

Loaner instrumentation management program by using Lean system

By: Kattika Sukaval (RN., M.Ns., CSSD. Director)

Dr.Chutatip Nantavinit (RN., PhD) and team

BACKGROUND

Clinical issue

The amount of implantation patients >2500 cases /year According to the occur rent reports

- in the year2013-2014: 1 the orthopedics operating theater cancelled 4 cases because loaner instrumentations
- 2 Incomplete of implants and loaner instrumentation 7 times.
- 3 implant and loaner instrumentations were not passed the sterile monitoring standards 8 times.

were not available.







Objective

- · Ensure that all needed special equipment and implant are available and correct
- · Patients should be on time for the operating theater set
- Improve quality management program for Loaner instrumentation by using Lean system





ESTABLISH LOANER INSTRUMENT POLICY



KPI. & RESULT									
	-	Result							
]					
KPI.	Target	Before processing	1 st time July –Sept 2013	2 nd time OctDec. 2013	3 rd time Jan-Mar. 2014	4 th time Apr-Jun 2014	5 th time July 2014		
The report of the orthopedics operating theater cancelled cases because of loaner instrumentations were not available	0 time	4 time	0 time	0 time	0 time	0 time	0 time		
2. The report of the Incomplete of implants and loaner instrumentation	0 time	7 time	0 time	1 time	0 time	0 time	0 time		
3. The report of implant and loaner instrumentations were not passed the sterile monitoring standards	0 time	8 time	0 time	4 time	0 time	0 time	0 time		
4.The label of implants and loaner instrumentation are completely and correctly	90%	64.3 %	93.4%	98.7%	92.6%	95.9%	94.9%		
5. the implants and loaner instrumentation were used the same as the order by the OR. schedule	90%	83.8%	92.8%	96.1%	92.8%	93.3%	94.1%		

COMPARE TIME BEFORE /AFTER REARRANGEMENT

List	Before	After
Total Processes	21 steps	20 steps
Process time (PT)	730 minutes	615 minutes
Delay time (DT)	495 minutes	455 minutes
Total turn around time (TAT) = (PT+DT)	1225 minutes	1070 minutes
Value Added	27.17%	49.86%

Flow before improvement P1 request the instrument P2 call to vender for P5 cleaning processing P3 prepare & send P4 receive & check in the OR. Schedule the instrument to the instrument preparing the PT 60 min CSSD. instrument FTQ 99% PT 5 min PT 10min FTQ 90% PT 10 min PT 180 min FTQ 90% FTQ 95% 180 min FTQ 99% CSSD. staff CSSD. staff Procurement officer staff Vender Physician P9 sent instrument P8 Storage P7 sterile instrument P10 receive P6 prepare & from CSSD to OR. packaging PT 20 min PT 60 min PT 5min PT 15 min FTQ 95% FTQ 95% PT 20 min FTQ 95% FTQ 95% FTQ 99% CSSD staff CSSD. staff CSSD, staff CSSD staff OR. Store room staff P14 the operating P12 checking the P15 send the P11 prepare the P13 setting instrument into instrument before instrument instrument to vender start the operation in the case case cart PT 120 min PT 10 min PT 5 min PT 15 min PT 20 min FTQ 99% FTQ 90% FTQ 95% FTQ 99% FTQ 95% Scrub nurse Circulating nurse Physician Vender Vender P16 send the Receive the P20 preparing P19 cleaning P18 CSSD P17 send instrument to instrument receive the instrument to back to office dirty nstrument CSSD dirty cart PT 20 min PT 60 min PT 10 min PT 10 min FTQ 90% FTQ 90% FTQ 90% FTQ 90% CSSD, staff CSSD. staff OR staff CSSD, staff Vender

Flow after improvement P1 request the P5 cleaning processing P2 call to vender P3 prepare & send P4 receive & check instrument in the OR. for preparing the the instrument to the instrument Schedule instrument PT 60 min PT 10 min FTQ 99% PT 5 min PT 10 min PT 180 min FTQ 95% FTQ 95% FTQ 99% FTQ 95% 180 min CSSD. staff CSSD, staff Procurement officer staff Physician Vender P9 P11 prepare the P7 sterile instrument P10 sent instrument P8 Storage P6 prepare & instrument into case to OR. packaging PT5 min PT 20 min PT 5 min PT 60 min FTQ 99% FTQ 99% PT5 min FTQ 95% FTQ 95% FTQ 95% CSSD staff CSSD. staff CSSD. staff CSSD. staff Vender P11 receive from CSSD P13 setting instrument P14 the operating time P12 checking the P15 send the instrument before in the case instrument to vender start the operation PT5 min PT 120 min PT 15 min FTQ 99% FTQ 99% PT 10 min FTQ 99% PT 5 min FTQ 95% FTQ 99% OR Store room staff Circulating nurse Scrub nurse Physician Vender P17 CSSD receive P20 Receive the P18 cleaning P16send P19 preparing instrument back to the dirty instrument to CSSD instrument PT 20 min PT 60 min FTQ 95% FTQ 95% PT 10 min PT5 min PT 5 min FTQ 95% FTQ 95% FTQ 95% CSSD. staff CSSD staff CSSD. staff OR staff Vender

List	Before	After	Changing	
Times for lifting the instrumentation trays	14 steps	10 steps	4 steps	
The instrumentation weight	700 kgs./case	500 kgs./case	200 kgs./case	
The report of the orthopedics operating theater cancelled cases because of loaner instrumentations were not available	4 times	0 times	4 times	
The report of implant and loaner instrumentations were not passed the sterile monitoring standards	8 times	0 times	8 times	
The report of the Incomplete of implants and loaner instrumentation	7 times	0 times	7 times	
The label of implants and loaner instrumentation are completely and correctly	64.28%	95.10%	30.82%	
The implants and loaner instrumentation were used the same as the order in OR. schedule	83.80%	93.59%	9.79%	
The saving sterilization cost of the over back up instrumentation /month***	37,665 baths/month	14,903 baths/month	22,762 baths/month	
*** loaner instrumentation 300 cases /mo	Save cost =61.99%			

Loaner instrumentation management program by using Lean system

Miss kattika sukaval, RN. M.Ns, CSSD. Director, Dr. Chutatip Nantavinit, RN., PhD., and team CSSD Siriraj Hospital, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok Thailand

Siriraj hospital, Mahidol University, Bangkok Thailand hospital consist of 69 operating theaters separated by the buildings and 20 minor operating theaters for GI endoscopes, CATH. labs ,Angiograms and OPD. minors. The Orthopedics Theater consist of 8 rooms, has the operation 30-40 cases /day. The most of Orthopedics cases are the implantation cases >2500 cases /year. All of the implantation cases need for the loaner instrument s from varieties venders which should be sent to the CSSD. on time. There were the occur rent reports in the year 2013-2014:

- 1. The cancelled 4 cases because loaner instrumentations were not available.
- 2. The incomplete of implants and loaner instrumentation 7 times.

3. The amount of implant and loaner instrumentations were not passed the sterile monitoring standards 8 times.

- 1. Ensure that all needed special equipment and implant are available and correct
- 2. Patients should be on time for the operating theater set
- 3. Improve the quality management program for Loaner instrumentation by using Lean system

Collect all data of the error problems. Set the flow by using Lean system. Meeting, discussion and presentation for find out the standard work to the Siriraj CSSD., Orthopedics theater staff nurses and Orthopedics Department Committee. Base on Lean system, then re-arrangement and set up the flow. Try out, collect data then set the policies and announcement to all users for start using this guide line.

There are completely and correctly sterilization of implants and loaner instrumentation available on time. There is no cancelled operating theater case. All of implants and loaner instrumentation are completely and correctly labeling. The implants and loaner instrumentation were used the same as the order by the OR. Schedule.



