The American Society of Clinical Oncology (ASCO) is a medical professional oncology society committed to conquering cancer through research, education, prevention and delivery of high-quality patient care. ASCO recognizes the importance of evidence-based cancer care and making wise choices in the diagnosis and management of patients with cancer. After careful consideration by experienced oncologists, ASCO highlights ten categories of tests, procedures and/or treatments whose common use and clinical value are not supported by available evidence. These test and treatment options should not be administered unless the physician and patient have carefully considered if their use is appropriate in the individual case. As an example, when a patient is enrolled in a clinical trial, these tests, treatments and procedures may be part of the trial protocol and therefore deemed necessary for the patient’s participation in the trial.

These items are provided solely for informational purposes and are not intended to replace a medical professional’s independent judgment or as a substitute for consultation with a medical professional. Patients with any specific questions about the items on this list or their individual situation should consult their health care provider. New evidence may emerge following the development of these items. ASCO is not responsible for any injury or damage arising out of or related to any use of these items or to any errors or omissions.

Don’t use cancer-directed therapy for solid tumor patients with the following characteristics: low performance status (3 or 4), no benefit from prior evidence-based interventions, not eligible for a clinical trial, and no strong evidence supporting the clinical value of further anti-cancer treatment.

1. Studies show that cancer directed treatments are likely to be ineffective for solid tumor patients who meet the above stated criteria.
2. Exceptions include patients with functional limitations due to other conditions resulting in a low performance status or those with disease characteristics (e.g., mutations) that suggest a high likelihood of response to therapy.
3. Implementation of this approach should be accompanied with appropriate palliative and supportive care.

Don’t perform PET, CT, and radionuclide bone scans in the staging of early prostate cancer at low risk for metastasis.

4. Imaging with PET, CT, or radionuclide bone scans can be useful in the staging of specific cancer types. However, these tests are often used in the staging evaluation of low-risk cancers, despite a lack of evidence suggesting they improve detection of metastatic disease or survival.
5. Evidence does not support the use of these scans for staging of newly diagnosed low grade carcinoma of the prostate (Stage T1c/T2a, prostate-specific antigen (PSA) <10 ng/ml, Gleason score less than or equal to 6) with low risk of distant metastasis.
6. Unnecessary imaging can lead to harm through unnecessary invasive procedures, over-treatment, unnecessary radiation exposure, and misdiagnosis.

Don’t perform surveillance testing (biomarkers) or imaging (PET, CT, and radionuclide bone scans) for asymptomatic individuals who have been treated for breast cancer with curative intent.

7. Surveillance testing with serum tumor markers or imaging has been shown to have clinical value for certain cancers (e.g., colorectal). However for breast cancer that has been treated with curative intent, several studies have shown there is no benefit from routine imaging or serial measurement of serum tumor markers in asymptomatic patients.
8. False-positive tests can lead to harm through unnecessary invasive procedures, over-treatment, unnecessary radiation exposure, and misdiagnosis.

Don’t use white cell stimulating factors for primary prevention of febrile neutropenia for patients with less than 20 percent risk for this complication.

9. ASCO guidelines recommend using white cell stimulating factors when the risk of febrile neutropenia, secondary to a recommended chemotherapy regimen, is approximately 20 percent and equally effective treatment programs that do not require white cell stimulating factors are unavailable.
10. Exceptions should be made when using regimens that have a lower chance of causing febrile neutropenia if it is determined that the patient is at high risk for this complication (due to age, medical history, or disease characteristics).

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Released April 4, 2012 (Items 1 – 5) and October 29, 2013 (Items 6 – 10)
Don’t give patients starting on a chemotherapy regimen that has a low or moderate risk of causing nausea and vomiting antiemetic drugs intended for use with a regimen that has a high risk of causing nausea and vomiting.

- Over the past several years, a large number of effective drugs with fewer side effects have been developed to prevent nausea and vomiting from chemotherapy. When successful, these medications can help patients avoid spending time in the hospital, improve their quality of life and lead to fewer changes in the chemotherapy regimen.
- Oncologists customarily use different antiemetic drugs depending on the likelihood (low, moderate or high) for a particular chemotherapy program to cause nausea and vomiting. For chemotherapy programs that are likely to produce severe and persistent nausea and vomiting, there are new agents that can prevent this side effect. However, these drugs are very expensive and not devoid of side effects. For this reason, these drugs should be used only when the chemotherapy drugs that have a high likelihood of causing severe or persistent nausea and vomiting.
- When using chemotherapy that is less likely to cause nausea and vomiting, there are other effective drugs available at a lower cost.

Don’t use combination chemotherapy (multiple drugs) instead of chemotherapy with one drug when treating an individual for metastatic breast cancer unless the patient needs a rapid response to relieve tumor-related symptoms.

- Although chemotherapy with multiple drugs, or combination chemotherapy, for metastatic breast cancer may slow tumor growth for a somewhat longer time than occurs when treating with a single agent, use of combination chemotherapy has not been shown to increase overall survival. In fact, the trade-offs of more frequent and severe side effects may have a net effect of worsening a patient’s quality of life, necessitating a reduction in the dose of chemotherapy.
- Combination chemotherapy may be useful and worth the risk of more side effects in situations in which the cancer burden must be reduced quickly because it is causing significant symptoms or is life threatening. As a general rule, however, giving effective drugs one at a time lowers the risk of side effects, may improve a patient’s quality of life, and does not typically compromise overall survival.

Avoid using PET or PET-CT scanning as part of routine follow-up care to monitor for a cancer recurrence in asymptomatic patients who have finished initial treatment to eliminate the cancer unless there is high-level evidence that such imaging will change the outcome.

- PET and PET-CT are used to diagnose, stage and monitor how well treatment is working. Available evidence from clinical studies suggests that using these tests to monitor for recurrence does not improve outcomes and therefore generally is not recommended for this purpose.
- False positive tests can lead to unnecessary and invasive procedures, overtreatment, unnecessary radiation exposure and incorrect diagnoses.
- Until high level evidence demonstrates that routine surveillance with PET or PET-CT scans helps prolong life or promote well-being after treatment for a specific type of cancer, this practice should not be done.

Don’t perform PSA testing for prostate cancer screening in men with no symptoms of the disease when they are expected to live less than 10 years.

- Since PSA levels in the blood have been linked with prostate cancer, many doctors have used repeated PSA tests in the hope of finding “early” prostate cancer in men with no symptoms of the disease. Unfortunately, PSA is not as useful for screening as many have hoped because many men with prostate cancer do not have high PSA levels, and other conditions that are not cancer (such as benign prostate hyperplasia) can also increase PSA levels.
- Research has shown that men who receive PSA testing are less likely to die specifically from prostate cancer. However, when accounting for deaths from all causes, no lives are saved, meaning that men who receive PSA screening have not been shown to live longer than men who do not have PSA screening. Men with medical conditions that limit their life expectancy to less than 10 years are unlikely to benefit from PSA screening as their probability of dying from the underlying medical problem is greater than the chance of dying from asymptomatic prostate cancer.

Don’t use a targeted therapy intended for use against a specific type of cancer unless a patient’s tumor cells have a specific biomarker that predicts an effective response to the targeted therapy.

- Unlike chemotherapy, targeted therapy can significantly benefit people with cancer because it can target specific gene products, i.e., proteins that cancer cells use to grow and spread, while causing little or no harm to healthy cells. Patients who are most likely to benefit from targeted therapy are those who have a specific biomarker in their tumor cells that indicates the presence or absence of a specific gene alteration that makes the tumor cells susceptible to the targeted agent.
- Compared to chemotherapy, the cost of targeted therapy is generally higher, as these treatments are newer, more expensive to produce and under patent protection. In addition, like all anti-cancer therapies, there are risks to using targeted agents when there is no evidence to support their use because of the potential for serious side effects or reduced efficacy compared with other treatment options.
Abbreviations
CT, computed tomography; DCIS, ductal carcinoma in situ; PET, positron emission tomography; PSA, prostate-specific antigen.

How This List Was Created (1–5)
The American Society of Clinical Oncology (ASCO) has had a standing Cost of Cancer Care Task Force since 2007. The role of the Task Force is to assess the magnitude of rising costs of cancer care and develop strategies to address these challenges. In response to the 2010 New England Journal of Medicine article by Howard Brody, MD, “Medicine’s Ethical Responsibility for Health Care Reform — the Top Five List,” a subcommittee of the Cost of Cancer Care Task Force began work to identify common practices in oncology that were both common as well as lacking sufficient evidence for widespread use. Upon joining the Choosing Wisely campaign, the members of the subcommittee conducted a literature search to ensure the proposed list of items were supported by available evidence in oncology; ultimately the proposed Top Five list was approved by the full Task Force. The initial draft list was then presented to the ASCO Clinical Practice Committee, a group composed of community-based oncologists as well as the presidents of the 48 state/regional oncology societies in the United States. Advocacy groups were also asked to weigh in to ensure the recommendations would achieve the dual purpose of increasing physician-patient communication and changing practice patterns. A plurality of more than 200 clinical oncologists reviewed, provided input and supported the list. The final Top Five list in oncology was then presented to, discussed and approved by the Executive Committee of the ASCO Board of Directors and published in the Journal of Clinical Oncology. ASCO’s disclosure and conflict of interest policies can be found at www.asco.org.

How This List Was Created (6–10)
To guide ASCO in developing this list, suggestions were elicited from current ASCO committee members (approximately 700 individuals); 115 suggestions were received. After removing duplicates, researching the literature and discussing practice patterns, the Value in Cancer Care Task Force culled the list to 11 items, which comprised an ASCO Top Five voting slate that was sent back to the membership of all standing committees. Approximately 140 oncologists from its leadership cadre voted, providing ASCO with an adequate sample size and perspective on what oncologists find to be of little value. The list was reviewed and finalized by the Value in Cancer Care Task Force and ultimately reviewed and approved by the ASCO Board of Directors and published in the Journal of Clinical Oncology. ASCO’s disclosure and conflict of interest policies can be found at www.asco.org.

Sources
About the American Society of Clinical Oncology

The American Society of Clinical Oncology (ASCO) is the world’s leading professional organization representing physicians who care for people with cancer. With more than 30,000 members, ASCO is committed to improving cancer care through scientific meetings, educational programs and peer-reviewed journals. ASCO is supported by its affiliate organization, the Conquer Cancer Foundation, which funds groundbreaking research and programs that make a tangible difference in the lives of people with cancer.

For more information, please visit www.asco.org.

For more information or to see other lists of Five Things Physicians and Patients Should Question, visit www.choosingwisely.org.
Useless Treatments Common in Young, Terminal Cancer Patients

By Dennis Thompson

HealthDay Reporter MONDAY, June 6, 2016 (HealthDay News) –

Three-quarters of young or middle-aged Americans with terminal cancer receive aggressive treatment during the last month of their lives, even though such care may provide nothing but misery, a new study estimates.

An analysis of insurance records found that cancer patients often undergo chemotherapy, radiation therapy or surgery in their final 30 days.

One-third die in the hospital, while fewer than one in five use hospice care to ease their suffering, according to findings presented Monday at the American Society of Clinical Oncology (ASCO) meeting in Chicago.

"Additional efforts are critically needed to improve end-of-life care for patients with terminal disease, to ensure that the care provided meets the goals and preferences of patients and their families," said lead researcher Dr. Ronald Chen. He is an associate professor of radiation oncology at the University of North Carolina in Chapel Hill.

In 2012, ASCO issued a set of guidelines for physicians that recommended against using aggressive measures in patients with advanced cancer who are unlikely to benefit from such treatment. Instead, doctors should focus on easing the patient's pain and symptoms, the guidelines say.

Dr. Andrew Epstein, an ASCO expert in palliative care, said, "Much more often than not, these types of care at the end of life are not helpful, and they are emotionally and physically harmful for patients, and emotionally harmful to the patients' loved ones." Epstein is a medical oncologist at Memorial Sloan Kettering Cancer Center in New York City.

To see if these guidelines are being followed, Chen and his colleagues reviewed claims data for more than 28,000 terminally ill cancer patients younger than 65 who died between 2007 and 2014. The patients lived across 14 different states, and had been diagnosed with advanced lung, colon, breast, pancreatic or prostate cancer.

The researchers defined aggressive care as chemotherapy, radiation therapy, hospital/emergency room treatment, admission to an intensive care unit (ICU), or dying in a hospital.

The investigators found that between 71 percent and 76 percent of patients received some form of aggressive care at the end of life, depending on their type of cancer:

- Chemotherapy use ranged from 24 percent to 33 percent.
- Rates of radiation therapy ran between 9 percent and 21 percent.
- Between 25 percent and 31 percent of patients underwent an invasive procedure, such as a biopsy or surgery.
- About 16 percent to 21 percent of patients were admitted to the ICU.

Cancer doctors want to provide good care for very ill patients, and sometimes have a hard time intuiting when enough is enough, Chen said.
"When a cancer progresses, we want to be able to help our patients by offering them treatments," he said. "Along with that, we as doctors are really bad at estimating a patient's life expectancy. We are not very good at realizing when a patient is approaching the end of life."

At the same time, patients and their families also appear to play a role in the use of aggressive treatment.

Chen noted that the most-often used form of aggressive care was hospital/ER treatment, which between 62 percent and 65 percent of cancer patients underwent during their last month of life.

"That's probably patient-driven, going to the emergency room or the hospital," he said. "Part of it may also be that these younger patients want to continue to receive aggressive care for their cancers."

Epstein added that patients may seek aggressive treatment based on the desires of family members who don't want to feel like they're giving up.

"There's very often regret from the patient's loved ones, who not uncommonly say, 'If I had known it was going to be like this, we never would have wanted this,"' he said.

Epstein believes aggressive care can be avoided not by the implementation of guidelines, but through end-of-life planning involving "very challenging conversations about the end of life and what's important to patients and their families."

Doctors, nurses and other cancer care professionals need to be better trained in having these conversations, Epstein said.

"It needs to be a patient-centric approach to care delivery," he explained.

"Very basic questions are very infrequently asked," Epstein said. "What is important to you as a person living with this serious illness? What are you hoping for? What is a life worth living for you, in general, and what would be a fate worse than death? Very hard questions, understandably, and that's why they're not often asked, but these are extremely difficult situations and the stakes are extraordinarily high."

Research presented at meetings is typically considered preliminary until published in a peer-reviewed journal.

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Aggressive care at the end-of-life for younger patients with cancer: Impact of ASCO’s Choosing Wisely campaign.

Citation: J Clin Oncol 34, 2016 (suppl; abstr LBA10033)

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Abstract:

**Background:** Aggressive medical care at the end of life is widely recognized to be harmful to cancer patients. This includes cancer-directed procedures and therapies; emergency room and ICU admissions; and in-hospital deaths. Prevalence of its use in patients younger than 65 has not been previously examined. We evaluated use of aggressive care within the last 30 days of life from before to after ASCO’s 2012 Choosing Wisely campaign aimed at reducing aggressive end-of-life care.

**Methods:** Claims data from the HealthCore Integrated Research Database were analyzed, which overall includes ~60 million individuals enrolled in Blue Cross and/or Blue Shield licensed plans across 14 states. Patients aged ≤ 65 who died between 2007-2014 and who had diagnoses for metastatic lung, colorectal, breast, pancreatic, and prostate cancers were included. Poisson multivariable regression models assessed the associations between age group, geographic region, gender, and regional education and income measures with aggressive care.

**Results:** 28,731 patients were analyzed. 71-76% of patients across different cancers received aggressive care within the last 30 days of life (Table), including 30-35% of patients who died in the hospital. Rates of aggressive care use between early 2012 before Choosing Wisely vs. 2014 were unchanged in patients with colorectal and breast cancers; and increased in lung, pancreatic and prostate cancers. On the other hand, hospice use ranged from 14-18% across cancers. Multivariable models showed regional variations in aggressive care and hospice use.

**Conclusions:** There is substantial overuse of aggressive end-of-life care among younger patients with incurable cancers. Aggressive care did not decrease following the 2012 ASCO Choosing Wisely recommendations.

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<th>Breast N = 5,855 (%)</th>
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