Autism: Pathways to Recovery
A Guide to Using Nutrigenomics to Optimize Health
Workbook

Dr. Amy Yasko

NRI Neurological Research Institute
Autism: Pathways to Recovery Workbook

Discussion Group

www.ch3nutrigenomics.com

Disclaimer: The information is presented by independent medical experts whose sources of information include studies from the world’s medical and scientific literature, patient records and other clinical and anecdotal reports. The publisher, author and/or experts specifically cited in this publication are not responsible for any consequences, direct or indirect, resulting from any reader’s action(s). This booklet is not intended to be a substitute for consultation with a health care provider. You, the reader, are instructed to consult with your personal health care provider prior to acting on any suggestions contained herein. The purpose of this guide is to educate the reader. The material in this booklet is for informational purposes only and is not intended for the diagnosis or treatment of disease.
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Third Edition

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Neurological Research Institute, LLC

Bethel, Maine
INTRODUCTION

My approach to Autism, as well as other chronic neurological issues, is somewhat different than others in these fields. I do not believe in telling you what to do.

I believe that knowledge is power and that the more well informed you are about the process going on in the body, the better position you will be in to make informed choices as to supplementation and the path to health and wellness. For this reason I spend a lot of time talking about the “why” behind a choice or a suggestion, as well as looking at a great deal of biochemical test data to help you to learn how to monitor and follow your progress on this program.

We also rely heavily on molecular biology to help guide you with the choices you make. The tools that we use are not meant to replace the need to consult with your doctor. They are meant instead to serve as additional tools to help you while you work in conjunction with the doctor of your choice.

I believe that autism, as well as other chronic conditions are multi-factorial in nature, compromising an underlying genetic susceptibility with an infectious disease component as well as environmental toxins. I feel that it requires time and patience to slowly unravel the pieces of this complex puzzle for each individual.

This is a marathon; it is not a sprint. I cannot promise any magic bullets; however, I do promise to be here to help you to understand the pieces of this puzzle. I am committed to pursuing any missing pieces we need, even if it is only needed to help a single child or one individual adult.

This workbook is being provided as a beginner’s guide to the protocol. It is a step-by-step approach to help you begin the journey to take those important first steps in the marathon. It includes daily/weekly ideas on how to get started, suggestions to increase your knowledge base and links to encouragement and support you will need along the way.

With love, hope, and a hug,

Dr. Amy

“Please take a deep breath and stop running as fast as you can. It is a marathon, not a sprint. It is okay to slow down and take your time. There is no prize for getting there first; We just have to get there!”
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<table>
<thead>
<tr>
<th>Gene Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>UMT/UEE</td>
<td>Uridine-Methylenetetrahydrofolate Reductase</td>
</tr>
<tr>
<td>HE/HMT</td>
<td>Homocysteine S-Methyltransferase</td>
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<tr>
<td>UAA</td>
<td>Uric Acid</td>
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</table>

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## Week 10

### Days 63-70: Prioritizing and Supporting Mutations
First Priority Mutations

SHMT/ACAT

CBS

Second Priority Mutations

Transitioning from Step 1 to Step 2

Closing Remarks

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Glossary

Frequently Asked Questions

List of Excitotoxins

Sources of MSG

Possible Sources of MSG
WEEK 1

DAY 1: Discussion Group

Welcome to Holistic Health International, LLC (HHI). We are glad you have chosen to explore this protocol to improve your health and well-being. Take a deep breath and remember that you are taking the first steps of a marathon. Relax and move at your own pace. Try not to stress yourself throughout this process.

Stress does bad things to the body, and there is no need to stress or rush. You will get there. Just take it one step at a time and know that you are not alone. There are many veteran members ready and willing to help you.

The place to start is by joining our Discussion Group at www.ch3nutrigenomics.com and reading Dr. Amy’s welcome message. Please register as a new member, by creating a username and inserting the relevant information.

We have members from all over the world. Please add your location in the box provided. Be sure to click the “submit” button at the bottom of the page.

Please note that your registration is subject to approval and can take up to 48 hours (you may or may not receive confirmation of activation). If after 48 hours, you cannot log in or need help, contact the Moderator, Erin Griffin at erin.griffin@holistichealth.com.

Once registered, read, read, read.

It is suggested that you stick to the following forums until you are comfortable with the protocol:

- Welcome
  - New Members
  - The Basics
  - Dr. Amy’s Recent Posts and New Findings

These forums are locked (locked icon on far left of each forum) which means that they are for information only and can only be edited by the moderator. Other forums have a page icon where one can post or respond to a question.

Look through the forums listed on the log in page to find the best fit for your question, click to open that specific forum (Genetics, Supplements, etc). To post on an existing thread, click on that thread to open it. If no existing thread fits your needs, you can start a new thread by clicking on the New Topic button above and to the left of the existing thread list.

This entire site may seem overwhelming. DO NOT PANIC. You can do this. It will take time to learn how to navigate through the forums, but over time, this Discussion Group will become your favorite resource in implementing the protocol and will keep you up-to-date with the most recent information.
**DAY 2: Order Nutrigenomic Testing and Print Resources**

Order the DNA Methylation Pathway with Methylation Pathway Analysis from [www.holisticheal.com](http://www.holisticheal.com). Download the book *Autism: Pathways to Recovery* at [www.dramyyasko.com](http://www.dramyyasko.com). If you have genetic results and would like a Methylation Pathway Analysis or an updated Methylation Pathway Analysis go to [www.knowyourgenetics.com](http://www.knowyourgenetics.com). This is a free site created by Dr. Amy Yasko.

It takes an estimated 10 weeks for results to come back from the lab. You will get your results mailed to you on a CD with suggested supplementation based on your genetics. Nutrigenomics integrates concepts in molecular biology and genomics to study how foods and nutritional supplements may assist in maintaining overall health and wellness.

This Nutrigenomic test (DNA Methylation Pathway with Methylation Pathway Analysis), contains more than two dozen SNPs (Single Nucleotide Polymorphisms) and covers the Methylation cycle in a way no other test does. A SNP (pronounced “snip”) is a small genetic variation within a person’s DNA sequence. Each of these variations can have an impact on an individual’s nutritional status, and in combination, these SNPs may have a *significant* impact on an individual’s health and well-being.

Your Nutrigenomic test kit will arrive in a few days and will include:

- 3 Forms all needing to be filled out and sent back with sample
- FedEx shipping materials
- Spot Saver Card
- Alcohol swabs
- 2 lancets
- A Computer CD containing the following Information:
  - Excerpt from Dr. Amy's Latest Book: *Feel Good Nutrigenomics, Your Road Map to Health*
  - *Autism: Pathways to Recovery - Workbook*: A step by step guide to help you through the program
  - Free Resources & Links: A guide to Dr. Amy's helpful resources
  - Dr. Amy's Start Up Videos: Video presentations by Dr. Amy
  - Simplified Protocol: Condensed version of the protocol
  - Nutritional Supplement Addendum A: Step One Supplementation
  - Excerpt from Cutting Edge Therapies: Using Nutrigenomics to Optimize Supplement Choices
  - General Important Information to Guide You on Your Road Map to Health
  - Sample DNA Methylation Pathway with Methylation Pathway Analysis
The following is a sample of the Comprehensive Methylation Test results:

<table>
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<th>SNP</th>
<th>Gene</th>
<th>Variation</th>
<th>Result</th>
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<td>H62H</td>
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<td>RS769224</td>
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<td>RS731236</td>
<td>VDR</td>
<td>Taq</td>
<td>Ti</td>
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<tr>
<td>RS2228570</td>
<td>VDR</td>
<td>Fok</td>
<td>FF</td>
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<td>RS3741049</td>
<td>ACAT</td>
<td>1-02</td>
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<td>H595Y</td>
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<td>RS651852</td>
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<td>8</td>
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<td>RS819147</td>
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<td>+/-</td>
<td>T</td>
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<td>C</td>
</tr>
<tr>
<td>RS773115</td>
<td>SUOX</td>
<td>S370S</td>
<td>+/-</td>
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<tr>
<td>RS1979277</td>
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<td>C1420T</td>
<td>+/-</td>
<td>A</td>
</tr>
<tr>
<td>RS1799983</td>
<td>NOS</td>
<td>D298E</td>
<td>+/-</td>
<td>G</td>
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As Dr. Amy mentioned in her introduction, she feels that Autism, as well as other chronic conditions are multi-factorial in nature, compromising an underlying genetic susceptibility with an infectious disease component, as well as environmental toxins. These factors would include Genetic Influences, Viral Influences, Organ Systems, Immune System, Neurotransmitters, Bacteria-Aluminum, Heavy Metals, and Mitochondrial issues. It will take some time to understand how each of the genetic markers work together and how each can be influenced by the factors mentioned above. While one individual may have a greater influence of one factor or another, all are and should be addressed with this protocol.
Long Route and Short Cut around the cycle:

Dr. Amy Yasko looks at two routes around the methylation cycle: the short cut through BHMT and the long route around the cycle via MTR/MTRR and B12. While the ultimate goal is to support healthy function though both routes around the cycle, initially Dr. Amy focuses on short cut support. Then, long route support is layered in for more complete methylation cycle support.
DAY 4: What Brought You Here?

Are you brand new to the world of biomedical interventions?

Are you a parent of a child with Autism that has tried, what seems to be about everything, to help your child?

Are you an adult struggling to get through each day?

We all come from a variety of backgrounds. Some of us are caretakers, while others seeking treatment for ourselves. This is not a one-size-fits-all approach. Through Nutrigenomic testing, you will receive an individualized road map to help guide you and/or your loved one(s) to a better state of health.

This is a new day in terms of your health and the health of those you love. Please take some time to list some reasons that have brought you to Dr. Amy’s protocol.

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DAY 5: Evaluations

As you move through the program, it will be helpful to keep track of ongoing progress that you may have difficulty recognizing during stages of detox. The following links are suggested rating scales that may help you along the way.

Dr. Amy feels that the following tools may be helpful for evaluating progress. Please choose one of the following to get a baseline assessment.

- The PDD Assessment Scale/Screening Questionnaire: [http://childbrain.com/pddassess.html](http://childbrain.com/pddassess.html)

<table>
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<th>Date</th>
<th>Test Performed</th>
<th>Score / Rating</th>
<th>Change in Score</th>
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DAY 6: Organization

Having an organizational tool is vital. This marathon has a lot of information. To try to keep it all in your head would be overwhelming. Choose one of the following, use a combination of them, or create one of your own. The important thing is that you set up a system that works for you.

Approach #1

Get an “AT-A-GLANCE” month-by-month calendar book. Use this to plan the supplements for each week. Place a post-it on each month with what needs to be added/increased/reduced at some point in that month based on Dr. Amy’s comments on tests, and what “protocol” needs to be addressed, and to mark what days to do B12 (mega drops, nasal, injection, patch), charcoal flushes and EDTA baths. Also, use the calendar to plan when to run your Biochemical testing (see page 33 for information about testing).

Keep a separate running list of current supplements and doses organized by the time of day given (at breakfast, after school, at dinner and before bed). This can be a word document and updated each month.

Keep a separate binder organized in the following manner:

- Testing - Copies of test results and Toxic Metals Test graphing. (Download files from Discussion Group/the Basics Forum)
- MPA (DNA Methylation Pathway with Methylation Pathway Analysis) - Genetic results with the supplements listed.
- Discussion/Chat Groups - Relevant posts, diagrams, supplements, and protocols printed from Discussion Group.

Approach #2

Use a 3-ring binder with section separators and a 3-ring folder. The folder is for copies of test results.

The binder is separated into several sections:

- Important, frequently referred to posts in the Basics and Getting Started sections from the Discussion Forum
- Nutrigenomic Section—Results and relevant posts
- Supplements Section—Relevant posts
- Supplements Section—Current supplements given and “what comes next” lists. (This is great information to have in an emergency if Mom and Dad are not available….the caregiver could pick this section up and move forward without difficulty because it contains a complete history of supplementation and reactions.)
- A section for each issue being or to be addressed (Step 1 supports, strep, clostridia, etc)
- Testing Sections - Each test has its own section: MAP, UAA, UTM, UEE, FM, CSA, etc.
DAY 7: Excitotoxins

A very important piece of the puzzle is limiting excitotoxin damage. Dr. Amy’s paper, “The Role of Excitotoxins in Autistic Type Behavior” explains in detail the damage that excess excitotoxins can have on the body and how it relates to our behavior and health. Learning the importance of balancing GABA and glutamate and limiting calcium is essential to beginning the healing process.

As Dr. Amy stated “Excitotoxins will continue to damage more nerves and wreak more havoc in the body if they are not addressed. Therefore, the excitotoxin imbalance is the best place to start to put the pieces back together. Once excitotoxins are under control, it is easier to balance the rest of the body.”

Key Definitions:
- Excitotoxins —A toxic molecule that stimulates nerve cells so much that they are damaged or killed.
- GABA —A calming neurotransmitter that is essential for speech.
- Glutamate —The main excitatory neurotransmitter in the body, that is essential for learning and for both short-term and long-term memory.

Printed resources relating to excitotoxins include:
- *Autism: Pathways to Recovery*, Chapter 4
- “Neurological Inflammation” and “Putting It All Together” DVDs (checkout webisodes on www.dramyyasko.com)
- Dr. Amy’s paper, “The Role of Excitotoxins in Autistic Type Behavior”
  - To read this go to www.dramyyasko.com
  - Click on “Resources”
  - Click on “Books and Writings”
  - Scroll down to “The Role of Excitotoxins in Autistic Type Behavior”
WEEK 2

DAY 8: The Importance of the Diet

While you may already be on the GF/CF diet (which Dr. Amy recommends), there is an additional step to the diet that needs to be made in order for the inflammatory process to abate and the recovery process to begin.

This additional dietary step/intervention is to remove/reduce excitotoxins from the diet and from supplements as well.

Excitotoxins are: Glutamate, Glutamic Acid, MSG, Glutamine (which converts to Glutamate), Aspartate, Aspartame, NutraSweet, and Cysteine.

Foods that are especially high in Glutamate are: Soy, Peas, Mushrooms, Tomatoes, Parmesan Cheese, Yeast, Milk, and Wheat.

A diet high in fermented foods and/or high protein may also contribute to this issue.

It is important to be conscious of the total load of Glutamate and to think of your ability to tolerate more Glutamate, as if your cup is already full to the brim and about ready to overflow.

“*In terms of diet, while diet is an important piece, no diet is perfect and no diet is ever going to be enough for recovery and every diet has certain aspects that are counter to the program. Basically, fermented foods are naturally high in glutamate that is why they taste good and people want to eat them. The glutamate in fermented food is enough to actually cause allergic reactions in some cases. The normal bacteria associated with fermented foods can actually produce higher levels of glutamate. Where this program begins at step 1 with the glutamate/gaba balance, the bottom line is I like a low protein, medium carbohydrate diet, and in general lower end fat, plus special digestive enzymes to process those fats. I also prefer low doses of specific sulfur donors (broccoli, garlic, wasabi etc.) and limit glutamate, adjusted based on biochemical levels*”

For a full list of excitotoxins, see “Frequently Asked Questions” at the back of this workbook.

Web Resources
- The Official GFCF Diet Support Group Website: www.gfcfdiet.com
- Autism Network for Dietary Intervention: www.autismndi.com
- Battling the MSG Myth Site: www.msgmyth.com
- PKU Diet: depts.washington.edu/pku/about/diet.html

Print Resources
- *Autism: Pathways to Recovery* Chapter 4
- “Special Diets for Special Kids” by Lisa Lewis
- “Battling the MSG Myth Cookbook” by Debbie Anglesey
DAY 9: The Importance of Balancing GABA/Glutamate

Since we are viewing Autism/ASD/CFS as multifactorial conditions that have their roots in neurological inflammation, it is critical to understand the pivotal role that Glutamate excess along with a GABA deficiency play in setting the stage for the progression of symptoms.

As a starting point, let us think of this balance as if we are looking at a seesaw and when Glutamate is too high GABA is too low.

When Glutamate is elevated, we can see the following types of symptoms, please check any that you or your child may be experiencing:

<table>
<thead>
<tr>
<th>Increased</th>
<th>Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Excitotoxin damage</td>
<td>□ Glutathione</td>
</tr>
<tr>
<td>□ Opioid effects</td>
<td>□ Sleep</td>
</tr>
<tr>
<td>□ TNF alpha (leading to leaky gut)</td>
<td>□ Eye contact</td>
</tr>
<tr>
<td>□ Acetylcholine</td>
<td>□ Myelination</td>
</tr>
<tr>
<td>□ Bladder contraction</td>
<td></td>
</tr>
<tr>
<td>□ Strabismus</td>
<td></td>
</tr>
<tr>
<td>□ Stims (self-stimulatory behavior)</td>
<td></td>
</tr>
<tr>
<td>□ Seizures</td>
<td></td>
</tr>
</tbody>
</table>

When GABA is low, we may observe the following symptoms, please check any that you or your child may be experiencing:

<table>
<thead>
<tr>
<th>Increased</th>
<th>Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Anxiety</td>
<td>□ Language/speech (particularly comprehension) remember that GABA puts the spaces between our words</td>
</tr>
<tr>
<td>□ Aggressive behavior</td>
<td>□ Social behavior</td>
</tr>
<tr>
<td></td>
<td>□ Eye contact</td>
</tr>
<tr>
<td></td>
<td>□ Bowel function (retention issues)</td>
</tr>
</tbody>
</table>
Increased Glutamate leads to increased Calcium flow into neurons, which causes nerve damage. Nerve damage leads to increased inflammation. If Glutamate and Calcium remain too high and this process of nerve damage is left unchecked, then cytoskeletal and membrane damage can also occur.

Evaluating Calcium levels and utilizing Vitamins D&K are important to re-establishing this balance as well. Vitamins D&K are fat-soluble vitamins and without a diet high in dark leafy greens, one would need to supplement on a daily basis. A Urine Essential Elements test should be done to establish baseline mineral levels.

Controlling Calcium levels may be done by switching to Chamomile and/or Nettle supplementation rather than directly supplementing with Calcium. Increasing Magnesium relative to Calcium, using Zinc to limit Glutamate damage and watching Lithium, Iodine and Boron levels will all aid in reducing Glutamate levels and reversing the flow of Calcium into the neurons and back to the bones and teeth.

If you have not already done so, start limiting excitotoxins and switch Calcium to natural forms. Refer to Addendum A that came in your test kit or download it from the Discussion Group/The Basics Forum, and the Autism: Pathways to Recovery book for the suggested forms of natural Calcium.
The following supplements should be used on a daily basis to increase GABA and reduce Glutamate.

Support for Glutamate/GABA Balance
- Nerve Calm RNA
- Comfort RNA
- BeCalm Spray (Glutamate/GABA Spray)
- Melatonin Sleep Spray
- Resveratrol Spray
- Progesterone Cream
- GABA
- Pycnogenol
- Grape Seed Extract
- Valerian Root
- Jujube
- Lithium Orotate (based on UEE/HMT Testing)
- Potassium
- L-Theanine
- Taurine (not for CBS + or SUOX +) unless suggested on testing
- Passion Flower
- KuShen Sophora

Protection from Excess Calcium
- MitoForce Compound Supplement
- CoEnzyme Q10 Spray
- GSH Caps
- Magnesium
- Chamomile
- Ayur Boswelia
- Vinpocetine
- Zinc
- Paradex
- Dong Quai
- Air Power
- Black Cohosh
- Prevagen 5 mg or less

Follow GABA/Glutamate levels with a Urine Amino Acid Test (UAA) every 3-6 months. Glutamate levels tend to increase with detox and increasing supplements may be necessary.
DAY 10: Visualize Recovery

Each individual has a different idea of what recovery means.

Please take some time and think about or make a list of what recovery means to you and those you love.

You may want to view www.dramyyasko.com, which is one of Dr. Amy’s sites where some parents share their journeys of hope and inspiration.

Most people have no conscious control over their thoughts and tend to think negatively most of the time! Your most repeated thoughts dominate not only your mental world, but impact all aspects of your life. Thoughts, if powerful enough, are accepted by the subconscious mind changing your overall mindset, which in turn changes your habits and actions. The stronger the feelings and emotions associated with your thoughts and mental images, the stronger their impact on your life.

Certain traits of character and skills are necessary, too, such as faith in yourself and in your abilities, patience, perseverance, concentration, self-discipline and strong motivation. Creative visualization, which is the conscious desire and visualization of a goal, can change your life and improve your motivation to “do whatever it takes” to achieve that goal.

**Our Goal is Recovery**

Take a deep breath. Relax. Close your eyes. Visualize your recovery. What does your recovery look like? What behaviors are gone? What positive behaviors have taken over? What are things you can do when recovered? What does vibrant health look like? Envision the life changes recovery brings for your entire family.

Make your visualization as clear and detailed as possible. Sometimes writing down those wonderful thoughts as they come to you will help give you clarity….and increase your motivation to get to that place.

If this is a new concept to you, visualize steps toward that ultimate goal. What does the next step toward recovery look like? Know what you need to do next to make that next step a reality.

Whenever you have a negative thought (I cannot do this, or we seem to be stuck), drive those thoughts out of your mind with positive replacements. (I CAN do this) and take the necessary action to propel yourself forward. That may be posting a question on the Discussion Group. It may be re-reading a portion of the *Autism: Pathways to Recovery* book, or viewing a DVD/Webisodes to give you more clarity with your next move. Maybe it means adding that next supplement you have been hesitant to add for fear of detox. Identify that step and take it.

Visualize your success in moving forward with this marathon. Remember, it takes time to recover and we must continue to shake off negativity, whether it is from our own thoughts or negative input from unsupportive and unknowledgeable people around us.

Visualization, by itself, will not recover anyone. However, if you take the first 5 minutes you are up in the morning and the last 5 minutes before you drop off to sleep at night to visualize your recovery, you will be able to face each day and each challenge with renewed energy and commitment necessary to achieve that success.
DAY 11: Obtaining the Nutrigenomic Blood Sample
(DNA Methylation Pathway with Methylation Pathway Analysis)

When your test kit arrives, refer to the instructions that came in your kit for a step-by-step guide for obtaining the sample. The test is a simple finger prick that you can do at home.

If you are uncomfortable or have questions regarding how to get a good sample, refer to the post in the “New Members” section on the Discussion Group.

Here are a few helpful hints that others have shared on getting a blood sample:

- The finger prick can come from multiple sites
- Use the heel for infants
- Prick the side of the finger
- If for a child, try doing a finger prick while your child is sleeping
- Use a diabetes tester if the lancets do not work for you
- Your Doctor or local laboratory might be willing to help you
DAY 12: Resources

Dr. Amy strongly encourages everyone to read, learn and pay it forward. As she puts it:

“I feel that if we all do our part, more and more people will be able to recover. My part is to share as much information as I can and to continue to uncover any missing pieces of the puzzle. Your part is to take advantage of the tools to understand the pieces that you need, and to find a doctor to work with you who is open to the process and will help to support you medically.”

The following is a list of resources available:

- FEEL GOOD NUTRIGENOMICS YOUR ROADMAP TO HEALTH book.
- A Complete Series of Lectures by Dr. Amy Yasko 3 Disc set.
- Autism: Pathways to Recovery book located on the CD you received with your Comprehensive Methylation Panel kit.
- Webisodes Series on www.dramyyasko.com/resources/webisodes
  - An individualized Approach: Introduction to The Yasko Protocol
  - Stress and Aggression
  - Membrane Fluidity
  - Methylation: Why you should be concerned, Part 1
  - More Pieces to the Puzzle
  - Methylations & Mutations
  - Lithium
  - H.Pylori/Helicobacter part 1 & 2
  - And lots more!
- Go To www.knowyourgenetics.com to view the Genetic ByPass book and other great resources.

Getting the information is what it’s all about. Also, Dr. Amy has generously donated several copies of the DVD to the “Sharing Circle Lending Library” accessed through www.ch3nutrigenomics.com. Guidelines for utilizing the library can be found in the Sharing Circle Lending Library Forum.

You may wish to read or view the following today:

- Autism: Pathways to Recovery - Read chapters 1-3
- View the Webisodes on www.dramyyasko.com/resources/webisodes
DAY 13: Understanding Step 1/ Short Cut Support

Though our focus now is on Step 1/Short Cut supports, Dr. Amy’s protocol is a three-step program. All of the groundwork you are doing now is in preparation for the steps that follow.

Step 1: Preparation, diet, and supplementation: Neurological Inflammation, Short Cut Supports

Step 2: Detoxification: Toxin Elimination, Long Route Supports

Step 3: Nerve generation and repair: Remyelination

Support to help the body with chronic inflammation, balance Glutamate and GABA, support the organs, balance minerals, and address chronic bacterial issues in the system. This step should be implemented before receiving your nutrigenomic profile.

The usual starting point is to slowly introduce some of the top Step One supplements listed below. It is recommended that supplements be introduced with the “low and slow” method, starting with a sprinkle and working up over the course of several days to a week, depending on the response. How you proceed with supplementation and which of these are best for your program will depend on the individual, but the idea is to lay the nutritional groundwork, remove excitotoxin triggers, and add supports to help with inflammation before embarking on any form of detoxification. It is recommended that you implement this program in conjunction with a healthcare practitioner.

For more information on the above you may wish to read the Autism: Pathways to Recovery chapter 4.

TOP STEP ONE SUPPLEMENTS/Nutritional Groundwork

- 1-4 daily All in One General Vitamin
- 1-2 MTHFR A1298C+/Liver Compound
- 1 VDR Fok/Pancreatic Compound
- 1-2 Ultimate B Complex
- 15-40 mg Zinc
- 1 Ora-Kidney
- 1 Cod Liver Oil
- 3 Special Digestive Enzymes 1 w/each meal
- 1 or more sprays Resveratrol Spray
- 2 or more sprays BeCalm Spray
- 1 or more Vita D-Light Spray or Vitamin D
- 1 Ora-Adren-80
- 1 Ora-Triplex
- 1 or more VitaOrgan
- 1 or more GABA
- 500mg Vitamin C
- Probiotics–several types-rotate daily

- 2 drops Cell Food
- 2 drops Bionativus Trace Minerals
- Run UEE/Determine Mineral Support
- 3-5 drops or more General Pathway Support RNA
- 3-5 drops or more Bowel Support Formula RNA
- 3-5 drops or more Cytokine Balance IPS Support RNA
- 3-5 drops or more Nerve Calm RNA
- 3-5 drops or more Stress Foundation RNA
- 3-5 drops or more Fatigue Support RNA (CFS Adults)
- Pycnogenol- Optional if taking All in One
- Grape Seed Extract- Optional if taking All in One
- Vit. K-Super K - Optional if taking All in One
For Short Cut Support Consider:

- All In One General Vitamin
- PS/PE/PC (with PI) Complex
- SAMe (If tolerated)
- DHA Neuromins
- Methylation RNA Low Dose
DAY 14:

Special Note
Step 1 supplementation is a foundation of supports that will serve to support the body. As such, it may trigger detox on its own and so careful attention should be paid to this possibility. Additionally, as Dr. Amy makes notes on biochemical tests she is doing so with the assumption that Step 1/Short Cut supports are in place and that the necessary time period to watch and document detoxification from Step 1 supports has taken place. Please see page 72 of this workbook to learn how to recognize and control detox. If a supplement is not tolerated, 9 times out of 10 the new supplement is triggering detox. Ultimately, Step 1 supports will allow the body to withstand the rigors of enhancing the methylation pathway.

Supplement Brands
Please read labels on any supplements that you may have on hand or when purchasing supplements, beware of added fillers and sources of excitotoxins such as: Glutamate, Glutamine, Glutamic acid, Aspartate, Aspartame and Aspartic acid. There can be an issue in terms of purity and storage for certain brands of supplements. Source and storage conditions are very important. Think of supplements as fresh produce.

Preferred Brands, RNA’s, Compounds, Drops and Sprays
Dr. Amy continues to select and create the highest quality of supplements for her program. Individual supplements, proprietary RNA formulations as well as recently created compounded formulas, and special technology oral sprays can be found at www.holisticheal.com

Mutation Specific Compounds-Sprays-RNA’s
In an effort to make her program easier and more cost effective to implement the program Dr. Amy has created several Mutation Specific Formulas (MSF’s). These MSF formulas include compounds, RNA’s and sprays designed and formulated with the specific mutation listed in mind. The idea is to fulfill the major portion of that mutation’s needs. Individual herbs/vitamins can then be added based on biochemical testing.

All In One Custom General Vitamin
Dr. Amy has recently created the All In One. A custom general vitamin, taking into account the imbalances she has seen on thousands of tests for over a decade and truly believes it will help to lay the nutritional groundwork for essentially everyone on the program, including those who are sensitive to sulfur and/or methyl donors and those who are MTHFR +. The All in One general vegan vitamin is gluten, casein, soy, copper and iron free. It contains VERY LOW dose lithium, the preferred forms of several important key minerals and VERY LOW dose supports for the methylation cycle. For most individuals this is not enough to trigger detox, but enough to be sure that there is some VERY LOW level support for both the short cut (nucleotides, SAMe, DHA, Soy Free PS) and the long route (5 methyl THF and a tiny bit of folinic, Very low dose hydroxyl, intrinsic factor, and low amount of methionine). This helps to ensure that the cycle can function to some degree at a very low level, to be sure that the ‘tank is not empty’ of critical nutrients. The All in One comes in specially designed oxylock capsules to protect the oxygen sensitive ingredients. Suggested use is to start with a single capsule and gradually work up to the suggested four capsules per day, as tolerated. Although opening the capsule may expose the ingredients to oxygen, it should be fine for those who are younger, sensitive or new to the program who need to start with a sprinkle. For more information on the All In One ingredients and their rationale, please refer to the Discussion Group.
The Importance of Lithium

Based on the data that Dr. Amy has been accumulating, she believes that the role and importance of lithium with regard to the methylation cycle has been under recognized for a very long time in both adults as well as individuals with autism.

Lithium support is a critical missing piece with many supplement programs, particularly for those using high dose B12, and those with MTR+ and/or MTRR+ mutations. In addition, there is new information that those with Lyme disease may also be low in lithium.

Those who are MTR/MTRR + tend to have lower lithium levels. Presumably, this is due to over activity of the MTR enzyme. Since MTR/MTRR uses B12 and lithium plays a role in B12 transport you can see why it fits with the data that those who are MTR/MTRR + tend to require more lithium, and thus the more B12 that is added, the more lithium may be needed.

Lithium is reported to play a role in the transport of B12 and has been implicated in helping to control glutamate levels such that it is reported to have positive impacts on Alzheimers, ALS, Parkinsons as well as other glutamate associated issues (which can include seizure activity). Lithium helps to decrease norepinephrine relative to serotonin levels and may also help to reset the circadian clock (sleep/awake cycle).

We also need to be aware that if one is adding B12 they really want to pay attention to lithium levels and to be sure they are not depleting their system of lithium. In cases where blood B12 is high, yet urine cobalt is low we again see confirmation of the role of lithium, as in these cases the HMT lithium as well as blood lithium tends to be low. Once lithium is supported the B12 levels will also reach a better balance. If you are supplementing with lithium and are seeing high level excretion in urine and hair, run a blood lithium test to see if much of what is being supplemented is simply being excreted.

The goal is to be certain lithium is in balance without levels becoming too high or too low. In order to be sure that lithium stays in balance Dr. Amy suggests running frequent UEE’s and HMT’s and if needed blood lithium test.

*As always individuals should work closely with and defer to their own doctors.

The All in One includes low dose lithium as well as low dose hydroxy B12 for minimal support. The doses are well tolerated even for those just starting the program/ Step One. The low level of lithium may not be sufficient to support those who have very low lithium levels on a HMT. The Be Calm spray is also a great low dose lithium source.

Besides the All In One and the Be Calm spray, Lithium Orotate capsules and Lithium Chloride liquid drops are available. If needed in unique cases, prescription lithium can be obtained from your doctor.
Tests or symptoms/behaviors that indicate a need to address Lithium:

- High Lithium on UEE or very low lithium on UEE
- Hydroxy B12 Mega Drops
- Low Lithium on HM or dumping of lithium on a HMT
- Aggression
- Lack of cobalt on a UEE in spite of high level support
- MTR/MTRR + status

Supports for excretion of high levels of Lithium:

- AHCY/SHMT Compounded Supplement
- MTHFR A1298C Compound Supplement
- VitaOrgan Compound
- SHMT spray
- Be Calm Spray
- Low dose Lithium Orotate (work with your Dr.)
- Potassium*
- Ultimate B Complex
- GSH capsule OR Glutathione Chewing gum
- CellFood
- Folazin
- BioNativus
- Frequent testing of UEE & Hair Metals Tests to check on lithium levels
- Topical iodine tests on a regular basis
- CHECK taurine levels on a UAA, CBS OR Ammonia RNA as needed

*When supporting with lithium, it is suggested to keep a close eye on potassium as that can become depleted. This can be assessed with the UEE and HTM.

Lab Tests indicating a need to focus on Potassium:

- Very low potassium on a HMT
- Pattern of potassium dumping on UEE and HMT
- Very low rubidium on a HMT

Supports for Potassium:

- Potassium citrate
- Krebs potassium
- MitoForce compounded supplement

For more information on this please refer to the Discussion group and watch Dr. Amy's Lithium presentation: [http://vimeo.com/26165981](http://vimeo.com/26165981)
http://www.dramyyasko.com/resources/webisodes/lithium-connection-webisode/
WEEK 3

DAY 15: Assessing Current Needs Based on Previous Testing

If you plan to order testing through HHI, please send in previous testing results to Dr. Amy’s office for inclusion in your biochemical file.

Note that since testing has previously been reviewed by your practitioner, Dr. Amy will utilize this as a reference, but not supply comments directly.

At this time, it is suggested that you review past testing to assess current needs for organ support. If previous testing is not available, then you need to rely on symptoms and behavioral observations and new biochemical testing (see page 33).

Please utilize the following checklists to help determine your current level of support:

Lab Tests Indicating a Need for Liver Support
- Elevated AST (SGOT) or below normal AST
- Elevated ALT (SGPT) or below normal AST
- Elevated alkaline phosphatase (ALP)
- Elevated lactate dehydrogenase (LDH)
- Elevated bilirubin
- Elevated cholesterol
- Elevated triglycerides
- Long term chelation with sulfur based chelating agents
- High level excretion of toxic metals on fecal tests

Lab Tests Indicating a Need for Kidney Support
- Elevated BUN
- Urine excretion/detox of metals for prolonged periods
- High creatinine levels over a prolonged period of time

Lab Test Results and Other Indicators for Pancreatic Support
- Consistently elevated glucose
- Consistently low glucose
- Elevated triglycerides
- Mutations: VDR Fok + - or VDR Fok + +
- Imbalances in pancreatic elastase on a CSA/GI Profile
- Imbalances in chymotrypsin values on a CSA/GI Profile
- Imbalances in SCFA (Iso-butyrate, iso-valerate and n-valerate) on CSA/GI Profile
- Imbalances in LCFA on a CSA/GI Profile
Lab Tests/other Indicators for Need to Reduce Calcium
  □ Elevated Calcium relative to Magnesium on a UEE
  □ Elevated Calcium relative to Magnesium on a red blood cell element test
  □ Stims

Lab Tests Indicating a Need to Increase Calcium
  □ Calcium below the range of low-end normal on a UEE
  □ Calcium below the range of low-end normal on an RBC element test
  □ High level excretion of lead when checking urine Calcium levels

Lab Tests and other Indications of a Need for Glutamate/GABA Balance
  □ Elevated: Glutamate, Glutamine, Glutamic acid, Aspartate, Aspartic acid, and Low GABA (gamma aminobutyric acid) on a Urine Amino Acid test (UAA)
  □ Low GABA on a Neurotransmitter test
  □ Elevated quinolinic or kynurenate on OAT/Metabolic test
  □ Seizures, stims, poor eye contact, aggressive behavior

Lab Results and Other Indicators of High Ammonia
  □ Elevated Ammonia on a Urine Amino Acids test

Lab Results and Other Indicators of a Need to Address Lithium
  □ High Lithium or very low Lithium on UEE
  □ Low Lithium or dumping of Lithium on HMT
  □ Aggression
  □ Lack of Cobalt on UEE in spite of high level B12 support
  □ MTR/MTRR + Status

Lab results and other indicators of a need to address Potassium
  □ Very low Potassium on a HMT
  □ Pattern of Potassium dumping on UEE & HMT
  □ Very low Rubidium on a HMT

Please refer to **Nutritional Supplement Addendum A** that was included with your Nutrigenomic testing kit for specific organ supports indicated by previous testing. However, regardless of your level of need as determined in the checklist above, organ support is critical for anyone engaging in a detoxification protocol. It is important that all organs, even if there are no issues indicated, receive some level of support.
DAY 16: Biochemical Testing

The following biochemical tests are run throughout the protocol as needed to determine additional supports needed for each individual. When purchased thru www.holisticheal.com the total cost includes Dr. Amy’s interpretation and shipping from you to that particular lab within the United States.

**Urine Toxic Metals Test (UTM) & Urine Essential Elements Test (UEE)**
- Determines current level of detox and mineral levels.
- Repeated every 4-6 weeks (during times of heavy detox it is important to keep an eye on minerals as they can be depleted).
- Turnaround time for processing can take approximately 2 weeks.

**Hair Elements Test (HE/HMT)**
- Determines past/history of toxic metals excretions that you may have missed and Lithium levels.
- Repeat every 2-3 months
- Turnaround time for processing can take approximately 2 weeks.

**Urine Amino Acids Test (UAA)**
- Determines Ammonia, Taurine, Gaba, Glutamate and other important Amino Acid levels.
- Repeated every 3 to 4 months.
- Turnaround time for processing can take approximately 3 weeks.

**Metabolic Analysis Profile (MAP)**
- Determines current level of methylation support, and gives a sense about gut microbes and Dopamine balance in respect to Norepinephrine.
- Turnaround time for processing can take approximately 2 weeks.

**Fecal Toxic Metals Test (FM)**
- Determines current level of detox through the stools.
- Turnaround time for processing can take approximately 2 weeks.

**Comprehensive Stool Analysis (CSA)**
- Determines gut and bacterial issues.
- Turnaround time for processing can take approximately 2 weeks.

**GI Function Test (DNA Stool test)**
- Determines bacterial issues including anaerobes.
- Turnaround time for processing can take approximately 2 weeks.
**Neurotransmitter Test**
- Determines levels of Serotonin, Dopamine and Tryptamine and other important Neurotransmitters.
- Turnaround time for processing is approximately 2 weeks.

**Neopterin/Biopterin Profile**
- Determines current level of Neopterin and Biopterin in urine.
- Turnaround time for processing is approximately 2 weeks.

**Urine Toxic Metals Test (UTM)**
- Determines current level of detox.
- Done weekly, biweekly, or monthly depending on finances.
- Turnaround time for processing can take approximately 2 weeks.

The **Preferred Supplement List and Client History** form can be downloaded from the Discussion Group at [www.ch3nutrigenomics.com/phpBB3/viewtopic.php?t=14153](http://www.ch3nutrigenomics.com/phpBB3/viewtopic.php?t=14153). If tests are ordered through HHI, please send your updated list to Kelly@holistichealth.com or fax it to (207) 824-0975 when your samples are shipped. Please include the completed Client History Form.
Day 17: Biochemical Testing for Step ONE & Short Cut

☐ Order your UEE/UTM, UAA and HE/HMT from www.holisticheal.com

These three tests can be ordered individually upon starting the protocol and may also, need to be rerun every few months to assess levels especially during Step 2.

1. **UTM/UEE:** Reports on the essential elements (minerals) AND will include excreted metals as reported in a UTM. Getting a baseline on minerals at this point is necessary to continue with your Step 1 work of balancing the body.

2. **HE/HMT:** Reports on essential elements and excreted metals. It helps to determine a past/history of toxic metal excretions which you may have missed and Lithium levels.

3. **UAA:** Reports on the Amino Acids levels, including Gaba, Taurine, Ammonia, and Glutamate etc.
   
   This test may be run every few months as needed to assess Amino Acid levels.

Please note that the lab company analyzing your samples provides an auto-generated interpretation with the report. Dr. Amy’s analysis is personalized and is completed in conjunction with your current supplement list and personal history. Written feedback is provided to be considered in conjunction with your physician and is aligned with the scientific principles on which this protocol is based.
DAY 18: *Autism: Pathways to Recovery*

Continue reading the *Autism: Pathways to Recovery* book. This is also a good time to learn about the rationale behind this protocol prior to the arrival of your Nutrigenomics results. For many, this is also a time of anxiety because you may not feel like you are doing “enough.” **Take a deep breath.** You are doing exactly what you are supposed to be doing. If something does not make sense the first time you read it or the second, log on to the Discussion Group and search for an answer to your question.

DAY 19: **Discussion Group Search Example**

The following is an example of a question that many have early on, “What do I do for sleep issues such as insomnia?”

Let’s go step by step and search for an answer:

1. Log In to [www.ch3nutrigenomics.com](http://www.ch3nutrigenomics.com)
2. Click on the Search icon in the top menu:
3. Enter key word(s) for your search. If you also enter “griffkoom” in the author box, you will only get responses to your topic that originated from Dr. Amy or the moderator, Erin Griffin.

*Note: Search for Keywords: You can use **AND** to define words which must be in the results, **OR** to define words which may be in the result and **NOT** to define words which should not be in the result. Use * as a wildcard for partial matches.*
4. Once you hit the search button at the bottom, you will receive all the responses containing the keyword(s) you have entered. You can also limit by Forum and Category, but most do not do this unless they are searching for a very specific post.

Search found 11 matches

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<td>Posts by Dr Amy</td>
<td>Insomnia and Fatigue</td>
<td>griffcom</td>
<td>0</td>
<td>221</td>
<td>Fri Feb 22, 2008 11:52 pm</td>
</tr>
<tr>
<td>Posts by Dr Amy</td>
<td>Adult sleep issues</td>
<td>griffcom</td>
<td>1</td>
<td>309</td>
<td>Fri Dec 14, 2007 3:18 pm</td>
</tr>
<tr>
<td>Parents and Adults</td>
<td>[Recommendations here! correnting sleep cycle havent helped me]</td>
<td>rulin</td>
<td>19</td>
<td>548</td>
<td>Fri Dec 14, 2007 3:18 pm</td>
</tr>
<tr>
<td>Behaviors</td>
<td>Wow! Major saliva, spit smearing!</td>
<td>marizak</td>
<td>11</td>
<td>480</td>
<td>Sun Jul 09, 2006 6:24 pm</td>
</tr>
<tr>
<td>Medicines / Surgery</td>
<td>Naltrexone</td>
<td><a href="mailto:princess@uscc.com">princess@uscc.com</a></td>
<td>3</td>
<td>712</td>
<td>Tue Aug 16, 2005 8:53 pm</td>
</tr>
<tr>
<td>Testing / Toxic Metals</td>
<td>Change in Aaron</td>
<td>kksokolski</td>
<td>114</td>
<td>3692</td>
<td>Sun Aug 14, 2005 1:55 pm</td>
</tr>
<tr>
<td>RNA</td>
<td>Can RNA cause mouth sores?</td>
<td>alpha</td>
<td>5</td>
<td>255</td>
<td>Sun Aug 07, 2005 3:13 pm</td>
</tr>
</tbody>
</table>

5. You can then select the posts that seem to relate closest in title to the issue you are experiencing. If more than 100 results return, you may wish to add an additional “and” or “not” to your search to further limit the results.
DAY 20: Positive Feedback

Take some time today and visit the Discussion Group, Positive Feedback Forum. You will find some wonderful stories that the members have shared along their journey thru the protocol.

There are many inspiring positives to read, some you may even want to print out and save for future reference or post on your refrigerator. As you move forward with the protocol, these may encourage you to keep moving forward, so feel free to visit the Positive Forum as often as you like.

You may wish to take a few moments to envision what your positive post might consist of in the future:
DAY 21: Implementing Step One Support

It is recommended to add Supplements/RNA’s with the “low and slow” method; start with a sprinkle to 1/4 of a supplement, or 1 to 2 drops of an RNA, wait 3 to 4 days to see how you/your child tolerates. Dr. Amy feels that a sprinkle is a bonafide dose. How you proceed with supplementation and which is best will be individual; based on behaviors, symptoms, detox and ongoing biochemical testing. Reducing inflammation, supporting organs, balancing minerals and GABA/Glutamate support will help to prepare the body for Step 2.

As you add in the top supplements for Step 1, it may be very helpful to keep a diary of supplements. Date, dosage, reactions/behavior and any changes should be noted as you add them in. Below is a sample chart that some have used to track the addition of supplements.

**Supplement Diary**

<table>
<thead>
<tr>
<th>Date</th>
<th>Supplement Given</th>
<th>Dosage</th>
<th>Reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
WEEK 4

DAYS 22-28: Transitioning From Another Protocol

It may be difficult to blend Dr. Amy’s protocol with others for a variety of reasons. Many supplements used on other approaches may contain excitotoxins; this may be counterproductive, please use your own judgment and consult your physician on what is best for you or your child. Make changes gradually. Just by stopping some supplements, you may see unwanted detox or behaviors. As we limit excitotoxins in the diet, we also want to limit excitotoxins in our supplementation as well.

For instance, many use glutamine for the gut. We are trying to avoid glutamine, especially early in the program. Chelated minerals may be chelated with problematic Amino Acids and should be avoided. Vitamin B6 is widely used in other protocols, but may be counterproductive. Methyl B12 shots may or may not be best for you/your child and will be dependent on your nutrigenomic results.

Even if you have been on many supplements before with other protocols, everyone needs to go through Step 1 to get the body balanced and prepared for detox. You may choose to slowly wean off the counterproductive supplements, decrease B12/High dose 5MTHF and slowly make the transition over to Dr. Amy’s Step 1 supports, Short Cut supports and assess and balance lithium. Please keep in mind that this change alone can, in some individuals, lead to some mild detox, as the change in supplements was sufficient to trigger the body’s natural detoxification process. If you feel this is happening, please look to the Discussion Group for support and consider that this is an indication that some additional testing, especially a UTM, would be appropriate at this time.

Only by looking at the specific ingredients in the supplements will you be able to determine compatibility with this protocol. If you are having difficulty, post your current supplement list with a short description of you/your child’s specific issues, and the veteran members will help suggest options for you to consider while making this transition. Of course, the ultimate decision is yours as to which supplements you use.

“Knowledge Empowers”
## Transition Supplement List

<table>
<thead>
<tr>
<th>Current Supplement</th>
<th>Current Dosage</th>
<th>Is the Supplement included in Dr. Amy’s Protocol?</th>
<th>Does the Supplement contain offending ingredients, e.g. excitotoxins? (check label)</th>
<th>Questions, Concerns, &amp; Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Instructions for Collecting Biochemical Tests

Step One/Short Cut:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Date Sample Sent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Urine Toxic Metals &amp; Essentials Elements (UTM/UEE)</td>
<td></td>
</tr>
<tr>
<td>2. Hair Elements (HE/HMT)</td>
<td></td>
</tr>
<tr>
<td>3. Urine Amino Acid (UAA)</td>
<td></td>
</tr>
</tbody>
</table>

- Dr. Amy prefers “spot/random urines” for the UTM/UEE test as opposed to the 24-hour collection. She prefers the later afternoon urines, but if it is easier to collect a morning or overnight urine, that is fine too. Try to follow the diet restrictions as best you can by eliminating fish and shellfish for one week prior to obtaining your sample.
- Dr. Amy prefers the first morning urine/void for the UAA as opposed to the 24-hour, unless otherwise instructed on previous testing. Your sample is required to be frozen for a minimum of 6 hours before shipping.
- Cut samples of hair as close to the scalp as possible from the back of the head and collect the suggested amount for the HE/HMT.
- Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, time of collection, height, and weight. You will also need to sign and date the release.
- If your child is not potty trained or you are having difficulty obtaining a sample, please refer to Discussion Group/Basics Forum, post entitled “Ideas for Collecting Urine.”
- Please download the preferred supplement list format from the Discussion Group/Basics Forum, entitled “Methylation Pathway Analysis/Supp by Mutations list-Download” and Client History Form.
- Complete the UAA list on page 4 reflecting supplementation at the time of testing. Note the date of testing and send it via fax at (207) 824-0975 or email Kelly@holistichealth.com on the day of shipping your samples. This will allow ample time for it to be placed in your chart for Dr. Amy’s reference when commenting on testing.
- Test results and Dr. Amy’s comments will come by email from Kelly@holistichealth.com. Please add this email address as a “safe sender” in your email filter so that you can receive email from Kelly without difficulty. The turnaround time is approximately 2-3 weeks depending on the lab processing time and Dr. Amy’s schedule. If this is your first test and you have not received your test comments after 3 weeks please contact the office to make sure your email address is correct.
- Please note that the lab company analyzing your samples provides an auto-generated interpretation with the report. Dr. Amy’s analysis is personalized and is completed in conjunction with your current supplement list and personal history. Written feedback is provided, to be considered in conjunction with your physician, and is aligned with the scientific principles on which this protocol is based.
Obtaining UTM/UEE Urine Sample

☐ Follow the instructions that come in your kit, but know that **Dr. Amy prefers that you stay on ALL supplements for testing** unless instructed on previous testing.

☐ Dr. Amy prefers “spot/random urines” for the UTM/UEE test as opposed to the 24-hour collection. She also prefers the later afternoon urines, but if it is easier to collect a morning or overnight urine, that is fine too.

☐ Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, time of collection, height, and weight. You will also need to sign and date the release.

☐ Try to follow the diet restrictions as best you can, by eliminating fish and shellfish for one week prior to obtaining your sample.

Date Sample Sent: ________________
# Urine Toxic Metals (UTM) example report

## Toxic Metals, Urine

<table>
<thead>
<tr>
<th>TOXIC METALS</th>
<th>RESULT µg/g creat</th>
<th>REFERENCE INTERVAL</th>
<th>WITHIN REFERENCE</th>
<th>OUTSIDE REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum (Al)</td>
<td>54</td>
<td>&lt; 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimony (Sb)</td>
<td>&lt; dl</td>
<td>&lt; 0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic (As)</td>
<td>&lt; dl</td>
<td>&lt; 117</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium (Ba)</td>
<td>2.9</td>
<td>&lt; 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beryllium (Be)</td>
<td>&lt; dl</td>
<td>&lt; 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bismuth (Bi)</td>
<td>&lt; dl</td>
<td>&lt; 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium (Cd)</td>
<td>1.3</td>
<td>&lt; 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cesium (Cs)</td>
<td>2.9</td>
<td>&lt; 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gadolinium (Gd)</td>
<td>0.2</td>
<td>&lt; 0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>7.1</td>
<td>&lt; 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>1.3</td>
<td>&lt; 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel (Ni)</td>
<td>14</td>
<td>&lt; 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palladium (Pd)</td>
<td>&lt; dl</td>
<td>&lt; 0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platinum (Pt)</td>
<td>&lt; dl</td>
<td>&lt; 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tellurium (Te)</td>
<td>&lt; dl</td>
<td>&lt; 0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thallium (Tl)</td>
<td>0.2</td>
<td>&lt; 0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thorium (Th)</td>
<td>&lt; dl</td>
<td>&lt; 0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tin (Sn)</td>
<td>2.3</td>
<td>&lt; 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tungsten (W)</td>
<td>&lt; dl</td>
<td>&lt; 0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uranium (U)</td>
<td>0.1</td>
<td>&lt; 0.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Urine Creatinine

<table>
<thead>
<tr>
<th>RESULT mg/dL</th>
<th>REFERENCE INTERVAL</th>
<th>-2SD</th>
<th>-1SD</th>
<th>MEAN</th>
<th>+1SD</th>
<th>+2SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>27.3</td>
<td>35–225</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Specimen Data

Comments:
- Date Collected: 8/11/2011
- pH upon receipt: Acceptable
- Date Received: 8/16/2011
- <dl, less than detection limit
- Date Completed: 8/17/2011
- Provoking Agent: ICP-MS

Results are creatinine corrected to account for urine dilution variations. Reference intervals and corresponding graphs are representative of a healthy population under non-provoked conditions. Chelation (provocation) agents can increase urinary excretion of metals/elements.
# Urine Essential Elements (UEE) example report

## Essential Elements; Urine

<table>
<thead>
<tr>
<th>ESSENTIAL AND OTHER ELEMENTS</th>
<th>RESULT/UNIT per creatinine</th>
<th>REFERENCE INTERVAL</th>
<th>2.5&lt;sup&gt;th&lt;/sup&gt;</th>
<th>16&lt;sup&gt;th&lt;/sup&gt;</th>
<th>50&lt;sup&gt;th&lt;/sup&gt;</th>
<th>84&lt;sup&gt;th&lt;/sup&gt;</th>
<th>97.5&lt;sup&gt;th&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium (Na)</td>
<td>81 mEq/g</td>
<td>43.5 - 226</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>43 mEq/g</td>
<td>22 - 82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>27 µg/mg</td>
<td>350 - 3,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium (Ca)</td>
<td>610 µg/mg</td>
<td>35 - 350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>120 µg/mg</td>
<td>25 - 230</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>25 µg/mg</td>
<td>0.1 - 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>0.018 µg/mg</td>
<td>0.01 - 0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur (S)</td>
<td>470 µg/mg</td>
<td>108 - 1,650</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Manganese (Mn)</td>
<td>0.688 µg/mg</td>
<td>0.0005 - 0.01</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Molybdenum (Mo)</td>
<td>0.062 µg/mg</td>
<td>0.016 - 0.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Boron (B)</td>
<td>1.7 µg/mg</td>
<td>0.8 - 6.8</td>
<td></td>
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<tr>
<td>Chromium (Cr)</td>
<td>0.001 µg/mg</td>
<td>0.0005 - 0.01</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Lithium (Li)</td>
<td>0.659 µg/mg</td>
<td>0.01 - 0.2</td>
<td></td>
<td></td>
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<tr>
<td>Selenium (Se)</td>
<td>0.041 µg/mg</td>
<td>0.034 - 0.28</td>
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<td></td>
<td></td>
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<tr>
<td>Strontium (Sr)</td>
<td>0.23 µg/mg</td>
<td>0.06 - 0.54</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanadium (V)</td>
<td>0.001 µg/mg</td>
<td>0.0002 - 0.004</td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

## Urine Creatinine

<table>
<thead>
<tr>
<th>RESULT mg/dL</th>
<th>REFERENCE INTERVAL</th>
<th>-2SD</th>
<th>-1SD</th>
<th>MEAN</th>
<th>+1SD</th>
<th>+2SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>27.3</td>
<td>35 - 215</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Specimen Data

**Comments:**

- pH Upon Receipt: Acceptable
- Collection Period:
- Volume:
- Provoking Agent: Provocation
- Method: ICP-MS

Results are creatinine corrected to account for urine dilution variations. Reference intervals and corresponding graphs are representative of a healthy population under non-provoked conditions. Chelation (provocation) agents can increase urinary excretion of metals/elements.
Obtaining Hair Elements Test Sample

☐ Follow the instructions that come in your kit, cutting samples of hair as close to the scalp as possible from the back of the head and collecting the suggested amount.

☐ Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, address, date of birth, date of collection etc. You will also need to sign and date the release.

Date Sample Sent: ______________________________
# Hair Elements (HE/HMT) Example Report

## HAIR ELEMENTS

**Lab ID:** H000000-0000-0  
**Patient ID:** Sample Patient  
**Sex:** Female  
**Age:** 86  
**Client ID:** 12345  
**Doctor:** Doctors Data, Inc.  
**Address:** 3755 Illinois Ave, St. Charles, IL 60174

### Potentially Toxic Elements

<table>
<thead>
<tr>
<th>Toxic Element</th>
<th>Result (µg/g)</th>
<th>Reference Range</th>
<th>68% Percentile</th>
<th>95% Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>3.0</td>
<td>&lt; 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimony</td>
<td>0.019</td>
<td>&lt; 0.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.019</td>
<td>&lt; 0.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>15</td>
<td>&lt; 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beryllium</td>
<td>&lt; 0.01</td>
<td>&lt; 0.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bismuth</td>
<td>0.99</td>
<td>&lt; 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.046</td>
<td>&lt; 0.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>0.20</td>
<td>&lt; 0.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>0.34</td>
<td>&lt; 0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platinum</td>
<td>0.003</td>
<td>&lt; 0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thallium</td>
<td>&lt; 0.001</td>
<td>&lt; 0.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thorium</td>
<td>&lt; 0.001</td>
<td>&lt; 0.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uranium</td>
<td>0.002</td>
<td>&lt; 0.060</td>
<td></td>
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<tr>
<td>Nickel</td>
<td>0.83</td>
<td>&lt; 0.30</td>
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<td>Silver</td>
<td>0.07</td>
<td>&lt; 0.35</td>
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<tr>
<td>Tin</td>
<td>0.20</td>
<td>&lt; 0.70</td>
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<tr>
<td>Titanium</td>
<td>0.36</td>
<td>&lt; 0.70</td>
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</table>

### Essential and Other Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Result (µg/g)</th>
<th>Reference Range</th>
<th>2.5% Percentile</th>
<th>16% Percentile</th>
<th>50% Percentile</th>
<th>84% Percentile</th>
<th>97.5% Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>3050</td>
<td>300 - 1200</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Magnesium</td>
<td>310</td>
<td>35 - 120</td>
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</tr>
<tr>
<td>Sodium</td>
<td>700</td>
<td>20 - 250</td>
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<td></td>
<td></td>
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<tr>
<td>Potassium</td>
<td>55</td>
<td>8 - 75</td>
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<td></td>
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<tr>
<td>Copper</td>
<td>27</td>
<td>11 - 37</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>190</td>
<td>140 - 220</td>
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<tr>
<td>Manganese</td>
<td>0.13</td>
<td>0.08 - 0.60</td>
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<tr>
<td>Chromium</td>
<td>0.44</td>
<td>0.40 - 0.65</td>
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<tr>
<td>Vanadium</td>
<td>0.023</td>
<td>0.018 - 0.065</td>
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<td>Molybdenum</td>
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<tr>
<td>Boron</td>
<td>1.3</td>
<td>0.25 - 1.5</td>
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<tr>
<td>Iodine</td>
<td>0.43</td>
<td>0.25 - 1.8</td>
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<tr>
<td>Lithium</td>
<td>0.17</td>
<td>0.007 - 0.020</td>
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<td></td>
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<tr>
<td>Phosphorus</td>
<td>143</td>
<td>150 - 220</td>
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<tr>
<td>Selenium</td>
<td>0.80</td>
<td>0.55 - 1.1</td>
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<td></td>
<td></td>
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<tr>
<td>Strontium</td>
<td>50</td>
<td>0.50 - 7.6</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Sulfur</td>
<td>44300</td>
<td>4400 - 50000</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>0.015</td>
<td>0.005 - 0.040</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Iron</td>
<td>3.5</td>
<td>7.0 - 16</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Germanium</td>
<td>0.038</td>
<td>0.020 - 0.040</td>
<td></td>
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<tr>
<td>Rubidium</td>
<td>0.050</td>
<td>0.007 - 0.096</td>
<td></td>
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<td></td>
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<tr>
<td>Zirconium</td>
<td>0.058</td>
<td>0.020 - 0.42</td>
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</table>

### Specimen Data

- **Date Collected:** 1/31/2009  
- **Sample Size:** 0.195 g  
- **Date Received:** 2/2/2009  
- **Sample Type:** Hair  
- **Date Completed:** 2/4/2009  
- **Hair Color:**  
- **Client Reference:**  
- **Methodology:** ICP-MS  
- **Treatment:**  
- **Shampoo:** Pantene

©DOCTOR’S DATA, INC. • ADDRESS: 3755 Illinois Avenue, St. Charles, IL 60174-2420 • CLIA ID NO: 14D0646470 • MEDICARE PROVIDER NO: 148453
Obtaining UAA Urine Sample

☐ Follow the instructions that come in your kit, but know that Dr. Amy prefers that you stay on ALL supplements for testing unless instructed on previous testing.

☐ First morning void is preferred, and the sample needs to be frozen for a minimum of 6 hours prior to shipment.

☐ Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, date of birth, time of collection, height, and weight. You will also need to sign and date the release.

☐ Samples should not be frozen/stored for more than two days at the most before shipping. It is highly recommended that you take your urine sample over the weekend, say Sunday or early in the week, so that you can ship it Monday through Wednesday. However, know that it is best to send the urine sample for a UAA on the same or next day that you collect it. DO NOT SEND SAMPLES AT THE END OF THE WEEK. If you send it at the end of the week, it may get stuck in transit over the weekend and arrive at the lab in a less then fresh condition

Date Sample Sent: ____________________________
# Urine Amino Acids (UAA) example report

## 24-HOUR URINE AMINO ACIDS

<table>
<thead>
<tr>
<th>Specimen Markers</th>
<th>Result Per 24 Hours</th>
<th>Reference Range</th>
<th>2.5&lt;sup&gt;th&lt;/sup&gt;</th>
<th>16&lt;sup&gt;th&lt;/sup&gt;</th>
<th>50&lt;sup&gt;th&lt;/sup&gt;</th>
<th>84&lt;sup&gt;th&lt;/sup&gt;</th>
<th>97.5&lt;sup&gt;th&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>1240</td>
<td>600 - 1900mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Hour Volume</td>
<td>1450</td>
<td>450 - 1600mL</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Glutamine/Glutamate</td>
<td>20</td>
<td>5 - 160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonia Level</td>
<td>19800</td>
<td>11000 - 60000μM</td>
<td></td>
<td></td>
<td></td>
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</table>

### SPECIMEN VALIDITY INDEX

- [ ]

## ESSENTIAL / CONDITIONALLY INDISPENSABLE AMINO ACIDS

<table>
<thead>
<tr>
<th>Essential Amino Acids</th>
<th>Result Mole24Hrs</th>
<th>Reference Range</th>
<th>2.5&lt;sup&gt;th&lt;/sup&gt;</th>
<th>16&lt;sup&gt;th&lt;/sup&gt;</th>
<th>50&lt;sup&gt;th&lt;/sup&gt;</th>
<th>84&lt;sup&gt;th&lt;/sup&gt;</th>
<th>97.5&lt;sup&gt;th&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>Methionine</td>
<td>17</td>
<td>10 - 60</td>
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<td></td>
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</tr>
<tr>
<td>Lysine</td>
<td>35</td>
<td>32 - 300</td>
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<tr>
<td>Threonine</td>
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<td>75 - 310</td>
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<td>Leucine</td>
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<td>28 - 120</td>
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<tr>
<td>Isoleucine</td>
<td>12</td>
<td>12 - 60</td>
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<tr>
<td>Valine</td>
<td>44</td>
<td>17 - 85</td>
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<tr>
<td>Phenylalanine</td>
<td>52</td>
<td>25 - 115</td>
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<tr>
<td>Tryptophan</td>
<td>46</td>
<td>20 - 140</td>
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<tr>
<td>Taurine</td>
<td>1740</td>
<td>520 - 1800</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cysteine</td>
<td>46</td>
<td>22 - 79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arginine</td>
<td>18</td>
<td>6 - 40</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Histidine</td>
<td>760</td>
<td>350 - 2300</td>
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## NONESSENTIAL AMINO ACIDS

<table>
<thead>
<tr>
<th>NonesSENTENTIAL AMINO ACIDS</th>
<th>Result Mole24Hrs</th>
<th>Reference Range</th>
<th>2.5&lt;sup&gt;th&lt;/sup&gt;</th>
<th>16&lt;sup&gt;th&lt;/sup&gt;</th>
<th>50&lt;sup&gt;th&lt;/sup&gt;</th>
<th>84&lt;sup&gt;th&lt;/sup&gt;</th>
<th>97.5&lt;sup&gt;th&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Alanine</td>
<td>370</td>
<td>130 - 650</td>
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<tr>
<td>Aspartate</td>
<td>23</td>
<td>26 - 115</td>
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<tr>
<td>Asparagine</td>
<td>79</td>
<td>50 - 230</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Glutamine</td>
<td>530</td>
<td>220 - 900</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Glutamate</td>
<td>27</td>
<td>5 - 47</td>
<td></td>
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<tr>
<td>Cystine</td>
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<td>20 - 90</td>
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<tr>
<td>Glycine</td>
<td>2010</td>
<td>180 - 4100</td>
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<tr>
<td>Tyrosine</td>
<td>140</td>
<td>39 - 290</td>
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<tr>
<td>Serine</td>
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<td>190 - 675</td>
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<tr>
<td>Proline</td>
<td>18</td>
<td>7 - 65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Obtaining MAP Sample

☐ Follow the instructions that come in your kit, but know that Dr. Amy prefers that you stay on ALL supplements for testing (including malic acid, citrates, orotates and malates) unless instructed on previous testing.

☐ First morning void is preferred and the sample needs to be frozen for a minimum of 2 hours prior to shipment.

☐ Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, date of birth, time of collection, height, and weight. You will also need to sign and date the release.

☐ Urine samples must be sent in as fresh as possible as metabolites disintegrate easily. Therefore, they should not be frozen/stored for more than a day or two at the most before shipping. It is highly recommended that you take your urine sample over the weekend, say Sunday or early in the week so that you can ship it Monday through Wednesday. However, know that it is best to send the urine sample for a MAP on the same day that you collect it. DO NOT SEND SAMPLES AT THE END OF THE WEEK. If you send it at the end of the week, it may get stuck in transit over the weekend and arrive at the lab in a less then fresh condition. Samples must be received by the laboratory within 4 days of collection.

☐ Try to follow the diet restrictions as best you can, avoiding MSG, Aspartame for a full 24hrs prior to obtaining your sample.

Date Sample Sent: ________________________________
Metabolic Analysis Profile (MAP) example report

Results Overview

<table>
<thead>
<tr>
<th>Normal</th>
<th>Borderline</th>
<th>High Need</th>
<th>Supplementation for High Need</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antioxidants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin A / Carotenoids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin E / Tocopherols</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B-Vitamins</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thiamin - B1</td>
<td></td>
<td>Cobalamin - B12</td>
<td>Riboflavin - B2 - Dose = 5 mg</td>
</tr>
<tr>
<td>Pyridoxine - B6</td>
<td>Nacin - B3</td>
<td></td>
<td>Folic Acid - B9</td>
</tr>
<tr>
<td>Biotin - B7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minerals</strong></td>
<td>Magnesium</td>
<td>Zinc</td>
<td>Magnesium - Dose = 200 mg</td>
</tr>
<tr>
<td>Manganese</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molybdenum</td>
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<td></td>
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</tbody>
</table>

Patient: JOHN DOE
DOB: October 31, 2008
Sex: M
MRN:

Order Number: D5240150
Completed: March 25, 2011
Received: March 24, 2011
Collected: March 24, 2011
Obtaining Fecal Toxic Stool Sample

☐ Follow the instructions that come in your kit, but know that Dr. Amy prefers that you stay on ALL supplements for testing (including enzymes, baking soda and PeptiMycin), unless instructed on previous testing. Try to follow the diet restrictions as best you can.

☐ Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, date of birth, time of collection, height, and weight. You will also need to sign and date the release.

☐ Stool samples can be taken any time of the day.

Some ideas on getting stool samples:

- Drain the water out of the toilet and insert the collection tray.
- Toilet plastic “Hats” that are used to collect urine/stool in hospitals fit nicely under the lid of the toilet and can be found at most pharmacies or hospital supply stores.

Date Sample Sent: ________________________________
### Fecal Metals (FM) Report

#### Fecal Metals

<table>
<thead>
<tr>
<th>METALS</th>
<th>RESULT mg/kg</th>
<th>REFERENCE RANGE</th>
<th>PERCENTILE</th>
<th>95th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>0.037</td>
<td>&lt;0.05 w/o amalgams*</td>
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<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>0.037</td>
<td>&lt;0.5 with amalgams*</td>
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<td></td>
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<tr>
<td>Antimony</td>
<td>0.105</td>
<td>&lt; 0.080</td>
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<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.14</td>
<td>&lt; 0.30</td>
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<td></td>
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<tr>
<td>Beryllium</td>
<td>0.007</td>
<td>&lt; 0.009</td>
<td></td>
<td></td>
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<tr>
<td>Bismuth</td>
<td>0.047</td>
<td>&lt; 0.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.24</td>
<td>&lt; 0.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>41</td>
<td>&lt; 60</td>
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<td></td>
</tr>
<tr>
<td>Lead</td>
<td>2.57</td>
<td>&lt; 0.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>5.3</td>
<td>&lt; 5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platinum</td>
<td>&lt; dl</td>
<td>&lt; 0.003</td>
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<tr>
<td>Thallium</td>
<td>0.008</td>
<td>&lt; 0.020</td>
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</tr>
<tr>
<td>Tungsten</td>
<td>0.059</td>
<td>&lt; 0.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uranium</td>
<td>0.003</td>
<td>&lt; 0.120</td>
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</tr>
</tbody>
</table>

#### % Water Content

<table>
<thead>
<tr>
<th>% WATER CONTENT</th>
<th>EXPECTED RANGE</th>
<th>2SD LOW</th>
<th>1SD LOW</th>
<th>MEAN</th>
<th>1SD HIGH</th>
<th>2SD HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>77.3</td>
<td>60-85%</td>
<td></td>
<td></td>
<td>72.3%</td>
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</tr>
</tbody>
</table>

#### Discussion

Analysis of elements in feces provides a comprehensive evaluation of environmental exposure, accumulation and endogenous detoxification of potentially toxic metals. For several toxic elements such as mercury, cadmium, lead, antimony and uranium, biliary excretion of metals into feces is the primary natural route of elimination from the body. Studies performed at DDI demonstrate that the fecal mercury content and number of amalgam surfaces are highly correlated, as is the case for post-DMPS urine mercury levels and amalgam surface area.

Results are reported as mg/kg dry weight of feces to eliminate the influence of variability in water content of fecal specimens. The reference values that appear in this report have been derived from both published data and in-house studies at DDI. Due to exposure to mercury in the oral cavity, people with dental amalgams typically have a considerably higher level of mercury in the feces than individuals without dental amalgams; therefore, two reference ranges have been established for mercury.

To provide guidance in the interpretation of results, patient values are plotted graphically with respect to percentile distribution of the population base. Since this test reflects both biliary excretion and exposure (metals to which the patient is exposed may not be absorbed), it may not correlate with overt clinical effects. Further testing can assist in determining whether the metals are from endogenous (biliary excretion) or exogenous (oral exposure) sources.


#### Specimen Data

- **Date Collected:** 12/22/2008
- **Provocation:**
- **Detoxification Agent:**
- **Dose:**
- **Quantity:**
- **Methodology:** ICP-MS
- **Dental Amalgams:** None
- **Mod:** 02.00
Obtaining CSA Stool Sample

☐ Follow the instructions that come in your kit, but know that Dr. Amy prefers that you stay on ALL supplements for testing (including enzymes, baking soda and PeptiMycin), unless instructed on previous testing.

☐ Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, date of birth, time of collection, height, and weight. You will also need to sign and date the release.

☐ Stool samples can be taken any time of the day. Make sure to collect from as many areas of the stool as possible because bacteria live in colonies.

Some ideas on getting stool samples:

- Drain the water out of the toilet and insert the collection tray.
- Toilet plastic “Hats” that are used to collect urine/stool in hospitals fit nicely under the lid of the toilet and can be found at most pharmacies or hospital supply stores.

Date Sample Sent: ____________________________
# Comprehensive Stool Analysis (CSA) example report

## Bacteriology Culture

<table>
<thead>
<tr>
<th>Expected/Beneficial flora</th>
<th>Commensal (Imbalanced) flora</th>
<th>Dysbiotic flora</th>
</tr>
</thead>
<tbody>
<tr>
<td>3+ Bacteroides fragilis group</td>
<td>NG Bifidobacterium spp.</td>
<td>4+ Klebsiella oxytoca</td>
</tr>
<tr>
<td>NG Escherichia coli</td>
<td>NG Lactobacillus spp.</td>
<td></td>
</tr>
<tr>
<td>4+ Enterococcus spp.</td>
<td>1+ Clostridium spp.</td>
<td></td>
</tr>
<tr>
<td>NG = No Growth</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Bacteria Information

Expected /Beneficial bacteria make up a significant portion of the total microflora in a healthy & balanced GI tract. These beneficial bacteria have many health-protecting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and propagating anti-tumor and anti-inflammatory factors.

*Clostridia* are prevalent flora in a healthy intestine. Clostridium spp. should be considered in the context of balance with other expected/beneficial flora. Absence of *Clostridia* or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If *Clostridium difficile* associated disease is suspected, a Comprehensive *Clostridium difficile* culture or toxigenic C. difficile DNA test is recommended.

Commensal (Imbalanced) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as dysbiotic at higher levels.

Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including: consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria, the use of antibiotics, oral contraceptives or other medications; poor fiber intake and high stress levels.

## Yeast Culture

<table>
<thead>
<tr>
<th>Normal flora</th>
<th>Dysbiotic flora</th>
</tr>
</thead>
<tbody>
<tr>
<td>No yeast isolated</td>
<td></td>
</tr>
</tbody>
</table>

## Microscopic Yeast

<table>
<thead>
<tr>
<th>Result</th>
<th>Expected:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nany</td>
<td>None - Rare</td>
</tr>
</tbody>
</table>

The microscopic finding of yeast in the stool is helpful in identifying if there is proliferation of yeast. Rare yeast may be normal; however, yeast observed in higher amounts (few, moderate, or many) is abnormal.

## Yeast Information

Yeast normally can be found in small quantities in the skin, mouth, intestine and mucoceustaneous junctions. Overgrowth of yeast can infect virtually every organ system, leading to an extensive array of clinical manifestations: Fungal diarrhea is associated with broad-spectrum antibiotics. Symptoms may include abdominal pain, cramping and irritation. When investigating the presence of yeast, disparity may exist between culturing and microscopic examination. Yeast are not uniformly dispersed throughout the stool, this may lead to undetectable or low levels of yeast identified by microscopy, despite a cultured amount of yeast. Conversely, microscopic examination may reveal a significant amount of yeast present, but no yeast cultured. Yeast does not always survive transit through the intestines rendering it unviable.

## Comments

- Aeromonas, Campylobacter, Plesiomonas, Salmonella, Shigella, Vibrio, Yersinia, & *Edwardsiella tarda* have been specifically tested for and found absent unless reported.

<table>
<thead>
<tr>
<th>Date Collected:</th>
<th>4/13/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Received:</td>
<td>4/15/2011</td>
</tr>
<tr>
<td>Date Completed:</td>
<td>4/22/2011</td>
</tr>
</tbody>
</table>
Obtaining GI Profile Stool Sample

Follow the instructions that come in your kit, but know that Dr. Amy prefers that you stay on ALL supplements for testing (including Enzymes, Baking soda and PeptiMycin), unless instructed on previous testing.

Fill out the paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, date of birth, time of collection, height, and weight. You will also need to sign and date the release.

Stool samples can be taken any time of the day. Make sure to collect from as many areas of the stool as possible, because bacteria live in colonies.

Some ideas on getting stool samples:

- Drain the water out of the toilet and insert the collection tray.
- Toilet plastic “Hats” that are used to collect urine/stool in hospitals fit nicely under the lid of the toilet and you can buy them at most pharmacies or hospital supply stores.

Date Sample Sent: ___________________________
Gastrointestinal Function Profile (GI) example report

2100 Gastrointestinal Function Profile

<table>
<thead>
<tr>
<th>Predominant Bacteria (F+007)</th>
<th>Percentile Ranking by Quintile</th>
<th>Consistency = Formed/Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Results CFU/gram</td>
<td>1st</td>
</tr>
<tr>
<td>Obligate anaerobes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacteroides sp.</td>
<td>2.2</td>
<td>1.6</td>
</tr>
<tr>
<td>Clostridia sp.</td>
<td>2.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Prevotella sp.</td>
<td>2.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Fusobacteria sp.</td>
<td>2.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Streptomyces sp.</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Mycoplasma sp.</td>
<td>5.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Facultative anaerobes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lactobacillus sp.</td>
<td>2.6</td>
<td>1.8</td>
</tr>
<tr>
<td>Bifidobacter sp.</td>
<td>2.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Obligate aerobes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>3.3</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Units and Reference Ranges

- **Obligate anaerobes**: Bacteroides sp. and Clostridia sp. are present in the 1st percentile, indicating low levels. Fusobacteria sp. and Streptomyces sp. are in the 2nd percentile, showing moderate levels. Prevotella sp. is in the 3rd percentile, suggesting a high level. Mycoplasma sp. is in the 4th percentile, indicating a very high level.
- **Facultative anaerobes**: Lactobacillus sp. and Bifidobacter sp. are in the 1st percentile, indicating low levels. Escherichia coli is in the 2nd percentile, suggesting moderate levels.

**Predominant Bacteria** play major roles in health. They provide colonization resistance against potentially pathogenic organisms, aid in digestion and absorption, produce vitamins and SCFA’s, and stimulate the GI immune system.

**Opportunistic Bacteria** are present in the GI tract and may cause symptoms and be associated with disease. They can affect digestion and absorption, nutrient production, pH and immune state. Antibiotic sensitivity tests will be performed on all opportunistic bacteria found, although clinical history is usually considered to determine treatment since the organisms are not generally considered to be pathogens.
Obtaining Neurotransmitter Urine Sample

☐ Follow the instructions exactly as provided in your kit. DO NOT COLLECT FIRST URINE OF THE MORNING!

☐ Collect 2nd urine @ 10:00am (midstream) in enclosed urine collection cup.

☐ Fill out all paperwork and ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You will need to provide the following info: name, address, date of birth, date, wake up time, time of collection, height, and weight. You will also need to sign and date the release. Ship Monday-Thursday only, Return shipper is valid for continental US only.

Date Samples Sent: 

Neurotransmitter example report

<table>
<thead>
<tr>
<th>Neurotransmitter</th>
<th>1.3%</th>
<th>20%</th>
<th>90%</th>
<th>97.3%</th>
<th>Result</th>
<th>Collected</th>
<th>Inter-Quintile Range</th>
<th>Reference Range</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serotonin</td>
<td></td>
<td></td>
<td></td>
<td>263.7</td>
<td>(H)</td>
<td>06/18/2012 (8:00 AM)</td>
<td>99 - 203</td>
<td>57 - 305</td>
<td>µg/gCr</td>
</tr>
<tr>
<td>Tryptamine</td>
<td></td>
<td></td>
<td></td>
<td>1,799.1</td>
<td>(H)</td>
<td>06/18/2012 (8:00 AM)</td>
<td>419 - 849</td>
<td>219 - 1200</td>
<td>µg/gCr</td>
</tr>
<tr>
<td>Norepinephrine</td>
<td></td>
<td></td>
<td></td>
<td>110.5</td>
<td>(H)</td>
<td>06/18/2012 (8:00 AM)</td>
<td>28.1 - 51</td>
<td>19 - 76</td>
<td>µg/gCr</td>
</tr>
<tr>
<td>Epinephrine</td>
<td></td>
<td></td>
<td></td>
<td>12.4</td>
<td></td>
<td>06/18/2012 (8:00 AM)</td>
<td>7.1 - 13.6</td>
<td>4.7 - 20.8</td>
<td>µg/gCr</td>
</tr>
</tbody>
</table>

Serumuria values out of Inter-Quintile Range. Inter-Quintile Range is defined as the 66th percentile, Reference Range as the 95th percentile.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
<th>Unit</th>
<th>Collection</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>58.8</td>
<td>mg/dL</td>
<td>08/18/2012</td>
<td>28.0 - 259.0</td>
</tr>
</tbody>
</table>
Obtaining Neopterin/Biopterin Urine Sample

☐ Follow the instructions that come in your kit. Dr Amy prefers that you stay on ALL supplements for testing unless instructed on previous testing.

☐ Follow preparation instructions (fluid restrictions for adults) as best as possible.

☐ Fill out the test requisition form. The patient’s first and last name, date of birth, as well as date of collection, must also be recorded on the vial as well, using a permanent marker before first morning until sample is collected.

☐ Vial and ice pack must be frozen. Ship according to the package instructions. The invoice is only partially filled out and the test is already paid for. You still need to provide the following info: name, date, time of collection, height, and weight. You will need to sign and date the release.

Date Samples Sent: ____________________________
Neopterin/Biopterin Sample Report

<table>
<thead>
<tr>
<th>Compound Tested</th>
<th>Results</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>95% Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neopterin</td>
<td>0.55</td>
<td>0.18</td>
<td>0.63</td>
<td></td>
<td></td>
<td></td>
<td>0.15-0.79</td>
</tr>
<tr>
<td>2. Biopterin</td>
<td>0.24</td>
<td>0.05</td>
<td>0.26</td>
<td></td>
<td></td>
<td></td>
<td>0.04-0.35</td>
</tr>
<tr>
<td>3. Neopterin/Biopterin ratio</td>
<td>2.29</td>
<td>0.78</td>
<td>5.02</td>
<td></td>
<td></td>
<td></td>
<td>0.04-8.67</td>
</tr>
</tbody>
</table>

Creatinine = 200 mg/dL
<DL = less than detection limit

Interpretation:
Neopterin is a marker of inflammatory challenge such as that precipitated by interferon gamma in response to viral infection or intestinal bacterial overgrowth. Urinary neopterin elevation has been proposed as a surrogate marker for inflammatory diseases. Neopterin and biopterin tend to respond similarly except in conditions such as autism where biopterin tends to rise while neopterin falls in CSF. Such scenarios are most sensitively detected by an abnormal neopterin/biopterin ratio. These markers allow assessment of successful strategies to reduce chronic inflammation.

Values in the first decile are reported as ‘U’ because they may have significance regarding a patient’s ability to produce adequate tetrahydrobiopterin (BH4). BH4 is required for the Phe to Tyr conversion and for formation of nitric oxide and serotonin. The method being used for this assay allows accurate low range determinations that were not possible by earlier methods for neopterin. Patients with insufficient tetrahydrobiopterin synthesis may benefit by supplemental BH4 and folate.
WEEK 5

DAYS 29-35: Gut Protocol

Slowly make changes to your supplement program and watch for changes.

Gut Protocol

With respect to the gut, as with all aspects of this protocol, there is no “one size fits all” approach. Sometimes it is difficult to know where to start with support, and there is no easy answer that fits all cases. On the Discussion Group/The Basics Forum you will find the COMPREHENSIVE GUT PROTOCOL. It is a compilation of suggestions for overall gut health, taking biochemical testing and Nutrigenomics into account. As always, work closely with your physician.

Below is a brief summary of Dr. Amy’s Comprehensive Gut Protocol:

While it is lengthy and extensive, you will find that everyone needs some of the basic tools, while others need more extensive supports. There are many tools suggested, some you may not have even heard of, but periodic biochemical testing (CSA and GI Profile as needed) will help narrow down the necessary supports. The idea is to stay in control of the non-ideal organisms. During times of heavy detox you may need to rely on more tools and supports.

The three arms of the gut protocol:

1. Bacterial/Aluminum detox and pH balance
2. Probiotics and overall gastrointestinal environment
3. Specifically targeted bacteria (Strep, Clostridia, Staph, H.pylori, Ecoli etc.)

Gut Health Assessment

Look over old testing and records to see what history you/your child may have with gut issues. Please use the following checklists to indicate affected areas:

Lab Tests indicating a need to address bacterial imbalances:

- History of chronic ear infections
- Maternal history of Streptococcal infection
- History of bacterial Pneumonia
- Streptococcus, E.coli on CSA/GI Profile
- Other bacterial pathogens on CSA/GI Profile
- Elevated kynureninic on OAT/Metabolic Test, CONFIRM with CSA/GI Profile
- Elevated quinolinic on OAT/Metabolic Test, CONFIRM with CSA/GI Profile
- Low gut pH
- High DHPPA on a MAP or OAT
- High Suberic on a MAP or OAT

**Lab Tests indicating a need to address yeast imbalances:**
- Elevated arabinose on OAT/Metabolic test, CONFIRM with CSA/GI Profile
- Presence of yeast on CSA/GI Profile
- Low gut pH, CONFIRM with CSA/GI Profile

**Lab Tests indicating a need to address parasites:**
- Parasites on a CSA/GI Profile

**Lab Tests indicating a need to address Helicobacter:**
- Helicobacter test
- Presence of blood on a CSA
- Low Manganese on UEE or HE/HMT test in spite of supplementation
- Very High Suberic on MAP
- Extreme swings in CSA/GI profile Stool PH
- High Asparate Or high Tryptamine on Neurotransmitter
- Excretion of Bismuth on a FM in the absence of supplementation
- Consistent Cadmium excretion on a UTM and FM
- Signs of ketosis on a MAP
- Normal to high excretion of Arginine on UAA, when all other Amino Acids (except Taurine) are low
- Low PS on a UAA regardless of having all suggested supports in place
- High 5HIAA or Indole acetic acid on a MAP
- High Taurine on UAA in the absence of a CBS +, OR in spite of sufficient CBS RNA/Ammonia RNA
Friendly Reminders

It is important that you do the following as you continue on your path to wellness:

☐ Continue layering Step 1 and Short Cut supports and documenting in your supplement diary.

☐ Visit the Discussion Group and read Dr. Amy’s Recent Posts and New Findings Forum for updates in this continuously evolving protocol.

☐ While you wait for your test results, also continue to implement Step one support. Please refer to the Discussion Group, the *Autism: Pathways to Recovery* book pages 75-84 and Addendum A on the CD in your Nutrigenomics test kit.

Please utilize this space to indicate any other gut health symptoms or issues:
If you ordered your UTM/UEE, UAA, and HE/HMT thru HHI on Day 17, you should be receiving Dr. Amy’s comments and suggestions for consideration by email shortly. Continue to add in Step 1 supports along with these new suggestions. Please refer to Addendum A, *Autism: Pathways to Recovery* book Chapter 4, and pages 131-139, and the Discussion Group for more information.

The lab company analyzing your samples provides an auto-generated interpretation with the report. Dr. Amy's analysis is personalized and is completed in conjunction with your current supplement list and personal history. Written feedback is provided, to be considered in conjunction with your physician, and is aligned with the scientific principles on which this protocol is based.

Because Dr. Amy is looking at various markers when making suggestions for consideration, she will often suggest supports based on patterns that she feels are emerging overtime after reviewing numerous biochemical tests. Therefore, it is imperative to stay current on the Discussion Group for the most recent information.

Examples of this are:

- High Taurine and/or high Aspartate may possibly be an indicator of Helicobacter in the following conditions:
  - In the absence of a CBS mutation
  - With a sufficiently supported CBS mutation
- Threonine levels may be an indicator of Clostridia and/or other bacterial issues.
- Cadmium levels may be an indicator of Helicobacter.
- If Lithium is being supplemented, it may be in high range, but that is to be expected. However, if Lithium is NOT being supplemented and is in high range, it may mean there is 'Lithium dumping'. Running the HE/HMT is also useful.

The following are "general" preferred ranges. Suggestions are individually tailored based on genetics, previous testing in the file, current supplementation, and fluctuations in urine Creatinine.

**UTM/UEE**

The first page of your results will contain the toxic heavy metal levels being excreted from the body. While many other professionals look solely at Mercury or Lead, Dr. Amy looks at all the metals and their relationship to each other and the Essential Elements/Minerals.

- At this time any metals showing would be considered a positive
- In the presence of high Lead, she may suggest Calcium supports
- In the presence of high Cadmium, she may suggest Helicobacter supports
The second page of your UTM/UEE results will contain the Essential Elements/Mineral levels.

- Midrange for Sodium, Phosphorous, Potassium, Chromium, and Boron
- Midrange Lithium
- Low to Normal range for Calcium, but lesser than Magnesium
- High to Normal range for Magnesium, but greater than Calcium
- Normal range for Zinc, but lesser than Magnesium and greater than Copper
- Low to Normal range for Copper, but lesser than Zinc
- Normal to High range for Manganese, Molybdenum, Selenium, Sulfur and Strontium
- Low to Normal range for Vanadium
- High range for Cobalt (indicator of B12 levels)
- No detectable levels for Iron

HE/HMT
The results will contain the toxic heavy metal levels being excreted from the body. While many other professionals look solely at Mercury or Lead, Dr. Amy looks at all the metals and their relationship to each other and the Essential Elements/Minerals.

- At this time any metals showing would be considered a positive
- In the presence of high Lead, she may suggest Calcium supports
- In the presence of high Cadmium, she may suggest Helicobacter supports
- Mid to High range of Lithium
- Low to Mid range Iron and Potassium
- Mid range Rubidium

UAA
The 3rd page of the Urine Amino Acids test report contains levels of GABA, Glutamate, Ammonia, Taurine, and other important Amino Acids. Dr. Amy makes suggestions for consideration based on the levels of Amino Acids and their relationship to each other.

- Mid-range to High GABA (gamma aminobutyric acid), greater than Glutamate
- Low to Mid-range Glutamate, Glutamine, Glutamic acid, lesser than GABA
- Low to Mid-range Ammonia
- Low to Mid-range Taurine
- Mid-range Methionine, Lysine, Threonine, Isoleucine, Leucine, Valine, Phenylalanine, Tryptophan, and Arginine
- Low range of normal for Cysteine
- Midrange Citrulline and Phosphoethanolamine
- Low to Mid-range Aspartate, Aspartic Acid, Glycine, Beta-alanine, Homocysteine, Ornithine, Methionine Sulfoxide, Anserine, Carnosine, Methylhistidine and Histidine
WEEK 7

DAYS 43-49: Reflect, Regroup, and Review

☐ Spend some time today watching the “Nutrigenomics” DVD and Methylation & Mutations sets that came with your test kit.

☐ Take a deep breath and regroup. Revisit DAY 10, “Visualize Recovery.”

☐ Go to the “Positive Feedback” Forum and read.

**Visualize Recovery**
Please take some time and think about or make a list of what recovery means to you and those you love.

Take a deep breath. Relax. Close your eyes. Visualize yourself/your recovered child.

What does your recovery look like?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What behaviors/symptoms are gone?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
What positive behaviors have taken over?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What academic gains have you achieved?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What are things you can do with recovery that you cannot do now?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
What does vibrant health look like?

Envision the life changes for you and your entire family.

☐ Continue adding in Step 1/ Short Cut supports and any additions/changes recommended on testing so far.

☐ If you are seeing signs of detox, don't forget to take a toxic metals test.

**DVD Resources**

☐ Take time to watch some more of the DVDs or view Webisodes at [www.dramyyasko.com/resources/webisodes/](http://www.dramyyasko.com/resources/webisodes/).

The suggested order is as follows:

- An individualized Approach: Introduction to The Yasko Protocol
- Stress and Aggression
- Membrane Fluidity
- Methylation: Why you should be concerned, Part 1
- More Pieces to the Puzzle
- Methylations & Mutations
WEEK 8

DAYS 50-56: Genetics

The following is a summary of the genes that are included in your Comprehensive Methylation Panel with Methylation Pathway Analysis. For those who would like more detailed information, consider reading the Genetic Bypass book located at www.knowyourgenetics.com and reading the Genetics 101 post in the Basics Forum. The + or - designation is obtained by comparing the sample to a standard database norm. The database used is a proprietary national database chosen by the laboratory.

+ / + means homozygous and you have 2 copies of the mutation, one from each parent
+ / - Heterozygous and you have one copy of the mutation
- / - No Mutation

Mutations or Single Nucleotide Polymorphism (SNP): A gene mutation is a permanent change in the DNA sequence that makes up a gene. Mutations range in size from one DNA base to a large segment of a chromosome. A Single Nucleotide Polymorphism or SNP (pronounced “snip”) is a small genetic change, or variation, that can occur within a person’s DNA sequence. The genetic code is specified by the four nucleotide “letters” A (adenine), C (cytosine), T (thymine), and G (guanine). SNP variation occurs when a single nucleotide, such as an A, replaces one of the other three nucleotide letters: C, G, or T.

Think of mutations in enzymes as breaks that affect the ability of the enzyme to do its job. Homozygous (++) mutations are ones where both copies of the gene are affected and heterozygous (+-) mutations are the ones where only one copy of the gene is affected. Each of us has two copies of each gene that we inherit from each parent. Some mutations speed up the activity of the enzyme (e.g. CBS upregulation) whereas others slow them down considerably (e.g. MTHFr C677T and A1298C, COMT mutations).

COMT V158M, H62H, 61 (catechol-O-methyltransferase):
A primary function of this gene is to help to break down dopamine. Dopamine is a neurotransmitter that is recognized for its role in attention, as well as reward seeking behavior. Dopamine helps to cause pleasurable feelings that aid in reinforcing positive behaviors and motivating individuals to function in certain reward gaining activities. COMT is also involved in the breakdown of another neurotransmitter, norepinephrine. The balance between norepinephrine levels and dopamine levels has been implicated in ADD/ADHD; in addition, dopamine levels are important in conditions such as Parkinson’s disease. COMT is also involved in the proper processing of estrogen in the body. Sensitivity to pain has recently been found to be correlated with COMT activity, such that COMT + + individuals may be more sensitive to pain.

VDR/Taq and VDR/Fok (vitamin D receptor):
The panel looks at more than one portion of the vitamin D receptor, the Taq as well as the Fok sites. While the Fok change has been related to blood sugar regulation, changes at Taq can affect dopamine levels. For this reason, it is important to look at the composite of the COMT and VDR/Taq status and make supplement suggestions based on the combined results at these two sites. The focus on changes in the Fok portion of the VDR is in regard to supplements that support the pancreas and aid in keeping blood sugar in the normal healthy range.
MAO A R297R (monamine oxidase A):
Mao A is involved in the breakdown of serotonin in the body. Like dopamine, serotonin is another neurotransmitter in the body. It is involved with mood, and imbalances in serotonin levels have been associated with depression, aggression, anxiety, and OCD behavior. Since Mao A is inherited with the X chromosome and is considered a dependent trait, it may not show standard inheritance characteristics in males. Since the X chromosome in males can only come from the mother, this means that the father’s Mao A mutations (or lack thereof) does not play a role in his son’s Mao A status. For females, since one X chromosome is inherited from each parent, the genetics tend to reflect the Mao A status of both parents.

ACAT 102 (acetyl coenzyme A acetyltransferase):
ACAT plays a role in cholesterol and other lipid balance in the body, helping to prevent the accumulation of excess cholesterol in certain parts of the cells in the body. ACAT is also involved in energy generation in the body. It is involved in helping to allow protein, fats and carbohydrates from food to be converted into an energy form that can be used by your body. In addition, lack of ACAT may also cause a depletion of B12, which is needed for the long route around the methylation cycle.

ACE (angiotensin converting enzyme): Considered for all - No longer testing
The support for ACE should be considered for all as most individuals have the ACE deletion and many of the supports are suggested for basic nutritional support. Changes can occur that affect the activity of the ACE gene that can lead to elevated blood pressure. In animal studies, imbalances in this pathway were also correlated with increased anxiety and decreases in learning and memory. Increased ACE activity can also throw off the essential mineral balance in the system due to decreased excretion of sodium in the urine and increased excretion of potassium in the urine. This reaction is also tied to the stress response such that situations of chronic stress can result in additional sodium retention and increased potassium excretion. This excess potassium is excreted provided that the kidneys are functioning properly. In the event that kidney function is compromised, it can lead to the retention of potassium in the body. ACE is a deletion, it is not a SNP. As a consequence it does not associate in the same manner that the other single nucleotide polymorphisms (SNP) on this panel do, so the inheritance pattern of the ACE deletion may not distribute in the same manner as single base changes.

MTHFR A1298C, C677T, 3 (methylenetetrahydrofolate reductase):
The MTHFR gene product is at a critical point in the methylation cycle. It helps to pull homocysteine into the cycle, serving to aid in keeping the levels in a normal healthy range. Several mutations in the MTHFR gene have been well characterized as increasing the risk of heart disease, as well as cancer, and may play a role in the level of the neurotransmitters serotonin and dopamine.

These two gene products work together to regenerate and utilize B12 for the critical long way around the methylation pathway, helping to convert homocysteine to methionine. High levels of homocysteine have been implicated as risk factors in a number of health conditions including heart disease as well as Alzheimer’s disease. As is the case for COMT and VDR /Taq, the MTR and MTRR composite status is also important. Mutations in MTR can increase the activity of this gene product so that it leads to a greater need for B12 as the enzyme is using up B12 at a faster rate. Conversely, recent publications suggest that the A66G mutation in MTRR decreases the activity of the enzyme. Regardless of which theory is correct, over activity depleting the cycle of B12 or lack of activity impairing the function of the methylation cycle at that point, the net result is the same in terms of suggestions for supplementation.
BHMT 1,2,4,8 (betaine homocysteine methyltransferase):
The product of this gene is central to the 'short cut' through the methylation cycle, again helping to convert homocysteine to methionine. The activity of this gene product can be affected by stress, by cortisol levels and may play a role in ADD/ADHD by affecting norepinephrine levels.

AHCY 1,2,19 (S adenosylhomocysteine hydrolase):
The various mutations in AHCY may affect levels of homocysteine as well as ammonia in the body.

CBS C699T, A360A, N212N (cystathionine-beta-synthase):
The CBS enzyme basically acts as a gate between homocysteine and the downstream portion of the pathway that generates ammonia in the body. The types of CBS mutations that are identified on this SNP panel cause this “CBS gate” to be left open, this ‘open gate’ is not a neutral situation. The ‘open gate’ can allow support that is added for the rest of the methylation pathway to be depleted, including any B12 that is used to address MTR and MTRR mutations. While there are some positive end products that are generated via the downstream portion of the pathway such as glutathione and taurine, there are also negative byproducts such as excess ammonia and sulfites. By virtue of increased CBS activity, these sulfur groups that were complexed as part of the methylation cycle can now be released into the system as sulfites which are toxic to the body and put an additional burden on the SUOX gene product.

SHMT C1420T (serine hydroxymethyltransferase):
This gene product helps to shift the emphasis of the methylation cycle toward the building blocks needed for new DNA synthesis and away from the processing of homocysteine to methionine. While DNA building blocks are important, mutations which affect the ability to regulate this gene product and interfere with the delicate balance of the methylation cycle may cause accumulations in homocysteine as well as imbalances in other intermediates in the body.

NOS D298E (nitric oxide synthase):
The NOS enzyme plays a role in ammonia detoxification as part of the urea cycle. Individuals who are NOS ++ have reduced activity of this enzyme. NOS mutations can have additive effects with CBS up regulations due to the increased ammonia that is generated by the CBS up regulations.

SUOX S370S (sulfite oxidase):
This gene product helps to detoxify sulfites in the body. Sulfites are generated as a natural byproduct of the methylation cycle as well as ingested from foods we eat. Sulfites are sulfur based preservatives that are used to prevent or reduce discoloration of light-colored fruits and vegetables, prevent black spots on shrimp and lobster, inhibit the growth of microorganisms in fermented foods (e.g. wine), condition dough, and maintain the stability and potency of certain medications. Sulfites can also be used to bleach food starches, to prevent rust and scale in boiler water that is used to steam food, and even in the production of cellophane for food packaging. The FDA estimates that one out of a hundred people is sulfite-sensitive, and five percent of those also suffer from asthma. A person can develop sulfite sensitivity at any point in life. Because many reactions have been reported, the FDA requires the presence of sulfites in processed foods to be declared on the label. Scientists have not pinpointed the smallest concentration of sulfites needed to trigger a reaction in a sulfite-sensitive person. Difficulty in breathing is the most common symptom reported by sulfite-sensitive people. Sulfites give off the gas sulfur dioxide, which can cause irritation in the lungs, and cause a severe asthma attack for those who suffer from asthma. Responses in the sulfite-sensitive person can vary. Sulfites can cause chest tightness, nausea, hives and in rare cases more severe allergic reactions. Mutations in SUOX may be a risk factor for certain types of cancer, including leukemia.
WEEK 9

DAYS 57-62: Assessing Detox and Current Needs Based on Follow up Testing

As you continue to add in Step 1 and Short Cut supports, including minerals, you may start to see changes. If so, it is recommended to do a UTM, HE/HMT, or FM. This will give you an idea if you are detoxing. Along the way, keep checking the Cobalt levels on UEEs. In addition, watch for the rise and fall of creatinine as well. For some it may take a year just to get the basic supports on board and tolerated, and for others it may be a quick process. Remember that there is no right or wrong way just what works for you, your family and your physician. It is not a quick process but chances are you will enjoy every positive step forward--both large and small!

Many need to keep an extra Toxic Metals kit on hand in the likelihood of detox, but even if you do not have a kit on hand, you can still collect and store some samples. Please see the “Tips on Testing” post in the Basics Forum of the Discussion Group for more information on storage options.

Recognizing Detox
Detox has many faces. It may be an increase in hyperactivity, increased stimming, recurrence of old obsessions, increases in OCD behaviors, less language or effective use of language, rashes, fever, cold like symptoms, increased difficulty with going to sleep etc. Some may even become lethargic, or they just do not feel well. Any behavior or feeling that is considered "out of the ordinary" for you or your child or even an increase in certain behaviors/symptoms may be considered as possible detox. One way to confirm your suspicions is to send a toxic metals test (UTM, HE/HMT, or FMT).

“When in doubt, run a UTM, HE/HMT or FM.”

Controlling Detox
To help with the symptoms of detox, you can either increase the calming supplements and RNA’s or pull out/reduce the detoxing supplement(s) until symptoms subside to a tolerable level or until you are back to a calm place.

The calming supplements include BeCalm Spray, Chamomile, Relaxation, General Inflammatory Pathways support RNA, Stress RNA, Nerve Calm RNA, Cytokine Support RNA, etc. You may also need to increase your glutamate and GABA supports to help offset the changes in behavior/symptoms. Increases in supports that help to reduce inflammation can also be helpful.

There is no right or wrong way, do what is best for you, your child and your family!

“This is a marathon, not a sprint.”
**Urine Color**

During this time, it can be very helpful to monitor creatinine on a daily basis and note the color, smell and appearance. In this way, you can "see" what has been changing inside you or your child's body and that these changes are producing the less than desirable behaviors or performance. There are creatinine test strips you can buy and use at home. One less expensive way is to collect urine in Dixie cups or small vials. Note the date, time on each strip, and use them as you would picking out paint colors. Some have even referred to the changes to the color of beer (Stout vs Pale Ale). Also, if you have some urine left over from your UTM samples, freeze it and write the actual creatinine on them when it comes back from the lab.

**Graphing**

Graphing the hair, urine and fecal toxic tests is an additional way to monitor your progress. Templates for these can be found in the Basics Forum on the Discussion Group.

The following are graphing examples where one can see the rise and fall of a particular metal and ultimately see the bell shaped curve.
At this point in the protocol, there may be some big changes. Maybe you are seeing improvements, or even experiencing symptoms of detox. Take some time to reflect on where you are right now.

Use the chart below to document changes and behaviors you think might be attributable to detox.

**Detox Diary**

<table>
<thead>
<tr>
<th>Date</th>
<th>Detox Symptoms</th>
<th>Toxic Metals Test Sent</th>
<th>Suspected Trigger (Dietary Infraction, Supplement Addition, etc.)</th>
<th>Adjustments Made</th>
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Resources

Take some time today to view more of Dr. Amy’s resources and Webisode Series at www.dramyyasko.com. The following is a suggested order:

- An individualized Approach: Introduction to The Yasko Protocol
- Stress and Aggression
- Membrane Fluidity
- Methylation: Why you should be concerned, Part 1
- More Pieces to the Puzzle
- Methyllations & Mutations
- Continue Reading *Autism: Pathways to Recovery*

Spend some time on the Discussion Group reading new posts, also the "Positive Feedback" Forum.
WEEK 10

DAYS 63–70: Prioritizing and Supporting Mutations

The following is a suggested order to support Nutrigenomic mutations in conjunction with your physician.

First Priority Mutations
In general, we can think about addressing the SHMT and ACAT first, then the CBS, and then the rest of methylation cycle support.

SHMT/ACAT
The reason you want to look at SHMT and ACAT support as starting points, if they are issues, is that we tend to see more dysbiotic and imbalanced flora associated with these mutations. Until we get the flora in better balance, we risk the problem of retention of toxic metals by the microbes. If we have an MTHFR A1298C mutation, BH4 and aluminum issue, we may have trouble moving ahead with this mutation and gaining on the aluminum excretion and mitochondrial issues, if we have not addressed the general gut environment by looking at SHMT and ACAT support. Lithium is in balance, It is fine to layer in some B12 support early on and then later look at really supporting B12 in a big way after you have addressed some of these other mutations. You can look at B12 Mega Drops, B12 gum, B12 patch, Get B12 spray or the Black Bear Spray at any point, and then layer in the much larger amounts of B12 (multiple routes/multiple sources) once you have dealt with some of the other mutations such as the SHMT, ACAT and CBS and balanced Lithium. Remember that the level of B12 in the system can also affect the gut environment. So if there are a number of MTR/MTRR mutations, higher doses of B12 are needed. B12 gradually layered in over time is important for the gut environment as well as support for the methylation cycle.

Consider addressing these first if you/your child has these mutations or any of the following test results:

☐ Iron showing on a UEE
☐ SCFA Imbalances on a CSA/GI Profile
☐ Suberic, beta hydroxyl methylglutaric acid, or other ketone and fatty acid metabolites
☐ Imbalances on a MAP
☐ Severe gut issues
☐ Muscle weakness (which can be related to aluminum retention)

CBS
☐ Start the ammonia program for CBS based on UAA results.

The full ammonia protocol is listed in the Basics Forum, post entitled Ammonia Protocol CBS.

The Ammonia/CBS Protocol is a set of supplement suggestions designed to address biochemical issues associated with CBS + individuals. The level of support is determined by your individual mutations as detailed in the Methylation Pathway Analysis and Urine Amino Acid biochemical test results.

There is potential for each supplement to add in a layer of detox. It is suggested that you start LOW and SLOW with all recommendations, including the reduction of protein in the diet. If you see regressions in behavior, speech, etc., be sure to take a UTM, HTM, and FTM.

Please note that Ammonia supports may also be needed for NOS and SUOX mutations.
Second Priority Mutations

The following is the list to address the second priority mutations. These mutations are by no means “secondary” in terms of their function, but are supported most effectively once primary mutation support is in place.

- MTHFR
- MTR/MTRR
- AHCY
- COMT
- BHMT
- MAO A
- SUOX
- NOS
- VDR

For More information on each mutation and priority, please read the *Autism: Pathway to Recovery* book Chapter 6 and the *Methylations and Mutations* series all on the CD you received that came in your test kit, and refer to the Genetics Forum on the Discussion Group.

Transitioning from Step 1 to Step 2

Step 1/Short Cut is often part of the honeymoon period…you are making changes to your supplement program to take into account excitotoxins, GABA, lithium balance and other basic supports. As noted earlier, you may also see some detox in Step 1 as the body becomes more balanced, but know that some can see improvements too.

It is important to continue Step 1 supplements as you move into Step 2. As you begin to address the mutations identified in your Nutrigenomic Test, you are giving the body what it needs to begin the natural detox process. You may find that you need to increase your calming supports and at this time you may begin to experience greater detox and the accompanying behaviors and/or regressions.

The more mutations, the more time, the greater the exposure to toxins, the more there is to excrete. How long this process takes will depend on several factors.

This is also the step where frequent Toxic metal tests make a tremendous difference. As mentioned in Week 9 as detox progresses, graph your results to look for the bell-shaped curve, which indicates you have detoxed the majority of that metal.

Part of this transition involves adding in the basic methylation or Long Route supports which would include:

- MethylMate A Compound Supplement
- MethylMate B Drops
- Methylation RNA 1X/day 3-4 drops
- Higher Dose B12
  - Hydroxy B12 Mega Drops
  - Hydroxy B12 Spray (Get B12)
  - Black Bear Spray
Closing Remarks

I like the idea of looking for the next mile marker along the way rather than simply concentrating on the finish line. I think that sometimes it is easy to feel discouraged that you have not reached the finish line yet, but if we can all concentrate on how far we have come, rather than how far left to go, I believe that it makes the journey more enjoyable and easier to travel. It is another way of living in the moment, rather than always living for the future and the “what ifs”. When I used to do a lot more counseling in my private practice I would tell people that I wanted them to get rid of the “would haves”, “could haves” and “what ifs”. What is done is done, where we are is where we are. Live in the moment, concentrate on the moment, be the best you can be each and every day and you will not have regrets. We do need to learn from the past and look toward the future, but that is different than living with regrets or living for the future. I like the idea of focusing on the mile markers as we pass them, and trying to appreciate and enjoy the run along the way!

I hope that this workbook will be helpful in getting you started.

With Love, Hope, and a Hug,

Dr.Amy
**Glossary & FAQ**

**Glossary**
A more comprehensive glossary can be found in *Autism: Pathways to Recovery* and on the Discussion Forum.

**Chelation**: to remove a heavy metal (i.e. Lead or Mercury) from the body by means of an agent such as EDTA.

**Creatinine**: Generally, the darker the urine sample, the higher the creatinine. This is when we believe the body is detoxing viruses. When creatinine drops, the urine becomes lighter and that is when the body is eliminating metals. Aluminum excretion can be happening despite the creatinine level. Some also detox heavy metals at high creatinine. The higher the creatinine, the more stress is placed on the kidneys.

**Detox**: The process of ridding the body of viruses, bacteria and metals. Detox behaviors range from lethargy to hyperactivity and inability to sleep. Also cold symptoms and fevers are common.

**CSA**: Comprehensive Stool Analysis. Identifies bacteria and good flora in the gut. Also measures pH levels and sIgA, an inflammatory bowel marker.

**Enzyme**: Any of numerous proteins or conjugated proteins produced by living organisms and functioning as specialized catalysts for biochemical reactions. Enzymes help reactions happen faster than they would if the enzyme were not present.

**Escorts**: MetalAway, BactiSolve, Naturomycin, EDTA, Malic Acid, and Horsetail Grass are frequently referred to as “escorts” because they escort the metals out of the body.

**Excitotoxin**: A toxic molecule that stimulates nerve cells so much that they are damaged or killed.

**FM**: Fecal Metals Test. Shows what metals are being excreted via stool (processed by liver).

**GI Profile (DNA Stool)**: Identifies bacteria and flora in the gut, and also measures anaerobes.

**Hair Metals Test HE/HMT**: Determines past/history of toxic metal excretions via hair which you may have missed and Lithium levels.

**MAP**: Metabolic Analysis Profile- Determines current level of methylation supports and gives a sense of gut microbes and dopamine balance in respect to norepinephrine.

**Methyl group**: A methyl group is simply a single carbon atom bonded to 3 hydrogen atoms (CH3).

**Methylation**: Transfer of methyl groups from one chemical to another is called methylation. Essentially any chemical compound that has a methyl group as part of its chemical structure is capable of donating it to another chemical that needs it. The chemical that receives the methyl group is “methylated”. This process of moving methyl groups around is necessary for the functioning of several biochemical reactions such as DNA and RNA synthesis, creatinine generation, immune responses involved in silencing viruses etc. Filling in the methylation cycle is critical for improved health and ability to excrete toxins.

**MPA**: Methylation Pathway Analysis. Test to determine genetic mutations to be addressed and includes lists of supplementation suggested for each mutation.
Myelination: The wrapping around nerves. The change or maturation of certain nerve cells whereby a layer of myelin forms around the axons which allows the nerve impulses to travel faster.

Neurotransmitter Test: Determines levels of Serotonin and Tryptamine and other important Neurotransmitters. Ordered within the CPR.

OCD: Obsessive Compulsive Disorder

Organ Supports: for liver, kidneys, pancreas and adrenals. Supplement lists found on Discussion Forum, Basics Section and Addendum A.

PM: Private message on the Discussion Group. At the bottom left of each post is a button marked “PM” which allows you to send a private message to the author of that post. To view PMs sent to you, go to the top of the page, look below Dr. Amy’s Discussion Group and you'll find “You have X new messages.” Click there and your private mailbox will open.

SNP: (Pronounced snip) is a small genetic variation within a person’s DNA sequence.

UAA: Urine Amino Acids test. Shows levels of amino acids, especially important for identifying Ammonia, Taurine and GABA/Glutamate.

UTM: Urine Toxic Metals test to see which metals are being detoxed and in what quantity. Also reports Creatinine (processed through the kidneys).

UTM & UEE: Urine Toxic Metals test AND Urine Essential Elements, measuring mineral levels.
**Frequently Asked Questions**

Q: Do I have to use all the supplements in all the lists?

A: No. Lists are provided to give you options. It is important to cross-reference the lists so you can see which supplements work in multiple areas. If you are uncomfortable with a particular supplement do not use it, choose another from the list.

Q: Why do all the HHI RNAs list the same ingredients?

A: The specifics of each isolated RNA product are so complex and lengthy that they cannot be listed on the small bottles. Therefore, each RNA product is labeled with the proprietary blend statement. RNA’s are strings of bases of ribonucleic acids isolated and purified so that you have pure RNA without any of the organism it was isolated from. They have different sequences depending on which biochemical pathways they need to support. They are derived from yeast, but DO NOT contain any yeast or any allergens.

Q: How do I know if it’s detox?

A: When in doubt its best to run a UTM, FM, or HE/HMT. Detox has many faces. It may be an increase in hyperactivity, increased stimming, recurrence of old obsessions, increases in OCD behaviors, rashes, fever, cold like symptoms, increased difficulty with going to sleep and many other issues. Some may even become lethargic because they just don’t feel well.

Q: What do I do if detox gets to be more than I can handle?

A: Increase the calming supplements and RNAs, pull out or reduce the detoxing supplement(s) until detox subsides to a tolerable level or until you are back to a calm place.

Q: Do I still give supplements when my child or I is sick? Which ones?

A: This is a personal choice. Increasing the calming supplements and RNAs may be helpful. You may choose to continue the detox provokers at the same or lower dose, or stop them completely. There is no magic answer for this one. You are the expert on yourself or your child and are in the best position to determine which approach is most tolerable for your situation.

Q: Will Dr. Amy answer my question on the Discussion Forum?

A: Most questions will be answered by “Veteran” members. A few posts are selected each week, at the discretion of the moderator, and sent to Dr. Amy.

Q: How and when do I contact the office?

A: For office related questions please contact the office. You will find addresses on the contact page at the beginning of this workbook. For questions regarding the protocol itself and all other questions please use the Discussion Group.
Q: What are the sources of excitoxins?

**List of Excitotoxins**

- monosodium glutamate
- seasoning(s)
- NutraSweet/Aspartame
- caseinate
- malted barley flour
- soy protein
- glutamate
- seasoned salt
- hydrolyzed protein
- disodium guanylate
- malt extract
- soy protein concentrate
- natural flavor(s)
- dough conditioners
- hydrolyzed vegetable protein
- disodium inosinate
- malt flavoring(s)
- soy protein isolate
- natural flavoring(s)
- yeast extract
- hydrolyzed plant protein
- disodium caseinate
- malted barley/barley malt
- soy extract
- maltodextrin
- soy sauce
- hydrolyzed oat flour
- autolyzed yeast
- malted anything
- autolyzed yeast extract
- carrageenan
- autolyzed anything
- hydrolyze anything
- bouillon
- texture protein
- broth
- gelatin
- stock
- sodium caseinate
- soup base
- guar gum
- vegetable gum
- spice(s)
- komb extract
- smoke flavoring(s)
- ajinomoto
- calcium caseinate
- whey protein concentrate
- plant protein extract l-cysteine
- chicken/pork/beef "flavoring"
- whey protein
- chicken/pork/beef "base"
- whey protein isolate

**Sources of MSG**

- Hydrolyzed Protein or Hydrolyzed Oat Flour
- Sodium Caseinate or Calcium Caseinate
- Autolyzed Yeast or Yeast Extract
- Gelatin
- Glutamic Acid
- Monosodium Glutamate

**Possible Sources of MSG**

- Textured Protein
- Carrageenan or Vegetable Gum
- Seasonings or Spices
- Flavorings or Natural Flavorings
- Chicken, Beef, Pork, Smoke Flavorings
- Bouillon, Broth, or Stock
- Barley Malt, Malt Extract, Malt Flavoring
- Whey Protein, Whey Protein Isolate or Concentrate
- Soy Protein, Soy Protein Isolate or Concentrate
- Soy Sauce or Extract