

Asthma Awareness

University of Southern California

Project Description & Implementation Overview

The Asthma Awareness Project at the University of Southern California aims to educate the people of Los Angeles County about two diseases: asthma and chronic obstructive pulmonary disease (COPD). Once or twice each semester, an Asthma Education and Device Training session is held for the students of the school of pharmacy. After attending the session, applications are accepted from those students interested in being part of the Asthma Awareness Committee. Committee members attend health fairs and other community service events to answer any questions or address any concerns the public has about asthma or COPD.

Purpose of the Project

The purpose of the Asthma Awareness Project is to educate both the students and the public about asthma and COPD, as well as how to manage and treat these conditions. Training pharmacy interns (and future pharmacists) in the proper use of inhaler and spacer devices benefits everyone, as this knowledge will be passed on to the public through pharmacy visits and patient counseling. This will, in turn, result in better patient outcomes and lower health care costs for everyone.

Project Budget - Expenses and Revenues

Funding for the Asthma Awareness Project is split 50/50 between the USC AMCP Chapter and the USC American Pharmacy Student Alliance (APSA). The project funds are allocated at the beginning of each school year. For the 2008-2009 school year, \$400 (\$200 from AMCP and \$200 from APSA) was received. Expenses include:

- Asthma display board \$16.39
- Food for asthma training sessions \$234.26
- Food for COPD training session \$55.89

Who and How Many Chapter Members are Involved?

The Asthma Awareness Committee consists of two project directors who are elected near the end of the previous school year, and approximately 15-30 students who are interested in educating people about asthma and COPD. To become a committee member, a student must be a member of either AMCP or APSA; they must attend an asthma training session, and they must fill out a committee application. Only committee members are allowed to participate in Asthma Awareness events and health fair education booths.

The primary educators (to the public) are the committee members, with licensed pharmacists serving as preceptors who answer any difficult questions that the health fair participants may have. The committee members are current student pharmacists who have given their time to attend a training session, fill out a committee application, and attend the various Asthma Awareness events during the school year (see the Training Session Target Audience description below).

Who Should be Targeted - Audience or Involvement? How Do You Find Them...How Do You Contact?

Training Session Target Audience: During the training sessions, first and second year student pharmacists who are interested in learning more about asthma and COPD are our target audience. Announcements about the training sessions were made at AMCP and APSA general meetings, and sign-up sheets were passed around the classroom. The only

requirement to attend an Asthma Awareness Training session is current membership in either AMCP or APSA, as these are the organizations from which we receive our funding. The speakers at our first training session were Dr. Sarah Hur and Dr. Sherry Brown, who have assisted the Asthma Awareness Project in the past; and Dr. Steven Chen (who is a faculty member at USC, and the advisor to the Asthma Awareness Project) at our second.

Health Fair Target Audience: At health fairs, the residents of East Los Angeles are our target audience.

What Materials are Needed - Outside Resources, Ordering, etc ?

When holding our training sessions, refreshments, asthma/COPD demonstration devices, and presentation handouts are needed for the attendees. The school of pharmacy provides a room with chairs and A/V equipment, as well as access to a copy machine for us to copy any handouts. We managed to obtain asthma device demonstration units through our faculty advisors, as well as by contacting various drug manufacturers. Food was bought with the funding from AMCP and APSA. Subway sandwiches were ordered, as we try to promote healthy eating, and water was given out as the beverage.

At health fairs, our educational materials consist of the Asthma Awareness display board, medication demonstration devices, and educational flyers and brochures for patients. The display board is made by the Directors of Asthma Awareness once every few years, and flyers and brochures are either purchased online from drug manufacturers or are downloaded for free from websites. Other items, such as tables, chairs, a tablecloth, and food for participating committee members, are usually provided by the organizers of the health fair.

Timeline for Implementation and Execution

Training Sessions

- **Request training session dates**
This is done at the beginning of each semester. There is a "calendar party" where all of the organizations of the School of Pharmacy have a chance to request dates for the events that will be held during the semester.
- **Make announcements**
During class and at AMCP and APSA general meetings, announcements are made for upcoming asthma events. Sign-up sheets are passed around.
- **Send out e-mail reminders**
The weekend before the event, e-mail reminders are sent out to all students, reminding them about the event, as well as giving those who haven't signed up a chance to RSVP.
- **Make copies of handouts for participants**
The power point presentation handouts are printed out then copied using the Pharmacy School's copier. Any other relevant handouts found online are also copied and made available to all training session participants.
- **Order food**
This should be done at least 2 days before the event. The amount of food ordered is based on the number of people who have expressed interest in attending.
- **Reserve the room**
The room the event will be held in is determined during the calendar party, but a liability form must still be filled out and turned in on the day of the event.
- **After the training session**
An Event Report Form, as well as any reimbursement requests, must be submitted within 2 weeks after the event. The list of training session attendees must be submitted to the AMCP Executive Secretary and the APSA Director of Membership so participants can receive professional event credit for attending.

Health Fairs

- **Request to be part of the health fair**
E-mails are sent out by health fair directors notifying us about any upcoming events. To participate in a health fair, each project must submit a Health Fair Request form to the ACCP (Associated Students of the School of Pharmacy) Director of Community Health at least 6 weeks before the event.
- **Make announcements**
Because only committee members are allowed to volunteer at the Asthma Awareness health fair booth, announcements are only made at AMCP and APSA general meetings, not in front of each class. Students interested in volunteering are told to e-mail the Asthma Awareness directors.
- **Copy appropriate handouts for health fair participants**
Depending on the location of the health fair, handouts in different languages (ex: Spanish, Vietnamese, Korean) are available online.
- **Send out e-mail reminders**
E-mails are sent out to committee members a few weeks in advance to let them know about upcoming health fairs. E-mails are also sent out a few days before the health fair to remind volunteers about the event.
- **After the health fair**
A health fair report form is due to the Director of Community Health within 2 weeks after the event. Student participants' names must be submitted to instructors for extra credit, as well as to the various student organizations for professional credit.

Follow-up with Faculty Members/Volunteers/Participants

There is a short evaluation form given to participants at each training session. Trainees are asked to evaluate (on a scale of 1-5):

- Presentation organization/set-up
- Information provided
- Student presenters
- Guest lecturers
- Training supplies
- Length of training session
- How ready the trainee feels for patient counseling
- What was best about the training session
- What could be improved in the training session

Project Evaluation – What Went Well...What Didn't ...How Would You Improve for the Next Year?

What went well:

This year's committee was large, and made up of very dedicated members
We were able to obtain much needed demonstration spacers and metered-dose inhalers
We made a new asthma display board
The COPD project presentation was completed

What didn't work:

Volunteering on the Breathmobile still hasn't come through
Though constantly looking, no new activities presented themselves
During our first training session, there weren't enough seats for the students

Improvements for next year:

Try to find a larger variety of involvement opportunities
Create a new COPD display board & review the COPD presentation

Project Checklist

For each training session:

- Submit a budget and project proposal to AMCP and APSA (done once a year, at the beginning of each school year)
- Request dates for training sessions (done twice a year, before each semester)
- Make announcements and send around sign-up sheets for training session
 - In each classroom
 - At AMCP and APSA general meetings
- Send out e-mail reminders
 - One week before the event
 - Two days before the event
- Copy handouts for the training session
 - Powerpoint presentations
 - Device training instructions
 - Committee applications
- Order food for the event (save all receipts) at least two days before event.
- Submit liability waiver form on the day of the event
- Submit reimbursement request forms for cost of food and utensils (due 2 weeks after event)
- Submit Event Report Form to APSA Projects Director (due 2 weeks after event)
- Submit participant list to APSA and AMCP for students' event credit

For each health fair:

- Submit Health Fair Request form to ASSP Director of Community Health (due 6 weeks before event)
- Find a preceptor if not accompanied by a screening project
- Send out e-mails to committee members
 - To sign up for the health fair (2 weeks before event)
 - To remind them about the health fair (2 days before event)
- Make announcements about health fair
 - During AMCP and APSA general meetings
- Copy handouts in appropriate languages
- Submit Health Fair Report to ASSP Director of Community Health and APSA Projects Director (due 2 weeks after event)
- Submit participant names to instructors for extra credit
- Submit participant names to APSA and AMCP for professional event credit

Email this form to: USC.healthfairs@gmail.com and APSA.projects@gmail.com

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This form must be fill out and turned in within 2 weeks of completion of an event. The purpose of this form is to keep a record of the number of people and type of population impacted by the event.

Name of Event

Project Name:

Date(s) of Activity:

Address/Location:

Name of Project Coordinator(s):

Name of faculty/practitioner(s) present:

Target population:

Age range:

Mean age:

Primary ethnicity:

For screening projects only:

Number of people screened:

Number of people with concerning results/readings:

Please explain what occurred with the participant(s) and list value(s):

Referral given: Yes No If Yes, where:

For immunization only:

Number of people vaccinated:

Number of student participants:

Total:

1st year:

2nd year:

3rd year:

4th year:

List names of all student participants:

1st year:

2nd year:

3rd year:

4th year:

Event Synopsis:

Impact of event on the community and the profession:

Feedback/suggestion for improvements next time:


Sponsorship (if any):

Please provide 2 pictures of this event (please caption each picture):

AMCP

Academy of Managed Care Pharmacy

THE FUTURE OF PHARMACY



AMCP & APSA


- present -

ASTHMA AWARENESS

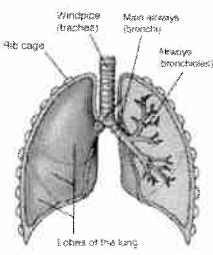
Faculty Advisor:
Dr. Steven Chen, Pharm.D.

Co-Directors: Aimee Aloiau & Lily Yip


Sponsored by AMCP and APSA



Objectives





- ≠ What is Asthma?
- ≠ Causes of Asthma & Common Triggers
- ≠ Symptoms of Asthma
- ≠ Drug Therapy and Types of Medications
- ≠ Managing Asthma
- ≠ Asthma Devices




Common Asthma Myths


- ≠ You have asthma only when you have trouble breathing
 - ▣ Asthma is chronic. Prevent attacks by following your treatment plan and avoiding triggers.
- ≠ People outgrow asthma
 - ▣ Even if you have fewer symptoms as you get older, it doesn't mean your asthma has gone away.

What Is Asthma?

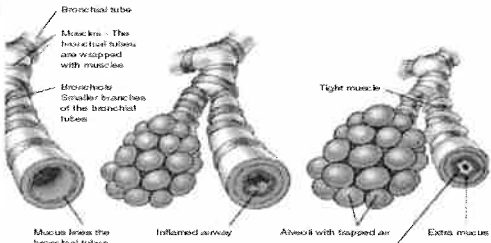



- ≠ Chronic inflammatory disease affecting your lungs and the airways connecting them
- ≠ **Two Main Components:**
 - ▣ Constriction
 - ▣ Inflammation
- ≠ Asthmatic airways are more sensitive to triggers that cause inflammation, constriction, and excess mucous production
- ≠ During a flare-up, airways become red, swollen, and narrow
 - ▣ It's now very difficult to breathe!
- ≠ Asthma cannot be cured - but the symptoms can be managed and controlled!

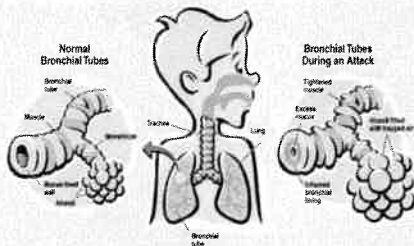


How Does Asthma Affect Breathing?

When You Have Asthma

How Does Asthma Affect Breathing?





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Causes of Asthma

- ✦ Family History
 - To some extent, asthma seems to run in families
- ✦ Environmental Factors
 - Known as asthma "triggers" - things that cause a flare-up and make asthma worse
 - Irritants
 - Allergens


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Common Triggers - Irritants

- ✦ Smoke
- ✦ Air pollution 
- ✦ Scents and chemicals - perfumes, cleaning agents
- ✦ Infection - colds, flu, bronchitis 
- ✦ Weather - cold air, changes in temperature and humidity


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Common Triggers - Allergens

- ✦ Dust Mites 
 - Vacuum and clean regularly
- ✦ Pets and animal dander
- ✦ Mold
 - Prevent damp areas where mold can thrive
- ✦ Pollen
- ✦ Cockroaches
- ✦ Some foods - fish, peanuts, milk, eggs, shellfish

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Other Triggers


- ✦ Night-time and sleep 
- ✦ Medications - aspirin and ibuprofen
- ✦ Exercise
 - Can be managed by proper medication use prior to exercising
- ✦ Emotions - laughing, crying, feeling stressed



✦ **YOUR GOAL:** Help your patient identify his/her asthma triggers and learn how to avoid them

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Asthma Symptoms

- ✦ Shortness of breath
- ✦ Wheezing
- ✦ Tightness in the chest
- ✦ Tickle in the throat
- ✦ Recurring and/or persistent cough, especially at night 

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Drug Therapy Options

Dr. Sarah Hur, Pharm.D.

Drug Therapy

- ✦ Medications are one of the most important tools for controlling asthma attacks.
- ✦ Two types of medications:
 - Long Term Controller Medications
 - Used on a regular basis
 - Quick Relief Medications
 - Only used as needed

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Long Term Controller Medications

- ✦ Also known as "maintenance" medications
- ✦ Taken DAILY on a long term basis
- ✦ Reduce swelling and inflammation of the airways
- ✦ Desensitizes triggers so less likely to flare up
- ✦ Helps keep asthma under control but WILL NOT STOP an attack once it has begun

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Long Term Control Medications



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Long Term Control Medications

- ✦ Corticosteroids (inhaled)
 - Most potent and effective anti-inflammatory medication available
 - Systemic: used to gain prompt control of the disease when initiating long-term therapy
 - Examples: QVAR, Advair, Azmacort, Flovent, Pulmicort
- ✦ Long-acting Beta₂ Agonists
 - Relaxes the muscles in the airways
 - Often used with a corticosteroid inhaler
 - Examples: Serevent
- ✦ Leukotriene modifiers
 - Blocks leukotriene interaction with receptor to inhibit its inflammatory action
 - Example: Zafirlukast, Montelukast (Singulair)
- ✦ Mast cell Stabilizers
 - Usually used with inhaled corticosteroids
 - Example: Cromolyn

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Quick Relief Medications

- ✦ Also called "rescue" medications
- ✦ Only used on an AS NEEDED basis
- ✦ Used to provide prompt relief of bronchoconstriction (relaxes the muscles that tighten airways)
- ✦ Can stop flare-ups once they've started
 - Should be kept with patient at all times
- ✦ Can help prevent flare-ups triggered by exercise
 - Should be taken 15-30 minutes before exercise

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Quick Relief Medications

- # Short-acting Beta₂ Agonists
 - Usually drug of choice for treating acute asthma symptoms and for preventing exercise-induced bronchospasm (EIB)
 - Causes a prompt (within 30 minutes) increase in air flow
 - Example: Albuterol



Quick Relief Medications

- # Anti-cholinergics
 - May be used with short-acting bronchodilator to stop a severe flare-up
 - Relaxes muscles that tighten around the airways
 - Take longer to work than other short-acting bronchodilators
 - Example: Atrovent (ipratropium bromide)



Steroid Burst Medications

- # Used only for EMERGENCIES for severe asthma episodes
- # Are taken IN ADDITION TO controller & quick-relief medications
- # Usually prescribed for 3-10 days
- # Example: Prednisone

Is your asthma under control?

- # "Rule of 2"
 - Do you use your quick-relief inhaler more than 2 times a week?
 - Do you wake up at night with symptoms more than 2 times a month?
 - Do you refill your rescue inhaler more than 2 times a year?
- # If the answer is "yes", asthma may not be in control.
- # Tell patient to contact their physician.

Asthma Self-Management - Peak Flow Meter

- # Peak Flow Meter - a hand-held device used to measure how fast you can push air out of your lungs.
- # Helps warn you of a flare-up, even before you have symptoms.



Peak Flow Meters

- # How to use a peak flow meter?
 - 1) Move the marker to 0, or to the lowest number on the scale.
 - 2) Stand up or sit up straight.
 - 3) Take as deep a breath as you can.
 - 4) Put the mouthpiece of the meter between teeth & close lips tightly around it.
 - 5) Blow into the mouthpiece, as hard and as fast as you can.
 - 6) Check where the marker has moved to & write this number down.
 - 7) Move the marker back to 0. Repeat the test 2 more times.
 - 8) Your peak flow number is the highest of the 3 numbers.

Peak Flow Meters

- ⚡ Personal Best Peak Flow Number
 - This is a reference number for patients to keep track of how open their airways should be.
 - Obtained during a 2-week period when asthma is under control.
 - Measure peak flow twice daily - AM before taking med & PM after taking med.
 - Helps set asthma zones that help patients know when their asthma is (or isn't) under control.



Asthma Zones



- ⚡ Green Zone: Under Control
 - Peak flow number is 80-100% of "personal best peak flow number"
 - THIS ZONE IS THE PATIENT'S GOAL!
 - Quick relief medication rarely used except for exercise.
 - Sx: None. Asthma doesn't get in the way of work, activities, or sleep.
 - Action: Keep taking daily controller medications as prescribed.



Asthma Zones



- ⚡ Yellow Zone: Caution
 - Peak flow number is 50-80% of personal best
 - This is the patient's warning zone.
 - Sx: coughing, wheezing, chest tightness, SOB
 - Action: Take more medication, such as quick-relief, as directed. Get away from triggers right away.



Asthma Zones



- ⚡ Red Zone: Medical Alert
 - Peak flow number is less than 50% of personal best.
 - This zone means that the patient is having a SEVERE ASTHMA ATTACK!!!
 - Sx: Constant cough, wheezing, or trouble breathing. Waking up from sleep b/c of asthma sx.
 - Action: Take quick-relief and any other medications as prescribed. Call your doctor.



Good Asthma Control

- ⚡ Avoid asthma triggers
- ⚡ Take medications as directed
- ⚡ Remember the "Rule of 2's"
- ⚡ Monitor daily condition by using the peak flow meter
- ⚡ Know what to do for each color zone



Health Fair Goals



- ⚡ Answer patient's questions.
- ⚡ Patients know the difference between quick-relief & preventative (controller) medications.
- ⚡ Patients know how to properly use their medications.
- ⚡ Patient's asthma is under control. If not, they know how to control their asthma.



Quiz Question #1

TRUE OR FALSE?

Patients can outgrow asthma!

FALSE



Quiz Question #2

Which of the following is a quick-relief inhaler?

- a.) QVAR
- b.) Pulmicort
- c.) Albuterol
- d.) Serevent
- e.) Prednisone



Quiz Question #2

Which of the following is a quick-relief inhaler?

- c.) Albuterol

BONUS: How often should it be used?

AS NEEDED



Quiz Question #3

≠ Which medications should be used daily?

- a.) QVAR
- b.) Pulmicort
- c.) Advair
- d.) Albuterol
- e.) a, b, c
- f.) all of the above



Quiz Question #3

≠ Which medications should be used daily?

- a.) QVAR
- b.) Pulmicort
- c.) Advair

- e.) a, b, c



Quiz Question #4

TRUE OR FALSE?

As pharmacists, we do NOT need to counsel patients on how to use their medications.

That is their doctor's job.

FALSE



Asthma Management Devices

Sherry Brown, Pharm.D., MBA, BCPS

- Medical Scientist at The Medicines Company
- Co-founder of RxPrep, Inc.



Asthma Management Devices

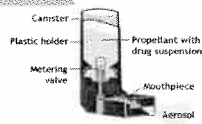
- # Monitor asthma
 - Peak flow meter
- # Drug delivery devices
 - Metered dose inhalers (MDI)
 - Spacers
 - Dry powder inhalers (DPIs)
 - Nebulizers



Metered Dose Inhalers (MDI)

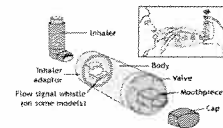
MDIs use a fine spray to dispense medication

- 1) Remove cap & shake well
- 2) Breathe out normally
- 3) Hold the inhaler 1 to 2 inches from mouth
 - **If you put the inhaler into your mouth, less medication is able to reach your lungs
- 4) Breathe in DEEPLY, press down on the inhaler to release the medication
- 5) Hold your breath for a count of 10. Then breathe out slowly
- 6) Rinse mouth to lower chance of side effects



Spacers

- # If technique of using an inhaler is wrong, too much of the medicine can end up in the mouth and stomach instead of the lungs.
- # Spacers can correct this problem.
- # Spacers are holding chambers/tubes that attach to the inhaler.
- # Make sure all of the medication goes into the lungs. Recommend for children and those who do not have good hands and lung coordination.



MDI With Spacer

- 1) Remove cap from the inhaler and spacer
- 2) Shake the inhaler well and attach the spacer
- 3) Breathe out normally
- 4) Put the spacer between teeth and close lips tightly around it
- 5) Spray 1 puff into the spacer by pressing down the inhaler
- 6) SLOWLY breathe in as DEEPLY as you can
- 7) Hold breath for a count of 10, slowly breathe out
- 8) If 2nd dose is prescribed, wait at least 30 seconds before taking the next puff



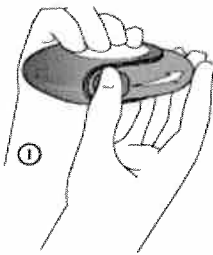

Dry Powder Breath-Actuated Inhalers (DPIs)

- # DPIs use tiny grains of powder to dispense medication
- # Have counters to track how many doses have been used
- # Good for patients who have difficulty with hand-breath coordination (eg, patients w/ arthritis, Parkinson's disease)



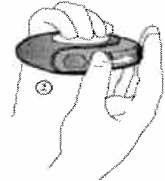

DISKUS DPI: How to Use

Step 1: OPEN

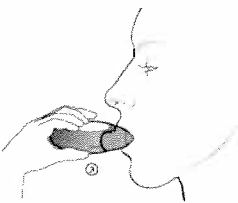
DISKUS DPI: How to Use

Step 2: CLICK





DISKUS DPI: How to Use

Step 3: INHALE







- # Breathe out normally and hold chin up
- # Put mouthpiece between lips
- # Breathe in quickly and deeply through the inhaler - not through your nose
- # Hold breath for as long as you can
- # Breathe out slowly




Nebulizers

- # Work by turning medication into a fine mist
- # Using a mouthpiece or mask, the mist is breathed in over a period of several minutes to make sure enough medication reaches the lungs
- # Good for small children or for severe asthmatic patients

Asthma Awareness Committee

- # We are looking for enthusiastic members!
- # Fill out an application today!
- # Projects:
 - Fall: training, health fairs, asthma walk
 - Spring: more health fairs, LA Breathmobile, other patient education projects (ie: SHARE clinic visits)
 - Any new project ideas from YOU!



Important Dates

Come help serve our community!

- # Sun, Oct 5: VAPSA Immunization HF
- # Fri, Oct 17: Legislative Day HF
- # Sat, Oct 25: KAPSA/APSA HF
- # Sat, Nov 15: SAM/APSA HF

