Utilizing the Lean Process in Surgical Glove Standardization

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BACKGROUND:

LEAN projects had been initiated successfully in the operating room (OR). Benefits of the process to implement Association of PeriOperative Registered Nurses (AORN) and evidence- based guidelines on previous projects had been established having yielded over $175,000 in cost reduction for the department.

PROBLEM:

Ophthalmology comprises one third of URMC surgical cases including cataract, retinal, glaucoma and corneal surgeries performed in the second floor OR suite. At the time of the trial other service procedures were also using second floor OR space.

It was estimated that thirty to ninety surgical cases per year were being cancelled in the second floor OR suite due to latex contamination for an identified latex allergy patient. A deep dive revealed the cost incurred including set up time and supplies. Dependent on case type, supplies ranged from $350 to $1500 per teardown.

The OR had four glove companies and multiple styles stocked which included only one latex free option and several powdered gloves styles. The Federal Drug Administration (FDA) ban on powdered gloves opened an opportunity to evaluate surgical gloves.

The LEAN Committee members expressed concern that some staff members had formed a latex allergy from repeated exposure to latex when scrubbing cases. To optimize efficiency, increase value and address staff safety concerns, the LEAN Committee determined a project was warranted.

IMPLEMENTATION:

Value analysis considered cost efficiency, patient safety, case tear down and product placement and decided on one glove provider. The current initiative would involve repeat latex exposure education, raising awareness of the ability to acquire latex allergy and effects on patient safety.

- One latex free* glove company had been increasingly preferred in GYN, OB, ICU.
- After surgeons looked at samples, 2 clinical champions were recruited to assist with a 2-week trial including over 70 surgeons & residents and over 200 nurses and certified surgical technicians (CST) using a multidisciplinary approach.
- Education and communication fed momentum.
- The nursing staff was also educated on the fiscal responsibility of case to case usage, acted as patient safety advocates and were included in sizing and selections.
- The trial concluded with a choice to consolidate to one vendor.

Learning Objectives:

1. Educate the learner on the potential cost savings of a "LEAN" OR
2. Provide tools such as finding champions and signage to overcome the hurdles of change.
3. Facilitate the transition to a latex free/ latex reduced surgical environment

RESULTS:

Previously, we estimated that thirty to ninety surgical cases per year were torn down due to latex contamination. In a review of the year prior to going latex free, 36 cases were torn down with case costs up to $1195 per case.

In the year following the transition, the second floor OR has had zero tear downs due to latex exposure. With OR staff time per case set up between 60 and 100 minutes, multiple hours of staff time was freed for other cases. (instrument turn over time added significantly to the length of time)

Additionally, over 111 cubic feet in the center core was recovered for additional storage when glove style stock keeping units (SKU) were reduced from 13 to 3* (6 including 3 single staff specific glove s)

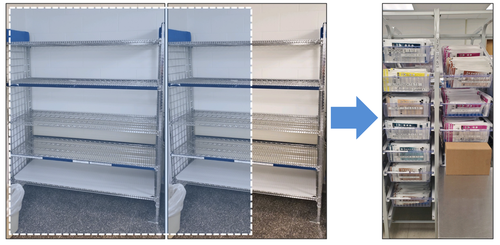
36 → 0 Number of Cases Torn Down Due to Latex Allergy

Estimated avoided COST $43,020

Estimated avoided TIME 36-60 hours

SKU Reduction 13 to 3*

Storage Space Saved 111 cubic ft



Before
136 Cubic ft of storage

After
20.8 Cubic ft of storage

CONCLUSION:

✓ Standardizing surgical gloves requires overcoming many hurdles with surgeons and staff.

✓ Change can be tolerated if adequate warning, information & data is presented. Partnership with the chosen glove vendor helped facilitate this project through education and standardization expertise.

✓ The LEAN committee learned that to better quantify the impact of less choices, case pick time will also be captured. This pilot will be shared with the main OR suite where between 20-40 cases per year in cardiac and general surgery alone are torn down costing $2500 per tear down.

*not made with natural rubber latex

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