



Clinical Update

Atrium Medical Corporation

5 Wentworth Drive, Hudson, New Hampshire 03051

Phone (603)880-1433 Fax (603)880-6718

www.atriummed.com

Saving Time and Money With Chest Drainage

Caring for patients who require chest drainage has become quite routine for nurses who do it everyday. But in today's healthcare climate, it is important to continually review equipment, supplies, and procedures to see if there are new features, technologies, or products that will save nursing time. Saving time is saving money. What is nursing time worth? According to a recent article in *Nursing Economic\$* (see summary on back), nursing time can be calculated at one cent per second. Thus two minutes of time costs, on average, \$1.20. Five wasted minutes every day is \$1095 per year per nurse. Here are some time-saving features and cost-saving approaches for you to consider when evaluating chest drains and related equipment and supplies for your facility.

Wet or Dry Suction

In the 16 years since the dry suction regulator was introduced to chest drains, these dry suction units have gained widespread acceptance for a number of reasons. They provide the protection of regulated suction that maintains consistent negative pressure within the system regardless of pressure changes in source vacuum or in the patient's chest so that nurses don't have to continually spend time adjusting the suction level on the drain to maintain a constant level in the chest. They allow a higher level of suction to be applied to the pleural space than water-filled suction control chambers provide so nurses don't have to spend time modifying the drain to achieve these higher levels. They simplify chest drain set-up — it's easier and quicker to simply dial in a level of suction instead of filling the suction control chamber to the desired level with sterile fluid.

Dry / Dry Chest Drains

A couple of years ago, completely dry drains became widely available. These units require no water using the dry suction regulator and a mechanical one-way valve in place of a water seal chamber. These units are timesavers because no water is required during set-up (water is optional for air leak detection), and they provide knock-over protection. If the unit gets knocked over, simply return it to the upright position and continue with drainage. You don't have to spend time replacing water that can spill between chambers in some other chest drains if they tip.

Pre-packaged Water

For two years now, Atrium has provided premeasured sterile water in the packaging of their family of dry suction and dry seal

chest drains. No longer do nurses have to get a bottle of sterile fluid — typically stored in a different place — to set-up a dry suction chest drain or take time to measure just the right amount of fluid to pour into the water seal. Instead, just twist the top off the water ampoule provided with the drain and empty into the chamber.

Procedure Kits

Health care organizations are constantly negotiating with equipment suppliers to get the best possible price. At the bedside, however, the best "price" does not always translate to the lowest "cost." Is it cheaper to buy the components of a kit individually instead of buying the pre-assembled kit? Absolutely. That's because when you buy a kit, you are not only buying the components, you are also paying for the labor to collect it into a kit, package it in one simple container and sterilize it. But the true cost to an organization is not reflected in the price tag.

If your organization is thinking of eliminating kits or doesn't think a kit is needed for a procedure such as chest tube insertion, think about how many minutes it would take the average nurse to collect each supply necessary for the procedure. Be sure to evaluate this aspect when considering kits from different manufacturers as well as "home-grown" kits that are assembled by a hospital's sterile processing department. The more items included in the kit, the more cost effective it becomes. Individual items needed in place of a kit or to supplement a kit are rarely stored near each other on supply carts or in clean utility rooms. Syringes may be in one place, sterile gauze in another, and scalpel blades in yet another storage area. If it takes a nurse just three additional minutes to collect all the supplies necessary to do the procedure, you've already lost \$1.80 in perceived savings — and that's less time for the nurse to spend in direct patient care.

Keep in mind, too, that kits are set-up so that the equipment is packaged in the order in which it will be used. The packaging helps streamline the procedure because the person doing the procedure doesn't have to stop and think, "What do I need to do, or open, or look for, next?" The clinician also doesn't have to worry about forgetting something and interrupting the procedure or breaking sterile technique to retrieve the missing item. Additional dollars can be saved by increasing the clinician's efficiency at the bedside. Realistically, you could estimate that not using a kit for chest tube insertion, using a poorly designed kit or one that does not contain a majority of the items required for the procedure, actually "costs" extra nursing time — which is likely to be significantly more than the "price" savings on a per-procedure (or per-kit) basis.

Remembering that the cost of using an item is not equal to its price tag will help you contribute to equipment and supply purchasing decisions that help improve care while improving the bottom line, too.

Clinical Update is an educational newsletter provided by Atrium Medical Corporation and is edited by Patricia Carroll, RN,BC, CEN, RRT, MS.

Check Your Knowledge...

Q. Are alcohol-based hand sanitizers as good as washing with soap and water if the hands are not visibly soiled?

Answer on other side

In The Literature

All Hands on Deck

The current issue of *Nursing Economic\$* provides a detailed analysis of the cost of hand hygiene regimens. It's an important study because these authors provide reliable data that once again support the key difference between "price" and "cost." This investigation compared hand hygiene practices in two NICUs in New York City. For the first 12 months, each unit used soap and water exclusively; for the next 12 months, a waterless alcohol-based rub was used, supplemented by soap and water. While the alcohol-based rub's **price** was nearly \$750 per 1000 patient days more than the soap, the **cost** was less because less nursing time was spent for hand hygiene.

Source: Ciminott JP, Stone PW, Larson EL: A cost comparison of hand hygiene regimens. *Nursing Economic\$* 2004;22(4):196-199, 204.

Read the Health-Care-Associated Pneumonia Guidelines Carefully

An article by a leading expert in the August issue of *Respiratory Care*, the scientific journal for the American Association for Respiratory Care, warns readers to read the CDC's new guidelines on pneumonia with great care. The Web site, <http://www.cdc.gov/ncidod/hip/pneumonia/> provides links to two documents, one from March, 2004 and one from May, 2004. This review points out that significant changes were made in those two months. Further, the author reviewed research on which recommendations are based and cites six areas in which there is questionable evidence to support recommendations as stated. This article is a must-read for all nurses caring for patients on ventilators to enhance their understanding of these new guidelines.

Source: Hess DR: Guidelines for preventing health-care associated pneumonia, 2003: buyer beware! *Respiratory Care* 2004; 49(8):891-893. Also, guidelines are published in *Respiratory Care* 2004;49(8):926-939.

Perspectives from Patricia Benner

The current issue of the *American Journal of Critical Care* contains a thoughtful analysis of nursing classification systems from Patricia Benner, known for her groundbreaking work describing how nurses acquire knowledge with experience in clinical practice. Benner makes a strong argument in favor of an approach to classification that focuses on and credits key aspects of nursing practice such as clinical judgment, clinical knowledge development, and the integrated synthesis of knowledge, skills, and thought that is the foundation of critical care nursing. While there is strong debate about the use of nursing diagnosis and the practical application of theoretical frameworks in bedside practice, all nurses will benefit from reading this nursing leader's perspective.

Source: Benner P: Designing formal classification systems to better articulate knowledge, skills, and meanings in nursing practice. *American Journal of Critical Care* 2004; 13(5):426-430.

On the World Wide Web...



CDC Hand Hygiene

<http://www.cdc.gov/handhygiene/>

This resource page provides handy links to the CDC's current Guideline for Hand Hygiene in Healthcare Settings, materials to promote hand hygiene in your facility including a full PowerPoint presentation complete with lecture notes, and a link to the Hand Hygiene Resource Center (HHRC), a project of the Hospital of St. Raphael in New Haven, CT. This is the home base of John Boyce, M.D., lead author of the guidelines. The HHRC provides additional slide programs, an image library, and other helpful resources.

Morbidity and Mortality Rounds on the Web

<http://webmm.ahrq.gov/>

If you're not already signed up for the e-mail alert that announces when new cases are posted on this site, you can do it now. This innovative site from the Agency for Healthcare Research and Quality is the nation's first Web-based patient safety resource and journal. Each month, five new cases are posted. Each highlights an error or patient safety issue and is written so as to analyze how the error or near-error occurred and how situations like it can be prevented in the future. A search of the site reveals 21 cases involving nursing care. You can also register for the site, which allows you to post to the user's forum.

Healthy People 2010

<http://www.healthypeople.gov>

Even if you don't work in community or public health, there is plenty of useful information here at the home base for the Healthy People 2010 program. It follows on Healthy People 2000, which was set out as ambitious health goals for the U.S. by the Surgeon General back in 1979. Healthy People 2010 sets out two overarching goals: to increase quality and years of healthy life for all Americans and to eliminate health disparities among population groups. Explore this site and you'll find great consumer health resources under "Be a Healthy Person," the top ten leading health indicators for the next decade, and links to a wealth of Web sites related to key factors, including state sites dedicated to implementing the plan.

Check Your Knowledge...

A. In a word, yes. The latest handwashing guidelines from the Centers for Disease Control support the use of alcohol-based hand rubs because their convenience address the obstacles of poor access to sinks that confront many health care professionals.