



## 2. ANTIBIOTIC ALLERGY

- 2.1 EAACI 2019: Towards a more precise diagnosis of hypersensitivity to beta-lactams - an EAACI position paper
- 2.2 WAO 2013: Hypersensitivity reactions to non beta-lactam antimicrobial agents, a statement of the WAO special committee on drug allergy
- 2.3 EAACI 2009: Update on evaluation of hypersensitivity reactions to betalactams
- 2.4 EAACI 2003: Diagnosis of immediate allergic reactions to beta-lactam antibiotics

## 3. NSAID HYPERSENSITIVITY

- 3.1 SEAIC 2019: Position Statement of the Spanish Society of Allergology and Clinical Immunology on Provocation Tests with Aspirin/Nonsteroidal anti-inflammatory drugs
- 3.2 EAACI 2013: Hypersensitivity to nonsteroidal anti-inflammatory drugs (NSAIDs) – classification, diagnosis and management: review of the EAACI/ENDA(#) and GA2LEN/HANNA\*

## 4. INTRA-OPERATIVE ANAPHYLAXIS/ ANAESTHETIC AGENTS

- 4.1 EAACI 2019: Position paper on the investigation of perioperative immediate hypersensitivity reactions
- 4.2 Spanish Society of Allergology and Clinical Immunology (2018): Practical guidelines for perioperative hypersensitivity reactions
- 4.3 SFAR 2011: Reducing the risk of anaphylaxis during anesthesia: 2011 updated guidelines for clinical practice
- 4.4 BSACI 2009: BSACI guidelines for the investigation of suspected anaphylaxis during general anaesthesia

## 5. RADIOCONTRAST MEDIA

- 5.1 Spanish Society of Allergology and Clinical Immunology 2015: Clinical practice guidelines on the diagnosis and management of hypersensitivity reactions to contrast media
- 5.2 EAACI 2005: Management of hypersensitivity reactions to iodinated contrast media

## 6. VACCINE ADVERSE REACTIONS

- 6.1 Practice parameter 2017: Administration of influenza vaccines to egg allergic recipients
- 6.2 AAAAI 2012: Adverse reactions to vaccines 2012 parameter update

## 7. SKIN TESTS

- 7.1 ASCIA 2016: Skin prick testing for the diagnosis of allergic diseases (practitioner’s manual)
- 7.2 EAACI 2015: In-vivo Diagnosis of Allergic Diseases – Allergen Provocation Tests
- 7.3 EAACI 2013: Skin test concentrations for systemically administered drugs — an ENDA/EAACI Drug Allergy Interest Group position paper
- 7.4 Patch testing in non-immediate drug eruptions by Romano A (2008)
- 7.5 AAAAI 2008: Allergy diagnostic testing: an updated practice parameter

## 8. IN-VITRO TESTS

- 8.1 EAACI 2016: In-vitro tests for drug hypersensitivity reactions
- 8.2 EAACI 2015: The Clinical Utility of Basophil Activation Testing in Diagnosis and Monitoring of Allergic Disease

## 9. DRUG PROVOCATION TESTS

- 9.1 WAO 2016: Risk and safety requirements for diagnostic and therapeutic procedures in allergology
- 9.2 EAACI/GA<sup>2</sup>LEN guideline 2007: Aspirin provocation tests for diagnosis of aspirin hypersensitivity
- 9.3 EAACI 2003: Drug provocation testing in the diagnosis of drug hypersensitivity reactions: general considerations

**10. DESENSITIZATION**

- 10.1 EAACI 2013: Desensitization in delayed drug hypersensitivity reactions — an EAACI position paper of the Drug Allergy Interest Group
- 10.2 EAACI 2010: General considerations on rapid desensitization for drug hypersensitivity – a consensus statement

**11. PHARMACOGENOMIC TESTING**

Clinical Pharmacogenomics Implementation Consortium (CPIC) Guidelines & Publications

**12. STEVENS-JOHNSON SYNDROME/TOXIC EPIDERMAL NECROLYSIS**

- 12.1 British Association of Dermatologists Guidelines 2016

**13. MASTOCYTOSIS AND MAST CELL ACTIVATION SYNDROMES**

- 13.1 EAACI 2015: Drug hypersensitivity in clonal mast cell disorders
- 13.2 Mastocytosis and allergic diseases (2015)

**14. PAEDIATRIC DRUG ALLERGY**

- 14.1 EAACI 2019: Diagnosis and management of drug induced anaphylaxis in children: an EAACI position paper
- 14.2 EAACI 2018: Diagnosis and management of hypersensitivity reactions to NSAIDs in children and adolescents
- 14.3 NICE 2014 : Diagnosis and management of drug allergy in adults, children and young people
- 14.4 Royal College of Paediatrics and Child Health (RCPCH) 2012: Allergy Care pathway for Children – Drug Allergy

5	Are there adult drug allergy centres/clinics in your country?	Yes: please specify the number: No	<input type="checkbox"/> <input type="checkbox"/>
6	Are there paediatric drug allergy centres/clinics in your country?	Yes: please specify the number: No	<input type="checkbox"/> <input type="checkbox"/>
7	Which of the following tests for drug allergy/hypersensitivity are available in your country?	Skin prick and intradermal test → go to section (A) Specific IgE in-vitro tests → go to section (B) Other tests for immediate reactions → go to section (C) Lymphocyte transformation test → go to section (D) Patch testing → go to section (E) Pharmacogenomic tests → go to section (F) Drug provocation tests → go to section (G)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**(A) SKIN TESTING**

8	Do you have access to penicillin skin test reagents?	Yes No	<input type="checkbox"/> <input type="checkbox"/>
9	From where do you obtain your skin test reagent for benzylpenicilloyl polylysine (PPL)?	In-house Diater ®  Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10	From where do you obtain your skin test reagent for minor determinant mix (MDM)?	In-house Diater ® Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	Which drugs are commonly skin tested in your country?	Penicillins Cephalosporins	<input type="checkbox"/> <input type="checkbox"/>

		Carbapenems	<input type="checkbox"/>
		Non-beta lactam antibiotics	<input type="checkbox"/>
		General anaesthetic agents	<input type="checkbox"/>
		Local anaesthetic agents	<input type="checkbox"/>
		Radiocontrast media (RCM)	<input type="checkbox"/>
		NSAIDs	<input type="checkbox"/>
		Others – specify: Corticosteroids, Insulins	<input type="checkbox"/>
12	Who prepares the drugs for skin testing?	Allergist	<input type="checkbox"/>
		Dermatologist	<input type="checkbox"/>
		Pharmacist	<input type="checkbox"/>
		Nurse clinician/specialist	<input type="checkbox"/>
		Others – specify:	<input type="checkbox"/>

**(B) SPECIFIC IgE IN-VITRO TESTS**

13	Are in-house or commercial assays available for these tests?	Commercial	<input type="checkbox"/>
		In-house	<input type="checkbox"/>
		Both	<input type="checkbox"/>
		Neither	<input type="checkbox"/>
14	Which commercial tests are available in your country?	CAP-FEIA (Phadia ImmunoCAP®)	<input type="checkbox"/>
		RAST (Radioallergosorbent test®)	<input type="checkbox"/>
		Euroimmune Allercoat 6 ELISA	<input type="checkbox"/>
		FLOW-CAST (Buhlmann Labs®)	<input type="checkbox"/>
		FLOW-2-CAST (Buhlmann Labs®)	<input type="checkbox"/>
		CAST-ELISA (Buhlmann Labs®)	<input type="checkbox"/>
		Others – specify:	<input type="checkbox"/>
15	Which drugs are commonly tested using these in-vitro methods?	Alfa-gal	<input type="checkbox"/>
		Ampicilloyl	<input type="checkbox"/>
		Amoxicilloyl	<input type="checkbox"/>
		Cefaclor	<input type="checkbox"/>
		Cephalosporins	<input type="checkbox"/>
		Chlorhexidine	<input type="checkbox"/>
		Chymopapain	<input type="checkbox"/>
		Gelatin	<input type="checkbox"/>
		General anaesthetic agents	<input type="checkbox"/>
		Insulin porcine, human, bovine	<input type="checkbox"/>
		Morphine	<input type="checkbox"/>
		NSAIDs	<input type="checkbox"/>
		Penicilloyl G	<input type="checkbox"/>
		Penicilloyl V	<input type="checkbox"/>
		Pholcodine	<input type="checkbox"/>
		Protamine	<input type="checkbox"/>
		Suxamethonium	<input type="checkbox"/>
		Tetanus toxoid	<input type="checkbox"/>
		Others – specify:	<input type="checkbox"/>

**(C) OTHER TESTS FOR IMMEDIATE REACTIONS**

16	Is serum total tryptase available in your country?	Yes	<input type="checkbox"/>
		No	<input type="checkbox"/>
17	Is the basophil activation test (BAT) available in your country?	Yes	<input type="checkbox"/>
		No	<input type="checkbox"/>

**(D) LYMPHOCYTE TRANSFORMATION TESTS (LTT)**

18	Is LTT used in the clinical or research setting?	Clinical	<input type="checkbox"/>
		Research	<input type="checkbox"/>
		Both clinical and research	<input type="checkbox"/>
19	Where are these tests done?	In-house	<input type="checkbox"/>
		Sent to another facility in the same region/country	<input type="checkbox"/>
		Sent to another facility out of the region/country	<input type="checkbox"/>
20	What drugs are commonly tested using LTT in your country?	Antibiotics (beta-lactams)	<input type="checkbox"/>
		Antibiotics (non-beta lactams)	<input type="checkbox"/>
		Anti-epileptics	<input type="checkbox"/>
		ACE inhibitors	<input type="checkbox"/>
		Anti-tuberculous drugs	<input type="checkbox"/>
		Diuretics	<input type="checkbox"/>
		NSAIDs & selective COX-2 inhibitors	<input type="checkbox"/>
		Pyrazolones	<input type="checkbox"/>
		Local anaesthetic agents	<input type="checkbox"/>
		HMG-CoA reductase inhibitors	<input type="checkbox"/>
		Opioids	<input type="checkbox"/>
		Neuromuscular blockers	<input type="checkbox"/>
		Contact allergens	<input type="checkbox"/>
Others - specify:	<input type="checkbox"/>		
21	For what types of delayed reactions are LTT commonly used for diagnosis?	Acute generalized exanthematous pustolosis (AGEP)	<input type="checkbox"/>
		Blood dyscracias (cytopenias)	<input type="checkbox"/>
		Drug induced hypersensitivity syndrome (DiHS)	<input type="checkbox"/>
		Fixed drug eruption (FDE)	<input type="checkbox"/>
		Hepatitis	<input type="checkbox"/>
		Immunobullous eruptions	<input type="checkbox"/>
		Interstitial nephritis	<input type="checkbox"/>
		Maculopapular exanthems (MPE)	<input type="checkbox"/>
		Stevens Johnson syndrome	<input type="checkbox"/>
		Toxic epidermal necrolysis	<input type="checkbox"/>
		Vasculitis	<input type="checkbox"/>
		Others – specify:	<input type="checkbox"/>

**(E) PATCH TESTS**

22	Is this used in the clinical or research setting?	Clinical	<input type="checkbox"/>
		Research	<input type="checkbox"/>
		Both clinical and research	<input type="checkbox"/>
23	What formulation of the drug is used for testing?	Pure substance	<input type="checkbox"/>
		Commercialized form of the drug	<input type="checkbox"/>
		Others – specify:	<input type="checkbox"/>

24	What dilutions of the drug are used	0.1%	<input type="checkbox"/>
		1%	<input type="checkbox"/>
		5%	<input type="checkbox"/>
		10% and 30%	<input type="checkbox"/>
25	What vehicle is used?	Petrolatum	<input type="checkbox"/>
		Water	<input type="checkbox"/>
		Alcohol	<input type="checkbox"/>
26	How do you obtain the drugs for patch testing?	In-house	<input type="checkbox"/>
		Chemotechnique®	<input type="checkbox"/>
		Commercial - specify:	<input type="checkbox"/>
		Others - specify:	<input type="checkbox"/>
27	Which of the following are also tested?	Preservative	<input type="checkbox"/>
		Colouring	<input type="checkbox"/>
		Excipient	<input type="checkbox"/>
		None of the above	<input type="checkbox"/>
28	When is the patch test reading done?	20 minutes	<input type="checkbox"/>
		48 h (Day 2)	<input type="checkbox"/>
		96 h (Day 4)	<input type="checkbox"/>
		Day 7 if Day 2,4 negative	<input type="checkbox"/>
29	Is photo patch testing done for photoallergens?	Yes	<input type="checkbox"/>
		No	<input type="checkbox"/>
30	What drugs have you used for patch testing?	Antibiotics (beta-lactams)	<input type="checkbox"/>
		Antibiotics (non-beta lactams)	<input type="checkbox"/>
		Anti-epileptics	<input type="checkbox"/>
		Anti-tuberculous drugs	<input type="checkbox"/>
		Aciclovir, valaciclovir	<input type="checkbox"/>
		Corticosteroids	<input type="checkbox"/>
		NSAIDs & selective COX-2 inhibitors	<input type="checkbox"/>
		Cotrimoxazole	<input type="checkbox"/>
		Diltiazem	<input type="checkbox"/>
		Hydroxyzine	<input type="checkbox"/>
		Heparin derivatives	<input type="checkbox"/>
		Pseudoephedrine	<input type="checkbox"/>
		Radiocontrast media	<input type="checkbox"/>
		Statins	<input type="checkbox"/>
Tetrazepam	<input type="checkbox"/>		
Others - specify:	<input type="checkbox"/>		
31	For what types of delayed reactions have you used patch testing to help in diagnosis?	Acute generalized exanthematous pustolosis (AGEP)	<input type="checkbox"/>
		Drug induced hypersensitivity syndrome (DiHS)	<input type="checkbox"/>
		Drug induced lupus erythematosus (DILS)	<input type="checkbox"/>
		Fixed drug eruption (FDE)	<input type="checkbox"/>
		Immunobullous eruptions	<input type="checkbox"/>
		Maculopapular exanthems (MPE)	<input type="checkbox"/>
		Stevens Johnson syndrome	<input type="checkbox"/>
		Symmetrical drug-related intertriginous and flexural exanthema (SDRIFE)	<input type="checkbox"/>
		Toxic epidermal necrolysis	<input type="checkbox"/>
		Vasculitis	<input type="checkbox"/>
		Others – specify:	<input type="checkbox"/>

**(F) PHARMACOGENOMIC TESTS**

32	Which tests are <b>mandatory</b> in your country before prescribing?	HLA-B*5701 (Abacavir) HLA-B*5801 (Allopurinol) HLA-B*1502 (Carbamazepine) Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
33	Which tests are <b>recommended</b> in your country before prescribing?	HLA-B*5701 (Abacavir) HLA-B*5801 (Allopurinol) HLA-B*1502 (Carbamazepine) Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**(G) DRUG PROVOCATION TESTS**

34	What are the main indications for drug provocation tests in your centre/country?		
	Exclude hypersensitivity (non-suggestive history/non-specific symptoms) Provide safe pharmacologically/structurally non-related drugs in proven hypersensitivity (e.g. beta-lactams) Exclude cross-reactivity of related drugs in proven hypersensitivity (e.g. cephalosporin in a penicillin allergic) Definitive diagnosis in suggestive history with negative, non-conclusive or non- available allergological tests Others - specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
35	Who prepares the drug used for provocation testing?	Pharmacist Nurse clinician Doctor (IV/SC) Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
36	What are the types of provocation tests used?	Open challenge Single blind placebo control Double blind placebo control Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
37	What are the common routes of administration used?	Oral (tablet) Oral (capsule) Oral (syrup) Intramuscular Subcutaneous Intravenous Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
38	What are the common routes of administration for aspirin provocation tests ?	Oral aspirin challenge Bronchial (inhalation) l-lysine-aspirin (l-ASA) challenge Nasal l-ASA challenge	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**DESENSITIZATION**

39	What are the common drugs for which desensitizations are done ?	Betalactam antibiotics Non-betalactam antibiotics –specify: Chemotherapeutic agents Monoclonal antibodies High-dose aspirin (chronic rhinosinusitis+/-nasal polyposis) Low-dose aspirin (coronary artery disease) Others – specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
40	Which are the common modes of desensitization ?	Rapid Slow Both rapid and slow	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
41	Where are these commonly done ?	Inpatient general wards Inpatient high dependency/ intensive care units Outpatient day ward Outpatient clinic Others: specify:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

*Thank you for completing this survey.*

*Drug Allergy Committee, APAAACI*