Choosing Wisely ®Statements Relevant to Allergy Testing

Document reference number	**CSPD015/2018**	**Document developed by**	National Clinical Programme for Pathology
Revision number	Version 1.	**Document approved by**	National Clinical Programme for Pathology. Clinical Advisory Group for Pathology. National Clinical Advisor and Group Lead.
Approval date	May 2018	**Responsibility for implementation**	Acute Hospital Division
Next Revision date	May 2021	**Responsibility for review and audit**	National Clinical Programme for Pathology

National Clinical & Integrated Care Programmes
Person-centred, co-ordinated care

PATHOLOGY

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

We would like to thank Choosing Wisely for allowing us to highlight statements relevant to Allergy testing developed by the American Academy of Allergy, Asthma & Immunology, the American Academy of Dermatology, the American Academy of Pediatrics and The American College of Medical Toxicology and The American Academy of Clinical Toxicology.

Section 1

Authors

American Academy of Allergy, Asthma & Immunology.

How This List Was Created

The American Academy of Allergy, Asthma & Immunology (AAAAI) Executive Committee created a task force to lead work on Choosing Wisely consisting of board members, the AAAAI President and Secretary/Treasurer and AAAAI participants in the Joint Task Force on Practice Parameters. Through multiple society publications and notifications, AAAAI members were invited to offer feedback and recommend elements to be included in the list. A targeted email was also sent to an extended group of AAAAI leadership inviting them to participate. The work group reviewed the submissions to ensure the best science in the specialty was included. Based on this additional members were recruited for their expertise. Suggested elements were considered for appropriateness, relevance to the core of the specialty, potential overuse of resources and opportunities to improve patient care. They were further refined to maximize impact and eliminate overlap, and then ranked in order of potential importance both for the specialty and for the public. Finally, the work group chose its top five recommendations which were then approved by the Executive Committee. AAAAI's disclosure and conflict of interest policy can be found at www.aaaai.org.

Immunology (IgG/IgE)

Don't perform unproven diagnostic tests, such as immunoglobulin G (IgG) testing or an indiscriminate battery of immunoglobulin E (IgE) tests, in the evaluation of allergy.

Appropriate diagnosis and treatment of allergies requires specific IgE testing (either skin or blood tests) based on the patient's clinical history.
The use of other tests or methods to diagnose allergies is unproven and can lead to inappropriate diagnosis and treatment. Appropriate diagnosis and treatment is both cost effective and essential for optimal patient care.

References

Cox L, Williams PB, Sicherer S, et al. Pearls and pitfalls of allergy diagnostic testing: report from the American College of Allergy, Asthma and Immunology/ American Academy of Allergy, Asthma & Immunology Specific IgE Test Task Force. Ann All Asthma Immunol. 2008; 101:580–92
Bernstein I, Li J, Bernstein D et al. Allergy diagnostic testing: an updated practice parameter. Ann All Asthma Immunol 2008; 100:s1–148.
Terr AI. Unconventional theories and unproven methods in allergy. In: Allergy Principles and Practice, 7th Ed, 97:1691–1709.

Immunology (IgE)

Don't routinely do diagnostic testing in patients with chronic urticaria.

In the overwhelming majority of patients with chronic urticaria, a definite etiology is not identified. Limited laboratory testing may be warranted to exclude underlying causes. Targeted laboratory testing based on clinical suspicion is appropriate. Routine extensive testing is neither cost effective nor associated with improved clinical outcomes. Skin or serum-specific IgE testing for inhalants or foods is not indicated, unless there is a clear history implicating an allergen as a provoking or perpetuating factor for urticaria.

References

Wanderer, AA, Bernstein, IL, Goodman, DL, et al. The Diagnosis and Management of Urticaria: a Practice Parameter. Ann Allergy Asthma Immunol 2000; 85:521–44.
Tarbox JA, Gutta RC, Ching EL, Radojicic C, Lang DM. Utility of routine laboratory testing in management of chronic urticaria/angioedema. Ann Allergy Asthma Immunol 2011, 107: 239–43.
Bernstein IL, Li, JT, Bernstein DI et al. Allergy diagnostic testing: an updated practice parameter. Ann Allergy Asthma Immunol. 2008 Mar; 100(3 Suppl 3):S1–148.
Kozel MM, Bossuyt PM, Mekkes JR, Bos JD. Laboratory tests and identified diagnoses in patients with physical and chronic urticaria and angioedema:A systematic review. J Am Acad Dermatol. 2003 Mar; 48(3):409–16.

Don't perform food IgE testing without a history consistent with potential IgE-mediated food allergy.

False or clinically irrelevant positive allergy tests for foods are frequent. Indiscriminate screening results in inappropriate avoidance of foods and wastes healthcare resources. IgE testing for specific foods must be driven by a history of signs or symptoms consistent with an IgE-mediated reaction after eating a particular food. Ordering IgE testing in individuals who do not have a history consistent with or suggestive for food allergy based on history frequently reveals positive tests that are unlikely to be clinically relevant. Testing, when done, should be limited to suspected foods.
The diagnostic utility of IgE testing for specific foods is optimal when a history compatible with or suggestive for the diagnosis of food allergy is present. In the absence of a compatible or suggestive history, the pre-test probability for a diagnosis of food allergy is low and a positive skin or in vitro IgE test does not establish a diagnosis of food allergy. Skin testing or serum testing for specific-IgE to food antigens has excellent sensitivity and high negative predictive value, but has low specificity and low positive predictive value.
Considering that 50 to 90 percent of presumed cases of food allergy do not reflect IgE-mediated (allergic) pathogenesis and may instead reflect food intolerance or symptoms not causally associated with food consumption, ordering panels of food tests leads to many incorrectly identified food allergies and inappropriate recommendations to avoid foods that are positive on testing.

References

Bernstein IL, Li JT, Bernstein DI, Hamilton R, Spector SL, Tan R, Sicherer S, Golden DB, Khan DA, Nicklas RA, Portnoy JM, Blessing-Moore J, Cox L, Lang DM, Oppenheimer J, Randolph CC, Schuller DE, Tilles SA, Wallace DV, Levetin E, Weber R; American Academy of Allergy, Asthma and Immunology; American College of Allergy, Asthma and Immunology. Allergy diagnostic testing: an updated practice parameter. Ann Allergy Asthma Immunol. 2008 Mar; 100(3 Suppl 3):S1–148.
NIAID-Sponsored Expert Panel, Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C, Camargo CA Jr, Eichenfield L, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FE, Teach SJ, Yawn BP, Schwaninger JM. Guidelines

for the diagnosis and management of food allergy in the United States: report of the NIAID-sponsored expert panel. J Allergy Clin Immunol. 2010 Dec; 126 (6 Suppl):S1–58.

Section 2

Authors

American Academy of Dermatology

How This List Was Created

The American Academy of Dermatology (AAD) is strongly committed to dermatologists serving as effective stewards of limited health care resources by assisting patients in making informed health care decisions. As such, the AAD leadership created a workgroup to develop this list with specific skills and expertise in evidence based research, public health quality and payer policy. Members of this workgroup include dermatologists who are current members of the Academy's Board of Directors, Council on Science and Research, Council on Government Affairs, Health Policy and Practice, Research Agenda Committee, Clinical Guidelines Committee, Access to Dermatology Care Committee, Patient Safety and Quality Committee, Resource-Based Relative Value Scale Committee and the Workgroup on Innovative Payment Delivery. The workgroup identified areas to be included on this list based on the greatest potential for overuse/misuse, quality improvement and availability of strong evidence based research as defined by the recommended criteria listed below. The recommended list was reviewed and approved by the AAD Council on Science and Research and the AAD Board of Directors.

- Supported by available scientific evidence (e.g., existing AAD appropriate use criteria and/or existing AAD clinical guidelines)
- Strongest consensus inappropriate score from the AAD Appropriate Use Criteria (AUC)
- Strong (wording/level of evidence) recommendations from the guidelines about discouraged practice
- Greatest potential for improvement in outcomes for patients
- Greatest potential for overuse/misuse by physicians

For AAD's disclosure and conflict of interest policy, visit. www.aad.org.

Immunology (RAST)

Don't use skin prick tests or blood tests such as the radioallergosorbent test (RAST) for the routine evaluation of eczema.

Skin prick tests or blood tests may help identify the causes of allergic reactions, including hives or sneezing after exposure to dust or pollen. However, these tests are not useful for diagnosing dermatitis or eczema. When testing for suspected allergies is deemed necessary in patients with these rashes, it is better to conduct patch testing with ingredients of products that come in contact with the patient's skin.

References

Sidbury R, Tom WL, Bergman JN, Cooper KD, Silverman RA, Berger TG, Chamlin SL, Cohen DE, Cordoro KM, Davis DM, Feldman SR, Hanifin JM, Krol A, Margolis DJ, Paller AS, Schwarzenberger K, Simpson EL, illiams HC, Elmets CA, Block J, Harrod CG, Smith Begolka W, Eichenfield LF. Guidelines of care for the management of atopic dermatitis:
Section 4. Prevention of disease flares and use of adjunctive therapies and approaches. J Am Acad Dermatol. 2014 Dec; 71(6):1218-33.
NIAID-Sponsored Expert Panel, Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C,Camargo CA Jr, Eichenfield L, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FE, Teach SJ, Yawn BP, Schwaninger JM. Guidelines for the diagnosis and management of food allergy in the United States: report of the NIAID-sponsored expert panel. J Allergy Clin Immunol. 2010 Dec; 126(6 Suppl):S1-58.

Section 3

Authors

American Academy of Pediatrics

How This List Was Created

The American Academy of Pediatrics (AAP) employed a three-stage process to develop its list. Using the Academy's varied online, print and social media communication vehicles, the first stage invited leadership of the Academy's 88 national clinical and health policy-driven committees, councils and sections to submit potential topics via an online survey. The second stage involved expert review and evaluation of the management groups that oversee the functions of the committees, councils and sections. Based on a set of criteria (evidence to document unproven clinical benefit, potential to cause harm, over-prescribed and utilized, and within the purview of pediatrics) a list of more than 100 topics was narrowed down to five. Finally, the list was reviewed and approved by the Academy's Board of Directors and Executive Committee.
AAP's disclosure and conflict of interest policy can be found at www.aap.org.

Immunology (IgE)

Don't perform screening panels for food allergies without previous consideration of medical history.

Ordering screening panels (IgE tests) that test for a variety of food allergens without previous consideration of the medical history is not recommended. Sensitization (a positive test) without clinical allergy is common. For example, about 8% of the population tests positive to peanuts but only approximately 1% are truly allergic and exhibit symptoms upon ingest ion. When symptoms suggest a food allergy, tests should be selected based upon a careful medical history.

References

Sicherer SH, Wood RA; American Academy of Pediatrics Section on Allergy and Immunology. Allergy testing in childhood: using allergen-specific IgE tests. Pediatrics. 2012 Jan;129(1):193–7.

Section 4

Authors

The American College of Medical Toxicology and The American Academy of Clinical Toxicology

How This List Was Created

The American College of Medical Toxicology's (ACMT's) Board of Directors established a Choosing Wisely® work group in 2013 to develop a list of items for the Choosing Wisely® campaign. Members of the work group were chosen to represent various practice settings within the field of medical toxicology, including ambulatory, acute and population-based practice. Work group members included the President of the College, the Chair of the Practice Committee, the Chair of the Positions and Guidelines committee and other academic leaders within the medical toxicology community. All work group members also represented the American Academy of Clinical Toxicology (AACT). The first list was released by the work group in 2013 and in 2014, the work group reconvened to develop a second list of items for the campaign. A second preliminary list was disseminated to all members of ACMT and AACT for review, commentary and potential additions. Additional feedback was solicited from leaders within the field of medical toxicology. The work group reviewed all responses, and narrowed the list to the final five items based on a review of scientific evidence, relevance to the specialty and greatest opportunity to improve care, reduce cost and reduce harm to patients. The final list was approved by the ACMT Board of Directors and the AACT Board of Trustees. The ACMT and AACT disclosure and conflict of interest policies can be found at www.acmt.net and www.clintox.org respectively.

Immunology

Don't order tests to evaluate for or diagnose "idiopathic environmental intolerances," "electromagnetic hypersensitivity" or "mold toxicosis."

These diagnoses reflect labels to indicate that patients have adverse non-allergic reactions to normal environmental stimuli. These diagnoses are made on the bases of self-reported symptoms or non-validated testing procedures. Although these conditions have been widely promoted, evidence-based assessments fail to support these diagnoses as disease entities. Labelling a patient with these diagnoses may adversely affect the patient's lifestyle, obscure ascertainment of the etiology of their symptoms and promote unnecessary testing.

References

Baliatsas C, VanKamp I, Lebret E, Rubin GJ. Idiopathic environmental intolerance attributed to electromagnetic fields (IEI-EMF): a systematic review of identifying criteria. BMC Public Health. 2012 Aug 11; 12:643.

Boyd I, Rubin G, Wessely S. Taking refuge from modernity: 21st century hermits. J R Soc Med. 2012 Dec; 105:523-9.

Hausteiner C, Bornschein S, Zilker T, Henningsen P, Förstl H. Dysfunctional cognitions in idiopathic environmental intolerances (IEI) - an integrative psychiatric perspective. Toxicol Lett. 2007Jun 15; 171(1-2):1-9.

Rubin GJ, Hillert L, Nieto-Hernandez R, van Rongen E, Oftedal G. Do people with idiopathic environmental intolerance attributed to electromagnetic fields display physiological effects when exposed to electromagnetic fields? A systematic review of provocation studies. Bioelectromagnetics. 2011 Dec; 32(8):593-609.

Staudenmayer H, Binkley KE, Leznoff A, Phillips S. Idiopathic environmental intolerance: Part 2: causation analysis applying Bradford Hill's criteria to the psychogenic theory. Toxicol Rev. 2003; 22:247-61.

Staudenmayer H, Binkley KE, Leznoff A, Phillips S. Idiopathic environmental intolerance: Part 1: a causation analysis applying Bradford Hill's criteria to the toxicogenic theory. Toxicol Rev. 2003; 22:235-46.