

C.M.I.A. NEWSLETTER

Central Coastal Chapter

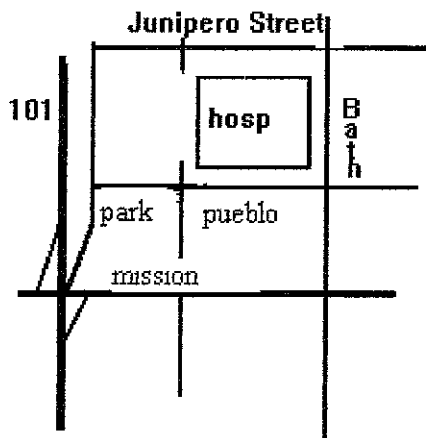
P.O. Box 360

Camarillo, Ca 93011

May, 2007

Volume 13.05

The May meeting will be held at Santa Barbara Cottage Hospital on Tuesday the 22st in the Cancer Foundation conference room. Dinner is at 6:30pm with the monthly meeting to follow at 7pm. Please RSVP to Stan McNally at (805) 682-7300.



Directions: Exit 101 at Mission Street. Turn North toward mountains and make a left at the 2nd light (Castillo Street) The hospital is 3 blocks up. Park in the hospital lot on the left at Pueblo Street. Addi Enter the hospital from Castillo Street Take the corridor to the 2nd elevator lobby, go left around the elevators and turn right. Pass the second elevator lobby is a double door on your right. Enter and make an immediate left. The conference room is at the end of the hall.

Becky Bedel, our President, will be giving a training class on ventilators.

Randy Cook will be giving us the update on the April CMIA Board of Directors meeting.

News off the Net: Latest information on Medical X-rays from the FDA courtesy note from Paul Kelly: <http://www.fda.gov/cdrh/radhealth/products/medicalxray.html>. Good informational site.

Job Openings: Brotman Medical Center in Culver City, California is seeking a qualified BMET. Candidate should have an Associate of Science, Applied Science, or military training with a minimum of 3 years experience in a hospital setting. Experience with anesthesia, ventilators, ultrasound, or first call diagnostic imaging desirable. Salary commensurate with experience. Interested candidates please send resume to mike.barragan@brotmanmed.com or fax to 310-202-4719 Posted April 17th

BMET III's for Field Service Positions -- Southern, CA/Los Angeles, CA Area & NY/Metro Area

Requirements should include the following:

- Must have an AAS or Bachelor Degree in Biomedical Engineering, Electrical Engineering or a related field.
- 5 + years experience repairing and maintaining general biomedical equipment within medical/healthcare facilities.
- Able to perform PM's and Safety Testing
- Provide in-service training
- Evaluate new equipment purchases · Supervise others (PM Team)
- AAMI Certification Preferred

Additional Notes:

Clinical Engineering Background Preferred

Valid Driver's License

Own Vehicle

Candidates from Southern, CA area preferred

If interested please contact: Lynn Fernandez, HR Recruiter, lfernandez@modmedsys.com

Study: iPods Affect Pacemakers Research Into Link Spearheaded By Teenager

DENVER -- A new study claims iPod music devices can interfere with the function of pacemakers. The study, presented at the annual Health Rhythm Society meeting in Denver, said pacemakers in half of all the patients tested malfunctioned in some way when iPods were held to their chests. In addition, iPods caused significant electromagnetic interference in about one-third of those pacemakers. "If the pacemaker is inhibited by the iPod and the patient does not have their own rhythm, they can be in serious problem," said Dr. Krit Jongnarangsin, a co-author of the study. Jongnarangsin's co-author, Jay Thaker, of Okemos, Mich., first approached him about a possible link. Thaker, 17, is a senior at Okemos High School and has been interested in connections between pacemakers and electronic devices for several years. His interest in iPods was sparked when a pacemaker-wearing patient of his father, a doctor, asked if it was safe to be around an iPod. "We took patients from a pacemaker clinic, got consent, and we put the pacemaker programmer on them to view what was going on inside the pacemaker on a screen," Thaker said. "And then we took the iPod and held it about two inches above the implant site of the pacemaker." **Thaker and others involved in the study found various problems with the pacemakers. One device stopped functioning briefly and others picked up iPod signals and put them in their memories.** About 100 patients were tested last year. Thaker and Jongnarangsin admitted that iPods are not widely used by people with pacemakers. But they said patients could be affected if they're in close contact with those using the devices. iPod interference is not considered life-threatening, but those involved with the study would like to establish a minimum safe distance between iPods and pacemakers.

Unusually High Philips M1008 NIBP reading:

Just throwing this out to the group; we have received complaints about M1008B taking NIBP pressures that were a good **80-100 mmHg off diastolic and systolic**. We have checked the modules after each complaint and they are working fine, and then we don't hear of any complaints. Then in about 3-6 months later it crops up again, again intermittent and then goes away. We have attributed this to a user problem and followed up with education, but one of the complaints is from someone with a MD after their name, and they can't be wrong, or not using the equipment incorrectly. So, I advised him I will ask fellow biomed's if they have heard of this problem. Ronald A. Hulin II, CE,CBET

Suppose that it is not the module, but the peripherals and/or the environment. Such as the patient squeezing the NIBP cuff or lying on it during the determination? Another off the wall possibility is EMI/RFI such as cell phone or portable two-way radio affecting the device. When this has happened have you ever been able to see it at the time, or capture all of what was in use at the time? This sounds like an interesting problem. Keep us posted on your solution. Walter K. Bordett, ME BME, CCE Biomedical Engineer

Just because they have an "MD" after their name doesn't mean they ..

1. Read the Operator's Manual.
2. Are qualified to *use* the equipment; prescribe its' use - yes, *use* it - not necessarily. That's why Med Techs exist.
3. Can't be wrong.
4. Can't set up and/or use the equipment incorrectly. I recommend asking him to show you what it's doing wrong while you observe him using it. Watch his setup technique, cuff placement, chosen cuff size, etc. Having said all that, 80 to 100 mm off is a *WAY* off rdondelinger

In the 1000+ modules that have gone through our depot repair center, We haven't come across any with such high erroneous readings you speak of. Before you "Tactfully" make your case with the MD, you must do your due diligence: Be sure go into the service mode and perform a calibration while in parallel with a mercury manometer as recommended in the manual. Also be sure to perform a leak test to be sure that it does not drop more than 6 mmHg in 60 seconds. All while using the same hose the staff user was using. If you do find any values that are outside the tolerances set, rule in/out the hose by using a known good one. Is this always the same module? If so, have you moved it to a different location/bedside/department without the staffs knowledge to see if it's always the same bed? David Wakefield Jet Medical Electronics Inc.

Given the fundamental hardware design of a NIBP monitor, there are a finite number of failure modes. That can generate a number that is too high. Most of these failure modes are actually due to improper usage.

Hardware failure modes:

- 1) Bad pressure transducer. (Fails as a short or open condition)

This means that the pressure value will be pegged to one end and will not change.

- 2) Software corruption: This is a flaw in the code of the detection algorithm typically caused by a corruption of the firmware in the unit. (Very rare but possible. Re-uploading the firmware/software will correct the issue.)

User Failures:

- 1) Wrong cuff size. This typically generates a linear shift of the systolic and diastolic values. If the cuff is too big the values will be lower than actual. If the cuff is too small the value will be much higher.

- 2) Placing the cuff over clothing. This will typically yield higher BP values.

- 3) Patients body type: A patient having large arms due to extra muscle or fat will generate different values. A patient with decreased muscle mass and fat can also generate values that differ from the actual BP.

- 4) White Coat Hypertension: A funny name that describes the problem. Some people are inherently fearful of medical facilities and practitioners. This fear does generate a large increase in the patient's BP values and heart rate until they are calmed down and reach a relaxed state.

This can almost double an individuals actual BP.

Jason A. Brookbank President Brookbank Biotech, Inc.

A couple of years ago I had consistent complaints of erratic NIBP readings in the Neonatal ICU on all of the modules. Our NIBP simulator usually showed no problems, but then I had several that only with the simulator would pump up and not deflate (and measure NIBP) normally. I sent 3 of these modules out to 2 different 3rd party repair companies (We didn't use Philips because all they would do was repair-exchange the modules at an expensive price) - Both times the modules came back and did the same thing with our tester. The Tester mfr. could find nothing wrong with our tester.

Finally Philips swapped out all 34 NIBP modules for free, and lo and behold, our NIBP problems went away! This does bring up a secondary sore point with me I don't know what other hospitals have done, but we used to have a sphygmomanometer setup at every ICU bedside, so that nursing could verify the NIBP readings. Those have ALL been removed, and the nurses now have to accept the NIBP readings as fact with no independent verification possible. Has this happened at other hospitals?? Bill Knight Sacramento

O.K. left a few pieces of information out, but this was only to find out if there was a problem out there I wasn't aware of. This is occurring in one of our surgical off-sites, in an O.R. on an anesthesia Machine and the monitor is a Philips M1204. We do PM's every 6 months, at which time the entire machine, monitor and modules are swapped out, and moved to another room. It is anesthesia that is complaining, and **this occurs during a certain breast procedure and only after they reposition the patient onto their side (and of course the cuff is lying between the patient and the bed)**. Once again the problem would then disappear without doing anything after the procedure. **The problem doesn't follow a particular module or monitor**. At this point I am just trying to eliminate the equipment as a culprit. From there I can address other issues such as perfusion to the arm during this procedure, advising using a thigh cuff, etc. The anesthesiologist is adamant that it's the equipment failing. I have not seen a failure such as this that fixed itself and then occurs at such a random schedule. In most cases failures occur and stay broken. Ronald A. Hulin II, CE,CBET

It sounds like a positional occlusion of the NIBP hose (kink in the hose) and/or excessive compression on the cuff from the body weight on the arm. (This will behave like using too small of a cuff and generate an increase in the systolic and diastolic values) Jason A. Brookbank

You might want your clinicians/nursing to talk to a "Clinical Specialist" at Philips. These are the Nurse educators for Philips, they know their stuff, and they speak "Nursesese". Call the response center phone number and ask for a Clinical Educator. Bill Knight

CMS Flatpanel Touchscreen Display Replacements:

In 2002 our medical center purchased over 100 flat panel touchscreen displays for the HP/Philips CMS monitoring systems. We bought ours from National Display Systems through Philips. I recently had a minor problem with one and wanted to send it in to NDS for repair and evaluation of the fluorescent backlight tubes (since it has been running pretty much 24 X 7 for 5 years).

NDS told me that these were out of support, and that they had 3 "similar" refurbished displays that they could sell us for \$1100. Philips refers support to NDS and can't currently come up with a part number and price for a replacement. I dread to hear Philips' cost, since we bought the NDS displays because they were about 1/2 the price of the Philips standard supplied displays. What are the rest of you doing about replacing these displays when they fail? Are you replacing the CCFL backlight tubes as they age? I found sources of tubes from DigiKey and CCFL Direct.com. Bill Knight Sacramento

My situation is identical to yours - I recently talked with Vartech <http://www.vartechsystems.com> who told me they can replace CCFL's and inverter boards. I haven't had them do any monitors yet, but you might call them. Dennis McMahon, CBET Clinical Engineering Virginia Mason Medical Center

Backlights for flat screens: Does anyone have a good source for the backlights and their associated power supplies used in flat screen monitors? Skip Tenny

4-star Electronics 1949-240-8500 ext 5206 Tom Crouse
Depending on what model you're using, try Sound & Light Electronics (["http://www.slelectronics.net"](http://www.slelectronics.net)). Click on "Monitor Parts" on the menu. They've got stuff for NEC, Mitsubishi, Viewsonic and a couple others. Mike Bereiter
LCD Part has everything you'll need. They're into replacing the actual tubes!
["http://www.lcdpart.com/index.html"](http://www.lcdpart.com/index.html)

EL Back Lights (Custom made) 800-680-5556 (METROMARK)
Inverters for EL lamps 818-869-0019 EXT 123 (JKL COMPONENTS CORPORATION / JOHNATHAN COLE) I have been replacing florescent tubes for years and the good part if you call them and give them the dimensions they will send a sample out for free. Average cost of a tube is about \$ 15.00. I buy them all the time. They carry the Nellcor inverters for the NPB-595 pulse oximeters. A \$ 28.00 repair part for a \$ 1,200.00 CPU board replacment (Inverter is on the CPU board).

Also get you an inverter kit so you can test the lamps. They have a universal kit you can buy that test many tube sizes. This way you can see if the tube you take out is bad. Sometimes inverters on the main boards go bad to. Common problem with some Nellcor pulse oximeters.
Douglas / MC

"EL" display OEM or 3rd party? I had a display go out on a Medtronic Physio Control LP12. Medtronic wants 1/3 the cost of a new defibrillator for the display. I was wondering if anyone knows of another source for the display. Thanks!! Craig

Jamco electronics cataloge is carring many displays now. Check out there web site. I found a Ohmeda 3760 display on there web site. <http://www.jamco.com>

Some interesting info for you on EL lamps

There is a company called Lumitex Inc <http://www.lumitex.com> that makes a replacement LED driver back light to replace a EL lamp. It uses fiber optic woven strands to transfer the light to the back of the display. The neat thing about this is you can swap the color of the LED for different colors for the back ground in the display. They have a sample kit you can play with if you want to see how it works. LED's last a lot longer than EL lamps do. Also easy to replace LED, just snap it out and snap a new one in. Read about on there web site about LEDs used to kills bacteria now on Beer taps in Bars. Not only does it light up the Budswiser logo on the pull tab it kills any bacteria in the surrounding area were the light hits. Technology for ya!! Douglas / MC

Flat Panel 3rd party parts source: For anyone interested, this is the company
It appears they have any component you'd need to fix an NEC flat panel.
<http://www.slelectronics.net>

Demagnetizing Surgical Instruments: Does anyone have any experience demagnetizing surgical instruments prior to cases? Our OR is experiencing problems when surgeons are performing microsurgery, and needles are sticking to stainless steel instruments

Here is a link to a company that may be able to help you with this They specialize in demagnetizing equipment, including surgical equipment. Hope this helps. "<http://www.em-chicago.com/Demagnetizers.htm>"

Your SPD department should be handling routine demagnetizing of Surgical instruments ...Ours has a *huge* ancient unit (about 16" wide by 8" tall)...a quick check on the Internet came across this: "<http://www.magmedix.com/products/measurement/demagnetizer.html>" Hope this helps! Paul DeLisle, CBET

Metric and units conversion website: <http://www.metric-conversions.org/>

Just wanted to share a very useful website with my fellow biomedes... J. Scot Mackeil
CBET Jordan Hospital, Plymouth Ma.

Philips ultrasound training:

We are looking to take advantage of Philips ultrasound training Can I get any comments from the list members who have had the training on the quality of the training? Steve Hilty

I was told, and since verified, that they will not teach any of the 'back end', of the unit. They called this the proprietary portion of the unit. I thought the school was marginal at best, mostly due to what I have mentioned above, since the back end has the brains of the unit. Richard A.

I completed this training last week and agree with the posted assessment. \$6000 for 3 days of ie33 lite does not seem right. It's hard to believe but Philips is more tight lipped than Siemens. I am sold on Toshiba's training approach. You get what their people get with no secrets or limitations. Best Regards, Phillip L. Clay CBET, CRES

Trained on IU22 and IE33. The only good thing about the training is that you have access to day passes so you can troubleshoot your machines. If you don't go to training you have to buy a day pass if they will even sell it to you. Once trained they will only give you passes for the units at the facility you currently work for. Once you move on if the serial number is not connected to your training they will not give you a day pass. They only teach the front end, setup, power supplies etc. They will not show you anything about the computers that run the newer units (IU22, IE33, Envisor) which is a chopped version of Windows XP, 2000 or a Pro version. So far we have had only computer problems on a couple of our 13 units. So they still have you by the basketBALLS. They will not provide system software or any software. Sent 6 people to training on these units and it still cost us \$4000.00 to fix the last crashed unit. Craig Fortman

I just returned from iU22/iE33 training in Cleveland, OH. The facility is good, people are good, but I was disappointed in the content of the training. Like Richard said, they will not teach the Host and SIP computers in the back of the system. The system has three hard drives, so you know sometime software will have to be reloaded. But, they plainly tell you customers will never have access to software, so you will have to call Philips. The same with computer problems. It seemed like they told us more what we cannot do than what we can do. Jeff Moser

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