

DHMC is only center in New England to do new liver cancer therapy

Diamonds may be a girl's best friend, but glass beads are proving to be some liver cancer patients' best ally. Millions of tiny beads, called microspheres, are part of a new treatment at DHMC for patients with unresectable, or inoperable, hepatocellular carcinoma (HCC). This form of cancer is characterized by tumors that cannot be surgically removed and that originate and stay in the liver. Patients with HCC typically have a life expectancy after diagnosis ranging from 4 to 18 months.

Dartmouth's Norris Cotton Cancer Center is the only place in New England that offers the treatment, known as Therasphere. Bassem Zaki, M.D., a radiation oncologist, says that DHMC started doing the procedure in late 2004 and has treated eight patients so far.

Beads: The glass beads used in Therasphere are embedded with the radioactive isotope yttrium-90 (Y-90). The microspheres, in a saline solution, are inserted through a catheter into the femoral artery in the patient's thigh. From there, they travel into the hepatic artery and on into the liver. They then become trapped inside the tumor because the spheres are slightly larger than the surrounding microvessels. The Y-90 targets the tumor quickly and precisely. It affects only tissues within a range of less than a centimeter but delivers a dose five times higher than ex-

This *Grey's Anatomy* isn't gross—but it's a textbook case of a hit show

All of us at some time or other will go through the walls of a hospital," observes Shonda Rhimes, a 1991 Dartmouth College graduate and the producer of the hit TV series *Grey's Anatomy*. It's that familiarity, Rhimes thinks, that makes the hospital/doctor show such a perennial favorite on television. "There's something both distant and familiar about hospitals and doctors," she says. Her own interest in medicine springs from being, she says, "a sickly kid" who spent a lot of time in hospitals.

But being a doctor herself was a short-lived idea. "I planned to study medicine for about five seconds before I realized that I'm scientifically challenged," Rhimes says. The show is not, she emphasizes, a medical show *per se* but a relationship show set in a hospital—though Rhimes did do extensive research before writing the show's first episodes. She now calls on Dr. Karen Pike, a fellow Dartmouth alumna, to read all the scripts, and she has a coterie of other medical experts on call, including some at the Centers for Disease Control and Prevention and the National Institutes of Health.

Grey's Anatomy—named for its principal character, surgical intern Meredith Grey, by way of allusion to the famous anatomical reference book—includes enough grisly detail to be an accurate depiction of medical life and enough relationship drama to keep it romantically interesting. Its first-year surgical residents have already, in their first few months of training, confronted the death of a woman with a 60-pound

tumor, the need to extract a set of keys from a man who swallowed them when his wife threatened to leave him, and the awkward season-opener: Meredith's discovery that a man she had a one-night stand with was with the surgeon who will be her boss for the next four years.

Asked if she knows what will happen in future seasons, Rhimes says she knows exactly what's coming up, "but if I told you, I'd have to kill you," she laughs. Under the guidance of a woman with a sharp sense of reality, a gift for dark comedy, and a keen interest in the kind of medical drama for which the public seems to have an insatiable interest, *Grey's Anatomy* seems poised to become even better-known than its eponymous textbook. MEGAN McANDREW



Dartmouth grad Shonda Rhimes is producer of the show.

ABC-TV / FRANK OCKENHELS

ternal beam radiation. The Y-90 decays over 2.7 days into non-radioactive zirconium, and the tiny bits of by-then inert glass stay in the liver, causing no problems.

Patients who have had Therasphere have suffered minimal side effects, and their tumors have decreased substantially in size. Zaki says it is a very good alternative to the traditional treatment, transarterial chemoembolization (TACE). TACE combines anti-cancer drug therapy to shrink the tumor with emboliz-

ing, or blocking, the hepatic artery that feeds the tumor. However, TACE requires a hospital stay of two to five days and can cause more damage to surrounding tissue than Therasphere. In addition, most patients suffer post-embolization syndrome—a reaction to blood being cut off to a solid organ—as well as nausea, abdominal pain, and low-grade fever.

Organ: Furthermore, TACE is not an option for some patients if their liver is relying solely on the

hepatic artery for its blood supply, because the organ's other blood supply, the portal vein to the liver, has become clotted due to the disease. TACE would require blocking such patients' only functioning blood supply, which would damage the liver. Therasphere avoids that problem because it doesn't involve blocking the artery.

Therasphere is done on an outpatient basis, and the procedure takes just one hour, with a three- to four-hour recovery