

Ontologies Classes Object Properties Data Properties Annotation Properties Individuals Datatypes Clouds

Class: Physical_Activity_For_Mitigation_of__LC

Annotations (5)

- **rdfs:comment** "Breathing Relaxation breathing can help reduce stress and anxiety. When feeling stressed, taking shallow breaths may help. It is important to use full lung capacity and breathe slowly and deeply. There are numerous relaxation breathing methods that can be effective. For example, one can inhale through the nose for five seconds and fill the torso up with air, hold the breath for two seconds, and then exhale from the mouth for five seconds, pressing the navel in towards the spine. It is also helpful to imagine all tension and stress leaving the body with each exhalation. Relaxation breathing can be used immediately after surgery, as it allows the patient to focus all energy on healing. The lung cancer patient should learn diaphragmatic breathing through pursed lips. Diaphragmatic breathing strengthens the diaphragm and the abdominal muscles. This will allow more air to move in and out of the lungs with less tiring of the chest muscles. When the diaphragm becomes weak, the patient compensates by using the shoulders and other muscles to help them breathe. Breathing with pursed lips is beneficial and can be used with the diaphragmatic breathing. The hand is placed on the abdomen. The patient, sitting or standing up straight, should inhale through the nose while gently pushing the abdomen out. The patient's hand moves outward. This allows the diaphragm to lower enabling one to increase lung capacity. The patient should then exhale slowly using pursed lips while gently pushing inward and upward with the hand on the abdomen to help empty the lungs completely. The navel is pressed to the spine while exhaling all the air out. Then the patient slowly inhales, filling the lungs with air, and repeats the exercise. Pursed-lip breathing should be practiced several times a day. In addition to strengthening the abdominal muscles, it will help regulate breathing if one becomes short of breath, particularly during an activity. This type of breathing will also help the patient to get through an activity where one experiences shortness of breath. Stretching Patients with shortness of breath and limited breathing capacity due to their cancer should perform upper body stretching exercises daily to increase lung capacity. A stretching program will restore mobility in the chest and back that allows for freer movement of the lungs and diaphragm. Stretching each part of the body will help to keep the chest muscles loose and encourage deep breathing. An additional benefit of light stretching is that it also improves a patient's range of motion and decreases body stiffness. Stretching is one of the basic components of fitness. Elongating the muscle and fascia by stretching improves circulation, increases elasticity of the muscle, increases oxygen to the muscles, and helps the body to repair. It increases the circulation of blood to the muscles and prevents tight muscles, which have less blood flow, and reduces inflammation. Stretching should be performed every day. It is important to commit to stretching regularly so that the patient can gradually improve range of motion, and flexibility. Stretching can also help improve patient's posture. Sitting down all day at a desk or driving can cause the shoulders to round forward and kyphosis, which can decrease lung capacity. It will help the patient to manage the stress and anxiety of the disease and break down residual scar tissue. It is usually necessary to continue a stretching program in order to maintain that range of motion. After radiation, stretching is very important to help keep the body flexible. Radiation typically causes additional tightening. Radiation can impact the affected area for at least a year following the completion of treatment. Aerobic exercise Aerobic exercise is recommended to improve fitness. It not only improves cardiac function, but also improves oxygen capacity. Examples of aerobic exercise include walking, dancing, or any activity that increases heart rate. Low intensity exercise, such as walking, is a safe way to begin. Those with lung cancer should participate in an activity that is enjoyable. Aerobic exercise can be performed at convenient times and can be undertaken at home. Advice can be given to start walking around a room in the house and slowly increase the distance walked. This can be repeated, then rest, and then repeat again. This can be done several times a day. A pedometer can be useful to measure steps and to help set and attain goals. To increase activity, walk up stairs, park far from their destination, dance, or do whatever is enjoyable that involves movement can be recommended. Strength training Lung cancer patients may benefit from strength training because it can strengthen muscles that were weakened from symptoms and anti-cancer treatments. Fatigue is a very common symptom for those with lung cancer and if sedentary this can affect muscle mass which will decrease. Exercise is recommended every day. A good way to start to exercise is in small increments of ten minutes at a time depending on the person's fatigue level. It is wise to progress slowly, set goals, and be mindful of the effect it can have on their body and it may take time to improve the individuals' fitness level. At first, the patient might suffer from fatigue and low endurance and might only be able to exercise for a short period of time. Every day the sessions can be lengthened. Because of breathing difficulties, any type of exercise that increases lung capacity is beneficial. High levels of fatigue will make it difficult for the patient to want to be active so encouragement is needed. By becoming stronger, it may be possible to return to work and take care of activities of daily living. Strength training can also help patients improve balance, posture, and increase bone strength. Go to: Evidence The safety, benefits, and application of increasing physical activity and exercise in lung cancer with the goal to improve lung cancer outcomes have been demonstrated. Physical activity should be considered as a therapeutic option for patients with lung cancer as exercise and physical activity have been shown to reduce symptoms, improve quality of life,

increase exercise tolerance, and decrease length of hospitalization and post-surgery complications for lung cancer (3,7). In addition, another important finding was that exercise and physical activity are safe for those with lung cancer. The conclusion was that health care professionals should consider recommending physical activity early and encourage physical activity for patients at any stage of lung cancer and lung cancer survivors. Physical exercise can provide significant improvements in both endurance and isometric muscle strength in patients with advanced non-small cell lung cancer undergoing radiotherapy and/or chemotherapy (1). If the patient was active before the diagnosis, it is important to encourage patience. It is not realistic to resume to the previous levels of exercise. Strength and endurance will have decreased, no matter how fit the patient was prior to treatment. It is wise to use the same exercise progression (relaxation breathing, walking, stretching, and strength training) as the deconditioned patient, but the fit patient can progress at a faster pace. A preoperative exercise program based on moderate to intense exercise for patients scheduled for lung surgery had beneficial effects on aerobic capacity, physical fitness, and quality of life (13). Also preoperative exercise may reduce post-operative complications and it also may improve outcomes after lung cancer surgery (3). A few studies found that people who had rehab before surgery had shorter hospital stays and better recovery (12,13). Exercise before surgery has multiple benefits such as improved quality of life, increased pulmonary capacity, endurance, strength and less fatigue with fitness levels before surgery predicting the risk of surgical complications following surgery (12). Go to: Personal observations In my role for over 20 years as a cancer exercise specialist and the creator of the Recovery Fitness cancer exercise program, I have observed and recognize that physical activity improves quality of life for those with lung cancer and can mitigate the side effects of anti-cancer treatments. Additionally, it decreases cancer-related fatigue, which is one of the most distressing symptoms for many with lung cancer. Although much more research is needed, exercise represents an important component in the management of patients diagnosed with lung cancer. Go to: Conclusions The evidence supporting exercise programs shows that this intervention would be helpful for survivors of lung cancer. Encouragement should be made to clinical teams to develop services to promote this as a good practice model for rehabilitation. Collaboration should be made with organisations able to offer physical activity programs and to develop research strategies to gather evidence. Sharing of good practice through organisations such as the International Association of the Study of Lung Cancer should be promoted."(xsd:string)

- **rdfs:comment** "Exercise can be beneficial for those with lung cancer by increasing strength, endurance and decreasing emotional issues. Physical activity may also help tolerate cancer treatments and lower fatigue levels (1,2). An exercise program may help with coping strategies with regard to the physical and emotional effects of having lung cancer. Health care professionals should consider recommending physical activity interventions at any stage of the lung cancer pathway (3). In addition, a preoperative exercise program prior to curative lung surgery should also be considered as there is developing evidence that it may improve outcomes (4,5). The thought of exercise might be overwhelming to those with lung cancer but a well-designed exercise program may help individuals feel better physically and mentally and it may also decrease the risk of further disease (6). Being physically active appears to improve survival and quality of life (7). The side effects of lung cancer surgery and treatments are detrimental to the health and the quality of life of lung cancer patients are at increased risk of osteoporosis, cardio-vascular disease, and many other health problems. Exercise can help to mitigate the side effects of cancer treatment and surgery (7). In addition to the physical benefits of exercise, cancer patients who exercise also report improved mental and emotional well-being and after treatment experience less anxiety (8). Patients who exercise during treatment and those who began to exercise afterwards report an increase in quality of life (9)."(xsd:string)
- **rdfs:comment** "Key Points The right amount of exercise when you have lung cancer can make you feel better during treatment. Some types of exercise can be dangerous for certain people. Check with your doctor before exercising. Even low-intensity movement including taking a walk to get the mail or light stretching in bed can make a person feel better. Moderate Exercise During Lung Cancer Treatment Can Improve: Fatigue Anxiety, stress and depression Self-esteem Cardiovascular fitness Muscle strength Gastrointestinal side effects Breathing Getting Started You may lose strength and endurance from lung cancer treatment, no matter how physically fit you were before diagnosis. If you did not exercise before being diagnosed, now is a great time to start moving. Remember to listen to your body and not over exert yourself. Even light physical activity, including walking or stretching, can make you feel better. Some people will be able to start an exercise routine on their own while others will need or want to contact a specialist. Check with your doctor before starting a strenuous exercise program. Not all types of exercise are appropriate for everyone. Some people need to use caution when exercising with lung cancer. That includes anyone: With severe anemia With a compromised immune system (avoid public places, including gyms) With severe fatigue With balance issues or weakness (never exercise alone) If you want guidance on starting an exercise routine you can contact the specialists listed below. Make sure the specialist is certified by an exercise-related professional organization, such as the American College of Sports Medicine. Physical Therapist Exercise Physiologist Personal Trainer"(xsd:string)
- **rdfs:comment** "Studies are finding that physical activity is linked with a lower risk of developing lung cancer, as well as many other cancers. With lung cancer, the benefit doesn't seem to be isolated to any one group of people. Men and women, smokers, former smokers, and never smokers, all benefit from exercise. Best of all, the exercise level needed to make a difference does not require hours a day or a pricey health club membership. Even gardening two times a week has been associated with reduced risk. Overall, people who

are physically active appear to have roughly a 20% reduced risk of developing lung cancer. Older woman walking on the beach Alistair Berg / Getty Images Exercise and Lung Cancer Survival For both sexes, exercise appears to reduce the risk of death from lung cancer, although the benefits seem somewhat greater in women. It's challenging to study the effect of exercise on lung cancer in humans. It wouldn't be ethical to have one group of survivors exercise and another intentionally be sedentary. While animal studies can't necessarily translate to humans, a 2019 meta-analysis looking at a number of studies on exercise and tumor growth in rodents found that exercise was significantly associated with slower tumor growth.¹ That said, studies published in 2016 have shown improved survival in humans as well, especially older women who are physically active when they have lung cancer.² We do know that exercise appears to help people better tolerate treatments, and being able to continue treatments can translate into improved survival. Lung Cancer Recurrence While early-stage lung cancer has a higher survival rate than advanced disease, far too many of these tumors return, often at a distant site (metastatic recurrence). In a study published in 2015, it was found that even light exercise appeared to lower the risk of lung cancer recurrence.³ Understanding Lung Cancer Recurrence Prescription for Exercise The effect of exercise on lung cancer is significant enough that oncologists have been encouraged to prescribe exercise for people with lung cancer, and have even provided a downloadable form to do so. The recommendation (for those who are able) is exercising up to 30 minutes 3 times per week (moderate-intensity aerobic activity) along with 20 minutes to 30 minutes of resistance exercise twice a week. Exercise and Quality of Life A 2019 report looked at studies to date to evaluate evidence for the role of exercise in cancer treatment. For purposes of comparison, physical activity here is defined as at least 30 minutes of aerobic exercise at least three times per week. There was strong evidence that exercise can:⁴ Reduce fatigue Reduce anxiety Reduce symptoms of depression: Depression in people with lung cancer is far too common, and has been associated with a significantly higher mortality rate. Of note is that depression with lung cancer may be related to inflammation, and treating inflammation may be a key to reducing symptoms. Improve a person's perception of their physical function Improve overall quality of life The ability to reduce cancer-related fatigue is very significant as this is one of the most distressing symptoms for many with cancer. Other positive benefits noted in lung cancer survivors who exercise include better self-esteem, improved body composition, and better sleep. Keep in mind that exercise may act through some of these additional benefits to further improve survival. For example, insomnia in lung cancer patients may reduce survival, and exercise is one way to help. Tips for Adding Physical Activity to Your Day As noted earlier, the amount of physical activity needed to reduce the risk of lung cancer—and improve survival and quality of life—can be as simple as gardening a few times per week. Too many of us fail in our intentions to exercise because we set our goals too high. This can be harder yet for those coping with cancer fatigue. At least 150 minutes of moderate-to-high-intensity physical activity are recommended each week for those who are able. Don't become discouraged, however, if that's just not possible. Every little bit helps: Plant a garden. Gardening can actually have multiple benefits. Not only does growing beautiful flowers help us think more positively with cancer, but if you grow a few of the foods that can fight lung cancer, you can do double or triple duty with this activity. Dance. Again, you can do double duty with music. Music therapy appears to help with pain and shortness of breath with lung cancer and can add an extra punch to your dancing exercise routine.⁵ Sign up for a yoga class. Yoga also appears to increase natural killer cells (a type of white blood cell) that feast on cancer cells. However, research results published in 2014 show little effect.⁶ Count your daily steps. If you do this along with someone else it can become even more effective, as you not only have someone to be accountable to, but it can add a healthy dose of competition. Walk around an art gallery or museum Walk with a friend. Not only do you exercise this way, but social interaction is another factor associated with improved survival.⁷ A Word From Verywell It's pretty clear that physical activity can improve both survival rates and quality of life with cancer. But a combination of positive factors (or reduction of negative factors) is important when it comes to what you can do yourself to lower risk or improve your odds with the disease."(xsd:string)

- **rdfs:comment** "Ways to Stay Active: Try to get up and out each day, even just to walk to another room, take a shower or get the mail. Every little bit helps! Light stretching is a great way to stay mobile and avoid over exertion. Participate in activities you liked before you were diagnosed. You may need to modify them, but they can still be enjoyable. Set achievable goals for yourself such as taking a short walk every day. Check out exercise programs on your television, online or cellphone apps. Visit a physical therapist to regain strength before exercising on your own after lung cancer treatment. Your physical therapist also will give you exercises you can do at home. Take Action You can brainstorm with your doctor about safe and affordable ways to stay active with lung cancer. Getting exercise when you have lung cancer doesn't always mean heading to the gym. Intimacy During Lung Cancer Treatment During lung cancer treatment you might not feel like yourself. You and your partner may have questions and concerns about sexual activity. Here are some common challenges and suggestions for staying intimate during this time: Plan time for intimacy when you are rested. Experiment with other activities that are intimate but require less movement and exertion like caressing, hugging, massage and manual stimulation. Experiment with positions that require less energy. The partner not receiving treatment should make the majority of the movements. Some precautions should be taken when engaging in sexual activity while you are in treatment: Avoid sexual intercourse and oral-genital stimulation when your blood counts are low because you are at an increased risk for infection. Discuss this with your doctor. If there is a chance of pregnancy, use birth control as some treatment options can lead to birth defects in the unborn child. Some treatments can cause sterility. Discuss this with your doctor if you

wish to have children in the future. Remember: Communication with your partner can ease many of your concerns about intimacy during lung cancer treatment."(xsd:string)

Superclasses (1)

- Preventative_habits_LC

Disjoints (3)

Diet_LC, **Physical_Activity_For_Mitigation_of__LC**, Quitting/Not_Smoking_LC

OWL HTML inside