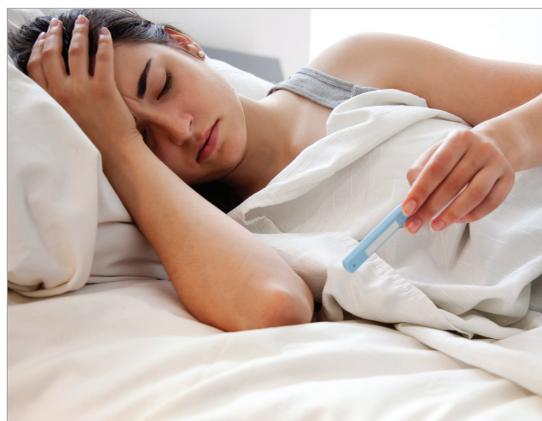


CDC focuses on infection prevention

THE CDC has launched a comprehensive initiative designed to reduce the risk of life-threatening infections in persons with cancer who are undergoing chemotherapy. According to the agency, one out of every 10 cancer patients receiving this treatment acquires an infection that requires a hospital visit.

The program, “Preventing Infections in Cancer Patients,” includes resources for patients, caregivers, and health care providers. One of the featured materials for clinicians is a poster reminding emergency department (ED) personnel that fever in a person who is undergoing chemotherapy should be managed as an emergency. The poster points out that a fever may be the only sign of infection, and a minor infection can quickly become serious in this patient population.

Another poster, designed for patients, conveys a similar message. Patients are instructed to call their clinician right away if they develop a fever and to tell ED personnel immediately that they have a fever, they have cancer, and they are receiving chemotherapy. The poster also suggests patients should ask their clinician at what point during the chemotherapy cycle their white blood cell count (WBC) is likely to be the lowest,



so they know when they are at greatest risk of infection.

The initiative also addresses outpatient facilities. More than 830,000 persons with cancer receive chemotherapy in oncology clinics each year, and they are at risk for developing an infection that may lead to hospitalization, a disruption in the chemotherapy schedule, and even death. Citing a need for greater understanding and implementation of basic infection-prevention guidance in outpatient oncology clinics, the program materials refer clinicians to the CDC 2011 guidelines, *Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care*.

The program’s Web site provides information on infection prevention based on the person’s risk for developing neutropenia, the most

A fever may be the only sign of infection in a cancer patient and should be managed as an emergency.

serious hematologic toxicity during cancer treatment with chemotherapy. The section, “3 Steps Toward Preventing Infections During Cancer Treatment,” features an evidence-based, interactive online program designed to help assess a cancer patient’s risk for both low WBC during chemotherapy and subsequent infections.

The assessment can be printed and completed or completed online. The tool is not for patients who have undergone or will undergo a stem cell transplant or bone marrow transplant. After the questionnaire is completed, patients will receive messages designed to educate them about staying healthy while undergoing treatment.

Clinicians can also download a neutropenia fact sheet for their patients. The sheet acknowledges that neutropenia cannot be prevented, but offers tips on reducing the risk of acquiring an infection while WBC is low. Patients are advised to keep their hands and body clean, avoid contact with sick people, and carefully wash and cook their food. In addition, the patient is advised to

- Use gloves for gardening
- Get the seasonal flu shot as soon as possible
- Use a soft toothbrush on teeth and gums and use a mouthwash to prevent oral sores, if clinician recommended.

A 3-minute podcast features an oncologist discussing the importance of infection prevention during chemotherapy treatment. ■

According to the CDC, one out of every 10 cancer patients receiving chemotherapy acquires an infection that requires a hospital visit.

New approach improves skull-base tumor surgery

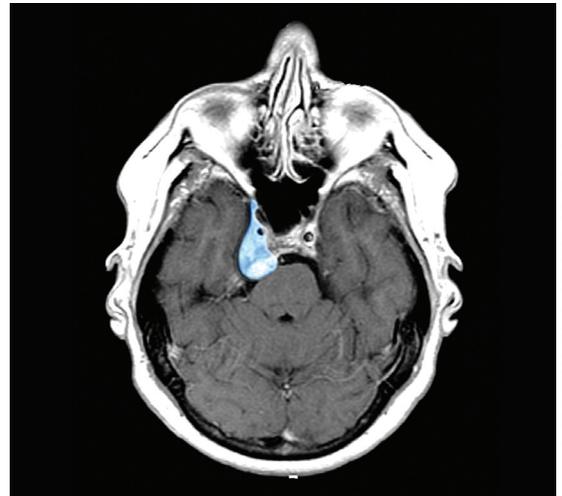
A NEW approach for removing tumors at the base of the skull features a shorter operation, a reduced recovery period, and fewer complications than traditional surgery, all while leaving no visible scars.

Conventional excision of skull-base tumors requires incisions through the face as well as bone removal, which may be disfiguring. It can also damage facial nerves, affecting facial expressions. A group led by Kofi D. Boahene, MD, might have found a way to circumvent those problems for some patients, using a novel trans-vestibular endoscopic method that tracks through the natural hole behind the molars, above the jawbone, and beneath the cheekbone, to explore and remove tumors in the infratemporal fossa and

parapharyngeal space. Because the incisions are made inside the cheek, no scars can be seen.

Boahene, an assistant professor of facial plastic and reconstructive surgery and otolaryngology-head and neck surgery at the Johns Hopkins School of Medicine in Baltimore, Maryland, and colleagues first tried the procedure on a 20-year-old female with a previously treated brain tumor who had developed a new tumor deep in the skull base. The surgery time was reduced from 6 hours to 2 hours, and the woman was able to leave the hospital the next day, showing no visible evidence of the operation.

The team members describe four of the seven procedures they performed to date in the journal *Laryngoscope* (2011;121[10]:2075-2080). The only complications



MRI image of a meningioma (blue mass at center) at the skull base

noted were self-limiting hypoesthesia of the lip in one patient and transient dysphagia in another.

Although the procedure requires further use to establish its potential and limitations, Boahene's group cautioned that it cannot be used on skull base tumors that are very large or that wrap around blood vessels; traditional skull-base surgery remains the best surgical choice in those cases. ■

Fish oil and a low-fat diet slowed growth of PCa cells

MEN WHO consumed a low-fat diet and fish oil capsules for 4 to 6 weeks before undergoing radical prostatectomy exhibited reduced prostate cancer (PCa) proliferation and lower ratios of omega-6 to omega-3 polyunsaturated fatty acids (PUFAs) in prostate tissue, in a recent study.

In their report for *Cancer Prevention Research*, William J. Aronson, MD, of the Jonsson Comprehensive Cancer Center at the University of California, Los Angeles, and co-investigators reported preclinical study findings that suggest lowering dietary fat

The diet was associated with reduced levels of Ki-67, a protein involved in cancer cell progression and growth.

and decreasing the ratio of omega-6 to omega-3 PUFAs reduces the risk of prostate cancer development and progression. Aronson's team randomized 55 men scheduled for radical prostatectomy to a low-fat diet with 5 g of fish oil daily (representing a dietary omega-6 to omega-3 ratio of 2:1) or to a control Western diet (omega-6 to omega-3 ratio of 15:1) for 4 to 6 weeks before surgery.

Blood samples and prostate tissue from the 48 men who completed the trial revealed no differences between groups in terms of the primary end point, which was

a change in serum insulin-like growth factor 1 (IGF-1). However, analysis for secondary outcomes demonstrated that the low-fat diet featuring fish-oil supplementation changed the membrane composition of both healthy cells and cancer cells in the prostate. The cell membranes had increased levels of omega-3 fatty acids and decreased levels of omega-6 fatty acids, and the tissues obtained from the radical prostatectomy specimens showed that this diet was associated with reduced levels of Ki-67, a protein involved in cancer cell progression and growth. ■

FDA Update

The FDA recently approved **cetuximab (Erbix)** for use with chemotherapy to treat late-stage (metastatic) head and neck cancer. Most commonly reported side effects were rash; pruritus; nail changes; headache; diarrhea; and respiratory, skin, and mouth infections. Cetuximab can cause low serum magnesium, potassium, and calcium, and has been associated with serious and life-threatening infusion reactions and heart attack. Patients taking cetuximab should limit their exposure to the sun.

The first licensed hematopoietic progenitor cells-cord (HPC-C) cell therapy, **Hemacord**, was granted FDA approval. Hemacord is indicated for use in hematopoietic stem cell transplantation procedures in patients with disorders affecting the blood forming system.

The FDA approved **asparaginase Erwinia chrysanthemi (Erwinaze)** for the treatment of acute lymphoblastic leukemia (ALL) in patients who have developed an allergy to *E coli*-derived asparaginase and pegaspargase chemotherapy drugs. Side effects associated with this drug include anaphylaxis, pancreatitis, abnormal transaminases and bilirubin, blood clotting, hemorrhage, nausea, vomiting, and hyperglycemia. ■

Ten tips for nurses that enhance decision making for patients

INFORMATION on the risks and benefits of cancer-related screening tests, treatments, and preventive measures may leave a person feeling more confused than clear-headed. A team led by Angela Fagerlin, PhD, of the Center for Bioethics and Social Sciences in Medicine at University of Michigan Health System in Ann Arbor, has outlined 10 steps that have been empirically shown to improve patient comprehension regarding such matters. The list was presented in the *Journal of the National Cancer Institute*.

- Use plain, simple language. Patients do not always understand medical terms or expressions. Explain the disease process and treatment slowly and pause to give the patient a chance to ask questions.
- Statements about relative risk do not always illustrate how likely a person is to experience a benefit or consequence, so clearly communicate absolute risk and be sure patients understand what that statistic means in terms of the chance that something will happen to them.
- Help patients visualize their risk. Have the patient draw 100 boxes and color in one box for each percentage point of risk to give a visual representation (pictograph) of the meaning behind the numbers.
- Relate risk as a frequency rather than as percentages. For example, instead of telling the patient that 60% of people experience a particular side effect, tell them



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Devote most of your discussion to the treatment options and facts most relevant to a given patient.

that in a room of 100 people, 60 will experience the side effect and 40 will not.

- Be sure to clarify when the risk of an adverse effect exists regardless of whether the patient chooses to undergo a particular treatment.
- State the most important points last. Studies have shown that people remember the last thing they heard best.
- Provide a written summary of the discussion points or encourage the patient to take notes. Information for treatment decisions may be a lot of information.
- Caution patients against relying too heavily on averages, and advise them instead to focus on the information that applies specifically to their case.
- Devote most of your discussion to the treatment options and facts most relevant to a given patient.
- Be sure to put a particular risk in a long-term perspective as well as a short-term perspective, such as the risk of recurrence in 10 or 20 years as well as in 1 or 5 years. ■

Ductal delivery of breast drugs may best IV

ADMINISTERING cancer-fighting agents directly into breast ducts rather than intravenously may be safer and less painful than standard chemotherapy for controlling early breast cancer.

An investigative team led by Vered Stearns, MD, PhD, codirector of the Breast Cancer Program at the Johns Hopkins Kimmel Comprehensive Cancer Center in Baltimore, Maryland, theorized that because most breast cancers originate in the epithelial cells lining the breast ducts, intraductal administration of anticancer medications would lead to high drug exposure to ductal cells and eliminate pre-invasive neoplasms while limiting systemic exposure. The

researchers compared the effects of 5-fluorouracil (5FU), carboplatin, nanoparticle albumin-bound paclitaxel, and methotrexate to the efficacy of pegylated liposomal doxorubicin (PLD) on the treatment of early and established mammary tumors in rats. The drugs were administered both intravenously and directly into the primary duct of the animals' mammary glands.

Drugs delivered either way were beneficial relative to untreated control rats; only the rats treated with PLD exhibited extensive epithelial destruction. However, intraductal 5FU prevented the most cancers compared with no drug or with IV delivery, shrank established breast tumors, and

Intraductal 5FU prevented the most cancers compared with no drug or with IV delivery.

completely eliminated tumors in 10 of 14 treated rats, spared breast ducts the kind of damage caused by PLD, and even showed a strong effect in preventing tumors in the untreated mammary glands of the animals.

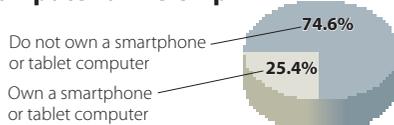
Stearns' group also administered intraductal dextrose or PLD in 17 women awaiting mastectomy, infusing the breast ducts through a small catheter placed on the nipple. This method was successful in 15 of the patients (the intention was not to treat the tumors but to test the intraductal delivery system) with no serious adverse events. Mild side effects included nipple pain and breast fullness (*Sci Transl Med.* 2011;3[106]:106ra108). ■

WHAT NURSES THINK ABOUT ...

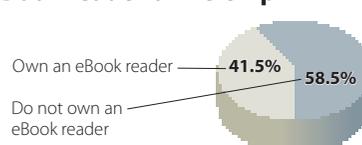
Smartphones, tablet computers, social media, and eBook readers

A SURVEY conducted by Springer Publishing Company polled more than 1,000 nurses on their use of mobile devices. Nearly three-quarters of the respondents (74.6%) own a smartphone or tablet computer, but less than half (41.5%) own an eBook reader. The full survey results are available at http://springerpub.com/content/downloads/Springer-Publishing_2011_Nursing_eBook-Smartphone_Survey.pdf.

Smartphone or tablet computer ownership



eBook reader ownership



Platform/brand of smartphone or tablet computer

Device	Percent of respondents who own this device
Apple iPhone/iPod Touch	43.7%
Android	29.8%
Apple iPad	22.0%
Blackberry/RIM	19.0%
Windows Mobile	4.1%
Symbian	0.4%

Most popular brands of eBook reader

Brand	Percent of respondents who own this brand
Amazon Kindle	61.4%
Other	19.1%
Barnes & Noble Nook	16.8%
Sony eReader	2.2%
Kobo	0.4%
Symbian	0.4%