Fact-checking Fiction

By Andrew Holtz, MPH

A young doctor and an older man step through the buzzing activity of a hospital emergency department. The older man sits on the edge of an empty bed and the doctor pulls up a chair. The doctor quizzes his patient, trying to figure out why he had a bad reaction to his medication. It turns out the man had switched drugs on his own, using some leftover pills from a friend. Taken aback, the doctor asks the man why he would risk his health by taking someone else’s medicine.

“I’ve got no insurance. You know how much these drugs cost?”
Then they get up and do it again. And again.

Having an on-set medical adviser is one of the ways medical shows work to assure accuracy.

Andrew Holtz, MPH, is a former CNN Medical Correspondent and the author of “The Medical Science of House, M.D.” This column examines mass media programs, particularly entertainment TV, for insight into popular perceptions, so that rather than merely wincing at distortions or oversimplifications in the portrayals of medicine on these shows, health care professionals can learn something from media professionals about the way that medical and health topics are presented.

Send questions to him about how the media treat medical topics or suggestions for future columns about a particular show or topic to discuss to OT@lewym.com

This isn’t an ER, it’s the set of ER, the elder statesmen of prime time medical dramas. Each movement, each word of the “doctor” and his “patient” are scripted by writers, and then played out in front of the cameras and crew squeezed between the ER beds and nurses station. But just behind the camera, alongside the director, there’s a chair for someone who wouldn’t be on the sets of most other TV shows.

The occupant of that chair is an MD. He is listening to the pronunciation of medical jargon and watching to see that the right equipment is used at the right time in the right way. Having an on-set medical adviser is one of the ways medical shows work to assure accuracy.

At ER, MDs have always been in the mix. One of the first writers was a medical school friend David Foster, MD. He is listening to the pronunciation of medical jargon and watching to see that the right equipment is used at the right time in the right way. Having an on-set medical adviser is one of the ways medical shows work to assure accuracy.

One of the first writers was Neal Baer, MD, who eventually rose to become an executive producer of the show. Dr. Baer introduced other physicians to Hollywood, including his medical school friend David Foster, MD. Dr. Foster worked with ER and other shows, while continuing to practice medicine. But then he became a full-time writer on the staff of House. He also sits in on the filming of many of the medical scenes, but it is a nurse who has the lead role in monitoring accuracy on the House set.

“She is the one who is there for all the medical scenes. She makes sure they are holding the scalpel correctly, or a patient is draped correctly, or people are wearing gowns when they should be wearing gowns, or that when they are in x-ray that they are wearing protective lead aprons, that type of thing,” Dr. Foster said.

It’s ironic that a nurse is the primary on-set medical adviser for House. The show has been criticized by nurses for often portraying them as little more than housekeepers and rarely showing nurses providing direct medical care.

In each scene, it is not only the actions and words of the actors that must be checked for medical accuracy; bedside monitors, screens, x-rays, and other images added to the visual flavor of a show can also introduce errors.

If the actors are talking about a suspicious mass on a lobe of a patient’s lung, then the image they are huddled around constitutes a very small minority of enrollees, the data are far shakier, Dr. Langer said.

“As of 2006, we have observed a clear-cut benefit for adjuvant cisplatin-based therapy, particularly in Stage II and Stage III NSCLC. In one primary trial—CALGB 9633—devoted to Stage IB NSCLC and in subset analyses of other, larger trials that included Stage II as well as earlier stages, the evidence for benefit in Stage IB NSCLC is not compelling. This general reservation is amplified by the LACE meta-analysis.

“Under these circumstances, it may be necessary to repeat controlled, randomized trials in Stage IB NSCLC comparing standard chemotherapy to observation. Finally, advanced age is not an impediment to standard adjuvant therapy in fit individuals.”

Some Dismiss Role of Adjuvant Carboplatin

“A lot of my colleagues have taken great delight in looking at these data and dismissing the role of carboplatin in the adjuvant setting,” Dr. Langer said.

“I would argue that we need to exercise some degree of caution. There are several inconvenient truths regarding CALGB 9633. The three-year disease-free survival still favors adjuvant treatment, as does three-year overall survival. There is a nine percent absolute difference in recurrence and death rates. Median follow-up is still under five years, and I would argue, too, that this is probably the second premature reporting of this trial. While 150 deaths were needed for analysis, only 131 deaths have occurred.”

Carboplatin-based therapies do offer advantages, though, he said: “The best results obtained in Stage IB have been attained with carboplatin-paclitaxel, not cisplatin. The subset analysis in four-cm tumors still demonstrates a survival benefit. This has not been tested in Stage IIIB-III in the adjuvant setting, so the absence of data does not prove absence of benefit. And finally, a substantial percentage of adjuvant patients are poor candidates for cisplatin-based therapy because of age and various comorbidities.”

Clinically, statistically significant overall survival benefits have been observed with platinum doublets in Stage II-IIIA disease overall in three to four cycles, he said, noting that Stage IB treatment still needs to be individualized: “For now, in fit patients, most of us would recommend cisplatinum-based doublets. Despite a median age of 59 to 62 in trials, older patients often benefit. Preoperative adjuvant chemotherapy is still being investigated,” he said.

The next Intergroup trial in early-stage NSCLC (ECOG 1505 study) will take bevacizumab, which has shown a benefit in advanced disease, and look at that in combination with chemotherapy versus chemotherapy alone.

‘Premature to Criticize Trials of Carboplatin’

Asked for his opinion, A. Philippe Chahinian, MD, Professor of Medical Oncology at Mount Sinai School of Medicine in New York City, said, “I agree that carboplatin in not dead. It is premature to criticize trials of carboplatin.

“If you look at Stage IIB or IV disease, carboplatin does as well as cisplatin, or the difference is extremely small. Based on results in advanced stages of disease, carboplatin is not inferior to cisplatin.”

The CALGB trial is important because it was specifically designed for Stage IB disease, Dr. Chahinian said.

“The results are underpowered because there were only 170 patients per arm, which is well below expected because early results were positive.

“The differences in disease-free survival were very large. The three-year survival is still significant. More importantly, for the largest tumors, there was a significant favor in overall survival in the paclitaxel group.”

CALGB is still a positive trial, he said, and deserves to be confirmed with an appropriately powered trial with larger numbers of patients and compared with cisplatin and vinorelbine in an adjuvant setting.
around better have a shadow in that area, or viewer complaints are sure to follow. These medical images usually come from real patients, with any identifying information stripped off or altered.

“There are a number of places that provide de-identified x-rays and other images,” Dr. Foster says. “For the general things, say you need a chest x-ray, there’s a number of prop houses in Los Angeles that have that sort of thing; a normal head CT scan or something like that. When we are looking for something particular, say an angiogram of an aorta that’s not quite so common, we will often go to medical centers and ask their department of radiology if they have that type of image that they could provide for us.”

Neal Baer, who helped lead Dr. Foster from the exam room to the writers’ room, is now executive producer of Law & Order: Special Victims Unit. But his departure from ER did not leave that show doctor-less. Emergency medicine specialist Joe Sachs, MD, has been involved with the show for over a decade. Pediatrician Lisa Zwerling, MD, has been writing for ER for four years.

“Human drama is the point of all the steps taken by entertainment TV shows to ensure medical accuracy. When it’s done right, then the story rings true.”

“Joe Sachs and I still do shifts,” Dr. Zwerling says. “And so sometimes we will have a story that is really moving to us. We will change all the details so that the real-life person would never identify themselves on screen. Also, we have colleagues who will call us up and give us a great story.”

Those colleagues include two medical consultants who are full-time emergency medicine physicians.

Dr. Sachs says the non-MD writers lean on them for stories that are not only medically accurate, but support their primary objective: telling good stories. For example, when one of the primary characters on ER, Dr. Abby Lockhart, played by Maura Tierney, returns from maternity leave, she is nervous about her ability to jump back into emergency medicine.

“So that is when the medical assignment comes in. What is something truly amazing and incredible that Abby can do? At that point, I have to go to the well of our medical database,” Dr. Sachs says.

The well includes his and Dr. Zwerling’s professional experiences and reading, including 20 or so medical journals each month, but also stories gleaned from focus groups and panels of physicians and patients, and material culled from newspapers, magazines, and elsewhere by a full-time researcher.

Hollywood, Health & Society Program at USC

When writers at ER and other medical shows need a specific medical question answered, they’ll turn to specialists, including those suggested by the “Hollywood, Health & Society” (HH&S) Program at the Norman Lear Center at the USC Annenberg School for Communication in Los Angeles.

The program was created by the Centers for Disease Control and Prevention and is now also funded by the National Cancer Institute and other federal health agencies.

ER called on HH&S after reading about paired kidney exchange programs, for example. In these programs, a patient who has a willing donor who is not a match is connected with an appropriate patient-donor pair, so that both patients receive kidneys. The writers wanted to explore a conflict between two physician characters on the show about some of the ethical challenges that might arise with such organ donation match-making.

“To really get all the lowdown on paired organ exchange programs, HH&S put [Dr. Zwerling] in touch with Dr. Jim Burdick, who is the head of the Johns Hopkins paired exchange program,” Dr. Sachs says.

Over the past year, HH&S has responded to more than 200 inquiries
from TV writers and researchers at nine broadcast and cable networks. And they’ve connected the staff at those entertainment programs to about 150 experts at the CDC, NCI, and other agencies, medical centers, and organizations.

HH&S also makes house calls, meeting with writers and producers to introduce health topics and new information that may both inform and entertain viewers. A visit to the ER writers’ room will be featured in a future column.

“HH&S briefings are one of a hundred ways that we stock our pond,” Dr. Sachs says.

Medical Comedies

Even primetime comedies that milk hospitals for laughs employ physicians. Indeed, at the popular series Scrubs, the lead character is not the only named J.D. Dr. John Doris, a fraternity brother of the show’s creator, is known as the “real” J.D. by the writers, who depend on him to fill the medical blanks in their scripts.

Early in the series, which is now in its sixth season, the writers often just left placeholders in their scripts like “medical jargon here.” Now we are a little bit better about calling J.D. as we are writing our scripts, and saying, ‘OK, I’ve got this guy, and I need to have a disease where he would be really, really sick and he might die, but he’s not going to die, and it’s got to be in his liver area, because we don’t want his face to look bad, and

A scrub nurse is the primary on-set medical adviser for House—rather ironic since the show has been criticized by nurses for often portraying them as little more than housekeepers and rarely showing nurses providing direct medical care. The nurse is there for all the medical scenes, monitoring such things as making sure that scalpels are held correctly, or a patient is draped correctly, or people are wearing gowns when they should be wearing gowns, or that when they are in x-ray that they are wearing protective lead aprons.

“They Call Me Mellow Yellow”

“They call me Mellow Yellow,” were the first words said, or rather sung, by the patient with hepatitis in that episode, titled “My Chopped Liver.” The show explored the human drama and comedy to be found in a story of a brother giving part of his liver to his deathly ill sibling.

As the story was told, the recipient recovered nicely, but the donor was hit with life-threatening complications. Meanwhile, the show’s main character, J.D., was dealing with his own questions about altruism.

“How can you do an episode about giving part of yourself to a friend?” was the task Bakken says the writers faced.

And then you parallel that personal (continued on page 55)
SAN ANTONIO, TX—Vertebroplasty and kyphoplasty present a great opportunity for oncologists treating cancer-related vertebral pain because treatment medication can be added to the cement. That add-on benefit might not have occurred to those who originated the cement. Medication can be added to the cement, so there is an enormous volume of space available to put material in,” he said.

Ventral fractures occur commonly during treatment for multiple myeloma, as the combined tumor resorption and the drug-related osteoporosis combine to generate low-energy fragility fractures, Dr. Lane explained. These can result in pain, deformity, gait abnormalities, pulmonary compromise, and increased risk of falls. “Patient pain is related to the tumor and also to the mechanical instability, and radiation will not address those—you want to reestablish stability,” Dr. Lane said. “On the other hand, reestablishing stability without controlling the tumor is of no advantage either—that’s why we’re looking for some sort of combination approach so we can control the tumor as well as regain the stability for the vertebral body.”

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The biopsy also may show the opposite—that there is no tumor in the fracture. “Just because your myeloma patient has a fracture does not necessarily mean there is tumor there,” he said.

Always Biopsy

Dr. Lane warned clinicians to never do either procedure without first doing a biopsy. “One of every 80 people who have had a kyphoplasty or vertebroplasty for osteoporosis had underlying lymphoma,” he said.

Even if the diagnosis of cancer has been made, a biopsy before these procedures allows the oncologist to reassess the treatment protocols based on the efficacy of treatment. The biopsy also may show the opposite—that there is no tumor in the fracture. “Just because your myeloma patient has a fracture does not necessarily mean there is tumor there,” he said.

Early on, patients with myeloma will get fractures from the tumor. But once they are in remission for several years and they get a fracture, frequently

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Story of J.D. helping a friend out giving something of himself, with the story of a patient and his brother. [The partial liver donor] doesn’t want his brother to know he’s feeling so sick, because that wouldn’t be altruistic,” Bakken says.

And that human drama, leavened by comedy in this case, is the point of all the steps taken by entertainment TV shows to ensure medical accuracy. When it’s done right, then the story rings true.

Stay tuned next time for “HH&S makes a Hollywood House Call.”

Stabilizing Bone after Vertebral Fracture Leaves Room for Meds

By Robert H. Carlson

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scriptdoctor

“Nobody said what to put in the cement,” said Joseph M. Lane, MD, Professor of Surgery at the Hospital for Special Surgery in New York City.

Surgeons using vertebroplasty inject cement directly into a myeloma lesion to stabilize the bone. Kyphoplasty changes the dimensions of the bone—an orthopedic balloon is inserted into the fractured bone and inflated to reduce the fracture and correct the alignment. After that the balloon is removed and the cement put in.

Dr. Lane said he and colleagues have been adding a monthly dose of zoledronic acid to the cement in certain cases, which he said results in local control of the bone as well as providing systemic treatment. “In our studies we have found that up to 10 percent replacement of cement with an agent will not weaken the cement, so there is an enormous volume of space available to put material in,” he said.

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