skin testing and those with negative skin tests received 250 mg of PCN orally. Study participants were then provided with a 10-day course of PCN to continue at home. After completion of the 10-day course of PCN, the participants returned for repeat skin testing and if the test continued to be negative, they repeated a 10-day course of PCN. This process continued until three 10-day courses of PCN had been completed and the participants had undergone a total of 4 sets of PCN skin tests.

**Results.** Fifty-eight participants met entry criteria for the study and underwent PCN skin testing. Five (9%) participants had positive PCN skin tests and were excluded from further participation. Of the 53 who continued in the study, 25 (47%) gave a prior history of urticaria or angioedema after taking penicillin, 9 (17%) reported anaphylaxis, and 19 (36%) reported a pruritic rash. The mean length of time since the most recent PCN reaction was 25 years. Forty-six participants completed the protocol and all tolerated the 3 courses of PCN and maintained negative skin test results. This resensitization rate of 0% had an upper limit of the 95% confidence interval (CI) of 2.1%. Of the 7 participants who withdrew from the study, 2 relocated, 1 decided not to continue, 1 had a vaginal yeast infection, 1 was lost to follow-up, and 2 had adverse reactions that ultimately proved not to be IgE-mediated as evidenced by subsequent negative PCN skin tests in both.

**Conclusions.** This study is the first to report that adults with a history of PCN allergy, who subsequently have negative PCN skin tests, are not at increased risk of PCN resensitization after multiple courses of the antibiotic.

**Reviewer’s Comments.** Studies performed in children have been mixed, but this study offers data to support repeat administration of PCN to this group of adults. However, the criteria for PCN allergy in this study are based solely on participant history and this suboptimal case definition may result in a study population that includes those whose prior reactions were not IgE-mediated. Should that be the case, the number of participants who became resensitized could be falsely low. Ultimately, the risk of PCN resensitization should be studied in those for whom there is documentation of both a clinical reaction and IgE to PCN.

Elizabeth C. Matsui, MD
Robert A. Wood, MD
Baltimore, MD

**LATEX ALLERGY**

**THE EFFICACY OF LATEX AVOIDANCE FOR PRIMARY PREVENTION OF LATEX SENSITIZATION IN CHILDREN WITH SPINA BIFIDA**


**Purpose of the Study.** Sensitivity to latex or natural rubber is very common in children with spina bifida (SB). The American Academy of Allergy, Asthma, and Immunology (AAAAI) has recommended a latex-free environment for all procedures performed on SB patients as a means of preventing latex allergy. The purpose of this study was to assess the efficacy of latex avoidance for primary prevention of latex sensitization.

**Study Population.** Two groups of patients with spina bifida were selected for study. The 15 group I patients received no preventative measures. They represent the natural history of latex sensitization. The 22 group II patients were born later when latex-free measures had been implemented at the study site and parental education for latex avoidance was routine. Children were followed for a 6-year period. When >1 evaluation was done, the latest was used.

**Methods.** Data were recorded regarding gender, age, personal and family atopic history, number of operations, number of cystourethrograms, presence of ventriculoperitoneal (VP) shunt, and clinical reaction to latex. Allergy testing was done in vitro and by skin prick testing to commercial latex, banana, and chestnut. These foods are among those that can cross-react to latex. A total serum immunoglobulin E (IgE) was also measured. Comparisons for the above parameters were made between the 2 groups of SB patients.

**Results.** There were no significant differences in the above parameters between the 2 groups except for the prevalence of latex sensitization and clinical latex reactions. Latex sensitization occurred in 27% of group I patients (no prophylaxis) versus 4.5% of group II patients (prophylaxis). None of the patients had a positive allergy test or clinical sensitivity to banana or chestnut. A total of 5 patients had a clinical latex reaction. Only 1 patient was from group II and all 5 patients had VP shunts. All of these patients had evidence of latex sensitivity by either a positive prick test or positive in vitro test.

**Conclusions.** Latex avoidance reduced the prevalence of latex sensitivity by 6-fold.

**Reviewer’s Comments.** The number of patients in this study was small, as were the number of operations and cystourethrograms. Latex exposure in group I patients is less than reported elsewhere. In other studies of children with SB or congenital urogenital malformations multiple surgeries or frequent exposure to latex devices are risk factors for sensitization. In this study the mean number of operations was 3.3 ± 1.5 for group I and 2.8 ± 2.3 for group II. Only 37 of 137 SB patients followed by this group were reported. No information was given as to the prevalence of clinical latex allergy reactions for entire cohort. The reduced sensitization in the latex avoidance group supports the recommendations of the AAAAI for early and sustained latex avoidance for such patients.

Michael S. Kaplan, MD
Los Angeles, CA

**IMPACT OF REPEATED SURGICAL PROCEDURES ON THE INCIDENCE AND PREVALENCE OF LATEX ALLERGY: A PROSPECTIVE STUDY OF 1263 CHILDREN**

Houribane, JO, Allard JM, Wade AM, McEwan AI, Strobel S. *J Pediatr.* 2002;140:479–482

**Purpose of the Study.** Latex sensitization can occur in up to 70% of children who require repeated surgeries for spina bifida or bladder extrophy. Primary prophylaxis is the best approach to reduce the risk of sensitization, while secondary prophylaxis of sensitized children reduces the risk for latex allergic reactions. The purpose of this study was to determine prospectively the prevalence of latex sensitivity and latex allergic reactions in children admitted to a surgical referral center for elective surgery.

**Study Population.** Patients were eligible if they were due to have elective surgery under general anesthesia. After screening, a final group of 1263 children were enrolled before their first operation during the study period. The median age at the time of enrollment was 6 years. Fifty-nine percent were males.

**Methods.** Before each surgery latex-specific immunoglobulin E (IgE) was measured in vitro (Pharmacia UNI-
SAFETY AND EFFICIACY OF AN IMPORTED FIRE ANT RUSH IMMUNOTHERAPY PROTOCOL WITH AND WITHOUT PROPHYLACTIC TREATMENT


Purpose of the Study. To evaluate the safety and efficacy of rush immunotherapy (RIT) with imported fire ant (IFA) whole body extract and to determine if prophylactic pretreatment with antihistamines and steroids reduces the rate of associated systemic reactions.

Study Population. Patients, 18 to 65 years old, with IFA hypersensitivity were enrolled from August 1996–June 1999. Hypersensitivity was defined as history of systemic reaction to IFA sting and positive IFA skin test result.

Methods. IFA-allergic patients enrolled in the RIT protocol were randomized in a double-blind manner to one of 2 prophylaxis regimens: 1) placebo pretreatment and 2) pretreatment with twice-daily treatment of terfenadine 60 mg, ranitidine 150 mg, and prednisone 30 mg. The pretreatment was begun 2 days before protocol start and continued through the evening of the last RIT dose. The RIT protocol included hourly injections on days 1, 2, 8, and 15. Protocol efficacy was determined on day 22 using a pair of IFA sting challenges 2 hours apart.

Results. Fifty-eight patients (age range: 18–49 years) entered the 2-day RIT. Only 5.2% experienced mild systemic reaction during the protocol. There was no statistical difference between the 2 premedication groups (3.6% active vs 6.7% placebo; $P = .87$). Efficacy was 98.2% in 56 patients undergoing sting challenge.

Conclusions. The authors conclude that RIT is both safe and efficacious for adults that have IFA hypersensitivity. The rate of systemic reactions is low and premedication with a combination of H1 and H2 antihistamines and oral corticosteroids is not necessary.

Reviewer’s Comments. One limitation of traditional immunotherapy is the long build-up period required for desensitization. This not only serves to discourage some patients but provides an additional hazard for patients with hypersensitivity reactions to insect venom and continual exposure. These authors have effectively demonstrated that RIT is safe and efficacious in adult patients. Although encouraging, additional studies are needed in children to confirm the same safety and efficacy parameters in fire ant-hypersensitive individuals.

Stacie M. Jones, MD
Little Rock, AR

POLLEN IMMUNOTHERAPY REDUCES THE DEVELOPMENT OF ASTHMA IN CHILDREN WITH SEASONAL RHINOCONJUNCTIVITIS (THE PAT-STUDY)


Purpose of the Study. To determine if specific immunotherapy can prevent the development of asthma and reduce bronchial hyperresponsiveness in children with seasonal allergic rhinoconjunctivitis.

Methods. A total of 205 children, 6 to 14 years old, from 6 European pediatric centers were enrolled from 1992–1994. All children had a clinical history of moderate-to-severe rhinoconjunctivitis caused by birch and/or grass pollen allergy, as well as positive skin testing and a conjunctival provocation test to birch and/or grass pollen. At enrollment, none had asthma requiring daily controller therapy. Patients were randomized to 1) active treatment group receiving specific immunotherapy (SIT) to birch and/or grass pollen for 3 years or 2) an observational control group. Symptomatic treatment was limited to loratadine, levocabastine, sodium cromoglycate, and nasal budesonide. Patients were evaluated based on the following: 1) asthma diagnosis, symptoms, and peak flow; 2) methacholine provocation during the pollen season(s) and winter; and 3) visual analog scale (VAS) for rhinoconjunctivitis after every season.

Results. Of the 205 patients, 43 were allergic to birch, 124 were allergic to grass, and 41 were allergic to both. Ninety-seven children received SIT while 94 served as controls. At study enrollment, 40 (20%) children had mild seasonal asthma symptoms despite negative histories of asthma. After 3 years, 38 of 40 with asthma still had symptoms. Among those with asthma, the SIT group had fewer asthma symptoms after 3 years of therapy as evaluated by...
IMPACT OF REPEATED SURGICAL PROCEDURES ON THE INCIDENCE AND PREVALENCE OF LATEX ALLERGY: A PROSPECTIVE STUDY OF 1263 CHILDREN

Michael S. Kaplan

Pediatrics 2003;112;463

Updated Information & Services
including high resolution figures, can be found at:
/content/112/Supplement_2/463.2.full.html

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
/site/misc/Permissions.xhtml

Reprints
Information about ordering reprints can be found online:
/site/misc/reprints.xhtml
IMPACT OF REPEATED SURGICAL PROCEDURES ON THE INCIDENCE AND PREVALENCE OF LATEX ALLERGY: A PROSPECTIVE STUDY OF 1263 CHILDREN
Michael S. Kaplan
Pediatrics 2003;112;463

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/112/Supplement_2/463.2.full.html