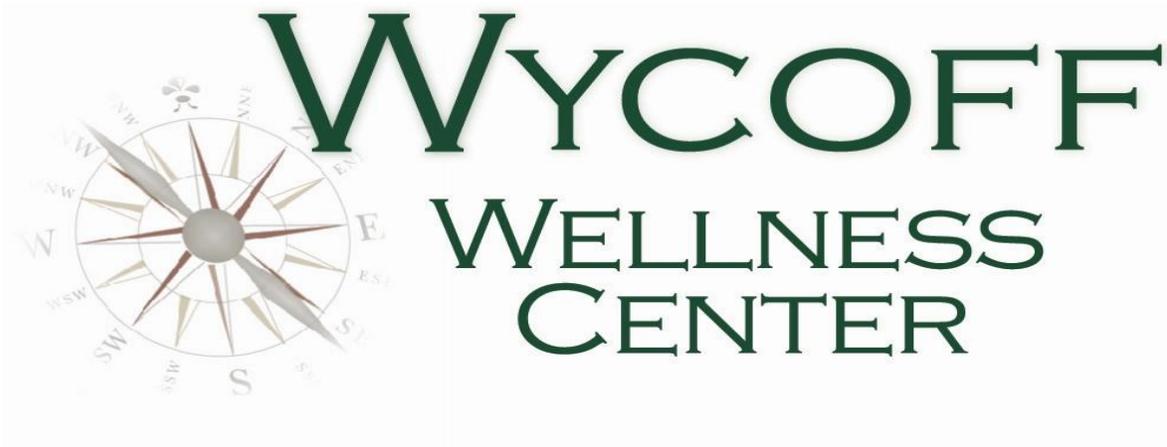


# **LOW DOSE ALLERGEN IMMUNOTHERAPY**



## **LDA Patient Instruction Booklet**

Instructions for LDA Immunotherapy

Wycoff Wellness Center  
1226 Michigan Avenue  
East Lansing, MI 48823

**This book adapted by permission from W.A. Shrader, M.D. – Sante Fe  
Center for Allergy and Environmental Medicine**

## **Introduction to Low Dose Allergen (LDA) Immunotherapy**

Low Dose Allergen (LDA) immunotherapy is a method that involves desensitization with combinations of a wide variety of extremely low dose allergens (approximately  $10^{-17}$  to approximately  $10^{-6}$ ). LDA is prepared with an enzyme mixture containing beta-glucuronidase. The enzyme mixture acts as a lymphokine, better signaling the immunizing effects of the allergens. LDA induces the production of “activated” T-suppressor cells thereby reducing the allergic response.

Classical immunotherapies for hay fever, dust mites or other IgE-mediated allergies are largely antibody-mediated, and “neutralization” therapy likely works through developing low dose tolerance. These methods are generally not long lasting and cannot be discontinued without the partial or complete return of symptoms. Medications are routinely required with the former, while long-term avoidance is usually necessary with the later.

LDA immunotherapy appears to be primarily cell-mediated. Since T-cells have a half-life of about 60 days, LDA can create a much longer lasting desensitization than conventional immunotherapy. Patients generally need fewer medications and avoidance is much less necessary.

### **Administration Method**

LDA is administered by one or two tiny intradermal (under the skin) injections, usually on the inner aspect of the forearm. Injections may be given on the legs or abdomen.

### **Safety**

There has never been a fatal or life-threatening systemic reaction to LDA treatment. The dosage is simply too low for life-threatening reactions to occur.

LDA includes mixtures of over three hundred allergens that act quite “universally.” This means that patients allergic or intolerant to most substances, and with quite diverse medical conditions respond to treatment. Available LDA mixtures include inhaled pollens, danders, dust and mites, fungi, yeast (including *Candida* species), molds, foods, many food additives, most common chemicals and perfumes (except pesticides and herbicides) and formaldehyde.

LDA can be used to treat severe food allergies or sensitivities. LDA can be used to treat true (IgE-mediated) food allergy such as life-threatening reactions to shrimp and peanut anaphylaxis.

LDA should not be used during pregnancy. If a patient elects to be treated when she is pregnant, precautions must be taken with drugs used in conjunction with LDA, such as most antifungals, vitamin A or simple substances like bismuth.

## **Frequency of Treatment with LDA and Response**

Since T-cells have a long half-life, LDA treatments need only be given every 2 months at first, then less often as time goes on. Generally, patients with the most conditions are treated every two months for the first year (6 injections) and then every 3 months for the second year (4 injections). Treatments after this point may be given much less frequently (2-3 injections per year or less).

In general, isolated hay fever or ragweed allergy is initially treated with 1 to 3 doses of LDA per year. It is preferable to get the first injection 3 to 4 months before the onset of the season, and a booster dose 3 weeks before the season begins. After the first season, only one booster may be required yearly, given 3 weeks before the season starts. Simple winter seasonal dust mite allergy may be treated similarly. Booster doses may then be given as required. However, both of these isolated conditions are relatively uncommon when compared to allergy or intolerance to multiple substances.

Multiple inhaled allergies or food allergy/ intolerance tend to be more complicated. Initial doses are given at 2-month intervals for the first 6 to 8 treatments. Subsequently the frequency of the desensitization can be reduced. LDA injections can not be given more often than every 7-8 weeks. For foods that cause more severe adverse reactions, such as milk and wheat, it may take longer to desensitize completely.

When the response is well established, generally between the six to eight doses (fewer doses in children), the frequency of treatment for most illnesses may often be extended to every three months, then every four months and so on.

Approximately 50% of patients with multiple allergies can stop LDA completely after 16 to 18 doses. The other half can at least go for long intervals (1 – 4 years) between treatments after that time. Children usually respond quickly and may be able to stop sooner.

## **How Long Does It Take to Improve?**

The effect of LDA is most often immediate, however, the full benefit of LDA will take longer to achieve. In particular, some patients with food allergy or intolerance may only notice sustained improvement after three to six doses, i.e. 6 – 12 months after the start of treatment, and severely reactive foods may take two years to become tolerable in moderate to large amounts.

## **The LDA Distinct Phase Response**

There are two distinct phase responses to LDA immunotherapy:

1. Immediate Reaction: An immediate temporary “cure” of symptoms may result. This may begin immediately after the first treatment and usually last 2 – 5 weeks. This may occur for the first several treatments. The first injections should improve symptoms, to at least some degree. Most patients they will

see improvement by the second or third injection. A positive or improved response to the first injection occurs on an average about 70% of the time, a “neutral” response about 23% of the time and a “poor” response (no improvement in symptoms) in about 7% of patients. Response rates generally improve with subsequent injections.

2. Delayed Action: This should begin after 3 – 4 weeks (after the lymphocytes mature) and may last to some degree for two to four months at first, then much longer later on in treatment. This response begins usually between the sixth and eighth treatment, when there may be no apparent immediate response to the shot, but as lymphocytes mature, the positive effects are noted. Often it seems the injection “kicks-in” 3 – 4 weeks after the injection.

Once the first injection takes effect, you should feel better for two to five weeks. When the injection begins to wear off, you must wait until the next injection for a continued response. There may be a decrease in response to any LDA treatment, after which continued improvement is again noted. The reason for this is unknown.

The period of improvement should lengthen over time and gradually you should feel quite well for the whole 2-month period between injections. When this happens, you can begin to stretch the interval between LDA injections. This will generally occur in adults between 6 to 8 injections (about one year). Children should be able to stretch their injection intervals sooner.

#### **CAUTIONS:**

**If you have any history of eczema, skin allergy of any kind, hives, swelling of the lips, face or body, autoimmune disease or especially anaphylactic reactions or anaphylaxis, be certain a provider at the Wycoff Wellness Center knows about this before you receive LDA therapy.**

**Also if standard immunotherapy is administered as the first several LDA injections appear to “wear off,” there is evidence that this could destroy the success of LDA immunotherapy. We recommend that you not combine standard allergy shots with LDA treatments.**

#### **Reasons for LDA Failures**

The primary reasons (in order of decreasing importance) for failures of LDA are:

- Failure for some patients to follow the more important “rules” for LDA administration.
- Medications being taken during treatment.
- Improper dosage or improper timing of dosage.
- Rare: Interference by organisms from the intestines (gut) and/or improper patient preparation for this problem. This may not necessarily be due to Candida, but may often be due to bacteria or other organisms.

- Rare: Interference from extremely high levels of heavy metals (even patients who have had their dental implants removed are not exempt from this problem), silicone breast implants or other implants, active infection (e.g. dental abscess) or other immunological issues.
- Occasionally LDA fails for reasons we just do not understand.

### **Disadvantages of LDA**

The disadvantage of LDA is it generally may take 6 to 8 injections to achieve a sustained effect that lasts for the full two months between injections (except for simple dust or ragweed allergy, which usually requires fewer injections). LDA can not be considered to have failed until 6 to 8 treatments have been given without any benefit. Even then, there may often be a “delayed” success 6 months or so after treatments have stopped. **You should never plan to start LDA unless you are willing to be treated for 12 months before you see lasting results.** This being said, most patients should see relief long before then. LDA therapy tends to give more permanent relief than any “standard” form of immunotherapy.

To protect the result of LDA from being disturbed, it may be necessary for you to follow some of the guidelines discussed in this booklet around the time of treatment. Failures of LDA are often due to non-observance of one or more of the rules in this booklet.

Medications, some herbal products, homeopathic treatments and other natural treatments and activities not restricted or listed in this booklet should be considered to be “unknown.” Our advice, especially if you have significant chronic illness, is to avoid “questionable” things for 3 weeks after a LDA injection whenever possible.

### **General Rules to Receive LDA**

#### **Overall Guidelines**

**In order for LDA to work well, most patients should follow the food and diet guidelines and the medications to avoid discussed in this booklet.**

The success rate of LDA depends partly on the factors that interfere with it. The guidelines in this booklet are meant to help make this treatment works well.

LDA is an extremely low dose immunotherapy. Since the dose is so low, there are factors that can interfere with the response to it. Other low-dose forms of immunotherapy have the same problem. The lower the dose, the more potential there is for interference from “outside” things.

Interestingly, there are patients who do absolutely nothing to try to help the therapy succeed, and it still works well. On the other hand, some patients may need to follow

many or all of the guidelines in this booklet in order to insure that the treatment works well.

You are going to make a significant investment in improving your health. We want to insure that you are most likely to get the maximum benefit for your investment. Following these guidelines will help improve your overall outcome and increase success.

### **Three Levels of Patient Guidelines**

There are three levels of guidelines for patients receiving LDA immunotherapy. If you are not 100% sure which level you fall into, discuss this with a provider at the Wycoff Wellness Center. Determining the appropriate level and following those guidelines will help insure safety and a consistent results and maximal improvement.

#### **Level I Patients**

Level I patients have only isolated seasonal allergy symptoms to one allergen. This would include ragweed allergy (hay fever) or isolated dust mite allergy. Few patients have only “simple” hay fever without other inhaled or food allergies or sensitivities.

If you feel you only have ragweed allergy, please take the test below. If **100%** of your answers are in **bold**, you most likely have isolated ragweed allergy. If one of more of the non-bold answers are circled, please talk to a Wycoff Wellness Center provider before initiating LDA therapy:

1. Symptoms in fall only? **Yes/No**
2. Eyes affected? **Yes/No**
3. Nose affected? **Yes/No**
4. Chest affected? **Yes/No**
5. Swelling/tingling in mouth after any food? **Yes/No**
6. Winter symptoms? **Yes/No**
7. Eczema/skin rashes? **Yes/No**
8. Irritable bowel syndrome? **Yes/No**
9. Severe problems with any chemical odor? **Yes/No**
10. Gastrointestinal symptoms? **Yes/No**
11. Headaches or migraines? **Yes/No**
12. Close family members with hay fever? **Yes/No**
13. Do you symptoms clear up completely after the first fall frost or in the winter? **Yes/No**
14. Have you been told you have Candida? **Yes/No**

**The “3 Critical Days” of LDA immunotherapy will be mentioned throughout this booklet. This term refers to the day before LDA, the day of LDA and the day after LDA.**

### **Guidelines for Level I Patients at the Time of LDA:**

- Avoid alcohol for 10 days after treatment.
- Don't snuggle with your pets (especially cats) and avoid indoor molds at the time of treatment. Try to limit your exposure to pollens and dust 12 hours before and 36 hours after LDA (for example, don't sleep with your cat or dog during these times). If you receive LDA inhalant immunotherapy near your pollen season, and you are experiencing symptoms outdoors, you may have to extend this amount of avoidance time.
- If you have ever had a water leak in your home, you might do best to stay elsewhere during that time.
- You may exercise normally during LDA, but avoid fatiguing exercise, extreme heat and sunburn for three days after receiving LDA.
- Follow the **Rules for Drugs Known to Interfere with LDA and Immunizations** found further in this booklet.
- Do not put ointments, creams or lotions on the site of the injection(s) on the day of treatment.
- Use an unscented soap on the day you receive LDA (or the night before, if you bathe at night).
- Do not wear perfumes or other scented agents to the office on the day of LDA.
- If you suffer from allergy to tree pollens in the spring or to seasonal molds in the late summer, note the dietary advice under **"Food, Pollen and Mold Cross Reactions."**
- Avoid yard work for the three days after LDA administration.
- If you are allergic to your pets (especially cats) and your pets spend time inside the house, you should not stay in your home during the three days after LDA therapy. Wash your hands after handling your pets. The danger is sensitization to a pet. This is a rare occurrence but usually occurs after 3 to 6 injections. If this does happen, the sensitization can be reversed with the next LDA, but stricter guidelines must be followed.
- If you are allergic to feathers, do not sleep with a feather pillow or down comforter for at least a week after LDA. Use a cotton or foam pillow.
- Do not have LDA if you are trying to get pregnant within two weeks of the injection.
- You do not have to follow the LDA diet if your allergy is ragweed (hay fever) or isolated dust mite allergy, otherwise you should follow the LDA diet guidelines.

### **Exertion and Temperature Do's and Don'ts**

#### **For one week after LDA:**

- Do not take a sauna.
- Do not do excessive sunbathing. Sunbathing more than 5 days before LDA is likely to be an advantage (enhances vitamin D production in the skin).
- You may use Chap Stick and other lip balms at any point.
- You may wear make-up during this time.

Do your best to avoid high concentrations of mold spores indoors: mold floats indefinitely in the air inside homes that are damp, suffer from condensation, smell musty or have had a leak or water damage in the past. Keeping the door of a damp room or cellar shut is not likely to give effective protection, since the spores float so well in the air. If you think you have a mold problem, keep windows open at night and during the day (weather permitting) while you are in the house to reduce your exposure. It is sometimes best to stay at a friend's dry, modern, mold-free house without your pets for the day before, the day of and the day after LDA. If your house is extremely damp, you should try hard to get away from it during this time. Don't worry about outside mold.

Many patients simply can not avoid molds in the home, especially those of you who live in terribly moldy areas of the country. For rare patients, this could jeopardize the effect of LDA, since mold spores are the most prominent airborne allergen during all times of the year. For the rare patient who is severely mold-sensitive, it might be wise to receive the first several LDA injections in an area with a very dry climate, and stay there for a few days before and after LDA.

### **Food, Pollen and Mold Cross-Reactions**

Patients who suffer from allergy to tree pollens (especially birch trees), must not eat nuts, fresh apples and oranges, raw carrots or celery for several days after LDA during the spring season. Mold spore allergens from different species may cross-react with LDA. If you are allergic to inhaled spores, avoid tea, cheese and other fermented or aged foods for 10 days after LDA. All patients should avoid alcohol for 10 days after receiving LDA. If the desensitization is unsuccessful, chronic Candida overgrowth in the intestines may be a problem. Pre-treatment with an appropriate antifungal regimen may improve success with subsequent treatments.

### **The Basic LDA Diet – For Level 2 and Level 3 Patients**

**The “3 Critical Days” of LDA immunotherapy will be mentioned throughout this booklet. The term refers to the day before LDA, the day of LDA and the day after LDA.**

You should eat ONLY:

- Lamb, rabbit, venison or fish (if you are not specifically allergic to it).
- Sweet potatoes or yams.
- Parsnips, rutabagas, tapioca or cassava root. Turnips are fine.
- Cooked carrots, celery and cabbage.
- White potatoes.
- Lettuce, raw (outer leaves only) or cooked (all leaves OK).
- Tapioca granules, flour or powder, plain.
- Rhubarb.
- Pure baking soda (without additives).
- Sea salt: plain sea salt (not iodized – do not use “regular” salt).
- Bottled, filtered or purified water

**Note:** Margarine is **NOT** safe to use during the 3 critical days. Avoid all margarine and all other seasoning totally. The only seasoning permitted is sea salt. For many sensitive patients, the best results are achieved by sticking only to lamb and sweet potatoes.

**Note: Any food not listed above is unsafe to eat in any quantity during the critical three days. This includes medications (unless advised by your provider), herbs, beverages, chewing gum and other things you put into your mouth. No coffee, tea or caffeinated beverages are allowed.**

**Children under age 8 may have trouble with this diet because of food withdrawal. They may experience nausea and vomiting. Consult with your provider if your child is receiving LDA treatment.**

### **Level 2 Patients: Guideline for Patients with Food and Other More Complex Problems (in addition to or instead of seasonal inhaled allergy)**

If you are a patient who has intestinal, food issues or autoimmune disease, may or may not have pollen allergy, and do not have significant chemical sensitivity, the guidelines you will follow appear in this section.

Also, if you have a sub-optimal response to LDA on the Level I regimen, you must strongly consider following more of the Level 2 or 3 guidelines in this booklet. If you're not sure which category you belong, discuss this with a provider from the Wycoff Wellness Center.

**So, if you have any problems other than simple ragweed allergy (seasonal hay fever), you must follow Level I guidelines, AND in addition:**

#### **Before LDA immunotherapy:**

- **Again, you must follow all Level 1 guidelines**
- Take a good multivitamin/mineral supplement, approved for LDA such as Metagenic's Multigenics IC.
- Take zinc 20-30 mg daily, in addition to the amount you may be receiving in your multiple vitamins for a week before and three weeks after LDA. We suggest Zinc A.G. – take two daily.
- Take magnesium (citrate or Glycinate is preferred) 200 mg/day in addition to the magnesium you may be receiving in your multiple vitamins. Take this amount for a week before LDA and three weeks after. We suggest Mag Glycinate – one tablet daily.
- If you have any ongoing gastrointestinal symptoms (bloating, constipation, diarrhea or gastric reflux) you may need an appropriate bowel preparation as prescribed by your provider at the Wycoff Wellness Center.

### **On the day of LDA:**

- Do not wear lipstick or eye-liner (or any make-up that might get in your eyes).
- Do not use Chap Stick or other lip balm on the day of LDA.
- Do not put anything in your mouth except the foods permitted on the LDA diet.

### **For the Critical Three Days of LDA Treatment**

- **Follow the LDA Diet**
- Use unscented soap only.
- Use unscented shampoo and conditioner.
- Do not use toothpaste. Use pure baking soda instead.
- Sexual activity may be a problem, especially in women, since they risk sensitization to their husband's semen. This seems a particular risk for eczema sufferers. Intercourse should be avoided for the critical three days of LDA therapy.
- Minimize your exposure to animals, perfume, aerosols, sprays, painting, etc.
- Never take any vitamins, mineral or other supplements during the three critical days other than those specified in this booklet.

### **After LDA:**

- Avoid foods that have caused you to have significant symptoms in the past for three weeks after LDA.
- Optional: Folic Acid, 10 mg daily, may be taken in an attempt to enhance the effect of LDA for 30 days after LDA. Folic acid at this dose may cause some mild nausea, so best to take it with meals.

### **Vitamin and Mineral Supplements**

Certain vitamins and mineral supplements theoretically improve the effect of LDA. These supplements act primarily by affecting the T-cell receptor sites that LDA is stimulating. The following recommendations for supplements may be important for patients who have moderate to severe problems. These should be taken along with an approved multivitamin and mineral supplement. Patients with milder problems, and kids under the age of 12, generally do not require these supplements. Discuss this with your provider if you aren't sure whether you should take any or all of these supplements.

### **Level 3: Guidelines for Patients Who Have Significant Chemical Sensitivity (in addition to, or instead of preceding problems)**

**Note: Level 1 and Level 2 patients do NOT need to follow these guidelines.**

Those of you with chemical problems should follow all of the preceding instructions in the booklet for Level 1 and Level 2 patients. In addition, our advice is that you follow

the remainder of these guidelines in this booklet as closely as possible, at least for the first several injections. Later on, especially after you've had 6-8 injections, you might be able to be less careful about the rules.

You should do as well as you are able to adhere to the instructions without totally disrupting your life. Whether you do or you do not have chemical sensitivity, mild chemical exposures or chemical exposures for a brief time will not affect your LDA response.

In addition to Level 1 and Level 2 guidelines, you should also do the following:

**For at least 12 hours before and 2 days after LDA (preferably 3 days after):**

- Do not read newspapers, glossy magazines or new books.
- Use any insecticides that produce vapor or might be breathed in, including sprays, aerosols, etc. Use traps or bait if you have an insect control issue.
- For flies, use ordinary flypaper that is resin-coated, but make sure it contains no insecticide.
- For cockroaches, etc., use boric acid and put it in the cracks under the skirting or molding, etc., where the insects hide. The protection is long lasting and unlikely to cause problems.

**For the Three Critical Days:**

- Avoid ointments, creams and lotions on any part of the body, especially anywhere near the site(s) of the injection(s). This includes "homeopathic" creams and ointments, as many contain chemicals that are problematic.
- Use no aerosols, sprays, polishes or perfumed sprays.
- Use no scents (perfumes, etc.) or air fresheners of any kind.
- No chemical deodorants. Use a mineral rock crystal (such as The Body Crystal) or baking soda during this time. At other times, use "natural," non-aerosol deodorants made without aluminum compounds (may be found in most health food stores).
- Makeup should not be used during the three critical days. If you chose to use it, it should be kept to the absolute minimum, not perfumed. Use only non-scented, "hypo-allergenic" types. You run the risk of becoming sensitized to makeup if you are chemically sensitive.
- No bath oil, liquid soap, dishwashing or laundry liquid/powder, especially on the hand of the treated arm. Use plastic or vinyl – not latex – gloves for unavoidable washing of dishes, etc.
- No hair sprays, hair mousse, hair conditioners or hair oils.
- Avoid tobacco smoke.
- Do not do laundry on the day of your treatment. If you do, avoid inhaling scented washing powders, soaps, bathroom cleaners, etc. You can avoid scented laundry detergents and scented fabric softener if you use unscented agents, such as Downy Free, Cheer Free or other natural detergents.

### **For One Week after LDA:**

- If you have a hypoallergenic lotion that you know is safe, you could begin to use it after the critical three-day period. Some patients, however, will have a problem if these are used in the week after the three critical days, so be cautious.
- If you are a patient with moderate to severe eczema, these instructions may be difficult. Discuss these concerns with a provider at the Wycoff Wellness Center.

### **Two to Three Weeks after LDA:**

- Avoid new carpets, new vinyl wallpaper, smelly plastic sheeting (new shower curtains, etc.) and new furniture.
- Avoid new paint and paint fumes.
- Avoid insecticides that produce vapor or might be breathed including sprays and aerosols. Use traps or bait if you must have insect control.
- Avoid situations where you can not control your environment, such as attending parties, going to church (perfume exposure), entering department stores, etc.
- No medicated shampoos for two weeks after LDA.

### **For One Week before and Two Weeks after LDA:**

- No permanent waving, hair coloring or extensive hair treatment. Hairdresser's salons are always full of scents and fumes. Avoid these totally during this time.
- Avoid having a manicure or pedicure during this time period.

### **Transportation**

Since many patients travel to get their LDA injections, the question of transportation arises. We have found, even with patients with fairly severe chemical sensitivity, brief exposure to exhaust fumes from cars, busses, etc., does not interfere with LDA.

However, it would seem wise to take the following precautions:

- Don't sit next to a smoker or ride in a car with someone smoking or with someone wearing perfume or heavily scented agents.
- Avoid traveling in a new car; it's preferable to travel in an older car with an air recirculation system.
- If you travel by air and have severe chemical problems, it would be wise to wear a chemical-type respirator in the airport if necessary, in the jet-ways while disembarking and in the planes themselves until at least 5 minutes after takeoff.

## **Hotels/Motels**

One of the greatest problems for our patients from “out of town” with severe adverse reactions to chemicals (multiple chemical sensitivity syndrome or MCS) is finding a “safe” place to stay. You may want to check with the hotel/motel and see what steps they may have taken to reduce chemical exposure. A facility with rooms that have windows that open is often helpful.

## **About Your Workplace During LDA Treatment**

### **Chemicals at Work – for Patients Sensitive to Chemicals**

If you have a history of adverse reactions to things in your work or home environment, you must use caution when returning. If, for example, smoking is allowed in your workplace and you have had significant problems when exposed to smoke, you need to stay away from work on the day of the injection and preferably at least the day after. Two days after would be best.

Work hazards that often cause problems for patients are some of the following: perfumes, cigarette smoke, sick buildings, industrial complexes which produce products with significant chemical odors, or those using chemicals, such as print shops, foundries, welding, soldering, etc.

If your office is in a small, enclosed space (without a window to the outside) with a fax machine, laser printer or copier, it is best for you to avoid it for at least 24 hours after the first few injections. Two days avoidance after LDA would be the best for the first three injections.

A good rule of thumb would be to try to have your LDA injection near a weekend for the first three injections. If you are chemically sensitive and work with many of the materials mentioned above, it would be a good idea to do this for the first year of therapy.

Some patients experience an immediate “panic” type response when exposed to some chemicals especially if they are very chemically sensitive. If this occurs after an injection, it is not a problem. Just try and avoid these chemical exposures in the future.

Basically, patients who know they are upset by allergens or chemicals at work should not return to work for at least 24 hours (and preferably two days) after LDA treatment.

**Note: Remember, if you are not sensitive to chemicals, you do not need to follow Level 3 guidelines. However, a prolonged or heavy exposure to any chemical could adversely affect the response to LDA in any patient.**

## **LDA and Children**

Children may receive LDA immunotherapy. Children often respond much quicker than adults with fewer side effects. LDA therapy may be given to children as young as 2 months of age.

We typically use a lower strength of LDA treatment for children initially (Low dose or LX dose). If the child tolerates this dosage and does not seem to be improving, we may choose to increase the dose after 3 to 4 injections (increase to the medium strength, MX, dose).

Children tend to have less significant reactions to LDA therapy. The most common reaction is localized swelling at the injection site. In small children or children under 8 years of age, we usually give the injection on the anterior (top) of the thigh. Apply a cool cloth or moist paper towel to the injection site will help with the swelling and irritation after the injection. Do not apply ice!

If the mother of the child is breast feeding, the child may receive LDA therapy. The mother needs to follow the food precautions outlined in the booklet to maximize the chances of a good result.

## **LDA and Autoimmune Diseases**

LDA is one of the most promising treatments for a variety of autoimmune diseases. For these conditions a bacterial antigen mix (Proteus/Klebsiella or Bacteroides) are used. Conditions that have shown significant improvement with LDA using these unique antigens include:

- Rheumatoid Arthritis (RA)
- Juvenile Rheumatoid Arthritis (JRA)
- Ankylosing Spondylitis
- Crohn's Disease
- Regional Enteritis
- Ulcerative Colitis
- Reactive on inflammatory arthritis
- Psoriatic arthritis
- Fibromyalgia
- Sjogren's Syndrome
- Interstitial Cystitis
- Idiopathic thrombocytopenia purpura
- Severe chemical sensitivity

LDA treatment with the bacterial antigens is typically given in conjunction with either the LX or MX LDA injections. The typical LDA preparation should be followed as with any of the other mixes.

Pretreatment before treatment with the LDA mixes is imperative to success. We recommend you begin a good probiotic along with Nystatin to treat intestinal Candida (yeast) overgrowth before beginning these mixes. Also, pretreatment with an antibiotic (usually Cipro or Tetracycline) is required 7 days before receiving the antigen injections.

If you are taking a number of medications for your chronic autoimmune condition, these must be stopped as per the earlier "Rules of LDA." If chronic inflammation or pain is a significant issue for you, pretreatment with prednisone may be necessary. It may be necessary to continue prednisone for up to 3 weeks after you receive the LDA injection to ensure a good result. **IT IS IMPERATIVE IF YOU HAVE ANY OF THE ABOVE AUTOIMMUNE CONDITIONS THAT YOU DISCUSS THIS TREATMENT IN DETAIL WITH A WYCOFF WELLNESS CENTER PROVIDER BEFORE BEGINNING LDA TREATMENT!**

I feel that the bacterial antigens are one of the most promising methods for treating these difficult conditions. With the appropriate preparation, LDA offers tremendous improvement and long term success.

## **LDA: Reactions and Side Effects**

### **Immediate and Local Reactions**

Most reactions to LDA consist of local redness and swelling at the site(s) of injection(s). The doses of allergens contained in LDA are so small that the chance of a true acute generalized allergic reaction is extremely remote and has never occurred. Immediate reactions to the inhalant component of LDA with swelling of the entire forearm do occur occasionally. These may be treated with a cold cloth (a wet paper towel work well). Do not apply ice!

Although unusual, swelling involving the whole forearm is the most common significant local reaction after LDA. A local reaction is associated with a good immunological response. If the reaction experienced is severe, contact the Wycoff Wellness Center for instructions on how to proceed.

Local reactions rarely persist for more than three days and should be subsiding by the fourth day. Occasionally, the site(s) of the injection(s) may become inflamed off and on for 3-4 weeks after an LDA injection. This probably indicates exposure to allergens in the LDA mixture. If local reactions are recurrent and significant a provider at the Wycoff Wellness Center will discuss pre-treatment options with you.

**All patients who receive treatment with LDA must remain under observation in the office for 30 minutes after each LDA injection.**

## **Delayed Reactions**

Delayed reactions are unpredictable but not uncommon with LDA. They may start between 2 hours to 5 days after a treatment. They usually last a few days, very occasionally up to 3-4 weeks and rarely for up to two months. When they occur, these reactions happen usually after the first LDA treatment and diminish with successive treatments. However, a delayed reaction may develop after any dose of LDA, but subsequent doses often cause no reaction. These reactions are usually a good sign since they are generally followed by a favorable response to treatment.

The symptoms are usually a temporary return of the allergy symptoms that are being treated. These reactions are usually reduced by avoidance of the offending allergens (if known) until the reaction subsides. You should not use decongestants or antihistamines for three weeks after LDA. If you are in doubt about any medication you are taking, ask a provider or staff person at the Wycoff Wellness Center.

These symptoms seldom require treatment, although they may seem worse than the original illness. Please remember not to panic if you feel like you have the “flu” for a few days after your LDA treatment, since this may happen.

Very rarely, a delayed reaction takes the form of an allergic response you have not normally experienced, usually a stuffy nose, runny nose or hives. This is likely to be mild and transient.

Some patients develop headaches within a few days after LDA. Do not take aspirin or other pain relievers, since these will wipe out the effectiveness of the injection. Please ask the office staff or your provider about headache or pain treatment alternatives.

## **Delayed or Immediate Depression**

This is rare, but has been known to occur after an LDA injection. It usually begins 1-3 days after an injection, but may begin several weeks after an injection. It may persist for 3 days to one month, rarely longer. If you have a history of a tendency towards depression, your provider can discuss safe medications that may be taken to reduce this type of problem.

## **Circumstance When You Should NOT Receive an LDA Treatment**

- If you are in the first three days of a cold, have any other infection or suspect that you might be developing one. Use whatever natural agents (such as Echinacea, Propolis or Chemotropsin, etc.) you can to treat the infection, and if they fail, you may need an antibiotic. If you are given an antibiotic, we usually recommend you take the prescription medication Nystatin, to avoid yeast overgrowth. If you can get over the infection in time, you may still be able to receive LDA.

- If you are pregnant or think you might be pregnant. If you are considering a pregnancy, plan on receiving your LDA treatment only during the first two weeks after a menstrual period if possible. In you become pregnant on LDA, advise your doctor.
- If you have taken any pain relief medications like aspirin, Tylenol or others in the past four days (these should not be taken for the next three weeks, either).
- If you are taking any of the drugs which might upset LDA.
- If you have had dental work (fillings, etc.) 5 days before LDA, or you plan it within 2 weeks after LDA. Cleaning or checkups at the dentist's office are fine.
- If you are food allergic or intolerant and have not followed the dietary guidelines as instructed before receiving LDA.
- If you have Candida or other dysbiotic intestinal problems and have forgotten your preliminary course of antifungal or other treatment medications.

If you take large doses of vitamin C (5 to 20 grams daily or more) before you start LDA, you should taper this dose to three grams or less during the two weeks prior to LDA therapy. Do not stop it abruptly or you may have withdrawal symptoms.

### **Drugs Often Interact with LDA**

No drugs, vitamins or herbs, except those listed in this booklet or specifically given to you as part of a LDA prep or bowel protocol, or those specifically discussed with your provider would be taken the day before, the day of or the day after LDA. This applies to everyone who receives LDA.

### **Food Guidance for Patients with Moderate to Severe Food Allergy or Intolerance**

At the time LDA is given to some patients, and up to three weeks afterwards, doses of allergens from a food that has been eaten may cause increased sensitivity to that food. Since many food allergens cross-react with other foods, exposure to the wrong foods, certainly during the three critical days and to some extent in the three weeks after LDA (the time frame for the lymphocytes to mature), may be harmful. Patients have sensitized to a wide variety of other foods, pollens and mold when this happens. The foods for the LDA diet have been carefully selected to avoid cross-sensitization to other allergens.

Therefore, you should definitely avoid the foods which you know you are intolerant or allergic (foods that have caused symptoms any time you've eaten them in the past) for the three week period after LDA. If you have severe food problems, the doctor or one of the staff may discuss a different elimination diet you should follow before and after the three critical days of LDA. The doctor may combine one or two diets for you to follow at this time.

It is recommended that all patients with other than simple hay fever (ragweed allergy) must follow the Basic LDA Diet. The exception is a select group of children with autism, who simply cannot do the LDA diet with any type of success.

Autistic children, generally speaking, will only eat specific foods and nothing else. They'd literally rather starve. In these instances, the benefit of LDA considerably outweighs the potential for harm of not following the diet. In these instances, we usually will give LDA with consistent good results.

### **Fasting**

The LDA diet contains every food that has been shown to be completely safe with LDA. However, some extremely food-intolerant patients are sensitive to some or all of the foods on this diet. These patients have no choice but to fast for 24 hours before and 24 hours after LDA for the first few injections. Once LDA improves food tolerance, patients who have had to fast are usually able to eat at least some of the LDA Diet Foods. We have not seen problems with fasting and I recommend it for all adult patients who don't tolerate the food on the LDA Diet, on the day LDA is received. Discuss this option with a Wycoff Wellness Center provider before attempting this method.

### **After the LDA Diet**

Most patients with food sensitivities must simply avoid the foods to which they know they are allergic or intolerant to as much as possible for the three weeks after LDA. This does not mean foods that may have been positive as a result of a blood or skin test, and the patient has never tested (provocative challenged after 7 day elimination), -- only foods that are known to definitely cause symptoms.

If you don't have major food problems, you may begin adding regular foods after the critical three days. However, if you do have severe food problems, for the next 5 days after the 3-day LDA diet, it is best to count the LDA Diet foods as safe and then add small amounts of a wide variety of "rare" foods, preferably ones which have not generally caused you to have symptoms in the past, or foods you have rarely or never eaten.

The amounts of added foods can be increased over the next week. After that time, regular food may be added back and should be tolerated much more easily. Very few patients must resort to this. As time goes on, the necessity for avoidance of foods lessens. The Wycoff Wellness Center staff will advise you how to do this, if it is necessary.

Reminder: All patients must be certain to avoid alcohol for 10 days after LDA.

### **Unmasking, Rotation Diets and the Very Mixed Diet**

The primary side effect of LDA for patients with food sensitivity may be "unmasking." With LDA immunotherapy, things you think you know about your foods, both "safe" and "unsafe," may change. Many patients with significant food sensitivity are allergic or intolerant to many of the food they eat every day, but these foods are "masked." They

cause minor symptoms, ups and downs, but patients don't attribute their symptoms to any particular food(s).

After one to three LDA injections, this food tolerance curve may shift. Foods that you had previously eaten in large quantities (perhaps even in a rotation method) will sometimes make you ill if you attempt to eat the same quantity of those foods as you have in the past during the 3 weeks after LDA. This is called "unmasking," and LDA can cause this to happen. Likewise, foods that made you ill before LDA in very small quantities should become more tolerable as time goes on. This confuses people who have been on a rotation diet, but is a natural progression of LDA treatment.

Patients who have "unmasked" to foods may complain that they have "lost" foods or have "become sensitive" to foods after one to three LDA injections, because of the shift of the food tolerance curve. This almost always stops occurring after about the 6<sup>th</sup> injection. When it does happen, it generally occurs for one or two injections, and symptoms can last one to three weeks.

You should be aware that if you persist in eating large quantities of your previously "safe" foods that begin to cause you to have symptoms after a few injections of LDA, you may continue to have symptoms. This will often delay or destroy the desensitization to those foods that LDA would normally produce. You may have to change your diet and your thinking temporarily. If this does happen, it will go away.

However, you should get away from the idea of eating mono diets or large quantities of foods in rotation. Remember, even after one LDA injection, your food tolerance begins shifting, and some patients complain that they have lost many of the foods which were previously safe for them to eat. Again, stick with the program, do your best to make it work and LDA should usually come through for you quite well indeed.

It is critical to know that if you should have an adverse reaction to one of the first few LDA injections, you should not stop LDA. We may need to determine why you had the reaction before proceeding to your next treatment. Discuss these types of reactions with a Wycoff Wellness Center provider.

As LDA gains effect with subsequent treatments, you should be able to eat larger quantities of most varieties of foods. If you had to rotate foods before you begin LDA treatment, rotation should become less and less necessary. Remember, rotation – if you eat large quantities of single foods – for the three weeks after LDA, could interfere with LDA and make you ill. If this happens, it usually occurs after treatments 1 to 3, and may last for 1 to 3 weeks if you don't do anything about it.

### **Food Idiosyncrasies**

For most patients, after six to eight LDA injections, the full effects of LDA may not begin until three to four weeks after the injection. In the three week preceding that, you may be upset by foods that will be safe after that three-week period. Also, in the first

week or two, you may feel you experience odd symptoms after LDA. Don't assume your symptoms are necessarily caused by the diet you are eating after LDA, since patients can experience almost any symptom conceivable while the T-cells are maturing. These odd symptoms may occur after any injection, even if you've had several. These symptoms are all temporary.

### **Boosting Tolerance**

Once LDA has taken full effect (probably two years for most), you may be able to eat as much of any food as you want. Nevertheless, when you have LDA injection, it would be wise to avoid foods that you know caused previous significant reactions for three days before and a week or two after LDA, so that LDA can maximally boost your tolerance over time.

### **Stimulant Beverages**

Many food-sensitive people feel that tea, cola beverages and coffee do not upset them, but all contain important allergens, such as caffeine and the methyl xanthine group of chemicals, which must be avoided at the time of LDA. This often leads to a severe withdrawal headache when they are stopped abruptly. If this happens, there are almost no medications you are allowed to take for headaches due to caffeine withdrawal or pain (pure caffeine compounded in tapioca starch is an exception). To avoid this situation, reduce the consumption of tea, cola, coffee and all caffeine-containing beverages, perhaps switching to decaffeinated types and stopping altogether several days before LDA.

### **Vitamin C**

Vitamin C could interfere with LDA, although this is not completely clear. It is best to take less than 500 mg of vitamin C daily for the three weeks after LDA. The dose may then be increased by up to 1-3 grams per day.

IV (intravenous) or IM (intramuscular) therapy with certain nutrients may enhance the response to LDA. This treatment consists of an IV infusion containing zinc, folic acid, vitamin-B complex, magnesium, B-6 and other nutrients or after an IM injection of vitamin B-12 and/or magnesium or other nutrients. Most patients who receive this type of adjunctive therapy seem to note a difference with it. It is not recommended for children under the age of 12.

Current data indicates that patients who receive IV or IM therapy with nutrients around the time of their LDA injection often feel better initially and have less fatigue. Only time and more research will show how much IV or IM therapy with various nutrients helps. We are aware that any IV therapy adds a cost to LDA treatment. Since it appears that an IM (intramuscular) injection of magnesium and vitamin B-12 on the day of LDA may help, this option would be the least expensive.

## **The Gut and LDA**

### **Candida and Dysbiosis**

#### **Gut Preparations and Antifungals**

Some patients have a true allergy or immunological interference from the group of Candida organisms. There are a growing number of tests available to detect Candida. However, the only true test of the “Yeast Syndrome” is a trial of therapy. This consists of a trial of an antifungal medication (Diflucan and/or Nystatin) for a period of time, along with probiotics and a yeast-free, grain-free diet to see if symptom improvement occurs. Going on a yeast-free, grain-free diet alone may well improve one’s symptoms, but it doesn’t prove that Candida is the problem – it may be a food intolerance or allergy.

When LDA therapy is given, true Candida problems can interfere with the treatment. Therefore, at some point prior to your first injection, you will want to discuss whether to begin treatment with an antifungal medication. If you do respond, or you know you have responded well to an antifungal in the past, an antifungal may be given to you prior to the first several LDA injections.

At the beginning of antifungal therapy, the fungal organisms die and release toxic products into the bloodstream that increase for 2-3 days. If you are supposed to take an antifungal prior to your LDA treatment, you must follow these guidelines:

- Antifungal medications (Diflucan and/or Nystatin) should ideally begin 7 days prior to LDA.
- Some patients continue this therapy after an LDA injection. If so, you must resume the treatment within 24 hours after the injection, so there is no time for the organisms to reestablish themselves. Otherwise you need to wait for three weeks before starting antifungals again.
- Taking a Probiotic during this time is also quite helpful.

If you are receiving an antifungal medication, make sure you take it for the prescribed number of days before and if so advised, after receiving LDA. We usually skip the day of LDA. Some patients may need to take an antifungal medication a longer period of time.

#### **Asthma, Eczema, ADD and ADHD**

If you have significant asthma, you may find it very difficult to avoid asthma inhalers. Ideally, large doses of these inhalers should be avoided for the full 3 weeks after LDA. This is often usually very difficult. A substitution of a theophylline compound or prednisone may be needed. Moderate doses of inhalers for asthma (e.g. 2 puffs three times daily) should not cause severe interference (except for the three critical days mentioned above). Fortunately, once LDA starts working, the need for these medications is usually diminished or eliminated, especially in younger patients. Diet is often a major

factor in asthma and strict dieting or fasting is often extremely helpful in improving symptoms.

The critical period to avoid inhalers (both inhaled bronchial dilators and inhaled steroids) is the day before LDA, the day of LDA and two days after LDA. This can usually be accomplished by taking a short course or “burst” of prednisone beginning 2 days prior to LDA therapy. Prednisone in doses up to 40 mg per day does not interfere with LDA, even when taken on the day of the injection. Also, theophylline does not interfere with LDA, and may be taken during the critical 3 days if necessary. Theophylline is far preferable to inhalers during the critical days around LDA.

Some of the new inhaled asthma medications (Tilade, Serevent, Advair, etc.) and the leukotriene inhibitory medications (Singulair) interfere quite severely with LDA and should be discontinued at least 7 days prior to LDA and ideally not resumed until 3 weeks after LDA.

Note: Do not use Prelone syrup, which contains sugars, coloring and additives.

### **Eczema**

LDA works extremely well for eczema. During LDA treatment for eczema, there will likely be a number of “ups and downs” with the first 3 to 6 injections, depending on the frequency of injections. Once the LDA treatment become established, fluctuations become much less. However, some patients with eczema must have patience, as some causes of eczema are slower to respond. Exacerbations after an LDA injection are not uncommon and may occur even after response has been consistently good. Therefore, patients with significant eczema require pretreatment with prednisone, at least for the first 3-4 injections.

### **ADD & ADHD**

The success of LDA for hyperactivity may be quite good. Yet, LDA may make hyperactivity symptoms worse after an injection – especially the first two hours to three days after the injection(s).

Drugs for ADD or ADHD such as Ritalin, Adderall, Concerta, Stratera, etc., must be discontinued around the time of treatment, ideally 4 days before and for 3 weeks after an LDA injection. If this is not possible, discuss options with a Wycoff Wellness Center provider.

For ADHD & ADD patients, LDA may not take effect until the 6<sup>th</sup> injection, although some significant responses generally occurs sooner. Patience will be rewarded, as the success rate can be expected to be 80% or better, especially for patients who have any obvious allergy or food intolerance.

Since diet usually plays a very important role in the cause of ADHD, care must be taken around the time of the injection. Diet work should be done to determine significant offending foods prior to the first injection. These foods should become more tolerable as therapy continues, but when injections wear off (as the first several will), it will be important that these foods be eliminated until the next injection, in order to maintain tranquility. Sugar in any form is usually the most common offender, with preservatives, food coloring and specific foods next.

### **Rules Regarding Immunizations**

If you are scheduled to receive immunizations (shots) against any of the following diseases, or are receiving anti-malaria treatment, be sure and tell your provider. These immunizations may be required if you are going out of the country, especially to a “third-world” country. If so, follow this schedule if you will be receiving LDA.

<b>Minimum Interval Before LDA</b>		<b>Minimum Interval after LDA</b>
10 days	Anti-malaria drugs Typhoid	3 weeks
10 days	Yellow Fever Cholera	2 weeks
2 weeks	Hepatitis vaccine gamma globulin	2 weeks
1 week	Measles, mumps	1 week
1 week	Influenza, “flu” shot	1 week
3 weeks	Rubella	1 week
1 week	Tetanus	1 week
3 weeks	Poliomyelitis	1 week
1 week	All TB tests (Mantoux, Tine)	1 week
2 months	BCG bacillus itself	1 week
2 weeks	Bacterial vaccines (DPT, others)	3 weeks

## Medications that Always Interfere with LDA

The following substances interfere with LDA and should not be taken except as directed below for three weeks after LDA:

1. Sulfa drugs: Sulfonamides, trimethoprim (Bactrim, Septra and the like), if taken within 4 days before and three weeks after LDA.
2. Antihistamines (Claritin, Allegra, Zyrtec, others) are unsafe if taken within 7 days before LDA, or sooner than 3 weeks after LDA.
3. Embrel, Remicaid, Arava and all of the similar drugs for rheumatoid arthritis and other autoimmune diseases interfere severely with LDA. These must be discontinued completely at least three weeks prior to starting LDA and never resumed.
4. Simple antihistamines appear to interfere with LDA to some degree. These would include chlorpheniramine, Actifed, Benadryl and many others. Avoid these type of antihistamines for 3 days before and 3 weeks after LDA. The only antihistamine which is safe is Tofranil (imiprimine) 10-25 mg, taken 1-4 times daily. It may be taken during the critical 3-day period.
5. Decongestant of any kind! This includes such drugs as Sudafed (psuedoephedrine) and others, many which are found in combination with antihistamines.
6. All pain medications – see below.
7. Beta sympathetic drugs – generally the typed used for asthma (inhaled or oral such as Maxaire, Proventil, Ventolin, Albuterol, etc.) interfere with LDA when used the day before, the day of, and two days after LDA. For this reason, a burst of prednisone is used during that time (see schedule) to get patients off these drugs it at all possible. Never use the newer, longer-acting inhaled drugs, such as Serevent and Tilade, etc., for at least 5-7 days before or after an LDA treatment.
8. Histamine H2 receptor stimulation favors LDA. H2 receptor blockade (Zantac, Tagamet, and Pepcid) in the 3-week period after LDA will interfere severely with desensitization. Protonix, Nexium, Prilosec, Aciphex will likely interfere with LDA.
9. Anti-folate drugs such as antimalerials will tend to interfere with LDA. Sulphonamide is possibly alright (not during the critical 3 days). Anti-epileptic drugs may interfere as well.

10. Prostaglandin inhibitors, such as aspirin, NSAIDS (Ibuprofen, Motrin, Advil, Aleve, etc.) acetaminophen (Tylenol and many others) taken within 3 weeks after LDA may easily destroy the treatment – even one dose.
11. All NSAIDS interfere with LDA to some degree, though they may not always kill an injection totally. Orudis (ketoprofen) is the one NSAID that may be used during LDA treatment.
12. Opiates, such as codeine, oxycodone (Vicodin, Percocet, and Percodan), hydrocodone and others interfere with LDA in the forms available in the U.S., and should not be allowed within 3 weeks after LDA.
13. Anti-malarial drugs (quinicrine, Atabrine), taken within 3 weeks of an LDA injection, will usually destroy the effect.
14. Immunosuppressants (5-FU, etc.), penicillamine, hydroxychloroquine (Plaquenil) and cyclophosphamide usually block LDA. Methotrexate may not interfere.
15. Leukotriene receptor antagonists (Singulair) definitely interferes with LDA and should not be taken 5 days before and until 3-4 weeks after LDA.
16. Synthetic estrogens (Premarin, PremPro, Premphase, Ogen, etc.) at any dose seem to interfere with LDA. Natural bioidentical estrogens are safe to use with LDA.
17. Synthetic progesterone (Provera) – in any form seems to interfere with LDA if taken within a week before and 5 weeks after an injection. Natural bioidentical progesterone is safe to use with LDA.
18. Birth control pills, any type or dose, will interfere with LDA.
19. Estrogen implants or patches – likely will block LDA for up to 6 months after removal.
20. Estrogen implants should not be used for the critical three days around LDA therapy. Sensitization to the patch is possible. They probably interfere afterwards as well but this is not completely clear.
21. Danazol and Lupron – use for endometriosis, both block LDA, although Lupron may be less of a problem
22. Gastrocrom – not safe to use until after 3 weeks after LDA therapy for a single dose. Exchange it for some digestive enzymes. Never use Gastrocrom/Nalcrom more often than once each week at any time, even after the 3-week exclusion period. It can destroy the effects of LDA.
23. Cytotec (misoprostol) – if taken before LDA, will destroy the treatment.

## Drugs That Will Likely Interfere with LDA

1. Cox-2 inhibitors (Celebrex, Mobic, etc.) likely interfere with LDA.
2. Selective alpha blockers, typically used for hypertension (Prazocin) or prostate hypertrophy (Proscar) may block LDA when taken continuously, as directed.
3. MAO inhibitors, used for depression, etc., such as Parnate and Nardil.
4. Antidepressants, tranquilizers and anti-anxiety agents in moderate to high dosages, such as Paxil, Prozac, Zoloft, Xanax, Effexor, Serazone, Lexapro, Celexa and the like may interfere with LDA. Do not take these on the day of LDA. After LDA, the effects are not clear.
5. Anticholinergic drugs in the gut appear alright. Used in aerosol form for asthma (Atrovent), they interfere.
6. Feverfew (an herb) for the same reasons as above and should be avoided.
7. Ginseng (an herb), acts as a stimulant and should be avoided.
8. Evening Primrose Oil, flax seed oil (GLA) and others, and cod liver oil taken near the time of treatment. Fish oils (EPA: DHA) probably should not be taken for 3 days before and 3 weeks after LDA. Cod liver oil should not be taken for 5 weeks but may be resumed in smaller doses a week after LDA, but full doses shouldn't be taken until about 3 weeks after LDA.
9. Tylenol is not safe, and a single dose within three weeks of LDA can destroy the treatment.
10. All aerosols for asthma – they suppress T-cells in the lungs, no matter what kind, except possibly inhaled chromolyn sodium (Intal). If an aerosol must be used, it appears that Intal inhaled powder is alright for the two days after LDA, while other aerosols are not.
11. Beta blockers (Inderol, Tenormin, Lopressor, Coreg, others) – may interfere with the response to LDA. If patient are taking these for hypertension, we try to skip the three critical days. However, if the blood pressure problems are severe, we advise patients not to take these on the day of LDA only.
12. Steroid inhalers – should be stopped the day before, the day of and the day after LDA.
13. Illicit drugs, such as marijuana, “speed” (amphetamines) and other will usually destroy or severely harm the effects of LDA if taken within three weeks of treatment.

14. Over-the-counter diet pills may destroy the effect of LDA.
15. Darvon (plain) and pentazocine (Talwin) may interfere with LDA.
16. Cortisol (prednisone) doses greater than 40 mg, if taken near the time of LDA. Lower dosages appear to be alright and not a problem.

If you take a medication, herb or other substance and you feel either helps or hinders LDA, please let a provider at the Wycoff Wellness Center know.

### **Drugs and Treatments That Help, May Help or Do Not Interfere with LDA**

The following medications usually help the effectiveness of LDA; however, most should be avoided the day before, the day of and the day after LDA except as directed:

1. Zinc
2. Magnesium
3. Folic Acid – theoretically improves response to LDA, possibly because it promotes growth of the T-cells. The dose is 10 mg daily (5 mg/day for children ages 6-12) for a month after LDA. It is always wise to administer concomitant doses of vitamin B-12 with folic acid.
4. Vitamin D – in combination with vitamin A, increases receptor sites and receptor site affinity on the T-cells
5. Histamine H<sub>2</sub> – H<sub>2</sub> receptor stimulation favors LDA. H<sub>2</sub> receptor blockade (Zantac, Tagamet, and Pepcid) in the 3-weeks before LDA will severely interfere with desensitization. However, if these are taken 3-4 weeks before LDA and stopped abruptly 24-36 hours before LDA, then they may potentiate LDA. Prilosec, Nexium, Protonix and Aciphex will likely interfere in the same way, we are just not completely sure yet. None of these should be taken the day of LDA unless directed by a Wycoff Wellness Center provider.
6. Theophylline – may potentiate, or at least not harm LDA, if given in half the usual treatment dose during the three critical days.
7. Caffeine – is the pure form (must be compounded in tapioca starch by a pharmacist) is alright at the time of LDA, such as when used for caffeine withdrawal headaches (from stopping coffee too near LDA).
8. Cortisone (prednisone or prednisolone) – doses up to 40 mg/day seems to improve the response to LDA. Higher doses should be avoided if possible.

9. Prostaglandin inhibitors – if you must use continuous NSAID treatment during LDA for a severe disorder (rheumatoid arthritis, etc.) then:
  - a. Orudis (ketoprofen) is the only acceptable NSAID to use.
  - b. Take an H2-blocker one month before LDA (Tagamet, Zantac, and Pepcid), and stop it 36 hours before LDA.
10. Guaifenesin – does not seem to interfere with LDA and is a good substitute for a decongestant.
11. Tofranil (imiprimine – an antidepressant) 10-25 mg/day is safe taken at the time of LDA.
12. Preservative-free Xylocaine nasal spray appears to be safe to use with LDA.

### **Drugs Whose Effects Are Unclear**

These drugs and treatments may be all right for some patients, not all right for others or may not interfere much with LDA;

1. Imitrex, Relpax, Axert and the like, does not appear to interfere with LDA.
2. Nasalcrom – used for allergic rhinitis, appears to be safe to use.
3. Tranquilizers, antidepressants, mood-elevators, anti-anxiety agents, etc., at low doses all still remain unknown (Valium, Xanax, Prozac, Paxil, Lexapro, Effexor, Librium and others) but usually do not seem to interfere with LDA.

It is possible that many or most of the drugs on this list could interfere somewhat with LDA. The more taken together, and the higher the dosages, the more likely the interference. Patients who take these must weigh the potential interference with LDA against the benefits they receive from these medications.

### **These May Also Interfere with Your LDA Treatment**

Several other things may interfere with LDA treatment. Most have their worst effects the day before, the day of and the day after LDA (the three “critical days”).

- Influenza or another troublesome viral (a “cold”) or bacterial infection at the time of, or soon after treatment (usually safe if it occurs after 2 weeks after an injection).
- Severe stress – physical or mental – at the time or soon after treatment (probably safe if it occurs after a week after LDA). Physical stress seems less harmful than a severe mental shock.

## LDA Recipes

There's not a whole lot you can do with the limited foods available during the 3 critical days of each LDA treatment. The following items contain a few "LDA nouvelle cuisine" recipes for you to try:

- Lamb Stew – cut lamb into chunks. Brown lamb in skillet. Do not add oil. There is plenty of fat on the lamb to prevent it from sticking, especially if you rub a piece of lamb fat on the skillet first. Toss browned lamb into a pot with cut up vegetables – carrots, potatoes, sweet potatoes or yams, celery, cabbage and/or lettuce. Cover with bottled water and bring to boil.

Mix approximately 2 Tbsp. of tapioca starch into ½ cup bottled water (the tapioca isn't really needed if you use sweet potatoes or yams – they thicken the stew themselves). Add to stew mix. Simmer with lid on until lamb is tender. Salt to taste with pure sea salt. Add extra water, if necessary, for desired consistency.

- Vegetable Stew – same as lamb stew, minus the lamb.
- Vegetable Soup – same as vegetable stew except cut the vegetables smaller and do not thicken with tapioca starch.
- Fish Stew – put raw fish chunks in with cut raw vegetables and cook like lamb stew.
- Non-Fat Potato Chips – slice white potatoes thinly. Sprinkle with salt. Place on wire racks. Broil/bake until golden brown and crispy. May need to be turned during baking.
- Potato Noodles – boil until al dente. Add to soups, or serve with vegetables/fish/lamb.
- Sweet Potato Yam Parfait – buy sweet potatoes and yams. Bake in covered glass dish at 300 degrees until soft when stuck with fork. Peel and whip each individually, add bottled water as necessary to produce a smooth, pudding-like consistency. Salt to taste. Layer in a tall, clear glass and garnish with a bit of lettuce leaf. Enjoy!
- Lamb Meat Loaf
  - One pound ground lamb, as lean as possible
  - 2 cups grated potatoes
  - ½ cup celery, chopped fine
  - ½ tsp. sea salt
  - 4 Tbsp. tapioca starch or potato starch

Preheat oven to 300 degrees. Combine all ingredients. Add a little water if the mixture seems dry. Turn into a loaf pan and bake at 300 degrees for about one hour or until it is done.

- Cabbage Rolls – Use meat loaf recipe. Brown mixture in pan on stovetop. Roll approximately 1/3 cup of meat loaf mixture in a blanched cabbage leaf (blanch cabbage leaves by boiling for 1-2 minutes). Bake in covered dish at 300 degrees for approximately 30 minutes or until done.
- Carrot Soup – boil carrots in salted water until tender. Pour ¾ of the carrots into a blender and puree. Variations: Boil celery, cabbage and potatoes to add with remaining carrots. Add carrot puree.
- Rhubarb Relish – chop rhubarb finely. Boil until tender. Dissolve 1 tsp. tapioca starch in ¼ cup water and add to pot with rhubarb. Simmer until thick. Serve with lamb, fish or over sweet potatoes.
- Shepherd's Pie – boil 4-5 cups of LDA vegetables in small amount of water until slightly tender but not done. Salt to taste. Thicken with tapioca starch (approximately 1 TBSP. – dissolved in water). Simmer 5 minute. Turn into casserole dish. Add cooked lamb if desired.

Peel cube and boil 2 large red potatoes until done, then mash potatoes. Add salt to taste. Add a little water if too dry.

Top casserole with a layer or ring of mashed potatoes. Bake 15 minutes. Broil for an extra 3-5 minutes to brown the potatoes.

- Carrot Juice/Celery Juice/Cabbage Juice – Use any vegetable juicer to extract juice from raw vegetables. Bring to a boil. Serve hot or cold. Do not use raw juices.
- Fish Patties
  - 1 medium potato, boiled and mashed
  - 2 Tbs. tapioca starch or potato starch, dissolved in a little water
  - 2/3 cup flaked cooked (baked) fish
  - ½ stalk celery, chopped fine
  - Salt as desired, fry with water
- Lamb Stir-Fry – cut lamb in thin strips. Rub lamb fat on hot skillet to grease. Brown lamb, adding salt as desired. Remove lamb from pan; add a little water and chopped vegetables (carrots, celery, cabbage). Stir-fry until done, tender and crisp. Add salt as directed. Stir lamb into vegetable mixture. Serve as is over potato starch noodles. Be sure noodles are 100% potato starch.

- White Sweet Potato Crackers
  - 1 cup white sweet potato flour
  - 1 ½ tsp. white sweet potato baking powder
  - 1 ¼ tsp. sea salt
  - 5/8 cup (1/2 cup plus 2 Tbsp.) water

Combine the flour, baking powder and salt in a bowl. Stir in the water until completely mixed. Sprinkle white potato flour on a baking sheet. Put the dough on the baking sheet, sprinkle the top of it with more flour, and pat/roll it out to about 1/8" thickness, dusting the top with more flour as needed while you are rolling it out. Cut into 1 ½" squares. Sprinkle with additional sea salt if desired. Bake at 350 degrees for 10 to 14 minutes. Remove the crackers from the baking sheet with a spatula and cool on a wire rack. Makes about 3 dozen crackers.

- Tapioca Crackers
  - 1 ¼ cups tapioca flour
  - ¼ tsp. sea salt
  - ½ cup plus or minus 1 Tbs. pure water

Combine the flour and salt in a bowl. Stir in about 3/8 cup of the water. The dough is difficult to mix; you may have to stir it and let it rest a few seconds, then stir again and let rest, etc. Add the remaining 1-3 Tbs. of water, one Tbs. at a time, until the dough is of a consistency that cracks when stirred, but liquefies readily when left alone. To bake the wafers, use a dark or dull-finished baking sheet rather than a shiny one, if possible. Or – if your allergies allow – use a nonstick baking sheet. Sprinkle the baking sheet generously with tapioca flour (not necessary if you are using nonstick). Drop teaspoonfuls of dough about 2" apart on the baking sheet and let the dough spread out. If your baking sheet is too small to hold all of the batter, put the rest on another baking sheet, rather than leaving it in the bowl until the first sheet has cooked. Bake at 375 degrees for 20-30 minutes, or until they just begin to turn golden on the bottom (if they stick, let them bake 2-3 minutes longer).

If they then still stick, pry them off with a spatula and/or knife. Sticking indicates the dough may be too moist. Allow cooking at least 2 hours before packing them up. Makes 1 ½ to 2 dozen wafers. These are best eaten fairly fresh, as they sometime tend to get hard to chew if stored too long. This recipe is rewarding, but difficult to get crackers of the proper consistency. You may have to try it a few time to get it right.

- Sweet Potato Chips – peel and thinly slice sweet potatoes or white sweet potatoes. Place them on a wire rack with a baking sheet underneath it and sprinkle them with sea salt. Bake at 350 degrees for 30 minutes. Then broil them at 400 degrees, at about 5" from the heating element – about 2-3 minutes on each side, or until they just begin to brown.

- Crock Pot Lamb Stew
  - 2 pounds lamb, cut into 1” cubes
  - 5 carrots (about 1 lb.), peeled and cut into 1” pieces
  - 5 stalks of celery, cut into 1” pieces
  - 3-4 potatoes, peeled and cut into 1” cubes (about 1 ½” cubes, optional)
  - ½ cup tapioca
  - 2 tsp. sea salt
  - 2 ¼ cups pure water

Combine the lamb with vegetables, tapioca, salt and water in a 3 quart crock-pot. Stir the mixture well to evenly distribute the tapioca. Cook on low for 8-10 hours or on high for 6 hours. Makes 6-8 servings.

- Rhubarb Concentrate
  - 1 pound rhubarb
  - 2 cups pure water

Clean the rhubarb and cut into ½” slices. Place it in a saucepan with the water. Bring to a boil and simmer, covered, for one hour. Pour the mixture into a strainer or colander, placed over a bowl, and let stand about an hour to thoroughly strain the liquid from the rhubarb slices. Reserve the slices for rhubarb jam, below. Use the liquid to make rhubarb tea, below, or as the acid component in leavening for baking. Refrigerate the concentrate to use within a few days or freeze for future use.

- Rhubarb Tea
  - Rhubarb concentrate, above
  - Bottled water

Put 4-6 tbs. of rhubarb concentrate into a 10 oz. mug and fill with boiling water to make rhubarb tea. One batch of rhubarb concentrate makes about 6-8 cups of tangy tea that tastes somewhat like rosehip or hibiscus tea.

- Rhubarb Jam – prepare rhubarb as for rhubarb concentrate, above. After straining off the liquid, puree the rhubarb in a food processor or blender until smooth. A tangy spread to use on tapioca wafers, sweet potato crackers, etc.
- White Sweet Potato Tortillas
  - 1 cup white sweet potato flour
  - ¼ tsp. sea salt
  - ½ cup pure water

Make as a cassava tortilla.