



Clinical Update

Atrium Medical Corporation

5 Wentworth Drive, Hudson, New Hampshire 03051

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

www.atriummed.com

Mobilizing Patients With Chest Drainage

One of the first things taught in Nursing 101 is how to help patients get out of bed and walk. Ambulation is as important today as it was in 1957, when textbooks instructed that "long periods of bedrest are believed to be detrimental both physically and psychologically¹."

Ambulating Surgical Patients

Since JCAHO began to score hospitals on their pain management programs in 2001, postoperative pain management has gotten a great deal of attention. In cardiothoracic patients, adequate pain control allows patients to take in deep breaths and cough, which reduces the risk of pneumonia. When pain is managed, patients are more likely to get out of bed and walk around, reducing the risk for DVT, ileus, and other complications associated with bedrest.

Video-assisted thoracic surgery (VATS) is gaining popularity because the procedure traumatizes less tissue, resulting in less acute pain post-operatively. Early ambulation coupled with psychosocial support also reduce pain². Less pain means lower opioid analgesic doses, which reduce drug side effects, again making it easier for patients to get up and walk.

However, VATS is not always an option. In a study that examined fast-tracking 90 patients who underwent Ivor Lewis esophagogastrctomy, researchers were able to reduce length of stay and improve patient satisfaction without increasing mortality and morbidity³. The key to achieving these outcomes was early and frequent ambulation, beginning on POD 1 while chest tubes were still in place.

Another study examined the use of a continuous local infusion of bupivacaine to reduce pain and the need for opioids following median sternotomy⁴. Compared with the control group, patients in the bupivacaine group were able to ambulate a day sooner than those receiving traditional patient- or nurse-controlled opioid analgesics. Length of stay was reduced by 1.5 days in the local anesthetic group, once again confirming that the sooner patients get up and walk, the less time they will spend in the hospital. According to the American Hospital Association's 2004 Health Forum report⁵, the national average cost to the hospital for one in-patient day is \$1289.87. Thus, reducing length of stay by 1.5 days saves a minimum of \$1934.

Mobile Drains Save Money

As Hazelrigg notes, local tissue trauma and drains are a leading cause of postoperative pain in thoracic surgery patients². Thus, a

lighter weight chest drain should reduce pain, enabling earlier ambulation, which results in shorter lengths of stay. The average chest drain with a collection chamber half-full, water seal chamber, and suction control chamber filled to -20cmH₂O, weighs 6.43 pounds. Replacing the "wet" suction control chamber with a dry suction system lowers the average weight to 5.42 pounds. Imagine the tension placed on a chest tube by a 5-pound bag of sugar, and you can see how a standard drain's weight can make it painful for the patient to move. Tubing connected to the chest tube adds more weight, but this is the same for all standard drains.

The Express Mini 500 drain was developed to enhance mobility for patients who have had thoracic surgery and will not be on bedrest for more than a day or two (ideally, much less). The drain does not require water, because of its dry suction control and mechanical one-way valve that replaces the water seal. The collection chamber has a 500cc capacity, and it can easily be drained or replaced when full. Its weight with the collection chamber half-full is only 1.40 pounds. Another manufacturer's "dry drain" that does not require water weighs 5.10 pounds.

The Mini mobile drain is designed to be "worn" with straps that go over the shoulder or around the waist to keep the drain in a gravity dependent position. This allows patients to get up and walk without needing help to manage the drain. The Express Mini 500 also has a hook so that the drain can be hung from the bed frame. In addition, when the Mini mobile drain is used, the connecting tubing can be shortened, further decreasing the drain's weight.

Three Key Elements

In review, early ambulation is the key to fast-tracking cardiac and thoracic surgery patients. In order to accomplish early ambulation, factors such as time to extubation and length of ICU stay are important, but pain control is critical. Pain reduction and faster recovery can be accomplished by using less invasive surgical methods; opioid-sparing analgesia techniques; and small, lightweight chest drain technology. The cost of this technology is a bargain, saving the average hospital \$645 per patient when length of stay can be trimmed by just one-half day.

Using technology to save money, improve patient satisfaction and outcomes — what could be better?

Sources:

1. West JP, Keller MW, Harmon EH: *Nursing care of the surgical patient*. 1957. The Macmillan Company. New York.
2. Hazelrigg SR, Cetindag IB, Fullerton J: Acute and chronic pain syndromes after thoracic surgery. *Surgical Clinics of North America* 2002;82(4):849-865.
3. Cerfolio RJ, Bryant AS, Bass CS, Alexander JR, Bartolucci AA: Fast tracking after Ivor Lewis esophagogastrctomy. *Chest* 126(4):1187-1194.
4. White PF, et al.: Use of continuous local anesthetic infusion for pain management after median sternotomy. *Anesthesiology* 2003; 99(4): 918-923.
5. Health Forum: *Hospital Statistics 2004*. Author. Chicago.

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. Which postoperative complication resulting from bedrest is now under study by JCAHO, with performance standards to be piloted in late 2005?

Answer on other side

In The Literature

Health Literacy: A Critical Assessment

With earlier discharges and an increasing focus on outpatient and home care, patient education is the key to successful outcomes. However, a must-read article in the current issue of the *Journal of Infusion Nursing* points out that 48% of all Americans have limited literacy skills, and 46% percent are functionally illiterate when dealing with the healthcare system.

Health literacy is different from literacy. Health literacy requires the ability to obtain, process, and understand basic health care information and services in order to make appropriate health care decisions. It's not enough to be able to read a booklet or read a prescription label — the patient must be able to act, whether following a special diet before a diagnostic test, taking medicines in a certain order, or following printed instructions.

This article presents a concise overview of the challenge of health illiteracy, and provides 13 excellent Web sites with additional information on how to meet patients' need for actionable information.

Source: Bass L: Health literacy. *Journal of Infusion Nursing* 2005;28(1):15-22.

Patient Safety Alerts

How does your healthcare system handle concerns about patient safety? You may want to review your system after reading a report from the 2004 National Patient Safety Congress reported in the current issue of *Nursing Economic\$*. Virginia Mason Medical Center in Seattle adopted the Toyota Production System for continuously improving safety, quality, and efficiency.

The heart of the system is bringing managers to the bedside for an immediate analysis when a safety issue is identified, rather than waiting to discuss problems at the next executive meeting. Managers are accountable for safety since they are empowered to take instant action. In addition, there is a 24-hour managers' hotline to ensure a prompt response in addressing any threat to patient safety.

Source: Furman C: Implementing a patient safety alert system. *Nursing Economic\$* 2005;23(1):42-45.

Integrating Research and Practice

Many hospitals are working toward Magnet recognition, and meeting the research criteria is a challenge for a number of institutions. An article in a recent issue of *Nursing Management* shares North Carolina Baptist Hospital's experience in establishing a Nursing Research Committee. A vision and mission statement were written, determining the role the committee would play in conducting original research and disseminating published research findings to the staff to support evidence-based practice. This article has practical tips that can be applied in a variety of settings.

Source: Weeks SK, Satusky MJ: Demystify nursing research. *Nursing Management* 2005;36(2):42-43,45-47.

Meetings or Sneakers?

The current issue of *MEDSURG Nursing* features a column by Karlene Kerfoot that provides food for thought for nursing leaders who are frustrated by meetings that drain energy rather than inspire people. Kerfoot describes the concept of "sneaker time" as the time spent after ineffective meetings to discuss unfinished issues due to a lack of clarity at the meetings. She offers four suggestions to reduce this "sneaker time" (which is not to be confused with managing by walking around) and increase everyone's efficiency.

- Start with a jolt. People need a wake-up with an alarming statistic or piece of information that will make them care about the

topics being discussed and drop what they were doing before.

- Communicate with stories. Stories can be used to tell technical and social aspects of an issue; properly structured, they demand attention and are remembered long after the meeting.
- Mine for conflict. Find out what issues the group has decided are off limits, and bring them up front so they can be managed head-on.
- Advocate for the audience. Great leaders see issues through the eyes of others — always remember that meeting attendees need to know "what's in it for them."

Source: Kerfoot K: On leadership. The leader's challenge: meetings, spiritual energy, and sneaker ratio. *MEDSURG Nursing* 2005;14(1):80-81.

On the World Wide Web...



What is an Appropriate LOS?

<https://www.excellusbcbcs.com>

Excellus BlueCross BlueShield finances and delivers health care services to more than 2 million people in Upstate New York. At their Web site, click on Public Policy and Research and then scroll down to the September 2002 report. Click here to get the full report analyzing a multitude of factors affecting LOS in acute care hospitals, comparing them to national benchmarks.

DVT Update

<http://www.outcomes-umassmed.org/dvt/>

DVT.org is a Web site published by the Center for Outcomes Research at the University of Massachusetts Medical School. This site provides a Best Practices manual, and a link to the recommendations/ guidelines from the American College of Chest Physicians. There is also link to a PowerPoint presentation based on the ACCP guidelines.

DVT for Patients

<http://www.dvt.net>

Ads describing "Killer Legs" have been running in general interest and women's magazines for a number of months. This Web site, established by Sandofi Aventis, provides additional information for consumers. The site covers what DVT is, risk factors, symptoms, and ways to prevent DVT. PDF files are available for download as patient education materials, but be aware that reading levels are high.

Check Your Knowledge...

A. JCAHO has joined with the National Quality Forum to develop and standardize performance measures for the prevention and care of deep vein thrombosis. DVT affects 2 million people per year, resulting in 600,000 hospitalizations and 100,000-200,000 deaths — more than breast cancer, traffic fatalities and HIV combined.