Cancer Society Literatures

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Abstract: Cancer is the general name for a group of more than 100 diseases. Although there are many kinds of cancer, all cancers start because abnormal cells grow out of control. Untreated cancers can cause serious illness and death. The body is made up of trillions of living cells. Normal body cells grow, divide, and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries. There are many societies that are working on the cancer researches. This is the literature collection on cancer societies.
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1. Introduction

Cancer is the general name for a group of more than 100 diseases. Although there are many kinds of cancer, all cancers start because abnormal cells grow out of control. Untreated cancers can cause serious illness and death. The body is made up of trillions of living cells. Normal body cells grow, divide, and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries.

Abrahamowicz, M., T. Schopflocher, et al. (2003). "Flexible modeling of exposure-response relationship between long-term average levels of particulate air pollution and mortality in the American Cancer Society study." J Toxicol Environ Health A **66**(16-19): 1625-54.

Accurate estimation of the exposure-response relationship between environmental particulate air pollution and mortality is important from both an etiologic and regulatory perspective. However, little is known about the actual shapes of these exposure-response curves. The objective of this study was to estimate the exposure-response relationships between mortality and long-term average city-specific levels of sulfates and fine particulate matter (PM(2.5)). We reanalyzed the data derived from the American Cancer Society (ACS) Cancer Prevention Study II, a large prospective study conducted in the United States between 1982 and 1989. Exposure to particulate air pollution was assessed prior to entry into the cohort. Mean sulfate concentrations for 1980 were available in 151 cities, and median PM(2.5) levels between 1979 and 1983 were available in 50 cities. Two sampling strategies were employed to reduce the computational burden. The modified case-cohort approach combined a random subcohort of 1200 individuals with an additional 1300 cases (i.e., deaths). The second strategy involved pooling the results of separate analyses of 10 disjoint random subsets, each with about 2200 participants. To assess the independent effect of the particulate levels on all-causes mortality, we relied on flexible, nonparametric survival analytical methods. To eliminate potentially restrictive assumptions underlying the conventional models, we employed a flexible regression spline generalization of the Cox proportional-hazards (PH) model. The regression spline method allowed us to model simultaneously the time-dependent changes in the effect of particulate matter on the hazard and a possibly nonlinear exposure-response relationship. The PH and linearity hypotheses were tested using likelihood ratio tests. In all analyses, we stratified by age and 5-yr age groups and adjusted for the subject's age, lifetime smoking exposure, obesity, and education. For both fine particles (PM(2.5)) and sulfates, there was a statistically significant (at.05 level) departure from the conventional linearity assumption. The adjusted effect of fine particles on mortality indicated a stronger relationship in the lower (up to about 16 microg/m(3)) than in the higher range of their values. Increasing levels of sulfates in the lower range (up to about 12 microg/m(3)) had little impact on mortality, suggesting a possible "no-effect threshold." For body mass index (BMI), the risks were lowest in the middle range and increased for both very obese and very lean individuals. It was concluded that flexible modeling yields new insights about the effect of long-term air pollution on mortality.

Ahn, S. H., B. H. Son, et al. (2007). "Poor outcome of hormone receptor-positive breast cancer at very young age is due to tamoxifen resistance: nationwide

survival data in Korea--a report from the Korean Breast Cancer Society." J Clin Oncol **25**(17): 2360-8.

PURPOSE: Breast cancer in very young women (age < 35 years) is uncommon and poorly understood. We sought to evaluate the prognosis and treatment response of these patients compared with women ages 35 to 50 years. PATIENTS AND METHODS: We analyzed data from 9,885 breast cancer patients age < or = 50 years who were part of the Korean Breast Cancer Society registration program between 1992 and 2001. The overall survival (OS) and breast cancer-specific survival (BCSS) were compared between age groups. RESULTS: One thousand four hundred forty-four patients (14.6%) were younger than age 35 and 8,441 (85.4%) patients were between 35 and 50 years of age. Younger patients had significantly higher T-stage and higher lymph node positivity and lower hormone receptor expression than older patients. Younger patients had a greater probability of death than older patients, regardless of tumor size or lymph node status. The survival difference was significant for patients with positive or unknown hormone receptor status (P < .0001), but not for patients with negative hormone receptor status. In a multivariate analysis, the interaction term of young age and hormone receptor positivity was significant for OS and BCSS with a hazard ratio for OS of 2.13 (95% CI, 1.52 to 2.98). The significant survival benefit from adjuvant hormone therapy after chemotherapy observed in older patients (hazard ratio for OS, 0.61; 95% CI, 0.47 to 0.79; P = .001) could not be seen in younger patients (P > .05). CONCLUSION: Younger patients (age < 35) showed worse prognosis than older patients (age, 35 to 50 years) only in the hormone receptor-unknown or hormone receptor-positive subgroups. Adjuvant tamoxifen therapy might provide less survival benefit when added to chemotherapy in very young breast cancer patients.

Albanell, J., X. Andreu, et al. (2009). "Guidelines for HER2 testing in breast cancer: a national consensus of the Spanish Society of Pathology (SEAP) and the Spanish Society of Medical Oncology (SEOM)." Clin Transl Oncol **11**(6): 363-75.

Identifying breast cancers with HER2 overexpression or amplification is critical as these usually imply the use of HER2-targeted therapies. DNA (amplification) and protein (overexpression) HER2 abnormalities usually occur simultaneously and both in situ hybridisation and immunohistochemistry may be accurate methods for the evaluation of these abnormalities. However, recent studies, including those conducted by the Association for Quality Assurance of the Spanish Society of Pathology, as well as the experience of a number of HER2 testing National Reference Centres have suggested the existence of serious reproducibility issues with both techniques. To address this issue, a joint committee from the Spanish Society of Pathology (SEAP) and the Spanish Society of Medical Oncology (SEOM) was established to review the HER2 testing guidelines. Consensus recommendations are based not only on the panellists' experience, but also on previous consensus guidelines from several countries, including the USA, the UK and Canada. These guidelines include the minimal requirements that pathology departments should fulfil in order to guarantee proper HER2 testing in breast cancer. Pathology laboratories not fulfilling these standards should make an effort to meet them and, until then, are highly encouraged to submit to reference laboratories breast cancer samples for which HER2 determination has clinical implications for the patients.

Alberola Candel, V., A. Carrato Mena, et al. (2009). "Spanish Society of Medical Oncology consensus on the use of erythropoietic stimulating agents in anaemic cancer patients." Clin Transl Oncol **11**(11): 727-36.

Treatment of anaemia is a very important aspect in the management of cancer patients. In order to carry out a consensus process about the use of erythropoietic stimulating agents (ESAs) in cancer patients, the Spanish Society of Medical Oncology (SEOM) elaborated a working group which coordinated a panel of medical oncology specialists. This working group has reviewed the main issues about the use of ESAs. In addition a consensus meeting was held in Madrid on 25 April 2007. The following conclusions were made: Since ESA treatment increases the haemoglobin (Hb) level and decreases the red blood cell (RBC) transfusion requirements, ESAs should be used within the approved indications in patients undergoing chemotherapy treatment, beginning at a Hb level below 11 g/dl and maintaining it around 12 g/dl, with iron supplements if necessary. Neither increasing the ESA dose in nonresponders nor the use of ESAs in the treatment of chronic cancer-related anaemia is recommended.

Aristei, C., M. Amichetti, et al. (2008). "Radiotherapy in Italy after conservative treatment of early breast cancer. A survey by the Italian Society of Radiation Oncology (AIRO)." Tumori **94**(3): 333-41.

AIMS AND BACKGROUND: The aim of surveys on clinical practice is to stimulate discussion and optimize practice. In this paper the current Italian radiotherapy practice after breast-conserving surgery for early breast cancer is described and adherence to national and international guidelines is assessed.

Furthermore, results are compared with an earlier survey in northern Italy and international reports. STUDY DESIGN: A multiple-choice questionnaire sent to all 138 Italian radiation oncology centers. RESULTS: 48% of centers responded. Most performed breast-conserving surgery when tumor size was < or =3 cm. All centers routinely performed axillary dissection; 45 carried out sentinel node biopsy followed by axillary dissection when the sentinel node was positive. Most centers re-excised when resection margins were positive. The median interval between surgery and radiotherapy, when chemotherapy was not administered, was 60 days. Adjuvant chemotherapy was preferably administered before radiotherapy. Regional lymph nodes were never irradiated in 10 centers; in all others irradiation depended on the number of positive lymph nodes and/or involvement of axillary fat and/or tumor location in medial quadrants. All centers used standard fractionation; hypofractionated schemes were available in 6. Most centers used 4-6 MV photons. In 59 centers the boost dose of 10 Gy could be increased if margins were not negative. All centers ensured patient setup reproducibility. Treatment planning was computerized in 59 centers. The irradiation dose was prescribed at the ICRU point in 56 centers and portal films were made in 54 centers. Intraoperative radiotherapy was used in 4 centers: for partial breast irradiation in 1 and for boost administration in 3 centers. CONCLUSIONS: Although the quality of radiotherapy delivery has improved in Italy in recent years, approaches that do not conform to international standards persist.

Asteria, C. R., G. Gagliardi, et al. (2008). "Anastomotic leaks after anterior resection for mid and low rectal cancer: survey of the Italian Society of Colorectal Surgery." Tech Coloproctol **12**(2): 103-10.

BACKGROUND: The aim of the survey was to assess the incidence of anastomotic leaks (AL) and to identify risk factors predicting incidence and gravity of AL after low anterior resection (LAR) for rectal cancer performed by colorectal surgeons of the Italian Society of Colorectal Surgery (SICCR). METHODS: Information about patients with rectal cancers less than 12 cm from the anal verge who underwent LAR during 2005 was collected retrospectively. AL was classified as grade I to IV according to gravity. Fifteen clinical variables were examined by univariate and multivariate analyses. Further analysis was conducted on patients with AL to identify factors correlated with gravity. RESULTS: There were 520 patients representing 64% of LAR for rectal cancer performed by SICCR members. The overall rate of AL was 15.2%. Mortality was 2.7% including 0.6% from AL. The incidence of AL was correlated with higher age ($p<0.05$), lower (<20 per year) centre case volume ($p<0.05$), obesity ($p<0.05$), malnutrition ($p<0.01$) and intraoperative contamination ($p<0.05$), and was lower in patients with a colonic J-pouch reservoir ($p<0.05$). In the multivariate analysis age, malnutrition and intraoperative contamination were independent predictors. The only predictor of severe (grade III/IV) AL was alcohol/smoking habits ($p<0.05$) while the absence of a diverting stoma was borderline significant ($p<0.07$). CONCLUSION: Our retrospective survey identified several risk factors for AL. This survey was a necessary step to construct prospective interventional studies and to establish benchmark standards for outcome studies.

Azzoli, C. G., S. Baker, Jr., et al. (2009). "American Society of Clinical Oncology Clinical Practice Guideline update on chemotherapy for stage IV non-small-cell lung cancer." J Clin Oncol **27**(36): 6251-66.

The purpose of this article is to provide updated recommendations for the treatment of patients with stage IV non-small-cell lung cancer. A literature search identified relevant randomized trials published since 2002. The scope of the guideline was narrowed to chemotherapy and biologic therapy. An Update Committee reviewed the literature and made updated recommendations. One hundred sixty-two publications met the inclusion criteria. Recommendations were based on treatment strategies that improve overall survival. Treatments that improve only progression-free survival prompted scrutiny of toxicity and quality of life. For first-line therapy in patients with performance status of 0 or 1, a platinum-based two-drug combination of cytotoxic drugs is recommended. Nonplatinum cytotoxic doublets are acceptable for patients with contraindications to platinum therapy. For patients with performance status of 2, a single cytotoxic drug is sufficient. Stop first-line cytotoxic chemotherapy at disease progression or after four cycles in patients who are not responding to treatment. Stop two-drug cytotoxic chemotherapy at six cycles even in patients who are responding to therapy. The first-line use of gefitinib may be recommended for patients with known epidermal growth factor receptor (EGFR) mutation; for negative or unknown EGFR mutation status, cytotoxic chemotherapy is preferred. Bevacizumab is recommended with carboplatin-paclitaxel, except for patients with certain clinical characteristics. Cetuximab is recommended with cisplatin-vinorelbine for patients with EGFR-positive tumors by immunohistochemistry. Docetaxel, erlotinib, gefitinib, or pemetrexed is recommended as second-line therapy. Erlotinib is recommended as third-line therapy for patients who have not received

prior erlotinib or gefitinib. Data are insufficient to recommend the routine third-line use of cytotoxic drugs. Data are insufficient to recommend routine use of molecular markers to select chemotherapy.

Basch, E. M., M. R. Somerfield, et al. (2007). "American Society of Clinical Oncology endorsement of the Cancer Care Ontario Practice Guideline on nonhormonal therapy for men with metastatic hormone-refractory (castration-resistant) prostate cancer." J Clin Oncol **25**(33): 5313-8.

PURPOSE In 2006, the American Society of Clinical Oncology (ASCO) Board of Directors (BOD) approved a policy and a set of procedures for endorsing clinical practice guidelines that have been developed by other professional organizations. METHODS The Cancer Care Ontario (CCO) Guideline on Non-Hormonal Therapy for Men With Metastatic Hormone-Refractory Prostate Cancer (HRPC) was reviewed for developmental rigor by methodologists. An ad hoc prostate cancer guideline review panel consisting of prostate cancer experts reviewed the content. Results The ASCO ad hoc prostate cancer guideline review panel concurred that the recommendations are clear, thorough, based on the most relevant scientific evidence in this content area, and present options that will be acceptable to patients. The CCO guideline was subsequently endorsed by the ASCO BOD. The guideline recommends the use of docetaxel, prednisone/hydrocortisone, and/or mitoxantrone in specific settings. Docetaxel-based chemotherapy is the only treatment that has demonstrated an overall survival benefit in men with HRPC. The use of estramustine in combination with other cytotoxic agents is not recommended. Continued gonadal androgen suppression and discontinuance of antiandrogens is recommended for men receiving chemotherapy. CONCLUSION The review panel agreed with the recommendations as stated in the CCO guideline, with the following qualifications: two of the ASCO content reviewers noted the importance of considering other, nonhormonal therapies in this context that are beyond the scope of this guideline. The review panel notes that CCO has published separate guidelines on radiopharmaceuticals and bisphosphonates in men with castration-resistant (ie, hormone-refractory) metastatic prostate cancer.

Bener, A., H. R. El Ayoubi, et al. (2009). "Do we need to maximise the breast cancer screening awareness? Experience with an endogamous society with high fertility." Asian Pac J Cancer Prev **10**(4): 599-604.

BACKGROUND: In the State of Qatar, breast cancer has become the most common form of cancer among women. The aim of this study was to explore knowledge, attitude and practice about breast cancer and to identify potential barriers to screening procedures among women. METHODS: This multistage sampling cross sectional survey in primary health care centers and the outpatient department of the Women's Hospital in the State of Qatar targeted a representative sample of 1,200 Qatari women aged between 30 to 55 years of age during the period from December 2008 to April 2009. A total 1,002 subjects (83.5%) consented to participation. Face to face interviews were conducted with a designed questionnaire covering knowledge about breast cancer, attitudes and practices of breast cancer screening. Socio-demographic variables were included. RESULTS: The majority of Qatari women demonstrated an adequate knowledge about breast cancer, with a significant relation to education status. Almost three quarters were aware that breast cancer is the most common cancer in women. A good proportion knew that nipple retraction (81.2%) and discharge of blood (74.6%) are warning signs. Of the studied Qatari women, 24.9% identified breast self examination, 23.3% clinical breast examination (CBE) and 22.5% mammography as methods for detection of breast cancer. The frequently reported barriers among the Qatari women were asking any doctor/nurse how to perform breast self examination (57.3%), embarrassment about CBE (53.3%) and fear of mammography results (54.9%). Univariate and multivariate logistic regression analysis showed that family history, level of education, living in an urban area and having medical check-ups when healthy were significant predictors for CBE and mammography. CONCLUSION: The study findings revealed that although Qatari women had adequate general knowledge about breast cancer, the screening rates for BSE, CBE and mammography were low, these being performed most frequently by young Qatari women with a higher level of education.

Benson, A. B., 3rd, D. Schrag, et al. (2004). "American Society of Clinical Oncology recommendations on adjuvant chemotherapy for stage II colon cancer." J Clin Oncol **22**(16): 3408-19.

PURPOSE: To address whether all medically fit patients with curatively resected stage II colon cancer should be offered adjuvant chemotherapy as part of routine clinical practice, to identify patients with poor prognosis characteristics, and to describe strategies for oncologists to use to discuss adjuvant chemotherapy in practice. METHODS: An American Society of Clinical Oncology Panel, in collaboration with the Cancer Care Ontario Practice Guideline Initiative, reviewed pertinent information from the literature through May 2003. RESULTS: A literature-based meta-analysis found no evidence of a

statistically significant survival benefit of adjuvant chemotherapy for stage II patients. Recommendations The routine use of adjuvant chemotherapy for medically fit patients with stage II colon cancer is not recommended. However, there are populations of patients with stage II disease that could be considered for adjuvant therapy, including patients with inadequately sampled nodes, T4 lesions, perforation, or poorly differentiated histology. CONCLUSION: Direct evidence from randomized controlled trials does not support the routine use of adjuvant chemotherapy for patients with stage II colon cancer. Patients and oncologists who accept the relative benefit in stage III disease as adequate indirect evidence of benefit for stage II disease are justified in considering the use of adjuvant chemotherapy, particularly for those patients with high-risk stage II disease. The ultimate clinical decision should be based on discussions with the patient about the nature of the evidence supporting treatment, the anticipated morbidity of treatment, the presence of high-risk prognostic features on individual prognosis, and patient preferences. Patients with stage II disease should be encouraged to participate in randomized trials.

Bjugn, R., B. Casati, et al. (2008). "Structured electronic template for histopathology reports on colorectal carcinomas: a joint project by the Cancer Registry of Norway and the Norwegian Society for Pathology." Hum Pathol **39**(3): 359-67.

Both individual patient treatment and cancer registries depend on adequate histopathology reports. To ensure the quality of these reports, professional organizations have published guidelines on minimum data sets for various cancer types. Norway has a population of 4.6 million, and all individuals have a unique identification number. As required by law, relevant information on cancer is submitted to the Cancer Registry of Norway. A closed, national health data network has been established facilitating electronic transferal between various institutions. The Cancer Registry and the Norwegian Society for Pathology have jointly established a nationwide project to (i) develop standardized templates in database format for histopathology reports on cancer resection specimens and (ii) develop an Extensible Markup Language (XML) standard to facilitate future electronic transfer of cancer reports from hospitals to the Cancer Registry. A minimum data set template for reporting colorectal carcinoma resection specimens and the Extensible Markup Language standard have been established. The template is based on international guidelines and classification systems. For most key parameters, pull-down menus with predefined alternatives have been constructed. The template is fully integrated into software being used by all pathology laboratories in Norway. Since the introduction of the template in April 2005, the template had been used for reporting 430 (93%) of 462 colorectal resections at 2 pilot laboratories (Akershus University Hospital [Lorenskog, Norway] and Stavanger, University Hospital [Stavanger, Norway]), demonstrating that high and consistent quality can be ascertained. Pathologists have found the template both time saving and user friendly. The template is now gradually implemented nationwide.

Boeck, S., C. J. Bruns, et al. (2009). "Current oncological treatment of patients with pancreatic cancer in germany: results from a national survey on behalf of the Arbeitsgemeinschaft Internistische Onkologie and the Chirurgische Arbeitsgemeinschaft Onkologie of the Germany Cancer Society." Oncology **77**(1): 40-8.

BACKGROUND: No data have previously been available regarding the current treatment of patients with pancreatic cancer (PC) in German hospitals and medical practices. METHODS: Between February 2007 and March 2008 we conducted a national survey [on behalf of the Arbeitsgemeinschaft Internistische Onkologie (AIO) and the Chirurgische Arbeitsgemeinschaft Onkologie (CAO)] regarding the current surgical and oncological treatment of PC in Germany. Standardized questionnaires were sent via mailing lists to members of the AIO and CAO (n = 1,130). The data were analyzed using SPSS software (version 16.0). Pre-defined subgroup analysis was performed by grouping the results of each question with regard to the professional site of the responding physician and to the number of patients treated in their institution by year. RESULTS: 181 (16%) of the oncological questionnaires were sent back. For 61% of the participating centers, a histological confirmation of PC diagnosis is obligatory. 21% of physicians offer neoadjuvant therapy to patients with potentially resectable PC. In the adjuvant treatment after curative-intent surgery, gemcitabine (Gem) is regarded as standard of care by 71% after R0 resection and 62% after R1 resection. For patients with locally advanced PC, 52% of the participating centers recommend systemic chemotherapy, 17% prefer combined primary chemoradiotherapy. Most centers (59%) base their decision of combination regimens for metastatic disease on the performance status of their patients. In patients with a good status, 28% apply single-agent Gem, 3% use Gem + capecitabine, 12% Gem + erlotinib, 16% Gem + oxaliplatin, and 8% Gem + cisplatin. Only 28% of the survey doctors offer second-line treatment to the majority of their patients with advanced PC. CONCLUSION: Not every PC patient in Germany is

treated according to the present S3 guidelines. Diagnosis and treatment of PC in Germany still need to be improved.

Bohme, A., M. Ruhnke, et al. (2009). "Treatment of invasive fungal infections in cancer patients--recommendations of the Infectious Diseases Working Party (AGIHO) of the German Society of Hematology and Oncology (DGHO)." Ann Hematol **88**(2): 97-110.

Invasive fungal infections are a main cause of morbidity and mortality in cancer patients undergoing intensive chemotherapy regimens. Early antifungal treatment is mandatory to improve survival. Today, a number of effective and better-tolerated but more expensive antifungal agents compared to the former gold standard amphotericin B deoxycholate are available. Clinical decision-making must consider results from numerous studies and published guidelines, as well as licensing status and cost pressure. New developments in antifungal prophylaxis improving survival rates result in a continuous need for actualization. The treatment options for invasive Candida infections include fluconazole, voriconazole, and amphotericin B and its lipid formulations, as well as echinocandins. Voriconazole, amphotericin B, amphotericin B lipid formulations, caspofungin, itraconazole, and posaconazole are available for the treatment of invasive aspergillosis. Additional procedures, such as surgical interventions, immunoregulatory therapy, and granulocyte transfusions, have to be considered. The Infectious Diseases Working Party of the German Society of Hematology and Oncology here presents its 2008 recommendations discussing the dos and do-nots, as well as the problems and possible solutions, of evidence criteria selection.

Boruta, D. M., 2nd, P. A. Gehrig, et al. (2009). "Management of women with uterine papillary serous cancer: a Society of Gynecologic Oncology (SGO) review." Gynecol Oncol **115**(1): 142-53.

OBJECTIVE: Uterine papillary serous carcinoma (UPSC) is a clinically and pathologically distinct subtype of endometrial cancer. Although less common than its endometrioid carcinoma (EEC) counterpart, UPSC accounts for a disproportionate number of endometrial cancer related deaths. To date, limited prospective trials exist from which evidence-based management can be developed. This review summarizes the available literature concerning UPSC in an effort to provide the clinician with information pertinent to its management. METHODS: MEDLINE was searched for all research articles published in English between January 1, 1966 and May 1, 2009 in which the studied population included women diagnosed with UPSC. Although preference was given to prospective studies, studies were not limited by design or by numbers of subjects given the paucity of available reports. RESULTS: UPSC is morphologically and genetically different from EEC. Women often present with postmenopausal vaginal bleeding, but may also present with abnormal cervical cytology, ascites, or a pelvic mass. In some cases, the diagnosis may be made with endometrial biopsy, while in other cases it is not made until the time of definitive surgery. Metastatic disease is common and best identified via comprehensive surgical staging. Local and distant recurrences occur frequently, with extra-pelvic relapses reported most commonly. Optimal cytoreduction and adjuvant platinum/taxane-based chemotherapy appear to improve survival, while adjuvant radiotherapy may contribute to loco-regional disease control. CONCLUSIONS: Women diagnosed with UPSC should undergo comprehensive surgical staging and an attempt at optimal cytoreduction. Platinum/taxane-based adjuvant chemotherapy should be considered in the treatment of both early- and advanced-stage patients. Careful long-term surveillance is indicated as many of these women will recur. Prospective clinical trials of women with UPSC are necessary in order to delineate the optimal therapy for women with newly diagnosed and recurrent disease.

Brown, J. K., T. Byers, et al. (2003). "Nutrition and physical activity during and after cancer treatment: an American Cancer Society guide for informed choices." CA Cancer J Clin **53**(5): 268-91.

Cancer survivors are often highly motivated to seek information about food choices, physical activity, dietary supplement use, and complementary nutritional therapies to improve their treatment outcomes, quality of life, and survival. To address these concerns, the American Cancer Society (ACS) convened a group of experts in nutrition, physical activity, and cancer to evaluate the scientific evidence and best clinical practices related to optimal nutrition and physical activity after the diagnosis of cancer. This report summarizes their findings and is intended to present health care providers with the best possible information on which to help cancer survivors and their families make informed choices related to nutrition and physical activity. The report discusses nutrition and physical activity issues during the phases of cancer treatment and recovery, living after recovery from treatment, and living with advanced cancer; selected nutritional and physical activity issues such as body weight, food choices, and complementary and alternative nutritional options; and selected issues related to breast, colorectal, lung, prostate, head and neck, and upper gastrointestinal cancers. In addition, handouts containing commonly asked questions and

answers and a resource list are provided for survivors and families. Tables that grade the scientific evidence for benefit versus harm related to nutrition and physical activity for breast, colorectal, lung, and prostate cancers are also included for this growing body of knowledge to provide guidance for informed decision making and to identify areas for future research.

Brunelli, A., A. Charloux, et al. (2009). "The European Respiratory Society and European Society of Thoracic Surgeons clinical guidelines for evaluating fitness for radical treatment (surgery and chemoradiotherapy) in patients with lung cancer." Eur J Cardiothorac Surg **36**(1): 181-4.

The European Respiratory Society (ERS) and the European Society of Thoracic Surgeons (ESTS) established a joint task force with the purpose to develop clinical evidence-based guidelines on evaluation of fitness for radical therapy in patients with lung cancer. The following topics were discussed, and are summarized in the final report along with graded recommendations: Cardiologic evaluation before lung resection; lung function tests and exercise tests (limitations of ppoFEV1; DLCO: systematic or selective?; split function studies; exercise tests: systematic; low-tech exercise tests; cardiopulmonary (high tech) exercise tests); future trends in preoperative work-up; physiotherapy/rehabilitation and smoking cessation; scoring systems; advanced care management (ICU/HDU); quality of life in patients submitted to radical treatment; combined cancer surgery and lung volume reduction surgery; compromised parenchymal sparing resections and minimally invasive techniques: the balance between oncological radicality and functional reserve; neoadjuvant chemotherapy and complications; definitive chemo and radiotherapy: functional selection criteria and definition of risk; should surgical criteria be re-calibrated for radiotherapy?; the patient at prohibitive surgical risk: alternatives to surgery; who should treat thoracic patients and where these patients should be treated?

Budach, V., M. Stuschke, et al. (2005). "Hyperfractionated accelerated chemoradiation with concurrent fluorouracil-mitomycin is more effective than dose-escalated hyperfractionated accelerated radiation therapy alone in locally advanced head and neck cancer: final results of the radiotherapy cooperative clinical trials group of the German Cancer Society 95-06 Prospective Randomized Trial." J Clin Oncol **23**(6): 1125-35.

PURPOSE: To report the results and corresponding acute and late reactions of a prospective, randomized, clinical study in locally advanced head and neck cancer comparing concurrent fluorouracil (FU) and mitomycin (MMC) chemotherapy and hyperfractionated accelerated radiation therapy (C-HART; 70.6 Gy) to hyperfractionated accelerated radiation therapy alone (HART; 77.6 Gy). PATIENTS AND METHODS: Three hundred eighty-four stage III (6%) and IV (94%) oropharyngeal (59.4%), hypopharyngeal (32.3%), and oral cavity (8.3%) cancer patients were randomly assigned to receive either 30 Gy (2 Gy every day) followed by 1.4 Gy bid to a total of 70.6 Gy concurrently with FU (600 mg/m(2), 120 hours continuous infusion) days 1 through 5 and MMC (10 mg/m(2)) on days 5 and 36 (C-HART) or 14 Gy (2 Gy every day) followed by 1.4 Gy bid to a total dose of 77.6 Gy (HART). The data were analyzed on an intent-to-treat basis. RESULTS: At 5 years, the locoregional control and overall survival rates were 49.9% and 28.6% for C-HART versus 37.4% and 23.7% for HART, respectively (P = .001 and P = .023, respectively). Progression-free and freedom from metastases rates were 29.3% and 51.9% for C-HART versus 26.6% and 54.7% for HART, respectively (P = .009 and P = .575, respectively). For C-HART, maximum acute reactions of mucositis, moist desquamation, and erythema were lower than with HART, whereas no differences in late reactions and overall rates of secondary neoplasms were observed. CONCLUSION: C-HART (70.6 Gy) is superior to dose-escalated HART (77.6 Gy) with comparable or less acute reactions and equivalent late reactions, indicating an improvement of the therapeutic ratio.

Byers, T., E. Barrera, et al. (2006). "A midpoint assessment of the American Cancer Society challenge goal to halve the U.S. cancer mortality rates between the years 1990 and 2015." Cancer **107**(2): 396-405.

BACKGROUND: The American Cancer Society has challenged the U.S. to reduce cancer mortality rates 50% over the 25 years from 1990 to 2015. The current report is an analysis and commentary on progress toward that goal through 2002, the midpoint of the challenge period. METHODS: Cancer mortality rates were examined from 1990 through 2002, and projections to the Year 2015 were made. Cancer deaths that were prevented or deferred by the declining death rates were expressed as the difference between the observed and projected numbers of deaths and the numbers that would have been observed over that period had the 1990 death rates persisted. RESULTS: Since 1990, cancer mortality rates have been declining in the U.S. by approximately 1% per year. Trends especially have been favorable for cancers of the breast, prostate, and colorectum and for lung cancer among men. Should this rate of decline continue over the coming decade,

death rates from cancer will be approximately 23% lower in the Year 2015 than they were in 1990, and approximately 1.8 million deaths from cancer will have been prevented or deferred. CONCLUSIONS: At this midpoint of the 25-year challenge period, it appears that fully reaching the goal will require substantial breakthroughs in cancer early detection and/or in cancer therapy. Between now and 2015, however, many more cancer deaths can be averted by concerted action to control tobacco and obesity, by redoubling efforts in mammography and colorectal screening, and by enacting policies to close gaps in access to cancer detection and treatment services.

Cantor, D. (2007). "Uncertain enthusiasm: the American Cancer Society, public education, and the problems of the movie, 1921-1960." Bull Hist Med **81**(1): 39-69.

Historians have highlighted a growing medical enthusiasm for public health education movies in the early twentieth century. This essay suggests that there is another historiographic tale to tell, of concerns that films might undermine the public health messages they were designed to promote--concerns that threatened continued interest in movies during the Depression of the 1930s. First, focusing on cancer-education movies aimed at the general public released by the American Society for the Control of Cancer (ASCC, founded 1913), the paper argues that the organization's initial enthusiasm for movies was tempered from the late 1920s by a combination of high production costs, uncertainty as to the effectiveness of movies as public-education tools, and the hard economic situation. It was only after 1944 that motion pictures became a stable part of the propaganda efforts of the renamed American Cancer Society. This transformation followed the takeover of the Society by advertisers and businesspeople, led by Mary Lasker, who introduced business models of fund-raising and education, and made expensive communication technologies, such as movies, central to cancer control. Second, the article also traces the persistence of anxieties that movies might undermine cancer control by encouraging emotional responses that led audiences to ignore the lessons the movies were intended to encourage. But whereas such anxieties dampened ASCC enthusiasm for cancer-education movies during the hard economic times of the 1930s, they had no such effect after 1944, and attention shifted to developing techniques of controlling unwanted audience responses.

Cantore, M., G. Fiorentini, et al. (2004). "Gemcitabine versus FLEC regimen given intra-arterially to patients with unresectable pancreatic cancer: a prospective, randomized phase III trial of the Italian Society for Integrated Locoregional Therapy in Oncology." J Chemother **16**(6): 589-94.

Gemcitabine is considered the gold standard treatment for unresectable pancreatic adenocarcinoma. Intra-arterial drug administration had shown some interesting results in small phase II studies. In this study, patients were randomly assigned to receive gemcitabine at a dose of 1,000 mg/m2 over 30 minutes intravenously weekly for 7 weeks, followed by 1 week of rest, then weekly for 3 weeks every 4 weeks or FLEC: 5-fluoruracil 1,000 mg/m2, leucovorin 100 mg/m2, epirubicin 60 mg/m2, carboplatin 300 mg/m2 infused bolus intra-arterially into celiac axis at a 3-week interval 3 times or 5-fluorouracil 400 mg/m2 plus folinic acid 20 mg/m2 for 5 days every 4 weeks for 6 cycles. The primary endpoint was overall survival, while time to treatment failure, response rate, clinical benefit response were secondary endpoints. Sixty-seven patients were randomly allocated gemcitabine and 71 were allocated FLEC intra-arterially. Patients treated with FLEC lived for significantly longer than patients on gemcitabine (p=0.036). Survival at 1 year increased from 21% in the gemcitabine group to 35% in the FLEC group. Median survival was 7.9 months in the FLEC group and 5.8 months in the gemcitabine group. Median time to treatment failure was longer with FLEC (5.3 vs 4.2 months for FLEC vs gemcitabine respectively; p=0.013). Clinical benefit was similar in both groups (17.9% for gemcitabine and 26.7% for FLEC; p=NS). CT-scan partial response was similar in both groups (5.9% for gemcitabine and 14% for FLEC; p=NS). Toxicity profiles were different. Compared with gemcitabine, the FLEC regimen given intra-arterially improved survival in patients with unresectable pancreatic adenocarcinoma.

Carver, J. R., C. L. Shapiro, et al. (2007). "American Society of Clinical Oncology clinical evidence review on the ongoing care of adult cancer survivors: cardiac and pulmonary late effects." J Clin Oncol **25**(25): 3991-4008.

PURPOSE: To review the evidence on the incidence of long-term cardiac or pulmonary toxicity secondary to chemotherapy, radiotherapy, or trastuzumab in symptomatic and asymptomatic cancer survivors. METHODS: An American Society of Clinical Oncology Panel reviewed pertinent information from the literature through February 2006. RESULTS: Few studies directly addressing the benefits of screening for long-term cardiac or pulmonary toxicity in asymptomatic cancer survivors who received chemotherapy, radiotherapy, or trastuzumab were identified. The reviewed literature included primarily retrospective and cross-sectional studies describing the incidence of cardiac and

pulmonary late effects. Anatomic and/or functional abnormalities have been associated with use of all currently available anthracyclines and their derivatives. Trastuzumab-related cardiac dysfunction rarely causes death, and in most cases is reversible with improvement in cardiac function on drug discontinuation and/or treatment with cardiac medications. The estimated aggregate incidence of radiation-induced cardiac disease is 10% to 30% by 5 to 10 years post-treatment, although the incidence may be lower with modern techniques. Radiation pneumonitis is reported in 5% to 15% of lung cancer patients receiving definitive external-beam radiation therapy. A minority of patients may develop progressive pulmonary fibrosis; late complications include cor pulmonale and respiratory failure. Bleomycin-induced pneumonitis is an acute rather than late effect of treatment. Late pulmonary complications in bone marrow or stem cell transplantation patients who develop interstitial pneumonitis include idiopathic pneumonia syndrome and bronchiolitis obliterans. CONCLUSION: An increased incidence of cardiac and/or pulmonary dysfunction is observed in cancer survivors. Research is needed to identify high-risk patients, and to determine the optimal screening strategies and subsequent treatment.

Cazap, E., A. C. Buzaid, et al. (2008). "Breast cancer in Latin America: results of the Latin American and Caribbean Society of Medical Oncology/Breast Cancer Research Foundation expert survey." Cancer **113**(8 Suppl): 2359-65.

The incidence of breast cancer in Latin American countries is lower than that in more developed countries, whereas the mortality rate is higher. These differences probably are related to differences in screening strategies and access to treatment. Population-based data are needed to make informed decisions. A 65-question telephone survey that included 100 breast cancer experts from 12 Latin American countries was conducted in 2006 as an exploratory analysis of the current state of breast cancer treatment in these regions at both at the country level and at the center level. Greater than 90% of countries had no national law or guideline for mammography screening. The access rate to mammography was 66.3% at the country level and 47% at the center level. Variation in care based on level (country vs center) was indicated for the timing of treatment after diagnosis, timing from initial diagnosis to treatment, and the time from surgery to initial chemotherapy. However, the more sophisticated diagnostic testing for hormone receptors and biomarkers were available at most centers (>80%), and, overall, nearly 80% of patients started treatment within 3 months of diagnosis. Variation in care between breast cancer care at the center level versus the country level indicated a need for national cancer care programs. Alternative data collection strategies for understanding the state of breast cancer control programs in developing countries can help identify areas of improvement.

Cherny, N. I. and R. Catane (2003). "Attitudes of medical oncologists toward palliative care for patients with advanced and incurable cancer: report on a survery by the European Society of Medical Oncology Taskforce on Palliative and Supportive Care." Cancer **98**(11): 2502-10.

BACKGROUND AND METHODS: In part of a quality improvement program, the European Society of Medical Oncology (ESMO) surveyed its membership regarding their involvement in and attitudes toward the palliative care (PC) of patients with advanced cancer. RESULTS: Of 895 members who responded, 82.5% were European and 12.1% were American. Sixty-nine percent of respondents reported that patients with advanced cancer constituted a major proportion of their practice; for 22% of respondents, patients with advanced cancer constituted most of their practice. Only a minority of respondents collaborated often with a PC care specialist (35%), a palliative home care service (38%), an in-patient hospice (26%), or a psychologist (33%). In response to questions regarding specific involvement in PC clinical tasks, respondents were involved more commonly in treating physical symptoms, such as pain (93%), fatigue (84%), and nausea/emesis (84%), than in managing psychological symptoms and end-of-life care issues, such as depression/anxiety (65%), existential distress (29%), or delirium (12%). Forty-three percent of respondents reported that they directly administered end-of-life care often, and 74% reported that they derived satisfaction from their involvement in end-of-life care. Overall, 88.4% of respondents endorsed the belief that medical oncologists should coordinate the end-of-life care for their patients, but a substantial minority (42%) felt that they were trained inadequately for this task. Positive attitudes toward PC were correlated highly with the degree of direct involvement in PC practice. Practitioners in private practice or teaching hospitals had substantially more positive attitudes regarding PC compared with physicians based in comprehensive cancer centers ($P < 0.05$). Although most of the responding medical oncologists expressed positive views regarding their involvement in the PC of patients with advanced cancer and dying patients, 15% of respondents had pervasively negative views. CONCLUSIONS: Most ESMO oncologists recognize the importance of PC and supportive care for patients

with advanced cancer. Despite this, many are prepared inadequately for these tasks, and actual participation levels commonly are suboptimal.

Cox, J. T. (2003). "The clinician's view: role of human papillomavirus testing in the American Society for Colposcopy and Cervical Pathology Guidelines for the management of abnormal cervical cytology and cervical cancer precursors." Arch Pathol Lab Med **127**(8): 950-8.

The American Society for Colposcopy and Cervical Pathology (ASCCP) National Consensus Conference for the Management of Women With Cervical Cytological Abnormalities and Cervical Cancer Precursors was held on the National Institutes of Health campus in Bethesda, Md, September 6-8, 2001. The conference was attended by 121 representatives from 29 national organizations interested in cervical cancer screening issues. For the first time, guidelines for the management of women with abnormal cervical cytology, developed from evidence-based literature, were presented to delegates from the majority of organizations with interest in cervical cancer screening, voted on, and revised when necessary to achieve a majority two-thirds approval. This development of consensus-approved guidelines is likely to be considered one of the most important milestones to date in the management of women with abnormal cervical cytology. The timing of this Consensus Conference resulted from the convergence of many different factors, including new cytologic terminology developed at the Bethesda 2001 workshop and publication of the enrollment data from the National Cancer Institute's Atypical Squamous Cells of Undetermined Significance (ASC-US)/Low-Grade Squamous Intraepithelial Lesions (LSIL) Triage Study, otherwise known as ALTS. Additionally, new preliminary longitudinal ALTS data provided much of the information on the natural history of abnormal Papanicolaou tests and cervical intraepithelial neoplasia (CIN), as well as data on the performance of both new liquid-based cytology and human papillomavirus (HPV) DNA testing in the management of women following colposcopy. The result was a large database of new information that provided the foundation for the ASCCP Consensus Conference. This article covers only the recommendations of the ASCCP Guidelines that were based in large part on the results of the ALTS trial. Therefore, the focus is on the management of women with equivocal (ASC-US) and low-grade (LSIL) cytologic abnormalities. Management of women with these cytologic abnormalities has been particularly problematic, because individually these women are at least risk for CIN 3 and cancer, yet their sheer numerical dominance ensures that they account for the majority of high-grade CIN detected in the United States in the follow-up of abnormal cervical cytology. Data from ALTS confirmed that women with ASC-US could be safely managed by any of the conventional approaches (repeat Papanicolaou test, immediate colposcopy, or HPV testing), but that the preferred management approach for women having an ASC-US report from liquid-based cytology was to assess the patient's risk by testing for HPV. Additionally, longitudinal ALTS data determined that repeat liquid-based cytology at 6 and 12 months and an HPV test at 12 months were nearly equivalent options in the follow-up of women referred for HPV-positive ASC or LSIL, yet not found to have CIN 2+ at initial colposcopy. Therefore, all follow-up recommendations for women with CIN 1 or lower postcolposcopy findings include these 2 options. The data and the recommendations for the management of ASC-US, ASC cannot exclude high-grade squamous intraepithelial lesion, and LSIL are discussed.

Desch, C. E., A. B. Benson, 3rd, et al. (2005). "Colorectal cancer surveillance: 2005 update of an American Society of Clinical Oncology practice guideline." J Clin Oncol **23**(33): 8512-9.

PURPOSE: To update the 2000 American Society of Clinical Oncology guideline on colorectal cancer surveillance. RECOMMENDATIONS: Based on results from three independently reported meta-analyses of randomized controlled trials that compared low-intensity and high-intensity programs of colorectal cancer surveillance, and on recent analyses of data from major clinical trials in colon and rectal cancer, the Panel recommends annual computed tomography (CT) of the chest and abdomen for 3 years after primary therapy for patients who are at higher risk of recurrence and who could be candidates for curative-intent surgery; pelvic CT scan for rectal cancer surveillance, especially for patients with several poor prognostic factors, including those who have not been treated with radiation; colonoscopy at 3 years after operative treatment, and, if results are normal, every 5 years thereafter; flexible proctosigmoidoscopy [corrected] every 6 months for 5 years for rectal cancer patients who have not been treated with pelvic radiation; history and physical examination every 3 to 6 months for the first 3 years, every 6 months during years 4 and 5, and subsequently at the discretion of the physician; and carcinoembryonic antigen every 3 months postoperatively for at least 3 years after diagnosis, if the patient is a candidate for surgery or systemic therapy. Chest x-rays, CBCs, and liver function tests are not recommended, and molecular or cellular markers should not influence the surveillance strategy based on available evidence.

Desch, C. E., K. K. McNiff, et al. (2008). "American Society of Clinical Oncology/National Comprehensive Cancer Network Quality Measures." J Clin Oncol **26**(21): 3631-7.

PURPOSE: The National Cancer Policy Board recommended the creation of quality measures and a national reporting system in 1999. Representatives from the American Society of Clinical Oncology (ASCO) and the National Comprehensive Cancer Network (NCCN) collaborated to create metrics suitable for national performance measurement. METHODS: Content and methodology experts nominated by ASCO and NCCN met to select and refine metrics for breast, colon, and rectal cancer based on National Initiative for Cancer Care Quality and NCCN measures and NCCN and ASCO guidelines. Measures were selected based on their impact on disease free and overall survival, the degree to which opportunities for improvement exist, and the feasibility of data collection. RESULTS: Three breast cancer measures and four colorectal cancer measures were chosen. Measures for breast cancer included adjuvant hormone therapy for hormone receptor-positive tumors, chemotherapy for hormone receptor-negative cancer, and radiation after lumpectomy. Colorectal measures included adjuvant radiation and chemotherapy for rectal cancer, and adjuvant chemotherapy for colon cancer. All but one were recommended as accountability measures and one for quality improvement (removal and examination of 12 or more lymph nodes in colon cancer). Specifications were developed for each measure using tumor registries as the data source. CONCLUSION: ASCO/NCCN measures can be implemented by health systems, provider groups or payors for improvement or accountability using local tumor registries to furnish data on staging and treatment.

Dhepnorrarat, R. C., M. A. Lee, et al. (2009). "Incompletely excised skin cancer rates: a prospective study of 31,731 skin cancer excisions by the Western Australian Society of Plastic Surgeons." J Plast Reconstr Aesthet Surg **62**(10): 1281-5.

BACKGROUND: The incomplete excision of malignant skin lesions is an established measure of the standard of surgical care. It is one of the clinical indicators established by the Royal Australasian College of Surgeons and the Australian Council on Healthcare Standards. PURPOSE OF THE STUDY: The purpose of this study was to identify the rate of incomplete excisions of skin cancers by a group of plastic surgeons in Western Australia and to present the data in a way that enhances the audit process. METHODS: Since 1996, 25 plastic surgeons in Western Australia have been collecting prospective data on incomplete clearances of skin cancer excisions in private practice. A standard data entry form is used and data were collected by clerical staff, independent of the surgeon, and submitted annually to the Western Australian Society of Plastic Surgeons. A lesion was considered to be incompletely excised if tumour was found on histological examination to be present at the excision margin of a specimen. RESULTS: From 1996 to 2002, 25 plastic surgeons performed 31,731 skin lesion excisions over a period of 6 years. Incomplete margins were found on histopathological examination of 1277 lesions (4.02%). Nineteen surgeons performed over 500 procedures. CONCLUSION: The 4.02% rate of incomplete lesion excisions compares favourably to the results of other series. Further development of the audit will yield valuable information on skin lesion management in Western Australia.

Doyle, C., L. H. Kushi, et al. (2006). "Nutrition and physical activity during and after cancer treatment: an American Cancer Society guide for informed choices." CA Cancer J Clin **56**(6): 323-53.

Cancer survivors are often highly motivated to seek information about food choices, physical activity, and dietary supplement use to improve their treatment outcomes, quality of life, and survival. To address these concerns, the American Cancer Society (ACS) convened a group of experts in nutrition, physical activity, and cancer to evaluate the scientific evidence and best clinical practices related to optimal nutrition and physical activity after the diagnosis of cancer. This report summarizes their findings and is intended to present health care providers with the best possible information from which to help cancer survivors and their families make informed choices related to nutrition and physical activity. The report discusses nutrition and physical activity issues during the phases of cancer treatment and recovery, living after recovery from treatment, and living with advanced cancer; select nutrition and physical activity issues such as body weight, food choices, and food safety; issues related to select cancer sites; and common questions about diet, physical activity, and cancer survivorship.

Eftim, S. E., J. M. Samet, et al. (2008). "Fine particulate matter and mortality: a comparison of the six cities and American Cancer Society cohorts with a medicare cohort." Epidemiology **19**(2): 209-16.

BACKGROUND: The American Cancer Society study and the Harvard Six Cities study are 2 landmark cohort studies for estimating the chronic effects of fine particulate air pollution (PM2.5) on mortality. Using Medicare data, we assessed the

association of PM2.5 with mortality for the same locations included in these studies. METHODS: We estimated the chronic effects of PM2.5 on mortality for the period 2000-2002 using mortality data for cohorts of Medicare participants and average PM2.5 levels from monitors in the same counties included in the 2 studies. We estimated mortality risk associated with air pollution adjusting for individual-level (age and sex) and area-level covariates (education, income level, poverty, and employment). We controlled for potential confounding by cigarette smoking by including standardized mortality ratios for lung cancer and chronic obstructive pulmonary disease. RESULTS: Using the Medicare data, we estimated that a 10 microg/m increase in the yearly average PM2.5 concentration is associated with 10.9% (95% confidence interval = 9.0-12.8) and with 20.8% (14.8-27.1) increases in all-cause mortality for the American Cancer Society and Harvard Six Cities study counties, respectively. The estimates are somewhat higher than those reported by the original investigators. CONCLUSION: Although Medicare data lack information on some potential confounding factors, we estimated risks similar to those in the previously published reports, which incorporated more extensive information on individual-level confounders. We propose that the Medicare files can be used to construct on-going cohorts for tracking the risk of air pollution over time.

Eskicorapci, S. Y., L. Turkeri, et al. (2009). "Validation of two preoperative Kattan nomograms predicting recurrence after radical prostatectomy for localized prostate cancer in Turkey: a multicenter study of the Uro-oncology Society." Urology **74**(6): 1289-95.

OBJECTIVES: To examine, in a multicenter validation study designed under the guidance of the Uro-Oncology Society, the predictive accuracies of the 1998 and 2006 Kattan preoperative nomograms in Turkish patients. These 2 preoperative Kattan nomograms use preoperative parameters to estimate disease recurrence after radical prostatectomy. METHODS: A total of 1261 men with clinically localized prostate cancer undergoing radical prostatectomy were included. The preoperative prostate-specific antigen level, biopsy Gleason score, clinical stage, number of positive and negative prostate biopsy cores, and postoperative recurrence status of all patients were studied. The predicted values using the Kattan nomograms and the observed values were compared. RESULTS: The patient characteristics in the cohort were comparable with those of the cohorts used to create the Kattan nomograms. The 5-year probability of freedom from recurrence was 73% using Kaplan-Meier analysis and was similar to that of the 1998 Kattan nomogram cohort. However, the 10-year probability of freedom from recurrence was 67%, slightly lower than the same estimate from the 2006 nomogram cohort. The predicted values of recurrence using Kattan nomogram and the observed rates in our cohort were similar. The estimated concordance index value was 0.698 and 0.705 for 1998 and 2006 nomograms, respectively. CONCLUSIONS: The Kattan preoperative nomograms can be used with adequate success in Turkey, because the predicted and observed rates in our cohort were similar. Our results have demonstrated satisfactory concordance index values, suggesting that both the 1998 and the 2006 Kattan preoperative nomograms can safely be used in Turkish patients with similar accuracy. Although the 2006 nomogram had slightly better discrimination, the 1998 nomogram was a little more calibrated.

Extermann, M., M. Aapro, et al. (2005). "Use of comprehensive geriatric assessment in older cancer patients: recommendations from the task force on CGA of the International Society of Geriatric Oncology (SIOG)." Crit Rev Oncol Hematol **55**(3): 241-52.

BACKGROUND: As more and more cancers occur in elderly people, oncologists are increasingly confronted with the necessity of integrating geriatric parameters in the treatment of their patients. METHODS: The International Society of Geriatric Oncology (SIOG) created a task force to review the evidence on the use of a comprehensive geriatric assessment (CGA) in cancer patients. A systematic review of the evidence was conducted. RESULTS: Several biological and clinical correlates of aging have been identified. Their relative weight and clinical usefulness is still poorly defined. There is strong evidence that a CGA detects many problems missed by a regular assessment in general geriatric and in cancer patients. There is also strong evidence that a CGA improves function and reduces hospitalization in the elderly. There is heterogeneous evidence that it improves survival and that it is cost-effective. There is corroborative evidence from a few studies conducted in cancer patients. Screening tools exist and were successfully used in settings such as the emergency room, but globally were poorly tested. The article contains recommendations for the use of CGA in research and clinical care for older cancer patients. CONCLUSIONS: A CGA, with or without screening, and with follow-up, should be used in older cancer patients, in order to detect unaddressed problems, improve their functional status, and possibly their survival. The task force cannot recommend any specific tool or approach above others at this point and general geriatric experience should be used.

Eyre, H., R. Kahn, et al. (2004). "Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the American Diabetes Association, and the American Heart Association." Diabetes Care **27**(7): 1812-24.

Collectively, cardiovascular disease (including stroke), cancer, and diabetes account for approximately two-thirds of all deaths in the U.S. and about US dollars 700 billion in direct and indirect economic costs each year. Current approaches to health promotion and prevention of cardiovascular disease, cancer, and diabetes do not approach the potential of the existing state of knowledge. A concerted effort to increase application of public health and clinical interventions of known efficacy to reduce prevalence of tobacco use, poor diet, and insufficient physical activity-the major risk factors for these diseases-and to increase utilization of screening tests for their early detection could substantially reduce the human and economic cost of these diseases. In this article, the American Cancer Society, American Diabetes Association, and American Heart Association review strategies for the prevention and early detection of cancer, cardiovascular disease, and diabetes, as the beginning of a new collaboration among the three organizations. The goal of this joint venture is to stimulate substantial improvements in primary prevention and early detection through collaboration between key organizations, greater public awareness about healthy lifestyles, legislative action that results in more funding for and access to primary prevention programs and research, and reconsideration of the concept of the periodic medical checkup as an effective platform for prevention, early detection, and treatment.

Eyre, H., R. Kahn, et al. (2004). "Preventing cancer, cardiovascular disease, and diabetes: a common agenda for theAmerican Cancer Society, the American Diabetes Association, and the American Heart Association." CA Cancer J Clin **54**(4): 190-207.

Collectively, cardiovascular disease (including stroke), cancer, and diabetes account for approximately two-thirds of all deaths in the United States and about 700 billion US dollars in direct and indirect economic costs each year. Current approaches to health promotion and prevention of cardiovascular disease, cancer, and diabetes do not approach the potential of the existing state of knowledge. A concerted effort to increase application of public health and clinical interventions of known efficacy to reduce prevalence of tobacco use, poor diet, and insufficient physical activity-the major risk factors for these diseases-and to increase utilization of screening tests for their early detection could substantially reduce the human and economic cost of these diseases. In this article, the American Cancer Society, the American Diabetes Association, and the American Heart Association review strategies for the prevention and early detection of cancer, cardiovascular disease, and diabetes, as the beginning of a new collaboration among the three organizations. The goal of this joint venture is to stimulate substantial improvements in primary prevention and early detection through collaboration between key organizations, greater public awareness about healthy lifestyles, legislative action that results in more funding for and access to primary prevention programs and research, and reconsideration of the concept of the periodic medical checkup as an effective platform for prevention, early detection, and treatment.

Eyre, H., R. Kahn, et al. (2004). "Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the American Diabetes Association, and the American Heart Association." Stroke **35**(8): 1999-2010.

Collectively, cardiovascular disease (including stroke), cancer, and diabetes account for approximately two thirds of all deaths in the United States and about 700 billion dollars in direct and indirect economic costs each year. Current approaches to health promotion and prevention of cardiovascular disease, cancer, and diabetes do not approach the potential of the existing state of knowledge. A concerted effort to increase application of public health and clinical interventions of known efficacy to reduce prevalence of tobacco use, poor diet, and insufficient physical activity-the major risk factors for these diseases-and to increase utilization of screening tests for their early detection could substantially reduce the human and economic cost of these diseases. In this article, the ACS, ADA, and AHA review strategies for the prevention and early detection of cancer, cardiovascular disease, and diabetes, as the beginning of a new collaboration among the three organizations. The goal of this joint venture is to stimulate substantial improvements in primary prevention and early detection through collaboration between key organizations, greater public awareness about healthy lifestyles, legislative action that results in more funding for and access to primary prevention programs and research, and reconsideration of the concept of the periodic medical checkup as an effective platform for prevention, early detection, and treatment.

Eyre, H., R. Kahn, et al. (2004). "Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the

American Diabetes Association, and the American Heart Association." Circulation **109**(25): 3244-55.

Collectively, cardiovascular disease (including stroke), cancer, and diabetes account for approximately two thirds of all deaths in the United States and about 700 billion dollars in direct and indirect economic costs each year. Current approaches to health promotion and prevention of cardiovascular disease, cancer, and diabetes do not approach the potential of the existing state of knowledge. A concerted effort to increase application of public health and clinical interventions of known efficacy to reduce prevalence of tobacco use, poor diet, and insufficient physical activity-the major risk factors for these diseases-and to increase utilization of screening tests for their early detection could substantially reduce the human and economic cost of these diseases. In this article, the ACS, ADA, and AHA review strategies for the prevention and early detection of cancer, cardiovascular disease, and diabetes, as the beginning of a new collaboration among the three organizations. The goal of this joint venture is to stimulate substantial improvements in primary prevention and early detection through collaboration between key organizations, greater public awareness about healthy lifestyles, legislative action that results in more funding for and access to primary prevention programs and research, and reconsideration of the concept of the periodic medical checkup as an effective platform for prevention, early detection, and treatment.

Fan, L., Y. Zheng, et al. (2009). "Breast cancer in a transitional society over 18 years: trends and present status in Shanghai, China." Breast Cancer Res Treat **117**(2): 409-16.

As a metropolis with rapid social and economic development over the past three decades, Shanghai has a breast cancer incidence that surpasses all other cancer registries in China. In order to estimate the regular changing patterns of female breast cancer in urban Shanghai, population-based incidence data from 1975 to 2004 were studied. In addition, a one-hospital-based in-patient database of 7,443 female breast cancer patients treated surgically between January-1990 and July-2007 were reviewed, retrospectively. We observed that breast cancer incidence increased dramatically over the past 30 years and documented a peak incidence represented by the middle-age group (45-59 years), which emerged in the last 20 years. The incidence peak moved from the 40-44 year group in the previous two decades to the 50-54 year group in the most recent decade. Median age at diagnosis was earlier in Shanghai than in the western countries, although it increased from 47.5-year in 1990 to 50-year in 2007. Considerably higher exposure to reproductive risk factors and relatively fewer hormone-dependent cases were observed. The proportion of asymptomatic cases detected by screening gradually increased, as well as that of early-stage cases (from 78.6% in 1990 to 93.3% in 2007) and carcinoma in situ (14.7% in 2007). Analysis of surgical treatment patterns suggested a trend of less-invasive options. Both age of peak incidence and median age at diagnosis increase with time, which suggests that increased incidence trending along with increasing age, will be observed in the future. Consequently, specific screening protocol should be refined to consider birth cohorts.

Feigelson, H. S., C. R. Jonas, et al. (2003). "Alcohol, folate, methionine, and risk of incident breast cancer in the American Cancer Society Cancer Prevention Study II Nutrition Cohort." Cancer Epidemiol Biomarkers Prev **12**(2): 161-4.

Recent studies suggest that the increased risk of breast cancer associated with alcohol consumption may be reduced by adequate folate intake. We examined this question among 66,561 postmenopausal women in the American Cancer Society Cancer Prevention Study II Nutrition Cohort. A total of 1,303 incident cases had accrued during the first 5 years of follow-up. Cox proportional hazards models and stratified analysis were used to examine the relationship between alcohol, dietary and total folate intake, multivitamin use, dietary methionine, and breast cancer. We observed an increasing risk of breast cancer with increasing alcohol consumption (P for trend = 0.01). In the highest category of consumption (15 or more grams of ethanol/day), the risk of breast cancer was 1.26 (95% confidence interval, 1.04-1.53) compared with nonusers. We observed this association with higher alcohol consumption for in situ, localized, and regional disease. We found no association between risk of breast cancer and dietary folate, total folate, multivitamin use, or methionine intake. Furthermore, we found no evidence of an interaction between levels of dietary folate (P for interaction = 0.10) or total folate (P for interaction = 0.61) and alcohol. Nor did we find evidence of an interaction between alcohol consumption and recent or long-term multivitamin use (P for interaction = 0.27). Our results are consistent with a positive association with alcohol but do not support an association with folate or methionine intake or an interaction between folate and alcohol intake on risk of breast cancer.

Ferris, F. D., E. Bruera, et al. (2009). "Palliative cancer care a decade later: accomplishments, the need, next steps -- from the American Society of Clinical Oncology." J Clin Oncol **27**(18): 3052-8.

PURPOSE: In 1998, the American Society of Clinical Oncology (ASCO) published a special article regarding palliative care and companion recommendations. Herein we summarize the major accomplishments of ASCO regarding palliative cancer and highlight current needs and make recommendations to realize the Society's vision of comprehensive cancer care by 2020. METHODS: ASCO convened a task force of palliative care experts to assess the state of palliative cancer care in the Society's programs. We reviewed accomplishments, assessed current needs, and developed a definition of palliative cancer. Senior ASCO members and the Board of Directors reviewed and endorsed this article for submission to Journal of Clinical Oncology. RESULTS: Palliative cancer care is the integration into cancer care of therapies that address the multiple issues that cause suffering for patients and their families and impact their life quality. Effective provision of palliative cancer care requires an interdisciplinary team that can provide care in all patient settings, including outpatient clinics, acute and long-term care facilities, and private homes. Changes in current policy, drug availability, and education are necessary for the integration of palliative care throughout the experience of cancer, for the achievement of quality improvement initiatives, and for effective palliative cancer care research. CONCLUSION: The need for palliative cancer care is greater than ever notwithstanding the strides made over the last decade. Further efforts are needed to realize the integration of palliative care in the model and vision of comprehensive cancer care by 2020.

Fontham, E. T., M. J. Thun, et al. (2009). "American Cancer Society perspectives on environmental factors and cancer." CA Cancer J Clin **59**(6): 343-51.

Cancer prevention is central to the mission of the American Cancer Society (ACS). The ACS's prevention activities take many forms, but are primarily focused on modifiable risk factors that have been demonstrated to have the largest impact on cancer risk in the general population (with particular emphasis on tobacco use because of its large impact on cancer), and well-proven policy and program interventions. The ACS addresses nutrition, physical inactivity and obesity, alcohol consumption, excessive sun exposure, prevention of certain chronic infections, and selected other environmental factors through a variety of venues, including consensus guidelines (eg, nutrition and physical activity, human papillomavirus vaccination) and developing educational materials for health care providers and the general public. In contrast to the broad definition of environmental factors used by the ACS and most other public health agencies, some members of the general public associate the term "environmental" only with toxic air and water pollutants and other, predominantly manmade, hazards that people encounter, often involuntarily, in their daily life. This article will provide an overview of the ACS's approach to the prevention of cancer associated with such toxic pollutants in the context of its mission and priorities with respect to cancer prevention.

Fotopoulou, C., A. Karavas, et al. (2009). "Venous thromboembolism in recurrent ovarian cancer-patients: A systematic evaluation of the North-Eastern German Society of Gynaecologic Oncology Ovarian Cancer Study Group (NOGGO)." Thromb Res **124**(5): 531-5.

INTRODUCTION: Systemic chemotherapy and surgery for patients with recurrent ovarian cancer (ROC) constitute a therapeutic challenge. Venous thromboembolism (VTE) seems to have a negative prognostic impact in patients with solid tumors including primary ovarian cancer in many series. Only limited contemporary data exist regarding the impact of VTE on ROC. PATIENTS AND METHODS: Two large multicenter prospective controlled phase I/II-III studies on 2nd-line topotecan-based chemotherapy with platinum-sensitive or resistant ROC (N=525) were conducted on both operated and non-operative patients by the North-Eastern German Society of Gynaecologic Oncology Ovarian Cancer Study Group (NOGGO). Analysis was performed to identify incidence, predictors and prognosis of VTE. Survival analysis, univariate and Cox-regression analysis were performed to identify independent predictors of VTE, overall and progression free survival. RESULTS: Thirty-seven (7%) VTE-episodes during chemotherapy were identified; 70% of them occurred within the first 2 months after initiation of chemotherapy. Ascites, as a sign of peritoneal carcinomatosis and advanced tumor disease, was identified as independent predictor of VTE. Advanced age and high BMI did not appear to affect significantly the VTE-incidence. High performance status, platinum-sensitivity, serous-papillary histology, lack of ascites and surgery appeared to positively affect survival by multivariate analysis. Overall survival and progression free survival were similar between the VTE and no-VTE patients. CONCLUSION: ROC-patients appear to have the highest risk for developing VTE when ascites exists and during the first 2 months following chemotherapy initiation. In contrast to primary ovarian cancer, VTE could not be identified to affect overall survival in relapsed malignant ovarian disease.

Gordon, D. B., J. L. Dahl, et al. (2005). "American pain society recommendations for improving the

quality of acute and cancer pain management: American Pain Society Quality of Care Task Force." Arch Intern Med **165**(14): 1574-80.

BACKGROUND: The American Pain Society (APS) set out to revise and expand its 1995 Quality Improvement Guidelines for the Treatment of Acute Pain and Cancer Pain and to facilitate improvements in the quality of pain management in all care settings. METHODS: Eleven multidisciplinary members of the APS with expertise in quality improvement or measurement participated in the update. Five experts from organizations that focus on health care quality reviewed the final recommendations. MEDLINE and Cumulative Index to Nursing and Allied Health Literature databases were searched (1994-2004) to identify articles on pain quality measurement and quality improvement published after the development of the 1995 guidelines. The APS task force revised and expanded recommendations on the basis of the systematic review of published studies. The more than 3000 members of the APS were invited to provide input, and the 5 experts provided additional comments. The task force synthesized reviewers' comments into the final set of recommendations. RESULTS: The recommendations specify that all care settings formulate structured, multilevel systems approaches (sensitive to the type of pain, population served, and setting of care) that ensure prompt recognition and treatment of pain, involvement of patients and families in the pain management plan, improved treatment patterns, regular reassessment and adjustment of the pain management plan as needed, and measurement of processes and outcomes of pain management. CONCLUSION: Efforts to improve the quality of pain management must move beyond assessment and communication of pain to implementation and evaluation of improvements in pain treatment that are timely, safe, evidence based, and multimodal.

Goss, E., A. M. Lopez, et al. (2009). "American society of clinical oncology policy statement: disparities in cancer care." J Clin Oncol **27**(17): 2881-5.

The American Society of Clinical Oncology (ASCO) has embarked on an intensive campaign to integrate elimination of cancer health disparities into the Society's overall mission and activities. Key components of this commitment are enhancing awareness of disparities; improving access to care; and supporting research on health disparities. Major objectives are to advance the education of the oncology community in the care of patients from underserved and minority populations; increase the diversity of the clinical oncology workforce as a requisite to improving access to cancer care for the underserved; and support research in the area of health disparities. Racial and ethnic disparities in cancer care are an issue of critical importance to ASCO, the oncology community, and our society at large. The health disparities initiative outlined herein enunciates ASCO's dedication to eliminating disparities in cancer care and discusses our multipronged approach for addressing disparities within the clinical oncology community. ASCO is committed to collaborating with the diverse community of stakeholders to undertake the following: develop policies to guarantee equal access to quality health care, with special emphasis on reducing insurance and economic barriers to cancer care; develop a comprehensive plan to increase awareness of racial and ethnic disparities in cancer care; execute a strategy to enhance the supply of minority physicians and to improve the training of the oncology workforce to meet the needs of racially and ethnically diverse cancer patients; increase prioritization of public and private research on cancer care disparities; develop mechanisms to increase participation of racially and ethnically diverse populations in cancer clinical trials; and support initiatives to enhance patients' involvement in their cancer care.

Gralow, J., R. F. Ozols, et al. (2008). "Clinical cancer advances 2007: major research advances in cancer treatment, prevention, and screening--a report from the American Society of Clinical Oncology." J Clin Oncol **26**(2): 313-25.

A MESSAGE FROM ASCO'S PRESIDENT: For the third year, the American Society of Clinical Oncology (ASCO) is publishing Clinical Cancer Advances: Major Research Advances in Cancer Treatment, Prevention, and Screening, an annual review of the most significant cancer research presented or published over the past year. ASCO publishes this report to demonstrate the important progress being made on the front lines of clinical cancer research today. The report is intended to give all those with an interest in cancer care-the general public, cancer patients and organizations, policymakers, oncologists, and other medical professionals-an accessible summary of the year's most important cancer research advances. These pages report on the use of magnetic resonance imaging for breast cancer screening, the association between hormone replacement therapy and breast cancer incidence, the link between human papillomavirus and head and neck cancers, and the use of radiation therapy to prevent lung cancer from spreading. They also report on effective new targeted therapies for cancers that have been historically difficult to treat, such as liver cancer and kidney cancer, among many

others. A total of 24 advances are featured in this year's report. These advances and many more over the past several years show that the nation's long-term investment in cancer research is paying off. But there are disturbing signs that progress could slow. We are now in the midst of the longest sustained period of flat government funding for cancer research in history. The budgets for the National Institutes of Health and the National Cancer Institute (NCI) have been unchanged for four years. When adjusted for inflation, cancer research funding has actually declined 12% since 2004. These budget constraints limit the NCI's ability to fund promising cancer research. In the past several years the number of grants that the NCI has been able to fund has significantly decreased; this year, in response to just the threat of a 10% budget cut, the nation's Clinical Trials Cooperative Groups reduced the number of patients participating in clinical trials by almost 2,000 and senior researchers report that many of the brightest young minds no longer see the promise of a career in science, choosing other careers instead. It's time to renew the nation's commitment to cancer research. Without additional support, the opportunity to build on the extraordinary progress to date will be lost or delayed. This report demonstrates the essential role that clinical cancer research plays in finding new and better ways to care for the more than 1.4 million people expected to be diagnosed with cancer this year. I want to thank the Editorial Board members, the Specialty Editors, and the ASCO Cancer Communications Committee for their dedicated work to develop this report. I hope you find it useful. Sincerely, Nancy E. Davidson, MD President American Society of Clinical Oncology.

Harris, L., H. Fritsche, et al. (2007). "American Society of Clinical Oncology 2007 update of recommendations for the use of tumor markers in breast cancer." J Clin Oncol **25**(33): 5287-312.

PURPOSE: To update the recommendations for the use of tumor marker tests in the prevention, screening, treatment, and surveillance of breast cancer. METHODS: For the 2007 update, an Update Committee composed of members from the full Panel was formed to complete the review and analysis of data published since 1999. Computerized literature searches of MEDLINE and the Cochrane Collaboration Library were performed. The Update Committee's literature review focused attention on available systematic reviews and meta-analyses of published tumor marker studies. In general, significant health outcomes (overall survival, disease-free survival, quality of life, lesser toxicity, and cost-effectiveness) were used for making recommendations. Recommendations and CONCLUSIONS: Thirteen categories of breast tumor markers were considered, six of which were new for the guideline. The following categories showed evidence of clinical utility and were recommended for use in practice: CA 15-3, CA 27.29, carcinoembryonic antigen, estrogen receptor, progesterone receptor, human epidermal growth factor receptor 2, urokinase plasminogen activator, plasminogen activator inhibitor 1, and certain multiparameter gene expression assays. Not all applications for these markers were supported, however. The following categories demonstrated insufficient evidence to support routine use in clinical practice: DNA/ploidy by flow cytometry, p53, cathepsin D, cyclin E, proteomics, certain multiparameter assays, detection of bone marrow micrometastases, and circulating tumor cells.

Helft, P. R., F. Hlubocky, et al. (2003). "American oncologists' views of internet use by cancer patients: a mail survey of American Society of Clinical Oncology members." J Clin Oncol **21**(5): 942-7.

PURPOSE: Americans are turning more and more frequently to the Internet to obtain health information. The specific effects on patients, doctors, and the clinical encounter are not well known. METHODS: A brief mail survey was sent to a systematic sample of 5% of medical oncologists and hematologist/oncologists listed in the membership directory of the American Society of Clinical Oncology. RESULTS: Response rate to this mail survey was 46.2%. Oncologists' median estimate of the proportion of their patients using the Internet to obtain cancer information was 30%. Subjects responded that, on average, 10 minutes were added to each patient encounter in which Internet information was discussed. Responding oncologists reported that use of the Internet had the ability to simultaneously make patients more hopeful, confused, anxious, and knowledgeable. Forty-four percent of responding oncologists reported that they sometimes or rarely had difficulty discussing Internet information, and only 9% of subjects reported that they sometimes or always felt threatened when patients brought Internet information to discuss. In narrative responses, oncologists reported both positive and negative effects of Internet use by patients. CONCLUSION: In this brief mail survey to a systematic sample of American oncologists in academic and community practice, respondents reported that a significant proportion of their patients use the Internet to obtain cancer information. Oncologists viewed Internet information as having both positive and negative effects on the clinical encounter. Further research is needed on the effects of patients' use of the Internet to obtain cancer information involving both patients and oncologists.

Herbst, R. S., D. F. Bajorin, et al. (2006). "Clinical Cancer Advances 2005: major research advances in cancer treatment, prevention, and screening--a report from the American Society of Clinical Oncology." J Clin Oncol **24**(1): 190-205.

This year, for the first time, the American Society of Clinical Oncology (ASCO) is publishing Clinical Cancer Advances 2005: Major Research Advances in Cancer Treatment, Prevention, and Screening, an annual review of the most significant clinical research presented or published over the past year across all cancer types. ASCO embarked on this project to provide the public, patients, policymakers, and physicians with an accessible summary of the year's most important research advances. While not intended to serve as a comprehensive review, this report provides a year-end snapshot of research that will have the greatest impact on patient care. As you will read, there is much good news from the front lines of cancer research. These pages report on new chemotherapy regimens that sharply reduce the risk of recurrence for very common cancers; the "coming of age" of targeted cancer therapies; promising studies of drugs to prevent cancer; and improvements in quality of life for people living with the disease, among many other advances. Survival rates for cancer are on the rise, increasing from 50% to 64% over the last 30 years. Cancer still exacts an enormous toll, however. Nearly 1.4 million Americans will be diagnosed this year, and some 570,000 will die of the disease. Clearly, more research is needed to find effective therapies for the most stubborn cancer types and stages. We need to know more about the long-term effects of newer, more targeted cancer therapies, some of which need to be taken over long periods of time. And we need to devote far greater attention to tracking and improving the care of the nearly 10 million cancer survivors in the United States today. Despite these and other challenges, the message of this report is one of hope. Through the dedicated, persistent pursuit of clinical research and participation in clinical trials by people with cancer, we steadily uncover new and better ways of treating, diagnosing, and preventing a disease that touches the lives of so many. I want to thank the Editorial Board members, the Specialty Editors, and the ASCO Cancer Communications Committee for their dedicated work to develop this report, and I hope you find it useful.

Hillner, B. E., J. N. Ingle, et al. (2003). "American Society of Clinical Oncology 2003 update on the role of bisphosphonates and bone health issues in women with breast cancer." J Clin Oncol **21**(21): 4042-57.

PURPOSE: To update the 2000 ASCO guidelines on the role of bisphosphonates in women with breast cancer and address the subject of bone health in these women. RESULTS: For patients with plain radiographic evidence of bone destruction, intravenous pamidronate 90 mg delivered over 2 hours or zoledronic acid 4 mg over 15 minutes every 3 to 4 weeks is recommended. There is insufficient evidence supporting the efficacy of one bisphosphonate over the other. Starting bisphosphonates in women who demonstrate bone destruction through imaging but who have normal plain radiographs is considered reasonable treatment. Starting bisphosphonates in women with only an abnormal bone scan but without evidence of bone destruction is not recommended. The presence or absence of bone pain should not be a factor in initiating bisphosphonates. In patients with a serum creatinine less than 3.0 mg/dL (265 mumol/L), no change in dosage, infusion time, or interval is required. Infusion times less than 2 hours with pamidronate or less than 15 minutes with zoledronic acid should be avoided. Creatinine should be monitored before each dose of either agent in accordance with US Food and Drug Administration (FDA) labeling. Oncology professionals, especially medical oncologists, need to take an expanded role in the routine and regular assessment of the osteoporosis risk in women with breast cancer. The panel recommends an algorithm for patient management to maintain bone health. CONCLUSION: Bisphosphonates provide a supportive, albeit expensive and non-life-prolonging, benefit to many patients with bone metastases. Current research is focusing on bisphosphonates as adjuvant therapy. Although new data addressing when to stop therapy, alternative doses or schedules for administration, and how to best coordinate bisphosphonates with other palliative therapies are needed, they are not currently being investigated.

Hochster, H. S., D. G. Haller, et al. (2006). "Consensus report of the international society of gastrointestinal oncology on therapeutic progress in advanced pancreatic cancer." Cancer **107**(4): 676-85.

Since 1997, when gemcitabine showed superior clinical benefit to single-agent 5-fluorouracil, it has remained the standard of care for the treatment of advanced pancreatic cancer. Numerous new agents, both cytotoxic and targeted, have been tested against this standard. Some trials showed improved response rates or progression free survival, but there was no clear improvement in survival. For the current report, those trial results were reviewed in depth for methodology, endpoints, and study characteristics. More recent studies have shown progress. Studies with combinations of gemcitabine and capecitabine and with the epidermal growth factor receptor antagoinist, erlotinib, have demonstrated survival

benefits. Currently, studies of combinations with oxaliplatin, bevacizumab, and cetuximab are ongoing. Other targeted therapies also are considered for future clinical trials. Based on a comprehensive review of past trials, a consensus on endpoints in the treatment of pancreatic cancer and an approach to new trials is presented.

Hofheinz, R. D., C. Porta, et al. (2005). "BBR 3438, a novel 9-aza-anthrapyrazole, in patients with advanced gastric cancer: a phase II study group trial of the Central European Society of Anticancer-Drug Research (CESAR)." Invest New Drugs **23**(4): 363-8.

BBR 3438, a member of the 9-aza-anthrapyrazole family designed to decrease anthracycline dependent cardiotoxicity and to improve efficacy provided high in vivo activity in gastric carcinoma xenograft models. The present study was carried out to assess the efficacy and safety of BBR 3438 applied at a dose of 50 mg/m(2) four-weekly as an 1-hour infusion to pretreated patients with gastric cancer. Twenty-seven patients received at least one administration of BBR 3438. Lymph nodes and liver were the most common sites of metastases. A total of 94 cycles were administered (median 2, range 1-6). The main toxicity consisted of (worst per patient [%]; NCIC CTC grades 1/2/3/4) neutropenia 7/7/19/52 (one case of febrile neutropenia), stomatitis 15/19/4/-, nausea 22/26/7/-, vomiting 19/7/7/-, alopecia 15/33/-/- . Neutrophil nadir (520/mul) was reached after a median 15 days. The median time to recovery to < or = grade 1 neutropenia was 13.5 days. The median average cumulative dose of BBR 3438 was 166.8 mg, and the median dose intensity was 48.8 mg/m(2). Left ventricular ejection function (LVEF) was monitored with multiple-gated angiography (MUGA). Median LVEF values at baseline and at the end of cycle 2 were 67.5% and 65%, respectively, and no patient showed a relevant decrease of LVEF. In 25 patients evaluable for response no remission was observed. Four patients (16%) had stable disease. Median time to progression was 51 days, median overall survival was 64 days. In all, the feasibility and tolerability of BBR 3438 applied 4-weekly at a dose of 50 mg/m(2) was confirmed and neither relevant LVEF decreases nor hints of cardiac toxicity were observed. In terms of antitumor activity, BBR 3438 was found to be ineffective in the treatment of gastric cancer.

Holland, J. C. (2003). "American Cancer Society Award lecture. Psychological care of patients: psycho-oncology's contribution." J Clin Oncol **21**(23 Suppl): 253s-265s.

The centuries-old stigma attached to cancer precluded patients' being told their diagnoses, and thus, delayed any exploration of how they dealt with their illness. This situation changed in the United States in the 1970s when patients began to be told their cancer diagnosis, permitting the first formal study of the psychological impact of cancer. However, a second and equally long-held stigma attached to mental illness has been another barrier and this has kept patients from being willing to acknowledge their psychological problems and to seek counseling. This "double stigma" has slowed the development of psycho-oncology. However, we began to see rapid changes occurring in the last quarter of the 20th century. Valid assessment instruments were developed which were used in well-designed studies. Data from these studies and clinical observations led to increased recognition that psychosocial services are needed by many patients and provide significant assistance in coping with illness. Psycho-oncology has two dimensions: first, the study of the psychological reaction of patients at all stages of the disease, as well as of the family and oncology staff; second, exploring the psychological, social, and behavioral factors that impact on cancer risk and survival. Psycho-oncology now has a recognized role within the oncologic community through clinical care, research, and training as it relates to prevention of cancer through lifestyle changes, evaluation of quality of life, symptom control, palliative care and survivorship. Presently, there are sufficient research studies from which standards of care have been established. Both evidence and consensus-based clinical practice guidelines have been promulgated. It now possible to monitor the quality of existing psychosocial services by using these benchmarks of quality that have evolved in recent years.

Hoover, B. K., D. E. Foliart, et al. (2003). "Retrospective data quality audits of the Harvard Six Cities and American Cancer Society studies." J Toxicol Environ Health A **66**(16-19): 1553-61.

The Harvard Six Cities (6-Cities) and American Cancer Society (ACS) studies are longitudinal cohort mortality studies of large populations that provided important information about the human health effects associated with long-term exposure to fine particulate air pollution. Possible changes to federal regulation of particulates prompted a review of data collection methods, analysis, and reported results from these two studies. This article describes the methodology used to conduct quality assurance audits of both studies and summarizes the audit findings. Statistically based, randomly selected samples of 250 health questionnaires and 250 death certificates from each study were audited against data from analysis files. In cases where study-specific data could not be located, validation was performed using information and data from other sources. Some errors

were found in programming and data transformation in both studies, but none affected the results of the original investigations. Both audits confirmed that the published studies are an accurate representation of the collected data. The audits also underscored the importance of adequate attention to documentation and record-keeping practices during the conduct of all studies and proper archiving at their conclusion.

Horwitz, E. M., R. G. Uzzo, et al. (2003). "Modifying the American Society for Therapeutic Radiology and Oncology definition of biochemical failure to minimize the influence of backdating in patients with prostate cancer treated with 3-dimensional conformal radiation therapy alone." J Urol **169**(6): 2153-7; discussion 2157-9.

PURPOSE: Adoption of the American Society for Therapeutic Radiology and Oncology (ASTRO) consensus definition has been critical for evaluating and comparing outcome following treatment with radiation. However, since its almost universal adoption, several points have remained controversial, notably backdating the date of failure to the point midway between the posttreatment prostate specific antigen (PSA) nadir and the first increase. We evaluated the impact of backdating on no biochemical evidence of disease (bNED) control and suggest changes in the definition. MATERIALS AND METHODS: Between April 1, 1989 and November 30, 1998, 1,017 patients with nonmetastatic prostate cancer were treated with 3-dimensional conformal radiation therapy alone. bNED control was defined using the ASTRO consensus definition. bNED failure was calculated from the time midway between the posttreatment PSA nadir and the first of the 3 consecutive increases in PSA (date of failure A). Four alternate failure time points were chosen, including backdating to the date of the first increase in PSA after the nadir, the date between the first and second consecutive PSA increases, the date between the second and third consecutive PSA increases, and the date of the third increase in PSA after the nadir (dates of failure 1 to 4). Kaplan-Meier estimates were calculated for all definitions of failure as well as hazard functions with time. Subset analyses based on prognostic group and followup time were also performed. RESULTS: The 10-year Kaplan-Meier bNED control rates were 64%, 52%, 47%, 42% and 39% using dates of failure A and 1 to 4, respectively. These differences persisted when patients were stratified by prognostic group. These same differences in bNED control were observed for the long-term followup subset, in which 10-year bNED control rates were 48%, 47%, 44%, 41% and 39% using dates of failure A and 1 to 4, respectively. CONCLUSIONS: Adoption of the ASTRO consensus definition has been crucial for evaluating outcome in the radiation oncology community. However, the date of failure should be moved from the current point to one closer to the point at which failure is declared. Additional analysis with large numbers of patients from multiple institutions is necessary to determine the point.

Karasawa, K., T. Obara, et al. (2003). "Outcome of breast-conserving therapy in the Tokyo Women's Medical University Breast Cancer Society experience." Breast Cancer **10**(4): 341-8.

BACKGROUND: The results of BCT in Japanese women have not been fully evaluated. The Tokyo Women's Medical University Breast Cancer Society initiated BCT protocols in 1987. Here, we present a retrospective analysis of BCT outcomes and identify prognostic factors. METHODS: The study population comprised 348 patients (353 breasts) with UICC clinical stage 0,I or II breast cancer, for whom wide excision (n= 294), quadrantectomy (n= 56) and tumorectomy (n= 3) were performed. The final pathological margin states were positive in 102 breasts (cancer cells remained within 5 mm of the surgical margin). The whole breast was irradiated to a total dose with 44 Gy/20 fractions or 46 Gy/23 fractions in the patients with negative surgical margins. The patients with positive or close margins received 48.4 Gy/22 fractions or 50 Gy/25 fractions irradiation to the whole breast. All but 2 patients received a radiation boost to the tumor bed and all tumor beds were irradiated to more than 53 Gy. Adjuvant therapy was administered in 240 cases. The median follow-up time was 4.3 years. RESULTS: The 5-year overall, cause-specific and disease-free survival rates were 95.8%, 97.3% and 92.5%, respectively. Recurrence was observed in 29 patients including 11 patients with loco-regional recurrence. Local recurrence was observed in 6 patients, 5 of whom were premenopausal. The 5-year local control and loco-regional control rates were 98.9% and 96.6%, respectively. T status (T1 to T2) was the only significant prognostic factor for disease-free survival. No severe morbidity has been observed. Cosmetic results were excellent or good in 73% of patients. CONCLUSION: Our BCT protocols provide a high rate of local control and good cosmetic outcome. Pathologic margin status was not a major prognostic factor for local recurrence. Long term follow-up is required to reach a definite conclusion on optimal BCT protocols.

Khandelwal, A. K. and G. A. Garguilo (2005). "Therapeutic options for occult breast cancer: a survey of the American Society of Breast Surgeons and review of the literature." Am J Surg **190**(4): 609-13.

BACKGROUND: Axillary presentation of occult breast cancer (OBC) is uncommon, and continues to be a diagnostic and therapeutic challenge to physicians. After our recent experience with a similar patient, a survey of the American Society of Breast Surgeons (ASBS) was conducted to assess the Society's member's opinions on treatment. METHODS: A survey was sent by mail to 1837 members of the ASBS. The survey consisted of a brief case presentation after which the surgeon's preference for management of the breast was sought. The choices included "mastectomy," "whole breast radiation" or "other." RESULTS: A total of 776 (42%) responses were received. The majority of respondents, 338 or 43%, preferred "mastectomy," while 285 or 37% opted for "whole breast radiation." Twenty percent of respondents (153 responses) chose "other," of which 46 physicians (6% of total) indicated they would observe the patient. CONCLUSIONS: Although recent literature supports the use of whole breast radiation, these results demonstrate that a small majority of physicians still prefer mastectomy. The appropriate treatment of the breast after an axillary presentation of OBC continues to be a controversial issue.

Khatcheressian, J. L., A. C. Wolff, et al. (2006). "American Society of Clinical Oncology 2006 update of the breast cancer follow-up and management guidelines in the adjuvant setting." J Clin Oncol **24**(31): 5091-7.

PURPOSE: To update the 1999 American Society of Clinical Oncology (ASCO) guideline on breast cancer follow-up and management in the adjuvant setting. METHODS: An ASCO Expert Panel reviewed pertinent information from the literature through March 2006. More weight was given to studies that tested a hypothesis directly relating testing to one of the primary outcomes in a randomized design. RESULTS: The evidence supports regular history, physical examination, and mammography as the cornerstone of appropriate breast cancer follow-up. All patients should have a careful history and physical examination performed by a physician experienced in the surveillance of cancer patients and in breast examination. Examinations should be performed every 3 to 6 months for the first 3 years, every 6 to 12 months for years 4 and 5, and annually thereafter. For those who have undergone breast-conserving surgery, a post-treatment mammogram should be obtained 1 year after the initial mammogram and at least 6 months after completion of radiation therapy. Thereafter, unless otherwise indicated, a yearly mammographic evaluation should be performed. Patients at high risk for familial breast cancer syndromes should be referred for genetic counseling. The use of CBCs, chemistry panels, bone scans, chest radiographs, liver ultrasounds, computed tomography scans, [18F]fluorodeoxyglucose-positron emission tomography scanning, magnetic resonance imaging, or tumor markers (carcinoembryonic antigen, CA 15-3, and CA 27.29) is not recommended for routine breast cancer follow-up in an otherwise asymptomatic patient with no specific findings on clinical examination. CONCLUSION: Careful history taking, physical examination, and regular mammography are recommended for appropriate detection of breast cancer recurrence.

Kim, Y. H., R. Willemze, et al. (2007). "TNM classification system for primary cutaneous lymphomas other than mycosis fungoides and Sezary syndrome: a proposal of the International Society for Cutaneous Lymphomas (ISCL) and the Cutaneous Lymphoma Task Force of the European Organization of Research and Treatment of Cancer (EORTC)." Blood **110**(2): 479-84.

Currently availabel staging systems for non-Hodgkin lymphomas are not useful for clinical staging classification of most primary cutaneous lymphomas. The tumor, node, metastases (TNM) system used for mycosis fungoides (MF) and Sezary syndrome (SS) is not appropriate for other primary cutaneous lymphomas. A usable, unified staging system would improve the communication about the state of disease, selection of appropriate management, standardization of enrollment/response criteria in clinical trials, and collection/analysis of prospective survival data. Toward this goal, during the recent meetings of the International Society for Cutaneous Lymphomas (ISCL) and the cutaneous lymphoma task force of the European Organization of Research and Treatment of Cancer (EORTC), the representatives have established a consensus proposal of a TNM classification system applicable for all primary cutaneous lymphomas other than MF and SS. Due to the clinical and pathologic heterogeneity of the cutaneous lymphomas, the currently proposed TNM system is meant to be primarily an anatomic documentation of disease extent and not to be used as a prognostic guide.

Kinkel, K., R. Forstner, et al. (2009). "Staging of endometrial cancer with MRI: guidelines of the European Society of Urogenital Imaging." Eur Radiol **19**(7): 1565-74.

The purpose of this study was to define guidelines for endometrial cancer staging with MRI. The technique included critical review and expert consensus of MRI protocols by the female imaging subcommittee of the European Society of Urogenital Radiology, from ten European institutions, and published literature between 1999 and 2008. The

results indicated that high field MRI should include at least two T2-weighted sequences in sagittal, axial oblique or coronal oblique orientation (short and long axis of the uterine body) of the pelvic content. High-resolution post-contrast images acquired at 2 min +/- 30 s after intravenous contrast injection are suggested to be optimal for the diagnosis of myometrial invasion. If cervical invasion is suspected, additional slice orientation perpendicular to the axis of the endocervical channel is recommended. Due to the limited sensitivity of MRI to detect lymph node metastasis without lymph node-specific contrast agents, retroperitoneal lymph node screening with pre-contrast sequences up to the level of the kidneys is optional. The likelihood of lymph node invasion and the need for staging lymphadenectomy are also indicated by high-grade histology at endometrial tissue sampling and by deep myometrial or cervical invasion detected by MRI. In conclusion, expert consensus and literature review lead to an optimized MRI protocol to stage endometrial cancer.

Kitagami, H., S. Kondo, et al. (2007). "Acinar cell carcinoma of the pancreas: clinical analysis of 115 patients from Pancreatic Cancer Registry of Japan Pancreas Society." Pancreas **35**(1): 42-6.

OBJECTIVES: Acinar cell carcinoma (ACC) of the pancreas is a rare tumor, and many aspects remain unclear because no large-scale clinical studies have been conducted. METHODS: The present study investigated the clinical characteristics, treatment, and therapeutic outcomes of 115 patients registered in the Pancreatic Cancer Registry of the Japan Pancreas Society, and therapeutic plans were reviewed. RESULTS: Although ACC has been associated with advanced stage and poor prognosis, this tumor was resectable in 76.5% of the patients, and the 5-year survival rate after resection was favorable, being 43.9%. CONCLUSIONS: Confirming the diagnosis of ACC preoperatively is difficult, but this diagnosis should be kept in mind while planning surgery for ordinary pancreatic cancer. Once the diagnosis has been confirmed, a possibility of surgical resection should be pursued to achieve better prognosis. If ACC is unresectable or recurrent, chemotherapy is likely to prove useful. Multidisciplinary therapy centering on the role of surgery will need to be established.

Kitagawa, M., M. Utsuyama, et al. (2005). "Cancer and aging: symposium of the 27th annual meeting of the Japanese society for biomedical gerontology, Tokyo." Cancer Immunol Immunother **54**(7): 623-34.

Although many hypotheses have been proposed to explain the strong link between aging and cancer, the exact mechanisms responsible for the increased frequency of occurrence of cancer with advancing age have not been fully defined. Recent evidence indicates that malregulation of the apoptotic process may be involved in some aging process as well as in the development of cancer. Although it is still under debate how apoptosis is expressed during aging in vivo, this phenomenon is an important factor in unwinding the complicated mechanisms that link cancer and aging. In this review, we report on the discussion at the symposium of the 27th annual meeting of the Japanese society for biomedical gerontology, regarding recent findings from aging and carcinogenesis studies using animal models, the characteristics of cancer in patients with Werner's syndrome, the epigenetic changes in human cancers and aging, and the characteristics of human cancers in the elderly. It was concluded that apoptosis plays a role in the aging process and carcinogenesis in vivo, likely as an inherent protective mechanism against various kinds of damages to genes/chromosomes.

Kizer, N. T., I. Zighelboim, et al. (2009). "The role of PET/CT in the management of patients with cervical cancer: practice patterns of the members of the Society of Gynecologic Oncologists." Gynecol Oncol **114**(2): 310-4.

OBJECTIVES: Recent data has highlighted the role of PET/CT in the pretreatment evaluation and follow-up of patients with cervical cancer. The objective of our study was to assess the acceptance of PET/CT into the management of patients with cervical cancer. We also explored potential barriers to the use of these imaging modalities in patients with cervical cancer. METHODS: A 14-item electronic questionnaire was initially sent to all working addresses of members of the SGO (n=1048). An opt-out option was offered. For members who did not respond within 3 weeks, a second electronic invitation was sent. A third request was finally sent to further improve response rates. Data were collected and analyzed using a commercially available on-line survey database. RESULTS: A total of 305 responses were collected for an overall 30% response rate. PET/CT appears to be widely available (99%) and accessible (75%) in most practices. Although 83% of members order routine CT imaging for all newly diagnosed cervical cancer cases, only 28% routinely order a PET/CT. Conversely, 64% would order a PET/CT for newly diagnosed patients with advanced disease or those at high risk for distant metastatic disease. Most members (82%) do not routinely use PET/CT to assess response to treatment. Twenty percent of members believe that no useful prognostic information can be obtained from routine use of molecular imaging in patients with cervical cancer. The most common barriers for use of PET/CT cited by members were perceived lack of third-party payer

coverage and lack of scientific evidence. CONCLUSIONS: Despite clear scientific data supporting the use of PET/CT in patients with cervical cancer and apparent widespread availability, this imaging modality remains highly underutilized in clinical practice. Clarifying insurance coverage early in the evaluation process and replicating studies that have shown effectiveness of PET/CT in multiple roles may improve adoption of this potentially useful imaging modality.

Kramer, B. S., K. L. Hagerty, et al. (2009). "Use of 5alpha-reductase inhibitors for prostate cancer chemoprevention: American Society of Clinical Oncology/American Urological Association 2008 Clinical Practice Guideline." J Urol **181**(4): 1642-57.

PURPOSE: To develop an evidence-based guideline on the use of 5-alpha-reductase inhibitors (5-ARIs) for prostate cancer chemoprevention. METHODS: The American Society of Clinical Oncology (ASCO) Health Services Committee (HSC), ASCO Cancer Prevention Committee, and the American Urological Association Practice Guidelines Committee jointly convened a Panel of experts, who used the results from a systematic review of the literature to develop evidence-based recommendations on the use of 5-ARIs for prostate cancer chemoprevention. RESULTS: The systematic review completed for this guideline identified 15 randomized clinical trials that met the inclusion criteria, nine of which reported prostate cancer period prevalence. CONCLUSION: Asymptomatic men with a prostate-specific antigen (PSA) </=3.0 ng/mL who are regularly screened with PSA or are anticipating undergoing annual PSA screening for early detection of prostate cancer may benefit from a discussion of both the benefits of 5-ARIs for 7 years for the prevention of prostate cancer and the potential risks (including the possibility of high-grade prostate cancer). Men who are taking 5-ARIs for benign conditions such as lower urinary tract [obstructive] symptoms (LUTS) may benefit from a similar discussion, understanding that the improvement of LUTS relief should be weighed with the potential risks of high-grade prostate cancer from 5-ARIs (although the majority of the Panel members judged the latter risk to be unlikely). A reduction of approximately 50% in PSA by 12 months is expected in men taking a 5-ARI; however, because these changes in PSA may vary across men, and within individual men over time, the Panel cannot recommend a specific cut point to trigger a biopsy for men taking a 5-ARI. No specific cut point or change in PSA has been prospectively validated in men taking a 5-ARI.

Krewski, D., R. Burnett, et al. (2005). "Mortality and long-term exposure to ambient air pollution: ongoing analyses based on the American Cancer Society cohort." J Toxicol Environ Health A **68**(13-14): 1093-109.

This article provides an overview of previous analysis and reanalysis of the American Cancer Society (ACS) cohort, along with an indication of current ongoing analyses of the cohort with additional follow-up information through to 2000. Results of the first analysis conducted by Pope et al. (1995) showed that higher average sulfate levels were associated with increased mortality, particularly from cardiopulmonary disease. A reanalysis of the ACS cohort, undertaken by Krewski et al. (2000), found the original risk estimates for fine-particle and sulfate air pollution to be highly robust against alternative statistical techniques and spatial modeling approaches. A detailed investigation of covariate effects found a significant modifying effect of education with risk of mortality associated with fine particles declining with increasing educational attainment. Pope et al. (2002) subsequently reported results of a subsequent study using an additional 10 yr of follow-up of the ACS cohort. This updated analysis included gaseous copollutant and new fine-particle measurements, more comprehensive information on occupational exposures, dietary variables, and the most recent developments in statistical modeling integrating random effects and nonparametric spatial smoothing into the Cox proportional hazards model. Robust associations between ambient fine particulate air pollution and elevated risks of cardiopulmonary and lung cancer mortality were clearly evident, providing the strongest evidence to date that long-term exposure to fine particles is an important health risk. Current ongoing analysis using the extended follow-up information will explore the role of ecologic, economic, and, demographic covariates in the particulate air pollution and mortality association. This analysis will also provide insight into the role of spatial autocorrelation at multiple geographic scales, and whether critical instances in time of exposure to fine particles influence the risk of mortality from cardiopulmonary and lung cancer. Information on the influence of covariates at multiple scales and of critical exposure time windows can assist policymakers in establishing timelines for regulatory interventions that maximize population health benefits.

Krewski, D., R. T. Burnett, et al. (2003). "Overview of the reanalysis of the Harvard Six Cities Study and American Cancer Society Study of Particulate Air Pollution and Mortality." J Toxicol Environ Health A **66**(16-19): 1507-51.

This article provides an overview of the Reanalysis Study of the Harvard Six Cities and the American Cancer Society (ACS) studies of particulate air pollution and mortality. The previous findings of the studies have been subject to debate. In response, a reanalysis team, comprised of Canadian and American researchers, was invited to participate in an independent reanalysis project to address the concerns. Phase I of the reanalysis involved the design of data audits to determine whether each study conformed to the consistency and accuracy of their data. Phase II of the reanalysis involved conducting a series of comprehensive analyses using alternative statistical methods. Alternative models were also used to identify covariates that may confound or modify the association of particulate air pollution as well as identify sensitive population subgroups. The audit demonstrated that the data in the original analyses were of high quality, as were the risk estimates reported by the original investigators. The sensitivity analysis illustrated that the mortality risk estimates reported in both studies were found to be robust against alternative Cox models. Detailed investigation of the covariate effects found a significant modifying effect of education and a relative risk of mortality associated with fine particles and declining education levels. The study team applied spatial analytic methods to the ACS data, resulting in various levels of spatial autocorrelations supporting the reported association for fine particles mortality of the original investigators as well as demonstrating a significant association between sulfur dioxide and mortality. Collectively, our reanalysis suggest that mortality may be attributable to more than one component of the complex mixture of ambient air pollutants for U.S. urban areas.

Krewski, D., M. Jerrett, et al. (2009). "Extended follow-up and spatial analysis of the American Cancer Society study linking particulate air pollution and mortality." Res Rep Health Eff Inst(140): 5-114; discussion 115-36.

We conducted an extended follow-up and spatial analysis of the American Cancer Society (ACS) Cancer Prevention Study II (CPS-II) cohort in order to further examine associations between long-term exposure to particulate air pollution and mortality in large U.S. cities. The current study sought to clarify outstanding scientific issues that arose from our earlier HEI-sponsored Reanalysis of the original ACS study data (the Particle Epidemiology Reanalysis Project). Specifically, we examined (1) how ecologic covariates at the community and neighborhood levels might confound and modify the air pollution-mortality association; (2) how spatial autocorrelation and multiple levels of data (e.g., individual and neighborhood) can be taken into account within the random effects Cox model; (3) how using land-use regression to refine measurements of air pollution exposure to the within-city (or intra-urban) scale might affect the size and significance of health effects in the Los Angeles and New York City regions; and (4) what exposure time windows may be most critical to the air pollution-mortality association. The 18 years of follow-up (extended from 7 years in the original study [Pope et al. 1995]) included vital status data for the CPS-II cohort (approximately 1.2 million participants) with multiple cause-of-death codes through December 31, 2000 and more recent exposure data from air pollution monitoring sites for the metropolitan areas. In the Nationwide Analysis, the influence of ecologic covariate data (such as education attainment, housing characteristics, and level of income; data obtained from the 1980 U.S. Census; see Ecologic Covariates sidebar on page 14) on the air pollution-mortality association were examined at the Zip Code area (ZCA) scale, the metropolitan statistical area (MSA) scale, and by the difference between each ZCA value and the MSA value (DIFF). In contrast to previous analyses that did not directly include ecologic covariates at the ZCA scale, risk estimates increased when ecologic covariates were included at all scales. The ecologic covariates exerted their greatest effect on mortality from ischemic heart disease (IHD), which was also the health outcome most strongly related with exposure to PM2.5 (particles 2.5 microm or smaller in aerodynamic diameter), sulfate (SO4(2-)), and sulfur dioxide (SO2), and the only outcome significantly associated with exposure to nitrogen dioxide (NO2). When ecologic covariates were simultaneously included at both the MSA and DIFF levels, the hazard ratio (HR) for mortality from IHD associated with PM2.5 exposure (average concentration for 1999-2000) increased by 7.5% and that associated with SO4(2-) exposure (average concentration for 1990) increased by 12.8%. The two covariates found to exert the greatest confounding influence on the PM2.5-mortality association were the percentage of the population with a grade 12 education and the median household income. Also in the Nationwide Analysis, complex spatial patterns in the CPS-II data were explored with an extended random effects Cox model (see Glossary of Statistical Terms at end of report) that is capable of clustering up to two geographic levels of data. Using this model tended to increase the HR estimate for exposure to air pollution and also to inflate the uncertainty in the estimates. Including ecologic covariates decreased the variance of the results at both the MSA and ZCA scales; the largest decrease was in residual variation based on models in which the MSA and DIFF levels of data were

included together, which suggests that partitioning the ecologic covariates into between-MSA and within-MSA values more completely captures the sources of variation in the relationship between air pollution, ecologic covariates, and mortality. Intra-Urban Analyses were conducted for the New York City and Los Angeles regions. The results of the Los Angeles spatial analysis, where we found high exposure contrasts within the Los Angeles region, showed that air pollution-mortality risks were nearly 3 times greater than those reported from earlier analyses. This suggests that chronic health effects associated with intra-urban gradients in exposure to PM2.5 may be even larger between ZCAs within an MSA than the associations between MSAs that have been previously reported. However, in the New York City spatial analysis, where we found very little exposure contrast between ZCAs within the New York region, mortality from all causes, cardiopulmonary disease (CPD), and lung cancer was not elevated. A positive association was seen for PM2.5 exposure and IHD, which provides evidence of a specific association with a cause of death that has high biologic plausibility. These results were robust when analyses controlled (1) the 44 individual-level covariates (from the ACS enrollment questionnaire in 1982; see 44 Individual-Level Covariates sidebar on page 22) and (2) spatial clustering using the random effects Cox model. Effects were mildly lower when unemployment at the ZCA scale was included. To examine whether there is a critical exposure time window that is primarily responsible for the increased mortality associated with ambient air pollution, we constructed individual time-dependent exposure profiles for particulate and gaseous air pollutants (PM2.5 and SO2) for a subset of the ACS CPS-II participants for whom residence histories were available. The relevance of the three exposure time windows we considered was gauged using the magnitude of the relative risk (HR) of mortality as well as the Akaike information criterion (AIC), which measures the goodness of fit of the model to the data. For PM2.5, no one exposure time window stood out as demonstrating the greatest HR; nor was there any clear pattern of a trend in HR going from recent to more distant windows or vice versa. Differences in AIC values among the three exposure time windows were also small. The HRs for mortality associated with exposure to SO2 were highest in the most recent time window (1 to 5 years), although none of these HRs were significantly elevated. Identifying critical exposure time windows remains a challenge that warrants further work with other relevant data sets. This study provides additional support toward developing cost-effective air quality management policies and strategies. The epidemiologic results reported here are consistent with those from other population-based studies, which collectively have strongly supported the hypothesis that long-term exposure to PM2.5 increases mortality in the general population. Future research using the extended Cox-Poisson random effects methods, advanced geostatistical modeling techniques, and newer exposure assessment techniques will provide additional insight.

Kushi, L. H., T. Byers, et al. (2006). "American Cancer Society Guidelines on Nutrition and Physical Activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity." CA Cancer J Clin **56**(5): 254-81; quiz 313-4.

The American Cancer Society (ACS) publishes Nutrition and Physical Activity Guidelines to serve as a foundation for its communication, policy, and community strategies and ultimately, to affect dietary and physical activity patterns among Americans. These Guidelines, published every 5 years, are developed by a national panel of experts in cancer research, prevention, epidemiology, public health, and policy, and as such, they represent the most current scientific evidence related to dietary and activity patterns and cancer risk. The ACS Guidelines include recommendations for individual choices regarding diet and physical activity patterns, but those choices occur within a community context that either facilitates or interferes with healthy behaviors. Community efforts are essential to create a social environment that promotes healthy food choices and physical activity. Therefore, this committee presents one key recommendation for community action to accompany the four recommendations for individual choices to reduce cancer risk. This recommendation for community action recognizes that a supportive social environment is indispensable if individuals at all levels of society are to have genuine opportunities to choose healthy behaviors. The ACS Guidelines are consistent with guidelines from the American Heart Association and the American Diabetes Association for the prevention of coronary heart disease and diabetes, as well as for general health promotion, as defined by the Department of Health and Human Services' 2005 Dietary Guidelines for Americans.

Lee, S. J., L. R. Schover, et al. (2006). "American Society of Clinical Oncology recommendations on fertility preservation in cancer patients." J Clin Oncol **24**(18): 2917-31.

PURPOSE: To develop guidance to practicing oncologists about available fertility preservation methods and related issues in people treated for cancer. METHODS: An expert panel and a writing committee were formed. The questions to be addressed by the guideline were determined, and a

systematic review of the literature from 1987 to 2005 was performed, and included a search of online databases and consultation with content experts. RESULTS: The literature review found many cohort studies, case series, and case reports, but relatively few randomized or definitive trials examining the success and impact of fertility preservation methods in people with cancer. Fertility preservation methods are used infrequently in people with cancer. RECOMMENDATIONS: As part of education and informed consent before cancer therapy, oncologists should address the possibility of infertility with patients treated during their reproductive years and be prepared to discuss possible fertility preservation options or refer appropriate and interested patients to reproductive specialists. Clinician judgment should be employed in the timing of raising this issue, but discussion at the earliest possible opportunity is encouraged. Sperm and embryo cryopreservation are considered standard practice and are widely available; other available fertility preservation methods should be considered investigational and be performed in centers with the necessary expertise. CONCLUSION: Fertility preservation is often possible in people undergoing treatment for cancer. To preserve the full range of options, fertility preservation approaches should be considered as early as possible during treatment planning.

Levin, B., D. A. Lieberman, et al. (2008). "Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology." Gastroenterology **134**(5): 1570-95.

In the United States, colorectal cancer (CRC) is the third most common cancer diagnosed among men and women and the second leading cause of death from cancer. CRC largely can be prevented by the detection and removal of adenomatous polyps, and survival is significantly better when CRC is diagnosed while still localized. In 2006 to 2007, the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology came together to develop consensus guidelines for the detection of adenomatous polyps and CRC in asymptomatic average-risk adults. In this update of each organization's guidelines, screening tests are grouped into those that primarily detect cancer early and those that can detect cancer early and also can detect adenomatous polyps, thus providing a greater potential for prevention through polypectomy. When possible, clinicians should make patients aware of the full range of screening options, but at a minimum they should be prepared to offer patients a choice between a screening test that primarily is effective at early cancer detection and a screening test that is effective at both early cancer detection and cancer prevention through the detection and removal of polyps. It is the strong opinion of these 3 organizations that colon cancer prevention should be the primary goal of screening.

Levin, B., D. A. Lieberman, et al. (2008). "Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology." CA Cancer J Clin **58**(3): 130-60.

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Lichtman, S. M., H. Wildiers, et al. (2007). "International Society of Geriatric Oncology (SIOG) recommendations for the adjustment of dosing in elderly cancer patients with renal insufficiency." Eur J Cancer **43**(1): 14-34.

A SIOG taskforce was formed to discuss best clinical practice for elderly cancer patients with renal insufficiency. This manuscript outlines recommended dosing adjustments for cancer drugs in this population according to renal function. Dosing adjustments have been made for drugs in current use which have recommendations in renal insufficiency and the elderly, focusing on drugs which are renally

eliminated or are known to be nephrotoxic. Recommendations are based on pharmacokinetic and/or pharmacodynamic data where available. The taskforce recommend that before initiating therapy, some form of geriatric assessment should be conducted that includes evaluation of comorbidities and polypharmacy, hydration status and renal function (using available formulae). Within each drug class, it is sensible to use agents which are less likely to be influenced by renal clearance. Pharmacokinetic and pharmacodynamic data of anticancer agents in the elderly are needed in order to maximise efficacy whilst avoiding unacceptable toxicity.

Link, H., A. Bohme, et al. (2003). "Antimicrobial therapy of unexplained fever in neutropenic patients--guidelines of the Infectious Diseases Working Party (AGIHO) of the German Society of Hematology and Oncology (DGHO), Study Group Interventional Therapy of Unexplained Fever, Arbeitsgemeinschaft Supportivmassnahmen in der Onkologie (ASO) of the Deutsche Krebsgesellschaft (DKG-German Cancer Society)." Ann Hematol **82 Suppl 2**: S105-17.

Cytostatic chemotherapy of hematological malignancies is often complicated by neutropenia, which increases the risk of infections, especially if the neutrophil count is below 500/microl. Frequently, fever is the first, and in most patients the only, sign of an infection. Unexplained fever is defined as follows: temperature of >/=38.3 degrees C or >/=38.0 degrees C for at least 1 h, or measured twice within 12 h, if the neutrophil count is <500/microl or <1000/microl with predicted decline to 500/microl. Different risk categories can be identified according to the duration of neutropenia: low risk </=5 days, intermediate risk 6-9 days, high risk >/=10 days. An empirical mono- or duotherapy with antipseudomonal and antistreptococcal agents should be initiated immediately. In the low risk patient group, oral therapy with cipro-, levo-, or ofloxacin combined with amoxicillin/clavulanic acid is permissible. For standard and high risk patients, monotherapy can be carried out with either ceftazidime, cefepime, piperacillin with tazobactam or a carbapenem. In duotherapy, a single dose of an aminoglycoside is combined with acylaminopenicillin or a cephalosporin of the third or fourth generation. The addition of glycopeptides in empirical therapy should only be considered in the presence of severe mucositis, or if a catheter-associated infection is suspected. If fever persists after 72-96 h of first-line therapy with antibiotics, the regimen should be modified (with the exception of e.g. coagulase-negative staphylococci infections, because these infections take longer to respond). Intermediate risk patients should additionally receive an aminoglycoside after monotherapy (penicillin or a cephalosporin). If a carbapenem was administered for monotherapy, this can be followed by a quinolone and/or a glycopeptide. In the high risk group, the same modifications should be made as in the intermediate risk group but with additional systemic antifungal treatment. In the presence of unexplained fever, fluconazole can be administered at first, but if this fails, amphotericin B (conventional or liposomal), itraconazole, voriconazole or caspofungin should be started. After defervescence to <38 degrees C, treatment should be continued for 7 days if the neutrophil count is <1000/microl, and for 2 days if the neutrophil count is >1000/microl.

Loblaw, D. A., K. S. Virgo, et al. (2007). "Initial hormonal management of androgen-sensitive metastatic, recurrent, or progressive prostate cancer: 2006 update of an American Society of Clinical Oncology practice guideline." J Clin Oncol **25**(12): 1596-605.

PURPOSE: To update the 2004 American Society of Clinical Oncology (ASCO) guideline on initial hormonal management of androgen-sensitive, metastatic, recurrent, or progressive prostate cancer (PCa). METHODS: The writing committee based its recommendations on an updated systematic literature review. Recommendations were approved by the Expert Panel, the ASCO Health Services Committee, and the ASCO Board of Directors. RESULTS: Seven randomized controlled trials (four new), one systematic review, one meta-analysis (new), one Markov model, and one delta-method 95% CI procedure for active controlled trials (new) informed the guideline update. RECOMMENDATIONS: Bilateral orchiectomy or luteinizing hormone-releasing hormone agonists are recommended initial androgen-deprivation treatments (ADTs). Nonsteroidal antiandrogen monotherapy merits discussion as an alternative; steroidal antiandrogen monotherapy should not be offered. Combined androgen blockade should be considered. In metastatic or progressive PCa, immediate versus symptom-onset institution of ADT results in a moderate decrease (17%) in relative risk (RR) for PCa-specific mortality, a moderate increase (15%) in RR for non-PCa-specific mortality, and no overall survival advantage. Therefore, the Panel cannot make a strong recommendation for early ADT initiation. Prostate-specific antigen (PSA) kinetics and other metrics allow identification of populations at high risk for PCa-specific and overall mortality. Further studies must be completed to assess whether patients with adverse prognostic factors gain a survival advantage from immediate ADT. For patients electing to wait until symptoms for ADT, regular monitoring visits are

indicated. For patients with recurrence, clinical trials should be considered if available. Currently, data are insufficient to support use of intermittent androgen blockade outside clinical trials

Lotan, Y., A. M. Kamat, et al. (2009). "Key concerns about the current state of bladder cancer: a position paper from the Bladder Cancer Think Tank, the Bladder Cancer Advocacy Network, and the Society of Urologic Oncology." Cancer **115**(18): 4096-103.

Bladder cancer is the fifth most common cancer in the United States and, on a per capita basis, is the most expensive cancer from diagnosis to death. Unfortunately, National Cancer Institute funding for bladder cancer is quite low when compared with other common malignancies. Limited funding has stifled research opportunities for new and established investigators, ultimately encouraging them to redirect research efforts to other organ sites. Waning interest of scientists has further fueled the cycle of modest funding for bladder cancer. One important consequence of this has been a lack of scientific advancement in the field. Patient advocates have decidedly advanced research efforts in many cancer sites. Breast, prostate, pancreatic, and ovarian cancer advocates have organized highly successful campaigns to lobby the federal government and the medical community to devote increased attention and funding to understudied malignancies and to conduct relevant studies to better understand the therapy, diagnosis, and prevention of these diseases. Bladder cancer survivors have lacked a coordinated advocacy voice until recently. A concerted effort to align bladder cancer advocates, clinicians, and urologic organizations is essential to define the greatest needs in bladder cancer and to develop related solutions. This position paper represents a collaborative discussion to define the most concerning trends and greatest needs in the field of bladder cancer as outlined by the Bladder Cancer Think Tank, the Bladder Cancer Advocacy Network, and the Society of Urologic Oncology.

Lyman, G. H., A. E. Giuliano, et al. (2005). "American Society of Clinical Oncology guideline recommendations for sentinel lymph node biopsy in early-stage breast cancer." J Clin Oncol **23**(30): 7703-20.

PURPOSE: To develop a guideline for the use of sentinel node biopsy (SNB) in early stage breast cancer. METHODS: An American Society of Clinical Oncology (ASCO) Expert Panel conducted a systematic review of the literature available through February 2004 on the use of SNB in early-stage breast cancer. The panel developed a guideline for clinicians and patients regarding the appropriate use of a sentinel lymph node identification and sampling procedure from hereon referred to as SNB. The guideline was reviewed by selected experts in the field and the ASCO Health Services Committee and was approved by the ASCO Board of Directors. RESULTS: The literature review identified one published prospective randomized controlled trial in which SNB was compared with axillary lymph node dissection (ALND), four limited meta-analyses, and 69 published single-institution and multicenter trials in which the test performance of SNB was evaluated with respect to the results of ALND (completion axillary dissection). There are currently no data on the effect of SLN biopsy on long-term survival of patients with breast cancer. However, a review of the available evidence demonstrates that, when performed by experienced clinicians, SNB appears to be a safe and acceptably accurate method for identifying early-stage breast cancer without involvement of the axillary lymph nodes. CONCLUSION: SNB is an appropriate initial alternative to routine staging ALND for patients with early-stage breast cancer with clinically negative axillary nodes. Completion ALND remains standard treatment for patients with axillary metastases identified on SNB. Appropriately identified patients with negative results of SNB, when done under the direction of an experienced surgeon, need not have completion ALND. Isolated cancer cells detected by pathologic examination of the SLN with use of specialized techniques are currently of unknown clinical significance. Although such specialized techniques are often used, they are not a required part of SLN evaluation for breast cancer at this time. Data suggest that SNB is associated with less morbidity than ALND, but the comparative effects of these two approaches on tumor recurrence or patient survival are unknown.

Lyman, G. H., A. A. Khorana, et al. (2007). "American Society of Clinical Oncology guideline: recommendations for venous thromboembolism prophylaxis and treatment in patients with cancer." J Clin Oncol **25**(34): 5490-505.

PURPOSE: To develop guideline recommendations for the use of anticoagulation in the prevention and treatment of venous thromboembolism (VTE) in patients with cancer. METHODS: A comprehensive systematic review of the medical literature on the prevention and treatment of VTE in cancer patients was conducted and reviewed by a panel of content and methodology experts. Following discussion of the results, the panel drafted recommendations for the use of anticoagulation in patients with malignant disease. RESULTS: The results of randomized controlled trials of primary and secondary VTE medical prophylaxis, surgical

prophylaxis, VTE treatment, and the impact of anticoagulation on survival of patients with cancer were reviewed. Recommendations were developed on the prevention of VTE in hospitalized, ambulatory, and surgical cancer patients as well as patients with established VTE, and for use of anticoagulants in cancer patients without VTE to improve survival. CONCLUSION: Recommendations of the American Society of Clinical Oncology VTE Guideline Panel include (1) all hospitalized cancer patients should be considered for VTE prophylaxis with anticoagulants in the absence of bleeding or other contraindications; (2) routine prophylaxis of ambulatory cancer patients with anticoagulation is not recommended, with the exception of patients receiving thalidomide or lenalidomide; (3) patients undergoing major surgery for malignant disease should be considered for pharmacologic thromboprophylaxis; (4) low molecular weight heparin represents the preferred agent for both the initial and continuing treatment of cancer patients with established VTE; and (5) the impact of anticoagulants on cancer patient survival requires additional study and cannot be recommended at present.

Macbeth, R. A. (2005). "Artifacts and Archives/Archives et artefacts de la pratique medicale. The origin of the Canadian Cancer Society." Can Bull Med Hist **22**(1): 155-73.

In 1929, when the Saskatchewan Medical Association created a Cancer Committee, the major achievement of the Committee was the establishment of the first government supported comprehensive provincial cancer control program in Canada. The report also proposed the establishment of a voluntary medical-lay Canadian Society for the Control of Cancer. As the comprehensive cancer control concept spread across Canada within the provinicial medical associations and provinicials governments, the Canadian Medical Association (CMA), represented by Dr. John S. McEachern, took up the cause of promoting such a voluntary cancer organization. Initially the idea developed slowly but, in 1935, gained momentum when the Governor General, the Earl of Bessborough, initiated The King George V Silver Jubilee Cancer Fund for Canada and financial support for such a project became a possibility. The focus of this paper is on McEachern's shepherding of the voluntary cancer society idea within the CMA and the convoluted path which led to the provision of financial support for the project by the Trustees of the King George V Cancer Fund. The Canadian Society of the Control of Cancer, later renamed the Canadian Cancer Society, was created by Letters Patent on 28 March 1938.

Meropol, N. J., D. Schrag, et al. (2009). "American Society of Clinical Oncology guidance statement: the cost of cancer care." J Clin Oncol **27**(23): 3868-74.

Advances in early detection, prevention, and treatment have resulted in consistently falling cancer death rates in the United States. In parallel with these advances have come significant increases in the cost of cancer care. It is well established that the cost of health care (including cancer care) in the United States is growing more rapidly than the overall economy. In part, this is a result of the prices and rapid uptake of new agents and other technologies, including advances in imaging and therapeutic radiology. Conventional understanding suggests that high prices may reflect the costs and risks associated with the development, production, and marketing of new drugs and technologies, many of which are valued highly by physicians, patients, and payers. The increasing cost of cancer care impacts many stakeholders who play a role in a complex health care system. Our patients are the most vulnerable because they often experience uneven insurance coverage, leading to financial strain or even ruin. Other key groups include pharmaceutical manufacturers that pass along research, development, and marketing costs to the consumer; providers of cancer care who dispense increasingly expensive drugs and technologies; and the insurance industry, which ultimately passes costs to consumers. Increasingly, the economic burden of health care in general, and high-quality cancer care in particular, will be less and less affordable for an increasing number of Americans unless steps are taken to curb current trends. The American Society of Clinical Oncology (ASCO) is committed to improving cancer prevention, diagnosis, and treatment and eliminating disparities in cancer care through support of evidence-based and cost-effective practices. To address this goal, ASCO established a Cost of Care Task Force, which has developed this Guidance Statement on the Cost of Cancer Care. This Guidance Statement provides a concise overview of the economic issues facing stakeholders in the cancer community. It also recommends that the following steps be taken to address immediate needs: recognition that patient-physician discussions regarding the cost of care are an important component of high-quality care; the design of educational and support tools for oncology providers to promote effective communication about costs with patients; and the development of resources to help educate patients about the high cost of cancer care to help guide their decision making regarding treatment options. Looking to the future, this Guidance Statement also recommends that ASCO develop policy positions to address the underlying factors contributing to the increased cost of cancer

care. Doing so will require a clear understanding of the factors that drive these costs, as well as potential modifications to the current cancer care system to ensure that all Americans have access to high-quality, cost-effective care.

Moeder, C. B., J. M. Giltnane, et al. (2007). "Quantitative justification of the change from 10% to 30% for human epidermal growth factor receptor 2 scoring in the American Society of Clinical Oncology/College of American Pathologists guidelines: tumor heterogeneity in breast cancer and its implications for tissue microarray based assessment of outcome." J Clin Oncol **25**(34): 5418-25.

PURPOSE: The variability in scoring of immunohistochemistry, whether a result of true heterogeneity or artifacts in preparation, has led to decreased reliability in companion diagnostics and the recommendation for new standards (eg, the American Society of Clinical Oncology/College of American Pathologists [ASCO-CAP] guidelines). The basis of this problem is the amount of tissue required to be representative of an entire tumor. Because protein expression on tissue microarrays (TMAs) can be rigorously measured and one 0.6-mm spot is equivalent to two to three high-power fields, we used TMAs to assess levels of heterogeneity and to determine optimal representation as a function of outcome. PATIENTS AND METHODS: We analyzed estrogen receptor (ER), progesterone receptor, and human epidermal growth factor receptor 2 (HER-2) expression in two cohorts (n = 676 and n = 152) on a series of four to five separate TMA cores and assessed heterogeneity by linear regression analysis. Minimum, average, and maximum scores were generated for each set, which were then assessed for prognostic and predictive value. RESULTS: Each marker shows some heterogeneity, but average r values between 0.7 and 0.8 are seen between TMA spots. Analysis for prognostic value shows that the highest maximum score (of five spots) is the most prognostic for ER, whereas a high HER-2 minimum score is most prognostic for poor outcome and most predictive of response to trastuzumab. CONCLUSION: These results suggest that the representivity required for each biomarker may be a function of its role in tumorigenesis. Furthermore, these results provide scientific basis for the ASCO-CAP guidelines for assessment of HER-2 expression but perhaps suggest that the 30% figure is still too conservative.

Moon, H. G., W. Han, et al. (2009). "Underweight and breast cancer recurrence and death: a report from the Korean Breast Cancer Society." J Clin Oncol **27**(35): 5899-905.

PURPOSE: The association between body mass index and breast cancer outcome is controversial. Furthermore, the impact of underweight on breast cancer recurrence and death has not been adequately addressed. PATIENTS AND METHODS: We investigated this issue using a large nationwide database of 24,698 Korean breast cancer patients. The association between body weight status and breast cancer recurrence was further explored using a single-institution database containing information on 4,345 patients. RESULTS: The results from the nationwide database showed significantly lower overall survival (OS) and breast cancer-specific survival (BCSS) in underweight patients compared with survival in patients of normal weight after adjusting for known prognostic factors such as age, tumor size, lymph node metastasis, hormone receptor status, histologic grade, and lymphovascular invasion (hazard ratio [HR], 1.48; 95% CI, 1.15 to 1.90 for OS; HR, 1.49; 95% CI, 1.15 to 1.93 for BCSS), which were not observed in obese patients. In an analysis of recurrence data from the single institution, underweight women had a significantly higher risk of both distant metastasis and local recurrence of breast cancer (HR, 1.93; 95% CI, 1.04 to 3.58 and HR, 5.13; 95% CI, 2.66 to 9.90, respectively). CONCLUSION: Our study suggests that underweight should be considered to be a high risk factor for death and recurrence after breast cancer surgery, especially in Asian breast cancer patients.

Murphy, C. D., J. M. Lee, et al. (2008). "The American Cancer Society guidelines for breast screening with magnetic resonance imaging: an argument for genetic testing." Cancer **113**(11): 3116-20.

BACKGROUND: The American Cancer Society (ACS) guidelines for screening with breast magnetic resonance imaging (MRI) recommend MRI for women who have a lifetime risk > or = 20% of developing breast cancer. Genetic testing for breast cancer gene (BRCA) mutations is offered to women who have a risk > or = 10% of carrying a mutation. The objectives of the current study were 1) to identify the number of women in a breast cancer screening population who had > or = 20% lifetime breast cancer risk and, thus, were candidates for screening MRI; and 2) to determine the number of women who had > or = 10% risk of BRCA mutation yet had <20% lifetime risk of breast cancer and, thus, may not have been identified as candidates for MRI screening. METHODS: From 2003 to 2005, women who underwent screening mammography completed a self-administered questionnaire regarding breast cancer risk factors. For each patient, the lifetime breast cancer risk and the risk of BRCA mutation was

determined by using the computerized BRCAPRO breast cancer risk-assessment model. RESULTS: Of 18,190 women, 78 (0.43%) had > or = 20% lifetime risk of breast cancer, all of whom had > or = 10% risk of carrying a BRCA mutation. An additional 374 women (2.06%) had <20% lifetime breast cancer risk but > or = 10% risk of mutation. Overall, there were 183 (1%) predicted mutation carriers, 27 women (0.15%) who had > or = 20% lifetime risk of breast cancer, and 62 women (0.34%) who had > or = 10% risk of mutation but <20% lifetime breast cancer risk. CONCLUSIONS: The ACS guidelines for breast MRI screening may systematically exclude MRI screening for many women who have a substantial risk for BRCA mutation. The current results demonstrated a need for greater awareness of breast cancer risk factors in the screening mammography population, so that high-risk women can be identified and given access to genetic testing and counseling regarding all risk-reducing interventions.

Naito, S., K. Kuroiwa, et al. (2008). "Validation of Partin tables and development of a preoperative nomogram for Japanese patients with clinically localized prostate cancer using 2005 International Society of Urological Pathology consensus on Gleason grading: data from the Clinicopathological Research Group for Localized Prostate Cancer." J Urol **180**(3): 904-9; discussion 909-10.

PURPOSE: We validated the 2001 Partin tables and developed an original nomogram for Japanese patients using the 2005 International Society of Urological Pathology consensus on Gleason grading. MATERIALS AND METHODS: Prostatectomy specimens from 1,188 Japanese men who underwent radical prostatectomy for clinically localized prostate cancer (cT1-2) between 1997 and 2005 were analyzed. Polychotomous logistic regression analysis was used to construct a nomogram to predict final pathological stage (organ confined disease, extraprostatic extension, seminal vesicle invasion and lymph node involvement) from 3 variables, including serum prostate specific antigen, clinical stage and biopsy Gleason score. The area under the ROC curve was used to compare the new nomogram with the Partin tables. RESULTS: Preoperative serum prostate specific antigen and biopsy Gleason score were higher in the Japanese cohort than in the Partin cohort. The distribution of clinical and final pathological stages was similar in the 2 cohorts. The AUC for predicting organ confined disease was 0.699 and 0.717 for data applied to the Partin tables and to the new nomogram, respectively. The AUC for predicting lymph node involvement was 0.793 and 0.863, respectively. CONCLUSIONS: To our knowledge this is the first preoperative nomogram developed for clinically localized prostate cancer in Japanese patients. Although the new nomogram predicted the pathological stage of prostate cancer in Japanese patients more accurately than the Partin tables, it did not satisfactorily predict organ confined disease. However, other predictive variables, such as more detailed pathological features of biopsy specimens or magnetic resonance imaging, may further improve prediction accuracy.

Naumann, R. W. and R. L. Coleman (2007). "The use of adjuvant radiation therapy in early endometrial cancer by members of the Society of Gynecologic Oncologists in 2005." Gynecol Oncol **105**(1): 7-12.

OBJECTIVES: To determine current patterns of care for early stage endometrial cancer by the members of the Society of Gynecologic Oncologists (SGO). METHODS: A survey detailing the use of adjuvant radiation in early stage endometrial cancer was conducted. Details of surgery, indications for staging, and use of adjuvant radiation for cases primarily seen by the respondent and for those cases referred postoperatively without staging information were collected and compared to a similar survey from 1999. RESULTS: The practice demographics of the respondents are similar to the 1999 survey. SGO members are now more likely to perform complete surgical staging during all surgeries for endometrial cancer than in 1999 (71% vs. 48%; P<0.0001). A higher percentage of respondents now describe surgery as a complete lymphadenectomy (76% vs. 44%: P<0.0001) and believe this is therapeutic (71% vs. 66%: P=0.04). Approximately half of SGO members now use laparoscopic assisted staging in the primary treatment of endometrial cancer. Since 1999, there is a significant decrease in the recommendation for postoperative RT. In almost all cases where RT is recommended, the use of vaginal RT is now more common than pelvic RT. In all situations, consult recommendations for additional intervention were more likely if complete surgical staging had not been performed, suggesting that all patients with endometrial cancer would benefit from surgery by a gynecologic oncologist. CONCLUSIONS: There is an increase in complete surgical staging of endometrial cancer, an increase in the use of laparoscopy, and a marked decrease in the use of pelvic RT since 1999.

Nemoto, K., S. Yamada, et al. (2006). "Results of radiation therapy for superficial esophageal cancer using the standard radiotherapy method recommended by the Japanese Society of Therapeutic Radiology and Oncology (JASTRO) Study Group." Anticancer Res **26**(2B): 1507-12.

BACKGROUND: Superficial esophageal cancer (SEC) is defined as esophageal cancer limited

to the submucosal layers, including mucosal cancer and submucosal cancer, and is squamous cell carcinoma in most patients. In 2000, the Japanese Society of Therapeutic Radiology and Oncology (JASTRO) Study Group for SEC published a consensus guideline of standard radiotherapy methods. In this study, the interim treatment outcomes of SEC patients, who had received radiation therapy following the standard radiotherapy methods, were investigated. PATIENTS AND METHODS: From 2000 to 2003, a total of 141 SEC patients were treated in 24 institutions in Japan. RESULTS: The 1-, 2- and 3-year survival rates were 95%, 90% and 90%, respectively, for patients with mucosal cancer and 90%, 81% and 70%, respectively, for patients with submucosal cancer. The overall survival was better in patients who had undergone chemotherapy than in patients who had received radiation therapy alone, though the difference was not statistically significant. The clinical target volume (CTV) did not influence overall survival and intracavitary irradiation did not influence the local control rate in either patients with mucosal or submucosal cancer. Radiation-induced esophageal ulcer was not observed in this series. CONCLUSION: The standard radiotherapy methods are safe and effective for treating SEC. However, the usefulness of chemotherapy and intracavitary irradiation and the optimal setting of the CTV should be clarified by future randomized trials.

Newman, L. A. (2004). "Current issues in the surgical management of breast cancer: a review of abstracts from the 2002 San Antonio Breast Cancer Symposium, the 2003 Society of Surgical Oncology annual meeting, and the 2003 American Society of Clinical Oncology meeting." Breast J **10 Suppl 1**: S22-5.

Three areas of development in the surgical management of breast cancer received significant attention in 2003--breast-conserving surgery, sentinel lymph node (SLN) biopsy, and ductal lavage. Provocative investigations focusing on these controversial aspects of surgical care were presented at major national oncology meetings throughout the year. The recently published 20-year updates by the National Surgical Adjuvant Breast and Bowel Project (NSABP) and the Italian National Cancer Institute confirm the survival equivalence of breast-conserving surgery and mastectomy in early stage disease. Data reveal, however, that this strategy is underutilized in the United States when compared with other countries. A meta-analysis of close to 70 published trials on the use of SLN biopsy has revealed an overall SLN identification rate of greater than 90%, with a false-negative rate of 8.4%. Two major controversies remain to be resolved: Is there a subset of sentinel node-positive patients who may safely avoid complete axillary lymph node dissection? What is the best way integrate lymphatic mapping into neoadjuvant chemotherapy protocols? The strength of ductal lavage as a risk assessment adjunct is related to the ability to detect cellular atypia, a feature associated with a three- to fivefold increased risk for breast cancer. This technique continues to be rigorously evaluated in a number of ongoing studies.

Nishimura, Y., K. Nagata, et al. (2003). "Severe complications in advanced esophageal cancer treated with radiotherapy after intubation of esophageal stents: a questionnaire survey of the Japanese Society for Esophageal Diseases." Int J Radiat Oncol Biol Phys **56**(5): 1327-32.

PURPOSE: A questionnaire survey was performed to evaluate the complications and prognosis of esophageal cancer treated with esophageal intubation before or during radiotherapy. METHODS AND MATERIALS: Clinical data were accumulated on a total of 47 patients treated at 17 institutions in Japan. Five patients had Stage II, 30 Stage III, and 11 Stage IV, and the stage was unknown in 1 patient. Covered expandable metallic stents were inserted in 30 patients, uncovered expandable metallic stents in 13, plastic or silicon prosthesis in 3, and an unknown type in 1 patient. Esophageal stenting was performed before the start of RT for 23 patients and during the course of RT for 24 patients. The reasons for the stenting were severe stricture in 32 patients (Group 1) and esophageal fistula in 15 patients (Group 2). RESULTS: The most frequent toxicity was formation or worsening of esophageal fistulas in 13 patients (28%), followed by massive hematemesis or GI bleeding in 10 patients (21%). In total, 24 patients (51%), including 10 patients with possible treatment-related deaths (Grade 5), had nonhematologic toxicities of Grade 3-5. The interval from the start of RT to the nonhematologic toxicity ranged from 16 to 312 days (median 78). The incidence of toxicities was higher for Group 1 (59%) than for Group 2 (33%), although the difference was not statistically significant. The median survival time for those with Stage II-III and Stage IV was 5 and 3.5 months, respectively. CONCLUSIONS: Patients with esophageal intubation before or during RT have a high risk of life-threatening complications, especially for those with severe esophageal stricture. Because long survival is expected for a substantial proportion of patients with locally advanced esophageal cancer after chemoradiotherapy, palliative intubation should be delayed until radiotherapy or chemoradiotherapy appears to have failed.

Olawaiye, A. B. and D. M. Boruta, 2nd (2009). "Management of women with clear cell endometrial cancer: a Society of Gynecologic Oncology (SGO) review." Gynecol Oncol **113**(2): 277-83.

OBJECTIVE: Clear cell endometrial cancer (CCE) is an uncommon but important disease because of its aggressive behavior. Furthermore, prospective, randomized studies are either too difficult or impossible because of the small number of women affected. This review explores the differences between clear cell and endometrioid endometrial cancer. In addition, it uses available evidence to determine the best approach to management. METHODS: Medline was searched between January 1, 1966 and December 31, 2008 for all publications in English where the studied population included women diagnosed with CCE. Qualifying studies must have had at least 30 patients. RESULTS: Clear cell histology is diagnosed in less than 6% of all endometrial cancers and its incidence increases with age. Diagnosis can be made using the same tests that are used in the diagnosis of other types of endometrial cancer. Clear cell histology is morphologically and genetically different from the more prevalent endometrioid endometrial cancer histology. It shares many similarities with clear cell neoplasms of the ovary and kidney. Comprehensive surgical staging is critical in order to plan appropriate postoperative management. Adjuvant pelvic and/or whole abdominal radiotherapy have not been shown to be clearly beneficial in women diagnosed with clear cell endometrial cancer. Adjuvant chemotherapy with cisplatinum, taxol and doxorubicin either in a doublet or triplet combination has demonstrated efficacy. CONCLUSIONS: Women diagnosed with CCE require comprehensive surgical staging. Platinum based adjuvant chemotherapy in a doublet or triplet format in combination with paclitaxel and/or doxorubicin should be considered as part of treatment of these women. Careful long term surveillance following treatment is indicated given the higher rate of recurrence compared to endometrioid endometrial cancer.

Ozols, R. F., R. S. Herbst, et al. (2007). "Clinical cancer advances 2006: major research advances in cancer treatment, prevention, and screening--a report from the American Society of Clinical Oncology." J Clin Oncol **25**(1): 146-62.

A MESSAGE FROM ASCO's PRESIDENT For the second consecutive year, the American Society of Clinical Oncology (ASCO) is publishing Clinical Cancer Advances: Major Research Advances in Cancer Treatment, Prevention, and Screening, an annual review of the most significant cancer research presented or published over the past year. ASCO developed this report to demonstrate the enormous progress being made on the front lines of cancer research today. The report is intended to give all those with an interest in cancer care-the general public, cancer patients and physicians, policymakers, oncologists, and other medical professionals-an accessible summary of the year's most important cancer research advances. These pages report on new targeted therapies that are improving survival and response rates in hard-to-treat cancers such as kidney cancer, HER-2-positive breast cancer, head and neck cancer, and chronic myelogenous leukemia; the FDA's approval of the world's first preventive vaccine for human papillomavirus (HPV), which has the potential to dramatically reduce the global burden of cervical cancer; and advances in the fast-growing field of personalized medicine, including a new lung cancer test that could help physicians better target treatments and predict prognosis. These advances are only part of the landscape. Survival rates are on the rise, the number of cancer deaths in the United States began declining for the first time since 1930, and new research is showing that the rates of certain common cancers, such as those of the breast and colon, have stabilized, and may have even begun to decline. However, cancer research still faces a number of major obstacles. At a time of extraordinary scientific potential, declining federal funding of cancer research threatens to stall or even reverse recent progress. Such funding cuts have already led to fewer clinical trials, fewer talented young physicians entering the field, and a growing bottleneck of basic science discoveries waiting to be "translated" into useful therapies and diagnostics. In addition to highlighting the major research advances over the past year, this report also identifies key barriers to accelerating the pace of cancer research and outlines ASCO's recommendations for overcoming them. Despite these and other challenges, there is much good news on the front lines of cancer research. This report demonstrates the essential role of clinical cancer research in finding new and better ways to treat, diagnose, and prevent a group of diseases that strike half of men and one-third of women in the United States.

Rex, D. K., C. J. Kahi, et al. (2006). "Guidelines for colonoscopy surveillance after cancer resection: a consensus update by the American Cancer Society and the US Multi-Society Task Force on Colorectal Cancer." Gastroenterology **130**(6): 1865-71.

Patients with resected colorectal cancer are at risk for recurrent cancer and metachronous neoplasms in the colon. This joint update of guidelines by the American Cancer Society and the US Multi-Society Task Force on Colorectal Cancer addresses only the use of endoscopy in the surveillance of these patients.

Patients with endoscopically resected Stage I colorectal cancer, surgically resected Stages II and III cancers, and Stage IV cancer resected for cure (isolated hepatic or pulmonary metastasis) are candidates for endoscopic surveillance. The colorectum should be carefully cleared of synchronous neoplasia in the perioperative period. In nonobstructed colons, colonoscopy should be performed preoperatively. In obstructed colons, double-contrast barium enema or computed tomography colonography should be performed preoperatively, and colonoscopy should be performed 3 to 6 months after surgery. These steps complete the process of clearing synchronous disease. After clearing for synchronous disease, another colonoscopy should be performed in 1 year to look for metachronous lesions. This recommendation is based on reports of a high incidence of apparently metachronous second cancers in the first 2 years after resection. If the examination at 1 year is normal, then the interval before the next subsequent examination should be 3 years. If that examination is normal, then the interval before the next subsequent examination should be 5 years. Shorter intervals may be indicated by associated adenoma findings (see "Guidelines for Colonoscopy Surveillance After Polypectomy: A Consensus Update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society"). Shorter intervals also are indicated if the patient's age, family history, or tumor testing indicate definite or probable hereditary nonpolyposis colorectal cancer. Patients undergoing low anterior resection of rectal cancer generally have higher rates of local cancer recurrence compared with those with colon cancer. Although effectiveness is not proven, performance of endoscopic ultrasound or flexible sigmoidoscopy at 3- to 6-month intervals for the first 2 years after resection can be considered for the purpose of detecting a surgically curable recurrence of the original rectal cancer.

Rex, D. K., C. J. Kahi, et al. (2006). "Guidelines for colonoscopy surveillance after cancer resection: a consensus update by the American Cancer Society and US Multi-Society Task Force on Colorectal Cancer." CA Cancer J Clin **56**(3): 160-7; quiz 185-6.

Patients with resected colorectal cancer are at risk for recurrent cancer and metachronous neoplasms in the colon. This joint update of guidelines by the American Cancer Society (ACS) and US Multi-Society Task Force on Colorectal Cancer addresses only the use of endoscopy in the surveillance of these patients. Patients with endoscopically resected Stage I colorectal cancer, surgically resected Stage II and III cancers, and Stage IV cancer resected for cure (isolated hepatic or pulmonary metastasis) are candidates for endoscopic surveillance. The colorectum should be carefully cleared of synchronous neoplasia in the perioperative period. In nonobstructed colons, colonoscopy should be performed preoperatively. In obstructed colons, double contrast barium enema or computed tomography colonography should be done preoperatively, and colonoscopy should be performed 3 to 6 months after surgery. These steps complete the process of clearing synchronous disease. After clearing for synchronous disease, another colonoscopy should be performed in 1 year to look for metachronous lesions. This recommendation is based on reports of a high incidence of apparently metachronous second cancers in the first 2 years after resection. If the examination at 1 year is normal, then the interval before the next subsequent examination should be 3 years. If that colonoscopy is normal, then the interval before the next subsequent examination should be 5 years. Shorter intervals may be indicated by associated adenoma findings (see Postpolypectomy Surveillance Guideline). Shorter intervals are also indicated if the patient's age, family history, or tumor testing indicate definite or probable hereditary nonpolyposis colorectal cancer. Patients undergoing low anterior resection of rectal cancer generally have higher rates of local cancer recurrence, compared with those with colon cancer. Although effectiveness is not proven, performance of endoscopic ultrasound or flexible sigmoidoscopy at 3- to 6-month intervals for the first 2 years after resection can be considered for the purpose of detecting a surgically curable recurrence of the original rectal cancer.

Rizzo, J. D., M. R. Somerfield, et al. (2008). "Use of epoetin and darbepoetin in patients with cancer: 2007 American Society of Clinical Oncology/American Society of Hematology clinical practice guideline update." J Clin Oncol **26**(1): 132-49.

PURPOSE: To update the American Society of Clinical Oncology/American Society of Hematology (ASCO/ASH) recommendations for the use of epoetin. The guideline was expanded to address use of darbepoetin and thromboembolic risk associated with these agents. METHOD: An Update Committee ("Committee") reviewed and analyzed data published since 2002 through July 2007. MEDLINE and the Cochrane Collaboration Library databases were searched. RECOMMENDATIONS: For patients with chemotherapy-associated anemia, the Committee continues to recommend initiating an erythropoiesis-stimulating agent (ESA) as hemoglobin (Hb) approaches, or falls below, 10 g/dL, to increase Hb and decrease transfusions. ESA treatment continues to be recommended for patients with low-risk myelodysplasia for similar reasons. There is no

evidence showing increased survival as a result of ESA treatment. Conclusive evidence is lacking that, absent clinical circumstances necessitating earlier treatment, initiating ESAs at Hb levels greater than 10 g/dL either spares more patients from transfusion or substantially improves their quality of life. Starting doses and dose modifications based on response or lack thereof should follow the package insert. Continuing ESAs beyond 6 to 8 weeks in the absence of response, assuming appropriate dose increase has been attempted in nonresponders as per US Food and Drug Administration-approved labeling, does not seem to be beneficial, and ESA therapy should be discontinued. The Committee recommends monitoring iron stores and supplementing iron intake for ESA-treated patients. ESAs should be used cautiously with chemotherapy, or in clinical states, associated with elevated risk for thromboembolic complications. The Committee also cautions against ESA use for patients with cancer who are not receiving chemotherapy, since recent trials report increased thromboembolic risks and decreased survival under these circumstances.

Rizzo, J. D., M. R. Somerfield, et al. (2008). "Use of epoetin and darbepoetin in patients with cancer: 2007 American Society of Hematology/American Society of Clinical Oncology clinical practice guideline update." Blood **111**(1): 25-41.

PURPOSE: To update the American Society of Clinical Oncology/American Society of Hematology (ASCO/ASH) recommendations for the use of epoetin. The guideline was expanded to address use of darbepoetin and thromboembolic risk associated with these agents. METHOD: An Update Committee ("Committee") reviewed and analyzed data published since 2002 through July 2007. MEDLINE and the Cochrane Collaboration Library databases were searched. RECOMMENDATIONS: For patients with chemotherapy-associated anemia, the Committee continues to recommend initiating an erythropoiesis-stimulating agent (ESA) as hemoglobin (Hb) approaches, or falls below, 10 g/dL, to increase Hb and decrease transfusions. ESA treatment continues to be recommended for patients with low-risk myelodysplasia for similar reasons. There is no evidence showing increased survival as a result of ESA treatment. Conclusive evidence is lacking that, absent clinical circumstances necessitating earlier treatment, initiating ESAs at Hb levels greater than 10 g/dL either spares more patients from transfusion or substantially improves their quality of life. Starting doses and dose modifications based on response or lack thereof should follow the package insert. Continuing ESAs beyond 6 to 8 weeks in the absence of response, assuming appropriate dose increase has been attempted in nonresponders as per US Food and Drug Administration-approved label, does not seem to be beneficial, and ESA therapy should be discontinued. The Committee recommends monitoring iron stores and supplementing iron intake for ESA-treated patients. ESAs should be used cautiously with chemotherapy, or in clinical states, associated with elevated risk for thromo-embolic complications. The Committee also cautions against ESA use for patients with cancer who are not receiving chemotherapy, since recent trials report increased thromboembolic risks and decreased survival under these circumstances.

Rogers, S., P. Kenyon, et al. (2005). "The relation between health-related quality of life, past medical history, and American Society of Anesthesiologists' ASA grade in patients having primary operations for oral and oropharyngeal cancer." Br J Oral Maxillofac Surg **43**(2): 134-43.

Pre-existing medical problems have the potential to affect postoperative survival, complications, and health-related quality of life (QoL). Our aim was to explore the relation between past medical history, American Society of Anesthesiologists' (ASA) score, health-related QoL, and survival. We collected data from 278 consecutive patients with previously untreated oral and oropharyngeal squamous cell carcinoma operated on primarily from 1995 to 1999 inclusive. Past medical history was recorded from the case notes, ASA grade from the anaesthetic record, and QoL was measured using the University of Washington Quality of Life Questionnaire (UW-QoL). Responses to questionnaires were received from (71%) at baseline (63%) at 6 months (73%) at 1 year, and (65%) 18 months or longer. Past medical history was associated with lower ASA scores. At baseline both history and ASA scores were related to the UW-QoL. Longitudinally patients in ASA grade 1 or with no past history scored better in these UW-QoL domains. Past history did not predict survival (P = 0.83), nor did the UW-QoL composite score (P = 0.30), whilst ASA was associated with crude survival (P = 0.003) and disease-specific survival (P = 0.03). When analyses were stratified for adjuvant radiotherapy, type of operation, size of tumour, and age then the relation to ASA was maintained and trends in the past history and UW-QoL remained not significant. ASA, which is often recorded as part of preoperative assessment, reflects both survival and health-related QoL, and is more useful than past history alone for predicting outcome.

Rubin, M. A., T. A. Bismar, et al. (2004). "Prostate needle biopsy reporting: how are the surgical

members of the Society of Urologic Oncology using pathology reports to guide treatment of prostate cancer patients?" Am J Surg Pathol **28**(7): 946-52.

Recent trends in prostate needle biopsy reporting have resulted in the inclusion of more information and new diagnostic categories. The goal of the current study was to survey surgical Members of the Society of Urologic Oncology to determine what information academic urologists consider important in the management of their prostate cancer (PCa) patients. A questionnaire was developed to investigate several areas of PCa biopsy reporting, which vary from institution to institution. Urologists were sent questionnaires and asked to return anonymous responses; 42 questionnaires were completely evaluated with a response rate of 76% (42 of 55). The urologists targeted for this survey were highly experienced with an average of 22 years in clinical practice (range, 6-35 years). On average, they performed 92 radical prostatectomies per year and 449 over the past 5 years (range, 60-1500) for a group total of 18,840 radical prostatectomies; 94% have their patient's biopsy reviewed prior to surgery. The primary and secondary Gleason pattern was required by 60% (25 of 42) of the respondents. In prostate needle biopsies containing only a single minute focus of PCa, only 41% (17 of 42) of respondents would request a Gleason score if not provided in the initial report. Interestingly, in biopsies with multiple positive cores from separate locations, 81% (34 of 42) use the highest Gleason score, regardless of the overall percentage involvement, to determine their treatment plan. Other pathology parameters requested by the respondents in descending order included: % involvement of the core by PCa (67%), the presence or absence of perineural invasion (38%), the number of cores with PCa (33%), and the length of core involvement (29%). Only 24% (10 of 42) of respondents use perineural invasion status to guide nerve-sparing surgery. The more radical prostatectomies performed by a surgeon, the greater the likelihood that they considered perineural invasion clinically important (Mann-Whitney, two-tailed, P = 0.015). The term atypical small acinar proliferation was uniformly considered sufficient to re-biopsy by 98% (41 of 42) of the urologists. This is the first study to survey urologists as to what information they require from prostate needle biopsy reports in their treatment planning of men with clinically localized PCa. With the exception of Gleason score, the use of detailed pathology information was variably used to guide treatment. PNI was not considered important by the majority of respondents. In contrast, atypical small acinar proliferation, a more recent diagnostic category, was recognized as important by nearly all respondents. Knowledge of how pathology biopsy reports are being used should help evaluate what data should be uniformly part of standard biopsy pathology report and help improve communication between pathologists and urologists.

Saif, M. W. (2006). "Pancreatic cancer: highlights from the 42nd annual meeting of the American Society of Clinical Oncology, 2006." Jop **7**(4): 337-48.

Despite advances in our understanding of the molecular and genetic basis of pancreatic cancer, the disease remains a clinical challenge. Gemcitabine, the standard chemotherapy for pancreatic cancer, offers modest improvement of tumor-related symptoms and marginal advantage of survival. New approaches, alone and in combination with gemcitabine, are being developed to combat this cancer. Combination chemotherapy trials incorporating gemcitabine, cisplatin, 5-fluorouracil, oxaliplatin, or irinotecan generally show improved outcomes in objective response rates but with little or no improvement in survival in phase III trials. In this article, the author describes the key studies presented at the Annual Meeting of ASCO, held in Atlanta, GA from June 2nd to 6th. The studies discussed here include the following: RTOG 9704 (#4007), FFCD-SFRO study (#4008), meta-analysis of gemcitabine plus cisplatin and gemcitabine plus oxaliplatin vs. gemcitabine alone (GERCOR #4003), and ECOG 6201 (Late Breaking Abstract #4004). Based on the results presented at the annual meeting, it comes to us that patients with locally advanced vs. metastatic pancreatic cancer should be studied separately, better understanding of the biology of pancreatic cancer is mandatory and evaluation of novel agents is crucial. We as oncologist have to change our attitudes towards clinical trials and need to think beyond a trial design such as gemcitabine vs. drug of our choice. Environment within which research is being conducted also has to be changed and last but not the least, access to trials for patients with pancreatic cancer is the key step in the fight against pancreatic cancer.

Sehouli, J., D. Stengel, et al. (2008). "Nonplatinum topotecan combinations versus topotecan alone for recurrent ovarian cancer: results of a phase III study of the North-Eastern German Society of Gynecological Oncology Ovarian Cancer Study Group." J Clin Oncol **26**(19): 3176-82.

PURPOSE: The management of recurrent ovarian cancer remains controversial. Single-agent topotecan is an established treatment option, and preliminary evidence suggests improved tumor control by combining topotecan with etoposide or gemcitabine. PATIENTS AND METHODS: Women

with relapsed ovarian cancer after primary surgery and platinum-based chemotherapy were randomly assigned to topotecan monotherapy 1.25 mg/m(2)/d, topotecan 1.0 mg/m(2) plus oral etoposide 50 mg/d, or topotecan 0.5 mg/m(2)/d plus gemcitabine 800 mg/m(2) on day 1 and 600 mg/m(2) on day 8 every 3 weeks. Patients were stratified for platinum-refractory and platinum-sensitive disease according to a recurrence-free interval of less or more than 12 months, respectively. The primary end point was overall survival. Secondary end points included progression-free survival, objective response rates, toxicity, and quality of life (as measured by the European Organisation for Research and Treatment of Cancer [EORTC] 30-item Quality-of-Life Questionnaire). RESULTS: The trial enrolled 502 patients with a mean age of 60.5 years (+/- 10.2 years), 208 of whom were platinum resistant. Median overall survival was 17.2 months (95% CI, 13.5 to 21.9 months) with topotecan, 17.8 months (95% CI, 13.7 to 20.0 months) with topotecan plus etoposide (log-rank P = .7647), and 15.2 months (95% CI, 11.3 to 20.9 months) with topotecan plus gemcitabine (log-rank P = .2344). Platinum-sensitive patients lived significantly longer than platinum-refractory patients (21.9 v 10.6 months). The median progression-free survival was 7.0, 7.8, and 6.3 months, respectively. Objective response rates were 27.8%, 36.1%, and 31.6%, respectively. Patients under combined treatment were at higher risk of severe thrombocytopenia. CONCLUSION: Nonplatinum topotecan combinations do not provide a survival advantage over topotecan alone in women with relapsed ovarian cancer.

Selber, J. C., J. A. Nelson, et al. (2009). "Breast cancer screening prior to cosmetic breast surgery: ASPS members' Adherence to American Cancer Society Guidelines." Plast Reconstr Surg **124**(5): 1375-85.

BACKGROUND: The goal of this study was to determine the self-reported breast cancer screening practices of American plastic surgeons and the degree to which those practices adhere to the American Cancer Society guidelines. An independent analysis of subgroups divided by gender, years in practice, and practice setting was performed and the implications of the results are discussed. METHODS: The authors conducted an online survey of the members of the American Society of Plastic Surgeons. Questions assessed practice composition, American Cancer Society guideline familiarity, and preoperative breast cancer screening in patients seeking aesthetic breast surgery. Responses were summarized, subgroup comparisons were made, and logistic regression was used to determine predictors of physician practices. RESULTS: The 1066 respondents were predominantly male (82 percent) and consisted largely of private practitioners (73 percent). In total, 47 percent appeared to follow the American Cancer Society guidelines, while 64 percent claimed familiarity. Being male predicted more accurate guideline knowledge, but being female resulted in more aggressive screening and possibly more diagnoses. Number of years in practice and familiarity with the American Cancer Society guidelines also resulted in more perioperative diagnoses. CONCLUSIONS: Knowledge of the American Cancer Society guidelines is an essential component of effective cancer screening, but only two-thirds of plastic surgeons claim familiarity with them, and fewer than half report concordant practices. As plastic surgeons who often perform surgical procedures on the breast in women with no history of breast disease, we have an obligation to understand and apply consistent, reliable breast cancer screening practices to ensure the well-being of our patients.

Senff, N. J., E. M. Noordijk, et al. (2008). "European Organization for Research and Treatment of Cancer and International Society for Cutaneous Lymphoma consensus recommendations for the management of cutaneous B-cell lymphomas." Blood **112**(5): 1600-9.

Primary cutaneous B-cell lymphomas (CBCL) represent approximately 20% to 25% of all primary cutaneous lymphomas. With the advent of the World Health Organization-European Organization for Research and Treatment of Cancer (EORTC) Consensus Classification for Cutaneous Lymphomas in 2005, uniform terminology and classification for this rare group of neoplasms were introduced. However, staging procedures and treatment strategies still vary between different cutaneous lymphoma centers, which may be because consensus recommendations for the management of CBCL have never been published. Based on an extensive literature search and discussions within the EORTC Cutaneous Lymphoma Group and the International Society for Cutaneous Lymphomas, the present report aims to provide uniform recommendations for the management of the 3 main groups of CBCL. Because no systematic reviews or (randomized) controlled trials were available, these recommendations are mainly based on retrospective studies and small cohort studies. Despite these limitations, there was consensus among the members of the multidisciplinary expert panel that these recommendations reflect the state-of-the-art management as currently practiced in major cutaneous lymphoma centers. They may therefore contribute to uniform staging and treatment and form the basis for future clinical trials in patients with a CBCL.

Seymour, J. D., E. E. Calle, et al. (2003). "Diet Quality Index as a predictor of short-term mortality in the American Cancer Society Cancer Prevention Study II Nutrition Cohort." Am J Epidemiol **157**(11): 980-8.

The Diet Quality Index (DQI) was developed to measure overall dietary patterns and to predict chronic disease risk. This study examined associations between DQI and short-term all-cause, all-circulatory-disease, and all-cancer mortality in the American Cancer Society Cancer Prevention Study II Nutrition Cohort, a cohort of US adults aged 50-79 years enrolled in a prospective study. After 4 years of follow-up (1992-1996), there were 869 deaths among 63,109 women and 1,736 deaths among 52,724 men. All study participants reported being disease free at baseline in 1992-1993. In age-adjusted Cox models, a higher DQI, which was indicative of a poorer quality diet, was positively related to all-cause and all-circulatory-disease mortality rates in both women and men and to cancer mortality in men only. However, in fully adjusted Cox models, only circulatory disease mortality was clearly positively related to DQI and only in women (medium-low-quality diet vs. highest-quality diet: rate ratio = 1.86, 95% confidence interval: 1.19, 2.89). Although trend tests indicated significant positive relations between DQI and all-cause mortality, effects were small (rate ratios </= 1.31), and confidence intervals were wide, generally including 1.0. DQI was unrelated to cancer mortality. As currently constructed, the DQI may have limited ability to predict mortality.

Shigematsu, N., H. Takami, et al. (2006). "Unique treatment policy for well-differentiated thyroid cancer in Japan: results of a questionnaire distributed to members of the Japanese Society of Thyroid Surgery and the International Association of Endocrine Surgeons." Endocr J **53**(6): 829-39.

Although surgery has been the mainstay of treatment for patients with well-differentiated thyroid cancer, the extents of thyroid resection and lymph node dissection adopted in Japan differ from those in other countries. Furthermore, regarding the indications for postoperative radiation therapy and hormonal therapy, and treatment modalities for cancer recurrence, there are marked discrepancies between Japan and other countries. A questionnaire survey was thus conducted among domestic and overseas thyroid surgeons to ascertain the actual treatment policy for well-differentiated thyroid cancer in Japan and various foreign countries. For small papillary carcinomas of 2.0 cm or less (T1), thyroid resection was more extensive in foreign countries than in Japan, although the extent of lymph node dissection was limited in the former. For large papillary carcinomas exceeding 3.0 cm (T2), on the other hand, total thyroidectomy was the treatment of first choice for all overseas respondents, but of only 20% in Japan, despite lymph node dissection being more extensive in Japan than in other countries. Overseas surgeons were much more likely to favor postoperative TSH suppression therapy and high-dose (131)I therapy. For recurrence following surgery for papillary thyroid cancer, both domestic and overseas respondents indicated surgical resection to be the most common treatment option, and favored high-dose (131)I therapy as well. In Japan, however, high-dose (131)I therapy is available only in a few institutions. Such limited indications for high-dose (131)I therapy in Japan may reflect a discrepancy in the frequency of total thyroidectomy, a prerequisite for postoperative high-dose (131)I therapy, between Japan and other countries. This is the first questionnaire study conducted in both Japan and other countries in relation to treatment modalities for thyroid cancer. The results reveal that there is a clear disparity in treatment policies between Japan and foreign countries.

Siegel, R., S. Burock, et al. (2009). "Preoperative short-course radiotherapy versus combined radiochemotherapy in locally advanced rectal cancer: a multi-centre prospectively randomised study of the Berlin Cancer Society." BMC Cancer **9**: 50.

BACKGROUND: The additional use of radiotherapy has changed the treatment of locally advanced rectal cancer (LARC) dramatically. But a major achievement has been the development of total mesorectal excision (TME) as a surgical standard and the recognition that the surgeon is the predominant prognostic factor. The benefit of preoperative hypofractionated radiotherapy (SCRT; five fractions each of 5 Gy), initially established by the Swedish Rectal Cancer Trial, has been demonstrated in conjunction with TME by the Dutch Colorectal Cancer Group. The concept of combined neoadjuvant radiochemotherapy (conventional radiation of about 50 Gy with chemotherapy) has not been compared over surgery alone with TME. However, the German Rectal Cancer Study Group recently demonstrated that preoperative radiochemotherapy (RCT) was better than postoperative radiochemotherapy in terms of local control. METHODS AND DESIGN: Patients with histological proven rectal cancer staged T2N+ or T3 are randomized to receive either SCRT (25 Gy in five fractions of 5 Gy) plus TME-surgery within 5 days or RCT (50.4 Gy in 28 fractions of 1.8 Gy, continuous infusion 5-fluorouracil) plus TME-surgery 4-6 weeks later. All patients receive adjuvant chemotherapy (12 weeks continuous infusional 5-FU) and are followed up for 5 years. TME-quality is

independently documented by the surgeon and the pathologist. Hypothesis of the study is that RCT is superior to SCRT in terms of local recurrence after five years. Secondary endpoints are overall survival, disease-free survival, complete resection rate (R0 resection), rate of sphincter saving resection, acute and late toxicity (radiation related side effects), and quality of life (including long term bowel function). DISCUSSION: Similar long-term survival, local control and late morbidity have been reported for both concepts of preoperative therapy in non-comparative studies. In addition to other ongoing (and recently published) comparative trials we include a larger number of patients for adequate power, apply quality-controlled TME and try to avoid the adjuvant treatment bias by mandatory adjuvant chemotherapy in both groups. Further more, stratification of the initially planned surgical procedure and sphincter-preservation will generate valid evidence whether RCT will allow a less aggressive (sphincter saving) surgical approach.

Small, W., Jr., B. Erickson, et al. (2005). "American Brachytherapy Society survey regarding practice patterns of postoperative irradiation for endometrial cancer: current status of vaginal brachytherapy." Int J Radiat Oncol Biol Phys **63**(5): 1502-7.

PURPOSE: To survey the current postoperative recommendations for radiotherapy (RT) in patients with endometrial cancer, with an emphasis on vaginal brachytherapy (VBT). METHODS AND MATERIALS: In August 2003, a 32-item questionnaire was mailed to a random sample of 2396 members of the American Society for Therapeutic Radiology and Oncology and the American Brachytherapy Society. The sample excluded members-in-training, physicists, and non-U.S. members. A follow-up mailing was conducted in November 2003. Those who had not treated any patient in the previous year for endometrial carcinoma were instructed to indicate so at the beginning of the questionnaire and return it without responding to any other item. Responses were tabulated to determine the relative frequency distribution. RESULTS: of the 2396 surveys sent out, 757 were returned, for a response rate of 31.6%. Of those who responded, 551 (72.8%) had performed postoperative irradiation for endometrial cancer and were included in this study. Of the 551 respondents, 99.8% had delivered external beam RT to some endometrial cancer patients. An increasing trend was found toward referrals for VBT; 91.5% of those who treated endometrial cancer performed VBT. The vaginal target most often irradiated was the upper vagina in 40.7%, upper 4-5 cm in 54.5%, and the entire vagina in 4.9%; 21.3% placed clips at the vaginal apex for applicator verification. The maximal dose to the bladder and rectum was recorded in 78.3% and 80.2% of patients, respectively. Of the respondents, 40% did not use low-dose-rate (LDR) VBT. The two most common LDR applicators were Delclos cylinders (29.7%) and Fletcher colpostats (29.3%). The mean boost dose delivered with LDR VBT when prescribed to the surface was 29.9 Gy and when prescribed to 0.5 cm was 23.8 Gy. When LDR therapy was used without external beam RT, the mean dose when prescribed to the surface was 56.8 Gy and when prescribed to 0.5 cm was 47.9 Gy. In 2002, 69.1% of respondents treated patients with high-dose-rate (HDR) VBT. Of the respondents, 90.6% used a single-channel vaginal cylinder, and 83.3% of cylinder users followed the curve of the cylinder to optimize dose, 67.9% adjusted the applicator position based on localization films, and 47% adjusted the applicator to be horizontal. The most common fractionation scheme when using HDR VBT as a boost was 5 Gy in three fractions prescribed to 0.5 cm (42.9%). The most common fractionation scheme used with HDR without external beam RT was 7 Gy in three fractions prescribed to 0.5 cm (41.8%). CONCLUSION: VBT is a common recommendation for postoperative adjuvant therapy for endometrial cancer. HDR appears to be the most popular approach, with a wide variety of dose fractionation schemes reported. Additional study is warranted to help define the ideal use of VBT.

Steinbild, S., K. Mross, et al. (2007). "A clinical phase II study with sorafenib in patients with progressive hormone-refractory prostate cancer: a study of the CESAR Central European Society for Anticancer Drug Research-EWIV." Br J Cancer **97**(11): 1480-5.

Sorafenib is a multi-kinase inhibitor with antiangiogenic and antiproliferative activity. The activity of sorafenib in progressive hormone-refractory prostate cancer (HRPC) patients was investigated in a phase II clinical study. Progressive HRPC patients received sorafenib 400 mg bid p.o. continuously. Only patients with no prior chemotherapy, and either one-unidimensional measurable lesion according to RECIST-criteria or increasing prostate-specific antigen (PSA) values reflecting a hormone-refractory situation, were eligible for study entry. The primary study objective was the rate of progression-free survival of >/=12 weeks (PFS12). Secondary end points were overall response, overall survival, and toxicity. Fifty-seven patients with PC were enrolled. Two patients had to be withdrawn from the set of eligible patients. According to RECIST criteria, 4 patients out of 55 evaluable patients showed stable disease (SD). According to PSA-response, we saw 11 patients with SD PSA and 2 patients were responders at 12 weeks

(PFS12=17/55=31%). Among the 257 adverse events, 15 were considered drug related of maximum CTC-grade 3. Twenty-four serious adverse events occurred in 14 patients (14/55=26%). Seven of them were determined to be drug related. No treatment-related death was observed. Sorafenib has antitumour activity in HRPCP when evaluated for RECIST- and PSA-based response. Further investigation as a component of combination regimens is necessary to evaluate its definite or overall clinical benefit for HRPCP.

Stroup, S. P., J. Cullen, et al. (2007). "Effect of obesity on prostate-specific antigen recurrence after radiation therapy for localized prostate cancer as measured by the 2006 Radiation Therapy Oncology Group-American Society for Therapeutic Radiation and Oncology (RTOG-ASTRO) Phoenix consensus definition." Cancer **110**(5): 1003-9.

BACKGROUND: Given the limited data regarding the impact of obesity on treatment outcomes after external beam radiation therapy (EBRT) for the definitive treatment of prostate cancer, the authors sought to evaluate the effect of obesity as measured by body mass index (BMI) on biochemical disease recurrence (BCR) using the most current 2006 Radiation Therapy Oncology Group-American Society for Therapeutic Radiation and Oncology (RTOG-ASTRO) Phoenix consensus definition (prostate-specific antigen [PSA] nadir + 2 ng/mL). METHODS: A retrospective cohort study identified men who underwent primary EBRT for localized prostate cancer between 1989 and 2003 using the Center for Prostate Disease Research (CPDR) Multi-center National Database. BMI was calculated (in kg/m(2)) and the data were analyzed. Univariate and multivariate Cox proportional hazards regression analyses were used to determine whether BMI significantly predicted BCR. RESULTS: Of the 1868 eligible patients, 399 (21%) were obese. The median age of the patients and pretreatment PSA level were 70.2 years and 8.2 ng/mL, respectively. Of 1320 patients for whom data were available with which to calculate PSA recurrence (PSA nadir + 2 ng/mL), a total of 554 men (42.0%) experienced BCR. On univariate analysis, BMI was found to be an independent predictor of PSA recurrence (P = .02), as was race, pretreatment PSA level, EBRT dose, clinical T classification, Gleason score, PSA nadir, and the use of androgen-deprivation therapy (ADT). On multivariate analysis, BMI remained a significant predictor of BCR (P = .008). CONCLUSIONS: To the authors' knowledge, this is the first study to report the association between obesity and BCR after EBRT for localized prostate cancer as measured by the updated 2006 RTOG-ASTRO definition. A higher BMI is associated with greater odds of BCR after undergoing definitive EBRT.

Taylor, R. E., C. C. Bailey, et al. (2004). "Impact of radiotherapy parameters on outcome in the International Society of Paediatric Oncology/United Kingdom Children's Cancer Study Group PNET-3 study of preradiotherapy chemotherapy for M0-M1 medulloblastoma." Int J Radiat Oncol Biol Phys **58**(4): 1184-93.

PURPOSE: To analyze the impact of radiotherapy (RT) parameters on outcome in a randomized study of pre-RT chemotherapy for M0-M1 medulloblastoma. METHODS AND MATERIALS: Patients were randomized to RT alone or RT preceded by chemotherapy with vincristine, etoposide, carboplatin, and cyclophosphamide. RT consisted of craniospinal RT, 35 Gy in 21 fractions, followed by a posterior fossa (PF) boost of 20 Gy in 12 fractions. The accuracy of cribriform fossa, skull base, and PF field placement was assessed. RESULTS: Between 1992 and 2000, 217 patients were randomized, of whom 179 were eligible for analysis. At a median follow-up of 5.4 years, the 3- and 5-year overall survival rate was 79.5% and 70.7%, respectively. The 3- and 5-year event-free survival (EFS) rate was 71.6% and 67.0%, respectively. EFS was significantly better for the chemotherapy plus RT group (3-year EFS rate 78.5% vs. 64.8%, p = 0.0366). Overall survival and EFS were significantly better for patients completing RT within 50 days compared with those taking >50 days to complete RT (3-year overall survival rate 84.1% vs. 70.9%, p = 0.0356, 3-year EFS rate 78.5% vs. 53.7%, p = 0.0092). Multivariate analysis identified the use of chemotherapy (p = 0.0248) and RT duration (p = 0.0100) as predictive of better EFS. Planning films were reviewed for 131 (74.4%) of 176 patients. Sixty-five (49.6%) had no targeting deviations and 58 (44.3%) had one or more deviations. PF recurrence occurred in 11 (34.4%) of 32 with a PF targeting deviation compared with 13 (16.3%) of 80 without (p = 0.043). No statistically significant impact of other targeting deviations on recurrence risk or EFS were found. CONCLUSION: The results of this study have confirmed the importance of the duration of RT for medulloblastoma. Also, attention to detail when planning RT is important, as illustrated in the case of PF field placement.

Thuer, D., D. Pfister, et al. (2009). "Do alpha-reductase inhibitors prevent prostate cancer? 2008 practice guideline from the American society of clinical oncology and American urological association." Pol Arch Med Wewn **119**(10): 648-53.

As new guidelines on the use of 5-alpha-reductase inhibitors (5-ARIs) for prostate cancer chemoprevention produced by the American Society of Clinical Oncology (ASCO) and American Urological Association (AUA) have recently been published, the use of 5-ARIs is becoming of increasing interest. We analyzed the current evidence to support the use of 5-ARIs in the prevention of prostate cancer. We therefore compared the new guidelines of the ASCO and AUA with the current data concerning the use of 5-ARIs in the prevention of prostate cancer. At present, there is still an open debate going on whether or not it is advisable to incorporate the use of 5-ARIs as chemopreventive agents in daily practice.

Trepanier, A., M. Ahrens, et al. (2004). "Genetic cancer risk assessment and counseling: recommendations of the national society of genetic counselors." J Genet Couns **13**(2): 83-114.

These cancer genetic counseling recommendations describe the medical, psychosocial, and ethical ramifications of identifying at-risk individuals through cancer risk assessment with or without genetic testing. They were developed by members of the Practice Issues Subcommittee of the National Society of Genetic Counselors Cancer Genetic Counseling Special Interest Group. The information contained in this document is derived from extensive review of the current literature on cancer genetic risk assessment and counseling as well as the personal expertise of genetic counselors specializing in cancer genetics. The recommendations are intended to provide information about the process of genetic counseling and risk assessment for hereditary cancer disorders rather than specific information about individual syndromes. Key components include the intake (medical and family histories), psychosocial assessment (assessment of risk perception), cancer risk assessment (determination and communication of risk), molecular testing for hereditary cancer syndromes (regulations, informed consent, and counseling process), and follow-up considerations. These recommendations should not be construed as dictating an exclusive course of management, nor does use of such recommendations guarantee a particular outcome. These recommendations do not displace a health care provider's professional judgment based on the clinical circumstances of a client.

Trescot, A. M., S. Helm, et al. (2008). "Opioids in the management of chronic non-cancer pain: an update of American Society of the Interventional Pain Physicians' (ASIPP) Guidelines." Pain Physician **11**(2 Suppl): S5-S62.

BACKGROUND: Opioid abuse has continued to increase at an alarming rate since our last opioid guidelines were published in 2005. Available evidence suggests a continued wide variance in the use of opioids, as documented by different medical specialties, medical boards, advocacy groups, and the Drug Enforcement Administration. OBJECTIVES: The objectives of opioid guidelines by the American Society of Interventional Pain Physicians (ASIPP) are to provide guidance for the use of opioids for the treatment of chronic non-cancer pain, to bring consistency in opioid philosophy among the many diverse groups involved, to improve the treatment of chronic non-cancer pain, and to reduce the incidence of abuse and drug diversion. DESIGN: A broadly based policy committee of recognized experts in the field evaluated the available literature regarding opioid use in managing chronic non-cancer pain. This resulted in the formulation of the review and update of the guidelines published in 2006, a series of potential evidence linkages representing conclusions, followed by statements regarding the relationships between clinical interventions and outcomes. METHODS: The elements of the guideline preparation process included literature searches, literature synthesis, consensus evaluation, open forum presentations, formal endorsement by the Board of Directors of the American Society of Interventional Pain Physicians, and peer review. Based on the criteria of the U.S. Preventive Services Task Force, the quality of evidence was designated as Level I, II, and III, with 3 subcategories in Level II, with Level I described as strong and Level III as indeterminate. The recommendations were provided from 1A to 2C, varying from strong recommendation with high quality evidence to weak recommendation with low-quality or very low-quality evidence. RESULTS: After an extensive review and analysis of the literature, which included systematic reviews and all of the available literature, the evidence for the effectiveness of long-term opioids in reducing pain and improving functional status for 6 months or longer is variable. The evidence for transdermal fentanyl and sustained-release morphine is Level II-2, whereas for oxycodone the level of evidence is II-3, and the evidence for hydrocodone and methadone is Level III. There is also significant evidence of misuse and abuse of opioids. The recommendation is 2A - weak recommendation, high-quality evidence: with benefits closely balanced with risks and burdens; with evidence derived from RCTs without important limitations or overwhelming evidence from observational studies, with the implication that with a weak recommendation, best action may differ depending on circumstances or patients' or societal values. CONCLUSION: Opioids are commonly

prescribed for chronic non-cancer pain and may be effective for short-term pain relief. However, long-term effectiveness of 6 months or longer is variable with evidence ranging from moderate for transdermal fentanyl and sustained-release morphine with a Level II-2, to limited for oxycodone with a Level II-3, and indeterminate for hydrocodone and methadone with a Level III. These guidelines included the evaluation of the evidence for the use of opioids in the management of chronic non-cancer pain and the recommendations for that management. These guidelines are based on the best available evidence and do not constitute inflexible treatment recommendations. Because of the changing body of evidence, this document is not intended to be a "standard of care."

Willis, A., D. Krewski, et al. (2003). "Selection of ecologic covariates in the American Cancer Society study." J Toxicol Environ Health A **66**(16-19): 1563-89.

The American Cancer Society (ACS) Study of the effects of long-term exposure to ambient air pollution on mortality used metropolitan areas to assign exposures to individual cohort members (Pope et al., 1995); these authors did not, however, control for any other place-specific variables in their analysis. Consequently, the study has been criticized on the basis that the association observed between air pollution and mortality may be confounded by other unmeasured ecologic covariates. To address this criticism, the reanalysis team selected a set of place-specific variables that measured determinants of health ranging from the biophysical environment to the social environment and the healthcare system. This article outlines the process by which place-specific ecologic covariates were selected; data measuring these variables were obtained and geographic boundaries for places were delineated. Issues involved in obtaining and using geographically based ecological data are examined within the context of the reanalysis of the ACS study. Both the ecological fallacy and the atomistic fallacy are addressed and an argument is made for the importance of studying the effects of place-specific variables that are integral or contextual in nature. Issues relating to the Modifiable Areal Unit Problem (MAUP) are explored with reference to using ZIP codes and data from a variety of sources. It is argued that differences in the geographical scale of variability for various pollutants may prove to be the key to distinguishing between their relative impacts on health and that multilevel analyses are essential for understanding the impact of social and environmental determinants of health. A number of determinants of health are then briefly examined in terms of their association with mortality, the appropriateness of their being measured at the metropolitan scale, and the availability of data for the 1980s from U.S. sources. Finally, the article presents the database of place-specific ecologic covariates that was incorporated into the ACS models during the reanalysis in order to account for the influence that place may have above and beyond ambient air pollution.

Winawer, S. J., A. G. Zauber, et al. (2006). "Guidelines for colonoscopy surveillance after polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society." CA Cancer J Clin **56**(3): 143-59; quiz 184-5.

Adenomatous polyps are the most common neoplastic findings uncovered in people who undergo colorectal screening or have a diagnostic workup for symptoms. It was common practice in the 1970s for these patients to have annual follow-up surveillance examinations to detect additional new adenomas as well as missed synchronous adenomas. As a result of the National Polyp Study report in 1993, which demonstrated clearly in a randomized design that the first postpolypectomy examination could be deferred for 3 years, guidelines published by a gastrointestinal consortium in 1997 recommended that the first follow-up surveillance be 3 years after polypectomy for most patients. In 2003, these guidelines were updated, colonoscopy was recommended as the only follow-up examination, and stratification at baseline into lower and higher risk for subsequent adenomas was suggested. The 1997 and 2003 guidelines dealt with both screening and surveillance. However, it has become increasingly clear that postpolypectomy surveillance is now a large part of endoscopic practice, draining resources from screening and diagnosis. In addition, surveys have demonstrated that a large proportion of endoscopists are conducting surveillance examinations at shorter intervals than recommended in the guidelines. In the present paper, a careful analytic approach was designed addressing all evidence available in the literature to delineate predictors of advanced pathology, both cancer and advanced adenomas, so that patients can be more definitely stratified at their baseline colonoscopy into those at lower or increased risk for a subsequent advanced neoplasia. People at increased risk have either three or more adenomas, or high-grade dysplasia, or villous features, or an adenoma > or =1 cm in size. It is recommended that they have a 3-year follow-up colonoscopy. People at lower risk who have one or two small (< 1 cm) tubular adenomas with no high-grade dysplasia can have a follow-up in 5 to 10 years, whereas people with hyperplastic polyps only should have a 10-year follow-up as average-risk people. Recent papers have reported a significant

number of missed cancers by colonoscopy. However, high-quality baseline colonoscopy with excellent patient preparation and adequate withdrawal time should minimize this and reduce clinicians' concerns. These guidelines were developed jointly by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society to provide a broader consensus and thereby increase utilization of the recommendations by endoscopists. Adoption of these guidelines nationally can have a dramatic impact on shifting available resources from intensive surveillance to screening. It has been shown that the first screening colonoscopy and polypectomy produces the greatest effects on reducing the incidence of colorectal cancer in patients with adenomatous polyps.

Winawer, S. J., A. G. Zauber, et al. (2006). "Guidelines for colonoscopy surveillance after polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society." Gastroenterology **130**(6): 1872-85.

Adenomatous polyps are the most common neoplastic findings discovered in people who undergo colorectal screening or who have a diagnostic work-up for symptoms. It was common practice in the 1970s for these patients to have annual follow-up surveillance examinations to detect additional new adenomas and missed synchronous adenomas. As a result of the National Polyp Study report in 1993, which showed clearly in a randomized design that the first postpolypectomy examination could be deferred for 3 years, guidelines published by a gastrointestinal consortium in 1997 recommended that the first follow-up surveillance take place 3 years after polypectomy for most patients. In 2003 these guidelines were updated and colonoscopy was recommended as the only follow-up examination, stratification at baseline into low risk and higher risk for subsequent adenomas was suggested. The 1997 and 2003 guidelines dealt with both screening and surveillance. However, it has become increasingly clear that postpolypectomy surveillance is now a large part of endoscopic practice, draining resources from screening and diagnosis. In addition, surveys have shown that a large proportion of endoscopists are conducting surveillance examinations at shorter intervals than recommended in the guidelines. In the present report, a careful analytic approach was designed to address all evidence available in the literature to delineate predictors of advanced pathology, both cancer and advanced adenomas, so that patients can be stratified more definitely at their baseline colonoscopy into those at lower risk or increased risk for a subsequent advanced neoplasia. People at increased risk have either 3 or more adenomas, high-grade dysplasia, villous features, or an adenoma 1 cm or larger in size. It is recommended that they have a 3-year follow-up colonoscopy. People at lower risk who have 1 or 2 small (<1 cm) tubular adenomas with no high-grade dysplasia can have a follow-up evaluation in 5-10 years, whereas people with hyperplastic polyps only should have a 10-year follow-up evaluation, as for average-risk people. There have been recent studies that have reported a significant number of missed cancers by colonoscopy. However, high-quality baseline colonoscopy with excellent patient preparation and adequate withdrawal time should minimize this and reduce clinicians concerns. These guidelines were developed jointly by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society to provide a broader consensus and thereby increase the use of the recommendations by endoscopists. The adoption of these guidelines nationally can have a dramatic impact on shifting available resources from intensive surveillance to screening. It has been shown that the first screening colonoscopy and polypectomy produces the greatest effects on reducing the incidence of colorectal cancer in patients with adenomatous polyps.

Winer, E., J. Gralow, et al. (2009). "Clinical cancer advances 2008: major research advances in cancer treatment, prevention, and screening--a report from the American Society of Clinical Oncology." J Clin Oncol **27**(5): 812-26.

A message from ASCO'S president: Nearly 40 years ago, President Richard Nixon signed the National Cancer Act, mobilizing the country's resources to make the "conquest of cancer a national crusade." That declaration led to a major investment in cancer research that has significantly improved cancer prevention, treatment, and survival. As a result, two thirds of people diagnosed with cancer today will live at least 5 years after diagnosis, compared with just half in the 1970s. In addition, there are now more than 12 million cancer survivors in the United States--up from 3 million in 1971. Scientifically, we have never been in a better position to advance cancer treatment. Basic scientific research, fueled in recent years by the tools of molecular biology, has generated unprecedented knowledge of cancer development. We now understand many of the cellular pathways that can lead to cancer. We have learned how to develop drugs that block those pathways; increasingly, we know how to personalize therapy to the unique genetics of the tumor and the patient. Yet in 2008, 1.4 million people in the United States will still be diagnosed with cancer, and more than half a million will die as a result of the disease. Some cancers

remain stubbornly resistant to treatment, whereas others cannot be detected until they are in their advanced, less curable stages. Biologically, the cancer cell is notoriously wily; each time we throw an obstacle in its path, it finds an alternate route that must then be blocked. To translate our growing basic science knowledge into better treatments for patients, a new national commitment to cancer research is urgently needed. However, funding for cancer research has stagnated. The budgets of the National Institutes of Health and the National Cancer Institute have failed to keep pace with inflation, declining up to 13% in real terms since 2004. Tighter budgets reduce incentives to support high-risk research that could have the largest payoffs. The most significant clinical research is conducted increasingly overseas. In addition, talented young physicians in the United States, seeing less opportunity in the field of oncology, are choosing other specialties instead. Although greater investment in research is critical, the need for new therapies is only part of the challenge. Far too many people in the United States lack access to the treatments that already exist, leading to unnecessary suffering and death. Uninsured cancer patients are significantly more likely to die than those with insurance, racial disparities in cancer incidence and mortality remain stark, and even insured patients struggle to keep up with the rapidly rising cost of cancer therapies. As this annual American Society of Clinical Oncology report of the major cancer research advances during the last year demonstrates, we are making important progress against cancer. But sound public policies are essential to accelerate that progress. In 2009, we have an opportunity to reinvest in cancer research, and to support policies that will help ensure that every individual in the United States receives potentially life-saving cancer prevention, early detection, and treatment. Sincerely, Richard L. Schilsky, MD President American Society of Clinical Oncology.

Winer, E. P., C. Hudis, et al. (2005). "American Society of Clinical Oncology technology assessment on the use of aromatase inhibitors as adjuvant therapy for postmenopausal women with hormone receptor-positive breast cancer: status report 2004." J Clin Oncol **23**(3): 619-29.

PURPOSE: To update the 2003 American Society of Clinical Oncology technology assessment on adjuvant use of aromatase inhibitors. RECOMMENDATIONS: Based on results from multiple large randomized trials, adjuvant therapy for postmenopausal women with hormone receptor-positive breast cancer should include an aromatase inhibitor in order to lower the risk of tumor recurrence. Neither the optimal timing nor duration of aromatase inhibitor therapy is established. Aromatase inhibitors are appropriate as initial treatment for women with contraindications to tamoxifen. For all other postmenopausal women, treatment options include 5 years of aromatase inhibitors treatment or sequential therapy consisting of tamoxifen (for either 2 to 3 years or 5 years) followed by aromatase inhibitors for 2 to 3, or 5 years. Patients intolerant of aromatase inhibitors should receive tamoxifen. There are no data on the use of tamoxifen after an aromatase inhibitor in the adjuvant setting. Women with hormone receptor-negative tumors should not receive adjuvant endocrine therapy. The role of other biomarkers such as progesterone receptor and HER2 status in selecting optimal endocrine therapy remains controversial. Aromatase inhibitors are contraindicated in premenopausal women; there are limited data concerning their role in women with treatment-related amenorrhea. The side effect profiles of tamoxifen and aromatase inhibitors differ. The late consequences of aromatase inhibitor therapy, including osteoporosis, are not well characterized. CONCLUSION: The Panel believes that optimal adjuvant hormonal therapy for a postmenopausal woman with receptor-positive breast cancer includes an aromatase inhibitor as initial therapy or after treatment with tamoxifen. Women with breast cancer and their physicians must weigh the risks and benefits of all therapeutic options.

Wolff, A. C., M. E. Hammond, et al. (2007). "American Society of Clinical Oncology/College of American Pathologists guideline recommendations for human epidermal growth factor receptor 2 testing in breast cancer." Arch Pathol Lab Med **131**(1): 18-43.

PURPOSE: To develop a guideline to improve the accuracy of human epidermal growth factor receptor 2(HER2) testing in invasive breast cancer and its utility as a predictive marker. METHODS: The American Society of Clinical Oncology and the College of American Pathologists convened an expert panel, which conducted a systematic review of the literature and developed recommendations for optimal HER2 testing performance. The guideline was reviewed by selected experts and approved by the board of directors for both organizations. RESULTS: Approximately 20% of current HER2 testing may be inaccurate. When carefully validated testing is performed, available data do not clearly demonstrate the superiority of either immunohistochemistry(IHC) or in situ hybridization (ISH) as a predictor of benefit from anti-HER2 therapy. RECOMMENDATIONS: The panel recommends that HER2 status should be determined for all invasive breast cancer. A testing algorithm that relies on accurate, reproducible assay performance,

including newly available types of brightfield ISH, is proposed. Elements to reliably reduce assay variation (for example, specimen handling, assay exclusion, and reporting criteria) are specified. An algorithm defining positive, equivocal, and negative values for both HER2 protein expression and gene amplification is recommended: a positive HER2 result is IHC staining of 3 + (uniform, intense membrane staining of 30% of invasive tumor cells), a fluorescent in situ hybridization (FISH) result of more than six HER2 gene copies per nucleus or a FISH ratio (HER2 gene signals to chromosome 17 signals) of more than 2.2; a negative result is an IHC staining of 0 or 1 +, a FISH result of less than 4.0 HER2 gene copies per nucleus, or FISH ratio of less than 1.8. Equivocal results require additional action for final determination. It is recommended that to perform HER2 testing, laboratories show 95% concordance with another validated test for positive and negative assay values. The panel strongly recommends validation of laboratory assay or modifications, use of standardized operating procedures, and compliance with new testing criteria to be monitored with the use of stringent laboratory accreditation standards, proficiency testing, and competency assessment. The panel recommends that HER2 testing be done in a CAP-accredited laboratory or in a laboratory that meets the accreditation and proficiency testing requirements set out by this document.

including newly available types of brightfield ISH, is proposed. Elements to reliably reduce assay variation (for example, specimen handling, assay exclusion, and reporting criteria) are specified. An algorithm defining positive, equivocal, and negative values for both HER2 protein expression and gene amplification is recommended: a positive HER2 result is IHC staining of 3+ (uniform, intense membrane staining of > 30% of invasive tumor cells), a fluorescent in situ hybridization (FISH) result of more than six HER2 gene copies per nucleus or a FISH ratio (HER2 gene signals to chromosome 17 signals) of more than 2.2; a negative result is an IHC staining of 0 or 1+, a FISH result of less than 4.0 HER2 gene copies per nucleus, or FISH ratio of less than 1.8. Equivocal results require additional action for final determination. It is recommended that to perform HER2 testing, laboratories show 95% concordance with another validated test for positive and negative assay values. The panel strongly recommends validation of laboratory assay or modifications, use of standardized operating procedures, and compliance with new testing criteria to be monitored with the use of stringent laboratory accreditation standards, proficiency testing, and competency assessment. The panel recommends that HER2 testing be done in a CAP-accredited laboratory or in a laboratory that meets the accreditation and proficiency testing requirements set out by this document.

Wolff, A. C., M. E. Hammond, et al. (2007). "American Society of Clinical Oncology/College of American Pathologists guideline recommendations for human epidermal growth factor receptor 2 testing in breast cancer." J Clin Oncol **25**(1): 118-45.

PURPOSE: To develop a guideline to improve the accuracy of human epidermal growth factor receptor 2 (HER2) testing in invasive breast cancer and its utility as a predictive marker. METHODS: The American Society of Clinical Oncology and the College of American Pathologists convened an expert panel, which conducted a systematic review of the literature and developed recommendations for optimal HER2 testing performance. The guideline was reviewed by selected experts and approved by the board of directors for both organizations. RESULTS: Approximately 20% of current HER2 testing may be inaccurate. When carefully validated testing is performed, available data do not clearly demonstrate the superiority of either immunohistochemistry (IHC) or in situ hybridization (ISH) as a predictor of benefit from anti-HER2 therapy. RECOMMENDATIONS: The panel recommends that HER2 status should be determined for all invasive breast cancer. A testing algorithm that relies on accurate, reproducible assay performance,

Wong, S. L., L. E. McCahill, et al. (2008). "Getting to better cancer care: results of a society of surgical oncology survey." Ann Surg Oncol **15**(9): 2363-71.

INTRODUCTION: The Society of Surgical Oncology (SSO) created a task force to address the issue of surgical outcomes as it pertains to clinical practice. A survey of its members was conducted to determine which domains of "outcomes" are important and relevant to surgical oncologists. METHODS: Participation of 1,929 SSO members was solicited via e-mail; 1,881 messages were successfully delivered. The survey instrument was administered via a web-based portal. The questionnaire was comprised of three parts: demographic information; rating scales to assess interest, involvement, and knowledge in the various domains of surgical outcomes; and questions to elicit preferences and opinions on current topics in the field of surgical outcomes. RESULTS: There was an overall response rate of 30% (570 of 1,881). Respondents were representative of the general membership with respect to demographics acquired in self-reported profiles. Most members valued the clinical application of evidence-based medicine, adoption of new technologies, and quality monitoring of cancer care as particularly important areas in outcomes research.

SSO members also rated quality improvement measures as important. However, there is uncertainty whether current efforts to enforce quality indicators by third party payers or with public accountability would be helpful. CONCLUSION: Overall, this survey successfully delineated beliefs and views of the SSO members with regard to areas of particular interest in surgical outcomes, including improving the quality of cancer care. These findings have implications for planning future agendas for outcomes and health service research and in guiding national policy efforts on behalf of all SSO members.

Wright, C. D., H. A. Gaissert, et al. (2008). "Predictors of prolonged length of stay after lobectomy for lung cancer: a Society of Thoracic Surgeons General Thoracic Surgery Database risk-adjustment model." Ann Thorac Surg **85**(6): 1857-65; discussion 1865.

BACKGROUND: Few reliable estimations of operative risk exist for lung cancer patients undergoing lobectomy. This study identified risk factors associated with prolonged length of hospital stay (PLOS) after lobectomy for lung cancer as a surrogate for perioperative morbid events. METHODS: The Society of Thoracic Surgeons (STS) General Thoracic Surgery Database was queried for patients with lobectomy for lung cancer. A model of preoperative risk factors was developed by multivariate stepwise logistic regression setting the threshold for PLOS at 14 days. Morbidity was measured as postoperative events as defined in the STS database. Risk-adjusted results were reported to participating sites. RESULTS: From January 2002 to June 2006, 4979 lobectomies were performed for lung cancer at 56 STS sites, and 351 (7%) had a PLOS. They had more postoperative events than patients without PLOS (3.4 vs 1.2; $p < 0.0001$). Patients with PLOS also had higher mortality than those with normal LOS, at 10.8% (38 of 351) vs 0.7% (33 of 4628; $p < 0.0001$). Significant predictors of PLOS included age per 10 years (odds ratio [OR], 1.30, $p < 0.001$), Zubrod score (OR, 1.51; $p < 0.001$), male sex (OR, 1.45; $p = 0.002$), American Society of Anesthesiology score (OR, 1.54; $p < 0.001$), insulin-dependent diabetes (OR. 1.71; $p = 0.037$), renal dysfunction (OR, 1.79; $p = 0.004$), induction therapy (OR, 1.65; $p = 0.001$), percentage predicted forced expiratory volume in 1 second in 10% increments (OR, 0.88; $p < 0.001$), and smoking (OR, 1.33; $p = 0.095$). After risk adjustment, twofold interhospital variability existed in PLOS among STS sites CONCLUSIONS: We identified significant predictors of PLOS, a surrogate morbidity marker after lobectomy for lung cancer. This model may be used to provide meaningful risk-adjusted outcome comparisons to STS sites for quality improvement purposes.

Wright, C. D., J. C. Kucharczuk, et al. (2009). "Predictors of major morbidity and mortality after esophagectomy for esophageal cancer: a Society of Thoracic Surgeons General Thoracic Surgery Database risk adjustment model." J Thorac Cardiovasc Surg **137**(3): 587-95; discussion 596.

OBJECTIVE: To create a model for perioperative risk of esophagectomy for cancer using the Society of Thoracic Surgeons General Thoracic Database. METHODS: The Society of Thoracic Surgeons General Thoracic Database was queried for all patients treated with esophagectomy for esophageal cancer between January 2002 and December 2007. A multivariable risk model for mortality and major morbidity was constructed. RESULTS: There were 2315 esophagectomies performed by 73 participating centers. Hospital mortality was 63/2315 (2.7%). Major morbidity (defined as reoperation for bleeding [n = 12], anastomotic leak [n = 261], pneumonia [n = 188], reintubation [n = 227], ventilation beyond 48 hours [n = 71], or death [n = 63]) occurred in 553 patients (24%). Preoperative spirometry was obtained in 923/2315 (40%) of patients. A forced expiratory volume in 1 second < 60% of predicted was associated with major morbidity ($P = .0044$). Important predictors of major morbidity are: age 75 versus 55 ($P = .005$), black race ($P = .08$), congestive heart failure ($P = .015$), coronary artery disease ($P = .017$), peripheral vascular disease ($P = .009$), hypertension ($P = .029$), insulin-dependent diabetes ($P = .009$), American Society of Anesthesiology rating ($P = .001$), smoking status ($P = .022$), and steroid use ($P = .026$). A strong volume performance relationship was not observed for the composite measure of morbidity and mortality in this patient cohort. CONCLUSIONS: Thoracic surgeons participating in the Society of Thoracic Surgeons General Thoracic Database perform esophagectomy with a low mortality. We identified important predictors of major morbidity and mortality after esophagectomy for esophageal cancer. Volume alone is an inadequate proxy for quality assessment after esophagectomy.

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