DOWNLOAD PDF MEDICINES DEADLY DUST

Chapter 1 : What is Asthma? Causes, Symptoms, and Treatment

Medicine's Deadly Dust, is an in-depth look at an explosive healthcare problem that causes unnecessary pain and suffering, wasteful expenditure of millions of dollars of valuable healthcare resources, and in some cases unnecessary death.

Lack of oxygen to the brain Loss of consciousness and even coma Injury related to poor decisions, lack of inhibitions, and increased risk-taking Since canned air is a refrigerant, it can also cause frostbite of the lips, mouth, and throat when inhaled and abused, ABC News warns. Dust-Off may be a cheap and easy to obtain high; however, the consequences can be dangerous and even deadly. Potential Long-Term Consequences of Huffing Canned air is essentially a toxic poison that is not meant to be inhaled, according to the safety information for Dust-Off. Dusting or huffing these products can have negative immediate and long-term consequences. Inhalant abuse can cause permanent brain damage that can lead to irreversible neurological deficits. The journal Paediatrics and Child Health reports that these drugs can damage neural membranes and myelin as well as lead to brainstem dysfunction, which can cause motor, sensory, and cognitive deficits. Irritability, hearing loss, slurred speech, tremors, lack of motor coordination, bone marrow toxicity, and vision problems may be long-term results of huffing. Damage to major organs, such as the liver, kidneys, heart, and lungs, and to the central nervous system can also be the result of repeated huffing. Abusing Dust-Off regularly may lead to psychological and physical addiction, Today warns. Addiction is a brain disease stemming from compulsive drug-seeking and drug-using behaviors. When someone abuses canned air, brain chemistry is altered. With repeated interference of these chemicals, the brain can struggle to function normally without the substance. Increased secrecy, mood swings, social withdrawal, declining grades, possible criminal or legal troubles, financial strain, and a possible decline in physical appearance can be side effects and signs of addiction. Recognizing Abuse of Canned Air Huffing can be deadly in just one use. Prevention is the best course of action for avoiding a tragic outcome. Being able to spot potential abuse of Dust-Off or other inhalants may literally be lifesaving. Some of the warning signs to watch for include: If abuse is suspected, it is important to seek immediate professional help. For instance, both residential and outpatient treatment programs provide high levels of care, support, encouragement, and attention. Individuals who have a strong support system at home and obligations that may require flexible scheduling can benefit from outpatient services that can accommodate these circumstances. Residential treatment programs can provide a more comprehensive approach to treatment, offering structure, inclusive care, and a wide range of amenities and programs as well as around-the-clock supervision. When a person develops physical dependence on drugs, detox is often the first stage of an addiction treatment program. While there are few reported physical symptoms associated with inhalant or canned air withdrawal, detox can still be uncomfortable and involve psychological withdrawal symptoms, such as anxiety, depression, insomnia, and cravings for the drug. In medical detox, clients can be cared for by medical professionals, ensuring they remain comfortable throughout the process and do not relapse. Behavioral therapies are an important aspect of any substance abuse treatment program, as they can help people to recognize negative thought patterns and learn healthier ways of coping with difficult emotions. Thoughts directly translate into actions, and by identifying self-destructive thoughts, individuals can begin to change those thoughts and thereby avoid dysfunctional behaviors. High levels of stress and low self-esteem may make a person more inclined to experiment with drugs like Dust-Off, and behavioral therapies can help to reduce the experience of stress and improve overall self-confidence. Last updated on September 17, T

Chapter 2 : Medicine's Deadly Dust

The "deadly dust" here is the cornstarch used to make latex examination and surgical gloves easier to slip on. This substance causes two problems, the first caused by the cornstarch (and similar substances, such as talc, used in other times and places), the second by latex proteins from the gloves themselves, which are spread by the cornstarch.

Downers, red devils, pink ladies, purple hearts, goofballs Price: They are a class of sedatives which were widely prescribed to treat depression, anxiety and even sleeping problems until the potential dangers were realised in the late s. Since barbiturates have not been freely available, if they were they would appear higher up this list. The drugs work by depressing the nervous system which in turns gives the user a feeling of relaxed contentment and even euphoria. They also reduce anxiety and inhibition, somewhat similar to the effects of alcohol. There is a much finer line between a normal and a deadly dose than with most other narcotics. It does make you wonder about the authorities motivations for controlling other drugs though. That is until their liver gives up and everyone close to them leaves. Its first recorded use was by the Nazis in World War II, when it was used as a stimulant by fighter pilots and tank commanders. The drug then reappeared in s America as an anti-obesity product. Remember those diet pills you heard about people getting addicted to â€" crystal meth! If you believe the media there is a a veritable epidemic of crystal meth has swept across the U. Whilst in some ways similar to other amphetamines crystal meth is both more addictive and much worse for your body. The effects of crystal meth are likened to crack cocaine, but lasting much, much longer. Ironically it also damages the dopamine receptors meaning you will need ever increasing doses of meth and leading to long term emotional problems. Methamphetamine is known to be an aphrodisiac and can prolong sexual activities. It is not unheard of for meth-fuelled sex parties to go on for days. On the negative side, a direct correlation between high-risk sexual practices and related infections has been seen with crystal meth abuse. One of the best known side effects suffered by meth addicts is what the drug does to the skin. This chronic tooth decay is the combination of a dry mouth and the complete lack of oral hygiene when addicts become totally self-neglecting.. Along with all the meth specific risk are several common to other drugs. There is psychosis, risk of heart attack or stroke and possible death by overdose. This combined with the fact most addicts will need to resort to crime to pay for their habit is why crystal meth features on our list. There are three main reasons for this the first of which is heroine is just more dangerous. Whilst taking too much meth might not do you any good it is a lot more difficult to kill yourself with an OD than it is with heroine. In fact it is all to easy to accidentally overdose on heroine. Every set of hands it passes through it gets cut with some other dirty white powder. Then there is the physical withdrawal. Once addicted kicking the habit is going to involve a whole world of pain. Whilst generally no worse than a case of flu this can be more than enough to discourage the addict to try quitting. So heroine is probably the hardest of all drugs to give up. It will be the only thing you think about from the moment you wake up and junkies will do anything just to get the next fix. Coke, blow, charlie, crack, rock Price: But unsurprisingly it is highly addictive. Coke acts on the primal reward areas of the brain which are normally triggered via, for example, sex or eating food we like. This makes the cravings for cocaine powerful. As well as being bad for your wallet cocaine is particularly bad for you with more emergency room visits in the U. There are few parts of the body cocaine does not adversely effect but the most significant risks are sudden death from heart attack or stroke. Whilst the physical effects of withdrawal are relatively minor the psychological addiction can be hard to break with some users even becoming suicidal. Although the process may only last 2 weeks a cocaine addict may experience cravings for the drug years down the line. Although you can inject coke, it is dangerous and apparently gives a very strong but short-lived rush. This is why crack came about. The result is a more powerful but shorter lived hit, followed by a nasty come down. This makes crack even more addictive than normal cocaine. Crack has all the same risks as other forms of cocaine plus smoking it is very bad for your lungs. There is also a higher risk of overdosing due to increased cravings. In conclusion; there are some drugs that people can live with, some for a long time. There are however some drugs that even if you have all the money in the world and a guaranteed pure source are still going to mess you up.

Chapter 3 : The Deadly Drug That Used to Be a Popular Medicine | Flashback | OZY

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In fact, roughly 30 million Americans have asthma. Asthma is a lung disease caused by inflammation swelling that leads to wheezing, shortness of breath, chest tightness, and coughing. Many people with asthma also have a family history of allergies, such as hay fever or pet allergies. Although asthma cannot be cured, it can be controlled with medications and patients can live an active and normal lifestyle. Follow along for tips and treatment. What Happens During an Asthma Attack? An asthma attack is exactly that - the muscles around the airways and the lining of the air passages tighten. Swelling reduces the amount of air that can pass through the airways and leads to a high-pitched, wheezing sound. Asthma attacks can become life-threatening if the airflow in the lungs becomes severely blocked. The exact reason why people get asthma is not fully known. A family history and the environment seem to play a role for most, but not all, people. In sensitive people, breathing in allergy-causing substances called allergens or triggers can start asthma symptoms. Triggers include pet dander, dust mites, cockroach allergens, molds, or pollens. Respiratory infections, exercise, cold air, stress, food sulfites, tobacco smoke, and other air pollutants can also trigger asthma symptoms. What Are the Symptoms of Asthma? Asthma symptoms may persist regularly or come and go with the season or asthma triggers. In the fall or spring asthma symptoms may worsen, especially in patients with mold or pollen allergies. Asthma prevention is the mainstay of therapy - using inhaled corticosteroids like fluticasone Arnuity Ellipta, Flovent Diskus, Flovent HFA , and adding a long-acting beta2-agonist like salmeterol Advair, Serevent for more severe or poorly controlled asthma. Acute asthma symptoms are often treated with a fast-acting bronchodilator inhaler such as albuterol ProAir. How is Asthma Diagnosed? A doctor visit is in order if you have asthma symptoms. Asthma is diagnosed based on your medical and family history of asthma and allergies, a physical exam, and test results. The doctor will use a stethoscope to listen to your lungs and look for signs of asthma such as wheezing, swollen nasal passages, and runny nose. Asthma tests may include a lung function test called spirometry that measures how much and how fast you can blow air in and out. Your doctor might recommend allergy testing, too. How is Asthma Treated and Controlled? Asthma treatment is aimed at controlling airway inflammation and avoiding known allergy triggers, like pet dander and pollen. The main goals are to restore normal breathing, prevent asthma attacks and restore daily activities. Daily asthma treatment helps to prevent symptoms, and asthma inhalers are the preferred method because the drug can be delivered directly into the lungs in smaller doses with less side effects. Some asthma medicines are given in pill or injection form, too. Asthma is treated and controlled primarily with two types of medications: Flovent, Pulmicort are used to control lung swelling over the long-term, and quick-relief beta2-agonists like albuterol examples: ProAir, Proventil are used as "rescue" inhalers when symptoms occur. A long-acting beta2-agonist, such as Advair , may needed in more severe asthma. Other treatments include leukotriene modifiers , such as montelukast Singulair , zafirlukast Accolate and zileuton Zyflo CR. These drugs block chemicals that cause inflammation and airway narrowing in asthma. Montelukast is also approved for allergy treatment and exercise-induced asthma. These drugs are taken in a pill form by mouth, not by inhalation. Other long-term asthma control drugs include cromolyn , theophylline , and omalizumab Xolair injectable. Work with your doctor and pharmacist to develop an asthma action plan, particularly for when you have an asthma attack. Be sure you are using your quick-relief inhaler correctly and keep it with you at all times. If you use the rescue inhaler more than two times a week, contact your prescriber; your asthma may not be well-controlled and you might need a medication change. You should be able to sleep at night without symptoms. Children, especially those under 5 years of age, may need a spacer device or nebulizer to help with breathing in asthma medication. Spacer devices have a chamber that receives the aerosol before it is inhaled. Nebulizers convert medication into a fine mist breathing treatment to ease inhalation. Spacers are portable, while nebulizers are available for home electric or portable battery use. Spacers and nebulizers are also useful for anyone who has trouble with an inhaler. Your doctor can order these for you. Learn more about how to use a nebulizer here and about

spacers here. Inhaled asthma medications are usually well-tolerated with few side effects when used as prescribed. Inhaled corticosteroids can cause thrush , a fungal infection of the mouth. Rinsing your mouth with water after using the inhaler or using a spacer device might help prevent thrush. Contact your doctor if you notice white patches in your mouth, which could be thrush. Inhaled quick-acting medicines like albuterol can also cause shakiness, nervousness, difficulty sleeping or a fast heartbeat. Exercise-induced asthma EIA is a swelling of the airways during exercise. EIA can occur in people with or without asthma. EIA may happen during or after physical activity, especially in cold weather, with asthma triggers, and during an illness. Symptoms like coughing, wheezing, fatigue, chest tightness, or headache may occur. To treat EIA, you may need to avoid triggers and take medicine before you exercise or on a daily basis. Many of the same drugs used for asthma can be used for EIA, such as albuterol and montelukast Singulair. What is a Peak Flow Meter? A peak flow meter is a small handheld device you can keep at home that measures how well your lungs are working. It measures how much and how fast you exhale after taking a deep breath in and blowing out hard. The numbers tell you and your healthcare provider if your asthma action plan is working. Your peak flow number can help you predict times when your asthma may worsen; the numbers may decrease a few hours or days before an asthma attack. Your doctor can show you how to use a peak flow meter or you can read about it here. Are Asthma Medicines Expensive? Many asthma treatments are available generically and can save money. However, some asthma treatments are expensive. Inhaler medications reformulated to be more safe for the environment, like ProAir HFA albuterol , are costly, but ProAir is expected to be available generically in Dec. Patients should talk with their doctor when getting their prescription to be sure they can afford their medications; less costly alternatives may be available. Drugs to control asthma are usually taken every day, so it is important to work with your prescriber and pharmacist to find treatments you can afford. Check with your insurance carrier for cost information, too. Cinqair reduces eosinophils, a type of white blood cell that contributes to asthma development. It is classified as an interleukin 5 antagonist monoclonal antibody IgG4 kappa. Common side effects included anaphylaxis, cancer, and muscle pain. Nucala blocks interleukin-5 and reduces inflammatory-producing white blood cell accumulation in the lungs. Like Cinqair, Nucala is given by injection every 4 weeks. Common side effects may include headache, injection site reactions, back pain, and weakness. AirDuo is a combination corticosteroid and long-acting beta2-adrenergic agonist, while ArmonAir is the single corticosteroid. Both products are breath-activated, dry powder inhaler formulations. The most common side effects for both asthma products were nasopharyngitis common cold , headache, cough, and oral candidiasis thrush. The available strengths of AirDuo RespiClick are: ArmonAir RespiClick will be available as 55 mcg, mcg, and mcg also taken as one inhalation twice daily. Fasenra is an interleukin-5 receptor monoclonal antibody used as an add-on maintenance treatment. Fasenra is given initially as a subcutaneous injection once every 4 weeks for the first 3 doses, then once every 8 weeks. It is available in a prefilled syringe. Eosinophilic asthma patients have limited treatment options and often rely on oral steroids to manage their symptoms, which can lead to serious side effects. Elevated levels of eosinophils, a type of white blood cell, are seen in about half of severe asthma patients and results in inflammation, increased asthma severity, decreased lung function and increased risk of exacerbations. Will grapefruit juice alter any medications you are taking? A Battle For Your Bones Osteoporosis is a condition where bones become weak and brittle and can easily break. Although more often diagnosed in older women, osteoporosis can affect anyone but there are several lifestyle changes you can make to keep your bones in the best health possible.

Chapter 4 : 10 Most Dangerous Drugs in the World

Medicines Deadly Dust A Surgeons Wake Up Call To Society Ebook Medicines Deadly Dust A Surgeons Wake Up Call To Society currently available at blog.quintoapp.com for review only, if you need complete ebook.

I believe the church is in real danger Schaeffer Today the pressures and battles Schaeffer predicted have engulfed the evangelical church. They come from the moral decay of the surrounding world. They come from the conflict between Christian principles and political ideologies. They come from the growing compromise morally and theologically within the church and among evangelicals in particular. The classic, definitive title on the great Black figures in world history, beginning in antiquity and reaching into the modern age. Rogers spent the majority of his lifetime pioneering the field of Black studies with his exhaustive research on the major names in Black history whose contributions or even very existence have been glossed over. If you are one of many people out there today, looking for answers from the Word of God, the Bible, then this is the book for you. People all over the world pick up the Bible at one time or another, and as they start to read, they lose interest quickly. Everything I wrote in this book is easy to comprehend, and not only that, I have followed each statement with the written Word of God, straight from the pages of the Bible. That way, you will be able to read for yourself, that everything I am telling you, is the whole truth, and nothing but the truth, so help me God. I believe without a shadow of a doubt that the Holy Spirit of God has inspired me to write this book as a guide to help you along your journey as one of His children. What must I do to be saved? What is the right way to pray? Is the Bible the true Word of God? What is the meaning of salvation? Does God really love me? Why did Jesus die for me? Who is the Holy Spirit? Why am I here and where am I going? Is there really a Heaven and Hell, and if there is, who will be going there? Who is Satan and why is he here? What do Angels look like and what is their purpose? What is expected of me? These are just a few of the many questions you will find the answers to in this book. Brothers and sisters, today is the first day of the rest of your life. Jance to feature Seattle p. An all-new adventure of the crew o An all-new adventure of the crew of the battlestar Galactica, co-written by series star Richard Hatch, who portrayed Captain Apollo. Have the Galacticans truly found their "paradise" among the stars? Will the fleet stay and make this inviting, verdant planet their final home? It looks that way, until the traitor Baltar begins having nightmares about a new race of Cylons, more evil and deadlier than ever before -- a Cylon race with superior technology, warships and weaponry. Rebellion The remnants of the ragtag fleet and the battle-scarre The remnants of the ragtag fleet and the battle-scarred Galactica have escaped the clutches of the Cylons and warped into an unknown quadrant of the galaxy. It is a pocket of null-space in which their stardrives will not work. To make matters worse, the recent conflicts have left many wounded and medical supplies are critically low. While scouts venture forth in search of a habitable planet, the civilian population of the fleet rebels. Fights over the dwindling supplies break out among civilian factions, and the military is called upon to restore order, which only serves to heighten the tensions. And, once again, accusing fingers are pointed squarely at the man whose responsibility it is to assure the safety and well-being of all: Even members of the Galactica? Adding to the growing tensions is the fact that Troy and Dalton, Trays and Boomer? But the real stunner is the revelation that Casseopia is pregnant, and that she has acknowledged Apollo as the father! Apollo and Athena are relieved of their commands and thrown into the brig. Civilians take over and chaos reigns? And soon after the Cylons, the even more deadly, alien Chitain show up. Apollo must somehow regain command of the fleet, organize a fight against the Cylons and Chitain, find a way to resupply the fleet and devise an escape route from the pocket of null-space in which they are stuck, before it implodes and destroys everything and everyone caught in it. The Manga -- Echoes of New Caprica v. An eye-opening account of the great black personalities of world history. In this first volume: Rogers was one of the first Black scholars to devote most of his life to researching the lives of hundreds of men and women of color. This first volume is a convenient reference; equipped with a comprehensive introduction, it treats all aspects of recorded Black history. Benedict the Moor, and many others. Bestselling author and human guinea pig A. Jacobs puts his life to the test and reports on the surprising and entertaining results. And in a new adventure, Jacobs undergoes scientific testing to determine how he can put his wife

through these and other life-altering experimentsâ€”one of which involves public nudity. Filled with humor and wisdom, My Life as an Experiment will immerse you in eye-opening situations and change the way you think about the big issues of our timeâ€”from love and work to national politics and breakfast cereal. The remainder are doomed to be incinerated when the sun blows off its outer layers and decimates all life in the solar system. Those to remain behind are chosen by lottery: Starbuck is one of them.

Chapter 5 : PCP (Angel Dust): Effects, Hazards & Extent of Use - blog.quintoapp.com

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Anderson, PharmD Common or street names: Angel dust, boat, hog, love boat, wack, ozone, PeaCe pill, dust, embalming fluid, rocket fuel. Supergrass, superweed, whacko tobacco, and killer joints refer to PCP combined with marijuana. PCP was developed in the s as an intravenous anesthetic, but due to the serious neurotoxic side effects, its development for human medical use was discontinued. In its purest form, PCP is a white crystalline powder that readily dissolves in water or alcohol and has a distinctive bitter chemical taste. On the illicit drug market, PCP contains a number of contaminants causing the color to range from a light to darker brown with a powdery to a gummy mass consistency. Pharmacologically, PCP is a noncompetitive NMDA N-methyl-D-aspartate receptor antagonist and glutamate receptor antagonist, but also interacts with other receptor sites, and may have effects with dopamine, opioid and nicotinic receptors. How is PCP used? PCP is available in a variety of tablets, capsules, and colored powders, which are either smoked, taken orally or by the intranasal route "snorted". Smoking is the most common route when used recreationally. For smoking, PCP is typically sprayed onto leafy material such as mint, parsley, oregano, or marijuana. PCP may also be injected. What are the effects of recreational PCP use? Many believe PCP to be one of the most dangerous drugs of abuse. A moderate amount of PCP often causes users to feel detached, distant, and estranged from their surroundings. Numbness of the extremities, slurred speech, and loss of coordination may be accompanied by a sense of strength and invulnerability. A blank stare, rapid and involuntary eye movements, and an exaggerated gait are among the more observable effects. Auditory hallucinations, image distortion, severe mood disorders, and amnesia may also occur. Acute anxiety and a feeling of impending doom, paranoia, violent hostility, a psychoses indistinguishable from schizophrenia. Physiological effects of low to moderate doses of PCP include: Physiological effects of high doses of PCP include: Psychological effects at high doses include delusions and hallucinations. Users often refer to the experiences from hallucinogens as a "trip", or calling an unpleasant experience a "bad trip. Can you get addicted to PCP? PCP is addictive and its use often leads to psychological dependence, craving, and compulsive PCP-seeking behavior. Long-time users of PCP report symptoms of: PCP has sedative effects, and interactions with other central nervous system depressants, such as alcohol and benzodiazepines, can lead to coma or accidental overdose. In a hospital or detention setting, they often become violent or suicidal, and are very dangerous to themselves and to others. They should be kept in a calm setting and should not be left alone. How do you treat a PCP addiction? People who stop ongoing use of PCP experience drug cravings, increased appetite, headaches, sleepiness, depression, and sweating as common withdrawal symptoms. While studies are looking at options for drug treatment of PCP dependence, there are no specific approved treatments for PCP abuse and addiction. Patients may need to be hospitalized and receive behavioral treatments to address abuse issues with PCP.

Chapter 6 : Richard F. Edlich (Author of Medicine's Deadly Dust)

*Deadly Dust: Silicosis and the On-Going Struggle to Protect Workers' Health (Conversations In Medicine And Society) [David Rosner, Gerald Markowitz] on blog.quintoapp.com *FREE* shipping on qualifying offers. During the Depression, silicosis, an industrial lung disease, emerged as a national social crisis.*

Includes pre and post test and questions and answers. SiO2 occurs in a non-crystalline amorphous or a crystalline form. Crystalline silica is found in seven forms polymorphisms , of which quartz, cristobalite, and tridymite are the most common. The quartz form is an abundant component of soil and rock; the term is often used to refer to crystalline silica. Silica is either free unbound to other minerals quartz has a high amount of free silica or combined with other minerals and are called silicates i. SLIDE 5 Silica Occupational exposure to respirable crystalline silica is associated with a number of respiratory diseases, including silicosis acute, accelerated, and chronic , progressive pulmonary fibrosis, chronic obstructive pulmonary disease e. SLIDE 6 Silica Although the most common health effect of silica exposure are the lung diseases occupational exposure to respirable crystalline silica is also associated with a number of other diseases, including systemic autoimmune diseases, such as rheumatoid arthritis, scleroderma, systemic lupus erythematosus SLE , and some of the small vessel vasculitides and with renal diseases i. Hippocrates reported that miners developed dyspnea with exertion. Bernardo Ramazzini, the father of occupational medicine, recognized the relationship between dust exposure in the mining trades and the development of dyspnea among miners. Although the prevalence peaked during the late 19th century in the industrial countries of the world, developing countries still have outbreaks of the disease among exposed workers and the developed countries have not totally eliminated this preventable disease. A power company was building a hydroelectric project along the New River and the Kanawha River in southern West Virginia and was building a tunnel to divert water near the town of Gauley Bridge, WV. The subcontractor for the tunnel construction project recruited workers from the rural hill country of WV and from out of state. Many workers out of work and suffering during the Great Depression came to work at the construction site. Black workers from the South were brought in and paid as little as 30 cents an hour. Working conditions in the tunnel were very bad. Drilling operations with no suppression of the dust and with no ventilation exposed hundreds of workers to high concentrations of dust. As the project continued increasing numbers of workers became short of breath and died within only a few months of exposure. It was estimated that black workers who died in the tunnel were buried in a mass grave in nearby fields. It is estimated that more than workers â€” both black and white- died during the project and that 1, workers contracted silicosis and were disabled from the disease. The public outcry led to increasing attention on the health hazards of silica exposure. Years later historians discovered the blueprints for the tunnel project. The original plans called for a 28 foot diameter tunnel. However, when the companies involved in the project found that the rock was almost pure silica, they decided to build a wider tunnel to mine the silica and sell it to the local glass making industry. However, workers were not warned of the health risks and were provided no protection from the dust exposure. In New England workers involved in the granite stone-cutting in the tombstone industry were another group of workers who contracted silicosis at a high rate. Crude mortality rates by states In the United States, it is estimated that , miners and 1. Better dust suppression and ventilation systems have decreased the number of cases in the United States. However, new cases are still reported both in the developed countries as well as the developing countries and silicosis remains a disease among many groups of workers. SLIDE 11 Silicosis Silicosis is a pulmonary disease caused by the inhalation of silica particles of respirable size 0. The presentation and severity of the disease depends on multiple factors â€” concentration of free silica dust exposure, physical characteristics and innate fibrogenic properties of the dust fraction of crystalline silica , and the duration of dust exposure. Host factors such as cigarette smoking, underlying disease and genetic characteristics of the worker may also play a factor in the disease presentation. The disease results from low to moderate exposure to dust containing respirable crystalline silica typically Accelerated silicosis, a form of classic silicosis, results from higher levels of crystalline silica dust exposure over a period of five to ten years. Acute silicosis is the least frequent but the most devastating form of the

disease. The disease results from overwhelming excessive concentrations of free crystalline silica dust exposure for as little as a few months to a few years. Particles less than 3 micrometers and greater than 0. The interaction between the silica particle and the alveolar macrophage the main phagocytic cell in the alveolar space starts the process of silicosis. Inhaled silica particles are phagocitized by macrophages â€" the alveolar macrophages become activated and an intense inflammatory response ensues â€" the macrophages secrete mediators interleukin-1, macrophage-derived growth factor, fibronectin, tumor necrosis factor that perpetuate the inflammatory response and initiate the process of fibrosis. The macrophage ultimately ruptures and dies releasing the unaltered silica particle into the pulmonary interstitium to be taken up by another macrophage. The recurrent cycle of macrophage phagocytosis, cell death, release of cellular enzymes, and the re uptake of silica perpetuates the inflammatory and fibrotic process. Recent studies suggest that cell injury may be a more crucial factor than cell death in the pathogenesis of silicosis. Silicotic nodules usually form near the small bronchioles. Nodules begin to form by an arrangement of dust laden macrophages surrounded by a reticulum of fibrous tissue. The central zone of the silicotic nodule is a mixture of hyalinized connective tissue and silica dust. It is surrounded concentrically by fibrous tissue in an onionskin like pattern. Active inflammation and fibrosis occurs at the periphery of the nodule. As the periphery expands the central region enlarges involving and destroying small airways, pleura, and blood and lymph vessels. Depending on the dust burden and the rate of development of the disease, nodules may continue to develop after exposure ceases. Silicosis nodules are rarely seen or if seen poorly developed. The interstitium is thickened with inflammatory cells. There is alveolar filling with proteinaceous material consisting of phospholipids or surfactant. The histiologic appearance resembles idiopathic alveolar proteinosis. The process occurring in a background of overwhelming crystalline silica dust exposure has also been called silicoproteinosis. In some workers low level silica exposure may be cleared and deposited in the lymph nodes. On chest radiograph calcified regional hilar lymph nodes may the only abnormality noted. However, workers with significant silica dust exposure will have rounded opacities on chest x-ray. The rounded opacities distributed in the upper lung zones are less than 1 cm in diameter. The hilar lymph nodes are often enlarged and may have peripheral calcification described as eggshell calcification. The confluence of the nodules usually begins peripherally and migrates centrally. As the fibrous masses enlarge the hila retract upward and the lower lung zones become hyper-inflated and appear emphysematous. SLIDE 18 Accelerated Silicosis Accelerated silicosis is characterized by the same features as chronic classic silicosis except that the time from initial exposure and development of radiographic findings and symptoms and change in pulmonary function are much shorter. The chest x-ray may show radiographic evidence in as little as four years after initial exposure. There is also a rapid progression to PMF with severe respiratory impairment. SLIDE 19 Acute Silicosis Acute silicosis, the most aggressive form of silicosis, has chest radiograph findings that typically reveal diffuse alveolar infiltration and obliteration usually accompanied by air bronchograms. There is a ground glass appearance and the typical small rounded opacities of chronic classic silicosis are usually not seen. The progression seen on the chest x-ray is usually rapid. The areas of alveolar filling will progress to large masses. There may also be enlargement of hilar and mediastinal lymph nodes, bullae formation, air trapping and volume loss. There may also be cavity formation with marked pleural thickening. The top chest x-ray shows acute silicosis in the early stages. Air space densities with bronchograms are seen in both lower lung zones. The bottom x-ray shows acute silicosis in a late phase with marked loss of lung volume with much of the lung parenchyma replaced by a course reticular pattern with confluence and conglomeration. Some workers will complain of a chronic productive cough â€" these symptoms may be due to industrial bronchitis from dust exposure. The physical exam often reveals normal breath sounds. There may be course breath sounds in those patients with co-existing bronchitis. Occasionally there may be crackles rales and scattered wheezes. SLIDE 21 Chronic Silicosis Patients with progressive massive fibrosis PMF will have symptoms that range from chronic productive cough to exertional dyspnea and may progress to respiratory failure. As the disease advances and there are more emphysematous areas breath sounds decrease. Narrowing within or near airway walls caused by silicotic nodules may produce prolonged expiration on auscultation. Patients may develop cor pulmonale, hypoxemia and pulmonary hypertension. SLIDE 22 Acute Silicosis Patients with acute silicosis will have a rapid onset of chest symptoms

and progressive respiratory impairment that will often lead to death due to respiratory failure. Patients present with irritative occasionally productive cough, weight loss, fatigue, dyspnea and occasionally pleuritic pain. On physical exam crackles are usually present due to alveolar and airway fluid. Patients will develop rapidly cyanosis, symptoms of cor pulmonale, and respiratory failure. Survival after the onset of symptoms is typically less than 2 years. SLIDE 24 Diagnosis â€" The Occupational History The clinical diagnosis of silicosis is dependent on the recognition that silica exposure has been adequate to cause the disease. The occupational history is central to determining the type and extent of exposures that a worker has experienced. A quick survey of work history, possible exposures, and symptoms related to work is helpful in determining if a more extensive occupational and environmental history should be taken. The important questions to start with are: What kind of work do you do? Do you think your health problems are related to your work? Are your symptoms better or worse when you are at home or at work? Are you now or have you previously been exposed to dust, fumes, chemicals, radiation or loud noises? If there are any positive responses to these questions then a more extensive occupational and environmental health history should be conducted. A more extensive history should include a list of all jobs including summer, part-time, and military jobs possible or known exposures, length of time of exposures, work in industries such as mining, milling, quarrying, drilling, sand blasting, tunneling operations, foundry and boiler work, pottery and glass making operations, types of work procedures such as grinding, sawing, drilling, crushing materials made with silica, any use of protective equipment, and knowledge of any other fellow workers with similar illnesses. Some of the other pulmonary diseases that mimic silicosis include miliary TB, fungal infection i. A workplace history to help determine the length of employment duration of exposure , exposure measurements if available, workplace control measures such as wetting down the dust or exhaust ventilation, and whether the worker wore respiratory protection or not is important. In the US the prevalence of TB infection in a review of patients with radiographic evidence of silicosis was 5. The risk of infection with the Mycobacterium tubercule increases as the radiographic changes seen with silicosis advance. Tuberculosis appears to be more prevalent among workers whose silicosis is attributed to pure silica rather than a mixed-dust exposure.

Chapter 7 : right-arrow copy

"Deadly Dust raises an important methodological problem that has long gone underarticulated in medical historical circles: how can social historians of medicine offer political or economic explanations for the scientific efforts of their professional subjects without losing a grip on the biological aspects of disease?".

Chapter 8 : Copper poisoning: MedlinePlus Medical Encyclopedia

It was intended to replace PCP (Angel dust) as a shorter lasting anaesthetic and it is still used in certain situations. However, there are several side effects that come in to play as the drugs effects wear off, most notably hallucinations.

Chapter 9 : eLCOSH : Silica: The Deadly Dust

Common or street names: Angel dust, boat, hog, love boat, wack, ozone, PeaCe pill, dust, embalming fluid, rocket fuel. Supergrass, superweed, whacko tobacco, and killer joints refer to PCP combined with marijuana. Phencyclidine (PCP) is a mind-altering drug that may lead to hallucinations (a.