



Clinical Update

Atrium Medical Corporation

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Answers To Your Questions About Chest Drainage

This month, we're going to have a little fun providing answers to four top questions that regularly come in to Atrium's Customer Service Hotline:

Dear Atrium,

The surgeons I work with sometimes want suction levels of -30 to -40 cmH₂O. Is there some way I can provide more suction pressure to the chest with a "wet" suction control drain?

Signed, Wanting More in Wisconsin

Dear Wanting,

Yes, you can. If you occlude the holes in the gray vent plug at the top of the suction control chamber, the vacuum from the wall will be transmitted directly to the patient. Be sure that everyone caring for the patient understands which vacuum regulator is attached to the chest drain, and that the pressure set on the regulator is being transmitted *directly* to the patient's chest! If someone wanted to suction a patient's airway, and mistakenly turned up the wrong wall vacuum regulator, accidentally applying -100mmHg to the patient's chest, even Martha Stewart would agree that would not be a "good thing."

Remember, too, that wall vacuum is measured in mmHg, and chest drain vacuum is measured in cmH₂O. You can get special plugs for the suction control chamber and a pressure conversion chart from Atrium.

Dear Atrium,

So what's the deal with this stopcock on the suction tubing? Some people say it should be open, and others say it should be closed. Why is it even there?

Signed, Confused in Connecticut

Dear Confused,

The stopcock was originally placed in the suction tubing of Atrium drains to solve a common dilemma: when two drains were attached with a Y-connector to the same vacuum regulator, the bubbling in the suction control chamber of one drain always seemed to be greater than the other. The stopcock was added to enable nurses to equalize the bubbling between the two drains. If your patient has only one drain, you can either leave the stopcock open all the time, or you may use it to regulate bubbling in the suction control chamber. It should stay open any time suction is discontinued so the patient can walk around the unit or go to a different place in the hospital, such as radiology.

Dear Atrium,

How do I dispose of the chest drain after the chest tube is removed? I think it should be red-bagged; a colleague says it can go in the regular trash. Which is it?

Signed, Red-bag or Red-faced in Redmond?

Dear Red,

Chest drain disposal depends on a number of factors. The most important is your hospital's policy and procedures for medical waste disposal, which will reflect any community or state regulations. Sometimes procedures differ depending on whether the drain is filled with blood, or was used for just a simple pneumothorax. If the drain is filled with blood, there are a few things you can do to keep the blood contained. Turn the stopcock on the suction tubing (if present) to the off position to close the tubing. Tie a knot in the patient tube and suction tube so blood can't drain out. Tape over the positive pressure relief valve.

Dear Atrium,

What happens if the chest drain gets knocked over? I work with some klutzy people from time to time, and I always wondered what the best nursing action is if the drain topples over.

Signed, Graceful in Georgia

Dear Graceful,

If the drain is knocked over, just set it upright immediately. Take a look at the chambers. Pay special attention to the water seal chamber and make sure there is enough fluid since this chamber provides the critical one-way valve to let air leave the chest and not re-enter. If a little blood spills over into the water seal chamber, the drain will still work. You can add or remove fluid through the grommet on the front of the drain to keep the level at the 2cm "fill to here" mark. Check the water level in the suction control chamber (if you're using a traditional drain) and add or remove water as needed. If you're concerned about a lot of bloody drainage in the water seal, you can replace the drain.

If knock-overs are a regular problem in your unit, you can prevent them by using a Drain-Caddy™. The Drain-Caddy hooks onto the bottom of an IV pole, and the drain simply slides into this metal holder. This makes it easier for the patient to walk around with the chest tube in place, and it's impossible to knock the drain over when it's in the caddy. Alternatively, you might consider a dry control drain, such as the Express™ Drain, which has a mechanical water seal (instead of water) and knock-over protection in its design. For more information on either the Drain-Caddy or the Express Drain, contact Atrium or your local Atrium sales representative.

Source: Carroll P. Chest tubes made easy. *RN* 1995;58(12):46-48,50,52-56.

Check Your Knowledge...

Q.

Will the bellows go in and out with patient breathing on the Oasis dry suction chest drain?

Answer on other side

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

In The Literature

What's Your Med Error IQ?

A recent article in *Nursing Management* examines the problem of medication errors in hospitals and how managers can work to reduce the number of errors through a comprehensive, well thought-out program. The article covers many important issues, but here's a sample: the keys to a good medication system.

- Accurate patient information that guides prescribing and monitoring and notes allergies
- Easy access to up-to-date, accurate drug information
- Packaging, labeling and names to easily distinguish one drug from another to prevent mix-ups (Are you certain your unit secretary could tell the difference between Cerebyx and Celebrex if handwriting was hard to read?)
- A system that requires bedside caregivers to follow a pharmacy limited-dispensing, unit-dose system
- Good lighting and minimal interruptions while administering drugs
- Continuous education about error-prevention strategies, new medications or medications that are likely to cause errors
- Patient education
- Quality assurance and risk management

These tips are only one aspect of reducing med errors. The article addresses many more.

Source: Cohen H: Shrinking medication errors down to size. *Nursing Management* 2001;32(10):25-30.

What Makes Nurses Stick to a Magnet Hospital?

In 1982, the American Academy of Nursing set up a task force to identify and describe variables that attracted and retained well-qualified nurses who promoted quality patient care by establishing excellence in nursing services. Hospitals that accomplished this were called "magnet" hospitals. Today, a formal program recognizes these magnet facilities, and the program has been extended to health care facilities and health care systems in addition to individual acute care hospitals. For more information, see the Web links box.

In a recent article in *Nursing Economic\$*, researchers evaluated how the characteristics of magnet hospitals impact nurses' perceptions of qualities in the workplace. The researchers surveyed staff nurses about their perceptions of the following aspects of their workplace: autonomy, control, and physician relationships; faith and confidence in peers and managers; emotional exhaustion; job satisfaction; and the quality of care.

The researchers found that autonomy, control over their environment and collaboration with physicians had a positive impact on staff nurses' trust in management and also influenced their job satisfaction and their assessment of patient care quality. In particular, trust in management and a lack of emotional exhaustion are critical to nurses' perceptions of job satisfaction and quality care.

This article has a comprehensive review of similar studies. It also provides nurse leaders with information about the characteristics that are important to staff nurses and how nurse leaders can create work environments that will increase nurses' job satisfaction. While other factors are also noted, keeping your staff satisfied will go a long way in reducing turnover in this time of staff shortages nationwide.

Source: Laschinger HKS, Shamian J, Thomson D: Impact of magnet hospital characteristics on nurses' perceptions of trust, burnout, quality of care and work satisfaction. *Nursing Economic\$* 2001;19(5):209-219.

On the World Wide Web...



For more information about magnet hospitals and to learn how you can apply to get your hospital considered for recognition by the Commission on Magnet Programs, visit the web site at: <http://www.nursingworld.org/ancc/magnet.htm>.

There's a new journal you can access online for free – Respiratory Research. Its focus is mechanism-defining basic research relevant to all areas of respiratory disease with a special emphasis on genetic, biochemical and cellular aspects of pulmonary diseases. The goal of the editors is to link basic science to respiratory medicine. See for yourself at <http://respiratory-research.htm> [note: there is no www in the address]

Want a regular e-newsletter telling you about articles in the nursing literature or more than 23 other specialty areas? Look no further than the nursing Web site for MDLinx. What started out as a simple headline service has expanded to include full search and personalization options. Check it out at <http://www.nurselinx.com>

Happy Anniversary Clinical Update!

This issue marks the beginning of our fifth year providing you with new information about chest drainage, summaries of articles in the nursing literature and helpful Web sites every quarter. We are happy to provide you with this regular newsletter and welcome your feedback. If you have a particular question about chest drainage, or would like to see a topic addressed in a future issue, feel free to write to our editor, Patricia Carroll RN,C, CEN, RRT, MS at edmed@home.com or call Atrium Medical Corporation's customer service line at 1-800-5-ATRIUM (528-7486). Remember, the subscription is free, so if a colleague of yours would like to start a subscription, just call.



*Your friends at Atrium wish you and yours
a happy and safe holiday season!*



Check Your Knowledge...

A. The bellows on a dry suction drain serves the same purpose as bubbling in a wet suction drain. The bellows expands as source vacuum is increased. When the orange bellows reaches the indicator on the front of the drain and your suction source is set to > -80mmHg or higher, you know you have applied enough source vacuum to achieve the suction level dialed in on the drain. The bellows has nothing to do with monitoring breathing. Only the water seal changes with pressure changes associated with breathing.