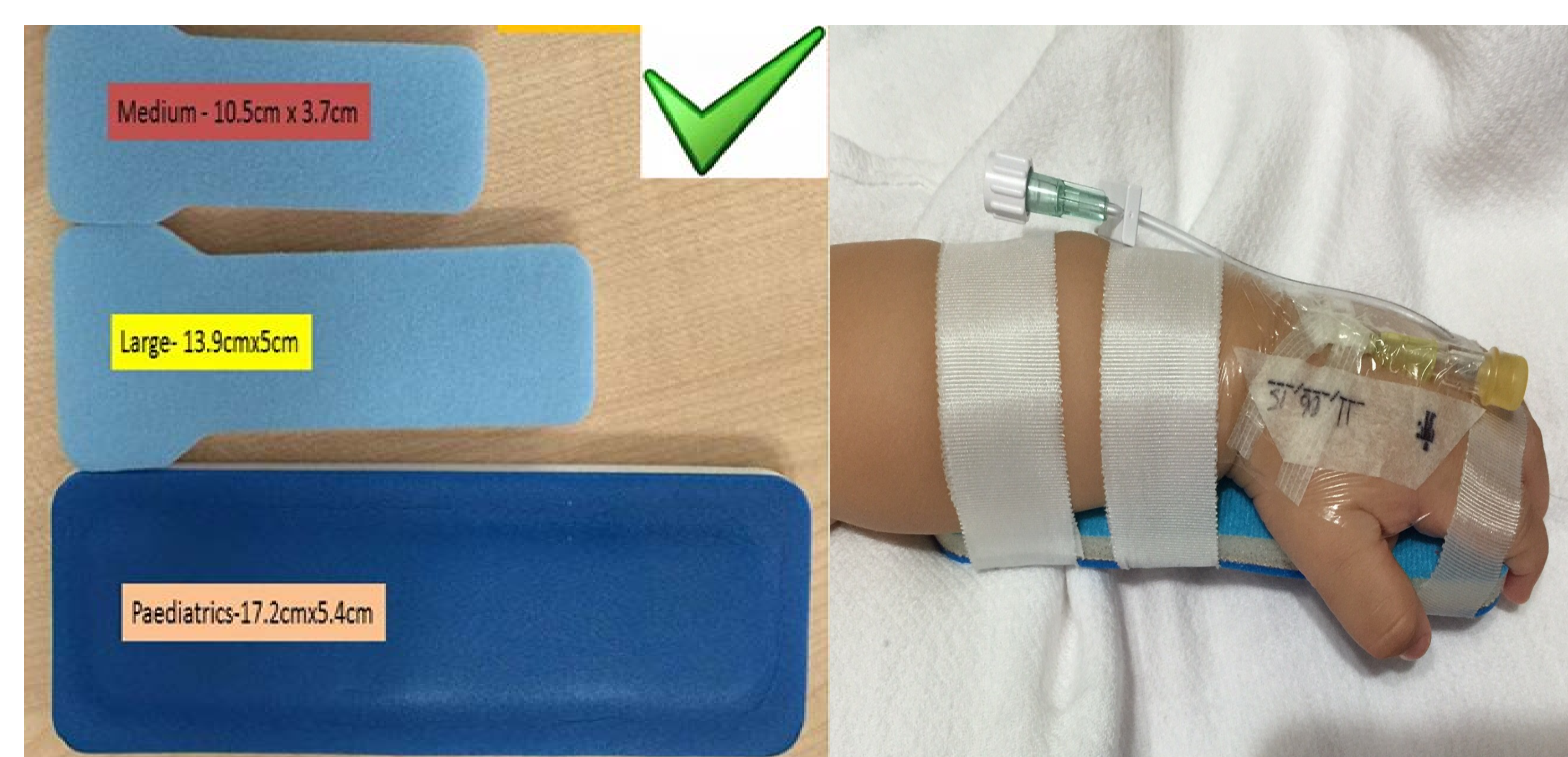
	Do Not discard	Orientation and circulars	Disposable splints
IN (used for tracing)	150	150	150
LEFT IN WARD	58	65	-
LOSS	92	85	-
ABANDON/IMPLEMENT	Abandon	Abandon	Implement

6. Conclusions

The ready-to-use disposable splint was introduced and adapted by the rest of the children wards in KKH. With the implementation of the new ready to use disposable splint, it had led to significant impact on the organisation level:

- ✓ **Save time** : Use of disposable splints reduces nurses' time spent on handling ward chores such as disinfecting and wrapping reusable splints, which attracts greater commitment in nurse's participation of this project
- ✓ **Improving patient' care** : Nurses able to have more contact time with patients
- ✓ **Reduce stress for nurses** : Splints are pre-packed and ready for use in case of there is a sudden need to use splint on patient's limb for support
- ✓ **Reduce chance of infection**: Splints are packed in individualised packing and only able to be use on one patient per splint. Unable to recycle.
- ✓ **Save Money** : Zero missing splints and there is no need to purchase any re-usable splint. Disposable splint will be charge to patient as consumable.

The new initiative implemented clearly demonstrated KKH's commitment in providing safe quality care and also a proactive culture of continual improvement for our patients' safety.



Patient with new disposable splint