Hello. My name is Cynthia Abarado. I'm an Advanced Practice Nurse at the Department of Genitourinary Medical Oncology at The University of Texas MD Anderson Cancer Center. I am going to present to you today Supportive Management of Cancer-related Symptoms.

At the end of this presentation, each participant will be able to identify common cancer-related symptoms; assess patients for the presence and severity of these symptoms; and provide appropriate therapeutic interventions of these issues.

One of the most common symptoms associated with cancer is pain. Pain is defined as a sensory and emotional experience associated with an actual or potential tissue damage or described in terms of such damage.

Pain is classified according to mechanisms of pain pathophysiology as nociceptive pain or neuropathic pain. Nociceptive pain results from injury to somatic and visceral structures with the resulting activation of nociceptors. These pain are often described as sharp, well-localized throbbing, or pressure-like, more diffused and aching and cramping. Neuropathic pain, on the other hand, is a result of an injury to the peripheral or central nervous system described as sharp shooting or burning pain.

Now pain assessment is --- requires a rather comprehensive assessment. Pain should be assessed initially at the initial contact with the patient. Comprehensive pain assessment includes taking the history of pain, review of the symptom related to pain intensity, location, aggravating factors, alleviating factors as well as breakthrough pain. Most importantly response to therapy evaluation is very important and how it affects the individual’s quality of life and his daily functioning.

Some tools of pain assessment include using a 0 to 10 numerical scale, pictorial scale, the Wong-Baker faces rating scale, physical examination, and relevant laboratory and imaging studies.

For non-verbal patients, a multi-faceted approach is recommended. It can be either direct behavior observation or family and caregiver report. For patients with dementia or advanced dementia, the Assessment of Discomfort in Dementia Protocol is recommended and the Pain Assessment of the Advanced Dementia Scale as well is recommended. For patients who are intubated or unconscious, Critical Care Observation Tool is very im --- important.

It is also important to determine underlying cause of pain. Some considerations of oncologic emergencies that may relate to pain in the oncology setting include impending fractures, brain metastases, epidural metastases, lepto- manag --- meningeal metastases, pain related to infection as well as perforated viscous.
The World Health Organization has developed and has widely accepted an algorithm for treatment of cancer pain. This is described as the three-step “ladder”.

For step one, a non-opioid or adjuvant medication is recommended. If pain is severe or increasing, then step two requires an addition of a weak opioid and a non-opioid plus an adjuvant medication. Now if pain is still persistent the third step would be to add a strong opioid in addition to the two step or the second ladder recommendations.

Now the World Health Organization has developed this three step ladder for cancer pain relief with an ultimate goal of cancer pain-free for our patient. Some of the non-opioids that were recommended are aspirin and paracetamol. The mid or the mild opioids are codeine and then also consider adjuvants to relieve anxiety. Drugs should be given “by the clock” or schedule that is every three to six hours rather than “on demand”. Also surgical interventions of --- should be explored if pain is not relieved by these medications.

Some general principles of pain management include appropriate dosing. It is important to determine appropriate oral and parenteral dose equivalents of opioid based on single dose data. Also, maintenance of opioid therapy is important used for continuous pain control. Once 24-hour opioid requirement is stable change [to] extended release preparations, but it’s important to continue the short-acting opioid for a breakthrough pain. Also pain medication should be or is recommended to be given on a regular schedule with supplemental doses of breakthrough pain.

The NCCN Guidelines® recommends performance of a comprehensive pain assessment in the adult cancer pain management. A comprehensive pain management is necessary once there are multiple underlying causes of pain. These analgesic therapies must be administered in conjunction with other therapies and if, whenever possible, quantification of pain is very important. Another recommendation is the reassessment of pain intensity to measure the objectiveness of present treatment. And most importantly patients require psychosocial support and patient education.

Some of the side effects of opioid are nausea, sedation, as well as opioid induced constipation. These are important side effects that can be proactively managed. Nausea, we have to make the anti-emetics available for the patient. Also sedation can occur and assessment for safety and dose adjustments if sedation worsens is very important. For opioid-induced constipation, a proactive preventive bowel regimen should be included in their treatment or pain management. It is important to emphasize adequate fluid and dietary intake. Also some stool softener and laxatives and reassessment for severity and other causes of constipation. It is also important to titrate laxative as needed.

Now, one of the other side effects is sedation. Respiratory depression can occur and it is very important to assess the patient --- patient’s neurologic status, if not responsive within 10 minutes after naloxone. Other causes that could contribute to the neurologic changes should be pursued. Another side effect would be delirium. It’s important to
assess for other causes of delirium. Consider changing the opioid and consider haloperidol 0.5 to 2 mg every four to six hours or neuroleptic agents. Also motor and cognitive impairment can occur. Thus, monitor it during analgesic administration and titration and make some adjustments if motor and cognitive impairment occur.

Some specific pain problems can be associated with inflammation, bone pain, nerve compression, and neuropathic pain. For pain associated with inflammation a trial of NSAIDs or glucocorticoids is recommended. For bone pain without oncologic emergency, NSAIDs and titration of analgesic as well as consideration of a nerve block or radiation consult are also recommended. For diffuse bone pain, we could explore or consider a trial of bisphosphonates, hormonal, or our chemotherapy if the resp --- if the tumors are responsive to these modalities. For nerve compression, a trial of glucocorticoid is also recommended. And for neuropathic pain, trials of antidepressants as well as anticonvulsants or topical agents can also be helpful.

Consider a pain consult if a patient’s pain is not relieved by medication management. We can pursue pain consult in occurrence of a complex pain syndrome or if pain is unrelieved by routine management and consideration of nerve block.

Again, we cannot stress the importance of psychosocial support and patient education in the pain management. It is important to provide emotional support, assist in accessing treatment as needed, and provide patient and family education in the pain management in the sense that it is a team effort. Also some strategies --- teaching patient some strategies to cope well and redirect their focus on optimizing quality of life as they go --- go through this pain management program. Provide patient and family education. Also emphasize the goal of pain management, provide medication list and side effects, provide a contact number in case of problems are other --- are some of the strategies that can alleviate patient’s anxiety while they’re undergoing pain management.

Constipation is the most common side effect of pain management. However, it is often not discussed. Almost 100% of cancer patients taking pain medications will have constipation. Most common causes are inadequate fluid intake as well as opioids.

So it is important to identify those patients at risk for constipation and some of the tools of constipation risk assessment that can be used are Constipation Risk Assessment Scale by Janice Richmond and also a Norgine Risk Assessment as well as the Eton Scale.

Some nutritional strategies for managing constipation include, again, dietary fiber and fluid intake, encouraging oral fluids at least eight to ten glasses of fluids daily. Encourage mobility and adequate exercise. Limit gas-forming foods and beverages as well as recommending bulking agents and/or stool softeners, if appropriate. Laxatives is essential --- or are essential for opioid-induced constipation and should be a part of the protocol for pain management.
The other cancer-related symptom is cancer-related fatigue. Cancer-related fatigue is prevalent in oncology. It is defined as a distressing persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that it is not proportional to recent activity and interferes with usual functioning.

The World Health Organization in their International Classification of Disease-10 has recently added these criteria for cancer-related fatigue. These criteria, at least six or more of the following symptoms have to be present every day or nearly every day during the same two-week period in the past month and at least one of the symptoms is A1 or significant fatigue. These are of --- A1 significant fatigue or diminished energy or increased need to rest disproportionate to any recent change in activity level. A2 is complaints of generalized weakness or limb heaviness. A3 is diminished concentration or attention.

And then, some of these other criteria include decreased motivation or interest to engage in usual activities, insomnia, hypersomnia, experience of sleep as unrefreshing or nonrestorative, perceived need to struggle to overcome inactivity, and marked emotional activities --- or reactivity, such as sadness, frustration, irritability, to feeling fatigued. And mostly difficulty completing tasks attributed to feeling fatigued.

The others include perceived problems with short-term memory, post-exertional malaise lasting several hours. Some of the other criteria explicitly address the evidence of history, physical examination or laboratory findings existing in the symptoms or contributing --- or supporting the symptoms as a consec --- consequence of cancer or cancer therapy. Also the other symptoms that are not primarily a consequence of comorbid psychiatric disorders, such as major depression, somatization disorder, somatoform disorder, or delirium are also emphasized as one of the delineating criteria.

As I mentioned earlier, the incidence of cancer-related fatigue is around 80-100% among cancer patients. 75% among patients with metastatic disease report fatigue and they perceive --- patients perceive fatigue as the most distressing symptom associated with cancer and cancer treatments.

Now how does --- how is fatigue explained? There are a lot of theories involved in a cancer-related --- related fatigue pathophysiology. However, the exact explanation is unknown. Some of these theories are multifactorial explanations, stress and stress response model, the neurophysiologic model involving the brain and the spinal cord, endogenous tumor necrosis factor, and multidimensional fatigue framework.

So in the neurophysiologic model of fatigue, it is thought that impairment of peripheral nervous system or its component can cause impaired peripheral nerve function in transmission to the neuromuscular junction thereby affecting nerve fiber activation. Impairment of the central component causes lack of motivation, impaired spinal cord transmission and malfunction of the brain cells in the hypothalamic region.
The role of the tumor necrosis factor is thought to be causing a reduction in skeletal muscle protein stores resulting from endogenous TNF or from TNF administered as an antineoplastic therapy resulting in muscle wasting.

Now, the multidimensional framework of fatigue explains the interaction of various factors such as the biochemical factors that can be from the treatment itself, accumulation of metabolites, and changes in the transmission.

Some phys --- physiologic factors involve changes in energy level, activity, rest, and sleep/wake cycles as well as oxygenation and unique circadian rhythm. Some of the behavioral factors are related to psychological factor, life events, social factors, environmental, and other symptoms.

Now in cancer as in any other disease, fatigue can have a lot of other contributing factors. And these could be cancer treatment itself, anemia, medications, cachexia, anorexia, metabolic disturbances, hormone deficiency, psychological distress, sleep disturbances, excessive rea --- inactivity, pulmonary impairment, as well as neuromuscular dysfunction and pain.

Some of the specific cancer therapies can cause fatigue. And these include chemotherapy, radiation therapy, biologic response modifiers, surgery, target therapies, disease state itself, and combination of all these treatment modalities.

The signs and symptoms of fatigue can be manifested into various symptomatology involving the physical, psychological, cognitive, behavioral, as well as functional status decline.

It is important that in working --- in a working diagnoses some other differential diagnoses are considered in --- in working up a cancer-related fatigue. And these are some underlying cardiopulmonary, renal, neurologic, endocrine, infectious, hematologic etiologies and other contributing or other differential diagnoses can be related to the fluid and electrolyte imbalances as well as malnutrition and psychological distress.

How do you assess fatigue? Screening patients for fatigue is as vital as taking vital signs at regular intervals. In the NCCN Guidelines it is recommended to ask the patient “How would you rate your fatigue on a scale of 0 to 10 over the last seven days?” None to mild is 0 to 3, moderate is 4 to 6, and severe is 7 to 10.

If the patient has a fatigue score of 4 to 10, a complete primary evaluation with a focused history, review of systems, and assessment of other treatable contributing factors should be pursued.

“How do you treat patients with fatigue who are on active treatments?” Some of the nonpharmacologic strategies include activity enhancement, psychosocial interventions, attention, restoring therapy, nutritional support, sleep therapy, family interaction, energy conservation, diversional activities, as well as education and counseling.
Of course, other interventions include pharmacologic interventions which include treating depression with psychostimulants or treating anemia and --- as well as managing sleep problems.

Some of the assessment tools for fatigue include the Brief Fatigue Inventory, the Functional Assessment of Cancer Therapy specific for anemia, the Functional Assessment of Cancer Therapy for Fatigue, the Piper Fatigue Self-report Scale, the Schwartz Cancer Fatigue Scale, Fatigue Symptom Inventory, the Profile Mood States Fatigue Inventory or Subscale, as well as Lee’s Visual Analog Scale and Cancer Fatigue scale.

A brief inventory scale is often used. This is a --- an assessment of the severity of fatigue and the impact on fatigue on daily functioning in the last 24 hours. It is a self-report or interview via an interactive voice response. It usually takes around five minutes and it is a global fatigue score that can be obtained by averaging all the items of the inventory scale.

It has a reliability score with Cronbach’s alpha reliability ranging from 0.82 to 0.97 and psychometrically validated and translated in different language versions.

One of the other cancer-related issues concern nutrition. Malnutrition is a canc --- in cancer is a common problem that plays a significant role in the adverse outcomes including mortality and morbidity.

Weight loss is the best indicator for nutritional risk among cancer patients. A weight loss of 5% or greater in one month or greater than 10% in six months is significant. It is a prognostic indicator for survival, response to treatment, and quality of life.

Among these nutritional issues common in cancer are weight loss, fatigue, nausea and vomiting, taste alterations, oral mucositis, constipation, diarrhea, dry mouth or xerostomia, loss of appetite, and cachexia.

Some of the nutritional strategies for managing weight loss include increasing caloric and protein intake by eating favorite foods, encouraging the addition of high-calorie and high protein food and snacks, as well as physical activity to stimulate the appetite.

So in summary, we have discussed cancer patients often experiencing pain, malnutrition, and fatigue. One of the most important side effects of narcotics in the --- pain management is constipation. And the assessment and treatment of these symptoms are important in improving the quality of life of cancer patients. That ends my presentation. If you have any comments or any interest to improve this education offering please feel free to contact us. Thank you so much for your attention.