HEALTHCARE PURCHASING NEWS

Hospital improves costs, efficiencies with custom trays

Part 2: Study completion delivers impressive results

by Rick Wells

Will using custom trays reduce damage to surgical instruments by providing a secure, consistent home for each one? That was the question we aimed to answer in the Altru Hospital cataract instrument study. At the beginning of 2017 we took a three-month snapshot and reported the preliminary results to readers in the June issue of *Healthcare Purchasing News (Part 1)*.[1] This next article focuses on the combined data collected from that study.*

Summary

Altru Hospital performs all cataract procedures at its outpatient surgery center located a few miles away from the hospital. Block time for cataract surgery takes place on Tuesday and Wednesday. The twelve-month results for 499 cataract surgeries in 2017 ended up being almost a mirror image of the three-month snapshot *HPN* published in June of 2017. The three-month results showed that using custom trays reduced repairs by 32 percent. The complete study showed a 34 percent reduction over twelve months, which is a substantial savings. That type of savings for many hospitals will finance the purchase of custom trays usually within the first year of use.

Methods

Prior to launching the study, we compiled and analyzed three years of repair data. One year of live repair data was collected and compared to the three years of historic data. Information on damage and repair along with the number of cases was collected weekly during the study. We also conducted a review of water quality, time and temperature recommendations, as well as the IFUs for all cataract instruments.

Study data & results

There were two variables in 2016 that contributed to the drop in repairs for that year:

- Cataract instrument inventory was doubled.
- Custom trays were introduced.

It made sense to average repair expense for 2014, 2015 and 2016 to get a more equitable comparison to the study in 2017. Damage for the cataract instruments at Altru Hospital in 2017 fell to $4,834 per year from the $7,361 three-year average, which is a 34 percent reduction in repair. We will examine these two variables in 2016 as they present an opportunity for additional questions.

Discussion

Gathering and analyzing data will always prompt more questions and hopefully help steer the development of new solutions. A noteworthy observation from the historical data collection (three years prior to this study), showed that as procedure volumes fell each year, damage continued to rise.

Altru hospital implemented the use of custom trays to help mitigate the escalation of repair expenses. See their previous tray set up in Figure 1, and what they began using in December of 2016 in Figure 2.

When comparing the number of procedures to the amount of damage incurred each year those numbers should mirror one another. If procedures increase, damage should increase and if procedures decline, damage should also decline.

The Altru Study shows that when custom trays are introduced to a repair cost-reduction plan, a 34 percent decrease in expenses can be expected. In 2016 Altru doubled the number of cataract sets and started using custom trays. If we take note of these two factors that occurred with the cataract sets in 2016 and then look at repair in 2015 we see a significant reduction in repair costs. Expenses in 2015 were $12,181 which fell to $4,834 in 2017 (61 percent). Again, the Altru study was designed to only look at how using custom trays affected repair expenses, but during the analysis the data suggests that combining additional inventory along with using custom trays also had a positive, synergistic effect.

Beyond savings and compliance

Reducing repair-related costs will always be the biggest advantage of using custom trays and real savings must be demonstrated to justify their purchase. However, they can also do a number of other things beyond savings and compliance. Using custom

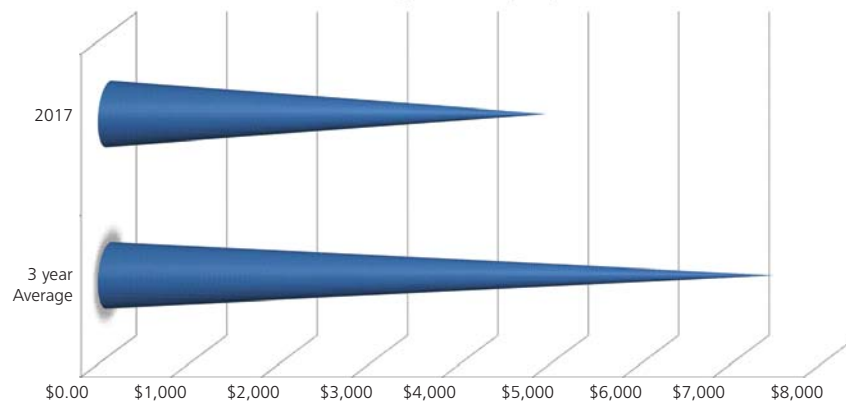

Figure 1

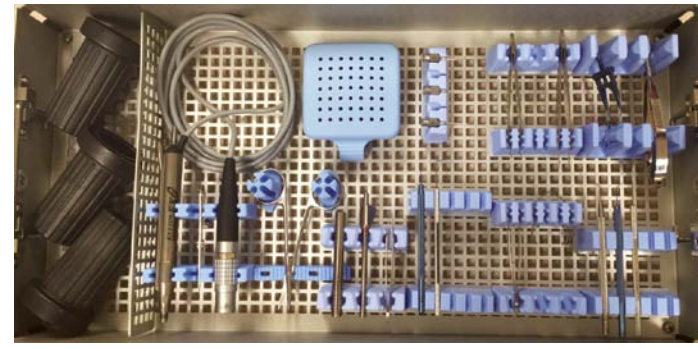

Figure 2

trays can also provide an opportunity to review the necessity of including every instrument in the current tray. For example, an article[2] published on LinkedIn by pediatric surgeon Peter Nichol, MD, PhD, evaluated how many instruments in his pediatric trays were being routinely used. He found that he was only using 14 percent of those instruments. He suggests breaking the tray up into "as needed" trays to eliminate the need to process so many instruments after each case which would also reduce the number of unnecessary sterilization cycles used.

Added benefits of implementing custom trays:

- culls un-needed instruments from trays;
- divides an overloaded tray into smaller trays;
- saves processing time;
- reduces tray weight and;
- separates instruments used less often to avoid over-sterilization.

The custom tray process also provides an opportunity to examine repair trends for each instrument in the tray. This strategic approach can be used on all current trays, one tray at a time, over a number of years. Facilities should first target trays with the most damage or usage and work down the list. Some may think they don't have time for such a task but with today's healthcare reimbursement environment refocusing on the importance of making sure our house is in order, it would be wise to reconsider.

Conclusion

This study strongly indicates that using custom trays could save hospitals at least 35 percent over the previous year's expenses while providing a quick and simple way to address repair issues within a facility. By paying close attention to the data, healthcare facilities may also discover additional opportunities to address and correct other factors adversely affecting repair-related expenses.

Over the last five to 10 years the focus seemed to be on cutting costs by purchasing items at the lowest price available. In some cases that line-item strategy worked, but not for everyone. In 2017 ten hospitals closed their doors permanently. The need to reduce waste is forcing a refocus on the toughest problem, fixing the broken utilization process within our hospitals.

Call for study participants

Would your healthcare facility like to be a study partner to help expand the research into custom trays and damage reduction? If interested please contact rick@solutionwells.net to discuss your repair issues and see if a custom tray study could help your hospital while providing solid data for the rest of the hospital industry. HPN

References:

1. https://www.hpnonline.com/can-using-custom-trays-reduce-instrument-repairs/

2. https://www.linkedin.com/pulse/occams-razor-simplest-solution-reducing-bio-burden-surgical-nichol/

** Summit Medical wanted to explore this hypothesis for their InstruSafe trays and sought me out as the principle investigator and objective expert for this study. Summit Medical funded this study as well as donated the Instrasafe trays to Altru Hospital so that other hosptials could benchmark this data.*

Acknowledgements

SolutionWells would like to thank the management at Altru Hospital for allowing us to publish the data from this study and inform industry how repair reduction can affect the bottom line. I would also like to thank the operating room staff, the scheduling desk and central sterilization at Altru Hospital for all of their help in gathering data each week.

Rick Wells, CCSVP, President, SolutionWells, specializes in improving the care and handling of surgical instruments through root cause analysis. The company helps CS & OR departments identify and replace insufficient practices with solutions that can help extend the useful life of surgical instruments. Rick can be reached by email at rick@solutionwells.net.

Get surgeons involved

If you're wondering why certain instruments break and are looking to set a goal of decreasing the damage, try increasing surgeon engagement and satisfaction.

When you approach surgeons, it is important to put them at ease. Explain that the sterile processing department is making every effort to ensure every instrument is in prime working condition but you need their advice to make it happen. Show them your repair data and see if they are open to trying different instrument manufacturers. Almost all will consider when approached respectfully.

Once you have the surgeons' approval you can begin approaching the OEMs (original equipment manufacturers). OEMs will loan instruments to your facility and allow you to evaluate them for two weeks, or in some cases, for longer periods of time. A two-week timeframe will allow surgeons enough uses for a thumbs up or thumbs down and also gives you time to see how well or poorly the instruments handle the stress of your SPD processes.

Is the OEM instrument up to the task or should you explore other vendors? How long does it take to process after surgery? Maybe it's not the instrument but the process (e.g., eye tissue is very difficult to remove, so allowing it to sit for hours could be a contributing factor). Investigate the possibilities, keep surgeons informed and solutions will be easier to find.