

## OR business performance

# Streamline selection and stocking to make supplies available and affordable

**T**here are two ways to approach supply cost reduction. One is to minimize direct supply costs by optimizing product selection, controlling utilization, reducing waste, and negotiating more favorable prices. The other is to attack indirect supply costs driven by high inventories—the excess holding and labor costs associated with excessive supply stocks.

The only way to reduce inventory holding costs and materials-related labor costs is to streamline your supply management processes. That means reducing supplies on hand and improving supply logistics. The overall goal is to ensure the right supplies are available at the right time and at the right cost.

### Lay the groundwork

The first step to streamlining your supply chain is to simplify the OR's underlying supply management infrastructure. This will not only reduce materials on hand, it will set the stage for more efficient supply logistics. Focus on three objectives:

**Standardize products.** The more products you stock, the more you will spend on product, product handling, and staff training. To begin improving supply management efficiency, identify opportunities to combine demand for like products into a smaller number of items.

For example, disposable laparoscopic supplies often are purchased from three different vendors. Standardizing trocars, staplers, and other supplies so they can be obtained from just one vendor will simplify the inventory while providing the opportunity to leverage preferred group purchasing organization (GPO) pricing.

The greatest obstacle to product standardization is physician acceptance. An interdisciplinary value analysis committee (VAC) can help.

A strong VAC applies evidence-based analysis and critical thinking to surgical supply decisions. Using a fact-based process, physicians work with others to examine supply alternatives in terms of functional requirements, quality, cost, infection control implications, patient risk, staff education, and financial and reimbursement implications.

Effective VACs allow physicians to take part in supply standardization. The goal is agreement. Selected products do not need to be the cheapest, just as standardized as possible to allow supply chain efficiency.

**Reduce stocking locations.** In many hospitals, the same supply items are stored in the surgical suite, the sterile core, the materials supply room, and central sterile processing. By definition, multiple stocking locations force OR managers to maintain larger inventories. This practice also makes it harder for staff to know how much of a supply is actually on hand, even with the best location file.

Having multiple backup locations may create a perception of safety, but in fact such redundancy makes it easier to lose track of stocks that are running dangerously low.

The best practice is to consolidate stocking locations as much as possible. For example, at a hospital we visited recently, we helped staff consolidate fibrin sealant from four stocking locations to one.

In general, room inventories should include only a minimal stock of urgent/emergent supplies, such as suture, dressing, tape, and other items staff need to access rapidly. Specialty suites can also include high-demand specialty-specific supplies. Optimally, everything else is stored in the core. If this is not possible, make sure supplies are stored in only one secondary stocking location.

**Establish par levels.** Appropriate par levels ensure an adequate stock is on hand while inventories are kept as low as possible. The par level calculation is based on item utilization, order lead time, and safety stock.

For example, a department uses 15 gowns per day, and it takes 3 days for replacements to arrive after reorder. Materials management and nursing staff agree that appropriate safety stock, based on reasonable usage fluctuation, is 15 gowns. The par level calculation for this item would be:

$$(15 \times 3) + 15 = 60 \text{ units}$$

When inventory on hand is reduced to 60 gowns, it is time to reorder.

You should also calculate a par maximum for each supply item. This is the quantity of inventory that should not be exceeded to prevent increased holding costs related to obsolescence, insurance, space, and loss of reinvestment capital. In addition, facilitate reorder accuracy by specifying whether items are ordered individually, by the box, or using another unit of measure.

### Control reorder process

After you have reduced product types, stocking locations, and stocking levels, the next step is to maintain a lean inventory by controlling the supply reorder process. Barcode and scanner systems are becoming more common in hospital ORs. Weight-based reorder systems are available, but they are expensive and can be vulnerable to human error. One less expensive option is a manual Kanban system.

Kanban (Japanese for “signal”) is a visual inventory reminder system. Each item in a stocking area has a signal card that lists item number, par level, reorder quantity, and other key information (image below). The card is secured to the inventory at the par level minimum. For instance, if the par level for a stapler reload is two boxes, the Kanban card could be fixed with a rubber band to the last two boxes on the shelf. When the picker gets to that card, he or she removes it and places it in a “to be ordered” envelope (image on p 26).

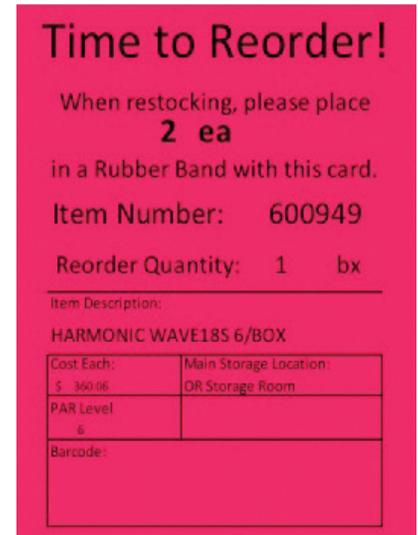
Reorder staff regularly collect Kanban cards from the envelopes. This system significantly reduces time spent checking stocks and reordering products.

One variation on Kanban is the two-bin system. For each item, half of the stock is placed in one bin and half in another. When a bin is empty, the picker places it on a reorder rack, triggering the reorder process. Some hospitals have combined electronic and Kanban systems. Staff use scanners to check and manage stocks, but Kanban cards provide an extra layer of safety.

### Think through logistics

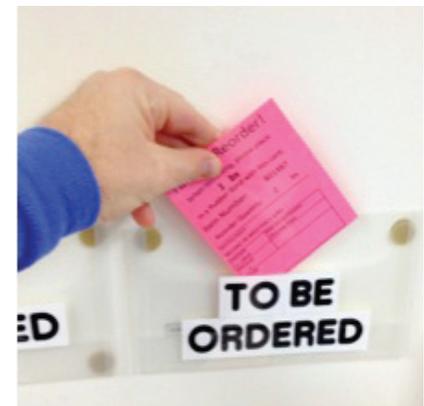
Staff can pick cases more efficiently if you reduce the number of steps needed to search for inventory. Redesign storage areas with the end user in mind. You may want to begin by creating a current-state map of your OR’s material processes. Analyzing this map can help you develop a more efficient future-state case picking algorithm.

As much as possible, create a picking process that allows for one continuous forward movement, with no need to backtrack or zigzag. Three concepts are helpful:



*A Kanban card placed at the par minimum point lets staff know when to reorder supplies.*

*Source: Surgical Directions.*



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**Organize supplies based on picking order.** Stocking locations should be arranged by product category (drapes, disposables, sutures, etc). Within each category, arrange items by service line. For supplies that come in several sizes, organize items from small to large, going from left to right.

**Structure pick list cards based on supply order.** Pick list cards should list items in the order in which they are stocked in storage areas. Optimally, locator codes are sequential, either numerically or alphabetically.

**Make labels work for staff.** Shelf labels should include rack, shelf, and bin codes. Item labels should include the item number, product description, vendor name, catalog number, and reorder point (including the par and min/max levels).

**Make item codes intuitive.** If a sponge comes in sizes 1, 2, and 3, item codes should be, for example, SPG-1, SPG-2, and SPG-3 (not SPG-362, CJ7TX, and U-76HS).

Better supply logistics will not only make picking more efficient, they will make restocking easier and allow staff to locate items quickly in urgent situations.

### **Preference cards play key role**

Preference cards can have a significant impact on efficiency. Pick lists are generated from preference cards, so inaccurate preference cards increase the time staff spend picking supplies.

Picking mistakes cause the circulating nurse to spend excessive time outside the OR and can extend case times. The need to return unused supplies to storage incurs additional labor costs. In addition, "artificially low" stocks can trigger unnecessary orders. Staff reorder supplies, not knowing that items will be returned to inventory later that day or the next morning.

Preference cards require standardization and consistent upkeep. Audit cards frequently for unused or rarely used items. As part of this process, ask surgeons to review and sign off on their preference cards at least annually.

In addition, create a process for updating preference cards on an ongoing basis. Accurate preference cards improve efficiency and surgeon satisfaction while decreasing patient risk.

### **Data integrity is important**

All the strategies discussed above depend on accurate and usable materials data. In hospitals with a poorly maintained materials management information system (MMIS), several problems can hinder efforts to streamline the supply chain:

**Lack of uniform category codes.** When category codes are not used consistently, it is difficult to identify product standardization opportunities. Create a uniform and accurate process for applying category codes.

**Duplicate items.** When the same item is listed in the MMIS under different names and codes, it is hard to analyze utilization and establish accurate par levels. This problem is often worse in large health systems with multiple legacy systems.

The solution is to establish uniform naming and coding conventions for supply items.

In addition, restrict the number of staff members who have the ability to add new supplies to the master table. Create a documented process for entering new supply items, and train staff to use the process correctly.

**Discrepancy between information systems.** In many hospitals, MMIS item files do not match item names and codes in the electronic medical record (EMR). This leads to errors in case picking and supply reordering. Make sure the EMR file is updated frequently with feeds from the MMIS item file.

### **Create trust**

OR leaders may miss an often overlooked symptom of poor supply chain practices—lack of trust between their staff and materials management. OR staff are not confident that materials management will ensure adequate stocks. Materials staff do not trust the OR to manage supply levels and reorder points effectively.

Creating a streamlined supply system can help erase mistrust and foster cooperation. That will help all perioperative team members work together to meet clinical supply needs while achieving efficient business operations. ❖

*This column is written by the perioperative services experts at Surgical Directions ([www.surgicaldirections.com](http://www.surgicaldirections.com)) to offer advice on how to grow revenue, control costs, and increase department profitability.*