Wheeze & Sneeze

Winter 2010–11

ALLERGY & ASTHMA
of SOUTH JERSEY
Robert E. Coifman, M.D.
www.aasj.com
e-mail aasj@aasj.com

1122 N. High St.
Millville NJ 08332-2529
856.825.4100
Fax: 856.825.1700

5 E. Jimmie Leeds Rd.
Galloway, NJ 08205
609.652.1009

Anaphylaxis Community Expert Education

Approximately 2% of the population is at risk for anaphylaxis, from foods, insect stings, meds or internal triggers. Most cases present in childhood or adolescence. A credible national non-profit, the Allergy & Asthma Network / Mothers of Asthmatics partnered with the American College of Allergy Asthma & Immunology and found pharmaceutical industry funding for a nation-wide program to train at-risk patients and care-givers in the prevention, recognition, and management of anaphylaxis. Its goal is to do for anaphylaxis what the American Heart Association did for heart attacks by promulgating standardized programs and protocols for basic cardiac life support (BCLS). It recruited interested allergists and chose 150 from across the U.S. to find effective ways to bring the program to the at-risk populations of their communities. We were chosen to participate, as were other South Jersey allergists in Woodbury, Cherry Hill & Marlton.

We will offer Anaphylaxis Community Expert training in collaboration with the community health education programs of the regional medical centers of our service area. The program in Atlantic County will be Tuesday, April 5 from 6:00 to 8:00 pm at the AtlantiCare Life Center, 2500 English Creek Rd, Egg Harbor Twp. 08234, SE corner English Creek Rd. & Delilah Rd. No reservations needed.

Training in Cumberland County will be Monday, April 11 from 6:30 to 8:30 pm at the South Jersey Healthcare Fitness Connection 1430 W. Sherman Ave., Vineland 08360, NW corner of Sherman Ave. & Orchard Rd. No reservations needed.

The content of the program reflects consensus by a committee of which some members differ in interpreting the same data. Like early versions of BCLS, if widely implemented it will save many more lives than if it wasn't there. I think it's a great first start, and after the slide show I'll offer my own recommendations. Like early versions of BCLS it will almost certainly get better as it's revised over time.

Physicians can review the program's slide set at our website, www.aasj.com. Click <Anaphylaxis Community Expert Education>, then click <Teaching slides for physician review.> We are not authorized to make the slides available outside of allergist-moderated programs except to physicians, so to view them you will need a user name (which is "doctor") and a password (which is "DOCTOR"). If this doesn't work, please call us.

INSIDE

Ditch the Itch

Inflamed skin doesn't make normal levels of the surface oils that keep water from evaporating and the skin from drying. The result is two separate components of itch: dry skin itch on top of the itch caused by inflammation. Dry skin itch is generally much easier to treat than inflammatory itch. Treating the dry skin component can make patients with inflammatory rashes much more comfortable with less intensive treatment, fewer medication side effects (such as those of oral or high potency topical steroids) and generally much lower cost of care than what it would take to achieve the same level of itch control by treating the inflammation alone.

You can pay $20 per oz for moisturizers that put water into the skin and then seal it in. Or you can put water in with the shower, the bath tub, the water in which you wash your hands or a wet wash cloth compress and then seal it in while the skin is still wet, with Vaseline® petrolatum gel (the gooey stuff) or similar moisture sealants costing less than $5 per pound.

Topical steroids come in seven different strengths, low potency for safe use on thin skin (face, nipples, genitals), high potency for thick skin (palms, soles and some hyperkeratotic rashes) and mid-potency for safe chronic use on normal skin (everything else). Ointments are messier to apply than creams and require that the skin be wet to go on in the most efficient thin layers, but the process of wetting reduces dry skin itch and the ointment acts as a moisture sealant.

Ointments can be applied while you're still in the bath (in clean water, not soapy water which removes greases and oils) or in the shower with the water still running. It takes 10 minutes for thin layers of steroids to be absorbed while the skin remains damp or wet. You can re-wet it with a wet washcloth if needed. Vaseline or another moister sealant can then be applied while the skin is still wet or damp, to complete the moisture seal. Greases applied less than 10 minutes after topical steroids will pull some of the steroid back out. Grease-based moisture sealants applied when the skin is wet form micro-thin layers (like oil on water) that reduce evaporative drying but leave the skin feeling only slightly greasy. This is almost always better tolerated than the itch it replaces. If applied thinly to damp or wet skin it won't make grease spots on clothing other than the gauze fabrics used in some high end designer women's gowns. Patients who can afford those original designer gowns can usually also afford the $20 / oz skin moisturizers that won't stain them. Other inexpensive moisture sealants include Crisco® and generics, for use on wet hands in the kitchen, and glycerin, for use on the scalp and other hairy areas.

When skin is dry and itchy but shows no signs of inflammation (the simplest test for inflammation is if it looks or feels as if there's fire in the skin), use moisture sealants without anti-inflammatories. Keeping a tub of Vaseline next to the bath tub to rub lightly into the skin of your whole body, when you step out of the shower and before you dry yourself, is both the most effective and the least expensive treatment I've ever seen for winter dry skin. This is particularly helpful for older adults during the winter indoor heating season.

Allergy Shots for Asthma

The Cochrane Collaboration is a UK-based international non-profit organization that performs and publishes meta-analyses of randomized trials of various health care interventions. In July 2010 they published their meta-analysis of trials published through calendar year 2005 of the effectiveness of allergen injection immunotherapy for asthma, their plain language summary concludes: "Injecting allergens under the skin (allergen specific immunotherapy) can reduce asthma and use of medication and improve the sensitivity of the lungs, but with a risk of severe reactions. Asthma attacks can be caused by allergies, pollens, cigarette smoke or air pollution and can be fatal. An allergen is a substance that causes an allergic reaction in a person sensitive to it. Allergen specific immunotherapy involves having injections of increasing amounts of the allergen under the skin. It is also called hyposensitization or desensitisation, and there is

a risk of severe allergic reactions. The review of trials found that immunotherapy can reduce asthma symptoms, the need for medications and the risk of severe asthma attacks after future exposure to the allergen. It is possibly as effective as inhaled steroids. However, there is an increased risk of a lump at the injection site, rash, wheezing, breathlessness and very rarely a fatal allergic reaction."

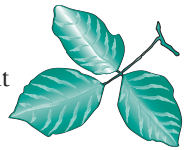
During and subsequent to the period covered by this Cochrane review, allergy scientific societies worldwide have attempted to identify and promulgate practices that reduce the risks of allergy shot reactions. I sit on the immunotherapy committee of the AAAAI, the American society charged with this task. Over the past 15 years the annual U.S. rate of allergy shot fatalities dropped from ~4 per year to ~1 per year, with none at all known to the committee for 2009. As safe and effective treatment doses are identified for more and more allergens and as we've learned to minimize the risks of adverse reactions, the risk/benefit balance tips more and more in the direction of offering allergen immunotherapy to persons with asthma in whom one can identify contributory allergens.

Asthma Control in Primary Care

The Asthma Control Test (ACT) (free download at www.asthmacontrol.com) is a simple, well validated index of current asthma control for ages 4-11 and 12-adult. The Journal of Pediatrics (2010;157;276-281) reported ACT scores for 2429 children age 4-17 with provider-diagnosed asthma and who used at least some asthma meds within the prior 12 months, seen in 29 primary care settings spanning the U.S. from Jan to May 2008. The asthma of 54% of the children seen for respiratory complaints was out of control by ACT criteria (perhaps not surprising if loss of asthma control was the reason for those visits) but that of 35% of the currently under treatment asthmatic children seen for non-respiratory complaints was also out of control. Out-of-control children had higher rates of exacerbation (50% vs 33% risk of oral steroid burst, ED visit or hospitalization for asthma), they were more than twice as likely to have missed at least one day of school because of asthma in the preceding month (67% vs 29%), and their parents were more likely to have missed work.

How well controlled are your asthma patients and can we help you improve their level of control?

Update on Poison Ivy



With a solution of the active ingredient of poison ivy (urushiol) dissolved in vegetable oil and injected under the skin, it takes 16 mg to desensitize an allergic 5 lb guinea pig. With less than 1 mg dissolved in 95% ethanol and injected into the deltoid muscle we were able to desensitize a highly allergic 200 lb tree trimmer, with complete protection persisting 14 months following a single course of treatment. (He is now being retreated and his experience suggests that some patients may need annual boosters.) Each of three highly sensitive patients treated had a similar clinical response, with 15 to 25-fold reduction in sensitivity by quantitative patch testing. With three patients enjoying long term control and a fourth clinically improved but having not yet completed treatment and post-treatment testing, allergy shots appear to be a dependable, safe and effective treatment for severe allergic contact dermatitis to poison ivy in patients whose job or living circumstances make avoidance impractical.

Our present poison ivy vaccine isn't strong enough to effectively desensitize patients whose quantitative patch test sensitivity is only mild to moderate (many of whom still have chronic poison ivy rashes). Our foundation made a grant to Rowan University to fund a collaborative effort to develop a more concentrated vaccine that should extend the benefit of treatment to these patients.

The increased effectiveness of IM injection in 95% ethanol relates to the solubility properties of urushiol, soluble in ethanol but insoluble in water. IM injection in ethanol results in the precipitation of large numbers of small particles of solid phase urushiol as the small volume of ethanol in which it's injected is rapidly diluted by tissue fluid. These particles remain in intimate contact with the circulating cells and cytokines of the aqueous phase of highly vascular muscle tissue, where they appear to be much more

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effective at inducing immunologic tolerance than if given by traditional methods of injection.

We applied for a grant to adapt the same method of vaccine delivery to the treatment of peanut allergy. If funded, my chemistry colleagues at Rowan will prepare an allergoid (polymerized formulation) of the major peanut allergen with the desired solubility properties, and an immunologist collaborator at Penn will study its immune system uptake and trafficking in mice.

Other Technical Innovations

These include a novel respiratory airflow sensor for use in pulmonary function testing equipment and in smart personal pulmonary monitoring devices. This device could be carried by patients with exertional shortness of breath to their cardiac exercise stress tests, and would collect simple pulmonary exercise stress test data from the same monitored challenge. Another would facilitate the identification of previously unrecognized asthma and of loss of control of previously treated asthma in school physical education and sports programs, settings in which nationwide these conditions presently result in several fatalities every year. The innovation that excites us the most is our set of error reduction technologies for computer speech recognition of dictation by familiar system users into fields of forms in such databases as electronic medical records. Our second and third speech recognition patents were issued this fall. Our goal is to figure out and patent one more piece of the puzzle, after which we hope to be able to commercialize the method.

All these projects are spin-off's of brainstorming to solve problems presenting in my practice. I thank the referring physicians of our service area for sending us the patients whose needs inspired these projects and whose health care supports them.

Handouts and Calendars

One physician in our service area asked if we could produce patient education handouts on common allergy problems for him to make available to patients in his office. Others have distributed our calendars to theirs.

If you would like copies of the enclosed handouts, calendars or both to distribute to your patients or if you have any ideas to make those items more useful, please call Kelli Moore at 856.825.6960. Thank you.

If you like the concept but would want changes to better meet your needs, please let us know. Our business is to serve the local population and medical community, and to develop products that meet the needs of that population and community.

Do you have associates (partners, NPs, PAs) who didn't get this mailing but would like it?

We try to keep a complete mailing list but many groups are listed by group and not by individuals. If you have associates who'd like their own copy of these mailings, please send names & contact information by fax 206.202.2105, email <aasj@aasj.com> or call 856.825.4100.

Whether it's poison ivy allergy, asthma or anything else in our specialty, we look forward to offering your patients treatment according to our long-standing mantra: SAFE, EFFECTIVE, SIMPLE, CHEAP.

Allergy and Asthma of South Jersey

Disease Management and Education for:

- Asthma and Sports Asthma
- Allergies of the Eye, Ear, Nose & Throat
- Chronic/Recurrent Sinus and Ear Infections
- Skin Allergies, Eczema & Hives
- Food Allergy, Latex Allergy
- Antibiotic Desensitization
- Customized Allergy Testing & Serum
- Occupational & Environmental Allergy & Asthma

Enjoy Better Health When Education is Part of Your Treatment

We develop customized asthma management plans and teach environmental controls and other measures to more effectively control the diseases we treat and improve the quality of life of our patients.

Visit our offices or our web site at www.AASJ.com for current information and management strategies for allergic diseases and asthma.