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### Asthma Part 1: Developing a Plan September 2011

You just returned to your office and give an injection of lidocaine to a 27 year-old patient with a history of asthma. The patient begins wheezing and has mild respiratory distress. You try her inhaler, but it doesn't work. You try again without success. Within minutes, you realize the patient is **unresponsive and cyanotic**. The emergency squad arrives in 12 minutes, but is unable to resuscitate the patient. By the way, your waiting room is full of patients waiting to be seen.

We see 5 to 10 asthmatic patients in our office per week. In the United States, there are 17 million people living with asthma. Despite asthma being thought of as a benign disease, it claims 5000-6000 lives per year in the United States and is projected to double in the next two decades. Asthma is a chronic obstructive pulmonary disease that, in an acute event, can lead to rapid **respiratory arrest and death**.

An acute asthmatic attack is best treated in and post-op activities. Ultimately, asthma is Therefore, it is essential to understand the and treatment of asthma. The team must noted on the patient's history. In ascertain the **frequency** of the disease, patient's asthma. These details can be



The pathophysiology of asthma includes appreciating the phases: acute, subacute, and chronic. Each phase consists of a unique predominant chemical mediator ultimately leading to an irreversible chronic obstructive lung disease. The resulting physical changes include bronchial or smooth muscle spasms, hypersecretion of mucus, and the edema of the airways. The **signs** and **symptoms** of asthma include expiratory wheezing, cough, chest tightness, shortness of breath, obstruction, rapid breathing, air trapping, and accessory respiratory muscle use. Intrinsic asthma tends to occur in patients older than 35 and is often chronic in nature. Extrinsic asthma is precipitated by allergens, viral infections, stress, cold, medication, emotional upset, and physical activity. Clinically, asthma is best **classified** as mild, intermittent, mild persistent, moderate persistent, and severe persistent. This recent classification provides an excellent guide for tendering dental treatment to the asthmatic patient. Usually asthma is an obvious diagnosis, but the differential diagnosis is extensive including other forms of COPD, CHF, drug-induced cough, laryngeal dysfunction, lower respiratory tract infections, airway obstruction, pulmonary infection/embolism. Asthma is an amazingly common finding in dental offices. When an acute event like status asthmaticus is witnessed, it will never be forgotten. Status asthmaticus is a true emergency that requires immediate care for the patient to survive. Clinically, the **pre-event care** of an asthmatic patient begins with a basic understanding of the disease including the history as noted. Dental precipitants of an asthmatic attack can be stress, dental materials, and dental odors. Preparation includes A.S.A. classifying asthma and proceeding with consideration of the ADA recommendations. ASA greater than II (uncontrolled disease) needs medical consultation. Understand the medication profiles (indications, dosages, contraindications, and side effects). In preventing or treating the asthmatic patient in the dental setting, the medications we would consider are most likely oxygen, the inhaler, and epinephrine. It would be prudent for the team to have a sequence of emergency medications developed prior to the asthmatic event. The team must know how to prepare and administer the emergency medications. A thorough history which includes asking a few basic questions must be taken. The signs and symptoms of this patient's asthma, as well as what medications typically make the attack better must be ascertained. If the patient has been to the emergency room, the treatment used must be elicited from the patient. It may be best to treat the patient in the mid to late morning. Appreciate the changes in the progression of the patient's asthmatic disease, which would be noted by changes in medication or changes in frequency of *one* wheezing or coughing. Creating a calm environment can prevent a good percentage of attacks. Classify and understand the patient's etiology of the attacks. Nitrous oxide is an excellent addition to help treat the asthmatic patient. Antihistamines have also been found to benefit the asthmatic patient by blunting bronchoconstriction and sedating the patient. Watch for steroid use during the last two years. Preparation must include defined duties and cross-training for the asthmatic patient so as to prevent a disaster.

a framework which includes pre-op activities, intra-op care, best treated by proper **prevention** and **preparation**. basic pathophysiology, classification, differential diagnoses, recognize the potential lethal nature of asthma when it is developing an approach to the patient's asthma, we must **severity**, the **medications** and the **precipitants** of the easily obtained within a few minutes of questioning the

*Coming Next Quarter.....Asthma Part 2: Treatment*