

BU Residency Program In Medicine: 2004-2005

We are pleased to announce the Department of Medicine had a terrific match this year attracting candidates from all across the nation who chose to train with us and share in our mission and educational program. We would also like to take this opportunity to add a special thanks to all the housestaff, faculty, and administrative staff for all of the hard work, enthusiasm and extra effort in helping to attract such a high quality group. We share in a special mission here at Boston Medical Center and the extra attention and time spent meeting with applicants helps very much to convey our sense of spirit, pride and commitment to both academics and patient care.

Miguel Ariza, BUSM, Urmila Bajpai, UMass, Indraneel Chakrabarty, BUSM, Jeannie Chao, BUSM, Marjory Charlot, U of Iowa, Robert Chehade, UMass, Karen Choong, McGill, William Chung, Albert Einstein, Ellen Cowen, Jefferson, David Duong, UCSF, Ami Ellenstein, BUSM, Daniel Fagin, Indiana U, Sharon Falk, George Washington, Peter Grayson, Medical University of South Carolina, Claire Horkan, Trinity College, Jerrilyn Jones, Harvard, Vera Kandror, BUSM, Colleen Keyes, BUSM, Airie Kim, Baylor, Susan Kim, Temple, Robert Klett, Wake Forest U, Gowri Kularatna, U of Maryland, Alexander Lam, Harvard, Lien Le, Brown, Christopher Leung, UNDMJ/R.W. Johnson, Benjamin Levin, BUSM, Jennifer Lo, Louisiana State U in Shreveport, Manish Maski, U of Wisconsin, Priya Mitra, Northeastern Ohio U, Francesca Nesta, Universita Di Brescia, David O'Connor, U of Miami, Karen Patterson, University of Rochester, Tilina Pinnaduwege, UT Southwestern Dallas, Ivonne Ramirez, Columbia, Cameron Ramsay, Temple, Lars-Eric Reinhold, BUSM, Jeremy Richards, Washington U, Ian Rogers, UConn, Daniil Rolshud, Mount Sinai, David Schopfer, Chicago Medical School, Tseганesh Selameab, U of Minnesota- Minneapolis, Neha Shah, New York Medical College, Alex Shpilman, Chicago Medical School, Shinu Singh, East Carolina U, Adel Tabchy, American U of Beirut, Thomas Tadros, UMass, Evelyn Taiwo, Temple, Masoud Taleghani, BUSM, Versha Taparia, Northwestern U, Josephine Taverna, Mount Sinai, Samir Thadani, NYU,

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Hillary Tompkins, UCSF, Eugene Valsky, New York Med, Alina Vilinsky, Case Western Reserve, Ariel Weissman, Harvard, Kesha Wilford, Howard U, Edwin Zishiri, U of Zimbabwe

We look forward to welcoming the new interns in June.

D Battinelli

THE INPATIENT TIMES

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The Inpatient Times

All the news that makes you more fit to treat

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Taking the Blues Out of Code Blue: Clarifying Roles and Improving Preparation

“Code Blue, 6 West” are words that can send a shiver down a new junior resident’s spine. Not only does the new resident have to “run” the code, he/she has to quell the chaos that inevitably occurs when several dozen well-intentioned docs, nurses, students, and therapists try to cram themselves into a 8’ x 12’ space to “help.” While we are taught that the “ABC’s” are where to start, clearing the room of extraneous people is often our first act as code leaders.

Why don’t codes run more smoothly? How many people do you actually need to run a medical code? There does not seem to be a literature on running codes and as such, a taskforce made up of Drs. Gazourian, Selden, Georgakis, Steiling, Anandaiah, Fiorentino, Berman, and Greenwald brainstormed to see if there was a way to improve this process. This group identified a number of barriers including: difficulty identifying a Code Leader, minimal code running experience, lack of clarity of other participants’ roles, limited technical skills with techniques like central line placement, intubation, placing a transcutaneous pacer, doing a “quick look,” lack of familiarity with contents of the code cart, crowd control, having adequate information about the patient’s medical history and code status, and some technical problems with code team communications by pagers and overhead.

One of many dominant themes noted was the difficulty getting everyone to do a specific job, i.e. defining a role for each participant. To that end, the taskforce attempted to define the roles and responsibilities of the key players to minimize confusion about what everyone should be doing and also to identify that when all roles are taken, no more help is immediately needed.

A more extensive job description of the roles identified is being created. Briefly, the roles are:

- Code Leader – leads the code, delegates other roles, and does oversight of situation
- Airway – maintains airway/oxygen therapy pending Respiratory Therapy and Anesthesia’s arrival
- Compressions – performs chest compressions and assesses circulatory effect of interventions
- Engineer – sets up telemetry monitor with RN help, does a “quick look,” defibrillates prn, and draws ABG/blood samples requested
- Access – establishes venous access with either 2 peripheral iv catheters or central line as needed
- Advisor – senior clinician (preferably SAR, Chief Resident, or Attending) who can assist Code Leader with any difficult clinical decisions and provide feedback to the Code Leader and team after the code is concluded

This method suggests that 6 MDs (though compressions may be done by a student) supplemented by skilled RN staff are needed for successful and organized codes. The Code Leader, once picking the individuals to take each role then may focus on the big picture and chaos should be minimized. Hopefully, a representative from the patient’s team will fill at least one of the roles in the code to ensure that facts about the case are known to the Code Leader.

Stay tuned to learn more about BMC’s revised Code running structure in the coming months as well as further efforts to address some of the other barriers identified above.

J Greenwald

New Responsibilities for the SAR

The Senior Admitting Resident role was implemented July 1, 2001, with the role of overseeing all admissions to the BMC medical ward teams originating from the Menino Pavilion Emergency Department. The SAR is responsible for ensuring that appropriate work-up and treatment in the ED has occurred prior to transfer to the accepting medical team, as well as ensuring the appropriate admission triage (telemetry, floor, ICU, etc). Additionally, the SAR facilitates communication between the ED staff and the accepting medical team, often (but not always) calling report on the patients being admitted to the medical service.

The SAR has a unique focus in the evaluation of admitted patients. The patients are presented to the SAR by the ED staff, responsible for their care in the ED. The SAR then quickly assesses all patients to be admitted to medicine floors, to ensure that they are stable for the floor and all urgent studies and consults have been obtained. They are not expected, nor do they have the time, to obtain the detailed history and physical exam that the medical team will perform, nor can they make full assessments and management recommendations for the patient's care once they are admitted.

Starting on May 1st, the SAR role will be expanded, with greater responsibility regarding the admission process to medicine at Menino Pavilion.

- The SAR will continue to evaluate all non-ICU patients from the Menino Pavilion ED admitted to the medical service, but also all patients admitted to medicine from the Urgent Care Center.
- All patients admitted to the Medical service must be accepted by a medicine attending. This responsibility will be delegated to the SAR, who will accept all patients from the ED, *except for those with no active medical issues* (including patients who may have been evaluated by other services and "declined"). In this case, the SAR will discuss the case with the accepting medicine attending immediately. The medicine attending may accept the patient or decide that the admission is not appropriate for the medical service, and will discuss the case with the ED and non-medicine attendings.

A. Jackson

The Community Acquired Pneumonia Pathway is HERE!!!

At long last, with the coordinated efforts of representatives of the Hospital Medicine Unit, the Sections of ID and Pulmonary, and the Departments of Pharmacy and Emergency Medicine, Boston Medical Center proudly announces the birth of a new care pathway for the management of Community Acquired Pneumonia.

"Why bother? I know how to treat CAP!" I hear you cry. Perhaps true. In that case, use the pathway's orderset on SCM to speed up your admission process. Just a few clicks and you are done. Not bad, eh?

But while you are there... Take a look at the guidelines. Mosey through the recommendations for remembering smoking cessation counseling and vaccinating against pneumonia with Pneumovax and offering influenza vaccination in season. Brush up on what BMC considers the evidence is strongest for in terms of first and second line antibiotic choice. Tickle your memory about the importance of limiting the spectrum of antibiotics you use once a pathogen has been identified. You know all this, right? Just consider it a gentle reminder and take the opportunity to review it with someone you are supervising. *They* can always use a refresher.

To access the pathway from SCM, just type either "CAP" or "pneumonia" on the order line and it will pop up. It may be initiated in the ICU or on the floor through SCM. You may even initiate the pathway in the Emergency Department if you like, but SCM is not available there. In the ED, the CAP pathway is on their intranet and orders are done on paper. Patients are discharged from the pathway the same way as the cardiology pathways, using the discharge from CAP pathway orderset.

Pathways insure that physicians utilize best practices in their care of complex medical patients. It reduces variability in conditions that do not warrant the "well Dr So-in-so does it this way but Dr Such-in-such does it that way..." approach. Pathways should never supplant good clinical reasoning, expertise, or experience; it should supplement it nicely. Offer your CAP patients the best the literature has to offer. Use the BMC Adult CAP pathway and order set.

J Greenwald

Efficiency and Quality Not Mutually Exclusive

The Six Aims of the Health Care system as stated by the Institute of Medicine's Crossing the Quality Chasm Report are:

- Safety
- Effectiveness
- Patient-centeredness
- Timeliness
- Efficiency
- Equity

By providing each patient with a typed discharge summary at the time of discharge, the Medicine Service at Boston Medical Center has taken action to advance the first three of the IOM's aims. We know that written instructions for care after discharge increase the likelihood that the patient will actually follow the instructions. This improves the safety of the care and its effectiveness.

In the old days, discharge summaries were often done late or not at all and were kept from the patient. The IOM report recognizes that in order for the care to be effective and respectful of the patient's needs and desires, the patient must be at the center of the care. The only way for this to become the case is for there to be free flow of information from providers of care to patients and back. Giving the patient a typed and legible copy of what occurred during the hospitalization, and what is expected of him or her after discharge, is a wonderful way to help advance this aim.

Typing the discharge summary takes time. As our care gets more complex and we try to meet everyone's needs, time becomes a scarce commodity. Since we are all feeling time-pressured, we must avoid falling into the either-or trap: "Either our care will be efficient (patients leave quickly after the discharge decision) or it will be safe, effective, and patient-centered (every patient leaves with a typed discharge summary)."

We can make our care both patient-centered and efficient but this will require change in the way we do our work. Actions that many of you have already taken include:

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beginning the discharge summary at the time of admission, making sure that the summary is truly a summary rather than a recapitulation of everything in the chart, and changing the order of your work to give higher priority to discharge work.

Thanks very much for all of your efforts. Please continue to test changes within your workday and contact me if you have ideas beyond your ability to implement.

J Chessare

Ensuring Patient Safety with Cross-Campus Transfers

Ever gotten a patient transferred to the "other side" when it was daylight? Ever gotten a good sign-out from the referring team on patients who came to your team from another location, service, or hospital? Do you always talk doc-to-doc on patients you transfer off your service? Hmmm... These are important patient safety issues.

Occasionally patients are transferred between campuses for various reasons yet remain on the medical service. It is often for specialized needs such as chemotherapy, radiation therapy, or hemodialysis. Despite the fact that the service has not changed, there is still a complex transfer between medical teams, often via other members of the medical service. Due to bed availability, it could be hours to days from the time of request to when the transfer actually occurs. Transfers may occur at night and night float may be involved. Essential communication must take place between physicians on both campuses.

It is the responsibility of the transferring team to write a *nursing order* in SCM stating:

"Please inform H.O. to call sign-out immediately prior to patient's transfer."

This will ensure that the intern or night float or other covering physician calls sign-out to the accepting intern, nightfloat, or covering physician before the patient arrives, regardless of how long the patient has been waiting for a bed or what time of day transfer occurs. We are working with nursing so that they recognize this essential step in ensuring patient safety with cross-campus transfers.

D Halle

Earlier Discharges: Let's Get Rounds Squared Away

One of the areas where we can improve is reducing the time new patients in the ER have to wait for a bed on the wards. There are many factors playing into the process, but one key to success is to enable patients who can be discharged to leave the hospital earlier in the day. This is determined by the medical teams and especially the hard-working housestaff.

One study done by Taqui et al. at University of Pittsburgh in 2002 surveyed attendings and residents about their perception of work rounds. Both groups felt that rounds should serve to organize and present data, generate a treatment plan and ensure that all patients on the team be seen. The greatest obstacle to successful rounds was felt to be frequent interruptions. However, nobody has ever investigated how residents round and what impact they have on discharge time. As the recipients of an inpatient grant, Dr. Julien Dedier and I investigated resident rounding behavior and its effect on discharge time.

The first part of the study consisted of an email survey sent out to all 91 PGY-2 and PGY-3 residents. Of the 57 residents who answered, 32 preferred joint rounds while 25 rounded with their interns separately. The preferred rounding pattern for 34 responders was geographical, as in "gravity rounds", starting on the higher floors and then moving to lower wards. 17 residents saw patients who had come in over night first. This finding is relevant, because the fraction of patients not admitted by the primary team will continue to increase as house officer admission caps and work hour regulations become increasingly important. Only a tiny minority of 4 residents rounded on dischargeable patients first. However, almost 40% of the housestaff who responded believed that rounding on dischargeable patients first would lead to earlier discharge times. The ones who did not believe that rounding on dischargeable patients first had a positive effect on discharge times mostly named insufficient attending availability as the main perceived obstacle to earlier discharges.

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During the second part of the study, 6 ward teams (two interventional teams who had to round on dischargeable patients first and 4 control teams who rounded as usual) were monitored over the course of 1 month. Naturally, very sick patients had priority, no matter what the assigned rounding pattern was. The most relevant dependent variable was discharge time from the hospital. In addition, the data acquired consisted of discharge order and acknowledgement time, date of admission and date of discharge, what ward the patients were discharged from, whether the team had been able to identify a dischargeable patient in the morning and, finally, the modality / destination of the discharged patient (AMA, SNF, home, etc.). 248 discharges on Firm A and 196 discharges on Firm B were analyzed for November / December. Did the intervention have the desired effect of leading to earlier discharge times? The controversial results will be presented at my senior talk on 5/3/2004.

R Tamler

Did You Know?

Meta-analyses of >5000 patients with TIA or CVA presumed to be related to their underlying atrial fibrillation had NO BENEFIT from anticoagulation with heparin as compared to starting the patient directly on warfarin.

Did You Know?

Not all patients with "statin" related myopathy will have elevated CK. If you suspect the disease, consider stopping the statin empirically and follow for resolution of symptoms even with a normal CK.

Everything You Have Always Wanted to Know About 7 West Rehab

The Center for Rehabilitation at Boston Medical Center is an acute inpatient rehabilitation facility serving patients from the New England area. As well as providing general rehabilitation services, the Center houses a specialized spinal cord injury care unit--The New England Regional Spinal Cord Injury Center--designated a center of excellence for spinal cord injury care, research and education by the National Institutes for Disability Rehabilitation Research.

Many BMC clinicians wonder how their patients can be considered for admission to the acute rehabilitation unit. In order to participate in Medicare and Medicaid reimbursement programs, greater than seventy five percent of an acute rehab facility's patients must have at least one of the following diagnoses: spinal cord injury; traumatic brain injury; burn; stroke; multi-trauma; orthopedics (total knee and total hip replacements); need for pulmonary or cardiac rehab; and "other neurological disorders" (such as MS and ALS). Patients who are referred for acute rehabilitation, then, should carry and need treatment for at least one of these diagnoses.

Patients in our facility also need to be medically stable and cognitively able to participate in multiple rounds of daily therapy. Acute rehabilitation is defined as a minimum of 3 hours of therapy per day, and a patient must be able to participate at this level for an insurer to agree to transfer and reimbursement. If a patient does not have the physical or cognitive capacity to meet this requirement, he/she is not a candidate for acute rehabilitation.

Patients should have an acceptable, safe, and appropriate ultimate discharge plan in place prior to transfer to acute rehab. This is imperative since there are a limited number of acute rehabilitation beds available at Boston Medical Center.

Your patient's case manager can make a referral for admission to 7W Rehab by contacting the Center's admission screener.

S Williams

Perfecting the Discharge Process

Did you know that over one in five patients you discharge from the hospital will be readmitted in 30 days? Some of this high rate is due to the fact that patients are sicker when they go home than in the "days of the giants" or "the good ol' days," depending on how you look at it.

To identify what causes this problem, the Department of Family Medicine has obtained a grant to study the discharge process. Not surprisingly, the process map created for discharging a patient from the hospital is extraordinarily complicated and requires the coordination of over a dozen people and dozens of steps.

While the analysis and intervention elements of this grant go forward, please recall that there are a number of basic steps that you can take today to improve the experience of discharge for the patient and hopefully decrease the chances of your patient requiring a rapid readmission. Such basic principles include:

1. Keep the nurses in the loop!
2. Clearly spell out all changes in therapy (meds, diet, activities) to patients *in person* (with family present if possible). Do not rely on your discharge summary to be useful to the patient. Ask the nurses and pharmacists to help you here.
3. Communicate directly with the PCP in a timely fashion, preferably by phone if the issues are complicated.
4. Arrange follow-up appointments for patients unable to make them for themselves by requesting them Monday through Friday, one day prior to admission, using the SCM order set.
5. Make sure that outstanding issues are clearly noted on the discharge summary for the subsequent care-givers to follow up on.
6. Enter all discharge medication lists in Logician.
7. Encourage your attendings to sign their discharge summaries expediently.
8. Make sure to read all discharge summaries yourself once completed to edit for typos or areas needing clarification.

We can beat this one in five readmission rate. You can help!

J Greenwald

“Bogus” Chest Pain! What is it really?

Chest pain remains one of the commonest symptoms of patients seen in both the ED and PCP office. These patients are often admitted to “rule out MI.” We have become very efficient at this with the use serial cardiac enzymes and noninvasive testing. As a result, patients are rapidly evaluated and discharged with a diagnosis of “atypical” or “noncardiac” chest pain. Although it is important to determine that the chest pain is not ischemic, it is equally important to attempt to determine the specific underlying cause. A full differential should be considered and appropriate diagnostic testing and therapeutic measures should be scheduled or instituted at discharge.

The initial evaluation should consist of a thorough H&P and review of appropriate labs and x-rays. On first pass, the most important diagnoses to consider are those that are associated with a high risk of morbidity and mortality. Obviously angina/MI should be excluded, but when the history is atypical or there is no objective evidence of active ischemia, other diagnoses that should rapidly be considered including PE (are there risk factors?, is the pain pleuritic?, is the patient dyspneic?), aortic dissection (we have had three dissections this month presenting as chest pain and masquerading as angina/infarct – be sure to check pulse/BP symmetry and mediastinal width on CXR), aortic stenosis (you should not miss severe AS on examination), and pneumothorax (be sure to review the CXR carefully).

Once these conditions have been excluded, other more benign causes need to be considered. In a study by Fruergaard, (*Eur Heart J*, 1996) patients presenting to the ED with chest pain but without MI underwent an extensive evaluation (including noninvasive cardiac, moderately invasive GI, and noninvasive pulmonary work ups). The following diagnoses were most common: GI disease (GERD, dysmotility, PUD, gallstones): 42%; ischemic heart disease (i.e., angina): 31%; chest wall syndromes (trauma/injury, costochondritis, neuropathic pain, etc.): 28%; pericarditis: 4%; pleurisy/pneumonia: 2%; pulmonary embolism: 1%; aortic aneurysm: 1%; aortic stenosis: 1%; shingles: 1%.

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Importantly, patients without an ischemic etiology of chest pain had the same rate of recurrent chest pain and readmission as did those with CAD. Of note 91% of the 204 patients in this study were given a specific diagnosis of their chest pain syndrome. This study did not find a high rate of anxiety/psychiatric causes, although other studies have found that almost 10% of patients with chest pain have “somatization disorders.”

How best then to approach the patient with atypical chest pain? Step one is clearly to look beyond the diagnosis of “rule-out MI” and make an active effort to define the underlying problem. Step two, life-threatening causes of chest pain should be considered and then excluded on the basis of clinical evaluation or specific testing when necessary. Step three should involve a thorough characterization of the syndrome followed by a directed work-up and therapy:

- Is it really chest pain, or is it epigastric/abdominal pain. The later should be evaluated with specific testing or an empiric trial of medication for GERD when appropriate.
- If it is chest pain, is it cutaneous, musculoskeletal, or pulmonic. Specific diagnostic modalities should be performed (if necessary) and empiric therapy should be instituted.
- If no physical cause of the chest pain is found, is there evidence to suggest a psychogenic cause? If so, a trial of anxiolytics or antidepressants may be of value.

The diagnosis of “rule-out MI” should always be linked with the diagnosis of “rule-in something else.” A thorough evaluation will identify a specific etiology in the vast majority of patients, allowing for the institution of appropriate therapy, and will hopefully improve patient care and satisfaction.

E Awtry

**Want to write an article for
The Inpatient Times?**

Talk with Jeff Greenwald

What Does a Clinical Service Manager Do All Day?

8:00AM: I punch in my secret code for the phone in my office ... our case manager whispers (in her best Charlie from Charlie’s Angels voice) “Hello Cheryl. I just wanted you to know that Mrs. D will not be going home today unless you can write a prescription for a commode, rolling walker, oxygen, and an evaluation by Boston Visiting Nurses.” I put on my lab coat (otherwise, called a strait jacket because of all the secret hiding spots for the secret codes, the laminated-ready-at-your-fingertips cards, sign out sheets, and my Palm), which weighs ten pounds.

8:30AM: I am assigned to Medicine Firm B. I should find three fourth year medical students, six Interns, three Residents and three Attending...sounds like a Christmas carol...and five G–o–o–l–den rings!!! As I do find the teams, I ask, “Do you have anyone who could go home this morning?” The interns look through their lists eagerly because they know this will help a great deal and think to themselves “Maybe, maybe if I could find just one I might be able to make the noon conference, sit down and actually eat lunch.” One of my roles is to expedite discharges and allow the doctors to participate in the medical teaching that occurs with rounds and conferences with fewer distractions.

9:00AM: Mr. D. is a smoker with asthma. I examine him and inform him that he is will be discharged by 1PM. Then I discuss smoking cessation tactics and review his asthma regimen. His MDI technique was well demonstrated and he knows his zones. His daughter is coming in at noon to pick him up. I tell him that I am rounding with the doctors at 10AM and will complete the paperwork (discharge summary and prescriptions) by 11:30AM. I inform the nurses of his early discharge.

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10:00-11:00AM: I champion the multidisciplinary care rounds on all Firm B patients: HoME FuND rounds. Each intern brings his/her patient list to a panel of clinicians. The HoME FuNDs mantra is: Ho: hospital issues (diagnosis and course)... M: Medications a Pharm D is present... E: Educational needs... Fu: Functional issues (physical therapy needs...) N: Nutrition- a dietician comes by....D: Discharge – overseen by case managers. From these rounds, I can usually determine who is leaving today and who is a potential discharge for tomorrow.

1:00PM: I take care of the needed prescriptions and paperwork and discharge Mr. D. by 1PM, call his PCP, and go to lunch. After lunch, I see patients who may need teaching or preparation for discharge tomorrow morning. Often I assist nurses in education or thinking through a difficult case.

4:00PM: Usually in my office collecting data, working on projects. Two graduate students are coming in the fall. Our research question is: Does an NP led multidisciplinary care round approach decrease length of stay in patients with asthma following an asthma educational intervention?

Oh and by the way, Mrs. D. left with a walker from PT, a VNA from our case managers, on a cardiac diet, medication instruction and a blessing from the supervising physician.

C Williams

Did You Know?

PEG tubes placed in patients
for advanced dementia
identify patients with a
15% one month mortality
and an
80% one year mortality.

Does Your Patient *Like* His Demerol? Know the BMC Guidelines!

National organizations such as the Agency for Health Care Policy and Research as well as the American Pain Society have made recommendations to limit the use of meperidine (a synthetic opioid). These recommendations are based on the fact that meperidine has several disadvantages when compared with other opioid options for treatment of pain (i.e. morphine, hydro-morphone, fentanyl). The major disadvantage of meperidine is that it forms a neurotoxic metabolite (normeperidine) which can result in neuroexcitatory effects including seizures, agitation, irritability, nervousness, tremors, twitches, and myoclonus. Patients most at risk for normeperidine accumulation are those with hepatic or renal impairment, and the elderly. Other disadvantages of meperidine include its short half life (which frequently leads to suboptimal dosing) and injection site pain (meperidine is a strong local irritant). New BMC Meperidine Guidelines restrict meperidine to the following uses:

- Prevention or treatment of drug induced or blood product induced rigors (e.g. amphotericin B, platelet infusions), and treatment of post-anesthesia shivering.
- Conscious sedation.
- Research protocols specifying meperidine.
- Neuraxial analgesia for acute pain management, administered by the anesthesia service.

Short term acute management of moderate to severe pain episodes when there are either unmanageable adverse reactions to first line opiates or there is treatment failure with first line opiates given at appropriate doses.

Other notable safety measures in the guidelines include a contraindication to meperidine for patients with renal insufficiency (creatinine clearance \leq 30 mL/min) and the removal of oral meperidine from the formulary. Oral meperidine undergoes high first pass metabolism in the liver resulting in an increased concentration of normeperidine. For more information on dosing, precautions, and drug interactions, consult the full BMC Meperidine guideline.

A Levitsky

Is There a Problem? Wash a Rented Car!

Hypothetically speaking, if you were to have a problem on the inpatient service...not that there are any problems on the inpatient service...what would you do?

- a) Ignore it.
- b) Whine to a colleague
- c) Write a letter to the Boston Globe
- d) Tell your supervisor or attending that he or she should fix it
- e) Try to fix it yourself

I bet the answer is “all of the above” in different situations...well, except “C” hopefully. It comes down to ownership and accountability. If a problem effects you personally, professionally, or educationally then the stakes may be high enough for you to want to “do something” about it. One cannot and should not fight all battles.

But as we are all cogs in this great wheel called BMC, we must take responsibility and ownership for improving the system ... whether its identifying why our patient did not get his medications, why a test was not performed, how to improve the learning environment, or why the cafeteria consistently over cooks the chicken fingers ... successful and responsible players in the institution recognize that we must all be accountable and responsible for improving the system. We do this to improve patient care and to put patients first.

Now, I don't expect you to fry your own chicken fingers. However, I do ask you to remember the important words of Lawrence Summers, President of Harvard University, who said “in the history of the world, no one has ever washed a rented car.” Be accountable. Work for change for BMC, for our colleagues, and most of all, for our patients. Ok, don't wash that rented car. Wash your own car.

J Greenwald

Did You Know?

There's no advantage of “loading” warfarin for *inpatients*.

Starting with 5mg is preferred.

The 10mg protocols are for outpatients.

Ruling Out MI: Heartburn or Heart Attack?

Although the prevalence of CAD is high, only 15% to 35% of ambulatory patients who present with chest pain are ultimately diagnosed with CAD. If the cardiac work up is negative, the patient has noncardiac chest pain (NCCP) and GERD is a possible diagnosis. In this setting, GERD symptoms are often atypical (i.e. classic heartburn is absent), and endoscopy is usually normal (non-erosive GERD or NERD).

Given these limitations, endoscopy is typically deferred until there has been a trial of antisecretory therapy, particularly if ambulatory pH monitoring is unavailable or if the patient has additional classic symptoms of GERD. In one study,¹ patients diagnosed with NCCP received either placebo or a high dose of omeprazole (40mg AM, 20mg PM) for 7 days. A total of 78% of the patients initially diagnosed with GERD responded to the drug therapy to the point of symptom resolution, as opposed to 14% of the patients without GERD.

The optimal drug dosage and duration of a diagnostic trial are not standardized for NCCP. However, most clinicians recommend twice daily PPI dosing for at least 8 weeks. Step-down therapy is then recommended for patients who respond. Referral to a specialist may be considered for patients who do not. The most useful test at this point is probably ambulatory pH monitoring performed on PPI therapy. If it shows continued acid exposure, higher-dose PPI therapy can be considered. Negative results lead to consideration of esophageal motility disorders, and esophageal manometry may be useful.

Once GERD and motility disorders have been excluded, the remaining patients are thought to have visceral hyperalgesia and pain modulators such as TCAs, trazodone and SSRIs are currently the most effective agents in treating these patients.

Dyspepsia: what it is and what it is not

Although symptoms may frequently overlap, it is important to recognize the difference between GERD and dyspepsia. The key is as always the

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history. GERD is diagnosed by the presence of classic heartburn i.e. retrosternal burning sensation that radiates toward the throat, and/or acid regurgitation (effortless return of sour or bitter gastric contents into the mouth in the absence of nausea). When these symptoms are dominant, they are highly specific for GERD, which is almost always responsive to acid suppression.

However, because heartburn is a commonly used lay term with variable meaning among patients, we must determine precisely whether the patient is truly describing acid reflux and not dyspepsia. Dyspepsia in turn, is currently defined as discomfort or pain centered in the upper abdomen with or without accompanying symptoms of fullness, bloating and early satiety. Gastroduodenal ulcer disease is found in 15% to 20% of patients with dyspepsia. Up to 60% of patients with dyspepsia have no explanation and are classified as having functional dyspepsia. Between 30% and 60% of these patients have *H. pylori*-induced gastritis, but it is unclear whether this infection causes the symptoms. Patients younger than 45 years of age without alarm signs or symptoms (anemia, GI bleeding, weight loss) can be tested for *H. pylori* and treated for the infection. Older patients, those with alarm signs or symptoms, and those who do not respond to *H. pylori* therapy should be referred for endoscopy.

Patients with non-ulcer (functional) dyspepsia usually respond to reassurance and dietary measures followed if necessary by a course of acid suppression or prokinetics. In patients with persistent symptoms, other treatments include behavioral therapy, psychotherapy or antidepressants. Lack of reassurance is often a strong motivating factor for these patients to continue seeking medical attention and multiple visits to their provider or to the Emergency Department are common.

J Oviedo

¹Fass R, Fennerty MB, Ofman JJ, et al. The clinical and economic value of a short course of omeprazole in patients with noncardiac chest pain. *Gastroenterology* 1998;115(1):42-9

AMS: What is It? **Delirium in the Elderly**

Background:

Delirium – a.k.a. “Δ ms” – is a problem associated with high mortality and morbidity in the elderly. However, it is unrecognized in up to 32 to 67% of cases.

New-onset delirium during hospitalization has an incidence of 6-56%. In elderly postoperative patients, the incidence is as high as 52%. When elderly patients develop delirium, they have increased lengths of hospital stay, rates of nursing home placement, and functional decline.

There is evidence that delirium may not resolve quickly in some patients even after correction of underlying illness. In a study of elderly patients who developed new-onset delirium during hospital admission, only 17.7% had full resolution of new symptoms by 6 months after hospital discharge.¹ It raises the possibility that delirium may unmask underlying cognitive deficits.

Factors Associated with Delirium:

Delirium arises from the interrelationship between the vulnerability of a patient who has predisposing factors and precipitating factors that include noxious insults to the patient.²

Predisposing Factors

A prospective cohort study of elderly hospitalized general medical patients identified 4 baseline risk factors associated with new-onset delirium: visual impairment, severe illness, cognitive impairment, and BUN/creatinine ratio greater than 18. Patients with 1 or 2 of these factors had a delirium incidence of 16-23%. Patients with 3 or 4 factors had an incidence of 32-83%. Patients with pre-existing functional impairment, advanced age, hearing impairment, and malnutrition are also more prone to develop delirium.

Precipitating Factors

In general, any medical illness can precipitate delirium:

D-rugs (narcotics, benzodiazepines, meds with anticholinergic effects)

E-lectrolyte disturbances

L-ungs (hypoxia, hypercarbia), liver (hepatic failure)

Continued →

I-nfections, iatrogenic events

R-enal failure, restraints

I-ndwelling bladder catheters, immobilization (bedrest)

U-rinary tract infections

M-iscellaneous: cardiac disease (MI, CHF), neurologic disease (CVA, seizure, meningitis), pain

CAM: An Easy Way to Diagnose Delirium

The Confusion Assessment Method (CAM) has been shown to be an effective tool for diagnosing patients with delirium. When utilizing the CAM, four criteria are examined:

1. Acute change in mental status with a fluctuating course
2. Inattention (i.e. difficulty focusing attention)
3. Disorganized thinking (illogical thought, incoherent speech)
4. Altered level of consciousness

A patient is diagnosed with delirium if both 1 and 2 are present, with one of criteria 3 or 4. The CAM has 94-100% sensitivity and 90-95% specificity in diagnosing delirium.

Management:

Once delirium is diagnosed, it is important to identify the underlying etiologies. Begin with a thorough history and physical exam. Determine whether the patient has a history of alcohol abuse to rule out the presence of DTs. Review the medication list. Let your history and physical exam findings guide your choice of lab and radiology work-up. It is appropriate to order an electrolyte panel, CBC, and UA on every delirious patient. An LP is not part of the standard work-up in the absence of head trauma or signs of a CNS infection.

Treatment of underlying medical conditions should be the primary goal of care. Non-pharmacologic measures should always be undertaken before pharmacologic management. Some simple measures that can help are:

- Providing eyeglasses and hearing aids;
- Removing foley catheters or IV lines;
- Asking family members to bring familiar objects from home.³

Continued →

AMS (Continued)

However, if the patient is at risk for harming himself or others, it is appropriate to use antipsychotic medications. As always, “start low and go slow” with dosing of these medications. If IV or IM Haldol is necessary, start with 0.5 to 1mg repeated every 30 minutes until the patient is calm. A patient who is naïve to Haldol may require a total dose of 2 mg to calm agitation.

S Chao

¹ Levkoff SE, Evans DA, Liptzin B et al: Delirium: The Occurrence and Persistence of Symptoms among Elderly Hospitalized Patients. Arch of Intern Med 1992, 152:334-340.

² Inouye SK: Delirium in Hospitalized Older Patients. Clinics in Geriatric Medicine 1998, 14(4):745-64.

³ Inouye SK, Bogardus ST, Charpentier PA et al: A Multicomponent Intervention to Prevent Delirium in Hospitalized Older Patients. NEJM 1999, 340(9): 669-676.

More Inpatient Beds at East Newton Pavilion

Over the past few months, you may have noticed the renovations occurring on 8 East at East Newton Pavilion. Well, the final touches are underway and, as of May 3rd, 8 East will open as a new inpatient unit for non-telemetry medical and surgical patients. Formerly the cardiology testing area (now your patients will go to the 4th floor of Preston for their echocardiograms and stress tests), 8 East will initially be staffed for 10 patient beds but has a maximum capacity of 26.

Not all of these additional beds will be filled with firm patients, with the physician assistant, surgical and interventional services hoping to expand with the increased capacity at East Newton Pavilion. Two physician conference rooms on 8 East are slated for the Firms D and E residents for work and educational use.

J Hughes

Attack of the PAs on ENC

The PA (physician assistant) service in the Department of Medicine on the East Newton Campus has started. The three PA's, Kerry O'Brien, Becky Holberg, and Liz Gemba are taking patients and are working towards a fully functioning PA service that will be independent of the resident teams. Becky and Liz are functioning as “3rd interns” on the E1 and D1 teams respectively. Kerry, who trained with the D2 team, launched the service in mid-March and has been taking HealthNet patients only and working with the HealthNet rounding attending physicians. Becky is expected to join the service within the next month and Liz will follow by July. The search for a 4th PA to complete the team is underway.

Unlike the resident teams, the PA service will admit every day, Monday through Friday, with housestaff covering only at night. By July, with the addition of the fourth member, one of the PAs will cover the service each weekend during the daytime. Until then, the uncovered weekend will be managed by the senior covering resident. The service is ready to take on patients with a variety of diagnoses and primarily those patients who are less complicated and of an anticipated shorter length of stay.

Admissions will be assigned as determined by the individual PA, the night float, and the team residents. Ideally, the formation of this separate non-resident service will allow the resident teams to admit more firm patients and give more opportunities for teaching by the firm attendings. At the same time, as members of the “house staff,” each PA will still be affiliated with a particular team and will continue to participate in attending rounds, teaching lectures, and conferences.

So far, all three are integrating well into their evolving roles and have been grateful for the welcome responses they have received. The response from housestaff, attending physicians, and nursing thus far has been nothing but positive. Come May, look for them on the newly renovated 8 East.

*L Gemba
R Holberg
K O'Brien*