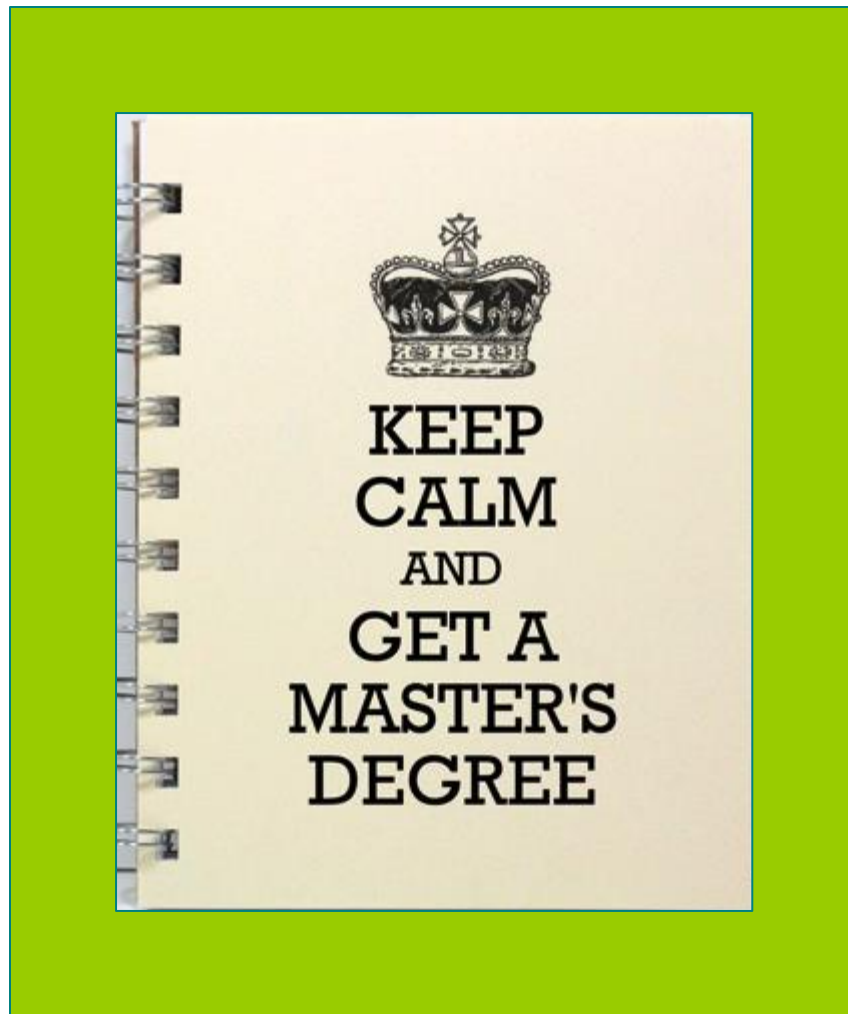


# **Standardization for Pediatric Inguinal Hernia Repair- It Works!**

**Martin A. Koyle, MD, FAAP, FACS, FRCSC, FRCS (Eng.)**  
**Hospital for Sick Children**  
**University of Toronto**  
**Toronto, Canada**



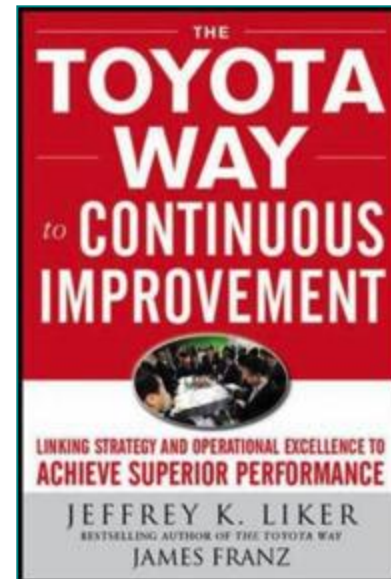


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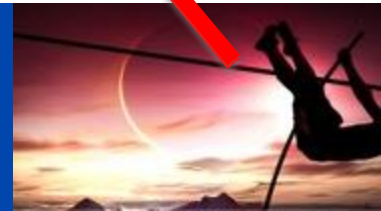
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# The Toronto Way



# All you need is...







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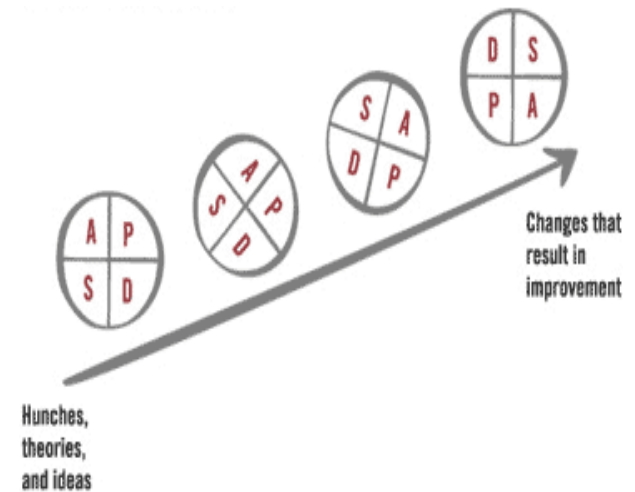
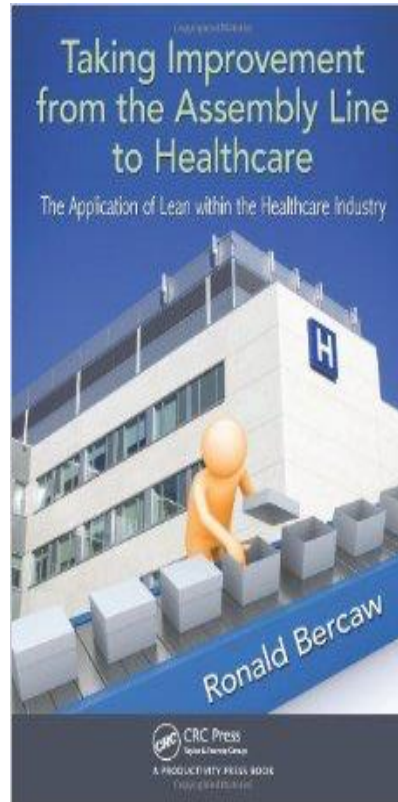
# Project Aim



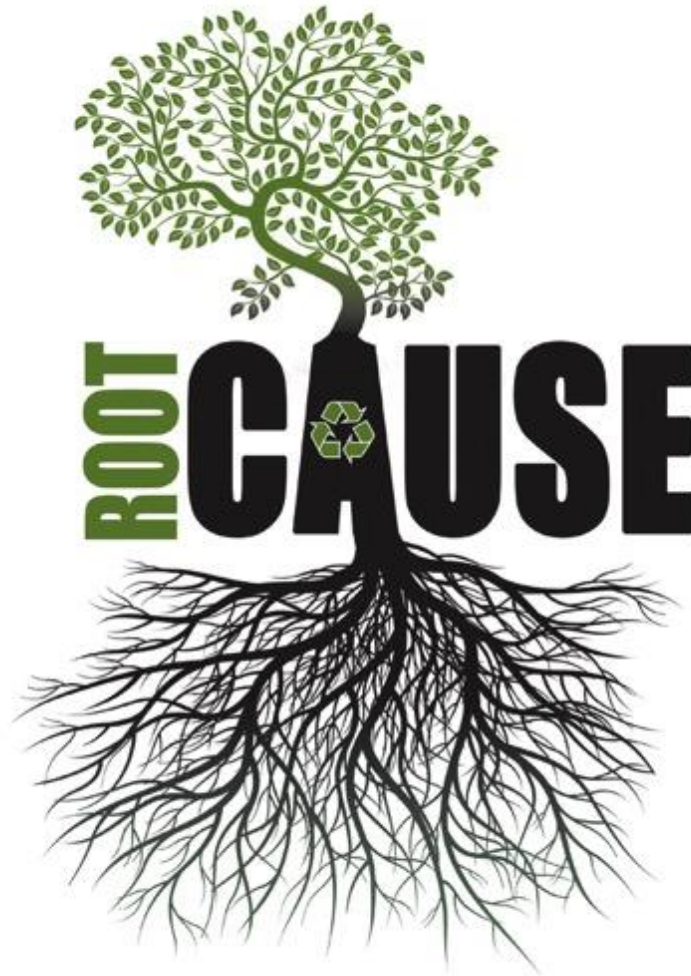
To reduce # of instruments on standard pick & preference cards for pediatric IHR by 25-50% for each surgeon performing these surgeries & create a standardized, consolidated, single preference card used by all surgeons, over a 9 month period, commencing October, 2014.



# Elements of project: application of improvement science







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# Root Cause



- SickKids OR culture has always allowed individual surgeon preference cards + standard “pick” for each operation
- 14 surgeons who perform this surgery at SickKids & 2 separate services (Pediatric Urology & Pediatric Surgery) ➡ 14 preference cards + standard pick for the same operation! ➡ variability
- Increased opportunity for confusion and error (& blame) due to multiple names for same instrument (& number) for other team members, who unlike the surgeon, “rotate”, and are not constants for each case.



# Materials & Methods

- Observation & implementation
  - OR
  - CS
- Survey
- Before & after



# Root Causes (diagnosing the problem)



- Direct observation of each surgeon (& operating team) in the OR setting
- Ppt presentation & open discussion with each surgical group as a unit & each surgeon individually
- Ppt presentation & open discussion with OR nursing
- Invite feed back
- Develop surveys for pre & post assessment of RNs & MDs
- Direct observation of process of instrument sterilization & re-packing in Central Supply

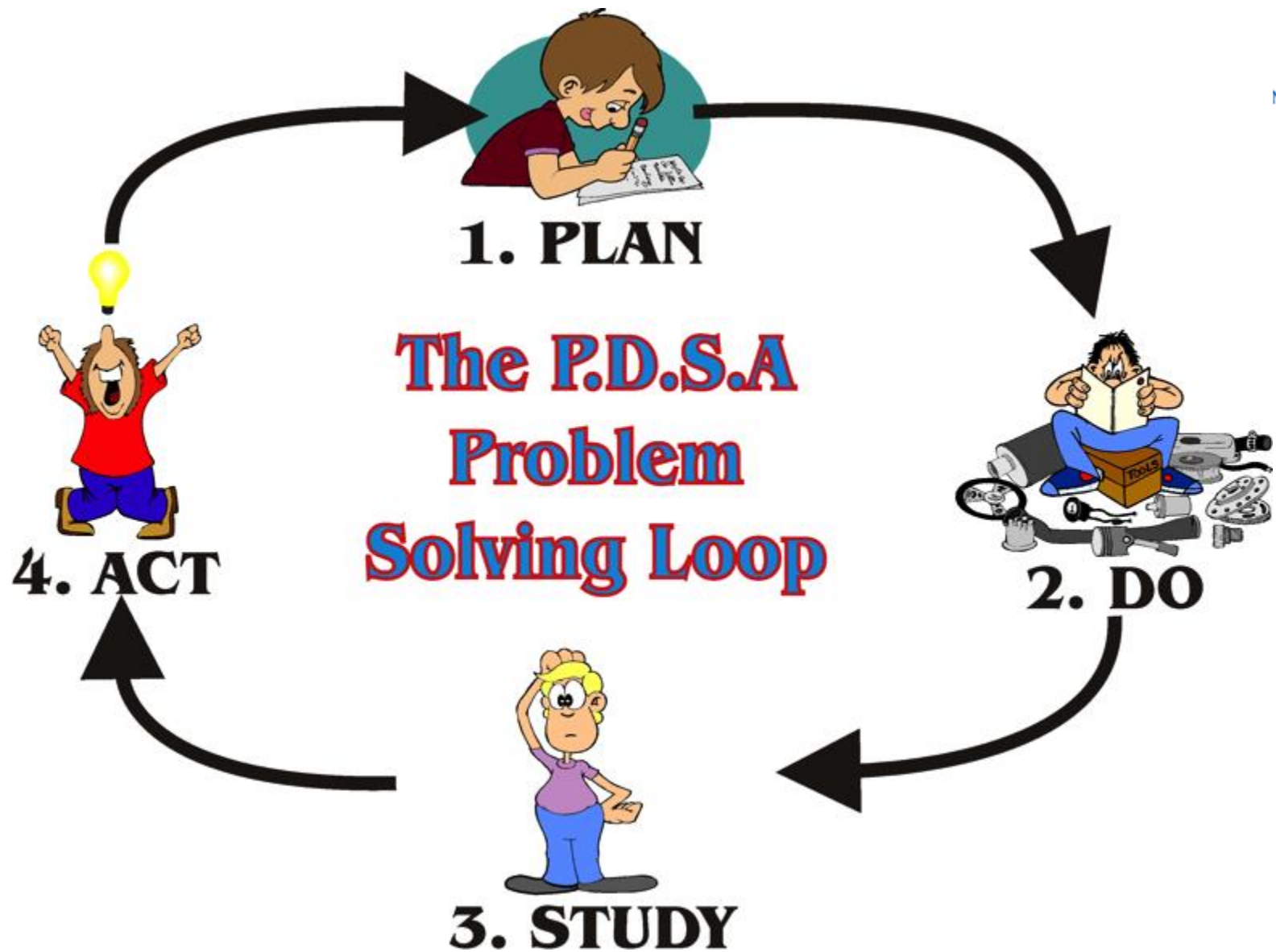






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# General Survey- PRE

	SURGEONS ( 14 )	NURSES ( 41 )
Single standardized preference card for inguinal hernia surgery improve <b>patient care</b>	59%	87%
Single standardized preference card for inguinal hernia surgery improve <b>efficiency</b> in the OR	95%	93%
Single standardized preference card for inguinal hernia surgery reduce OR supply <b>cost</b>	82%	96%
We <b>should standardize</b> preference cards for other procedures whenever possible.	80%	98%

# General survey-PRE (surgeons only)



	Yes	No
Routine request histopathology	35%	65%
Routine request clinic visit	58%	42%

# of sutures used in standard hernia repair	1	2	3
	12%	65%	23%





# Pediatric Surgery - PRE

- pre-packaged tray for Hernia/Hydrocele Repair contains 51 instruments

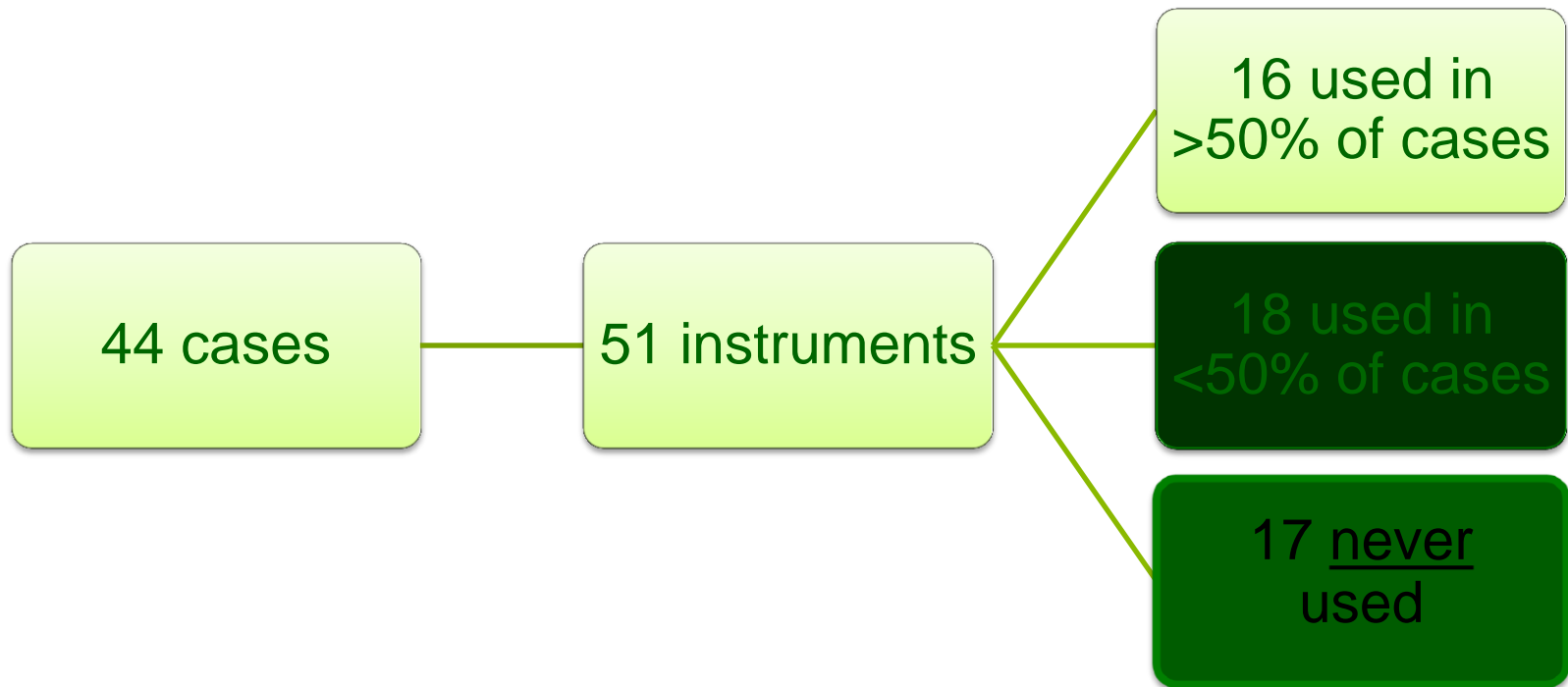


# Urology-PRE:

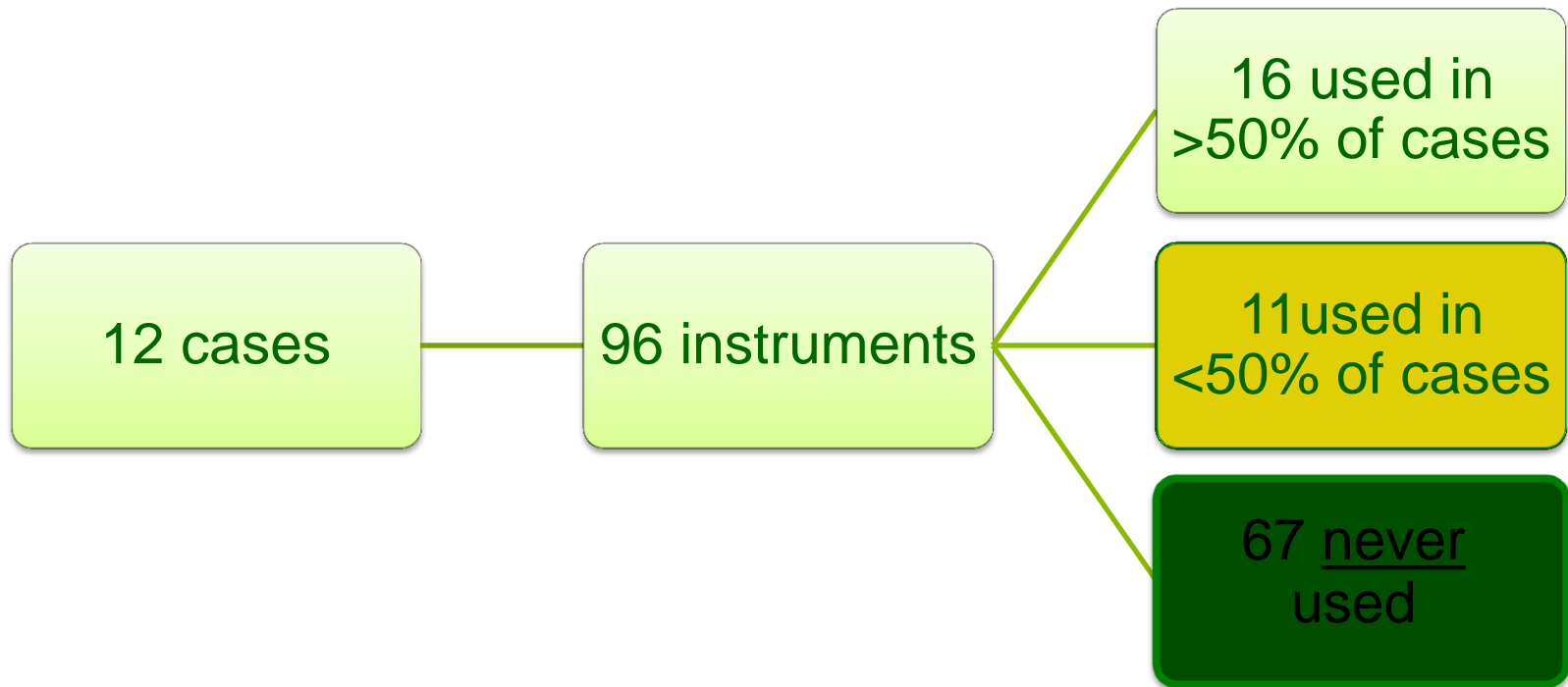
- pre-packaged tray for Hernia/Hydrocele Repair contains 96  
Instruments



# Pediatric Surgery



# Urology





# New Hernia Tray (March 1, 2015): Consensus-All surgeons & nurse leaders



Quantity	INSTRUMENTS	CODE
2	Retractors, Crile Small	
2	Retractors, Ribbon Small	
2	Retractors, Ribbon Baby	
2	Forceps, <u>Tets</u> (Gerard) Non-Toothed	
2	Forceps, <u>Adson</u> Toothed	
2	Forceps, <u>Debakey</u> Heavy Short	
1	Knife Handle #3	
1	Forceps, <u>Mixter</u> 6"	
1	Scissors, Mayo Straight	
1	Scissors, Tenotomy 6"	
1	Scissors Metz Gold Handled Blunt 5 1/2"	
1	Needle Driver Gold Handled 6"	
1	Needle Driver Gold Handled 4"	
1	Forceps, Babcock 6"	
4	Forceps, <u>Mosquito</u> Curved	
2	Forceps, <u>Mosquito</u> Straight	
1	C-Bowl Small	
1	Medicine Cup	



# Tray Weights

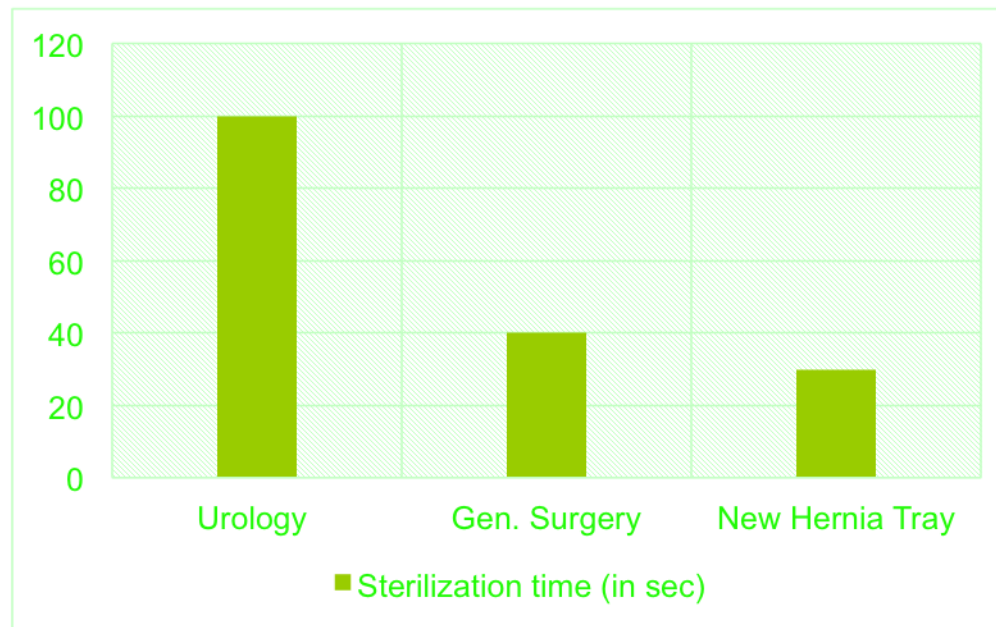


UROLOGY	PEDIATRIC SURGERY	“New” HERNIA TRAY
13.5 lbs	11.2 lbs	8 lbs



# Manual time prepare for decontamination

UROLOGY	PEDIATRIC SURGERY	“NEW” HERNIA TRAY
100 Seconds	40 Seconds	30 Seconds





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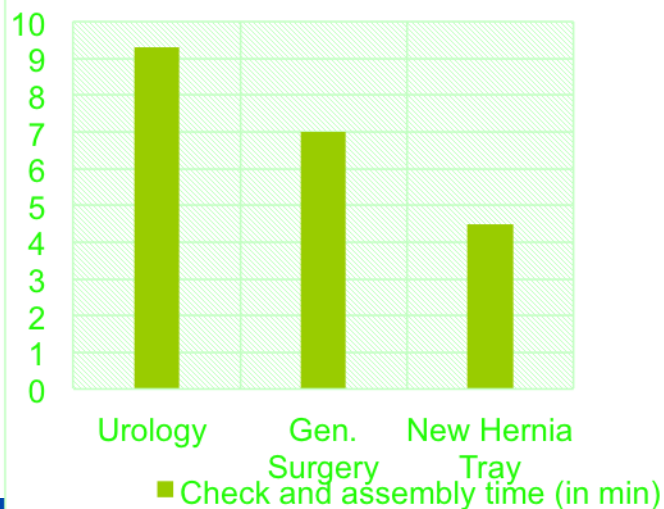




# Manual time to check & assemble set before sterilization



UROLOGY	PEDIATRIC SURGERY	“NEW” HERNIA TRAY
9.3 mins	7 mins	4.5 mins





## Standardization of operative equipment reduces cost<sup>☆,☆☆</sup>

Jeffrey R. Avansino<sup>a,\*</sup>, Adam B. Goldin<sup>a</sup>, Renelle Risley<sup>b</sup>,  
John H.T. Waldhausen<sup>a</sup>, Robert S. Sawin<sup>a</sup>

<sup>a</sup>Division of Pediatric Surgery, Department of Surgery University of Washington, Seattle Children's Hospital, Seattle, WA 98105, USA

<sup>b</sup>Department of Surgery, Operative Services, Seattle Children's Hospital, Seattle, WA 98105, USA

**Conclusions:** Standardization of operative equipment can result in a significant cost reduction without impacting quality or delivery of care. Based on average case number per year, a total annual cost savings of >\$41,000 could be realized. Survey participants agree that standardization improves cost and patient safety, yet perceptions regarding the impact on efficiency and patient care varied by occupation.



Procurement Regulations  
Supply Chain Guideline  
Supply Chain Strategies and Initiatives  
Optimizing Your Perioperative Supply Chain  
Guide to Improvement Projects  
Capital Procurement Cooperative  
CPC DI Procurements

OHA > Issues and Initiatives > Key Initiatives > Procurement and Supply Chain Resources > Supply Chain Strategies and Initiatives > Optimizing Your Perioperative Supply Chain: A Guide to Improvement Projects

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## Optimizing your Perioperative Supply Chain: A Guide to Improvement Projects

Informed by hospitals undertaking improvement projects and written by a committee of subject matter experts, this guide is designed to help executives and a cross-disciplinary team of hospital staff successfully complete their own perioperative supply chain improvement project.



Since first being identified as a key best practice for surgical efficiency, perioperative supply chain improvements have become a growing area of interest. While participating in a pilot program, 14 Ontario hospitals that undertook improvement projects reported significant decreases in supply costs, greater staff efficiencies and an overall more collaborative work environment.

Their experiences, which serve to inform this guide, found savings from a series of foundational projects, mostly focusing on refining inventory data, managing procedure card systems, optimizing surgical inventory and storage, and standardizing product.

The clinical and non-clinical leaders of these projects, supported by a network of subject matter experts, worked together to develop the guide. Divided into five chapters, each examines one of four foundational projects: Procedure Card Management; Data Optimization; OR Inventory Optimization and Product Selection and Standardization, with a fifth chapter serving as a refresher on Project Management.

Download Entire Guidebook

Chapter 1. Procedure Card Management	1-1
CHAPTER AT A GLANCE	1-3
1.1 UNDERSTANDING PROCEDURE CARD MANAGEMENT	1-4
Why is procedure card management important?	1-4
What is the difference between a procedure card, a preference card and a pick list?	1-4
How should procedure cards function?	1-5
Do your procedure cards need to be improved?	1-6
What are the benefits of proper procedure card management?	1-7

## The Operating Room Supply Chain (ORSC) Program Working Group:

Bluewater Health  
Cornwall Community Hospital  
The Hospital for Sick Children (Sick Kids)  
Hamilton Health Sciences  
Healthcare Material Management Services  
Niagara Health System  
North York General Hospital  
Quinte Health Care Corporation  
Sault Area Hospital  
St. Joseph's Health Centre (Toronto)  
St. Michael's Hospital  
St. Thomas Elgin General Hospital  
Sudbury Regional Hospital  
Sunnybrook Health Sciences Centre  
Thunder Bay Regional Health Sciences Centre  
Trillium Health Centre  
University Health Network  
York Central Hospital



# Discussion & Conclusion



1. Standardization & reduction of instruments for a common operation can be done using “improvement science” methodology (*LEAN, MOI, Crucial Conversations*).
2. Standardization & reduction of instruments leads to markedly reduced cycle times which should impact costs favorably.
3. Standardization & reduction of instruments has ergonomic benefits due to weight reduction of trays.
4. Virtually all nurses & the majority of surgeons embrace the concept of standardization.



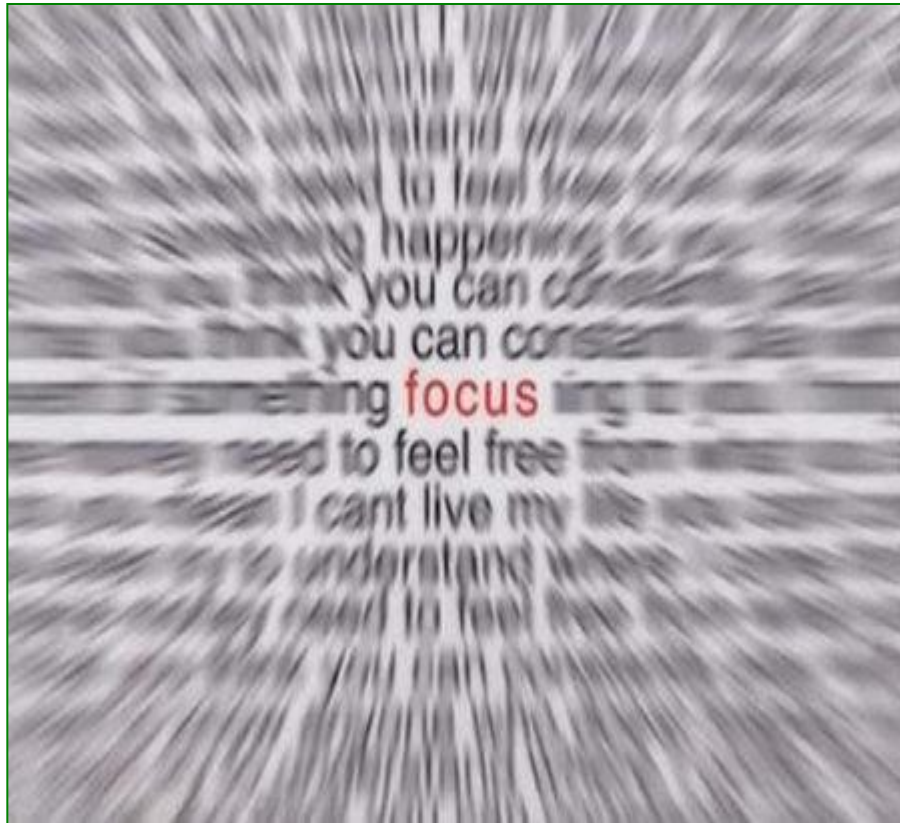




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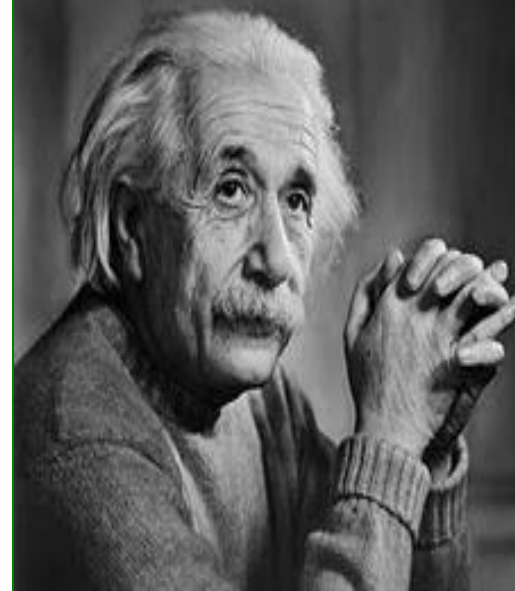






If you can't explain it **simply**, you  
don't understand it well enough.

– Albert Einstein







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