

# WELLNESS RESOURCE MEDICAL CLINIC

## ALLERGY AND ENVIRONMENTAL MEDICINE

### SKIN TESTING PROTOCOL

*THIS OUTLINE IS PURELY MEANT TO BE INFORMATIONAL FOR THE PATIENTS OF WELLNESS RESOURCE MEDICAL CLINIC. IT PROVIDES A BRIEF OVERVIEW OF TESTING FOR ENVIRONMENTAL AND FOOD SENSITIVITIES AS TAUGHT BY THE AMERICAN ACADEMY OF ENVIRONMENTAL MEDICINE USING THE JOSEPH MILLER TECHNIQUE OF SERIAL DILUTION ENDPOINT TITRATION TESTING.*

1. The optimal dose for beginning allergen therapy is .05ml of the “MTIC” (the maximum tolerated intradermal concentration). This is defined as the strongest concentration that produces a negative wheal. It is the true maximum tolerated concentration because the very next concentration stronger would produce a wheal. This makes finding the treating dose very objective and specific to your own body’s biochemical make-up. Testing for sensitivities to allergens is not based on symptoms or generalizations, only the wheal. What we test for is individualized to each patient based on environmental history, symptoms and occasionally physical and lab findings.
2. Each relief dose is allergen specific and concentration specific. The body wants the mediator turn-off dose, which is one concentration weaker than the last positive wheal. This is the maximum tolerated intradermal concentration. After 15 years of experience with MTIC, this treating dose is typically found after 2 or 3 rounds of testing. 2 days of testing for new patients is the general rule.
3. Whealing is much more objective, reliable, predictable, and reproducible. The maximum tolerated intradermal dose provides the neutralizing dose in 99.8% of patients tested (Miller, Joseph MD. The Maximum Intradermally Tolerated Dose Method of Food Allergy Testing and Immunotherapy. *The Environmental Physician, Fall 1994:12-17*).
4. This method of treatment consists of combining the relief doses (neutralizing doses) of all the allergenic substances (up to 20) into a single solution and injecting that solution subcutaneously. The most common injection schedule is twice a week, plus boosters as needed if symptoms are not entirely controlled. An extra injection will usually provide rapid relief from induced symptoms.
5. Now for some basic points of technology. We use 1:5 serial dilutions of 1:10 or 1:20 concentrations as received from the allergy extract suppliers. We use normal saline as our diluent which is pure and avoids complications of testing which may occur with phenol or glycerinated compounds.
6. We measure the wheal at both its short and long diameters and then repeat the measurements in 7 to 10 minutes to determine wheal growth. It’s not the size of the initial wheal that counts, or the final size of the wheal, but rather how much it grows in diameter in 7 to 10 minutes. Delayed allergic reactions (IGG mediated) may also be discovered by reading the wheal at 12 and 24 hours. You are given instructions on how to read your own skin testing at home and record your

findings. This helps us find the correct dose of allergen, even for substances that cause late or delayed hypersensitivity reactions.

7. A positive wheal is defined as one which grows at least 2mm in diameter and/or which is blanched, hard, raised or discoid. Discoid means thick and circular with cliff-like, sharply demarcated edges like a disk or coin cemented to the surface of the skin. A negative wheal usually grows less than 2mm, and is neutral in color or slightly erythematous, soft, and relatively flat, and its edges are frayed out and irregular, rather than sharply demarcated.
8. What we are looking for is the first positive wheal because that is the determinant of where the strongest negative wheal concentration can be found in the spectrum of wheals. For example, take a case of a patient who is sensitive to milk, and his neutralizing dose for milk, which protects him and allows him to drink milk without symptoms, is the #4 concentration. In that case, the #1 concentration will grow about 6mm in 10 minutes as a rule; the #2 concentration will grow about 4mm; the #3 concentration will grow about 2mm; and the #4 concentration, which is the neutralizing or relief-dose concentration will grow less than 2mm and will not be blanched, hard, raised, or discoid. Then all the concentrations weaker than the neutralizing concentration will be negative.
9. Our testing procedure consists of testing for allergens based on history at .05ml of a dilution between #2 (strongest concentration) to #7 (weakest concentration). A single concentration of that allergen is injected and measurements are taken at 7 to 10 minutes. Multiple allergens are tested at the same time on the same arm. Depending on the result, the next injection may be weaker or stronger in concentration. With the proper history and through our years of experience, a neutralizing dose is typically found after two testing rounds. Once the neutralizing dose is found, it is safe enough to give in your own home. You don't need to go to the doctors office each time you are in need of allergen therapy. Each patient determines his/her own treatment schedule based on symptoms, time of year, exposures to allergens, etc. Typically patients are started on two to three shots weekly.
10. Because of biological individuality, some patients with a good history for sensitivity to a specific food or environmental trigger do not produce a wheal even at a #2 (i.e. high concentration) dose. Foods and molds, for instance, are typically thought to be IgG mediated reactions which cause a delayed hypersensitivity reaction and do not always form an immediate wheal. If the history is strong for a specific allergen even though a wheal did not form, the #2 dose of the substance becomes the treating dose.

So if 0.05ml of #2 concentration causes no symptoms and produces a negative wheal, it is the neutralizing dose. We used to call these negative tests; i.e., the patient was supposedly not sensitive to those antigens. We know they almost always are sensitive, but these antigens simply do not make skin wheals. When we did not treat patients with these doses, they did poorly. When we did treat them with these doses, they almost always responded in the same beneficial way, as if they had a positive wheal for that substance.

11. The neutralizing dose can produce symptoms. The concept is that these symptoms often result from unbinding of the allergen in the preceding positive wheal, not the neutralizing dose wheal. The neutralizing dose symptoms are usually brief and mild and clear within 10 minutes.
12. Testing for inhalants follows the same guidelines as foods, except that inhalants often neutralize one or more concentrations weaker than foods. So you may start testing with inhalants one or more concentrations weaker. In general, we start foods on .05ml/#2 and inhalants on .05ml/#3 or #4. However, we have several criteria to use in selecting which dose to start each individual antigen; such as, if we test a pollen patient in the pollen season, we will start maybe one or two concentrations weaker; or if we suspect that a patient is more sensitive to one antigen than another, or is generally brittle, we will often start that antigen one or more concentrations weaker than others.
13. Summary:
  - A. 99% of all patients neutralizing dose is the first negative wheal.
  - B. The objective wheal is more reliable in selecting the optimal dose for starting allergen therapy. The first concentration of allergen that produces a negative wheal becomes the treating dose.
  - C. .05ml of #2 concentration is virtually a universal neutralizing and treating dose if a patient with a suspicious history produces no wheal on the 0.05ml of the #2 dilution during testing.
  - D. This concept of providing rapid relief with the maximum tolerated intradermal concentrations of each individual allergen is an objective, standardized, and simplified technique. The MTIC method is the safest, most effective, and most rapidly relieving of any method of immunotherapy now available.
  - E. Once your environmental and food sensitivities are known (through testing) the treatments are given at your convenience in your own home (typically one shot 2-3 times weekly). You leave the clinic after testing with the knowledge to guide yourself with your allergen therapy.

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