

Coverage of 9/11 anniversary included



Management

The monthly update on Emergency Department Management

Vol. 14, No. 9

Inside

- **9/11 impact:** How have EDs changed in the past year? 100
- **Smallpox vaccine:** Learn how your colleagues are preparing for possibility 101
- **Web Alert:** Tools to educate staff about bioterrorism 102
- **Trauma patients:** A unique scoring system to improve on-call physician response 102
- **EMTALA Q&A:** Vital signs; transfers for diagnostic tests . . . 103
- **EMTALA regs for on-call physicians** have changed 104
- **Journal Review:** Reduction of delays 105
- **Informed consent:** Resource explains clinical trials 106

Enclosed in this issue:

Radiation Exposure/
Decontamination Plan

Trauma Worksheet
and Staffing Plan

September 2002

NOW AVAILABLE ON-LINE!
www.ahcpub.com/online.html
Call (800) 688-2421 for details.

'Dirty bomb' threat puts spotlight on unprepared EDs: Do you have a plan?

Almost half of EDs don't have a nuclear attack disaster plan

When you heard about the recent "dirty bomb" threat, was your first thought that your ED lacks a specific plan for a nuclear attack? If so, you have plenty of company. According to a recent survey of 5,000 hospitals by the Chicago-based American Hospital Association, only 54% of hospitals have a nuclear terrorism component in their disaster plans, and 27% plan to add one to their plans within this next year.

"We are a lot more cognizant of the threat than even a year ago," says **Joseph Ornato, MD, FACP, FACC, FACEP**, professor and chairman of the department of emergency medicine at Virginia Commonwealth University's Medical College of Virginia Hospitals in Richmond. "I don't think anyone needs to be convinced any longer. This is a capability that each facility needs to have."

Unfortunately, many hospitals trying to bring disaster plans up to date only considered biochemical terrorism and forgot the nuclear threat, says **Robert Suter, DO, FACEP**, senior consultant for Dallas-based Texas Emergency Physicians, and director of physician practice development for Greater Houston Emergency Physicians, both ED physician practice groups.

"This may have been due to a sense of fatality rooted in the mistaken belief that the only nuclear threat would be a total destruction scenario, resulting from the diversion of a military warhead," Suter says.

Audio conferences tackle critical compliance issues for sharps safety, pain management

Don't run the risk of fees or losing your accreditation

Health care organizations today are challenged by more than just providing quality patient care. Compliance issues can create headaches for facilities that aren't prepared. How well does your facility meet certain regulations? Are your staff properly armed with the most up-to-date information? To help you prepare, American Health Consultants offers two upcoming audio conferences dealing with current, hot-topic compliance issues: pain management and needle safety.

(Continued on page 106)

Executive Summary

Almost half of hospitals lack a plan for nuclear terrorism; however, disaster management experts say it's not difficult to add this to an existing disaster plan.

- Screen all incoming patients for radiation if a disaster involves the use of explosives.
- Provide staff with training in radiologic monitoring.
- Use a dirty bomb scenario for your next disaster drill.

Suter stresses that it's a mistake to assume there would be no survivors from such an attack. "Disaster committees need to understand that the effects of a nuclear terrorist attack can be survivable," he says. "The victims will include many individuals remote from the epicenter."

If you are a manager of a rural or community ED, you probably didn't seriously consider the possibility of a nuclear terrorist attack until 9/11, Ornato says. "Smaller facilities assumed that if that ever happened, the bigger guys down the street would deal with it," he adds. **(See story on how EDs have changed since 9/11, p. 100.)**

Ornato says it's a mistake to assume that large facilities will bear the burden of a nuclear disaster, and he points to the victims who went to community hospitals after the terrorist attacks at the World Trade Center and the Pentagon.

Even if you don't currently have a nuclear component to your disaster plan, you can develop one quickly, says **Richard B. Schwartz**, MD, FACEP, vice chairman of the department of emergency medicine at Medical College of Georgia in Augusta.

Here are effective ways to increase your preparedness for nuclear terrorism:

• Add radiation injuries to your disaster plan.

Val Gokenbach, RN, MBA, CAN, director of emergency services and observation at William Beaumont Hospital in Royal Oak, MI, reports that radiation disasters are part of her facility's overall disaster plan. "The essential component for that particular scenario is inclusion of the hospital radiation safety officer. The rest is a variation on other scenarios," she says. **(See the facility's Radiation Exposure/Decontamination plan, inserted in this issue.)**

Begin by integrating your facility's medical radiation

incident protocol into the disaster plan and expanding it, Suter says. He says your plan should address decontamination, security, radiologic monitoring, and decorporation (removing materials before they have become permanently incorporated into the body). "The principles are the same for all facilities, regardless of where you are located," he says.

Schwartz recommends addressing the following three items:

— Radiation monitoring.

Schwartz adds that decontamination follows the same guidelines as for other hazardous materials, with the addition of radiation monitoring. Most radiation safety personnel will have access to dosimeters and Geiger-Mueller counters for monitoring the adequacy of decontamination, he says.

— Use of personal protective equipment.

The personal protective equipment involved is surgical gowns with all seams taped, Schwartz says. "The use of lead aprons that are used for X-ray shielding are not recommended," he says. "They give a false sense of security, as gamma radiation will pass through them."

— Availability of iodine tablets.

These should be given to radiation-exposed patients to prevent future thyroid cancer, Schwartz says.

• Screen patients if disasters involve explosives.

Dan Hanfling, MD, FACEP, director of emergency management and disaster medicine at Inova Health System in Fairfax, VA, recommends screening all incoming patients from the scene of any disaster event involving the use of explosives.

"This may be performed by the responding fire and rescue units," he says. However, Hanfling adds that many patients will not use fire and rescue units to arrive at the ED. "So it would be prudent to implement a similar strategy by the ED staff, until you can be certain that there is no risk of radiological contamination," he says.

• Have a realistic plan for decontamination.

It's a mistake to expect the fire department to handle decontamination after a dirty bomb attack or nuclear attack, stresses **Roy Alson**, PhD, MD, FACEP, assistant professor of emergency medicine at Wake Forest University School of Medicine in Winston-Salem, NC.

"You are in for a rude awakening when you find they are all tied up at the scene, and no one is there to decontaminate the patients who are arriving at your

COMING IN FUTURE MONTHS

■ Update on Joint Commission standards for volunteers

■ How to reduce use of restraints

■ Improve care with ED physical therapist

■ Effective strategies for the liability crisis

Sources/ Resources

For more information, contact:

- **Roy Alson**, PhD, MD, FACEP, Assistant Professor of Emergency Medicine, Wake Forest University School of Medicine, Medical Center Blvd., Winston-Salem, NC 27157-1089. Telephone: (336) 716-2193. Fax: (336) 716-5438. E-mail: ralson@wfubmc.edu.
- **Val Gokenbach**, RN, MBA, CAN, Director of Emergency Services and Observation, William Beaumont Hospital, 3601 W. 13 Mile Road, Royal Oak, MI 48073. Telephone: (248) 551-1995. Fax: (248) 551-2017. E-mail: vgokenbach@smtpgw.beaumont.edu.
- **Dan Hanfling**, MD, FACEP, Director, Emergency Management and Disaster Medicine, Inova Health System, 3300 Gallows Road, Falls Church, VA 22042. Telephone: (703) 698-3002. Fax: (703) 698-2893. E-mail: dan.hanfling@inova.com.
- **Joseph P. Ornato**, MD, FACP, FACC, FACEP, Department of Emergency Medicine, Medical College of Virginia Hospitals, 401 N. 12th St., P.O. Box 980525, Richmond, VA 23298-0525. Telephone: (804) 828-5250. Fax: (804) 828-8597. E-mail: Ornato@aol.com.
- **Richard Schwartz**, MD, FACEP, Vice Chairman, Department of Emergency Medicine, Medical College of Georgia, 1120 15th St., AF2037, Augusta, GA 30912. Telephone: (706) 721-3548. Fax: (706) 721-9081. E-mail: rschwartz@mail.mcg.edu.
- **Robert E. Suter**, DO, FACEP, Senior Consultant, Texas Emergency Physicians, 5926 Saint Marks Circle, Dallas, TX 75230-4048. Telephone (214) 739-2776. Fax (214) 739-0658. E-mail: TexEPs@aol.com.

The American College of Radiology offers a quick reference guide for health care professionals responding to a radiation disaster. The guide summarizes current information on preparation for a radiation emergency, how to handle contaminated persons, and radiation exposure health effects. It is available on-line at no charge at www.acr.org/dyna/?id=educ. Click on "Radiation Disasters: Preparedness and Response for Radiology," "ACR Primer (PDF)," "Access the Primer." Single paper copies are free of charge. Contact:

- **Connie Potter**, Administrative Assistant, American College of Radiology, Education Department, 1891 Preston White Drive, Reston, VA 20191-4397. Telephone: (800) 227-5463, ext. 4245 or (703) 648-8900. E-mail: ConnieP@acr.org.

The Oak Ridge Institute for Science and Education's Radiation Emergency Assistance Center/Training Site (REAC/TS) offers several courses in handling radiation accidents, including Handling of Radiation Accidents by Emergency Personnel. This is a 3½-day course intended for physicians, nurses, and physicians' assistants who may be called upon to provide emergency medical service to a radiation accident victim. It includes handling a contaminated victim, preventing the spread of contamination, and reducing the radiation dose to the victim and attending personnel. Cost of the course is \$75. For more information, contact:

- **L. Gail Mack**, Registrar, REAC/TS, Oak Ridge Institute for Science and Education, P.O. Box 117, MS39, Oak Ridge, TN 37831-0117. Telephone: (865) 576-3132. Fax: (865) 576-9522. E-mail: mackg@ornau.gov. Web: www.ornau.gov/reacts.

ED now," he says. Alson warns that you must have a lockdown plan to control access. "Otherwise your facility will be contaminated. Do not assume that all your victims will arrive by EMS and have been decontaminated first," he says.

• **Become knowledgeable about dirty bombs.**

Schwartz says that the actual threat of a dirty bomb attack is much less than the "fear factor. We have a little bit of mystique about nuclear threats and need to know what the threats actually are," he says. The majority of patients would present with burns and conventional traumatic injuries, Schwartz explains.

Hanfling notes that "dirty bombs" are nothing more than conventional explosives laced with radiological contaminants. He says that dirty bombs would be easier to respond to than chemical weapons, because radiological elements leave physical signs of contamination that can be detected with a radiation detector, whereas

chemical weapons use is primarily determined by clinical syndrome presentation.

Suter recommends asking your hospital's radiation safety officer to give you a list of local courses so staff can be trained in radiologic monitoring. **(See resource box for information on training courses, above.)**

• **Use a dirty bomb scenario for a disaster drill.**

Suter advises you to use a dirty bomb scenario for your next drill, since it addresses both conventional trauma and radiation injuries. "Use an Oklahoma City-type incident where the terrorist puts radioactive waste in the truck," he says. "When the bomb explodes, it does all the usual trauma damage, plus now everything is contaminated with radioactive waste. It's as simple as that."

Gokenbach reports that her facility's next disaster drill will involve a dirty bomb explosion at a community office.

“This will include about 50 live victims and involvement by Royal Oak Fire Department and other private agencies,” she says.

However, Suter advises against limiting your plan to dirty bomb scenarios.

“If the unthinkable happens and a diverted nuclear warhead is detonated, it will cause a significant radiation disaster at the fringes of the blast and downwind,” he says. “Your hospital could be in one of these areas and need to react to save lives.” ■

Q&A: How has your ED changed since 9/11?

Although every ED is unique, one thing is certain: None have remained unchanged in the aftermath of 9/11. Here, *ED Management* gives a one-year follow-up to the terrorist attacks, asking the questions “How has your disaster plan changed in the past year?” and “What is your single most pressing concern now?” Here are responses of ED managers:

□ “We completely overhauled our disaster/readiness training and response plan following the events of 9/11. This included a review of the management of the command center depending on the scenario presented. Once the plan was complete, training began at a high level, with all managers attending a session about the new processes. The managers were responsible to fan out that training to the respective units. The entire emergency staff received mandatory HazMat training including chemical, biological, and nuclear exposures. We purchased Level B suits, and training in the suits was conducted. Security and registration staff were trained by the safety department. We then began a series of internal drills to work with the suits and scenarios.”

— **Andrew G. Wilson, MD, FACEP**, Chief of Emergency Medicine, William Beaumont Hospital, Royal Oak, MI

□ “On Sept. 11, we were already in the process of revamping our emergency preparedness in light of the [Joint Commission on Accreditation of Healthcare Organizations] standards, which had been updated and published in January 2001. In the post-9/11 world, we have considerably broadened the process through the participation of more administrative leadership. The 9/11 disaster clearly concentrated the minds of senior management in a new way, and it has been helpful in gaining the attention

and support of others in the medical center. Making it all real is the greatest challenge to our ED. Staffing is tight, everyone has a nursing shortage, and staff members are constantly challenged to do more in a world of shrinking resources. Training and drilling staff is a time- and money-intensive activity, and without regular practice, knowledge and skills atrophy. Detailed plans mitigate this difficulty to some extent, but only just so much. Initial management of patients — mostly children — who present with a rash or complaint of chickenpox can serve as a drill for alerting staff to the need to manage a patient with an infectious rash. Evaluation of such real-life occurrences can help ED leadership in evaluating their preparation for a possible smallpox presentation. However, chickenpox incidence is diminishing as more infants receive the vaccine.”

— **Steven J. Davidson, MD, MBA**, Chair, Department of Emergency Medicine, Maimonides Medical Center in Brooklyn, NY

□ “We have now totally redesigned our disaster plan. Before 9/11, our plan was based on a multiple-casualty scenario. Now we have modified it to include bioterrorism and radiological emergencies. To this end, the hospital has undergone [Hospital Emergency Incident Command System] training. The budget request for an improved decontamination facility was approved very rapidly. We now have much improved capability in this regard. The ED staff feel much more confident that we can manage these types of emergencies. The most pressing concern concerning disaster preparedness is still the chronic high occupancy of the hospital beds and the inability to manage any surge capacity that we would need if there were to be a disaster. We have no space in the hospital, the ED is full, and we have patients in the waiting room waiting for monitored beds. To ask the ED to now manage an additional patient load, let alone 500 patients exposed to HAZMAT or smallpox, is unreasonable.”

— **Alasdair Conn, MD**, Chief of Emergency Medicine, Massachusetts General Hospital, Boston

□ “Our preparedness is more beefed up, and disaster planning is significantly improved. We have frequent updates, classes, and alerts from the Greater New York Hospital Association, which acts as our communication hub from the Mayor’s Office of Emergency Management. The hospital is exploring ways to make the institution more safe and resistant to terrorist threats/activities. My biggest concern is the money and time to train staff. We are doing this

on overtime and backfill, and will be overrunning our budgets, I am sure. I am glad that my institution is as far along in the planning process. Some of my colleagues are much further behind than we are. None of us feel we are truly ready, especially after 9/11.”

— **Laura Giles**, RN, ED nurse manager, Mount Sinai Medical Center, New York City ■

ED managers are planning for smallpox vaccine

As reports circulated that up to 500,000 health care workers may receive the smallpox vaccination this fall, proactive ED managers were busy formulating plans for this scenario.

“There is nothing easy about any of this,” says **Peggy Piering**, RN, director of emergency services and critical care for Northern Westchester Hospital in Mount Kisco, NY. “We try to address issues as we learn of them and make decisions accordingly, using local and state agencies as our advisors, while also deciding what is best for our patients, community in general, and staff.”

Most EDs are awaiting the final word before making definite plans for how this will be handled. “Since there are no final recommendations concerning smallpox vaccinations, we as an organization have not had a formal planning team to formulate a process around vaccinating our employees,” says **Ruth Henderson**, RN, ED nurse manager at Rochester, NH-based Frisbie Memorial Hospital.

[For the June 20, 2002, draft supplemental recommendations of the Advisory Committee on Immunization Practices for the Centers for Disease Control and Prevention (CDC), go to www.cdc.gov/nip/smallpox/supp_recs.htm. For updated information on smallpox vaccination plans, go to the CDC’s National Immunization Program’s home page on smallpox at www.cdc.gov/nip/smallpox/default.htm.]

However, Henderson notes that the facility’s employee health and infection control nurses will be expected to take the lead in any vaccination program that is recommended for health care workers. She also expects that several community based walk-in clinics affiliated with the hospital would be involved in the plan for any mass vaccination.

Meanwhile, ED staff are understandably eager to learn whether the vaccine will be given or not, and how an actual outbreak would be handled.

ED nurses specifically have expressed concerns

about whether they will be vaccinated in advance of a documented exposure and about availability of the vaccine if an outbreak does occur, reports **Barbara Coyne**, MBA, RN, director of emergency and trauma services at Lutheran General Hospital in Park Ridge, IL.

Coyne says that although her facility has a plan in place if the need for mass vaccination for smallpox should occur, it would be a challenge. She says the facility plans to work with the local health department to distribute the vaccine.

“ED personnel are on the front line and would benefit from the vaccination should a smallpox exposure be confirmed,” she stresses.

If the plan is to vaccinate health care workers without a confirmed case of smallpox, then Coyne says she will provide staff with information regarding side effects, contraindications, and current recommendations.

Piering says her facility does not have a formal or comprehensive plan for vaccination of ED staff. However, as a preliminary step, employees born before 1972 have been identified.

“We can assume that the vaccine was probably given to them. The list is easily generated from the hospital database and is kept confidential in employee health,” she says.

The next step would be to ask individuals on this list if they in fact received the vaccine, although Piering acknowledges this is still no guarantee of protection. “That is as far as we took it at this point,” she says.

If the decision is made to vaccinate ED staff, the plan is to use the list to assess risks for individual staff members. “At this point, this level of detail is only in the discussion phase,” Piering says.

Sources

For more information about how ED managers are planning for smallpox vaccination, contact:

- **Barbara Coyne**, MBA, RN, Director of Emergency and Trauma Services, Lutheran General Hospital, 1775 Dempster St., Park Ridge IL 60068. Telephone: (847) 723-5161. E-mail: Barbara.Coyne@advocatehealth.com.
- **Ruth Henderson**, RN, Emergency Department, Frisbie Memorial Hospital, 11 Whitehall Road, Rochester, NH 03867. Telephone: (603) 335-8133. E-mail: henderrc@hotmail.com.
- **Peggy Piering**, RN, CEN, Director, Emergency Services and Critical Care, Northern Westchester Hospital Center, 400 E. Main St., Mount Kisco NY 10549. Telephone: (914) 666-1567. Fax: (914) 666-1931. E-mail: PPiering@stellarishealth.org.

Of the 800 employees at the facility, 60 have been trained as first responders and will be donning personal protective equipment in the event of a smallpox outbreak, including ED staff, respiratory therapists, intensivists, security personnel, and some ICU staff, Piering says.

“They would need to be vaccinated first, and then we might have to consider further vaccination for other staff,” she says. ■

Web Alert: Vital Signs

Site: Center for Disaster Preparedness at the University of Alabama at Birmingham

Address: www.bioterrorism.uab.edu

For more information about the site, contact:

Thomas E. Terndrup, MD, Director, Center for Disaster Preparedness, University of Alabama at Birmingham, 625 19th St. S., JTN 266, Birmingham, AL 35249-7013. Fax: (205) 975-4662. E-mail: tterndrup@uabmc.edu.

Bioterrorism site uses screen saver to educate

Are you always on the lookout for innovative ways to educate staff about bioterrorism? Now a web site developed by the Center for Disaster Preparedness at the University of Alabama at Birmingham offers user-friendly resources, including an interactive screen saver.

The bioterrorism web site was developed by a group of investigators at the University of Alabama at Birmingham (UAB), and is funded by the Agency for Health Care Research and Quality in Rockville, MD.

The site offers a wealth of information for ED staff, such as help with making a differential diagnosis for several biological agents, says **Thomas E. Terndrup**, MD, professor and chair of the department of emergency medicine and director of the Center for Disaster Preparedness.

Users also can enter the web site via an interactive screen saver, which works as “passive education” for anyone walking by the computer, Terndrup says. (To access the screen saver, click on “UAB Center for Disaster Preparedness,” “Emerging & Rare Infections Screen Saver.”)

“It’s a billboard-like effect where you deliver a simple educational message,” he explains. “In this case,

there is a question inviting you to link to the web site,” Terndrup explains.

Users can review case-based scenarios with photos followed by multiple-choice questions and answers. A web-based download is being developed, which would allow for continuous updating of information on bioterrorism, Terndrup reports.

“There is a comprehensive and clinical summary content on the top two biological agents: smallpox and anthrax,” he adds. ■

Assessing trauma patients boosts efficiency

When a 3-year-old boy was transferred to Eastern Maine Medical Center (EMMC) in Bangor, ED staff were told he was stable. However, when the boy was given a score according to the hospital’s “trauma tier” prehospital triage system, it became clear the injuries were much more severe than anticipated.

Originally, the plan was to admit the child directly to the medical floor, but instead he went straight to the operating room for emergency surgery to remove a ruptured spleen, says **Erik N. Steele**, DO, ABFP, the facility’s administrator for emergency and trauma services.

Steele explains that the ED uses a unique prehospital assessment process to gauge the severity of trauma patients’ injuries before they get to the ED and to predict what level of response is needed. “This helps us identify patients who are actually sicker than they are described to us, either because there were injuries that were not recognized, or because the patient’s condition deteriorated on the way here,” he says.

Patients are given a score of Tier One, Two, or Three,

Executive Summary

By scoring trauma patients before they arrive in the ED, a Maine ED reports improved care, fewer problems with on-call physicians, and more efficient use of hospital resources.

- On-call surgeons previously were contacted for all trauma cases, but now they are contacted only if scores indicated this is necessary.
- Only a small percentage of trauma patients actually need a surgeon immediately.
- The trauma team is called in before the patient arrives if scores show it is needed, but otherwise, the team is not mobilized.

Sources

For more information about the preassessment system for trauma patients, contact:

- **Pret Bjorn**, Trauma Coordinator, EMMC Trauma Program, 489 State St., Bangor, ME 04401. Telephone: (207) 973-7260. Fax: (207) 973-7673. E-mail: pbjorn@emh.org.
- **Erik N. Steele**, DO, ABFP, Eastern Maine Medical Center, 489 State St., Bangor, ME 04401. Telephone: (207) 973-8270. Fax: (207) 973-8267. E-mail: esteele@emh.org.

so that the hospital's trauma response is in place before the patient arrives, he explains. **(See chart on staff called in for each tier, inserted in this issue.)** A hospital committee developed the tier system based on Maine's existing prehospital triage system. "We can score the patient in a matter of seconds using our triage form," Steele says. **(See EMMC Emergency Services Trauma Triage Worksheet, inserted in this issue.)**

Here are benefits of the trauma tier scoring system:

- **Resources are used more efficiently.** Steele notes that previously, the hospital's trauma team was mobilized for trauma cases, although they were not needed for the vast majority. "This tool will help you determine what kind of patient you are getting, so you can match up the response to the patient," he says.

For example, the scoring system reliably predicts which patients will require a bed in the intensive care unit (ICU), an OR, or surgeon, he says.

He says this system would allow smaller EDs without in-house residents and other surgeons to avoid over committing limited resources. "For a rural ED, calling up a trauma response means calling nurses, surgeons, and anesthesiologists in from home," he notes. "If you can do that only when a reliable system suggests you should, you can use those precious resources appropriately."

For instance, data have shown that 82% of the Tier One (most severe) trauma patients will go to the ICU or die in the ED. Based on that statistic, an accurate prediction can be made as to what resources, such as an ICU bed or respiratory therapy, will be needed, says Steele. A smaller ED might use this to predict who is going to be transferred, he suggests, so that that process can be started.

Previously, Steele says, the team was not called in until the patient arrived. "That means that with severely injured patients, there is a chance that you won't have the team there when you need them. Or you will overcorrect and call in the team every single time, in which case they will come in lots of times and be sitting

around." That process is costly and hard on the call teams, he adds.

A trauma team is a significant dedication of resources, notes **Pret Bjorn**, the facility's trauma coordinator. "If you call in the trauma team every time you hear the screech of tires on the road, you are not going to create a system that endorses itself to surgeons or administration."

- **Relationships with on-call physicians are improved.** Before the tier system was implemented, Steele reports that there were problems with on-call physicians who thought the ED called them needlessly.

The system allows the ED to predict which patients need a general surgeon immediately, and which of those need the general surgeon within 30 minutes, Steele says. "In exchange for calling only when we need them, they always come in, and there is no argument," he says. "The surgeons are pretty much guaranteed to get sick patients if they respond to a trauma page."

Only for a very small group of patients is the on-call physician required to drop everything and come to the ED, Steele says. "For a slightly larger group, they will need to come within 30 minutes. And for about 80% of the population, we don't call until we've assessed the patient, which means they may not even hear from us," he explains.

The goal is to avoid a knee-jerk response based on unscientific information, says Bjorn. "The goal is to cooperate with general surgeons and make life reasonable for them," he underscores.

Frequently, victims of motor vehicle crashes arrive largely uninjured and won't require the general surgeon immediately, at least, Bjorn notes.

"It only takes three or four times of calling in the surgeon when the patient is fine, before they are reluctant to come in next time you call," he says. ■

EMTALA

Q & A

[Editor's note: This column is part of an ongoing series that will address reader questions about the Emergency Medical Treatment and Labor Act (EMTALA). If you have a question you'd like answered, contact Staci Kusterbeck, Editor, ED Management, 280 Nassau Road, Huntington, NY 11743. Telephone: (631) 425-9760. Fax: (631) 271-1603. E-mail: StaciKusterbeck@aol.com.]

Question: Is it a violation to fail to recheck vitals prior to dismissal or transfer (since without repeat

vitals it cannot be determined if the patient has been stabilized)?

Answer: There is no specific EMTALA requirement for vital signs to be taken prior to transfer or discharge, according to **Jonathan D. Lawrence, MD, JD, FACEP**, an ED physician and medical staff risk management liaison at St. Mary Medical Center in Long Beach, CA. "As the reader correctly points out, it may not be possible to attest to the patient's stability for transfer or discharge unless vital signs are taken," he says. "But I wouldn't go so far as to say it is impossible to determine stability without repeat vital signs."

He gives the following example: A patient with an isolated finger flexor tendon laceration being transferred for hand surgery who looks well, is in no pain, has no active bleeding, and is awake, alert, and in no apparent distress can be deemed to be stable without a repeat set of vital signs. As a practical matter, though, it's easier to have a blanket policy of repeating vital signs prior to transfer or discharge rather than leaving it up to judgment," Lawrence says.

Question: Our freestanding ED is affiliated with a major university hospital located 12 miles away, and we are staffed by the same physicians. At this time, our freestanding facility is unable to provide vascular studies and helical computed tomography scans. When our patients require one of these exams, they need to be sent down to the main facility. What do you suggest as an appropriate protocol for this scenario? Should the patients be transferred by ambulance, private auto if stable, or transferred to the main ED to continue their care?

Answer: Lawrence says he is not comfortable with protocols allowing for EMTALA transfers by private automobile. "That is not to say it is never appropriate, but the only way I can be sure a patient gets to where [he or she] needs to go is by ambulance," he says.

He notes that EMTALA requires the transfer to take place with appropriately trained personnel. "To me, that means emergency medical technicians at a minimum," he says.

Lawrence explains that even if there is virtually no likelihood that a life- or limb-threatening event would occur during transport, delays can occur. "The private

automobile driver will get lost, decide that a lunch stop is more important, run out of gas, have a breakdown, or otherwise not arrive at the desired destination within an appropriate length of time," he says.

He points to the example given of helical computed tomography scans. "I have a hard time imagining a scenario where one of these studies is needed on a stat basis and the patient is perfectly stable without any reasonable likelihood of deterioration, which is the EMTALA definition of stability," he says. "I see no reason why the policy shouldn't be to send these patients by ambulance only." ■

Here are new regs for on-call physicians

Are you looking for an incentive for physicians to take call at your ED? The Baltimore-based Centers for Medicare & Medicaid Services (CMS) has revised Emergency Medical Treatment and Labor Act (EMTALA) regulations regarding on-call physicians.

In a letter to its regional offices, CMS said that physicians are now allowed to provide coverage simultaneously at several hospitals to maximize patient access to care.

However, when an on-call physician is simultaneously on-call at more than one hospital in the geographic area, CMS said all hospitals involved must be aware of the schedule.

The letter says that that hospitals should "continue to have the flexibility to meet their EMTALA obligations by managing on-call physician coverage in a manner that maximizes patient stabilizing treatment as efficiently and effectively as possible. When the on-call physician is simultaneously on-call at more than one hospital in the geographic area, all hospitals involved must be aware of the on-call schedule as each hospital independently has an EMTALA obligation."

According to **Nancy J. Auer, MD, FACEP**, vice president for medical affairs and former director of emergency services at Swedish Medical Center, the changed rule is an advantage for smaller hospitals whose call volume is not great enough to make it economically feasible for a physician to want to be on call.

If an on-call physician can reduce the number of on-call shifts he/she must cover, and know the volume of the calls will result in more financial gain from seeing a greater number of patients, then the physician is more likely to agree to be on the call list, Auer says.

"This solution will not fix the problem, but will reduce the problem," Auer says. "The only fix for the

Source

For more information about EMTALA, contact:

- **Jonathan D. Lawrence, MD, JD, FACEP**, Emergency Department, St. Mary Medical Center, 1050 Linden Ave., Long Beach, CA 30813. Telephone: (562) 491-9090. E-mail: jdl28@cornell.edu.

Source

For more information about EMTALA requirements for on-call physician coverage, contact:

- **Nancy J. Auer**, MD, FACEP, Vice President for Medical Affairs, Swedish Medical Center, 700 Minor Ave., Seattle, WA 98104. Telephone: (206) 386-6071. Fax: (206) 386-2277. E-mail: nancy.auer@swedish.org.

problem would be for CMS to reimburse a physician for on-call obligations. As it stands, it is still an unfunded mandate.”

In another recent letter in question-and-answer format, CMS clarified a different aspect of requirements for on-call physicians. CMS now says that if a particular specialty is unavailable at a hospital when an ED patient presents, it is “appropriate to transfer because the medical benefits outweigh the risks.”

Auer says that if an on-call physician is unavailable for any reason to come assist in the care of a patient, the ED physician should transfer the patient to the level of care the patient needs.

“The new laxity, or interpretation, of the rule does

not require a hospital with minimal coverage in a given specialty to provide 24-hour coverage in that specialty,” she explains.

However, Auer cautions that it does require the hospital to have a plan for caring for those patients when that particular specialist is unavailable.

She gives the following example: Two neurosurgeons cover their hospital three weeks out of four, but need relief at least one week of the month. To cover neurosurgical patients on the off week, the hospital agrees to transfer neurosurgical patients to the hospital down the street, which has uninterrupted neurosurgical coverage.

To make this work without being an EMTALA violation, the receiving hospital and its medical staff must agree they will accept neurosurgical patients in transfer, says Auer. “Such agreements should be in writing before any transfers occur and outline all procedures to be followed,” she advises.

(Editor’s Note: To read the CMS Program Memorandum on Simultaneous On-Call Responsibilities, go to www.acep.org/1,5272,0.html. To read the CMS Question and Answer Program Memorandum on EMTALA On-Call Responsibilities, go to www.acep.org/1,5273,0.html.) ■



JOURNAL REVIEW

Spaite DW, Bartholomeaux F, Guisto J, et al. **Rapid process redesign in a university-based emergency department: Decreasing waiting time intervals and improving patient satisfaction.** *Ann Emerg Med* 2002; 29:168-177.

A process improvement team can dramatically improve patient flow and reduce delays in the ED, says this study from the University Medical Center in Tucson, AZ. Several process improvement teams gave the following recommendations for changes that were implemented over two months in 1998:

- changing nursing responsibility from five or six beds per nurse to no more than four beds per nurse, to increase availability of nurses;
- placing similar patients together. “By redistributing nursing resources, less ill patients were not held hostage to sicker ones and could be more efficiently treated,” say the researchers;
- creating a new 24-hour clerical position to separate order processing from communication tasks;
- rearranging the triage process so that the triage

nurse does a brief assessment, identifies a room, radios the charge nurse and registration clerk of the patient’s destination, then places the patient in a room;

- changing the process of obtaining and ordering radiographs, by implementing electronic transcription of orders, placing a film printer in the ED radiology suite, and increasing radiology staffing.

As a result of these and other changes, after a six-month period, median waiting room time decreased from 31 minutes to four minutes, and throughput times decreased from four hours and 21 minutes to two hours and 55 minutes.

The researchers note that these improvements took place despite increase in ED volume over the previous year. However, they note that there must be commitment and support from the highest levels of the hospital to succeed.

“The absence of this major focus would doom an undertaking such as this to failure,” they write. ■

*Newsletter binder full?
Call 1-800-688-2421
for a complimentary
replacement.*



(Continued from cover)

The first hurdle to overcome in developing a pain management strategy is the misconception that effective pain management is not a problem within your facility or does not need to be a high priority. The audio conference **Complying with JCAHO Pain Management Standards: Is Your Facility at Risk?** is scheduled for Oct. 8, from 2:30-3:30 p.m., ET. Conference speakers **Patrice L. Spath, BA, RHIT**, and Michelle H. Pelling, MBA, RN, will teach participants how to:

- Comply with the new Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards relating to pain medication range orders and titration.
- Integrate the Joint Commission's "Speak Up" campaign into your patient education initiatives. The groundbreaking program encourages patients to become active, involved, and informed participants on the health care team.
- Develop a performance measurement system to evaluate the effectiveness of pain management and continually monitor and improve outcomes.
- Avoid documentation deficiencies and staff complacency that can derail your pain management program.

"Hospitals must have a systemwide standard of care for pain management that will reduce patient suffering from preventable pain," Spath says. "Failure to meet this standard of care can result in a Type I recommendation from JCAHO. But more important, inadequate pain management will undermine patients' confidence in the quality of care provided by your health care facility." A Type I recommendation would require your health care organization to resolve insufficient or unsatisfactory pain management standards compliance in a specified amount of time to maintain your accreditation.

Federal regulators are turning up the heat on needle safety compliance, increasing inspections and issuing more than a million dollars in fines in less than a year. The Occupational Safety and Health

Administration (OSHA) dramatically has stepped up enforcement of needle safety provisions. Between July 2001 and May 2002, OSHA issued 1,876 citations for those who still haven't gotten the message that needle safety is now the law of the land. These facilities were slapped with \$1.3 million in fines, and only about 20% of the inspections were prompted by an employee complaint.

With random visits a possibility, you need to know the latest regulatory information to ensure you can pass muster with OSHA while protecting your employees and patients. **Sharps Safety Compliance: How to Avoid OSHA Citations and Costly Fines** is slated for Wednesday, Oct. 23, 2:30-3:30 p.m., ET. Our program will feature practical handouts and guidance along with the answers to some of your most pressing questions. OSHA expert Katherine West, BSN, MSED, CIC, veteran infection control consultant at Infection Control/Emerging Concepts in Manassas, VA, will review the latest OSHA requirements and give you the inside tips necessary to pass any future inspection with flying colors. Bruce E. Cunha, RN, MS, COHN, manager of health and safety at Marshfield (WI) Clinic, has 24 years working experience on the front lines of occupational health and safety. He will provide vital insight on what practitioners can do to ensure safety for clinical procedures for which there are currently no safety needles available.

Educational programs for hospital staff at all levels can ensure that sound pain management and sharps safety standards are understood and put into practice. To sign up for either conference, call (800) 688-2421 and mention effort code **62751** for pain management and **62761** for sharps safety. The facility fee for each program is \$299, which includes free CE for pain management and free CE or CME for sharps safety. Also included with each conference package are program handouts and additional reading, a convenient 48-hour replay, and a conference CD. If you sign up for both audio conferences, your cost is only \$500. That's a \$100 discount. Don't miss out. Educate your entire facility for one low fee. ■

Clinical trials harmed by lack of informed consent

The mention of clinical trials often triggers a silence between physician and patient, usually because neither one knows much about the subject.

Nearly 80% of physicians admit they would like to know more about clinical trials so they can help their patients make an informed decision before volunteering to participate.

"Most subjects enrolled in clinical studies have a

meager understanding of what they have gotten into," says **Alan Sugar, MD**, chairman of the New England Institutional Review Board and professor of medicine at Boston University School of Medicine. "Informed consent has largely focused around the signed form and has not practically become the continuous process that it needs to be. As a result, a subject's misunderstandings largely go unchallenged," he says.

Properly informing patients is not only ethically necessary, say clinical trials experts, but it also ensures better trials and data. Last year, more than 17 million people thought seriously about participating, but only a few million actually completed their trials. Many gave

their consent without a thorough knowledge of the facts.

“There’s a simple ethical mandate that you don’t ordinarily do dangerous things to people without their knowledge and consent,” explains **Dale E. Hammerschmidt**, MD, FACP, associate professor of medicine and director of Education in Human Subjects’ Protection for the University of Minnesota Medical School in Minneapolis. “From a more pragmatic perspective, a well-informed subject is likely to cooperate better with the trial and is more likely to report potential problems,” he says. “The quality of the data and the safety of the trial are both enhanced when the subjects really know what’s going on.”

Patients can be so daunted by questions and lack of information that they simply decide not to volunteer. A new resource, written for doctors and clinical trial participants, can help answer some of these tough questions. Boston-based CenterWatch, the leading publisher of clinical trial news and information, now offers *Informed Consent*, a consumer’s guide to the risks and benefits of volunteering for clinical trials.

Informed Consent is a step-by-step guide with a history of the clinical trials industry. It explores the drug development process and how a new drug makes its way to the marketplace. The cost is \$16.95, and it can be ordered from CenterWatch at (800) 765-9647 or by fax at (617) 856-5901. *Informed Consent* also can be ordered through these web sites: centerwatch.com, Amazon.com, and barnesandnoble.com. ■

CE/CME objectives

Save your monthly issues with the CE/CME questions to take the two semester tests in June and December issues. A Scantron sheet will be inserted in those issues, but the questions will not be repeated.

1. Name one recommendation for a nuclear component to a disaster plan. (See “*Dirty bomb*” threat puts spotlight on unprepared EDs: Do you have a plan?”)

2. Identify one effective plan for smallpox vaccination of ED staff. (See “*ED managers are planning for smallpox vaccine.*”)

3. List one benefit of a scoring system to assess trauma patients. (See “*Assessing trauma patients boosts efficiency.*”)

4. Name one way to comply with EMTALA regulations for patients sent for diagnostic tests. (See “*EMTALA Q&A.*”)

5. Cite one EMTALA requirement for on-call physicians. (See “*Here are new regs for on-call physicians.*”)

6. Name one necessary component to reduce delays in the ED. (See “*Journal Review.*”) ■

CE/CME questions

To obtain contact hours for this semester, answer the questions for April-September 2002, complete the survey and Scantron in this issue and return in the enclosed envelope. **Note:** *The questions were incorrectly numbered in the April issue. They should have been 1-6.*

31. Which of the following is recommended for developing a nuclear terrorism component to a hospital disaster plan, according to Dan Hanfling, MD,

ED Management® (ISSN 1044-9167) is published monthly by American Health Consultants®, 3525 Piedmont Road, N.E., Six Piedmont Center, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals postage paid at Atlanta, GA. POSTMASTER: Send address changes to **ED Management**®, P.O. Box 740059, Atlanta, GA 30374-9815.

ED Management® is approved for approximately 18 nursing contact hours. This offering is sponsored by American Health Consultants®, which is accredited as a provider of continuing education in nursing by the American Nurses’ Credentialing Center’s Commission on Accreditation. Provider approved by the California Board of Registered Nursing, Provider Number CEP 10864, for approximately 18 contact hours. American Health Consultants® is accredited by the Accreditation Council for Continuing Medical Education to sponsor CME for physicians. American Health Consultants® designates this continuing medical education activity for 18 credit hours in Category 1 of the Physicians’ Recognition Award of the American Medical Association. This activity was planned and produced in accordance with ACCME Essentials. **ED Management**® is also approved by the American College of Emergency Physicians for 18 hours of ACEP Category 1 credit. Physician members of American Health Consultants® 1999 Continuing Medical Education Council: Stephen A. Brunton, MD; Dan L. Longo, MD; Ken Noller, MD; Gregory Wise, MD and Fred Kauffman, MD, FACEP.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291 (customerservice@ahcpub.com).

Hours of operation: 8:30 a.m.-6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday, EST. Subscription rates: U.S.A., one year (12 issues), \$449. Outside U.S., add \$30 per year, total prepaid in U.S. funds. Two to nine additional copies, \$359 per year; 10 to 20 additional copies, \$269 per year; for more than 20, call (800) 688-2421 for special handling. Missing issues will be fulfilled by customer service free of charge when contacted within 1 month of the missing issue date. Back issues, when available, are \$75 each. (GST registration number R128870672.)

Photocopying: No part of this newsletter may be reproduced in any form or incorporated into any information retrieval system without the written permission of the copyright owner. For reprint permission, please contact American Health Consultants®. Address: P.O. Box 740056, Atlanta, GA 30374. Telephone: (800) 688-2421, ext. 5491. Fax: (800) 284-3291. World Wide Web: <http://www.ahcpub.com>.

Opinions expressed are not necessarily those of this publication. Mention of products or services does not constitute endorsement. Clinical, legal, tax, and other comments are offered for general guidance only; professional counsel should be sought for specific situations.

Editor: Staci Kusterbeck.

Vice President/Group Publisher: Brenda Mooney, (404) 262-5403, (brenda.mooney@ahcpub.com).

Editorial Group Head: Valerie Loner, (404) 262-5475, (valerie.loner@ahcpub.com).

Senior Managing Editor: Joy Daughtery Dickinson, (229) 377-8044, (joy.dickinson@ahcpub.com).

Senior Production Editor: Ann Duncan.

Copyright © 2002 by American Health Consultants®.

ED Management® is a registered trademark of American Health Consultants®. The trademark **ED Management**® is used herein under license. All rights reserved.

Statement of financial disclosure: To reveal any potential bias in this publication, and in accordance with the Accreditation Council for Continuing Medical Education guidelines, we disclose that Dr. Auer (editorial advisory board member) discloses that she has no conflicts of interest; Dr. Bukata (advisory board member) is president of the Center for Medical Education and is the developer of EDITS software; Dr. Joseph discloses that he is a stockholder in AMC Registry. Dr. Mayer (advisory board member) is a stockholder in Emergency Physicians of Northern Virginia Ltd. and Patient Care and ED Survival Skills Ltd.; Dr. Yeh (advisory board member) serves as a consultant to Dynamics Resource Group, a spokesperson for Medic Alert, and a member of the board of directors for Vital Solutions and MassPRO.

THOMSON
AMERICAN HEALTH
CONSULTANTS

Editorial Questions

For questions or comments, call Joy Daughtery Dickinson, (229) 377-8044.

FACEP, director of emergency management and Disaster Medicine, Inova Health System?

- A. Use of lead aprons for personal protective equipment
 - B. Excluding nuclear scenarios except for dirty bombs
 - C. Planning for large urban facilities to handle all decontamination
 - D. Screening of victims of disasters involving explosives
32. What is an effective way to handle the possibility that ED staff will be vaccinated for smallpox, according to Peggy Piering, RN, CEN, director of emergency services and critical care at Northern Westchester Hospital Center?
- A. Using local and state agencies as advisors
 - B. Informing staff born after 1972 that vaccination is not a priority
 - C. Vaccinating staff on first-come, first-served basis
 - D. Handling vaccination of security staff only after first responders have been vaccinated
33. Which is a benefit of the scoring system for trauma patients used by Eastern Maine Medical Center?
- A. General surgeons always report in 30 minutes.
 - B. The trauma team is mobilized more often.
 - C. On-call physicians are called only when needed.
 - D. On-call physicians are called for all trauma cases.
34. Which of the following is recommended for a policy to comply with EMTALA requirements for patients sent for diagnostic tests, according to Jonathan D. Lawrence, MD, JD, FACEP, an ED physician at St. Mary Medical Center?
- A. Stable patients are transported by private car.
 - B. Private transportation is used if the patient goes directly to the other facility.
 - C. Ambulances are used only if patients have no transportation.
 - D. Appropriately trained personnel must be present during transport.
35. Which of the following is true regarding updated EMTALA regulations for on-call physicians?
- A. Physicians are now allowed to provide coverage simultaneously at several hospitals.
 - B. Physicians are allowed to provide coverage only at one hospital.
 - C. Hospitals do not need to be aware of the on-call physicians' schedule.
 - D. Physicians will be guaranteed reimbursement for on-call obligations.
36. Which is necessary to reduce delays in the ED, according to a study published in *Annals of Emergency Medicine*?
- A. Significant investments in computer tracking tools
 - B. Commitment from hospital administration
 - C. Decrease in patient volume
 - D. Increasing the size of the department

EDITORIAL ADVISORY BOARD

Executive Editor: Larry B. Mellick, MD, MS, FAAP, FACEP
Chair and Professor, Department of Emergency Medicine
Section Chief, Pediatric Emergency Medicine
Medical College of Georgia, Augusta

Nancy Auer, MD, FACEP
Director of Emergency Services
Swedish Medical Center
Seattle

James J. Augustine, MD, FACEP,
Vice Chair, Clinical Operations,
Department of Emergency Medicine,
Emory University, Atlanta

Kay Ball, RN, MSA, CNOR, FAAN
Perioperative Consultant/Educator
K & D Medical
Lewis Center, OH

Larry Bedard, MD, FACEP
Senior Partner
California Emergency Physicians
President
Bedard and Associates
Sausalito, CA

Richard Bukata, MD
Medical Director, Emergency
Department
San Gabriel Valley Medical Center
San Gabriel, CA
Associate Clinical Professor
Department of Emergency Medicine
Los Angeles County/USC Medical
Center

Diana S. Contino, RN MBA, CEN,
CCRN
President
Emergency Management Systems
Monarch Beach, CA

William H. Cordell, MD, FACEP
Director, Emergency Medicine
Research and Informatics
Methodist Hospital
Indiana University School of
Medicine
Indianapolis

Nancy Eckle, RN, MSN
Program Manager,
Emergency Services
Children's Hospital,
Columbus, OH

Caral Edelberg, CPC, CCS-P
President
Medical Management Resources
Jacksonville, FL

James A. Espinosa,
MD, FACEP, FFAFP
Chairman, Emergency Department
Overlook Hospital, Summit, NJ
Director, Quality Improvement
Emergency Physicians Association

Gregory L. Henry, MD, FACEP
Clinical Professor
Department of Emergency Medicine
University of Michigan Medical School
Vice President, Risk Management
Emergency Physicians Medical Group
Chief Executive Officer
Medical Practice Risk Assessment Inc.
Ann Arbor, MI

Maryfran Hughes, RN, MSN, CEN
Nurse Manager
Emergency Department
Massachusetts General Hospital
Boston

Tony Joseph, MD, MS, FACEP
President
American Medical Consulting
Dublin, OH

Marty Karpel, MPA
Ambulatory Care Consultant
Karpel Consulting Group
Long Beach, CA

Thom A. Mayer, MD, FACEP
Chairman
Department of Emergency Medicine
Fairfax Hospital
Falls Church, VA

Michelle Regan Donovan
RN, BSN, President
Millennium Strategies Inc.
Charlottesville, VA

Richard Salluzzo, MD, FACEP
Chief Medical Officer
Senior Vice President
for Medical Affairs
Conemaugh Health System
Johnstown, PA

Norman J. Schneiderman, MD,
FACEP, Medical Director of
Integrative Care Management
Attending Physician, Emergency
and Trauma Center
Miami Valley Hospital
Clinical Professor
Emergency Medicine
Wright State University
Dayton, OH

Robert B. Takla, MD, FACEP,
Medical Director,
Emergency Services,
St. John NorthEast Community
Hospital, Detroit

Michael J. Williams, President
The Abaris Group
Walnut Creek, CA

Charlotte Yeh, MD, FACEP
Medical Director, Medicare Policy
National Heritage Insurance Co.
Hingham, MA

Radiation Exposure/Decontamination

General Information:

Patients exposed to radioactive material may come from the following general sources:

- The Fermi Reactor, Monroe, MI.
- As a result of an accident during the transportation of radioactive materials.
- Laboratories, such as Industrial, Radiography, Nuclear Medicine, Radiation Therapy, etc.
- Terrorist attack involving a radioactive release from a radiation dispersal device ("dirty bomb").

There are two general categories of radiation incidents (these may occur in combination):

- External exposure: irradiation from a source distant or in close proximity to the body.
- Contamination: unwanted radioactive material in or on the body.

Discovery:

- The Emergency Center (EC) is notified by an outside agency of an incident that may result in contaminated patients. This may be from Police, Fire, EMS, Oakland County Emergency Operations Center, or others.
 - The EC should obtain as much information as possible concerning the nature of the radiation exposure or contamination, such as:
 - *Where was the accident?*
 - *How many people are involved?*
 - *How much radioactivity is involved, type, and form?*
 - *Has any bodily injury occurred as a result of the accident?*
 - ***Instruct caller to bring the radioactive contamination patient to the decontamination room in the EC.***
 - One or more contaminated patients arrive at the EC without notification.

Initial Assessment:

The EC will notify the Radiation Safety Officer and Nuclear Medicine physician.

The Radiation Safety Officer and Nuclear Medicine physician will have responsibility to monitor patients and personnel and the authority to control movement of the patients and personnel.

The EC will assess its ability to treat the expected incoming patients. Assessment criteria include:

- EC staffing levels.
- Number of current patients.
- Current patient conditions.
- Expected number of incoming patients.
- Expected condition of incoming patients.

Activation of Emergency Management Plan:

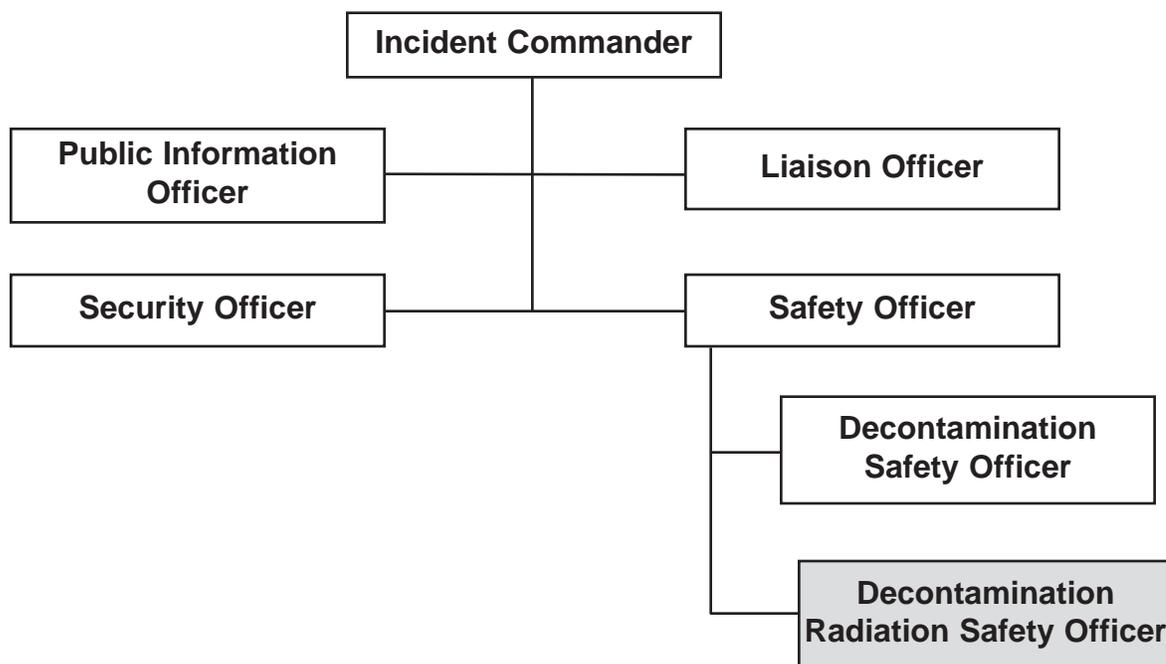
If the EC (in collaboration with the Radiation Safety Officer) determines that the incident will significantly disrupt care in the EC or hospital, they are to activate the Emergency Management Plan. The EC will evaluate patient status and discharge or admit patients as appropriate to reduce the patient load in the department.

Hospital Notification:

The EC will contact the Hospital Operator at 18888 and activate the appropriate code (Yellow or Orange).

Initial Response:

- The Senior EC Administrator or Manager on duty is in charge until the Incident Command System (ICS) is established.
- The Radiation Safety Officer may serve as the Incident Commander until ICS is established.
- Hospital personnel are to return to their departments and remain unless relieved by their supervisor.
- Representatives from EC, Hospital Administration, Public Relations, Safety, and Security will meet in the EC Control Center (suggested location: EC Conference Room, First floor) to fill the activated positions and assess the required response.
- The ICS is activated. Initial positions to be filled are:
 - Incident Commander (Command Section) (**suggested commanders: Medical or Hospital Administrator, Chief Emergency Medicine, Administrative Emergency Center Physician, Director Emergency Nursing, Administrative Manager Emergency Center, Administrative Representative**)
 - Public Information Officer (Command Section)
 - Safety Officer (Command Section) and Radiation Safety Officer (Command Section)
 - Liaison Officer (Command Section)
 - Security Officer (Command Section)
 - Decontamination Radiation Safety Officer (Radiation Safety Officer)
 - Patient Care Director (Operations Section)
 - Medical Staff Unit Leader (Operations Section)



Response Plan:

Management and Treatment:

- Treat and stabilize life-threatening injuries.
- Prevent/minimize internal contamination.
- Assess external contamination and decontamination (use survey, wash, rinse sequence).
- Contain contamination to Decontamination Room.
- Minimize external contamination to medical personnel.
- Assess internal contamination.
- Assess local radiation injuries/burns.
- Follow up patients with significant whole body irradiation or internal contamination.
- Counsel the patient and family about potential long-term risks/effects.

General Precautions:

- Pregnant employees should not treat contaminated individuals.
- Female personnel of childbearing age should not enter treatment room designated for radioactive contaminated patients.
- Persons with open cuts or sores should not treat radiation accident victims.
- Care should be exercised to avoid radioactive contamination of the mouth of the victim or those attending him/her. Eating, drinking, and gum chewing are not allowed while treating contaminated individuals.
- Where possible, use long-handled forceps to pick up contaminated materials.
- Place bags of contaminated and suspected contaminated items to be monitored, as far away as possible from patient and attendants.
- Avoid spreading contamination. Do not walk in contaminated areas unless necessary and only after suitable precautions have been taken, e.g., OR gowns and protective shoe covering.
- Emesis, urine, or stool from a contaminated patient must be covered with absorbent material and plastic and the area cordoned off to eliminate spread of contamination. Disposal of such material will be directed by the Radiation Safety Officer.

Radiation Safety Officer/Nuclear Medicine Physician

- Proceed immediately to the EC. Obtain the survey instrument from the decontamination cabinet.
- Consult EC Physician and survey the patient for radiation.
- After any life-threatening injuries are treated and the patient stabilized, the Nuclear Medicine physician may proceed to decontamination in conjunction with the Radiation Safety Officer and Nuclear Medicine Radiation Safety designate.
- If the patient has not yet arrived, wait at the ambulance entrance.
- Monitor as the situation requires, including ambulance driver, attendants, orderlies, nurses, doctors, patients, and any one who might have become contaminated. All monitoring data are to be recorded as obtained. Data relating to the patients should be added to their charts.
- Advise physicians on decontamination and indicate anatomical regions where smears should be taken from.
- Supervise:
 - Disposition of contaminated objects, clothing, and waste materials.
 - Room decontamination.
 - Clean up as required.
- Radiation Detection and Decontamination Equipment
 - Portable monitor GM survey meter
 - Radiation badges
 - Stop watch
- Protective Clothing (disposable when possible)
 - Gowns, coveralls, or surgical scrub suits
 - Rubber or plastic gloves
 - Rubber or plastic shoe covers
 - Dust respirators

Patient Flow

- Radiation exposed patients are placed in the designated room, the decontamination room.
- Following decontamination, patients are taken to Nuclear Medicine for monitoring or admitted into a private room, if necessary.
- Patients needing immediate surgery are taken to OR.
- Discharged patients are followed up by Nuclear Medicine if necessary.

Patient Care

- Outer clothing and shoes should be removed immediately, double-bagged and labeled with patient's name.
- The stretcher, sheets, clothes, etc., of the patient should be left in the Decontamination Room until surveyed by the Radiation Safety Officer or designate, or the Nuclear Medicine physician, and either released or disposed of properly.

Personnel

- Ambulance personnel, aides, etc., must remain in the Holding Room until surveyed and released. Until surveyed, EC personnel must not handle other patients.
- Personnel should wear disposable gloves, gowns, and shoe covers at all times when working with a radioactive contamination victim and discarded in the place designated by the Radiation Safety Officer.
- Personnel will be assigned radiation badges by the Radiation Safety Officer.

Medical Care

- If bodily injury has occurred, the EC physician will be responsible for these aspects of the patient's care. He/she will be advised by the Nuclear Medicine physician and Radiation Safety Officer. If admission is necessary, the patient may be admitted to Surgery or to Medicine as decided by those attending the patient.
- If there is no injury, the nuclear medicine physician will be responsible for the patient.
- In either case, it is suggested that the Nuclear Medicine physician be responsible for giving the information relating to the condition of the patient to the Hospital Information Officer. The Hospital Information Officer, the Hospital Radiation Safety Officer, and the attending physician will advise the Nuclear Medicine physician.
- The responsibility of the Nuclear Medicine physician is to advise the EC staff in case of life-threatening injury. In the case of nonlife-threatening injury, he/she will assume the responsibility for the patient's care.

Rooms and Belongings

- All rooms used in the examination and treatment of radioactive contamination cases must be surveyed by the Radiation Safety Officer or designate before release. If necessary, these rooms must be decontaminated before being used for any other purpose.
- All materials collected for radionuclide analysis (clothing, swabs, blood, urine, etc.) should be labeled and saved. These are to be sent to Nuclear Medicine.

Contamination Control and Confinement

- Plastic bags to receive contaminated clothing, etc.
- Decontamination detergents and foam.
- Plastic test tubes and magic markers.
- Forceps
- Radiation Accident Exposure Log for Clipboard
- Lead shielded container
- List of Contact numbers
- Rope and stand
- Absorbent paper
- Sponges, soap, and tissues
- Alcohol swabs and cotton swabs
- Radiation signs and tags
- Masking tape, adhesive tape, or electronic tape.

Sustained Actions:

The Incident Commander is responsible to continually assess the adequacy of the response of the hospital to the incident and to activate the necessary portions of the Incident Command System.

Termination and Recovery:

All or portion of the ICS may be terminated when no longer needed. When the Incident Commander (IC) determines that the normal resources and organization can handle the situation, they may terminate the response. When final termination is made, the IC will contact the Hospital Operator and place the hospital in Code Green.

An assessment of every incident will be performed.

Source: William Beaumont Hospital, Royal Oak, MI.

Source: Eastern Maine Medical Center, Bangor.

Here are staffing needs for trauma patients

Here are the minimum personnel mobilized for each category of trauma patients arriving at Eastern Maine Medical Center in Bangor, according to the hospital's Trauma Tier prehospital triage system:

	Tier One	Tier Two	Tier Three
Operational theme; system expectations	<ul style="list-style-type: none"> • Immediately life-threatening; obvious instability. Anticipate need for <i>resuscitation</i> in trauma room or OR. • Anticipate need for operative interventions as part of acute management. • Maximum ED, institutional, and medical staff response. 	<ul style="list-style-type: none"> • Potentially life-threatening. • Anticipate need for <i>stabilization</i> in trauma room or OR. • Maximum ED response, intermediate institutional and medical staff response. 	<ul style="list-style-type: none"> • No evident instability. • Standard operational procedure.
Personnel minimums¹	<ol style="list-style-type: none"> 1. Page trauma surgeon STAT (with adequate notification, presence on or prior to patient arrival may be anticipated). 2. ED physician 3. Anesthesiologist or Certified Registered Nurse Anesthetist 4. Primary Nurse² 5. Resource Nurse 6. Recorder³ 7. X-ray technologist (if multiple patients are anticipated to require X-rays, request backup technologist) 8. Lab phlebotomist 9. Respiratory therapist 10. Social worker or chaplain⁴ 11. Page neurologic or orthopedic surgeon following initial assessment, for any applicable injuries 12. Page other physician specialists at the discretion of the physician of record 	<ol style="list-style-type: none"> 1. Page Trauma Surgeon ASAP, for phone consultation with ED physician and response as needed. Presence may be anticipated within 30 minutes of patient arrival. 2. ED physician 3. Anesthesiologist or certified registered nurse anesthetist (At request of ED physician or or trauma surgeon) 4. Primary nurse² 5. Resource nurse 6. Recorder³ 7. X-ray technologist 8. Lab phlebotomist 9. Respiratory therapist⁵ 	<ol style="list-style-type: none"> 1. Primary Nurse² 2. ED clinician ASAP

1. Until excused by either primary nurse or physician of record. Each role described must be assumed by a separate person.
2. Must be certified in a comprehensive trauma curriculum approved by the ED nurse manager (e.g., trauma nursing core course)
3. If not an ED nurse, must have a working familiarity with ED trauma documentation standards.
4. Summoned at the request of charge nurse or designee following contact (or lack thereof) with significant others. Consider critical incident stress debriefing for staff members.
5. As needed for mechanical ventilation or blood gas sampling.

Source: Excerpt from *Appendix D: Review and Overview of the Trauma Tiers*, Eastern Maine Medical Center, Bangor.