

TESH 2012-2013

*PEDIATRIC PERSPECTIVES:
FOOD ALLERGIES
September 11, 2012*

Dr. M. Scott Applegate, MD, FAAP

Program materials are available at:

http://dhhs.ne.gov/publichealth/Pages/schoolhealth_tesh.aspx

IMPORTANT INFORMATION

If you experience technical difficulties during our presentation, please call:
402-481-5674 (Carol Brandl)
402-416-7583 (Kathy Karsting)

Please keep your microphone on MUTE unless you wish to speak to our presenter.

Thank you for not interrupting our presentation with background noise or technical difficulties.

Pediatric Perspectives: Food Allergies Requirements for Credit

- To receive contact hours for attending today's event you **must**:
 - Sign in, completing all fields of the sign in sheet
 - Be present for the entire event
 - Complete and return an evaluation
 - Keep our program "Green!"
 Please give us your email address and we will issue your certificate electronically!

Pediatric Perspectives: Food Allergies Requirements for Credit

- Send evals and sign in sheets (by fax, email, snail mail, or scanned attachment) to the DHHS School Health Program. Certificates are issued by the school health program via email.
- Contact hour approval for the recording of this event expires September 2014.
- For more information about TESH, Telehealth Education for School Health, please contact: kathy.karsting@nebraska.gov.
- Program materials are available at: http://dhhs.ne.gov/publichealth/Pages/schoolhealth_tesh.aspx

Pediatric Perspectives: Food Allergies Required Disclosures

- The members of the TESH planning committee and our presenter today disclose they have no real or perceived conflicts of interest, or financial or commercial influences, that might bias the content of our program.
- There will be no discussion of off-label or unapproved use of medication in this program.

Pediatric Perspectives: Food Allergies Disclaimer

- The opinions and viewpoints expressed in this program are the sole responsibility of the presenter, and do not necessarily reflect the views, policies, or positions of:
 - The Nebraska Department of Health and Human Services;
 - The Nebraska Statewide Telehealth Network or our participating member locations; or
 - The Georgia Nurses' Association, the accredited continuing education approver for our presentation today.

Prevalence & Medical Management of Food Allergies

Historical Perspective

Allergies in Antiquity

- 900 A.D. Persian Physician Rhazes describes seasonal rhinitis
- 1902 Richet and Portier describe anaphylaxis in dogs from sea anemones



Allergy Types

- Type 1 -immediate hypersensitivity
- Type 2 - Some autoimmune diseases
- Type 3 - immune complexes
- Type 4 - cell mediated
 - TB skin test, poison ivy
- This talk is limited to Type 1

Anaphylaxis

- IgE
- Histamine
- Drop in blood pressure
- Angioedema
 - Think swelling

Clinical Features

- Skin 89%
 - urticaria
 - angioedema
- Respiratory 52%
 - wheeze
 - cough
 - throat tightness
- GI symptoms (vomiting & diarrhea)

14

NEJM 1992

- Reviewed 6 deaths and 7 near fatal
 - peanut 4 kids, tree nut 6 kids, eggs 1, and milk 2
 - symptoms occurred in 5-30 minutes
 - of the survivors all but 1 received epinephrine in less than 5 minutes.
- Take home message - GIVE EPINEPHRINE!
- Deaths are associated with delays in giving Epinephrine

15

Prevalence in U.S.

- 1997
 - 3% of children under 18 had food allergies
- 2010
 - 4% of children under 18 with food allergies (that's over 3 million folks)
- Similar results among boys and girls
- Similar results across racial backgrounds

Prevalence of Peanut Allergy

- Seems to have tripled since 1997
- 0.6% - 1.8%

2011

- Prevalence studies repeated
 - 8% of children with food allergies!
 - 30% with multiple food allergy
 - 38% had severe reactions
 - 25% of allergic students had peanut allergy
 - 21% of allergic students had milk allergy
 - 17% with shellfish allergy

18

Associations

- Asthma
 - 1/3 of food allergic children have asthma
- Eczema
 - 27% of food allergic children have eczema
- Hospitalizations
 - Nearly 10,000 / year for food allergy associated diagnosis

Identification and Diagnosis of the Food Allergic Child

- Clinical history
 - only with supporting history to interpret
 - 80% accurate
- In school, rely on parents and pediatrician

Medical Management

- Avoidance Strategies
- Emergency Action Plan
- Mouth or skin rinse for accidental exposure
- Epinephrine
- Antihistamines
- Activate EMS

21

Questions so far?

22

Food Allergy Fun



Characteristic Reactions in Schools

- 16% of food allergic kids report a reaction in school
 - 25% of those, school was the very first rxn
- 60% from ingestion
- 24% from skin contact
- 16% from inhalation
- Peanut butter craft projects were the most common mode

24

Management in School

- Identify & diagnose (Pediatricians)
- Confirm with lab (Pediatricians)
- Notify the school (Parents)
- Prescribe Epinephrine (Pediatricians)
- Develop a personalized emergency action plan (Parents and Doctors)
- Know and execute the plan (School)

25

The School Setting

- Preventative Measures
- Action Strategies
- Responding to allergic events
- Management of allergic events

Avoidance Strategies

- Food Bans (not always feasible)
- Soap & Water but NOT antiseptic gels
- No food sharing
- Remove the allergen when possible

27

Epinephrine in the School

- 2005 Massachusetts study
 - 24% of the time there was no history of food allergy
 - 31% had multiple allergies
 - 25% had peanut or tree nut allergy only
 - 19% occurred outside the doors (playground, to-from school, field trip)
 - Ave time to administration was 10 minutes
 - 92% transported emergently

28

Written Treatment Plans

- From Parents or Pediatrician
- Identifying information
- Specific allergens
- Symptoms
- Treatments
- Contact information for parents

29

Typical Plan

- Name - John "shrimpy" Doe
- Age and Weight (EMS will ask this)
- Food Allergies - Peanut, Eggs, Shellfish
- Signs
 - itching, cough, numbness/tingling, running to sink(kids are taught this)
- Response
 - Epinephrine, Benadryl, Phone parents
- Never leave student unattended!

30

Epinephrine Autoinjectors

- On the child's person
- in the school office
- in the car
- in the home
- AAP recommends unassigned autoinjector in school health offices
- When in doubt...INJECT!

31

911

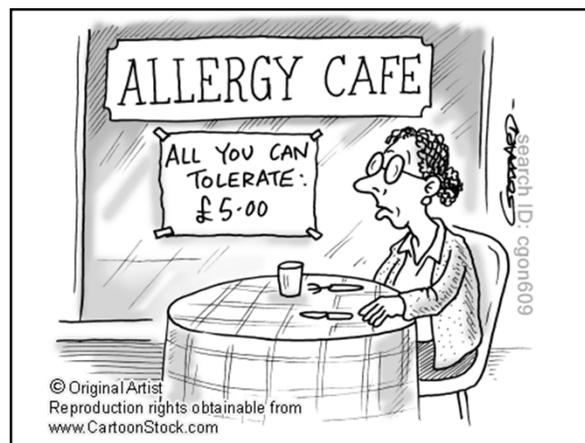
- Call first
- Confirm
- Call again
- send someone to meet EMS
- 1/2 life of epinephrine is minutes
 - peanut in the stomach is there for hours

32

"Food" for thought

- Epinephrine may be needed outside the cafeteria
- Adolescents are a particularly at-risk population
- Be vigilant of Bullying of allergic students
- The Americans with Disabilities Act protects food allergic students. Address the allergy in the IEP

33



References

- Centers for Disease Control
- The American Academy of Pediatrics
- New England Journal of Medicine Aug 6 1992, Fatal and Near Fatal Anaphylactic Reactions to Food In Children and Adolescents; Sampson et al;p380
- Pediatrics 1998 Clinical Features of Acute Allergic Reactions to Peanut and Tree Nuts in Children;Sicherer et al; p102

35

References

- Pediatrics 2002;110; The US Peanut and Tree Nut Allergy Registry: Characteristics of Reactions in Schools and Day Care; Remer & Kaplan
- Pediatrics 2003;112; Nut Allergy in School Children; Kelso
- Pediatrics 2005;116; Administration of Epinephrine for Life-Threatening Allergic REactions in School Settings; McINTyre et al

36

References

- Pediatrics 2010;126; Sicherer et al;
Management of Food Allergy in the School
Setting
- Pediatrics July 2011, 128;1; Gupta;
Prevalence of food allergies

37