

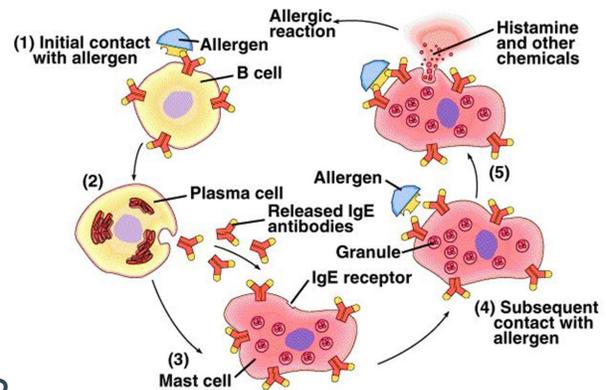
Suppression therapies & serum based allergy testing with



IS IT NECESSARY TO TAKE PATIENTS OFF OF SUPPRESSION THERAPIES (ANTIHISTAMINES, CYCLOSPORINE OR STEROIDS) IN ORDER TO GET ACCURATE ALLERGY TESTING RESULTS?

NO.

This handout will serve as a reference point as to why we do not need to take patients off steroids, antihistamines and cyclosporine, or Atopica as it is commonly known, for allergy testing purposes through Spectrum Veterinary. Should patients wish to proceed with allergy treatment our technical staff can suggest how best to disperse these medications in a way that minimize their effects on proper allergy management.



HOW DO THESE THERAPIES WORK?

ANTIHISTAMINES work by reducing or blocking the binding of histamine to its receptor, so that should an overstimulation occur because of mast cell activation, the symptoms will be minimized.

CYCLOSPORINE works as an allergy symptom reducer by suppressing the immune response not just to allergens but to all immune functions including those that fight off other, more serious ailments.

STEROIDS work to reduce allergy symptoms by reducing the amount of immune system mediators produced by both the B and T cells as well as mast cells.

WHY ALLERGY TESTING?

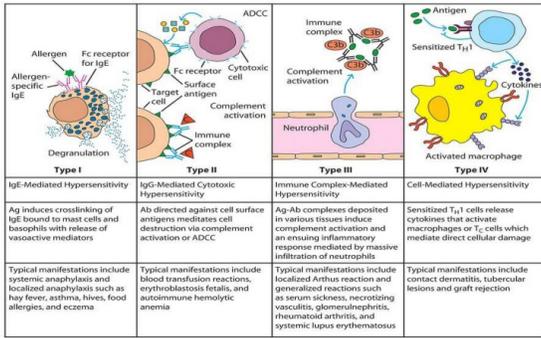
As you can see in each of the scenarios presented above, suppression therapies do just that, they suppress the immune system. They never actually address the root cause of why the patient is reacting. And some of them come with pretty serious side effects. That is why, when given all of the facts, most pet parents opt to allergy test and treat with the plant-based, safe for long-term, allergy management Spectrum provides.

WHY THESE MEDICATIONS DON'T INTERFERE WITH SPECTRUM'S ALLERGY TESTING...

Here at Spectrum Veterinary we are measuring the IgE the patient produces that is specific to the allergens in the chosen panels. Later, we will discuss the role of each type of suppression therapy, and why it does not interfere when conducting serum allergy testing.



THE DIFFERENT CLASSES OF HYPERSENSITIVITY REACTIONS...



TYPE 1: Immediate Hypersensitivity (Allergy)

TYPE 2: Antibody Mediated Hypersensitivity

TYPE 3: Immune Complex-Mediated Hypersensitivity

TYPE 4: Delayed Hypersensitivity

WHEN ALLERGIES OCCUR IN A TYPE 1 HYPERSENSITIVITY...

- T cells:**
- Produce cytokines when presented with the antigen peptides by an antigen presenting cell. These cytokines trigger B cell development of plasma cells.

- B cells:**
- Trigger** development of plasma cells which in turn produce IgE antibody specifically for the antigen that was presented to the T cell

ROLE OF SUPPRESSION THERAPIES & WHY THEY DON'T INTERFERE WITH TESTING...

ANTIHISTAMINES target the inflammatory effects by blocking histamine receptors. They do not effect serum IgE levels.

CYCLOSPORINE, was studied in 2010 as to its effect on IgE levels, and was found to have no significant effects on atopic dog.¹

- STEROIDS are typically given because they work to reduce inflammation in the body. They do this by:
- Preventing IgE degranulation of mast cells (see below); thus blocking early phase immediate hypersensitivity reactions.²
 - Diminishing tissue-based mast cells, the predominant type causing allergic inflammation.⁸
 - Reducing eosinophils and basophils²

WHY STEROIDS DON'T REDUCE IgE LEVELS?

- Steroids act on the T cell part of the immune system. B lymphocytes are only indirectly affected and therefore continue to make IgE even if steroids are present.
- Studies have shown that while treating with steroids improved the patient's allergenic symptoms, steroids either had no effect on serum IgE levels, or slightly enhanced them.³⁻⁷
- It is for these reasons, and the studies that support them, that Spectrum Veterinary does not require a withdrawal period for suppression therapies prior to allergy testing with our patented SPOT Platinum assay.*



SOURCES:

- C. Goldman, E. Rosser, A Petersen, and J. Hauptman. 2010. Investigation on the effects of cyclosporine (Atopica) on intradermal test reactivity and allergen-specific immunoglobulin (IgE) serology in atopic dogs. Veterinary Dermatology 21: 1-7.
- D. Franchimont. 2004. Overview of the actions of glucocorticoids on the immune response: A good model to characterize new pathways of immunosuppression for new treatment strategies. Annals of the New York Academy of Sciences 1024: 124-137.
- G.A Settupane, R.K. Pudupakkam and J.H. McGowan. 1978. Corticosteroid effect on immunoglobulins. J. Allergy and Clinical Immunology 62: 162-171.
- S.G. Johansson, and L. Juhlin. 1970. Immunoglobulin E in "healed" atopic dermatitis and after treatment with corticosteroids and azathioprine. British Journal of Dermatology 82: 10-13.
- L.L. Henderson, J.B. Larson and G.J. Gleich. 1973. Effect of corticosteroids on seasonal increases in IgE antibody. J. Allergy and Clinical Immunology 52: 352-357.
- R.M. Naclerio, N.F. Adkinson, B. Moylan, F.M. Baroody, D. Proud, A. Kagey-Sobotka, L.M. Lichenstein and R. Hamilton. 1997. Nasal provocation with allergen induces a secondary serum IgE response. J. Allergy and Clinical Immunology 100: 505-510.
- P.J. Barnes. 2001. Corticosteroids, IgE and atopy. J. Clinical Investigation 107: 265-266.
- S. Finotto, Y.A. Mekori and D.D. Metcalfe. 1997. Glucocorticoids decrease tissue mast cell number by reducing the production of the c-kit ligand, stem cell factor, by resident cells: in vitro and in vivo evidence in murine systems. J. Clinical Investigation 99: 1721-1728.