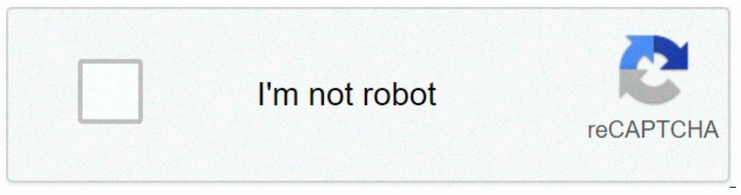

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Cancerous cells pdf

Pre-cancerous cells are cells with an abnormal appearance that indicate an increased risk of cancer. These cells are not cancerous themselves, but can precede the development of cancer. When patients have pre-cancer cells, they are indicators that patients should be monitored carefully in the future. Consistent screening and monitoring will help doctors identify cancers early, if they appear, enabling the rapid provision of treatment. Pre-cancerous cells can also indicate the need for prophylactic treatment to prevent the appearance of cancer. The cells are identified in the laboratory by analyzing cell samples from the patient's body. A doctor can take a cell biopsy if physical changes have been observed and there are concerns about cancer, or a biopsy can be taken as part of a routine medical examination such as a Pap test for women. A lab technician will look at the cells under a microscope, checking them for signs of abnormalities. Pre-cancer cells are abnormal in appearance, but they are also not invasive. Cells have emerged from cells that naturally exist in the area where the biopsy is taken, and usually older cells that are not dying or dividing in unexpected ways. Abnormal cell growth does not spread, and carries no risk of appearing in other parts of the body. Cell abnormalities are often seen when people have infections, inflammation, or irritation, and pre-cancer cells are often associated with chronic irritation. If abnormal cells are identified in a biopsy sample, the doctor may request repeated tests to confirm or follow up. In addition, patients will be interviewed to see if there is an explanation. For example, if a patient has recently had a yeast infection, some abnormal cells may be expected on the Pap due to inflammation and associated irritation, and the cells may not be a cause for concern. If there is no obvious reason for abnormal cells to be present, the cells will be treated as pre-cancer. Recommendations for patients with pre-cancer cells may include a wait and see approach to examining changes, along with recommendations for increased frequency of screening and testing. If future patient tests appear clean repeatedly, the examination can be scaled back to a more normal frequency. Another option could be a prophylactic treatment to kill cancer cells before they have a chance to spread, such as a prescription for tamoxifen offered to a woman with pre-cancerous cells in her breast. The term pre-cancerous cells can be daunting, and it is important to note that not all pre-cancerous cells turn into cancer. In fact, most don't. Pre-cancerous cells are abnormal cells found on the continuum between normal cells and cancer cells. Unlike cancer cells, pre-cancerous cells do not attack nearby tissues or spread to areas far from the body. There is a lot of potential pre-cancer cells, ranging from infection to chronic inflammation. Many people have heard of pre-cancer cells from The cervix is found during a Pap smear, but pre-cancer cells can occur in almost any region of the body—the bronchi, skin, breasts, colon, and more. Pre-cancerous cells (also called premalignant cells) are defined as abnormal cells that can turn into cancer cells, but which, by themselves, are not invasive. The concept of pre-cancer cells is confusing because it is not a black-and-white problem. In general, cells do not run from normal on the first day, to premalignant on the second day, and then to cancer on the third day. Sometimes pre-cancerous cells develop into cancer, but more often they don't. They may remain the same —that is, remain abnormal but not invasive—or they may even become normal again. It is important to emphasize again that pre-cancerous cells are not cancer cells. This means that left alone, they are not invasive—that is, they will not spread to other areas of the body. They are just abnormal cells that can, in time, undergo changes that will turn them into cancer cells. If pre-cancerous cells are removed before becoming cancerous, the condition should, theoretically, be 100% adjustable. That said, not all pre-cancer cells need to be removed immediately. Another point of confusion is that cancer cells and pre-cancerous cells can coexist. For example, in some people diagnosed with breast cancer, there are other areas in the breast and even in the tumor itself where pre-cancerous cells are found as well. In many tumors, malignant and premalignant cells are found. Cancers that begin in epithelial cells (about 85% of cancers) may have a pre-cancerous state. This is different from cancers, such as sarcoma, which starts in mesothelial cells. Some pre-cancerous states include: Again, it is important to note that pre-cancerous cells may or may not continue to be cancer cells. The word dysplasia is often used synonymous with pre-cancer cells, but there are some differences. When doctors talk about dysplasia, they talk about abnormal cells that can become cancerous. But in some cases, the term severe dysplasia is used to describe cells that are already cancerous but contained in the tissues in which they begin —something known as carcinoma there. Pre-cancer changes are usually explained in degrees or levels of abnormalities. There are two main ways described: severity and value. Dysplasia can range from mild to severe: Mild dysplasia: Mild dysplasia refers to cells that are only slightly abnormal. These cells usually do not develop into cancer.

Moderate dysplasia: These cells are quite abnormal and have a higher risk of developing cancer. Severe dysplasia: This is the most extreme disorder seen before cells are described as cancerous. Severe dysplasia is much more likely to develop into cancer. what may make this clearer is the cervical dysplasia found in some Pap smears. Slightly displastic cells rarely become cancerous. Cancer. is confusion as to where exactly to draw the line between severe dysplasia and carcinoma there. Carcinoma there is a term that literally translates as on-site cancer. These are cancer cells that have not penetrated what is known as the basement membrane. Another way to describe the severity of pre-cancer changes in cells is based on values. With cervical cells, this classification is usually used when a biopsy is performed after finding dysplasia on a pap smear. Low-grade dysplasia: Low-grade changes are unlikely to develop into cancer. High-quality dysplasia: Cells with high-quality dysplasia are much more likely to develop into cancer. An example is the low-grade dysplasia seen in cervical biopsies. The likelihood of this change developing into cancer is quite low. Conversely, high-quality colon dysplasia associated with colon polyps has a high risk of continuing to be colon cancer. There are several factors that can cause cells to become pre-cancered, and these vary depending on the specific cell type involved. In the past, researchers believed the damage was done when cells were converted into pre-cancerous states by carcinogens in the environment. We are now learning (in a field called epigenetics) that our cells are more resilient than that and factors in our environment (whether carcinogens, hormones or perhaps even stress) work together to determine what direction abnormal changes in cells might go. A simple way of understanding the cause is to look at influences in the environment that can damage healthy cells, leading to changes in cell DNA, which can then lead to abnormal growth and development. Viral, bacterial and parasitic infections are responsible for 15% to 20% of cancers worldwide (this figure is lower in the US and other developed countries). Infection with human papillomavirus (HPV) can cause inflammation, leading to pre-cancerous cells in the cervix. HPV is also an important cause of dysplasia that precedes many head and neck cancers, such as tongue cancer and throat cancer. Most infections with HPV are clear before abnormal cell changes occur. If dysplasia develops, it can resolve itself or with treatment, or progress to cervical cancer without treatment. Subsequent infection and inflammation with the bacterium Helicobacter pylori (H. pylori) can result in chronic atrophy gastritis, an inflammatory pre-cancerous change in the lining of the stomach that can cause gastric cancer. An example is in people who have gastroesophageal reflux disease (GERD) for a long period of time. Chronic inflammation of the esophagus by stomach acid can result in a condition known as Barrett's esophagus. Among people with Barrett's esophagus, about 0.5% per year will develop esophageal cancer. Field the important thing is to determine whether or or whether eliminating high-quality areas of dysplasia reduces the risk of developing esophageal cancer. Another example is inflammation of the colon in people with inflammatory bowel disease (IBD). IBD can cause polyps with colon dysplasia, which in turn can eventually lead to colon cancer. Chronic irritation of the airways from tobacco smoke, air pollution, and some industrial chemicals can result in bronchial dysplasia (bronchial dysplasia). If this is detected early—during bronchoscopy and biopsy, for example—pre-cancerous cells can sometimes be treated with cryosurgery before they have a chance of progressing to lung cancer. Discussing pre-cancerous changes is a good opportunity to talk about another elusive concept in cancer development: latency. The latency period is defined as the time period between exposure to cancer-causing substances (carcinogens) and subsequent cancer progression. People are often surprised when they develop cancer years after exposure to carcinogens; for example, some people get confused when they develop lung cancer even when they quit smoking three decades earlier. When cells are first exposed to carcinogens, damage is done to the DNA in the cells. Usually the accumulation of this damage (accumulation of mutations) over time results in the cells becoming pre-cancered. After that period, cells can develop through mild to moderate stages — and to severe — dysplasia before eventually becoming cancer cells. Cells can also be exposed to environments that inhibit their development to cancer, or even return them to normal cells. That's why a healthy diet and exercise is important even if you've been exposed to carcinogens. It's a simple way to describe the process, and we learned that it's much more complex than we ever thought. But understanding the pre-cancerous process does help explain the latency period we see with many cancers. The answer is that most of the time, we don't know how long it takes pre-cancerous cells to become cancerous. In addition, the answer certainly varies depending on the type of cell studied. In one study looking at 101 people with vocal cord dysplasia, 15 went on to develop invasive cancer (one had mild dysplasia, one had moderate dysplasia, seven had severe dysplasia and six had carcinoma there). In 73% of these patients, their pre-cancerous lesions became invasive cancers of the vocal cords within a year, with the rest developing cancer years later. , so an example might help make this understanding a little clearer. With skuandus cell lung cancer, it seems that the cells undergo certain developments before the cancer develops. It starts with normal lung cells. The first change is hyperplasia, which is defined as cells growing larger or faster than expected. Step is metaplasia, when cell cells are to a cell type that usually does not exist. Metaplasia in the esophagus (which can be a precursor to esophageal cancer), for example, is when cells that look like those usually found in the small intestine are found in the esophagus. The third step is dysplasia, which is followed by carcinoma there and, finally, invasive squamous cell carcinoma. Pre-cancer cells are often present without any symptoms. If there are symptoms, they will depend on the location of the pre-cancer changes. Pre-cancer changes in the cervix, for example, can cause cells to become easier, resulting in abnormal uterine bleeding. Pre-cancer changes in the mouth can be visualized as white spots (leukoplakia). Pre-cancerous changes in the gastrointestinal tract (such as the esophagus, stomach, or colon) can be seen in procedures such as upper GI endoscopy or colonoscopy. , such as the tissue that lines the airways, dysplasia is most often detected when a screening biopsy is performed for other reasons. Physical examinations or imaging studies may indicate that abnormal cells may be present, but a biopsy is needed to make a diagnosis. After the tissue part is removed, the pathologist looks at the cells under a microscope for signs that the cells are pre-cancerous or cancerous. Treatment of pre-cancer cells will return depending on the location of the cell. Sometimes close monitoring is all that is recommended to see if the level of dysplasia develops or resolves without treatment. Often pre-cancerous cells will be eliminated with procedures such as cryotherapy or surgery to remove areas where abnormal cells are located. Even if abnormal cells are removed, it is important to remember that anything that causes cells to become abnormal in the first place can affect other cells in the future, and careful monitoring in the long run is important. If abnormal cervical cells are treated with cryotherapy, it will still be important to monitor recurring problems with Pap smears in the future. It is the use of drugs that reduce the risk of cells becoming abnormal in the future. An example is treating a bacterial infection of H. pylori in the stomach. Bending the body of bacteria seems to reduce pre-cancerous cells and the development of stomach cancer. The researchers looked at the use of some drugs and vitamins to see if their use in former and current smokers would lower their risk of developing lung cancer in the future. , the development of pre-cancer changes can be changed by our environment: the food we eat, the exercise we get, and the lifestyle We make. A diet rich in foods containing certain vitamins, for example, can help the body clear the HPV virus more quickly. Similarly, avoiding substances that may be responsible for pre-cancer changes (such as tobacco) may reduce the risk of pre-cancer cells developing or the formation of further pre-cancer cells in the future. Examples are situations with smoking and cervical cancer. Although smoking does not seem to cause cervical cancer, combining smoking with HPV infection increases the likelihood that the cancer will develop. People with cancer can also benefit from learning about cancer risk reduction or reduction in recurrence through diet and exercise. Take a moment to look at tips to reduce your cancer risk, which can help in reducing lung cancer and other cancers, as well as diet superfoods that can help lower your risk of developing cancer or relapsed cancer. Recurrence.