



australasian society of clinical immunology and allergy

Scope of Practice Allergy Skin Testing in Australia

In relation to revised Medicare Benefits Schedule item numbers effective 1 November 2018

A. Introduction

The Australasian Society of Clinical Immunology and Allergy (ASCIA) has been requested to develop this Scope of Practice document in response to the Medicare Benefits Schedule (MBS) item number changes listed below. These changes are a result of the MBS Review Taskforce, effective 1 November 2018.

Whilst these changes were not initiated by ASCIA, the previously proposed item numbers were significantly modified in response to a submission made by ASCIA in July 2017, to ensure patients with complex allergic disease are not disadvantaged.

12000	Skin prick testing for aeroallergens by a specialist or consultant physician in the practice of his or her specialty, including all allergens tested on the same day, not being a service associated with a service to which item 12001, 12002, 12005, 12012, 12015, 12018, 12021, 12022 or 12024 applies.	38.95
12001	Skin prick testing for aeroallergens, including all allergens tested on the same day, not being a service associated with a service to which item 12000, 12002, 12005, 12012, 12015, 12018, 12021, 12022 or 12024 applies. Applicable only once per 12 month period	38.95
12002	Repeat skin prick testing for aeroallergens, including all allergens tested on the same day, if: (a) further testing for aeroallergens is indicated in the same 12 month period to which item 12001 applies; and (b) the service is not associated with a service to which item 12000, 12001, 12005, 12012, 12015, 12018, 12021, 12022 or 12024 applies Applicable only once per 12 month period	38.95
12003	Skin prick testing for food and latex allergens, including all allergens tested on the same day, not being a service associated with a service to which item 12005, 12012, 12015, 12018, 12021, 12022 or 12024 applies	38.95
12004	Skin testing for medication allergens (antibiotics, non-general anaesthetics agents) and venoms (including prick testing and intradermal testing with a number of dilutions), including all allergens tested on the same day, not being a service associated with a service to which item 12012, 12015, 12018, 12021, 12022 or 12024 applies	58.85
12005	Skin testing, performed by or on behalf of a specialist or consultant physician in the practice of the specialist or consultant physician's specialty, for agents used in the perioperative period (including prick testing and intradermal testing with a number of dilutions), to investigate anaphylaxis in a patient with a history of prior anaphylactic reaction or cardiovascular collapse associated with the administration of an anaesthetic. Including all allergens tested on the same day, not being a service associated with a service to which item 12000, 12001, 12002, 12003, 12012, 12015, 12018, 12021, 12022 or 12024 applies	79.20

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B. Proposed use of revised MBS item numbers

1. **Specialists in clinical immunology/allergy** receive training in the diagnosis and management of allergic disease caused by aeroallergens, food allergens, latex, medications and anaesthetic agents and are therefore qualified to carry out skin prick testing and/or intradermal testing in all of these areas (12000, 12001, 12002, 12003, 12004, 12005). For further information please refer to sections C, D and E.
2. **Other suitably trained medical practitioners with appropriate facilities** with demonstrable experience in managing allergic disease and/or additional training in the diagnosis of allergy to aeroallergens, medications and food, are qualified to carry out skin prick testing to these substances (12001, 12002, 12003, 12004).
3. **Specialists in respiratory medicine and rhinology** with training in the diagnosis of allergy to aeroallergens are qualified to carry out skin prick testing to these substances (12000, 12001, 12002).
4. **Specialist anaesthetists** with training in the diagnosis of allergy to anaesthetic agents and perioperative drugs are qualified to carry out intradermal testing to these substances (12005).

C. Types of skin testing used in allergy diagnosis

There are three types of skin testing used in allergy diagnosis:

- **Skin prick testing (SPT)** - the primary mode of skin testing for immediate IgE-mediated allergy. It is widely practiced, carries very low (but not negligible) risk of serious side effects to patients and provides high quality information when performed optimally and interpreted correctly.
- **Intradermal testing (IDT)** - Relevant to both immediate IgE-mediated allergy and delayed-type hypersensitivity. When used in the diagnosis of immediate allergy, it carries a higher risk of adverse reactions and requires high levels of technical and interpretive expertise. Intradermal skin testing has more specialised applications such as testing for IgE-mediated drug allergy, particularly penicillins, and venom allergy. It carries a higher risk of anaphylaxis and is generally performed in a hospital or specialist setting.
- **Patch testing** - relevant to contact hypersensitivity and some other forms of delayed-type hypersensitivity. It is conducted mainly by dermatologists and some clinical immunology/allergy specialists, and is not relevant to immediate or IgE-mediated allergy. The MBS item numbers for patch testing are separate to the item numbers listed in this document.

It is important to note that “scratch” testing is not endorsed by ASCIA and should no longer be performed.

Skin prick testing provides information about the presence of specific IgE to protein and peptide antigens (allergens). Small amounts of standardised allergens are introduced into the epidermis and non-vascular superficial dermis and interact with specific IgE bound to cutaneous mast cells. Histamine and other mediators are released, leading to a visible “wheal-and-flare” reaction peaking after about 15 minutes.

The value of this test depends on a number of steps, including:

- Relevance of the test allergen to the condition under investigation;
- Correct introduction of a sufficient amount of allergen in its native (allergenic) form;
- Functional status of cutaneous mast cells; and
- Interpretation of the reaction in the context of positive and negative controls.

Correctly used, the skin prick test has good sensitivity and specificity for the presence of allergen-specific IgE and is in some cases more sensitive than in-vitro testing for specific IgE in serum. The discomfort is small and the risk of systemic reactions is minimal although not negligible. Ultimately the integration of skin prick test results, knowledge of the biology of the various allergens and the exposures of the patient, and the nature and timing of the symptoms enable the construction of a diagnosis and an appropriate management plan for the patient.

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D. Summary of allergy skin testing practice by clinical immunology/allergy specialists and other suitably trained medical practitioners with appropriate facilities

- Skin prick testing using commercial allergen preparations including:
 - Familiarity with and provision of a safe clinical environment
 - Performance of skin prick testing according to national international guidelines
 - Selection of relevant allergens to be tested
 - Testing and interpretation of aeroallergens
 - Testing and interpretation of food allergens *
 - Testing and interpretation of allergens in infants <2 years *
 - Testing and interpretation of latex allergens *
 - Limitations and interpretation of testing
 - Regulatory requirements for procurement of allergens and controls
 - Interpretation of the results
 - Communication of results to the patient, carers and other relevant parties

- Skin prick testing using fresh foods or non-commercial preparations * including:
 - Familiarity with and provision of a safe clinical environment
 - Relevant allergens and controls to be tested, risks of testing
 - Limitations and interpretation of testing
 - Communication of results to the patient, carers and other relevant parties

- Intradermal allergy testing using commercial allergen preparations * including:
 - Familiarity and provision of a safe clinical environment
 - Relevant allergens to be tested and their concentrations
 - Limitations and interpretation of testing
 - Regulatory requirements for procurement of allergens
 - Determination of the results of testing
 - Communication of results to the patient, carers and other relevant parties

- Drug allergy testing * including:
 - Familiarity with and provision of a safe clinical environment
 - Establishment of the relevant drugs to be tested
 - Determination of testing route and protocols
 - Limitations and interpretation of testing
 - Communication of the clinical relevance of results to the patient, carers and other relevant parties

Note: Tests annotated above with an asterisk may be performed by suitably trained medical practitioners with appropriate facilities in some circumstances. Examples of these circumstances may include when a patient is in shared care with allergy specialists or when an allergy specialist is not readily available due to distance and/or waiting lists.

E. Training

- **Specialists in clinical immunology/allergy** receive training as part of their advanced training in the diagnosis and management of allergic disease caused by aeroallergens, food allergens, latex, medications and anaesthetic agents, and are qualified to carry out skin prick testing and intradermal testing in all areas.
- **Specialists in respiratory medicine and rhinology** receive training in the diagnosis and management of allergic disease caused by aeroallergens as part of, or in addition to their advanced training.
- **Specialist anaesthetists** receive training in the diagnosis of allergy to anaesthetic agents and perioperative drugs as part of, or in addition to their advanced training.
- **Training for other medical practitioners to skin prick test for allergy diagnosis can include:**
 - Post graduate allergy course/s; or
 - Clinical time mentored under allergy specialists; or
 - Any relevant fellowship with tertiary hospital training for 12 months.

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F. Indications and pre-test considerations

Allergy testing has been shown to increase the accuracy of diagnosis when added to history and clinical examination. It differentiates allergic diseases from other mimicking conditions. It may lead to allergen avoidance strategies, improved use of medications, and for some patients, desensitisation treatment (allergen immunotherapy). Skin prick testing is useful to prove or disprove allergy as a contributor to symptoms and to identify targets for intervention using allergen avoidance or allergen immunotherapy.

The following conditions are generally accepted indications for allergy skin prick testing:

- Rhinitis/rhinoconjunctivitis/rhinosinusitis/allergic conjunctivitis;
- Asthma;
- Atopic dermatitis;
- Food reactions such as those manifested by anaphylaxis, immediate acute urticaria, or acute flare of eczema;
- Suspected latex allergy;
- Conditions in which specific IgE is considered likely to play a pathogenic role (e.g. selected cases of chronic urticaria if the history suggests an exogenous allergic cause); and
- Rarer disorders such as allergic bronchopulmonary aspergillosis, eosinophilic oesophagitis or eosinophilic gastroenteritis.

The choice of allergens tested will vary according to which of these conditions is being examined and patterns of allergen exposure.

Skin prick testing is not routinely indicated in the investigation of:

- Nonspecific rash without allergic/atopic characteristics;
- Chronic urticaria in the absence of allergic features on history;
- Food intolerance without allergic features (e.g. irritable bowel syndrome);
- Assessment of the effectiveness of allergen immunotherapy;
- Chronic fatigue without allergic features;
- Migraine headaches/behavioural disorders;
- Reactions to respiratory irritants (e.g. smoke, fumes, perfumes); and
- Screening for allergy in the absence of symptoms (e.g. family history of allergy).

Skin prick testing is not usually appropriate for the diagnosis of reactivity to low molecular weight substances such as food additives, non-allergic adverse reactions to drugs, respiratory irritants, and most occupational allergens (with some exceptions).

Intradermal testing may be used in the diagnosis of:

- Insect venom allergy;
- Immediate allergy to beta-lactam drugs, anaesthetic agents, other drugs where validated protocols exist; and
- Immediate allergy to some vaccines.

Intradermal testing is recommended for hospital or specialist use only. Intradermal testing is not indicated for aeroallergens, and is contraindicated in routine practice for food allergy.

G. Patient selection for allergy skin testing

Patient age

There are no strict age limits but skin reactions are often diminished in the very young and the elderly, making interpretation more difficult in both cases. Infants often show larger flares and smaller wheals. Systemic allergic reactions may rarely occur in response to skin testing in infants (as in patients of any age). Because of increased risk and greater complexity of interpretation, skin prick testing below the age of 2 years should generally be considered a specialist practice. However, testing in children below the age of 2 years may be performed by suitably trained medical practitioners with appropriate facilities in some circumstances. Examples of these circumstances may include when a patient is in shared care with allergy specialists or when an allergy specialist is not readily available due to distance and/or waiting lists.

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Contraindications

Conditions which contraindicate/preclude skin prick testing:

- Diffuse dermatological conditions - test must be performed on normal healthy skin;
- Severe dermatographism;
- Poor subject cooperation; and
- Subject unable to cease antihistamines/other interfering drugs.

Relative contraindications/precautions

Contraindicated in non-specialist practices for safety reasons:

- Persistent severe/unstable asthma;
- Pregnancy (because of the small risk of anaphylaxis with hypotension and uterine contractions);
- Babies and infants; and
- Patient on beta-blockers.

Drugs that interfere with the skin prick test response

A large range of drugs may reduce skin reactivity and must be withheld before skin testing, including:

- First and second generation antihistamines - the duration of suppression of skin test reactivity is variable between different drugs and individuals. Withhold for 4-7 days.
- Antidepressants such as doxepin, other tricyclics, and tetracyclics that have antihistamine activity and may need to be withheld for 1-2 weeks or more. Phenothiazines also have antihistamine activity.
- Some cold and flu remedies, "sinus" analgesics, antitussives, antiemetics, sedatives, relaxants, migraine prophylactics (ciproheptadine, pizotifen).
- Oral corticosteroids probably do not significantly diminish the skin test reaction even after prolonged use, but prolonged topical corticosteroids have been shown to reduce skin reactivity.
- Topical moisturisers do not reduce prick test reactions but may cause extracts to run or disperse which creates a practical difficulty.

Drugs that may be contraindicated in skin prick testing

- Beta-blockers may be contraindicated in situations in which the risk of systemic anaphylaxis is increased.
- ACE inhibitors may be relatively contraindicated in the same circumstances.

These drugs may interfere with the normal compensatory mechanisms in anaphylaxis and beta-blockers interfere with the effect of adrenaline.

Patient factors leading to variability in skin test results

- Dermatographism can cause nonspecific wheal-and-flare results to skin pricking alone – for example the negative control may show a wheal and this renders the allergens difficult to interpret unless the reaction is markedly larger than the negative control.
- The following factors may lead to some variability but this is not usually significant in result interpretation - menstrual phase, race, circadian rhythm, seasonal variation, atopic dermatitis (elsewhere on body).
- The following conditions can reduce skin test reactivity - chronic renal failure, CVA, cancer (some cases), spinal cord injury, diabetic neuropathy, recent anaphylaxis, advanced chronological age. Skin prick testing should not be carried out on limbs affected by lymphoedema, paralysis or neurogenic abnormalities.
- Skin tests carried out in the presence of acute viral infection (e.g. individuals with increased histamine activity and false positive allergen skin test wheals) may need to be interpreted with caution.

References and further information

ASCIA Skin Testing for Allergy Diagnosis – a Manual for Practitioners

www.allergy.org.au/hp/papers/skin-prick-testing

ASCIA Scope of Practice

www.allergy.org.au/ascia-reports

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