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Dear Children’s Brackenridge Hospital:[skip a line after the salutation]

I am submitting the background report, “Childhood Asthma and its Treatments,” that I agreed to write on March 9, 2005.

The purpose of this report is to provide useful information on childhood asthma to parents with asthmatic children. The information provided in the handbook will be a valuable resource for parents of newly diagnosed asthma children. It will provide the different types of asthma, causes and treatments. Signs and symptoms will also be discussed to help parents identify the medical condition.

I hope this report will be helpful to all parents with children. If you would like to discuss this handbook with me please let me know. [Use a comma after any introductory element regardless of length (for details see the online textbook). For more on commas, see http://www.io.com/~hcexres/tcm1603/acchtml/gram1.html#comma]

Sincerely,

Sander Davida

Enclosure

Encl.: technical background handbook on childhood asthma and its treatments

**Handbook**

**On**

**CHILDHOOD ASTHMA AND ITS TREATMENTS**

submitted to

Children’s Brackenridge Hospital

601 E. 15th St.

Austin, TX 78701

(512)324-7000

by

S. D.

This report contains information on childhood asthma and its treatments. The information covers the types, causes and symptoms of asthma. The treatment sections discuss all the types of medications used to control asthma attacks, environmental factors to avoid and exercise.

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[since LIST and ABSTRACT are all cap, you need to make these roman numeral titles also]

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**ABSTRACT**

Asthma is best described as obstruction or blockage of the airways that is reversible either spontaneously or with proper medication. Its causes can be numerous factors like allergies, infections, aspirin and aspirin-containing products, exercise, irritants and foods. There are also numerous medications that treat asthma such as theophylline, adrenaline-like medications, cromolyn sodium and adrenal corticosteroids. [see ch. 15 on info abstracts, exec summaries -- this is not one

**Report**

**On**

**CHILDHOOD ASTHMA AND ITS TREATMENTS**

1. **INTRODUCTION**

This handbook is a practical self-help guide for parents with asthmatic children. Asthma sufferers are aware that attacks can occur at any time. This uncertainty makes people with asthma eager for practical self-help techniques for coping with asthma on a daily basis. This handbook is uniquely designed to fill this need and is a complete and easy-to-use reference package for asthma sufferers.

Asthma is one of the leading causes of missed school in the United States. Over one billion is spent each year by asthma sufferers on hospital care, medications, and doctor visits. Studies show that there are ~~twenty seven~~ 27 million doctor visits annually for treatment of asthma, and over ~~one~~ 1 million of those are first visits. One survey revealed that over fifty percent of asthma patients spend greater than 18 percent of their family income on asthma care.

But the impact of asthma is not merely economic. When asthma symptoms and emergencies occur on a frequent basis-[Use a real dash for situations where dashes are called for: click Insert→Symbol to find it. For more on the dash, see http://webster.commnet.edu/grammar/marks/dash.htm]when one must take daily medications and put up with the fatigue, inconvenience, and misconceptions associated with asthma-the impact on the individual and the family can be staggering.

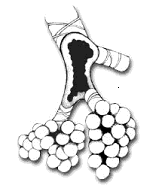
Many parents ask their doctors if there is any way to get a further understanding of the illness. Especially when their child suffers critical or seemingly critical attacks. These repeated inquiries to their doctors reflect the frustrations resulting from the asthma sufferer’s inability to identify and manage their symptoms.

This handbook will provide the reader with a clear understanding of the nature of their child’s illness.[give us an overview of the contents, similar to yoiur descriptive abstract on title page]

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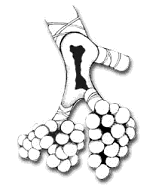
1. **UNDERSTANDING ASTHMA**

Asthma is best described as obstruction or blockage of the airways (breathing tubes) that is reversible either spontaneously or with proper medication. As airways narrow, breathing becomes more difficult and a wheezing sound or cough occurs, the result of trying to force air through these blocked air tubes. To best understand how this happens, it is helpful to review the structure of the lung.



Figure

**Normal Breathing Process**

****

Figure

**Airways During Asthma** [indicate source!]

**2**

[This heading is what’s called a “lone heading”: no other compantion heading at the *same* level within the *same* section. It’s the same idea as a 1 without a 2 or an A without a B in an outline. For more on headings, see http://www.io.com/~hcexres/tcm1603/acchtml/headings.html]

**Asthma Attacks**. Asthma occurs in attacks at varying time intervals. Attacks can be as brief as several minutes or as lengthy as hours or days. Between attacks there may be symptoms-free intervals when it is impossible to tell an asthma patient from someone who does not have asthma. A breathing test called spirometry, which is used to determine whether a person has asthma, may be normal in an asthma patient during asthma-free intervals. On the other hand, some people have asthma symptoms continuously, and their spirometry test reflect this. Still others have subtle asthma symptoms such as hacking cough or chest tightness. For these symptoms, spirometry is an important clue for determining whether the patient has asthma, and should be part of the doctor’s evaluation.

1. **FACTORS THAT CAN TRIGGER ASTHMA**

[This is an instance of “stacked” headings: that’s where you have two more consecutive headings without intervening text. Usually an overview sentence, a transition from the preceding section, or some definition work nicely in the slot between stacked headings. For more on headings, see http://www.io.com/~hcexres/tcm1603/acchtml/headings.html]

**1. ALLERGIES** [see textbook chapter on headings: this is a 2nd level⎯init cap not all cap; no numbering]

Not everyone who has asthma is allergic. However, allergy can without question play a role in asthma symptoms for some individuals. The pattern and timing of the patient’s asthma symptoms often provide clues suggesting that allergy may be causing the asthma. Seasonal pollens from trees and grasses in the spring and ragweed in the fall can precipitate an asthma episode during those times of year. Exposure to dog or cat dander, feather pillows, dust and molds can all precipitate year-round symptoms.[skip a line between parags!]

If your medical history points to allergy as a possible trigger of your child’s asthma symptoms, skin testing is an easy way to confirm the diagnosis. The best way of managing allergy is to avoid the offending allergen. Therefore, it is probably no wise for an asthma patient with an allergic tendency to have a cat or a dog as a pet. There is the risk that with time, allergy to the pet will develop and asthma symptoms will become more frequent due to routine exposure to the pet. Without question, the most effective treatment for an allergy to animal dander is to give the pet away. Although this may be difficult step to take with your child, it may be necessary if you notice that your child’s asthma symptoms disappear when he/she is away from the pet. If giving up the pet is impossible, a logical next step is to limit the pet’s access to the bedroom. The bedroom should be an allergy patient’s haven. The bedroom door should remain closed to prevent the pet from entering the room even if you are not at home.

The seasonal pollens are more difficult to avoid because they are airborne and so small that they cannot be seen. The most practical suggestions for the seasonal pollens include keeping your child’s bedroom and car windows closed to prevent airborne pollens from entering, and using air conditioning instead.

If you feel that allergies may contribute to your child’s asthma symptoms, ask your doctor to refer you to an allergist certified by the American Board of Allergy and Clinical Immunology for the diagnostic evaluation including allergy skin testing.

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**2. INFECTIONS**

Infections can be caused by bacteria, viruses, and fungi (molds). Bacterial infections include strep throat and some pneumonia, while the most frequent viral infection is the common cold. Bacterial infections respond to treatment with antibiotics; viral infections do not.

Infections, especially viral infections, can lead to a flare of asthma symptoms. It is not unusual for a cold to trigger or eventually lead to wheezing or coughing. It has been observed that asthma patients are more susceptible to upper respiratory infections; however, the explanation for this is not clear-cut. One possible factor may be the increased mucus typically present in the upper airway of an asthma patient. Certain other viruses, such as the flu virus, can also trigger increased airway irritability and lead to an asthma attack.

Bacterial infections such as strep throat or pneumonias of bacterial origin can also be associated with asthma attack, especially if it has taken several days to bring the attack fully under control. In all probability, the mucus plugging in airway or the area of the lung behind the mucus plug becomes infected because the mucus cannot be coughed up and cleared.

Asthma symptoms sometimes first develop shortly after an infection such as bronchitis or pneumonia. This is referred to as post pneumonic or post bronchitic [hyphenate!] bronchospasm. In this situation asthma symptoms persist for a variable time period, from a few weeks to several months, although in some children asthma symptoms persist on a more permanent basis.

A prevailing viewpoint among doctors is that if children wheeze only as a result of infections, and [no comma here: only 2 if clauses joined by and] do not have asthma flares from causes such as allergies, the likelihood is greater that they will not have asthma in later years.

Since asthma attacks can come on quite suddenly and dramatically, it is best to be prepared with an asthma medication program that can be initiated early. It is important to be a step ahead to avoid the need for an emergency room visit. In addition, if the mucus from your child’s nose or chest is yellowish or greenish in color, ~~this may indicate that~~ [right?]your child may have an infection; notify your doctor so that he can prescribe an antibiotic for your child. Also congestion in the upper airways often has a negative effect on the lower airways. Treatment of upper airway congestion often leads to an improvement in asthma symptoms.

Flu and pneumococcal pneumonia vaccinations are available as preventative measures, and asthma is one of the indications for their use. Flu vacations [???] only prevent the strain of virus which is expected to cause flu symptoms that year; they do not prevent colds.

Sinus infections, which at times can be quite subtle and chronic, can also make asthma symptoms worse. An x-ray examination of the sinuses may be necessary to determine whether they are infected. Certainly any asthma patient who is experiencing the classic symptoms of sinusitis should be treated.

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Typical symptoms of sinusitis include headache over the affected sinus area, achiness radiating to the teeth, pressure over the cheeks or forehead, nausea, and yellowish or greenish discharge from the nose. In addition, there can also be postnasal drip and a slightly sore throat as a result of the nasal drainage. Fever is also possible but may be absent. In those individuals affected by sinusitis in association with asthma, identification and management of the underlying sinus problem may well be the essential key to better asthma management.

**3. EXERCISE**

A common misconception among parents, asthma sufferers, and even some doctors is that people with asthma cannot exercise at all or can only engage in minimal exercise. However, with the rare exception, asthma patients can fully participate in exercise programs if they understand the mechanism by which exercises induces an asthma attack, and use pretreatment techniques to avoid such attacks. [This is a compound *predicate* not a compound sentence; no comma needed (for details see the online textbook). For more on commas, see http://www.io.com/~hcexres/tcm1603/acchtml/gram1.html#comma]

Exercise triggers asthma symptoms under specific conditions. Strenuous, continuous exercise causes rapid breathing through the mouth. As a result, the air that reaches the air tubes has not been warmed and humidified by the nose and upper airway as it usually is with routine normal breathing through the nose. The rapid introduction of cold, dry air into the air tubes has been shown to trigger the asthma response.

This helps to explain why certain sports are more likely than others to cause asthma symptoms.

**4. ASPIRIN AND TARTRAZINE**

Aspirin and products that contain aspirin can trigger asthma attacks in certain children. The attacks can begin with little warning and can be severe. In addition to causing rapid onset attacks, aspirin can also cause asthma to be more difficult to manage in certain patients who have routing asthma symptoms.

Tartrazine [define!] can also precipitate asthma symptoms in some individuals, although this does not occur as frequently as with the other cross reacting medications. This food coloring is found in a number of soft drinks, cake mixes, candies, and some medications.

Some products that contain Aspirin

* Alka Seltzer
* Bayer
* Bufferin
* Darvon
* Excedrin
* Midol
* Percodin
* Vanquish

Figure 3

Table [???]

[a table is a table and figure is something elae; see the textbook.]

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**5. IRRITANTS**

Irritants such as cigarette smoke, perfumes, strong odors, newsprint, and cold air can all trigger asthma symptoms in susceptible individuals. It is thought that these irritants cause asthma symptoms by stimulating irritant receptors found in the nose and in the back of the throat. These tiny nerve endings in turn stimulate the vagus nerve, which controls the tone of the airways. When the vagus nerve is stimulated by irritants, the muscles surrounding the airways then constrict, resulting in narrowing of the airways and asthma symptoms.

**6. FOODS**

There is no area of allergy so unresolved and tangled in confusion as food allergy. What is clear is that some foods can trigger immediate allergic responses such as hives, difficulty swallowing, gastrointestinal symptoms, and breathing problems including asthma. The most serious consequence of food allergy is called anaphylaxis, a potentially life-threatening reaction in which there may be a drop in blood pressure, swelling of the throat, a rise in the pulse rate, and the risk of irregular heartbeats and shock. Patients report dizziness and the sensation of passing out. If you have any of these symptoms after eating a particular food, it is essential that you report this to your doctor so that appropriate diagnostic tests can be performed.

Unfortunately, the only currently available treatment for food allergy is avoidance. If you have a food allergy, you should know in advance what to do if a reaction begins. All patients with a know food allergy should have antihistamines and adrenalin for injection readily available, and should know how and when to use them.

1. **ASTHMA MEDICATIONS/TREATMENTS**

[same deal here]

**1. ADRENALIN**

The first medication used in a hospital setting for an acute asthma flare is most often Adrenalin. The generic term for Adrenalin is epinephrine, [caps for formal product names not generic active ingredient] and the two terms are often used interchangeably. Adrenalin helps to relieve acute asthma symptoms by opening the airways; this process is called bronchodilation. However, a negative effect of Adrenalin is that is stimulates the heart so that it beats faster. Adrenalin can also cause restlessness, paleness, headache, nausea, vomiting, and sense of fear. Usually these side effects are transient. If you are given a shot of Adrenalin, you should expect to experience tremor and shakiness as your breathing improves-this is a normal reaction and should not cause you to be overly concerned.[learn to use the em dash!]

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**2. ADRENALIN-LIKE MEDICATIONS**

Since Adrenalin can be administered only by injection and, ideally, under a doctor’s observation, it is not practical for home or routine use. Over the years, Adrenalin-like medications have been developed which combine Adrenalin’s key advantage or rapid opening of the airways with the practicality and convenience of oral and/or inhaled methods of administration. Doctors call this group of medications the beta adrenergic or sympathomimetic agents.

These medications, when used properly, are appropriate for routine use as well as for acute flares of asthma, often freeing the patient from frequent emergency hospital and doctor visits. These newer oral and inhaled asthma preparations, which include metaproterenol, terbutaline, and albuterol, [like these]offer the additional advantage of reducing the jitteriness and increased heart rate typically associated with Adrenalin. These newer agents are also long acting, with duration of action of up to six hours.

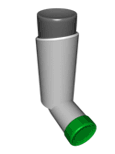


Figure 4

Inhaler

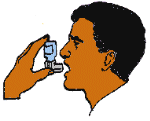


Figure 5

Proper use of Inhaler

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Figure 6

Neubulizer

1. **CONCLUSION**

Asthma is a chronic illness which cannot be cured but can be well managed. Successful management requires that you be well informed. With the background about asthma provided in this handbook, most asthma patients can manage their asthma themselves on a day-to-day basis. By being prepared in advance, a flare of asthma symptoms will not take you by surprise, and can be promptly and appropriately treated. I believe that this method of dealing with asthma will reduce the need for frequent emergency visits to the doctor’s office or to the hospital.

**APPENDIX A: WORKS CITED PAGE**

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2. National Jewish Medical and Research Center. URL [www.asthma.nationaljewish.org](http://www.asthma.nationaljewish.org) (visited March 7, 2005).

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[okay, Sandra.

B- on this draft

hope you can send me a revision by Sunday]