Managing allograft tissue is a challenge for a single facility. Developing a tissue management process for a health system takes the challenge to a new level. That was the situation facing the Moses Cone Health System, Greensboro, North Carolina, which has 7 surgical sites on 6 campuses.

During a Joint Commission periodic performance review (PPR) in 2007, Moses Cone identified 3 areas of tissue management needing improvement. The PPR is an annual self-assessment in which organizations assess compliance with Joint Commission standards. For any areas not in compliance, an action plan must be developed.

After the PPR, an Allograft Task Force was formed and set out on a 2-month project not only to address the PPR areas but also to fine-tune the entire tissue management process. The task force was led by Jennifer Zinn, RN, MSN, CNS-BC, CNOR, clinical nurse specialist for operative services. The result is a consistent approach that is also more friendly for the staff, says Sue Dotson, RN, BSN, MHA, executive director of perioperative services. A poster about the project was presented at the AORN Congress in March in Chicago.

These are steps Moses Cone took to strengthen its tissue process.

**Action plan**

The action plan covered the 3 areas identified in the PPR:

1. centralizing responsibility for checking Food and Drug Administration (FDA) status of tissue suppliers
2. backup alarm systems for tissue refrigerators and freezers
3. documentation of protocols for reconstituting tissue.

**Assigning responsibility**

The Joint Commission requires hospitals to confirm that tissue suppliers are registered with the FDA and to maintain a state license when required (TS.03.01.01 EP 3).

To bring consistency to the process, the task force decided to centralize responsibility in the system’s contract administration department, which also oversees the value analysis teams. The department’s executive secretary now acts as the gatekeeper, checking the status of all tissue suppliers on the FDA’s website (www.fda.gov/ cber/tissue/tissregdata.htm).

Suppliers must also fax or mail a hard copy of their registration annually, which is kept on file. The staff can access suppliers’ registration status easily using the hospital’s Intranet.

In addition, the vendor must provide information on FDA registration as part of the value analysis process for introducing new tissue products.
**Alarm backups**

The PPR found a few refrigerators did not have backup alarm systems connected to an outside source that would alert someone if the temperature went out of range. The Joint Commission requires that refrigerators, freezers, nitrogen tanks, and other equipment used to store tissues at controlled temperature have functional alarms and an emergency backup plan (TS.03.01.01 EP 10).

Every cryo freezer, freezer storing musculoskeletal products, refrigerator, and rooms where tissue is stored at ambient temperature is now connected to a temperature monitor and alarm system with backup. (The Joint Commission does not require continuous temperature monitoring or alarm systems for tissue stored at room temperature.)

Two quality checks are performed: a daily check on temperatures and a quarterly check of the alarm systems, both documented in a quality control temperature log.

**Product protocol**

The third PPR finding was the most demanding—the hospital must track and identify materials used to prepare or process tissues, with instructions used in the preparations, including lot number and expiration dates.

A dizzying array of methods is used for preparing tissues. Some simply require preparation with normal saline, while others require multiple steps and types of solutions.

“It used to be that when you were asked how you reconstituted something, you always said ‘per manufacturer’s instructions,’” Zinn notes. “The Joint Commission says that is no longer okay. We have to show what solution was used, including the lot number and expiration date” (TS.03.02.01 EP 2). Jaws dropped when the task force learned what was expected. But the group set to work and developed the Product Protocol for Allograft and Graft Tissue, which has a table listing all tissue products with columns for:

- vendor
- product
- reconstitution method
- storage area and temperature
- tissue type.

**Staff-friendly resources**

One task force goal was to create a “one-stop shop” of resources the staff needs to carry out the tissue policy. The solution—post the policy on the health system’s Intranet and provide links to key documents. Now the staff simply opens the policy and clicks on the links to pull up resources such as the product protocol table and temperature logs.

New computer screens were created in the perioperative information system (Picis) to make it easier to document tissue and reconstitution of tissue in the patient record. Nurses use drop-down menus to click on the tissue vendor, the product, and product protocol, entering free text to record the solution lot numbers and expiration dates.

**Automating tissue tracking**

There are plans to take computerized tissue tracking further. The coming upgrade to Picis 8.0 will enable tissue data to be entered in the system when the tissue is received. The information will then be available for electronic
documentation, making it easier to trace tissue in case of a supplier recall or an adverse event.

The Joint Commission requires the ability to trace tissue bidirectionally from the supplier to patients and vice versa, which is cumbersome and error prone with paper records.

The Picis upgrade will also make nursing documentation easier.

“Eventually, all of our tissue products will be available to our OR nursing documentation,” Dotson says. “The nurses will just have to find the product, click, and all of the required information from the tissue log and product protocol will be entered into the patient’s record.”

**Further fine-tuning**

The project was an opportunity to fine-tune other aspects of tissue management.

The tissue log was refined after the task force discovered some columns could lead to ambiguity. For example, in the column labeled “Received at recommended storage temperature,” it wasn’t clear what should be entered. Staff asked, “Do you enter the temperature? A checkmark? Does the checkmark mean the temperature was checked or simply that someone had looked at the package?” The column was changed to add a Y and N, which must be circled.

An educational rollout helped get everyone up to speed on the new processes. In addition to in-services, the task force posted a PowerPoint about tissue management and created Family Feud and Jeopardy games to inject a little fun and reinforce concepts.

The task force, which met every 2 weeks at first, currently meets quarterly to keep up the momentum and to further refine the process. Every meeting ends with 5 or so talking points for task force members to take back to the staff, keeping the focus on safe tissue management.

—Pat Patterson