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How is laryngeal cancer diagnosed? Diagnosing laryngeal cancer begins with your medical history. If you have potential cancer symptoms, your doctor will examine you carefully and begin a series of tests. The first test performed is usually a laryngoscopy. Your doctor will use either a small scope or a series of mirrors to examine your larynx. If your doctor sees any abnormalities, they may perform a biopsy. A laboratory can test this small tissue sample for cancer. Staging If you receive a cancer diagnosis, the next step is staging. Staging shows how far the cancer has spread. Oncologists generally use the TNM system to stage laryngeal cancer: T refers to the size of the primary tumor and if it has invaded surrounding tissue. N is used to identify how far the cancer has spread to lymph nodes. M indicates whether the cancer has metastasized or spread into other organs or more distant lymph nodes. According to the American Cancer Society , laryngeal cancer most commonly spreads to the lungs. As tumors grow, they become more dangerous. Survival rates greatly decrease once cancer metastasizes or spreads to your lymph nodes. Such cancers are more advanced or later stage. What are the treatment options for laryngeal cancer? Treatment will depend on the extent of your cancer. Your doctor may use radiation therapy or surgery in the earliest stages of treatment. Surgery is a common method for tumor removal.

Chapter 2 : Laryngeal Cancer + Treatment | Cleveland Clinic

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HPV is a sexually transmitted virus. HPV infection is a risk factor for certain oropharyngeal cancers, according to the Cancer Treatment Centers of America. Throat cancer has also been linked to other types of cancers. In fact, some people diagnosed with throat cancer are diagnosed with esophageal , lung , or bladder cancer at the same time. This may be because these cancers have some of the same risk factors. Diagnosing throat cancer At your appointment, your doctor will ask about your symptoms and medical history. To check for throat cancer, your doctor will perform a direct or an indirect laryngoscopy or will refer you to a specialist for the procedure. A laryngoscopy gives your doctor a closer view of your throat. If this test reveals abnormalities, your doctor may take a tissue sample called a biopsy from your throat and test the sample for cancer. Your doctor may recommend one of the following types of biopsies: For this procedure, your doctor makes an incision and removes a sample piece of tissue. This type of biopsy is performed in the operating room under general anesthesia. Fine needle aspiration FNA. For this biopsy, your doctor inserts a thin needle directly into a tumor to remove sample cells. To remove a tissue sample using an endoscope, your doctor inserts a thin, long tube through your mouth, nose, or an incision. Staging throat cancer If your doctor finds cancerous cells in your throat, they will order additional tests to identify the stage, or the extent, of your cancer. The stages range from 0 to 4: The tumor is only on the top layer of cells of the affected part of the throat. The tumor is less than 2 cm and limited to the part of the throat where it started. The tumor is between 2 and 4 cm or may have grown into a nearby area. The tumor is larger than 4 cm or has grown into other structures in the throat or has spread to one lymph node. The tumor has spread to the lymph nodes or distant organs. Your doctor can use a variety of tests to stage your throat cancer. These tests may include the following. Magnetic resonance imaging MRI This imaging test uses radio waves and strong magnets to create detailed pictures of the inside of your neck. An MRI looks for tumors and can determine whether cancer has spread to other parts of the body. The scan creates images of areas of radioactivity in your body. This type of imaging test can be used in cases of advanced cancer. Computed tomography CT scan This imaging test uses X-rays to create a cross-sectional picture of your body. A CT scan also produces images of soft tissue and organs. This scan helps your doctor determine the size of a tumor. It also helps them determine whether the tumor has spread to different areas, such as the lymph nodes and the lungs. This test creates X-ray images of your throat and esophagus. Treatment options for throat cancer include surgery, radiation therapy, and chemotherapy. The treatment method recommended by your doctor will depend on the extent of your disease, among other factors. Surgery If the tumor in your throat is small, your doctor may surgically remove the tumor. Your doctor may recommend one of the following surgical procedures: This procedure uses an endoscope a long thin tube with a light and camera at the end through which surgical instruments or lasers can be passed to treat early stage cancers. This procedure removes all or part of your vocal cords. This procedure removes all or a portion of your voice box, depending on the severity of the cancer. Some people can speak normally after surgery. Some will learn how to speak without a voice box. This procedure removes a part of your throat. If throat cancer spreads within the neck, your doctor may remove some of your lymph nodes. Radiation therapy Following the removal of the tumor, your doctor may recommend radiation therapy. Radiation therapy uses high-energy rays to destroy malignant cancer cells. It targets any cancerous cells left behind by the tumor. Types of radiation therapy include: Intensity-modulated radiotherapy and 3D-conformal radiation therapy. In both types of treatment, radiation beams are tailored to the shape of the tumor. This is the most common way radiation is given for laryngeal and hypopharyngeal cancer. Radioactive seeds are placed directly inside the tumor or close to the tumor. Chemotherapy In the case of large tumors and tumors that have spread to the lymph nodes and other organs or tissue, your doctor may recommend chemotherapy as well as

radiation. Chemotherapy is a drug that kills and slows the growth of malignant cells. Targeted therapy Targeted therapies are drugs that stop the spread and growth of cancer cells by interfering with specific molecules that are responsible for tumor growth. One type of targeted therapy used to treat throat cancer is cetuximab Erbitux. Other types of targeted therapy are being researched in clinical trials. Your doctor may recommend this therapy along with standard chemotherapy and radiation. Some people with throat cancer require therapy after treatment to relearn how to speak. This can be improved by working with a speech therapist and a physical therapist. In addition, some people with throat cancer experience complications. You can discuss reconstructive surgery with your doctor if you have face or neck disfigurement after surgery. Long-term outlook for throat cancer If diagnosed early, throat cancer has a high survival rate. Throat cancer may not be curable once malignant cells spread to parts of the body beyond the neck and head. However, those diagnosed can continue treatment to prolong their life and slow the progression of the disease. Use over-the-counter products such as nicotine replacement products to quit smoking, or talk to your doctor about prescription medications to help you quit. Men should consume no more than two alcoholic drinks per day, and women should consume no more than one alcoholic drink per day. Maintain a healthy lifestyle. Eat plenty of fruits, vegetables, and lean meats. Reduce fat and sodium intake and take steps to lose excess weight. Engage in physical activity at least 2. Reduce your risk of HPV. This virus has been linked to throat cancer. To protect yourself, practice safe sex. Also talk to your doctor about the benefits of the HPV vaccine.

Chapter 3 : Laryngeal Cancer Stages

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Vocal cord motion abnormalities. What other factors can affect the larynx? The vocal cords can also be affected because of other surgical procedures, such as thyroid, cardiac, thoracic, spine, and vascular surgery. Placement of a breathing tube during anesthesia or hospitalization can also sometimes be related to problems in the larynx. There are several benign vocal cord conditions caused by vocal abuse, misuse, and overuse. Several disorders of the larynx can be caused by strain or injury to the vocal cords through excessive talking, throat clearing, coughing, smoking, screaming, singing, or speaking too loudly or too low. Eventually, frequent vocal abuse and misuse can cause changes in vocal function and result in hoarseness. Hoarseness that lasts longer than weeks without explanation should be evaluated by an otolaryngologist. Disorders caused by abuse, misuse, or overuse include: An inflammation or swelling of the vocal cords. Small, benign, callus-like, inflammatory lesions on the vocal cords. Nodules are among the most common noncancerous vocal lesions. Professional singers and people who have a lot of vocal demands salespersons, teachers are often at greatest risk for development of these lesions. These vocal cord lesions are typically post-traumatic caused by an injury or inflammatory in nature. They result from a vocal cord injury from heavy vocal demand or persistent coughing. Patients who smoke also have a tendency to develop polyp-like changes on the vocal cords. A sudden loss of voice, usually due to screaming, shouting, or other strenuous vocal tasks. In a hemorrhage, one or more of the blood vessels on the surface of the vocal cord rupture, and the soft tissues of the vocal cord fill with blood. It is treated with voice rest until the hemorrhage resolves. While this title implies that a person must be a professional speaker or singer, anyone who uses their voice for work is really a professional voice user. Professions that are at especially high risk include teachers, counselors, customer service representatives, and sales representatives. This is a rare neurologic condition of the larynx that involves the involuntary muscle contraction tightening of specific muscles within the vocal cords or larynx. This results in a voice that is strained or strangled or intermittently breathy. This is difficult to diagnose for most non-specially trained clinicians and is best treated in a tertiary care voice center. This is a chronic long-lasting viral infection in which benign, wart-like tumors grow inside the larynx or vocal cords, or the respiratory tract leading from the nose into the lungs. The lesions, which are caused by the human papilloma virus HPV , may grow very quickly and frequently reappear despite sustained treatment. Laryngeal papillomatosis can affect adults, children, and infants. Vocal cord paralysis or vocal cord hypomobility: This condition occurs when one or both of the vocal cords in the larynx do not open or close properly. Vocal cords enable people to talk when air held in the lungs is released and passes through the cords, causing them to vibrate and make sounds. In addition to affecting speech, vocal cord paralysis can cause coughing, a feeling of phlegm in the throat, difficulty swallowing, and shortness of breath while talking. Although the main symptom tends to be a breathy and weak voice, symptoms of vocal cord paralysis can be more significant. Vocal cord motion disorders: These can be caused by surgery to the thyroid gland, vascular surgery, thoracic surgery, spine surgery, prolonged or traumatic placement of a breathing tube, or a viral infection. This condition is also called heartburn, acid reflux disease, or gastroesophageal reflux disease GERD. Gastroesophageal reflux is a burning sensation in the chest that may occur after eating, bending, stretching, exercising, and lying down. GERD occurs when the contents of the stomach travel back up into the esophagus. This can happen when the lower esophageal sphincter LES valve, which controls the passage of food from the esophagus to the stomach, fails to close correctly. This condition has more classic heartburn symptoms. Reflux can affect the larynx and cause more atypical symptoms such as coughing, hoarseness, inflammation, and sore throat. In these cases, it is referred to as laryngopharyngeal reflux LPR. LPR may be associated with frequent coughing, throat clearing, excess mucus and phlegm, and the sensation of a lump in the throat. Though many growths that affect the

larynx are non-cancerous, cancerous tumors can also grow in the larynx. The inner walls of the larynx are lined with cells called squamous cells. Almost all laryngeal cancers begin in these cells and are called squamous cell carcinomas. If not caught early, laryngeal cancer can metastasize spread to nearby lymph nodes in the neck. Smokers are at higher risk than non-smokers for cancer of the larynx. The risk is even higher for smokers who drink alcohol. Fortunately, if caught early, laryngeal cancer is very treatable. This condition is a narrowing of the vocal cord airway, either from scarring or bilateral two-sided vocal cord immobility inability to move that can cause problems with breathing. It can be caused by a number of conditions, including autoimmune or inflammatory disorders such as polyangiitis with granulomatosis, traumatic injuries from prolonged intubation, iatrogenic conditions caused by medical treatment such as thyroid surgery, malignant cancerous conditions, progressive neurologic degenerative conditions, or rare viral infections. People with this condition have difficulty with swallowing. Some people with dysphagia may be unable to swallow solid foods, liquids, or even saliva. This can lead to the patient becoming malnourished, since he or she is unable to take in enough calories. Dysphagia can also lead to serious infections when poor swallowing causes food to get trapped in the lungs or outside the esophagus. Dysphagia happens when the larynx does not close tightly during swallowing and when the pharynx throat does not move food to the esophagus in a coordinated or effective way. Dysphagia is often seen in patients who have suffered strokes, but can also occur after neck surgery or after radiation treatments for head and neck cancer. They can also be a significant component of progressive neurologic conditions. Swallowing conditions can be quite complex and typically benefit from a multidisciplinary team approach involving otolaryngology, gastroenterology, and speech pathology. How are diseases of the larynx diagnosed? Diseases of the larynx are usually diagnosed by a laryngologist or otolaryngologist. He or she will first perform a physical examination which includes a scope or mirror exam to visualize the larynx and throat. Depending on your symptoms, other tests may be needed. These include imaging studies, biopsies, or an additional endoscopic examination. If your doctor suspects you have vocal cord paralysis, he or she will first confirm the diagnosis with a scope exam. In some situations, the doctor may also order a laryngeal electromyography LEMG. This test measures the nerve input to the laryngeal muscles, and can help diagnose and predict if you will recover vocal fold function. How are diseases of the larynx treated? Treatments for conditions that affect the larynx vary depending on your diagnosis. Treatment for conditions caused by vocal abuse, misuse, or overuse may be as simple as resting the voice. Voice or singing therapy might also be recommended. This is performed by a speech-language pathologist. Surgery, radiation therapy, chemotherapy, or a combination of these treatments may be used to treat laryngeal cancer. Surgery may also be required to treat nodules, polyps, or cysts. Treatment for conditions of the larynx and vocal cords are highly individual, depending on your condition, age, and profession. Your doctor will take all of these into account to create a personal treatment plan. What can be done to prevent diseases of the larynx? Quitting smoking and cutting back on drinking alcohol can help prevent laryngeal cancer. Taking proper care not to strain the voice through excessive use or misuse can prevent conditions such as polyps and nodules. This is especially important for singers or people such as teachers or lawyers, who spend much of their day speaking. Taking time to rest your voice, maintain physical fitness, and control irritating factors such as allergy or reflux can help a good deal in preventing these conditions. It is important to note that most conditions affecting the larynx are treatable if you seek medical attention when you first notice your symptoms. Failing to do so may mean permanent damage to the larynx and voice. Cleveland Clinic is a non-profit academic medical center. Advertising on our site helps support our mission. We do not endorse non-Cleveland Clinic products or services. This information is provided by the Cleveland Clinic and is not intended to replace the medical advice of your doctor or healthcare provider. Please consult your healthcare provider for advice about a specific medical condition. This document was last reviewed on:

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Risk factors[edit] Smoking is the most important risk factor for laryngeal cancer. Death from laryngeal cancer is 20 times more likely for heaviest smokers than for nonsmokers. When combined, these two factors appear to have a synergistic effect. Some other quoted risk factors are likely, in part, to be related to prolonged alcohol and tobacco consumption. These include low socioeconomic status, male sex, and age greater than 55 years. This is mainly because in a significant proportion of these patients, the aerodigestive tract and lung epithelium have been exposed chronically to the carcinogenic effects of alcohol and tobacco. In this situation, a field change effect may occur, where the epithelial tissues start to become diffusely dysplastic with a reduced threshold for malignant change. This risk may be reduced by quitting alcohol and tobacco. Diagnosis[edit] Diagnosis is made by the doctor on the basis of a medical history , physical examination , and special investigations which may include a chest x-ray , CT or MRI scans, and tissue biopsy. The examination of the larynx requires some expertise, which may require specialist referral. The physical exam includes a systematic examination of the whole patient to assess general health and to look for signs of associated conditions and metastatic disease. The neck and supraclavicular fossa are palpated to feel for cervical adenopathy , other masses, and laryngeal crepitus. The oral cavity and oropharynx are examined under direct vision. Indirect laryngoscopy can be highly effective, but requires skill and practice for consistent results. For this reason, many specialist clinics now use fibre-optic nasal endoscopy where a thin and flexible endoscope , inserted through the nostril , is used to clearly visualise the entire pharynx and larynx. Nasal endoscopy is a quick and easy procedure performed in clinic. Local anaesthetic spray may be used. If there is a suspicion of cancer, biopsy is performed, usually under general anaesthetic. This provides histological proof of cancer type and grade. If the lesion appears to be small and well localised, the surgeon may undertake excision biopsy, where an attempt is made to completely remove the tumour at the time of first biopsy. In this situation, the pathologist will not only be able to confirm the diagnosis, but can also comment on the completeness of excision, i. A full endoscopic examination of the larynx, trachea , and esophagus is often performed at the time of biopsy. For small glottic tumours further imaging may be unnecessary. In most cases, tumour staging is completed by scanning the head and neck region to assess the local extent of the tumour and any pathologically enlarged cervical lymph nodes. The final management plan will depend on the site, stage tumour size, nodal spread, distant metastasis , and histological type. The overall health and wishes of the patient must also be taken into account. A prognostic multigene classifier has been shown to be potentially useful for the distinction of laryngeal cancer of low or high risk of recurrence and might influence the treatment choice in future. T classification[edit].

Chapter 5 : Surgery for Laryngeal and Hypopharyngeal Cancers

Surgery for Cancer of the Larynx and Related Structures / Edition 2 Here is the 2nd Edition of this classic text in the field of laryngeal cancer surgery. This text combines an atlas of surgical procedures with detailed discussions of the development, indications, complications, and results of the procedures.

After someone is diagnosed with laryngeal cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called staging. The stage of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and how best to treat it. The earliest stage of laryngeal cancer is stage 0, also known as carcinoma in situ CIS. The other main stages range from I 1 through IV 4. Some stages are split further, using capital letters A, B, etc. As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. And within a stage, an earlier letter means a lower stage. How is the stage determined? The extent of the main tumor T: Where is the tumor? How far has it grown into the larynx and nearby structures? Has it affected vocal cord movement? The spread to nearby lymph nodes N: Has the cancer spread to nearby lymph nodes in the neck? If so, how many are affected, and how large are they? The spread metastasis to distant sites M: Has the cancer spread to distant parts of the body? The most common sites of spread are the lungs, liver, or bones. Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once the T, N, and M categories of the cancer have been determined, this information is combined in a process called stage grouping to assign an overall stage. For more information, see Cancer Staging. Laryngeal cancer is typically given a clinical stage based on the results of any exams, biopsies, and imaging tests that might have been done as described in How Are Laryngeal and Hypopharyngeal Cancers Diagnosed? If surgery has been done, the pathologic stage also called the surgical stage can be determined. The stages of laryngeal cancer are slightly different, based on which part of the larynx the cancer starts in: The supraglottis the area above the vocal cords The glottis the area that includes the vocal cords The subglottis the area below the vocal cords Laryngeal cancer staging can be complex, so ask your doctor to explain it to you in a way you understand. Stages of supraglottic laryngeal cancer AJCC stage.

Chapter 6 : Laryngology & Larynx Disorders | Cleveland Clinic

Surgery for cancer of the larynx and related structures (ed 2) Surgery for cancer of the larynx and related structures (ed 2) Wanamaker, John R. Book Reviews Balance Disorders: A Case-Study Approach by Joseph M. Furman, MD and Stephen P. Cass, MD.

Total or partial pharyngectomy Surgery to remove all or part of the pharynx throat is called a pharyngectomy. This operation may be used to treat cancers of the hypopharynx. Often, the larynx is removed along with the hypopharynx. After surgery, you may need reconstructive surgery to rebuild this part of the throat and improve your ability to swallow. Lymph node removal Cancers of the larynx and hypopharynx may spread to the lymph nodes in the neck. If your doctor thinks that lymph node spread is likely, lymph nodes and other nearby tissues may be removed from your neck. This operation, called a neck dissection, is done at the same time as the surgery to remove the main tumor. Doctors determine how likely the cancer has spread to the lymph nodes based on the size and location of the tumor and whether or not the lymph nodes are enlarged on an imaging test. There are several forms of neck dissections, ranging from a radical neck dissection to a less extensive selective neck dissection. They differ in the amount of tissue removed from the neck. In a full radical dissection, nerves and muscles responsible for some neck and shoulder movement are removed along with the lymph nodes. This might be needed to be sure that all of the lymph nodes likely to contain cancer are removed. If possible, doctors will try to remove less normal tissue to try to keep your shoulder and neck working normally. Thyroidectomy Sometimes the cancer spreads into the thyroid gland and all or part of it must be removed. The thyroid sits in the front of your neck and wraps around to the sides of the trachea windpipe. It makes hormones that control your metabolism and how your body uses calcium. If all of the thyroid gland is removed, your body can no longer make the thyroid hormone it needs. In this case, you must take thyroid hormone levothyroxine pills to replace the loss of the natural hormone. Other surgeries that may be needed Reconstructive surgery These operations may be done to help restore the structure or function of areas affected by major surgeries needed to remove the cancer. Sometimes a muscle and area of skin may be rotated from an area close to your throat, such as the chest pectoralis major flap , to reconstruct or rebuild part of your throat. Tissues from other parts of your body such as a piece of intestine or a piece of arm muscle can be used to replace parts of your throat. It may be used in certain cases. For instance, after a partial laryngectomy or pharyngectomy, a temporary short-term tracheostomy may be needed to help protect your airway while you recover from surgery. To do this, a small plastic tube called a trach tube is put into your trachea through a hole in the front of your neck. You then breathe through your mouth and nose like you did before. As described above, a permanent tracheostomy is needed after a total laryngectomy. A trach tube or stoma cover may be needed to help keep the tracheostomy hole open. You will breathe through this opening instead of through your mouth and nose. If a laryngeal or hypopharyngeal cancer is blocking the windpipe and is too big to remove completely, an opening may be made to connect the lower part of your windpipe to a stoma hole in the front of your neck to bypass the tumor and allow you to breathe more comfortably. Gastrostomy tube Cancers in the larynx and hypopharynx may keep you from swallowing enough food to maintain good nutrition. This can make you weak and make it harder to complete treatment. The tube is often put in place with the help of a flexible, lighted instrument endoscope passed down your mouth and into the stomach. This is done while you are sedated. Another option is to put the tube in during an operation. Often, the gastrostomy tube is only needed for a short time to help you get enough nutrition during cancer treatment. Possible risks and side effects of surgery All surgery carries some risks, including blood clots, infections, complications from anesthesia, and pneumonia. These risks are generally low but are higher with more complicated operations. Patients who have a laryngectomy or pharyngectomy typically lose the ability to speak normally. Some people will need a tracheostomy after surgery. Less extensive operations can also affect speech in some cases. Surgeries that affect the throat or voice box can lead to a gradual narrowing stenosis of

the throat or larynx if it remains after surgery. If this happens, you might need a tracheostomy. Throat or larynx surgeries may also sometimes affect your ability to swallow. This can affect how you eat, and might be severe enough to require a permanent feeding tube. Laryngectomy and pharyngectomy can also lead to the development of a fistula an abnormal opening between 2 areas that are not normally connected. Surgery may be needed to fix it. A very rare but serious complication of neck surgery is rupture of a carotid artery the large artery on either side of the neck. For more general information on surgery as a treatment for cancer, see Cancer Surgery.

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Chapter 7 : Laryngeal cancer - Wikipedia

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