

The Road To Recovery Clinic for the

**Autismo em Conferencia
Multidisciplinar**

October 11, 2014

Belo Horizonte, Brazil

James A. Neubrander, M.D.
485A Route 1 South, Suite 320
Iselin, NJ 08830

Phone: (732) 726-1222
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Dr. Neubrander and his Road To Recovery Clinic

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THANK YOU
for inviting him
to help you help
your children



My Goal Today
Is For Parents And Clinicians To
Not Only Understand
But Also Remember
Why And How They Should Use
Methyl-B₁₂
For Their Patients And Children



The Road To Recovery Clinic Presents

A Gateway Medicine to
Open Your Child's Mind

The Methyl Form
Of The B₁₂ Family
Helps Most Children
With Autism Move
Towards Recovery!



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To Recovery!



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

*Special credit for information
contained on several of my
slides belongs to my
esteemed colleagues:*

Richard Deth , Ph.D.

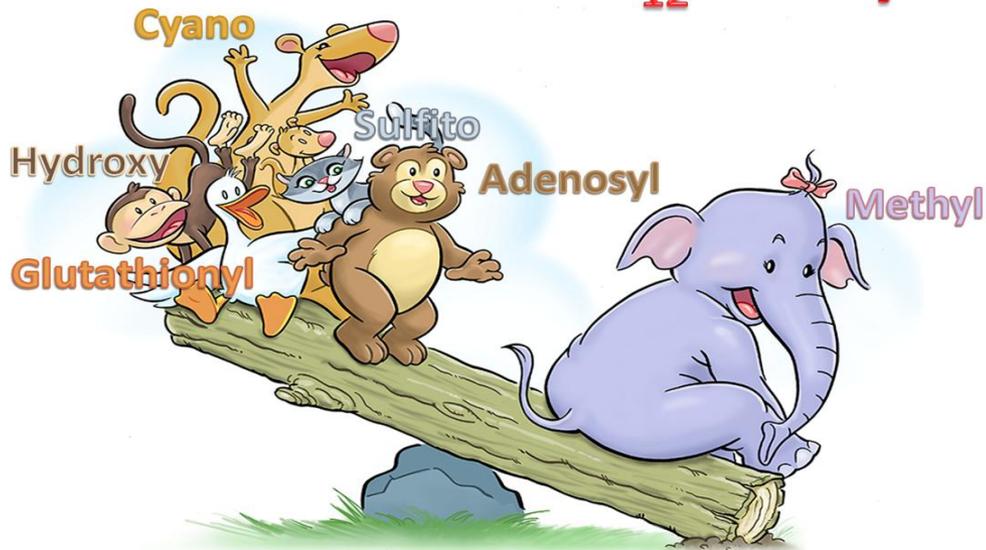
Tapan Audhya, Ph.D.



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

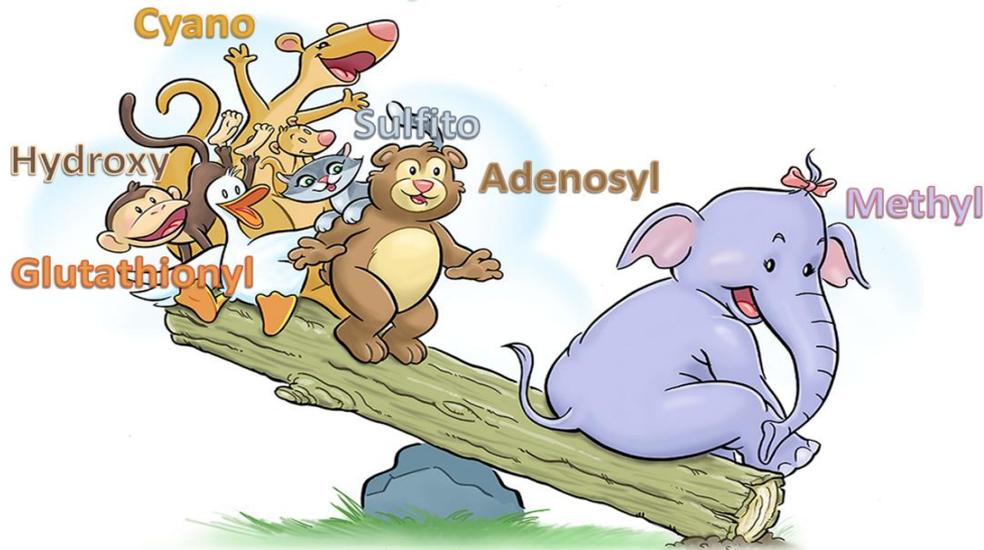
Meet the Vitamin B₁₂ Family



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

Six Family Members



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

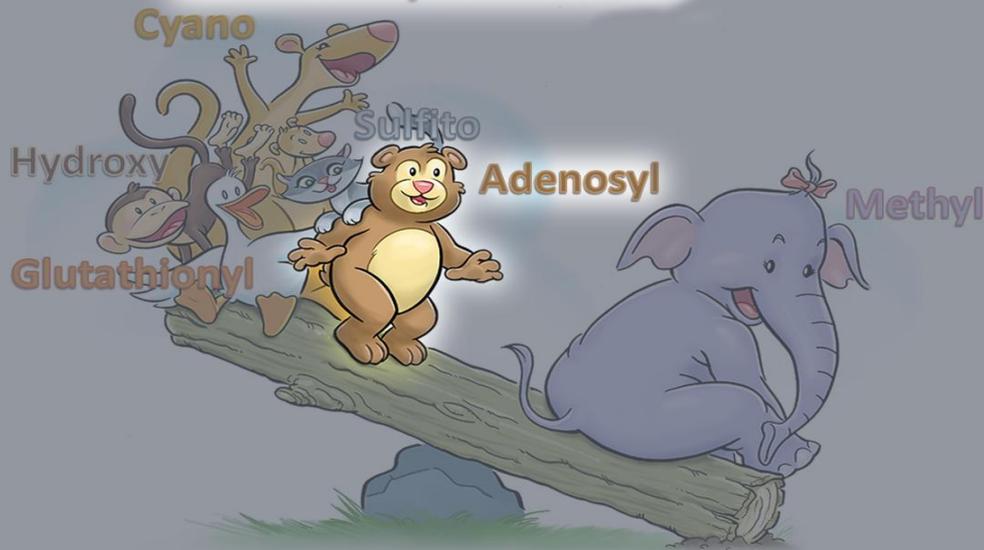
Six Family Members



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A Gateway Medicine to Open Your Child's Mind

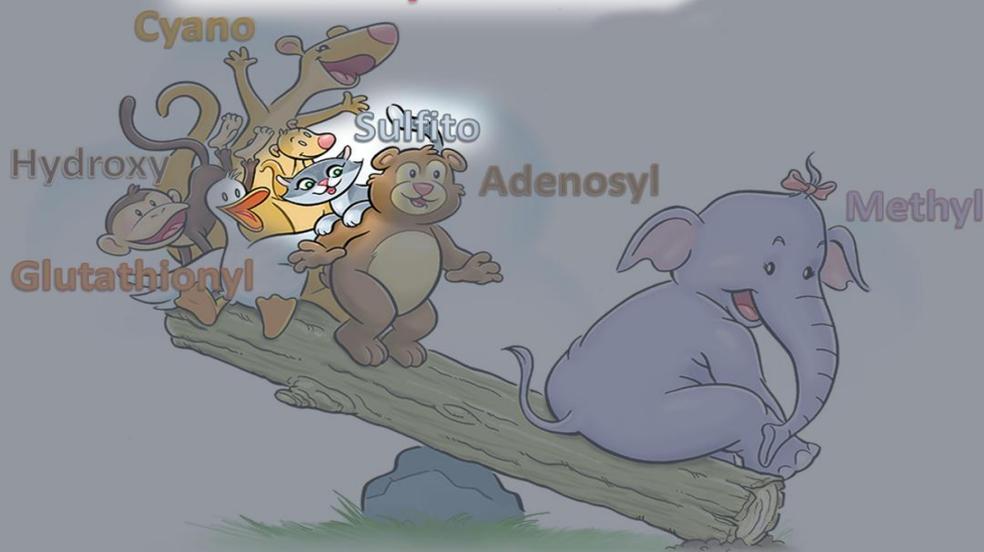
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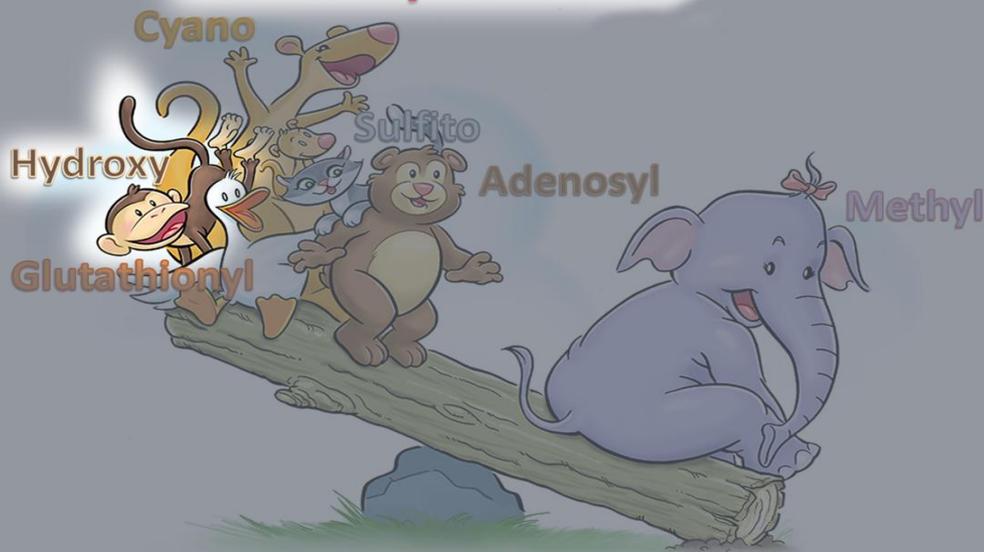
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A Gateway Medicine to Open Your Child's Mind

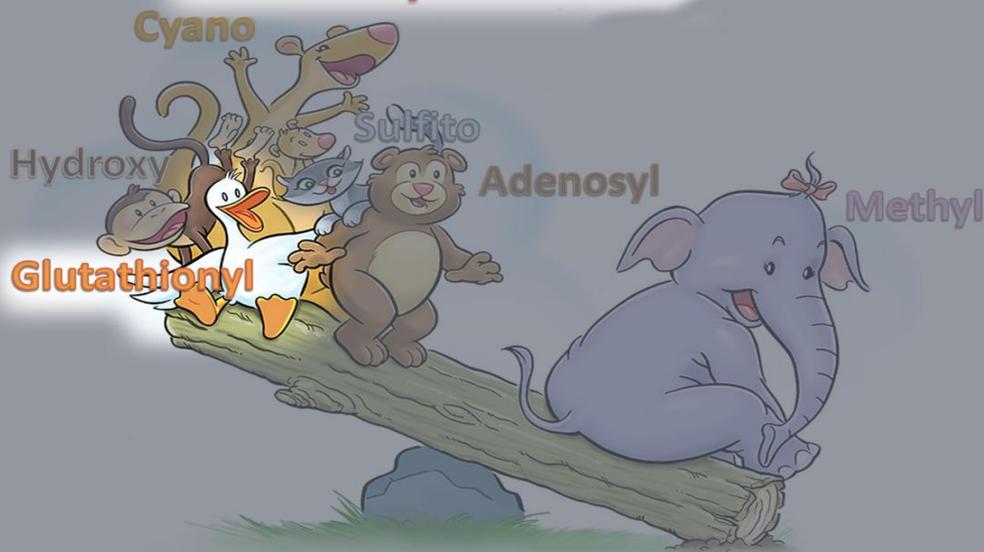
Six Family Members



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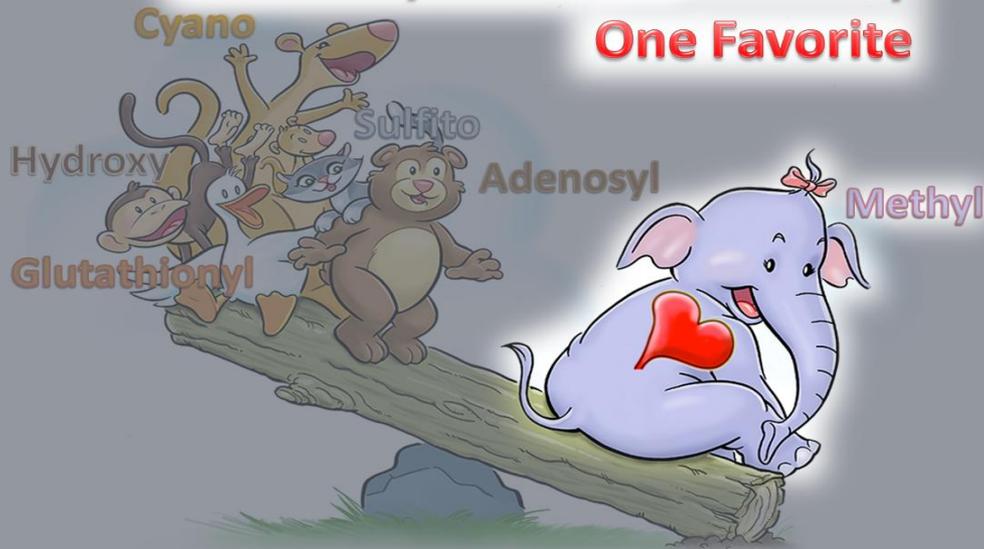
Six Family Members



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

**Six Family Members But Only
One Favorite**



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

**Autism Spectrum's Favorite B₁₂
Family Member**

Cyano
Hydroxy
Glutathionyl
Sulfite
Adenosyl
Methyl



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind



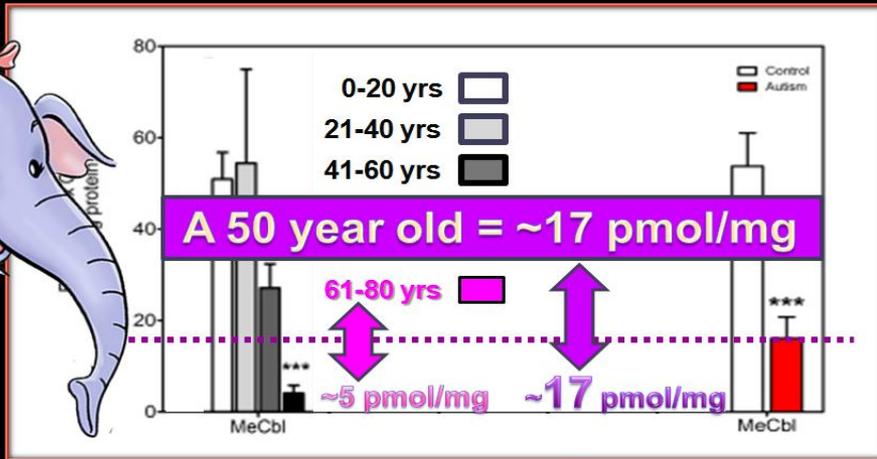
**Scientists Say "Methyl-B₁₂
Is Really Needed."**



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

Brain Levels In The Frontal Cortex
Of Many Forms Of The Vitamin B₁₂ Family
Are Low In Autism



Autism Like a 50 yr old → **Aging**



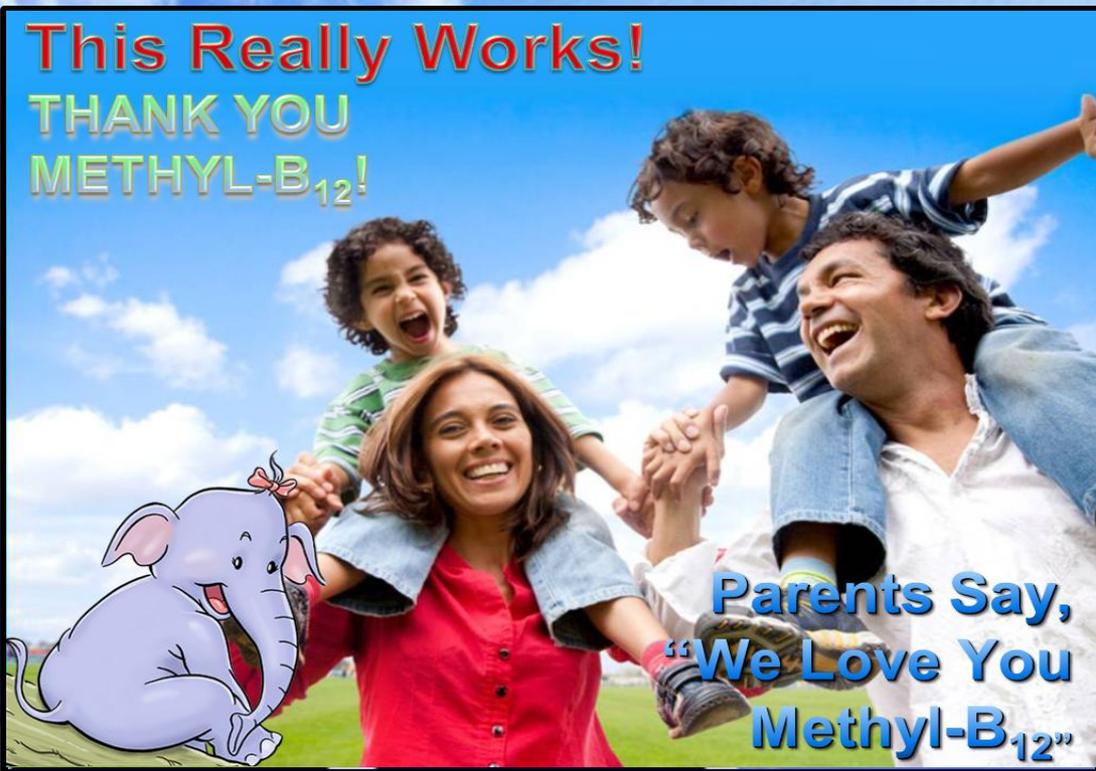
Graph courtesy of Richard Beth, PhD



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

This Really Works!
THANK YOU
METHYL-B₁₂!



Parents Say,
"We Love You
Methyl-B₁₂"



The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind



Thank
You!

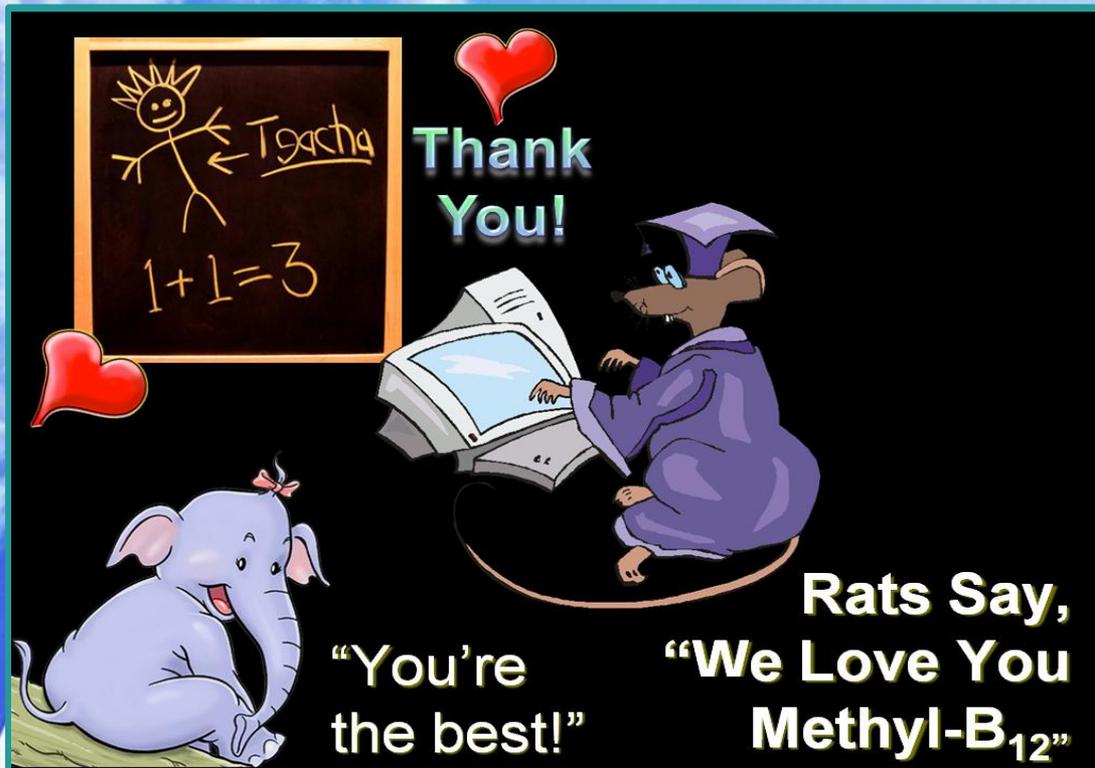
"You're
the best!"

Kids Say,
"We Love You
Methyl-B₁₂"



The Road To Recovery Clinic Presents

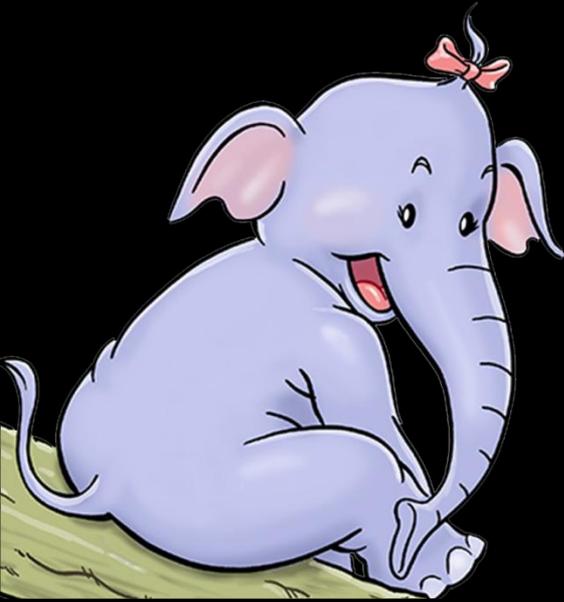
A Gateway Medicine to Open Your Child's Mind





Thank
You!

But Why
Would
Rats
Say
That?



“You’re
the best!”

Rats Say,
“We Love You
Methyl-B₁₂”

Because of Okada's Very Important Rat Study!



Okada



Okada K, et. al., Methylcobalamin increases nerve regeneration...
Exp Neurol. 2010 Apr;222(2):191-203. Epub 2010 Jan 4.



**Because of Okada's
Very Important
Rat Study
That Began To Fix
The Rat's Cut Nerves!**



Okada



**Okada K, et. al., Methylcobalamin increases nerve regeneration...
Exp Neurol. 2010 Apr;222(2):191-203. Epub 2010 Jan 4.**



Methylcobalamin increases Erk1/2 and Akt activities through the methylation cycle and promotes nerve regeneration in a rat sciatic nerve injury model

Kiyoshi Okada^a, Hiroyuki Tanaka^{a,b,*}, Ko Temporin^a, Michio Ochi^a, Yusuke Ochi^a, Masao Moritomo^a, Tsuyoshi Murase^a, Hideki Yoshikawa^a

^a Department of Orthopaedics, Osaka University Graduate School of Medicine, 2-2 Yamadaoka, Suita, Osaka 565-0871, Japan

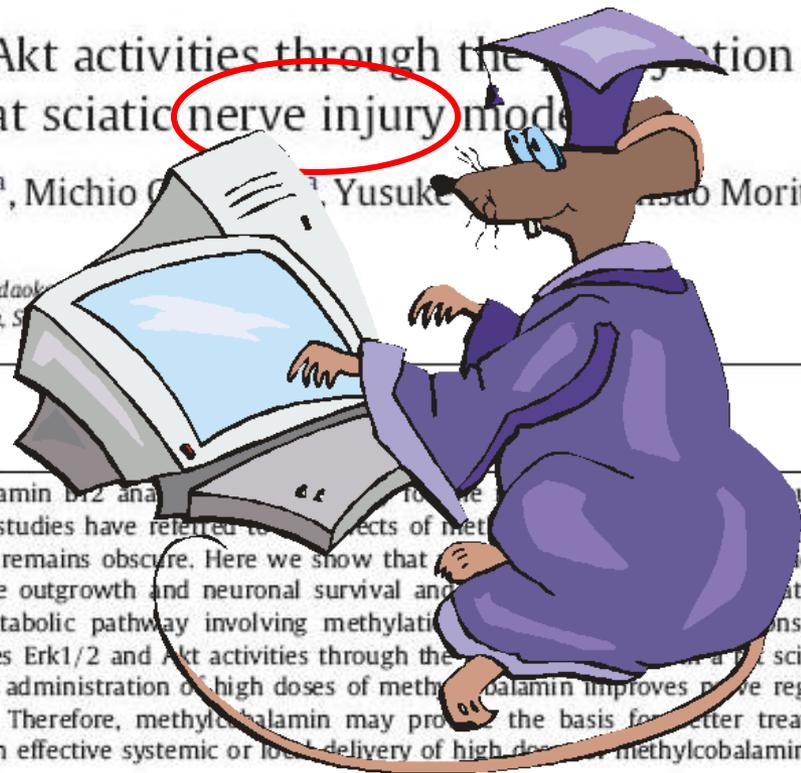
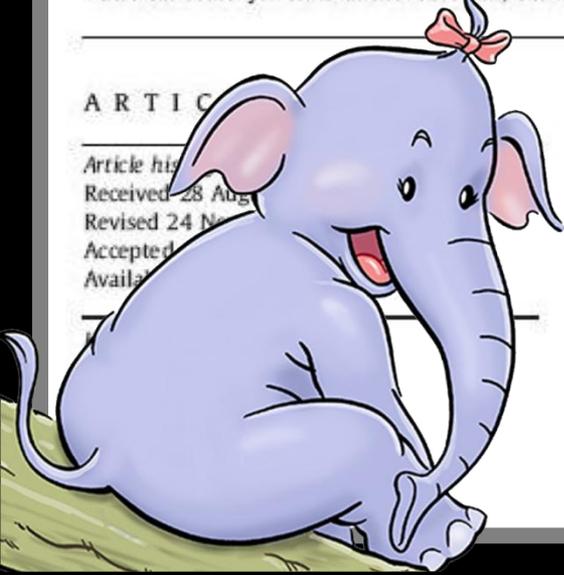
^b Medical Center for Translational Research, Osaka University Hospital, 2-15 Yamadaoka, Suita, Osaka 565-0871, Japan

ARTICLE INFO

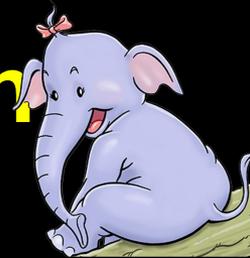
Article history:
Received 28 Aug 2009
Revised 24 Nov 2009
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Available online 12 Dec 2009

ABSTRACT

Methylcobalamin is a vitamin B12 analog that acts as a cofactor for the methylation cycle. Although some previous studies have referred to the effects of methylcobalamin on the nervous system, the precise mechanism of this effect remains obscure. Here we show that continuous administration of methylcobalamin at concentrations above 100 nM promotes neurite outgrowth and neuronal survival and that this effect is mediated by the methylation cycle, a metabolic pathway involving methylation reactions. We demonstrate that methylcobalamin increases Erk1/2 and Akt activities through the methylation cycle in a rat sciatic nerve injury model, continuous administration of high doses of methylcobalamin improves nerve regeneration and functional recovery. Therefore, methylcobalamin may provide a basis for better treatments of nervous disorders through effective systemic or local delivery of high doses of methylcobalamin to target organs.



Dr. Deth Commented On The Okada Study

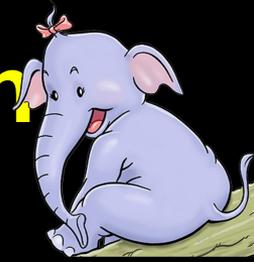


Richard Deth, Ph.D. from Northeastern University in Boston, Massachusetts, is a professor of neuropharmacology, colleague, and friend of mine

who deals with the methylation phenomenon. He is a world-renowned researcher with a special interest in methionine synthase which, as you know, is the enzyme that works hand-in-glove with B₁₂. Dr. Deth has published scientific studies on the role of D₄ dopamine receptors in psychiatric disorders, as well as the book, *Molecular Origins of Human Attention: The Dopamine-Folate Connection*. Dr. Deth's work has become an invaluable addition for families of children with autism as he has begun to "connect the dots" between the methylation pathways, oxidative stress, detoxification, vaccines, and mercury.

On March 31, 2010, Dr. Deth commented on the Okada article:

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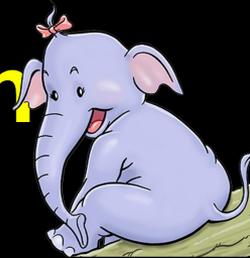


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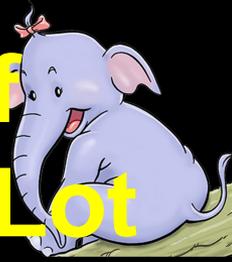
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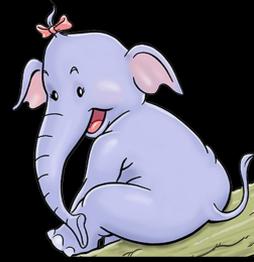
Dr. Deth's Summary Of The Okada Study Said A Lot



"Although the article (Okada et al.) is basic science, it does provide some important insights into the effects of methyl-B₁₂ (MeB₁₂) on neurons and how it

does it. Using neurons from rats, they showed that MeB₁₂ increases the length of axons, the formation of neurites, and increases resistance to apoptosis. Together these effects indicate a significant role in development of networks among neurons. MeB₁₂ was the best form of cobalamin for doing this, 'although others had activity, presumably because they were converted to MeCbl.' They also showed that the effects of MeB₁₂ reflected increased methylation, and adding SAM had similar, but weaker effects. MeB₁₂ increased activation of the MAP kinase and PI3 kinase signaling pathways, indicating that it mimics the effects of neurotrophic growth factors. Finally, MeB₁₂ improved the repair of transected nerves as well as improved functional recovery of motor activity, in conjunction with increased myelination. All together a pretty impressive array of effects."

But Dr. Deth's Final Statement Said It All

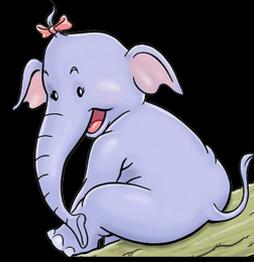


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But Dr. Deth's Final Statement Said It All

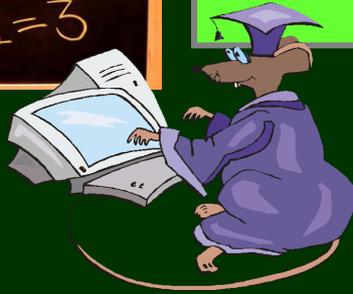
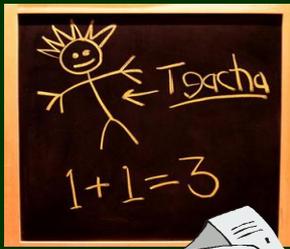


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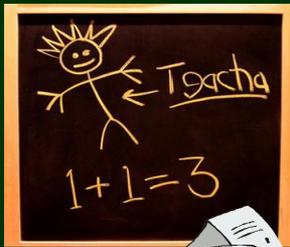
**THE NEXT SLIDE
MAKES THIS EASIER
TO UNDERSTAND**

Methyl-B₁₂ Rat Study Results!

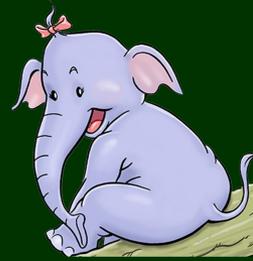




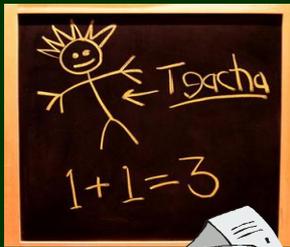
Methyl-B₁₂ Rat Study Results!



**It Increased The
Length Of Axons**



Methyl-B₁₂ Rat Study Results!

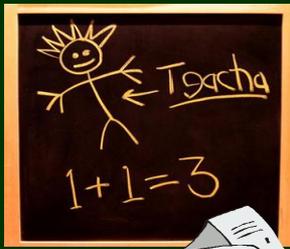


**It Increased The
Length Of Axons**

**It Increased The
Formation Of Neurites**



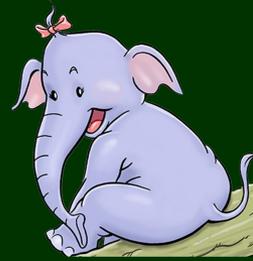
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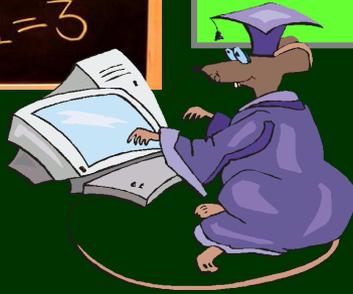
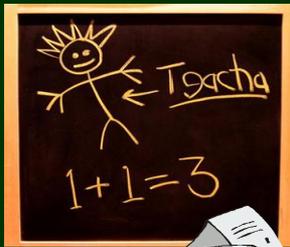
**It Increased The
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**It Increased Resistance
To Apoptosis** (programmed cell death)



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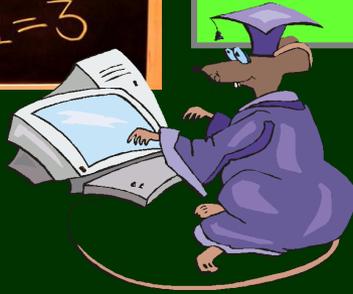
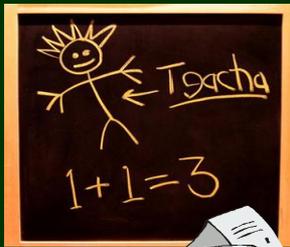
**It Increased The
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**Major Role In Creating
Neuronal Networks**



Methyl-B₁₂ Rat Study Results!



**Increased The Activation
Of Signaling Pathways**

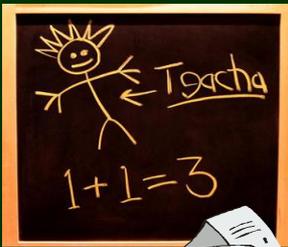
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Methyl-B₁₂ Rat Study Results!



**Increased The Activation
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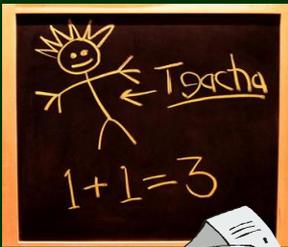
**Mimics Neurotrophic
Growth Factor Effects**

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**Major Role In Creating
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Methyl-B₁₂ Rat Study Results!



Increased The Activation Of Signaling Pathways

It Increased The Length Of Axons

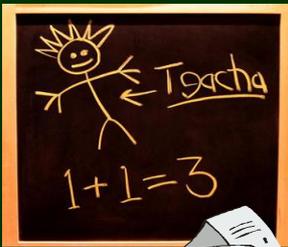
Mimics Neurotrophic Growth Factor Effects

It Increased The Formation Of Neurites

Improved Repair Of Transected Nerves

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Major Role In Creating Neuronal Networks



Methyl-B₁₂ Rat Study Results!



Increased The Activation Of Signaling Pathways

It Increased The Length Of Axons

Mimics Neurotrophic Growth Factor Effects

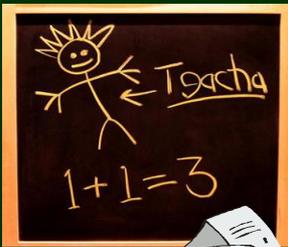
It Increased The Formation Of Neurites

Improved Repair Of Transected Nerves

It Increased Resistance To Apoptosis (programmed cell death)

Functional Recovery Of Motor Activity Was Noted

Major Role In Creating Neuronal Networks



Methyl-B₁₂ Rat Study Results!



Increased The Activation Of Signaling Pathways

It Increased The Length Of Axons

Mimics Neurotrophic Growth Factor Effects

It Increased The Formation Of Neurites

Improved Repair Of Transected Nerves

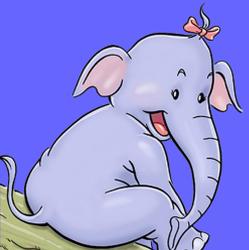
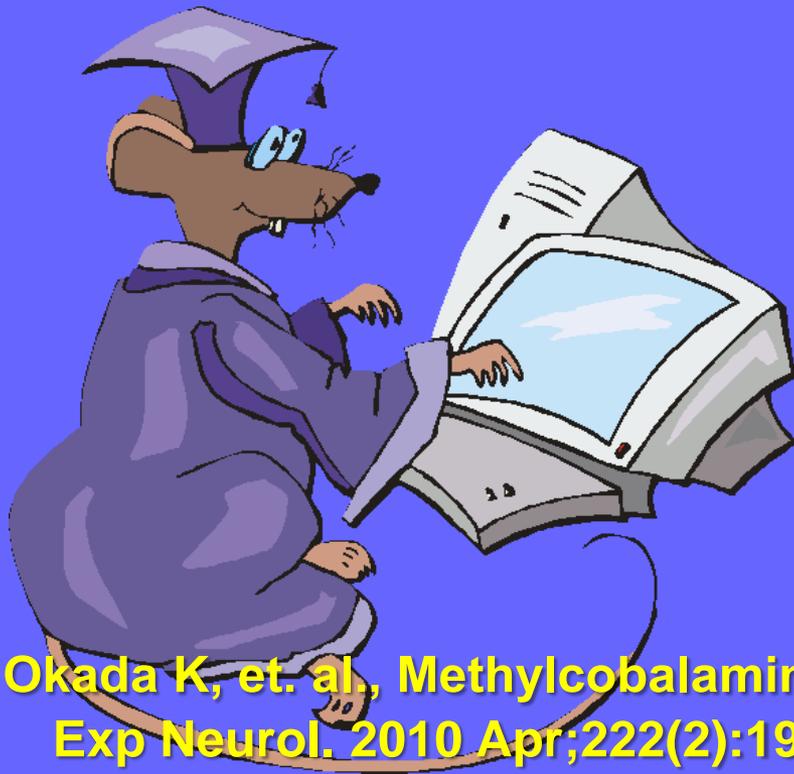
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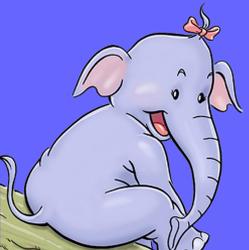
Repair In Conjunction With More Myelination

The Rats Said



Okada K, et. al., Methylcobalamin increases nerve regeneration...
Exp Neurol. 2010 Apr;222(2):191-203. Epub 2010 Jan 4.

**“Dr. Okada cut us up
(we signed the release form for food)
and then he put us back
together again~!”**

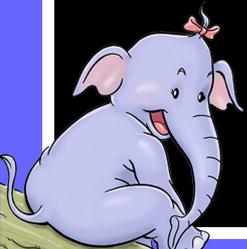


**Okada K, et. al., Methylcobalamin increases nerve regeneration...
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1. Only the methyl form of the vitamin B₁₂ analogs gave significant clinical improvements



Dr. Okada
Told Me

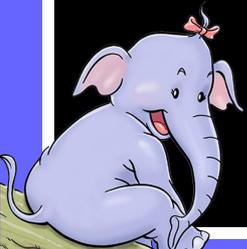


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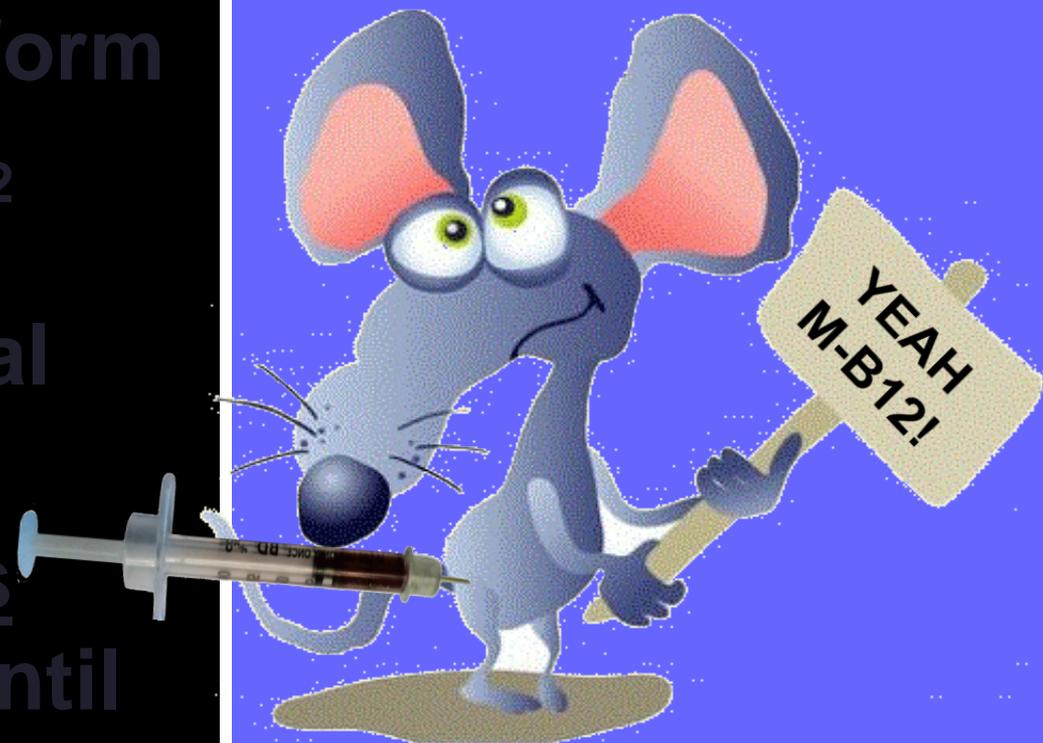
2. The best benefits were not noted until he got to “high or very high doses”



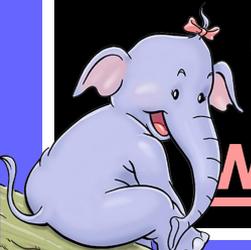
**Dr. Okada
Told Me**



1. Only the methyl form of the vitamin B₁₂ analogs gave significant clinical improvements
2. The best benefits were not noted until they got to "high or very high doses
3. Surprisingly it was the shortest lived so "injections" would work better than oral



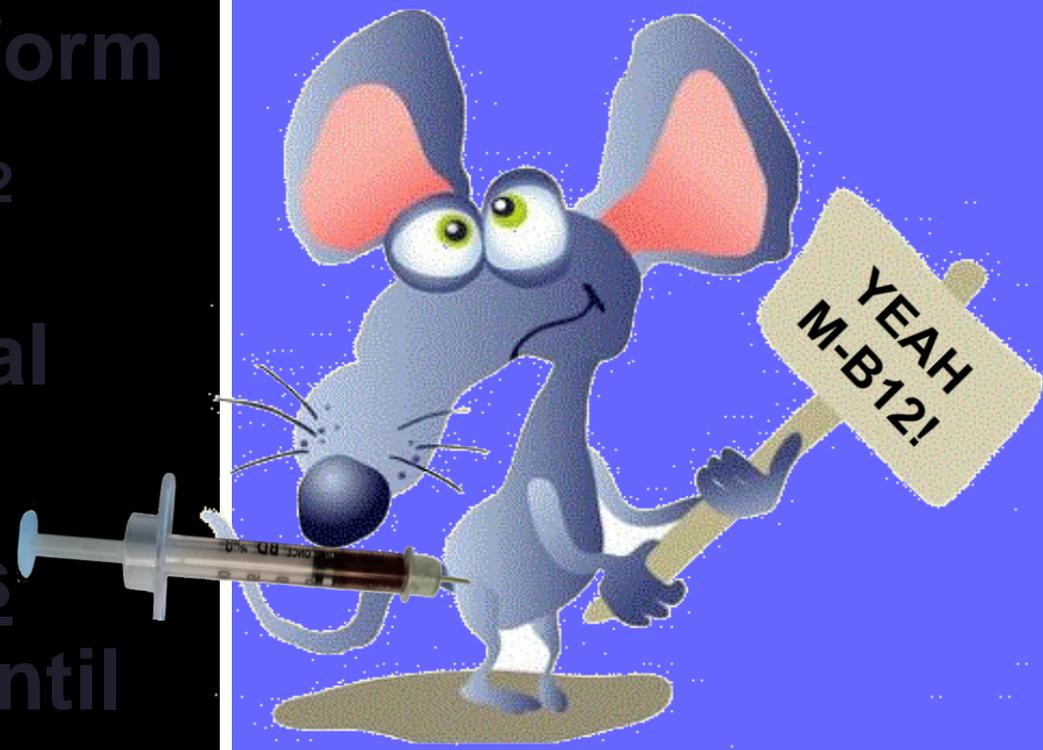
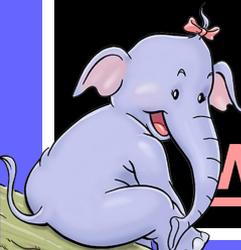
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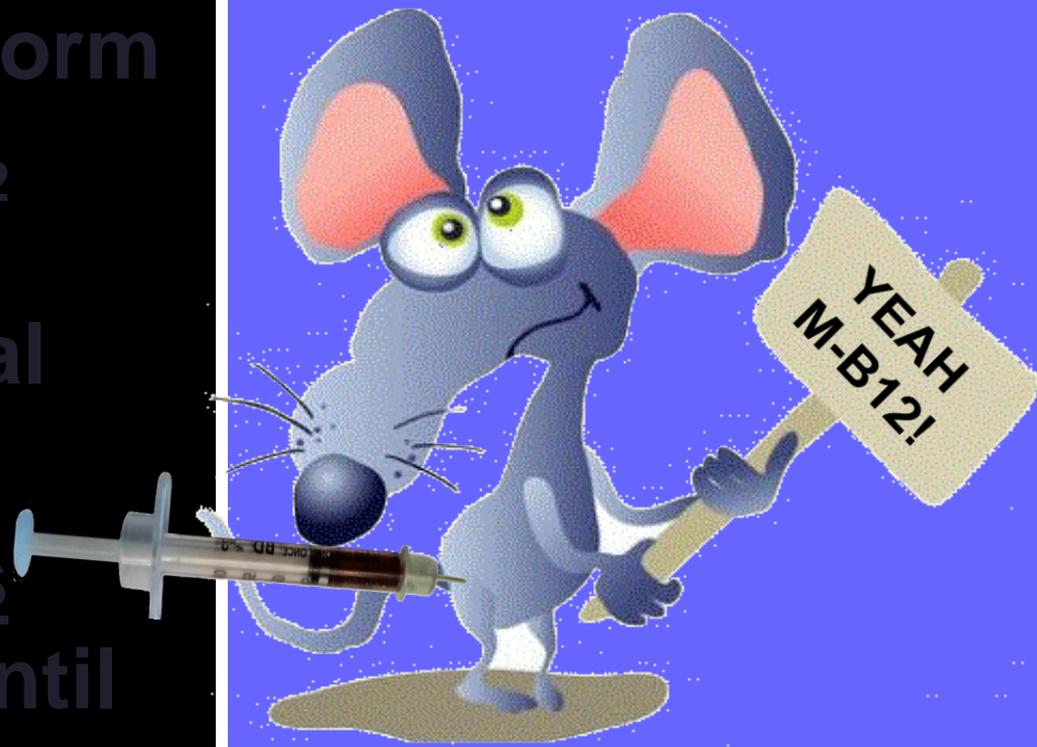
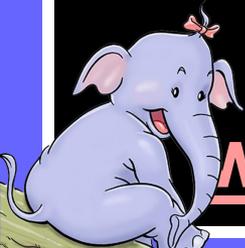


“Such A
Tiny Little
Needle!”

1. Only the methyl form of the vitamin B₁₂ analogs gave significant clinical improvements

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**“It Did
Not Hurt
One Bit!”**

So Rat's Love Methyl-B₁₂
But Why Do Parents
Of Children With
Autism
Love It
So Much?



So Rat's Love Methyl-B₁₂
But Why Do Parents
Of Children With
Autism
Love It
So Much?

Because There Are 135
Autism Symptoms Parents
Say Methyl-B₁₂ Affects



So Rat's Love Methyl-B₁₂
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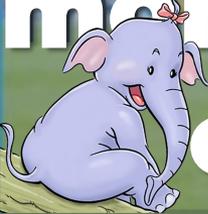
These Are The Top 15
Symptom Improvements
In The Parents Own Words



This Is What The Parents Said

“Our
Child”

**~75%: Now attempts to use
more words and harder words to
our surprise and pleasure!**



This Is What The Parents Said

“Our
Child”

**~74%: Became more attentive
to the things around him that he
never paid attention to before**



This Is What The Parents Said

“Our
Child”

**~72%: Became much more
aware of the things that were
happening all around him and
wanted to get involved**



This Is What The Parents Said

“Our
Child”

**~71%: Became much
more alert and quick to
react and answer us and his
teachers and therapists**



This Is What The Parents Said

“Our
Child”

~71%: Became so much more affectionate than he already was which was already a lot!



This Is What The Parents Said

“Our
Child”

~ 70%: Now understands and follows directions better than before and needs fewer reminders



This Is What The Parents Said

“Our
Child”

~69%: Had improvements in his language, e.g. receptive, expressive, number of words, and/or sentence length



This Is What The Parents Said

“Our
Child’s”

~68%: **Eye contact is so much better. He now looks at us with joy and anticipation when we call his name.**



This Is What The Parents Said

“Our
Child”

~ 65%: Now follows commands
better, often for the first
time ever in his life!



This Is What The Parents Said

“Our
Child”

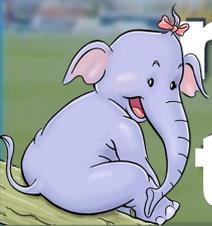
**~61%: Became more engaged
or engaging with children his
own age and with other adults**



This Is What The Parents Said

“Our
Child”

**~59%: Showed a much more
active mind with a surprising
new ability to think and do
things he never did before**



This Is What The Parents Said

“Our
Child”

**~58%: Demonstrated to us
that he had a much higher
level of concentration
than we ever saw before**



This Is What The Parents Said

“Our
Child”

**~58%: Began to verbalize
and vocalize much more than
he ever did before as if
was trying to talk to us**



This Is What The Parents Said

“Our
Child”

**~56%: Showed much more
compliance when we
asked him to do things**



This Is What The Parents Said

“Our
Child”

**~56%: Became a much happier
and pleasant to be around
which made all our days better!**



**“We Are Very Impressed With
The Child We Are
Seeing Develop
After
Only
Six Short
Weeks!”**



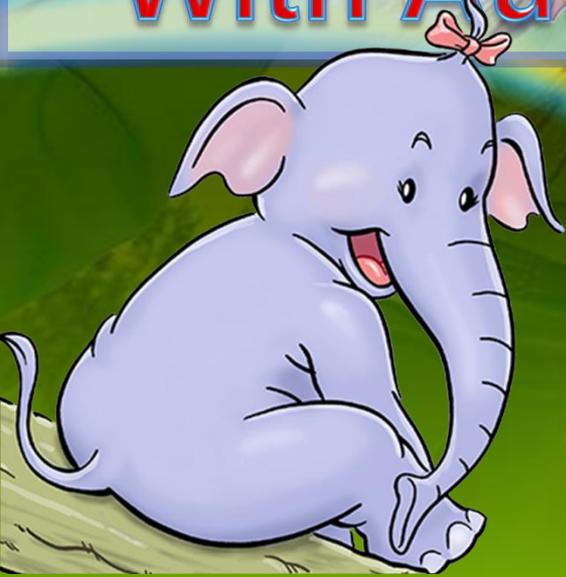
“We Are Very Impressed With
The Child We Are
Seeing Develop
After
Only
Six Short
Weeks!”



THANK YOU METHYL-B₁₂!



So Rat's And Parents Love
Methyl-B₁₂ But Why Do Children
With Autism Love It So Much?



“You’re
the best!”

Kids Say,
“We Love You
Methyl-B₁₂”



Kids Say



“You’re
the best!”

Kids Say,
“We Love You
Methyl-B₁₂”



Kids Say

We love methyl-B₁₂
because she makes our
brains work better!



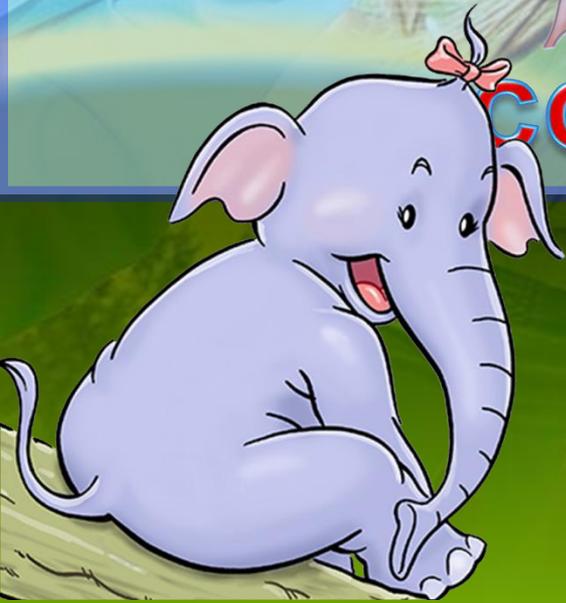
“You’re
the best!”

Kids Say,
“We Love You
Methyl-B₁₂”



Kids Say

Methyl-B₁₂ is letting us
do new things that we
could never do before!



“You’re
the best!”

Kids Say,
“We Love You
Methyl-B₁₂”



Kids Say

- We start to talk better and put together more words in longer phrases or sentences and sometimes we even have back-and-forth conversations with our parents and teachers.
- We can pay more attention to the things we are supposed to be doing so we do not have to be redirected as often.
- Our minds do not wander off from what we are supposed to be doing as much as before so we can complete the tasks we are engaged in more easily.

A close-up photograph of two young children smiling. A red heart icon is positioned above the word 'Kids'. In the top right corner, there is a cartoon illustration of a purple elephant sitting on a small patch of grass.

Kids Say

- We can think more clearly and remember things much better and we are also able to do new and harder things that we could never do before.
- We are much more aware of everything that is going on around us and therefore we get much more involved with our family and friends.
- We start playing with other children our own age and interact with them and actually start to make our own friends who like us and want to be around us.



Kids Say



➤ Because life just seems a whole lot better overall, our moods are more stable and less unpredictable. People around us see us as “nice children”, often described as sweet and loveable and kids who are polite and friendly that they say they would love to take home because we are so much better than their own children! This is all so very different from what people thought about us in the past when they would avoid us and feel sorry for our parents, not even realizing that we understood!



Kids Say



➤ Even though most of us were always affectionate to our parents, because we are now so much more aware of how great life is, we just want to hug and kiss them even more as well as others around us that we know. This is true for our grandparents as they become some of the happiest people in the world because we now recognize them as “family” and start to interact with them in very loving ways. In addition, we now start to look at people in their eyes, both family and friends.

A close-up photograph of two young children smiling. A red heart icon is positioned above the word 'Kids'. A cartoon illustration of a purple elephant is in the top right corner.

Kids Say

➤ We become more self confident in what we are doing and what we want and do not want to do. Therefore we are much more opinionated about how things should and should not be done as well as what we are willing to accept without putting up a fuss. When we do disagree with what we believe is right and subsequently express our opinions, our behaviors are often misunderstood as being less compliant rather than what they really represent, that being that we are maturing.



Kids Say

- We start to be able to understand how other children and adults are feeling, something that we never really understood before. For the first time we know when they are happy or sad about something, angry or upset, or even scared.
- We no longer get as worried or upset as much or have as many bad tantrums or meltdowns when there are changes in our daily lives or routines.
- We are just happier about life in general because we now see that we have a chance for a better life!



Thank
You!



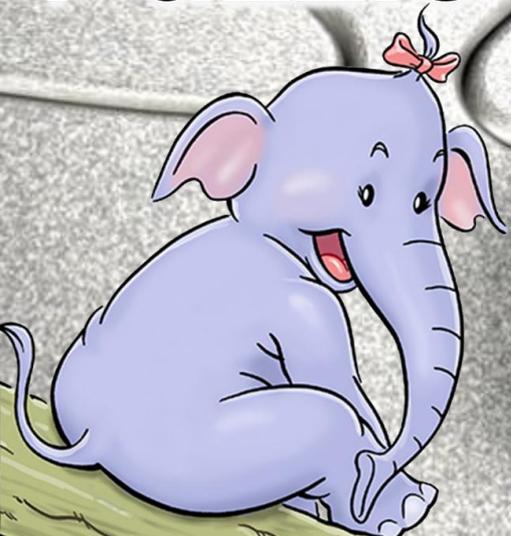
Methyl-B₁₂

One Very Big Key
To Help Unlock The

Autism

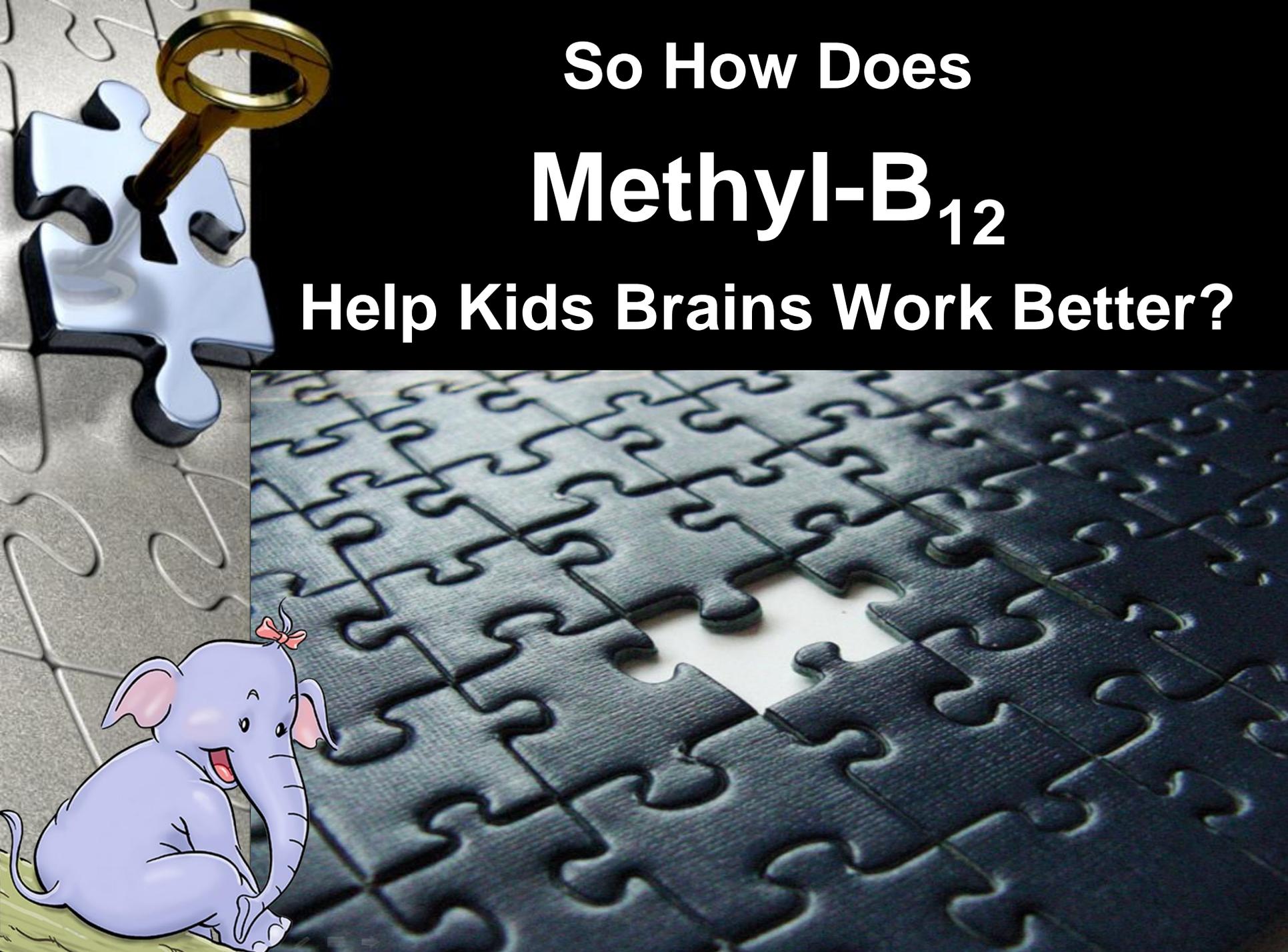
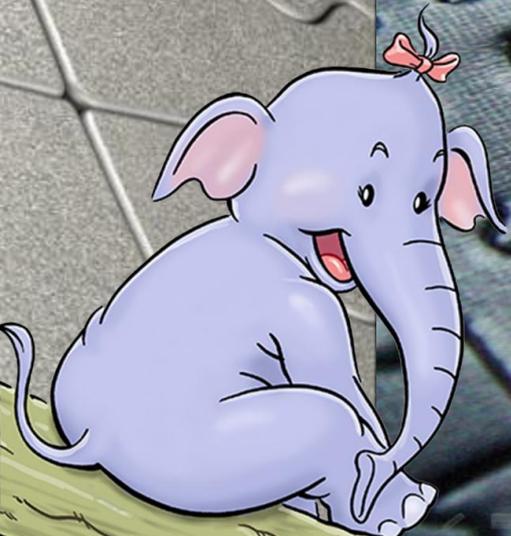
Recovery

Puzzle



So How Does Methyl-B₁₂

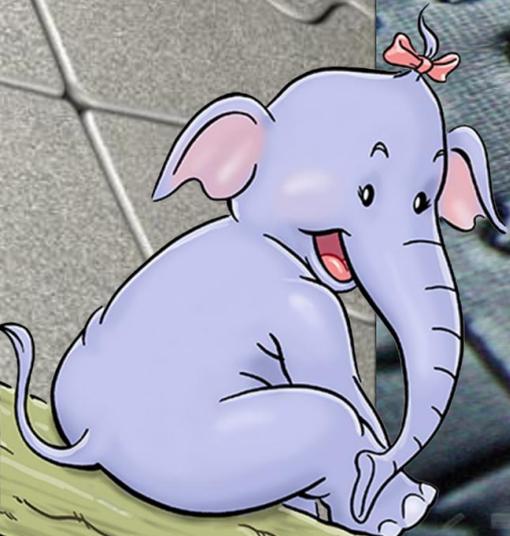
Help Kids Brains Work Better?

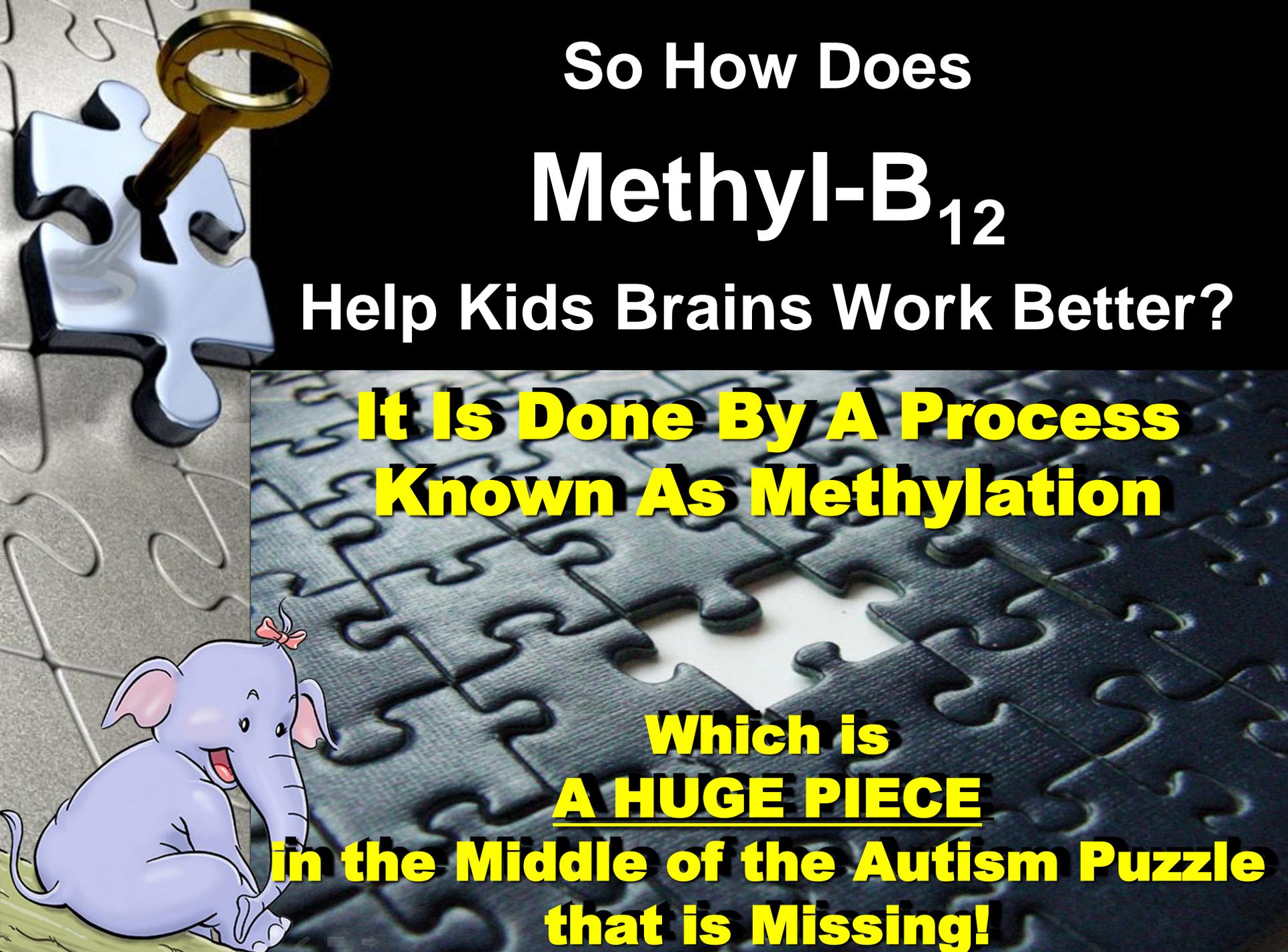


So How Does Methyl-B₁₂

Help Kids Brains Work Better?

**It Is Done By A Process
Known As Methylation**





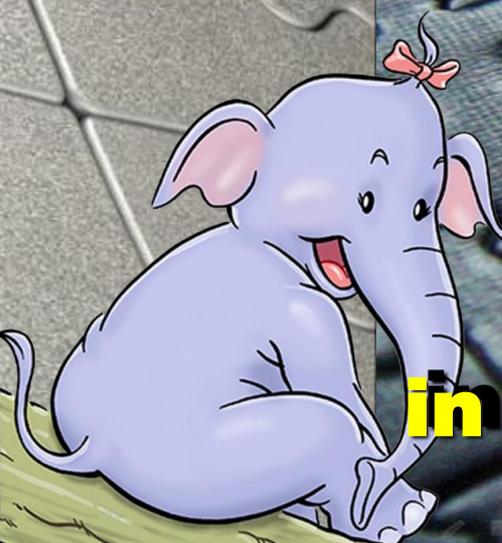
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Help Kids Brains Work Better?

**It Is Done By A Process
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**Which is
A HUGE PIECE**

**in the Middle of the Autism Puzzle
that is Missing!**



So How Does Methyl-B₁₂

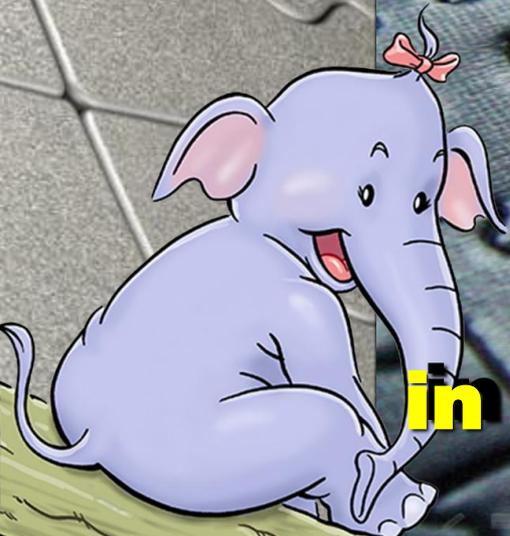
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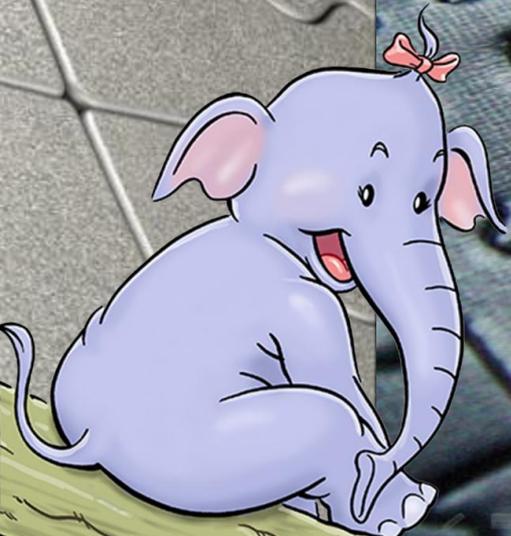


**A KEY PUZZLE PIECE
Needed To Complete
The Autism Puzzle!**

**Which is
A HUGE PIECE
in the Middle of the Autism Puzzle
that is Missing!**



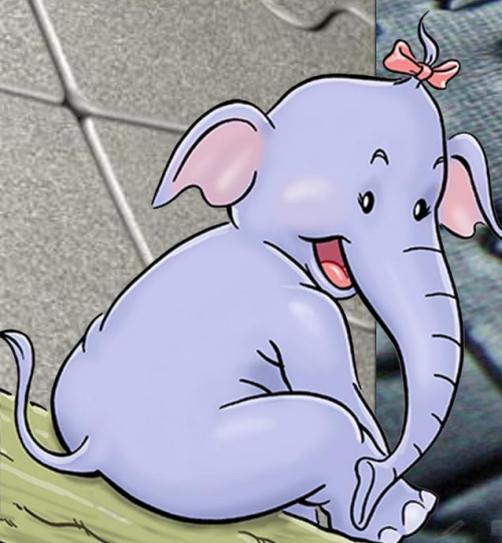
But what is
METHYLATION
you ask?



**METHYLATION FITS
IN RIGHT HERE**



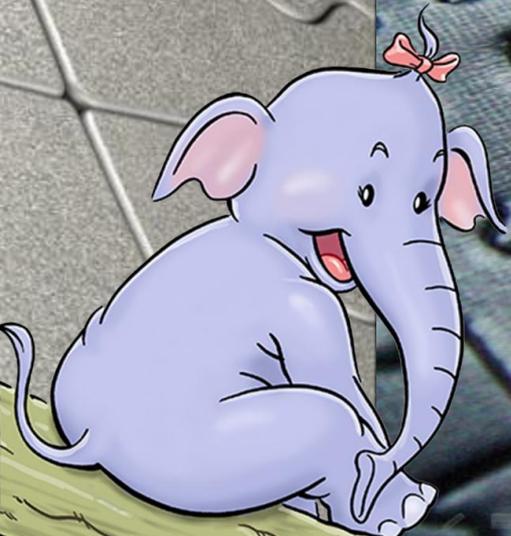
But what is
METHYLATION
you ask?



METHYLATION FITS
IN RIGHT HERE

Methylation is the
transfer of methyl groups
from one molecule to another

So what is a
METHYL GROUP
you ask?



**METHYLATION FITS
IN RIGHT HERE**

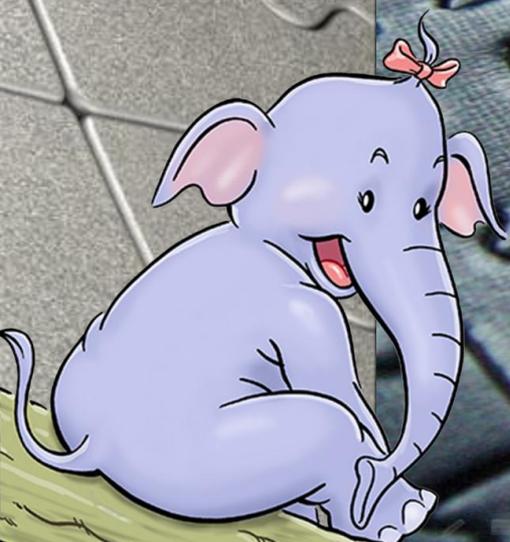
So what is a
METHYL GROUP
you ask?



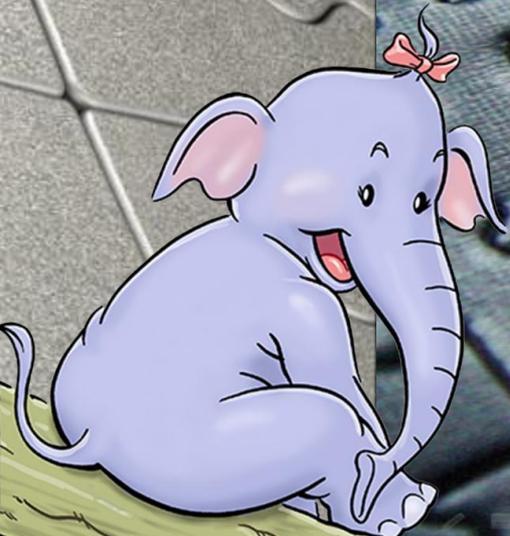
METHYLATION FITS
IN RIGHT HERE

**A methyl group is a carbon
atom holding onto three
hydrogen atoms**

**“That still does not mean
much to me. I’m not a doctor!
Can you please help me
understand this better?”**



Yes, of course. I will be glad to make this simple so you will know what it does and how important it is!



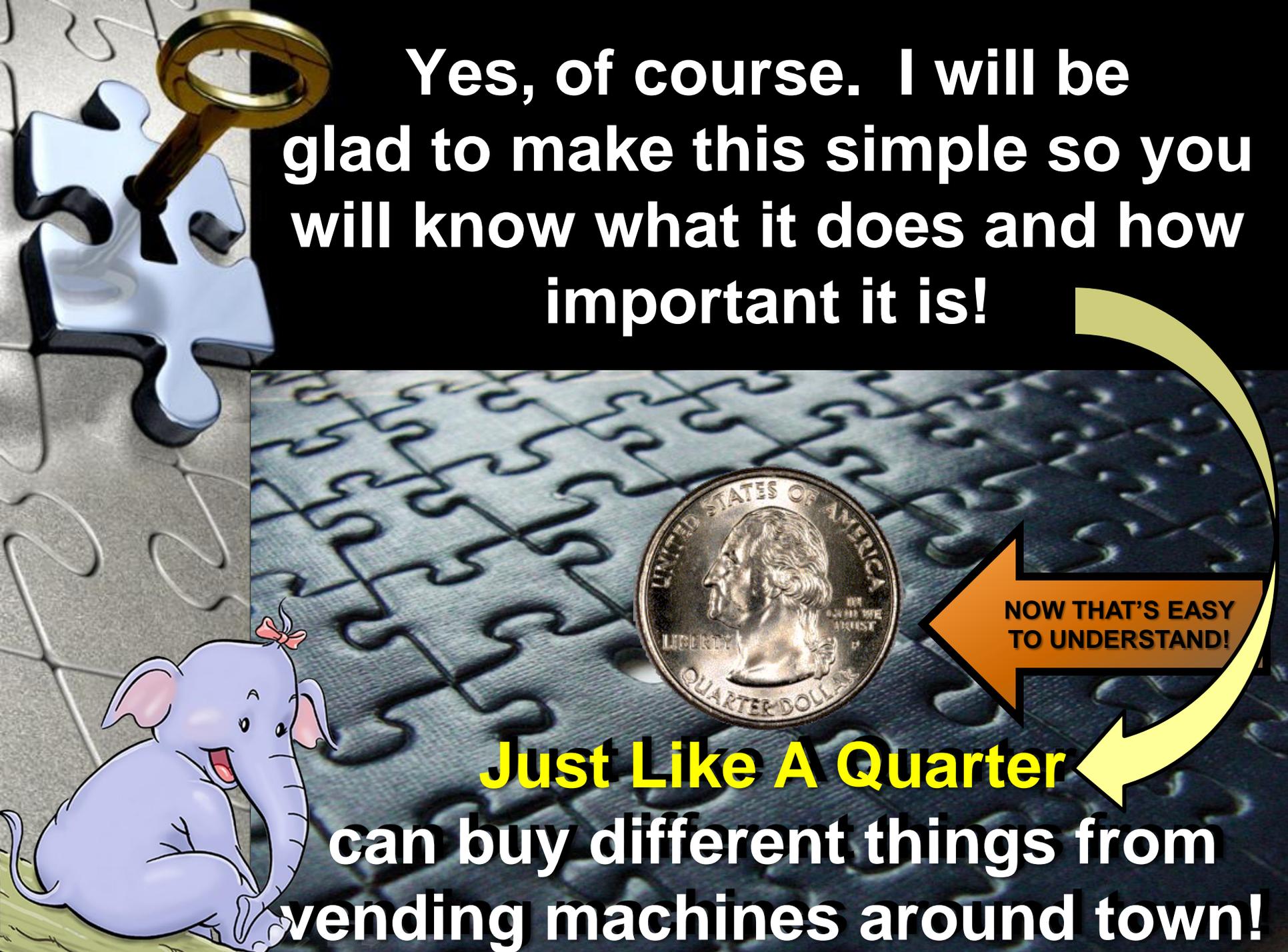


Yes, of course. I will be glad to make this simple so you will know what it does and how important it is!

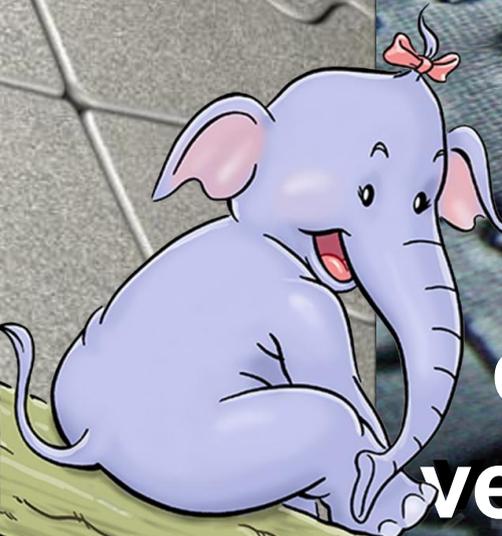


METHYLATION IS CONFUSING ME!

A methyl group can
Buy Different Products
in the brain



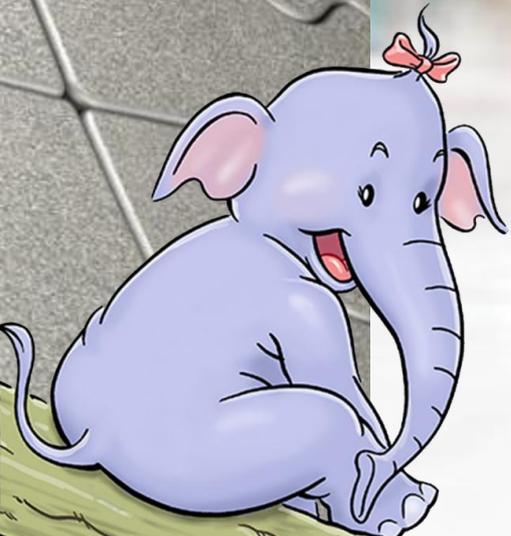
Yes, of course. I will be glad to make this simple so you will know what it does and how important it is!



NOW THAT'S EASY TO UNDERSTAND!

Just Like A Quarter
can buy different things from vending machines around town!

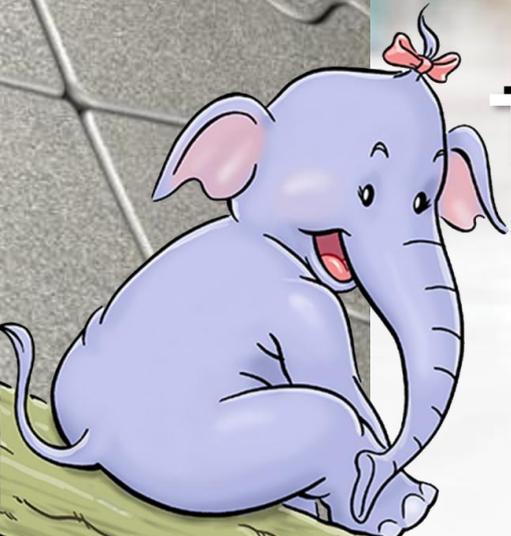
Let's Go On
A SHOPPING TRIP
With Methyl To Buy
Things For The Brain!



Let's Go On
A SHOPPING TRIP
With Methyl To Buy
Things For The Brain!



Think about each of the above
buying different products
from different types of
Vending Machines



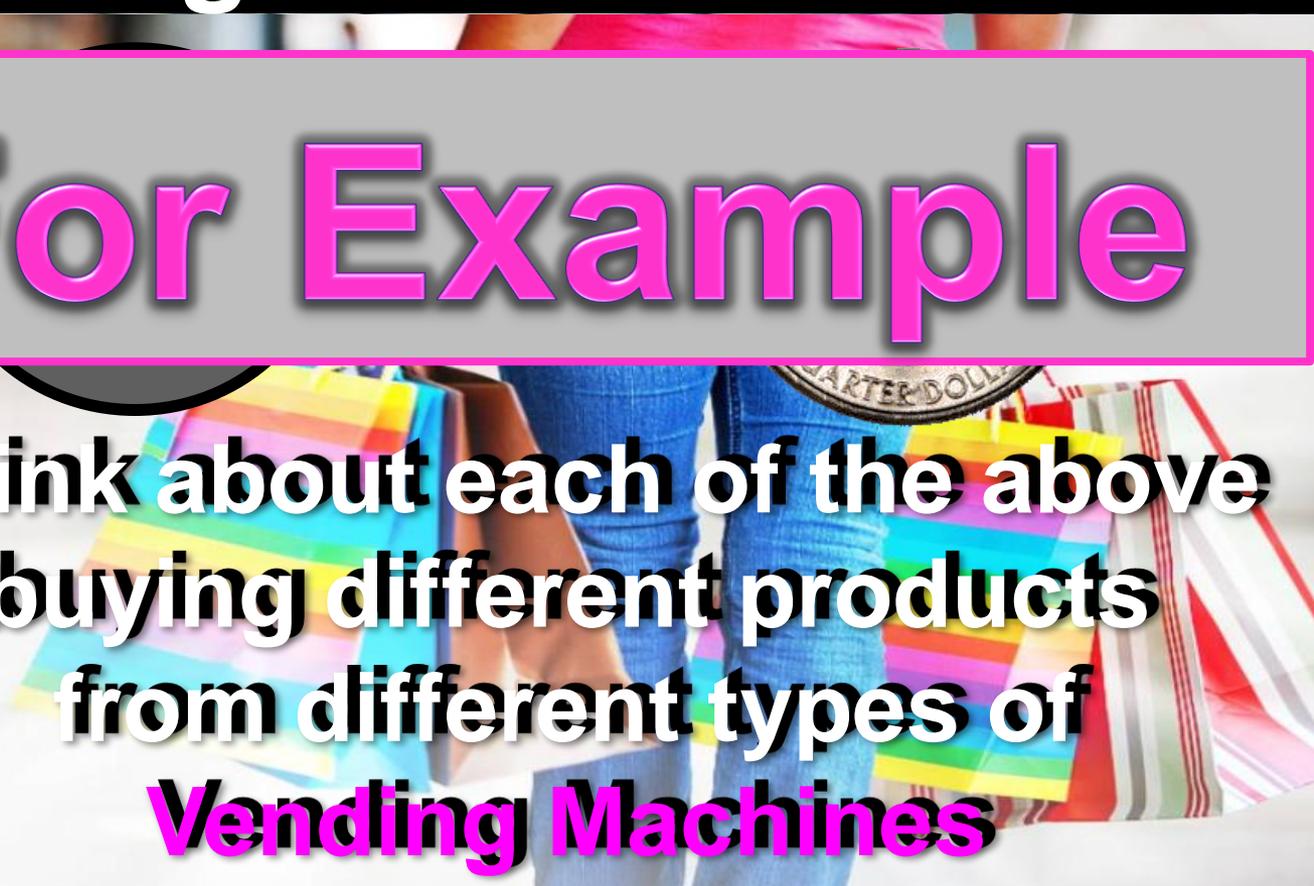


Let's Go On
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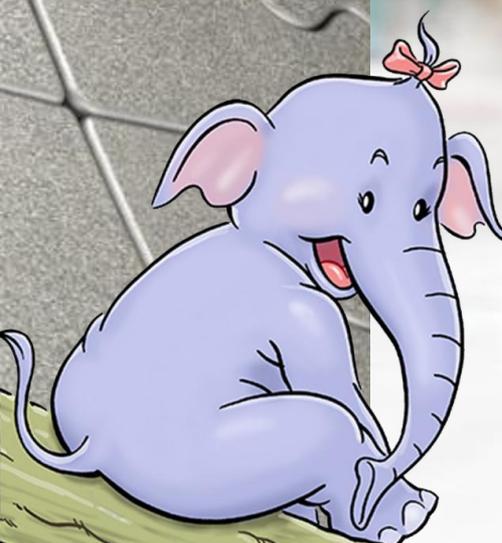
For Example



Think about each of the above
buying different products
from different types of
Vending Machines

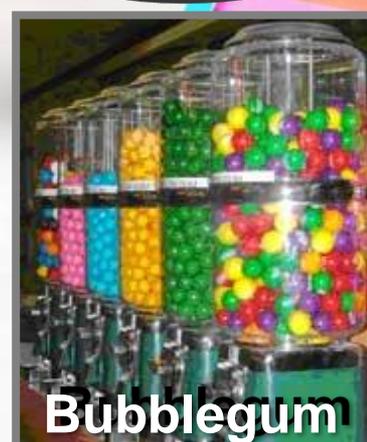
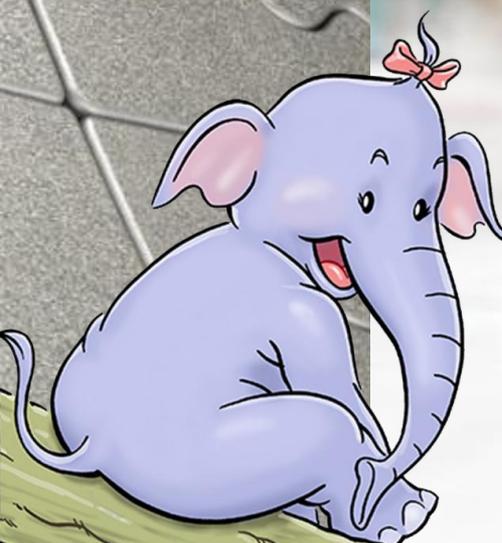


Let's Go On
A SHOPPING TRIP
With Methyl To Buy
Things For The Brain!



From
Vending Machines
Around Town
The Same Quarter
Buys **Different Products**

Let's Go On **A SHOPPING TRIP** With Methyl To Buy Things For The Brain!



Bubblegum

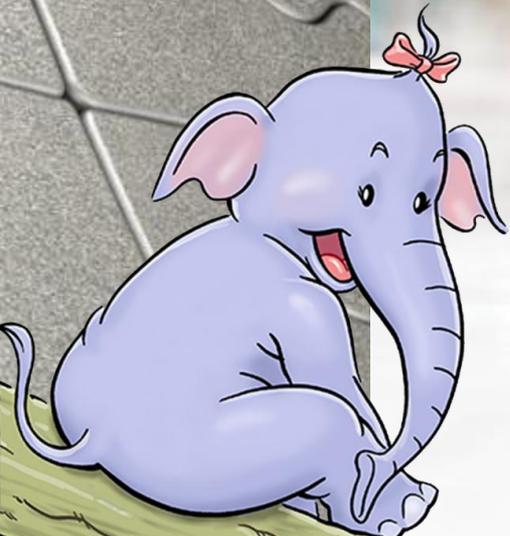


Coke



Candy

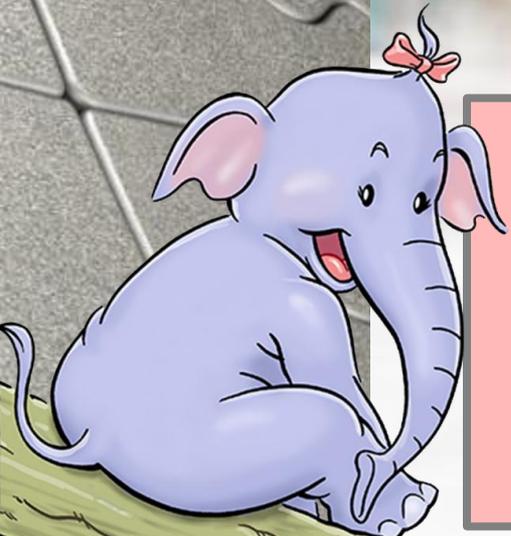
Let's Go On
A SHOPPING TRIP
With Methyl To Buy
Things For The Brain!



From
Vending Machines
In The Mind
The Same CH₃ Methyl Group
Buys **Different Products**

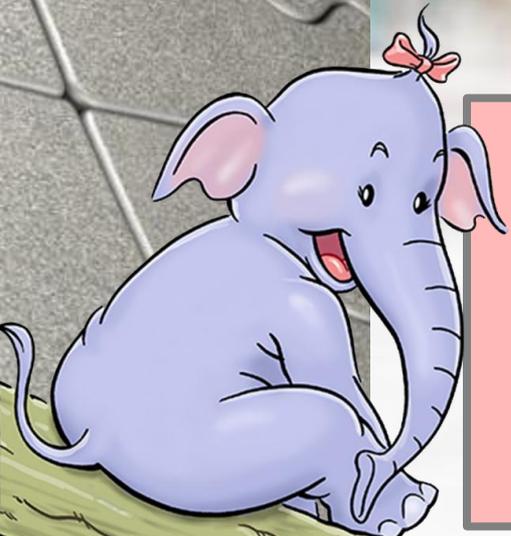
From
Vending Machines
In The Mind
The Same CH₃ Methyl Group
Buys **Different Products**

Let's Go On A SHOPPING TRIP With Methyl To Buy Things For The Brain!



Phospholipid
Molecule
"Vending
Machines"
↓
Focus and
Attention

Let's Go On A SHOPPING TRIP With Methyl To Buy Things For The Brain!

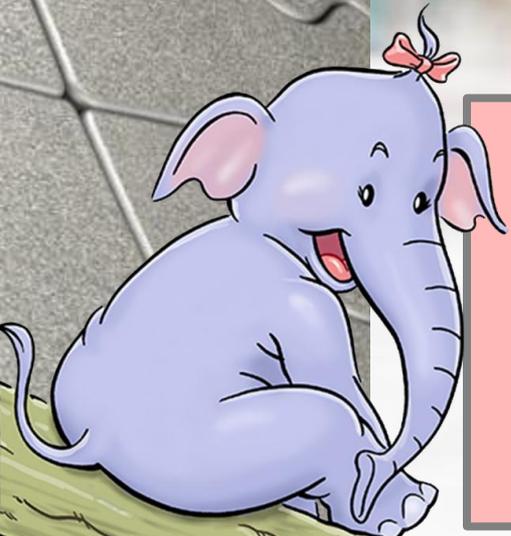
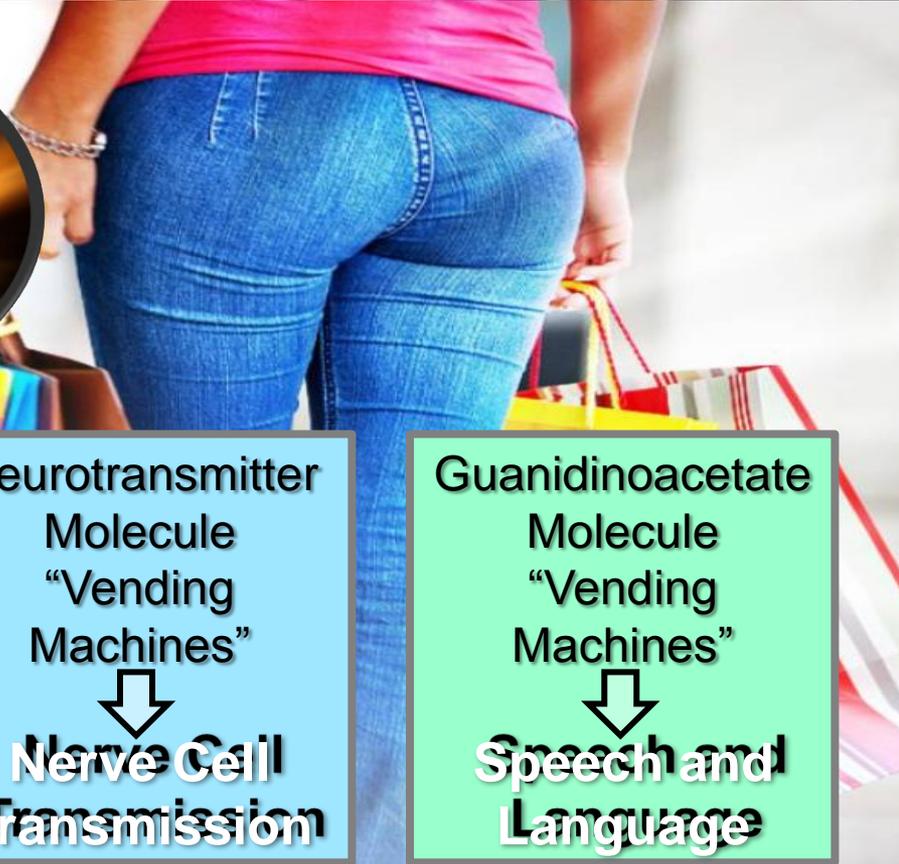


Phospholipid
Molecule
"Vending
Machines"
↓
Focus and
Attention

Neurotransmitter
Molecule
"Vending
Machines"
↓
Nerve Cell
Transmission



Let's Go On A SHOPPING TRIP With Methyl To Buy Things For The Brain!



Phospholipid
Molecule
"Vending
Machines"
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Focus and
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Neurotransmitter
Molecule
"Vending
Machines"
↓
Nerve Cell
Transmission

Guanidinoacetate
Molecule
"Vending
Machines"
↓
Speech and
Language



Thank You Methyl-B₁₂!

-Because life just seems a whole lot better overall, our moods are more stable and less unpredictable. People around us see us "nice children", often described as sweet and loveable and kids who are polite and friendly that they say they would love to take home because we are so much better than their own children! This is all so very different from what people thought about us in the past where they would avoid us and feel sorry for our parents, not even realizing that we understood!

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-We can pay more attention to the things we are supposed to be doing so we do not have to be redirected as often.

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-Even though most of us were always affectionate to our parents, because we are now so much more aware of how great life is, we just want to hug and kiss them even more as well as others around us that we know. This is true for our grandparents as they become some of the happiest people in the world because we now recognize them as "family" and start to interact with them in very loving ways. In addition, we now start to look at people in the eyes, both family and friends.

-We start to be able to understand how other children and adults are feeling, something that we never really understood before. For the first time we know when they are happy or sad about something, angry or upset, or even scared.

-We no longer get as worried or upset as much or have tantrums or meltdowns when there are changes in our daily lives or routines.

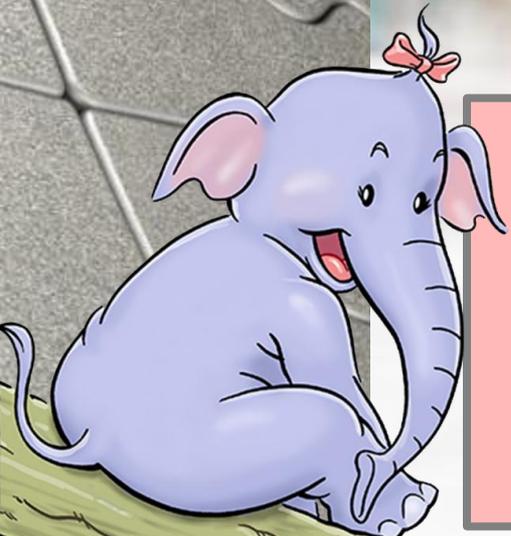
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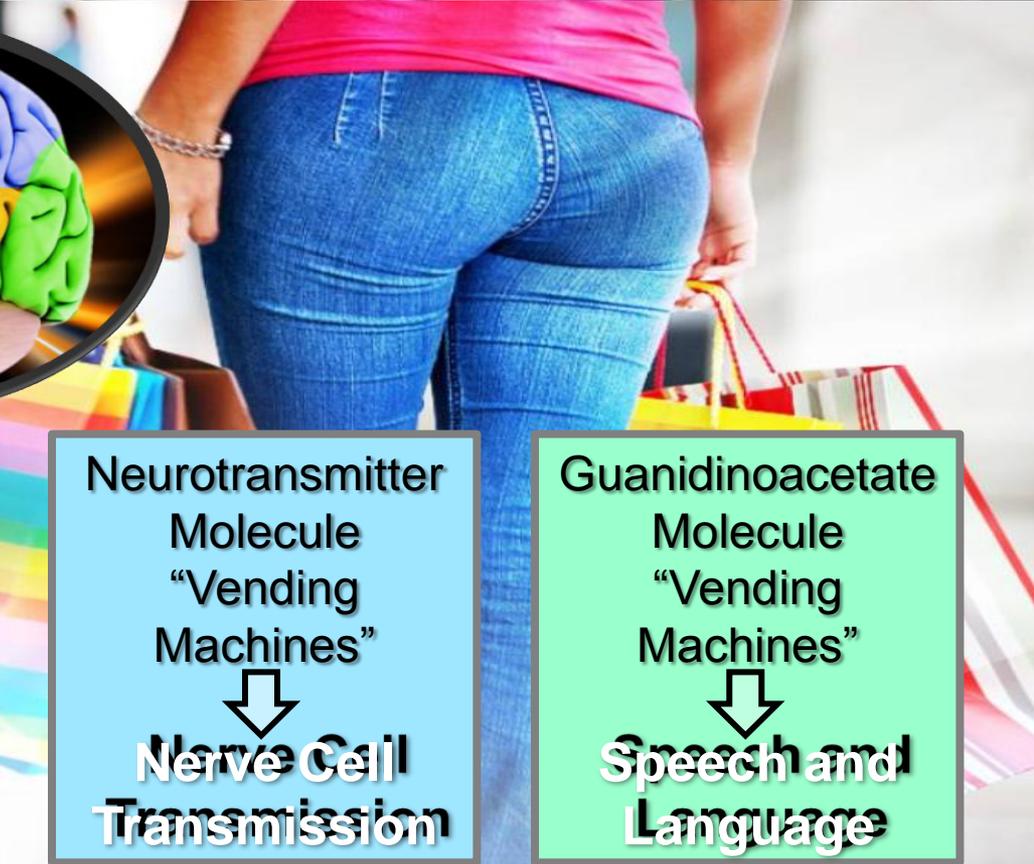
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Phospholipid
Molecule
"Vending
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↓
Focus and
Attention

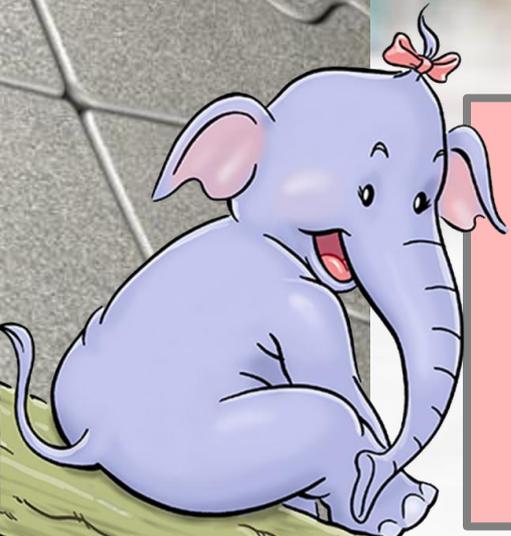
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Speech and
Language



We Love What You Bought For Us!

<p>- Because life just seems a whole lot better overall, our moods are more stable and less unpredictable. People around us see us "nice children", often described as sweet and lovable and kids who are polite and friendly that they say they would love to take home because we are so much better than their own children! This is all so very different from what people thought about us in the past where they would avoid us and feel sorry for our parents, not even realizing that we understood!</p>	<p>- We start to talk better and put together more words in longer phrases or sentences and sometimes we even have back-and-forth conversations with our parents and teachers.</p> <p>- We can pay more attention to the things we are supposed to be doing so we do not have to be redirected as often.</p> <p>- Our minds do not wander off from what we are supposed to be doing as much as before so we can complete the tasks we are engaged in more easily.</p>	<p>- Even though most of us were always affectionate to our parents, because we are now so much more aware of how great life is, we just want to hug and kiss them even more as well as others around us that we know. This is true for our grandparents as they become some of the happiest people in the world because we now recognize them as "family" and start to interact with them in very loving ways. In addition, we now start to look at people in the eyes, both family and friends.</p>
<p>- We start to be able to understand how other children and adults are feeling, something that we never really understood before. For the first time we know when they are happy or sad about something, angry or upset, or even scared.</p> <p>- We no longer get as worried or upset as much or have tantrums or meltdowns when there are changes in our daily lives or routines.</p> <p>- We are just happier about life in general because we see now see that we have a chance.</p>	<p>- We become more self confident in what we are doing and what we want and not want to do. Therefore we are much more opinionated about how things should and should not be done and what we are willing to accept without putting up a fuss. When we do disagree with what we believe is right and subsequently express our opinions, our behaviors are often misunderstood as being less compliant rather than what they really represent, that being that we are maturing.</p>	<p>- We can think more clearly and remember things much better and we are also able to do new and harder things that we could never do before.</p> <p>- We are much more aware of everything that is going on around us and therefore we get much more involved with our family and friends.</p> <p>- We start playing with other children our own age and interact with them and actually start to make our own friends who like us and want to be around us.</p>



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"Vending
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↓

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Neurotransmitter
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Nerve Cell
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Guanidinoacetate
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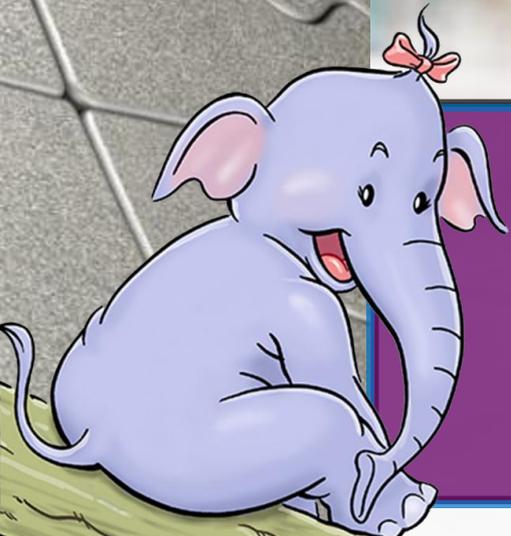
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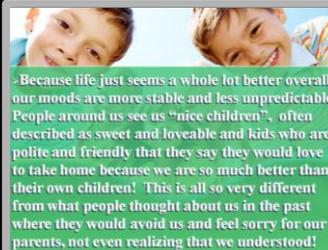


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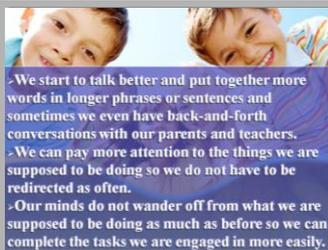


Gains in speech & language
More focus & attention
Better cognition & memory

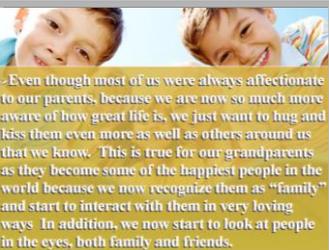
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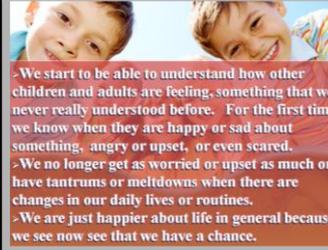
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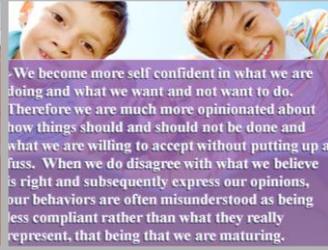
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- Our minds do not wander off from what we are supposed to be doing as much as before so we can complete the tasks we are engaged in more easily.



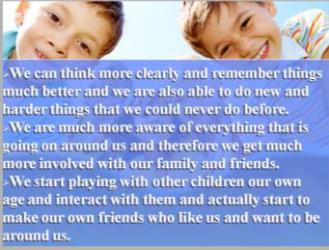
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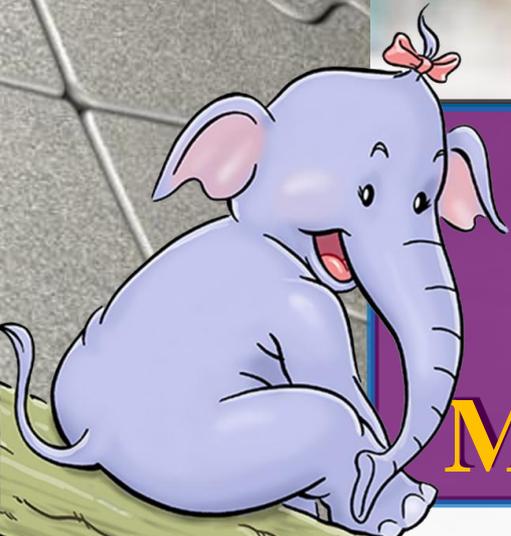
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- We no longer get as worried or upset as much or have tantrums or meltdowns when there are changes in our daily lives or routines.
- We are just happier about life in general because we see now see that we have a chance.



- We become more self confident in what we are doing and what we want and not want to do. Therefore we are much more opinionated about how things should and should not be done and what we are willing to accept without putting up a fuss. When we do disagree with what we believe is right and subsequently express our opinions, our behaviors are often misunderstood as being less compliant rather than what they really represent, that being that we are maturing.



- We can think more clearly and remember things much better and we are also able to do new and harder things that we could never do before.
- We are much more aware of everything that is going on around us and therefore we get much more involved with our family and friends.
- We start playing with other children our own age and interact with them and actually start to make our own friends who like us and want to be around us.

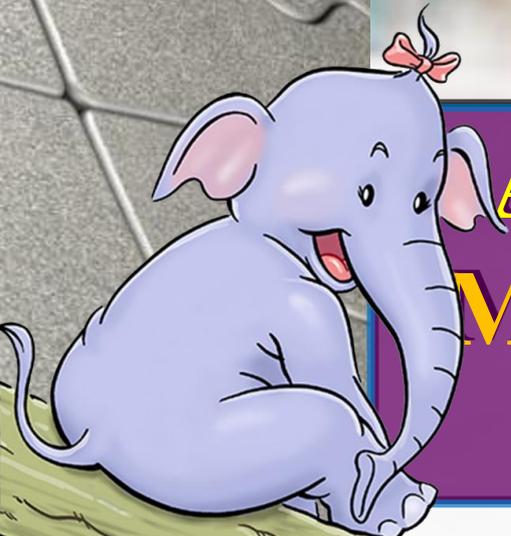


Increased awareness
Improved executive skills
More appropriate socialization

We Love What You Bought For Us!



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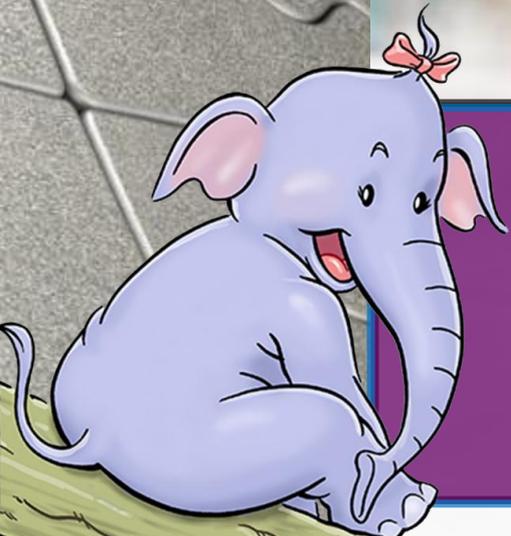
Ability to understand emotions
More flexibility with transition
Better eye contact



We Love What You Bought For Us!



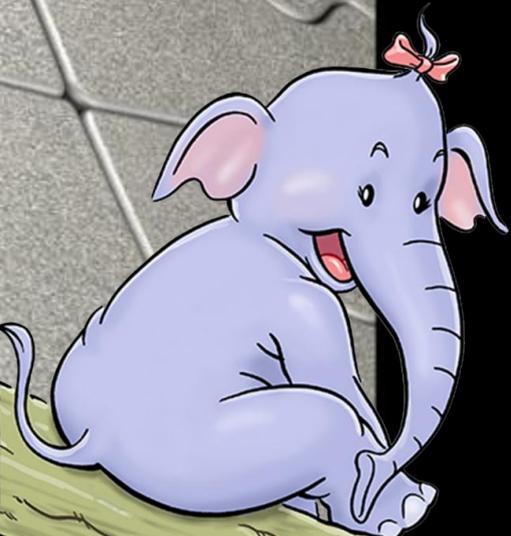
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More independence
More self-confidence
More self-assertiveness



So Where Does Methyl-B₁₂ Come From?



THE SCIENCE OF METHYL-B₁₂

Why does it work for the children?



Dr. Neubrander's Explanation How We Get Methyl-B₁₂



Adenosyl B₁₂



Hydroxy B₁₂



Cyano B₁₂



Sulfito B₁₂



Methyl B₁₂



Glutathionyl B₁₂

You Know
The Animal
B₁₂ Family

Dr. Neubrandner's Explanation How We Get Methyl-B₁₂



Adenosyl B₁₂



Hydroxy B₁₂



Cyano B₁₂



Sulfito B₁₂



Methyl B₁₂



Glutathionyl B₁₂

Now Meet
The People
B₁₂ Family

Dr. Neubrandner's Explanation How We Get Methyl-B₁₂



Adenosyl B₁₂



Hydroxy B₁₂



Cyano B₁₂



Sulfito B₁₂



Methyl B₁₂

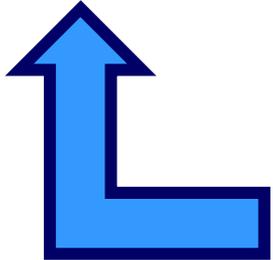


Glutathionyl B₁₂

Methyl Has
Five Brothers
And Sisters

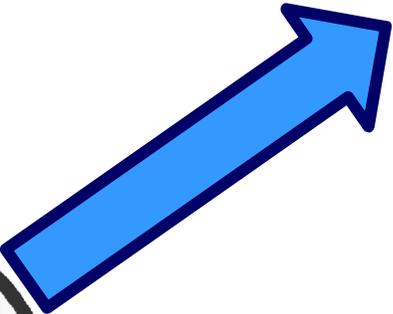
Dr. Neubrander's Explanation How We Get Methyl-B₁₂

FOLATE CYCLE

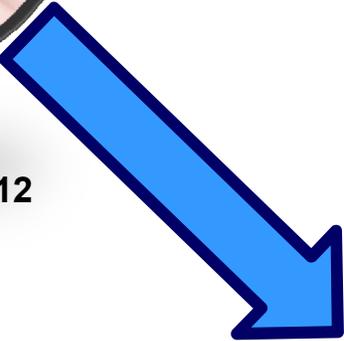


Methyl B₁₂

TRANSMETHYLATION



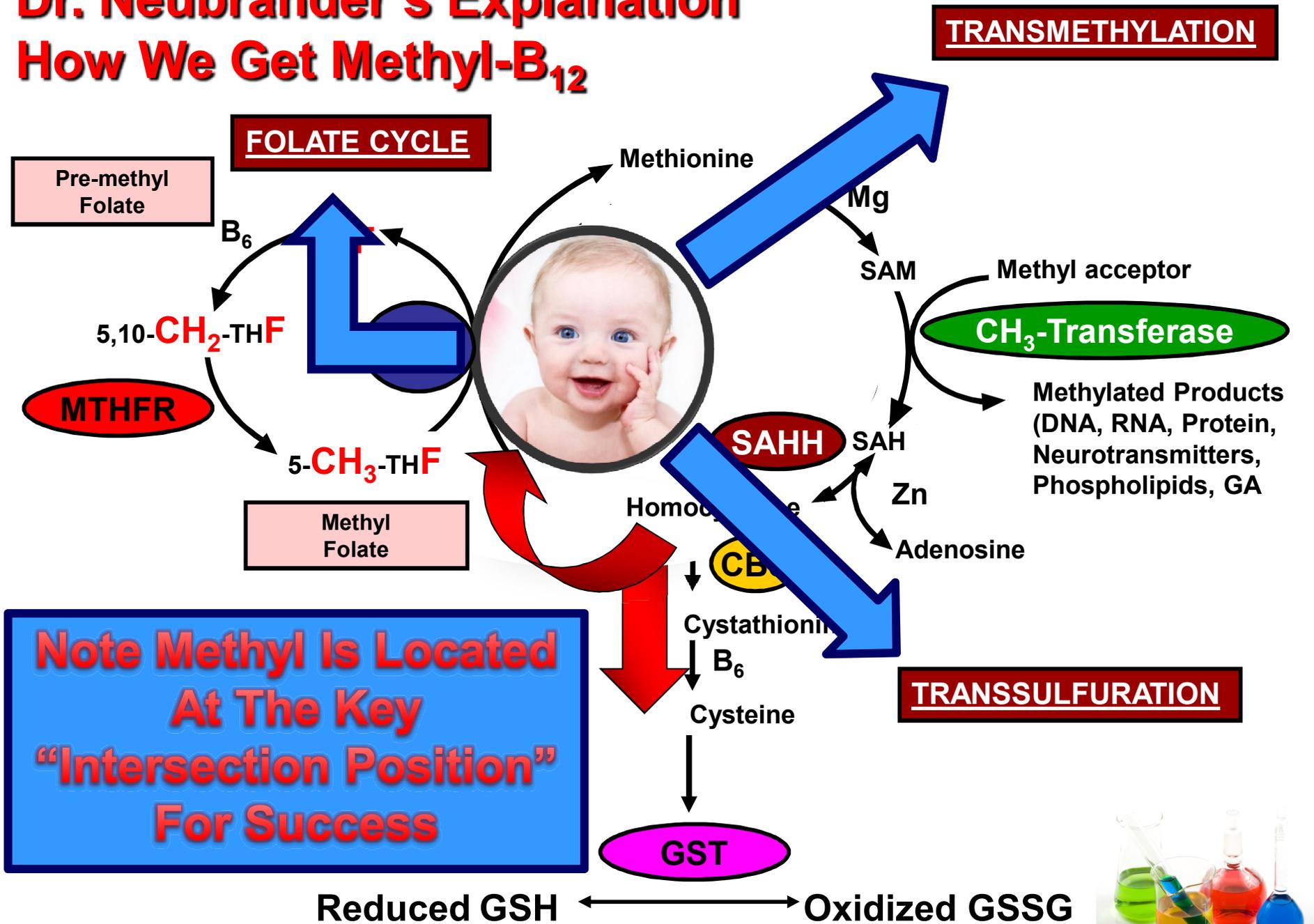
TRANSSULFURATION



**Note Methyl Is Located
At The Key
“Intersection Position”
For Success**



Dr. Neubrander's Explanation How We Get Methyl-B₁₂



Dr. Neubrander's Explanation How We Get Methyl-B₁₂



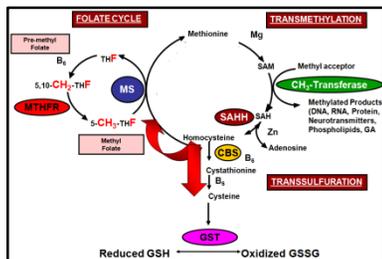
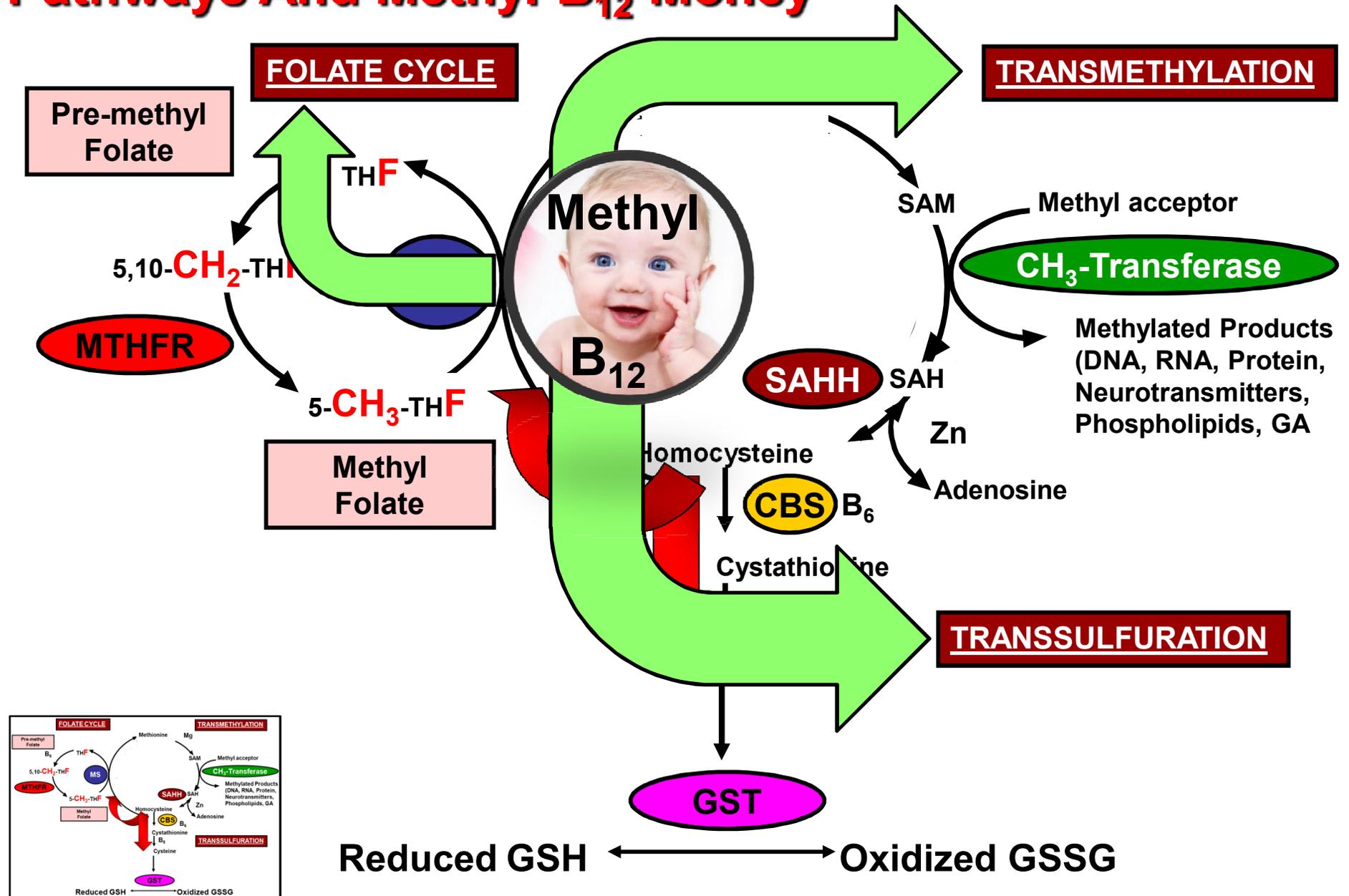
**“I Tie
Everything
Together!”**

FOLATE CYCLE

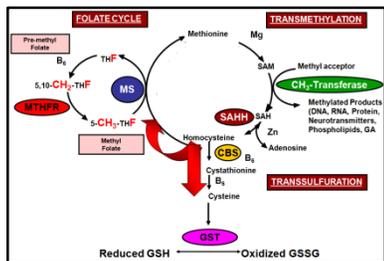
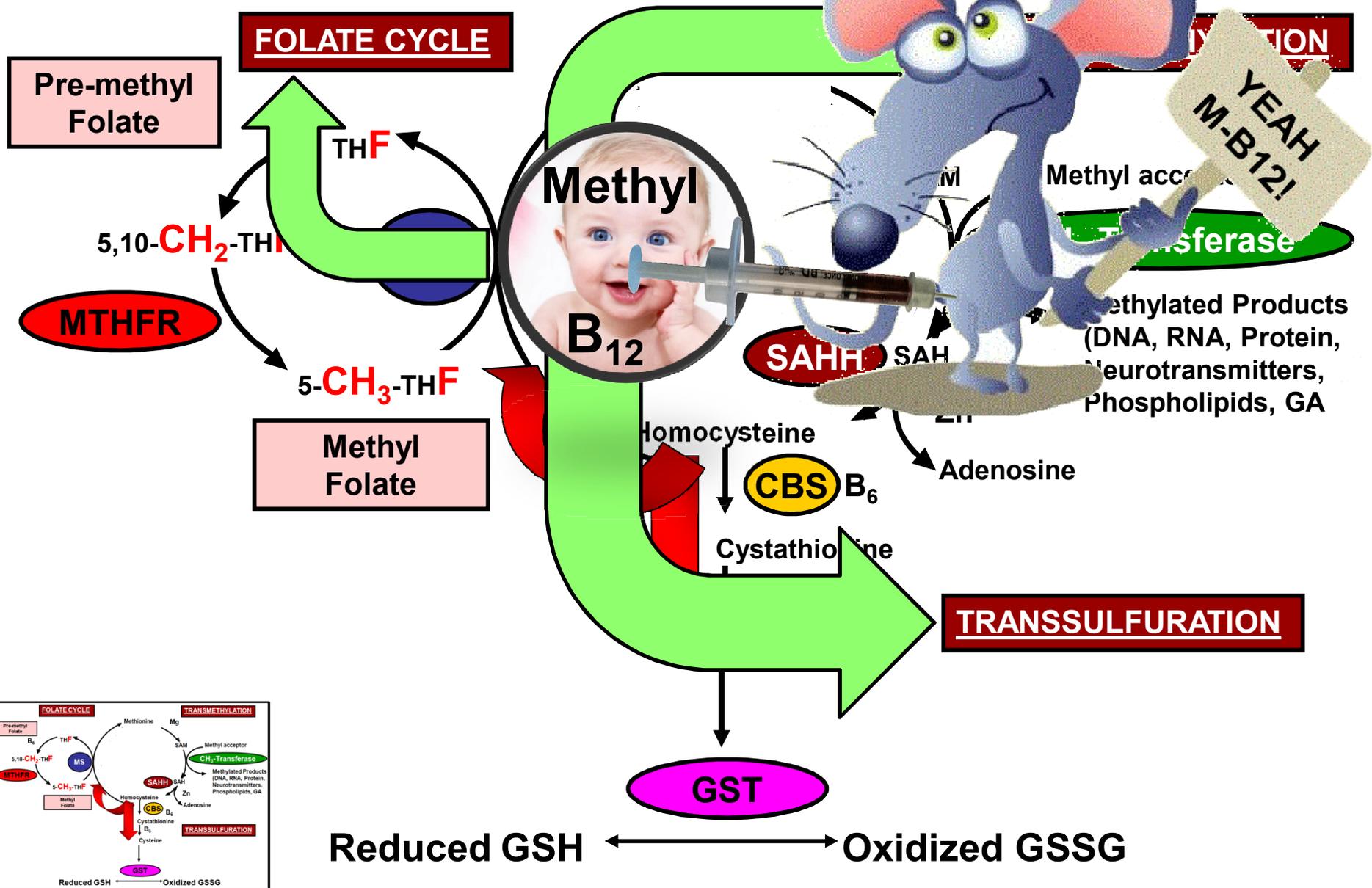
TRANSMETHYLATION

TRANSULFURATION

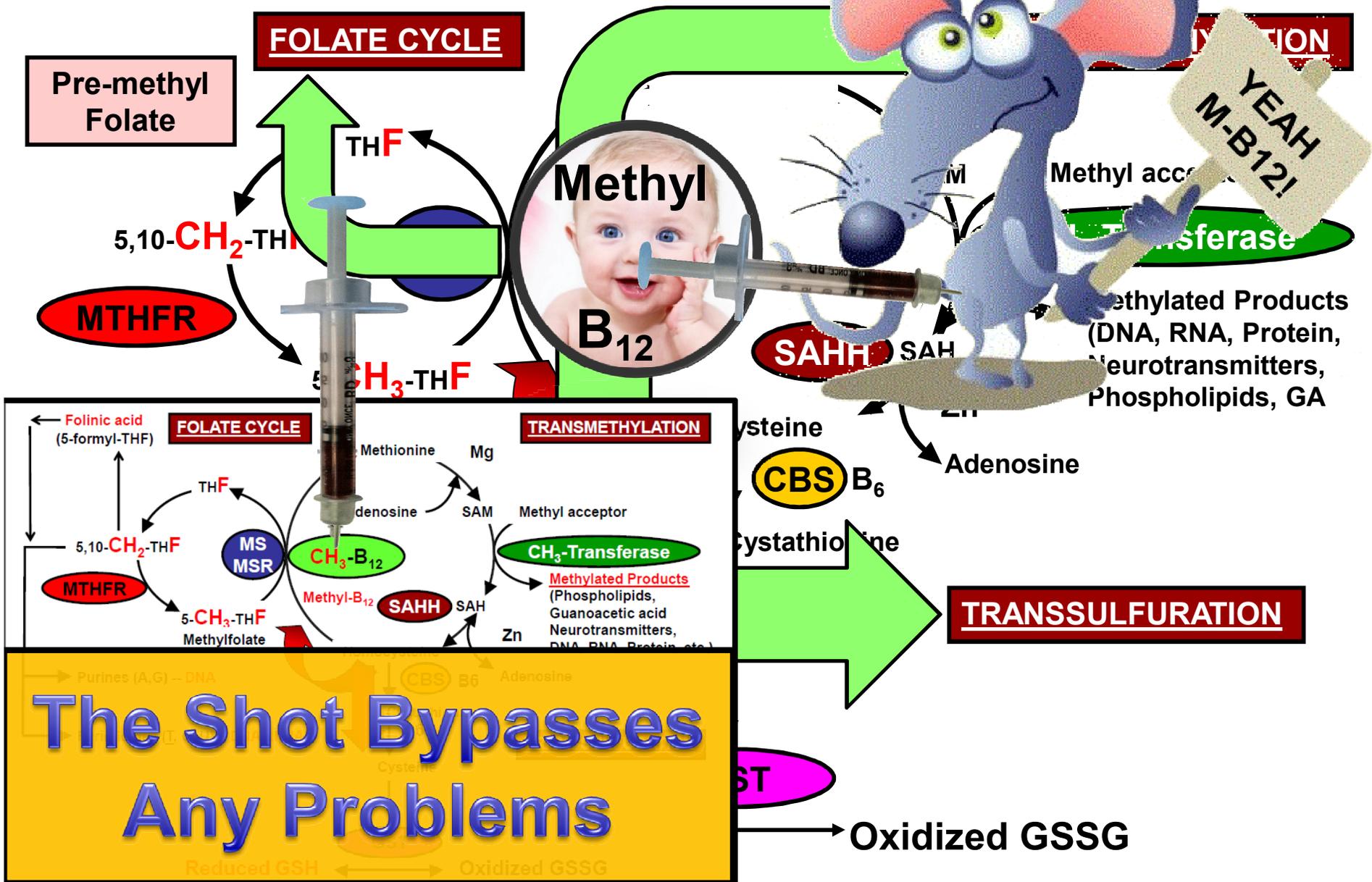
Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



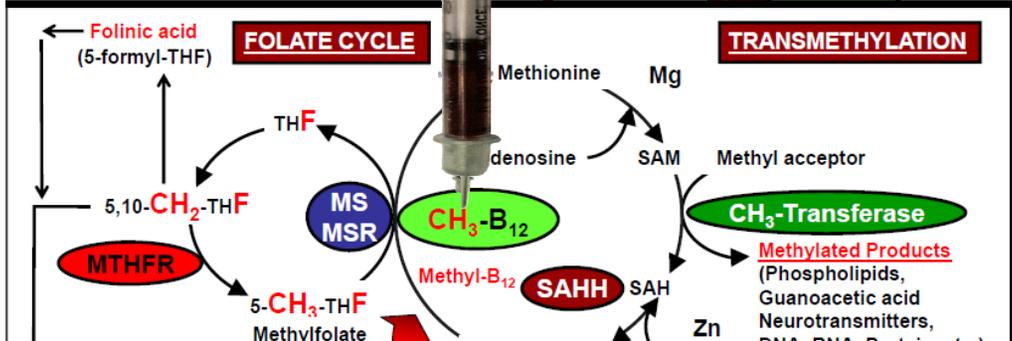
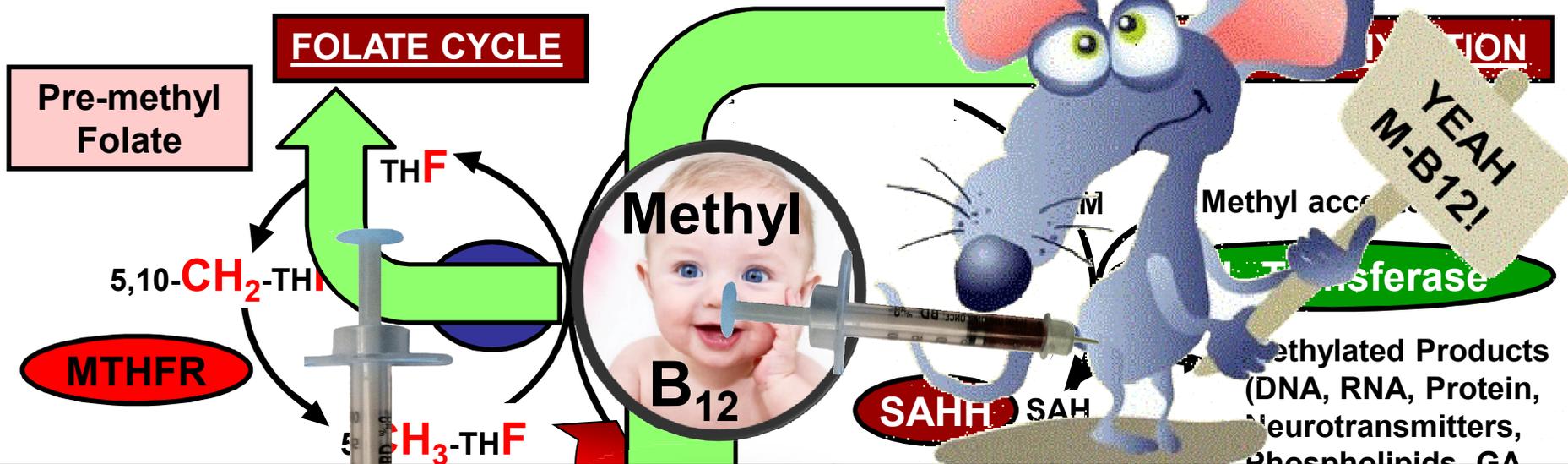
Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



Defective DHFR
(The Humpty Dumpty Enzyme)

Defective RFCs
(The Transportation System)

MTHFR Mutations
(The Many Different Types)

The Shot Bypasses Any Problems

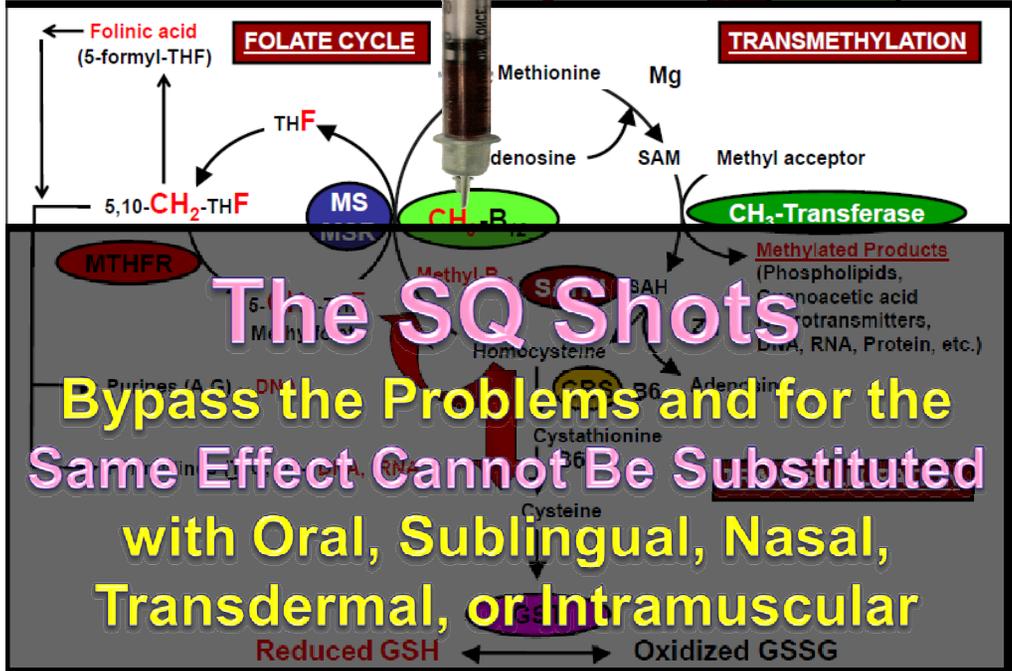
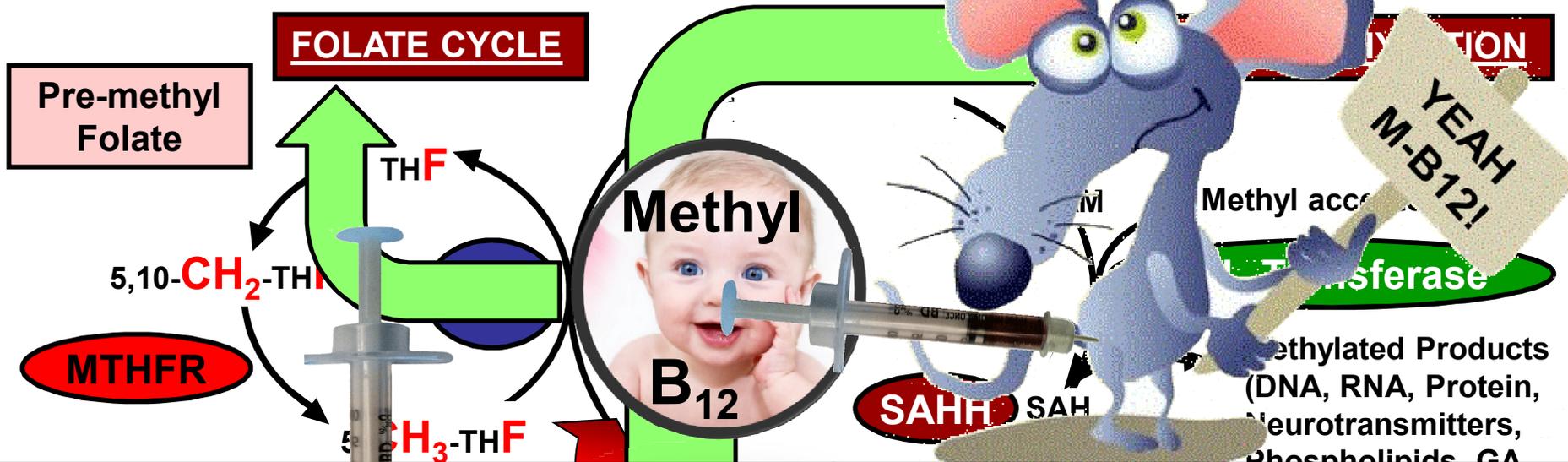
Purines (A, G) - DNA

CBS B6 Adenosine

Cysteine

Reduced GSH ↔ Oxidized GSSG

Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



Defective DHFR
(The Humpty Dumpty Enzyme)

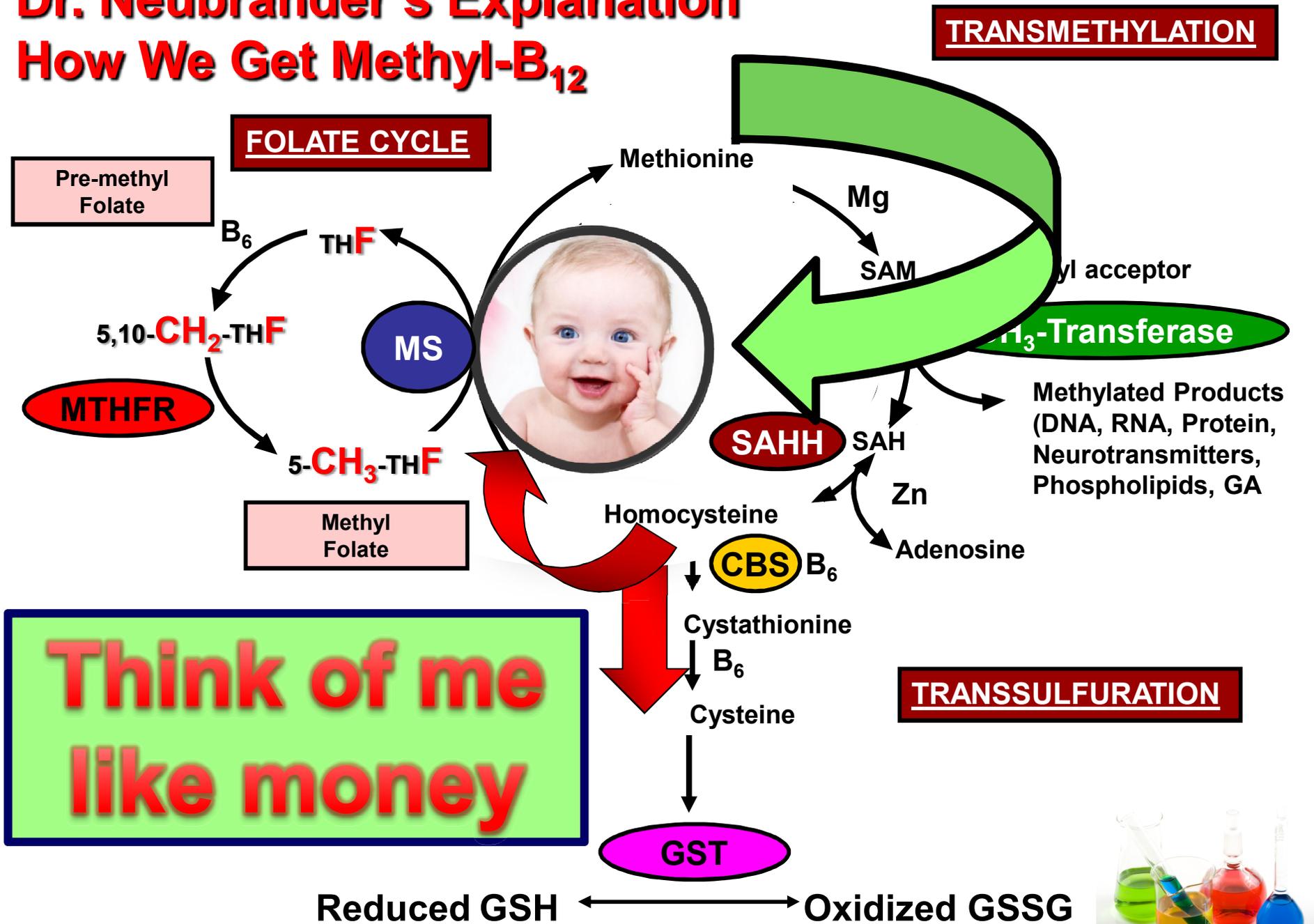
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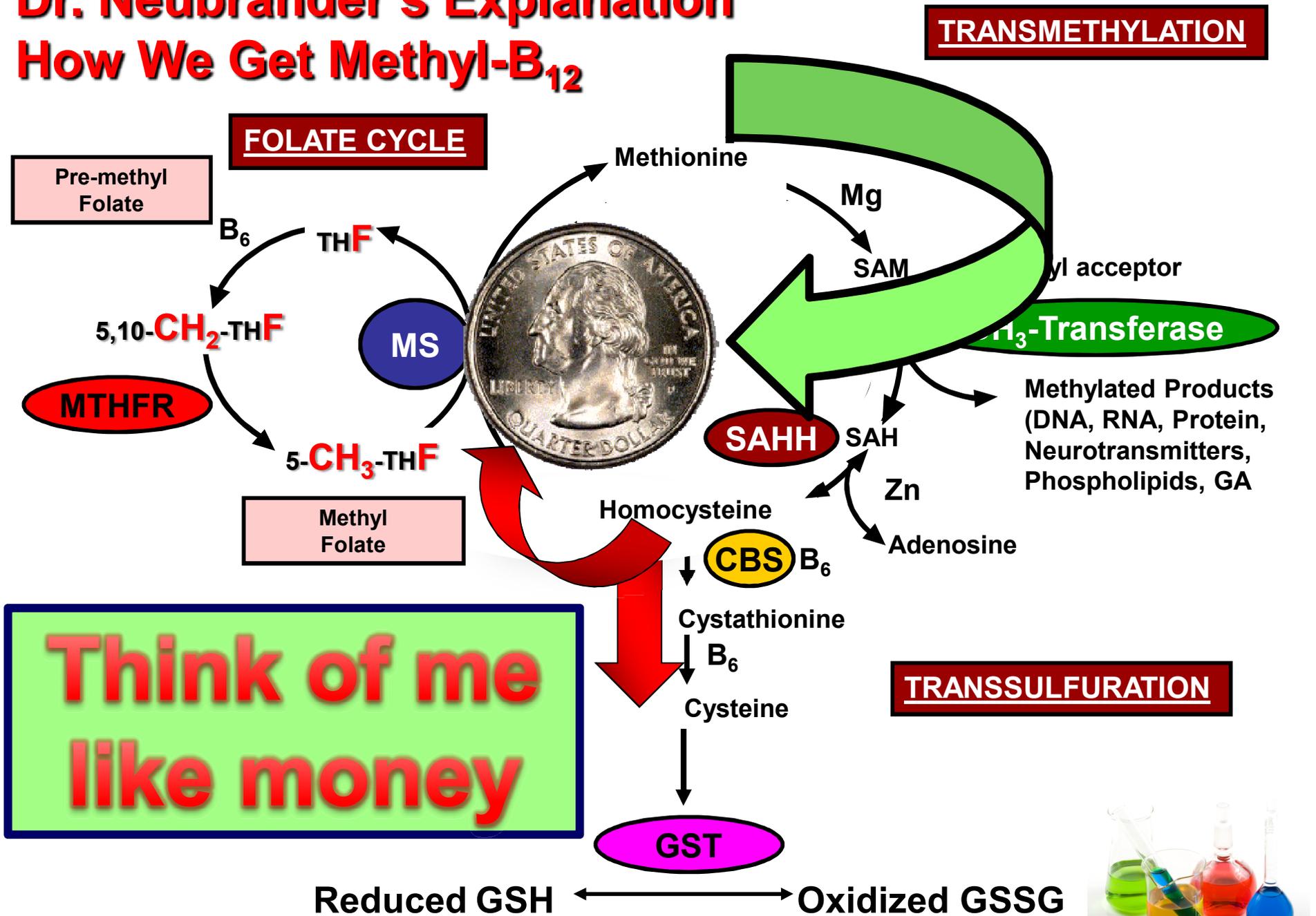
The SQ Shots

Bypass the Problems and for the Same Effect Cannot Be Substituted with Oral, Sublingual, Nasal, Transdermal, or Intramuscular

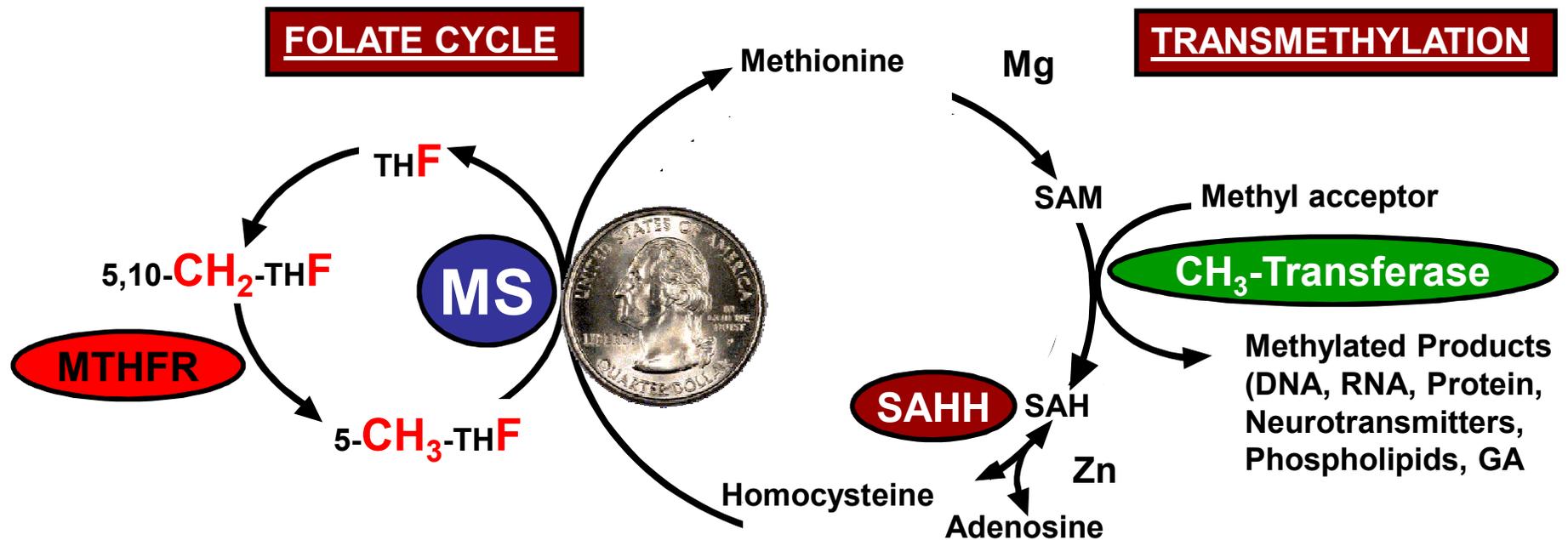
Dr. Neubrander's Explanation How We Get Methyl-B₁₂



Dr. Neubrander's Explanation How We Get Methyl-B₁₂



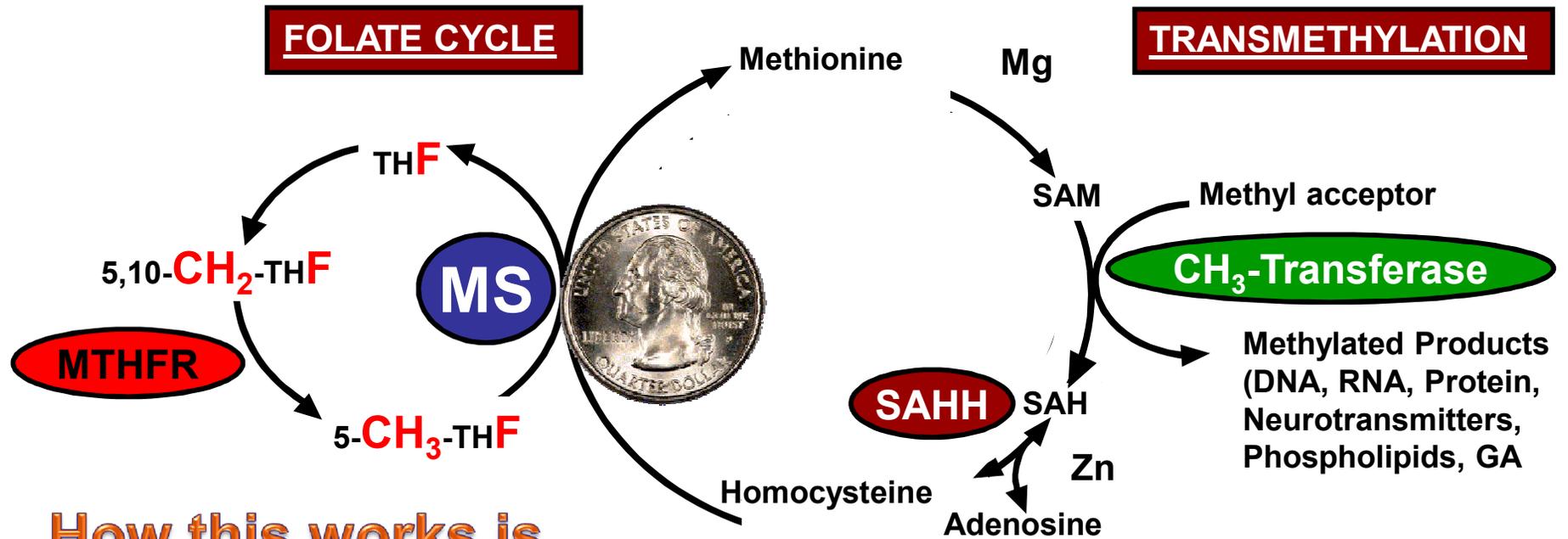
Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



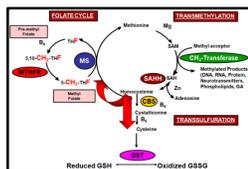
You will recall that the **METHYL GROUP** is like **MONEY WE SPEND** on our Shopping Trip in the brain vending machines to buy speech and language, cognition, focus and attention, socialization, etc.



Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



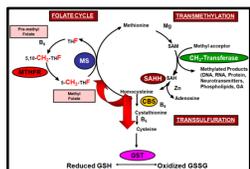
How this works is easiest explained by thinking about **The Methyl-B₁₂ Grandfather Clock**



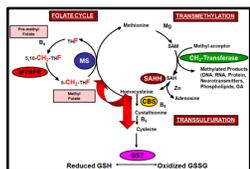
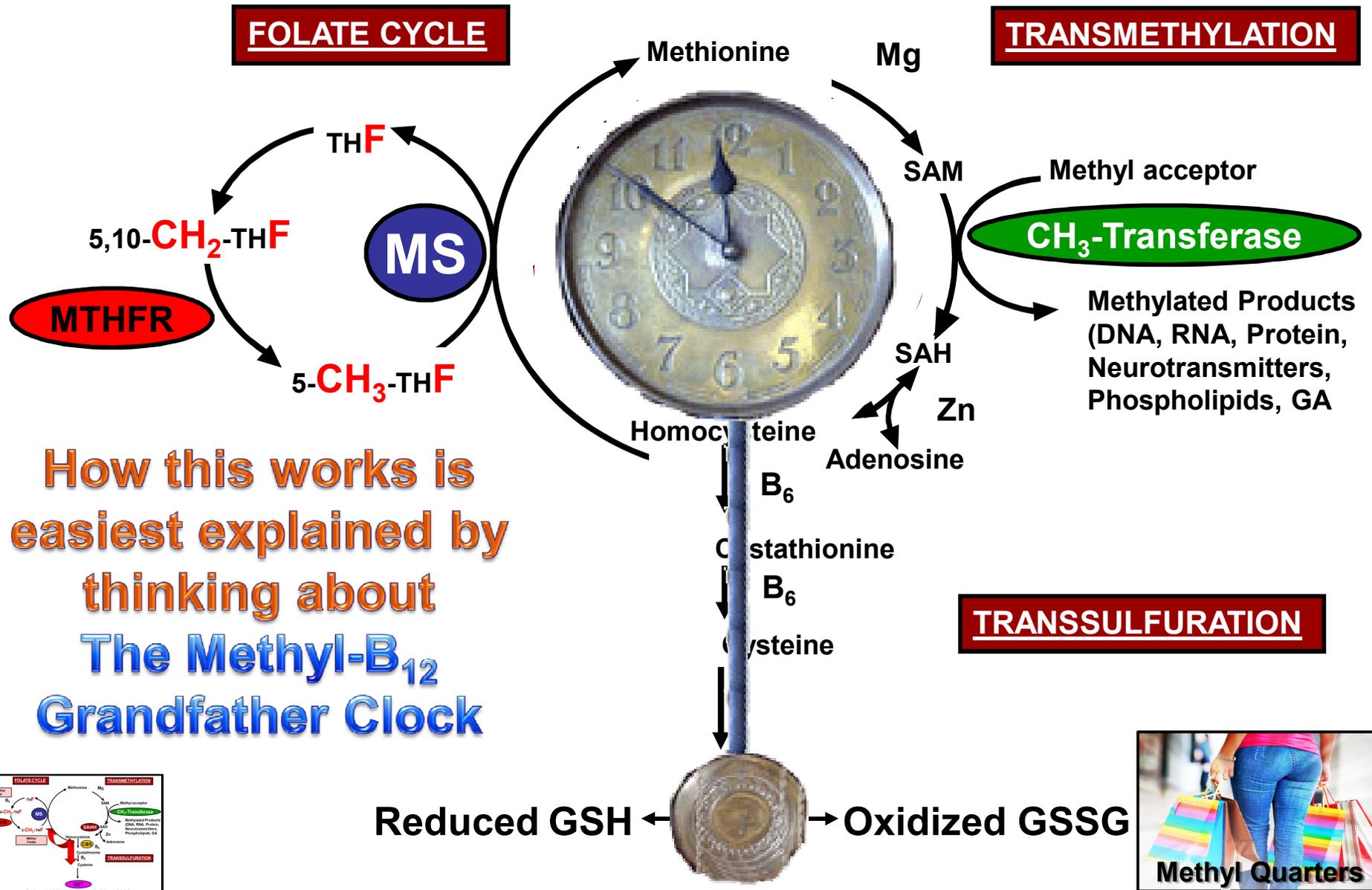
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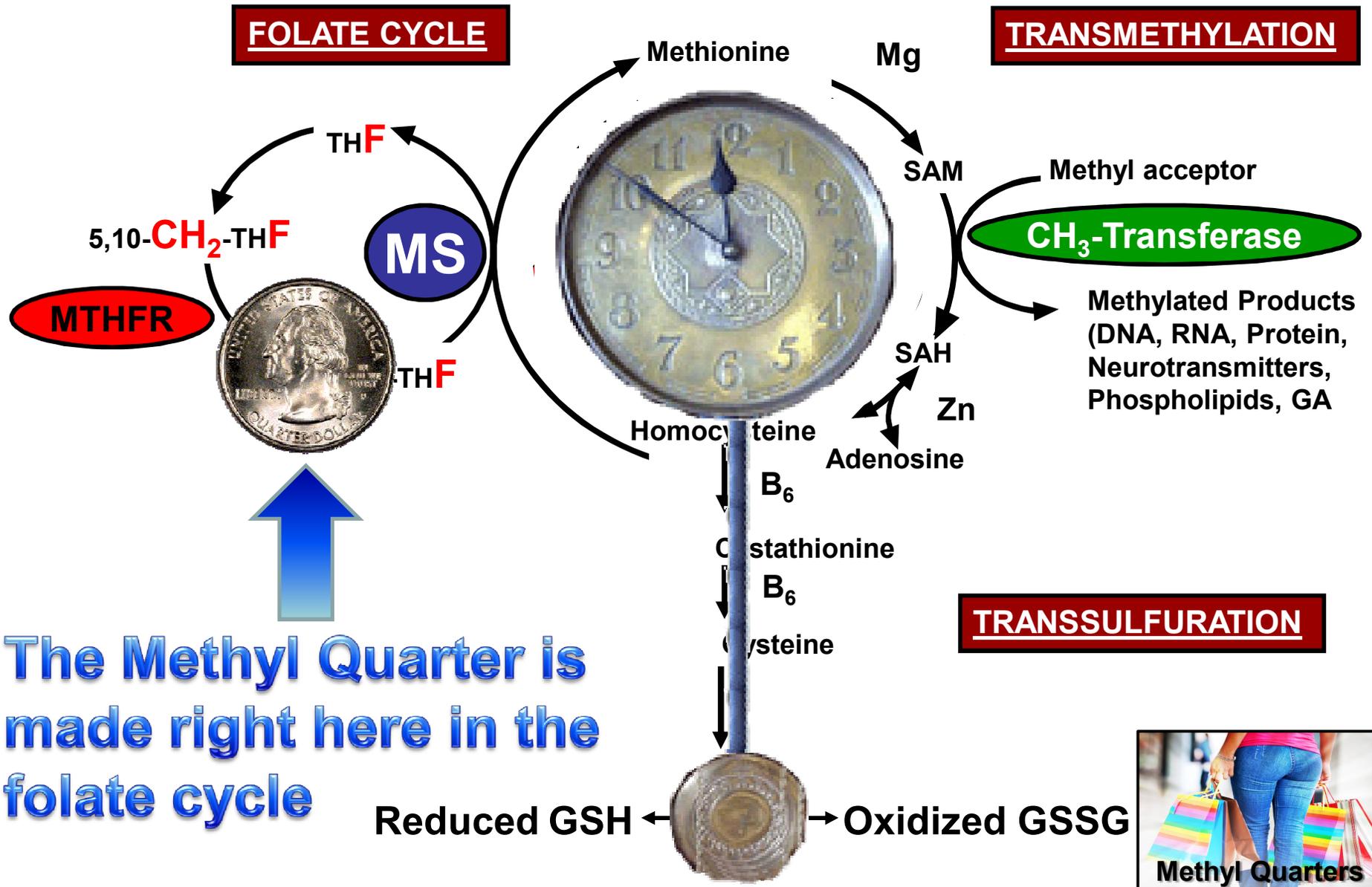
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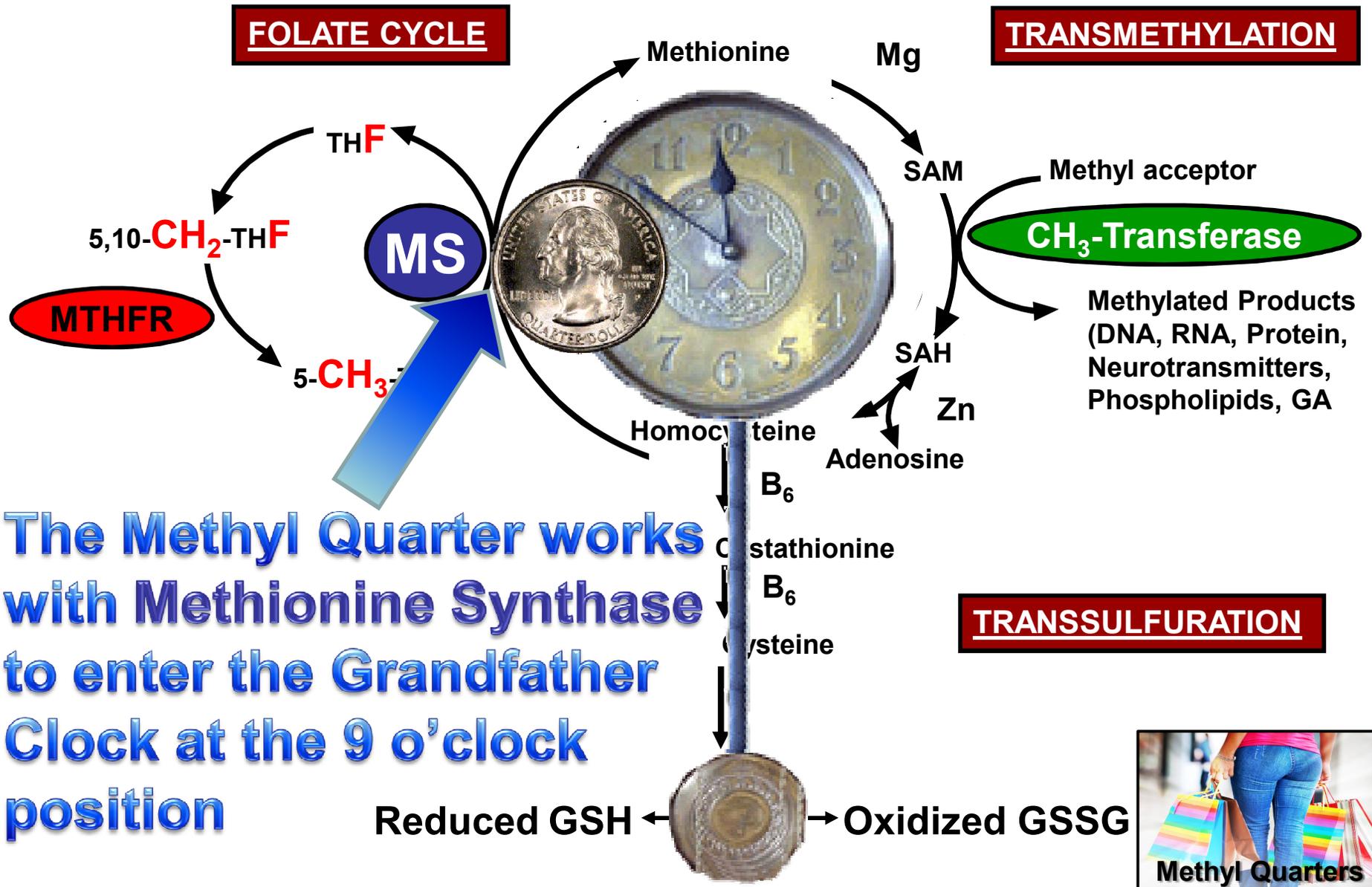
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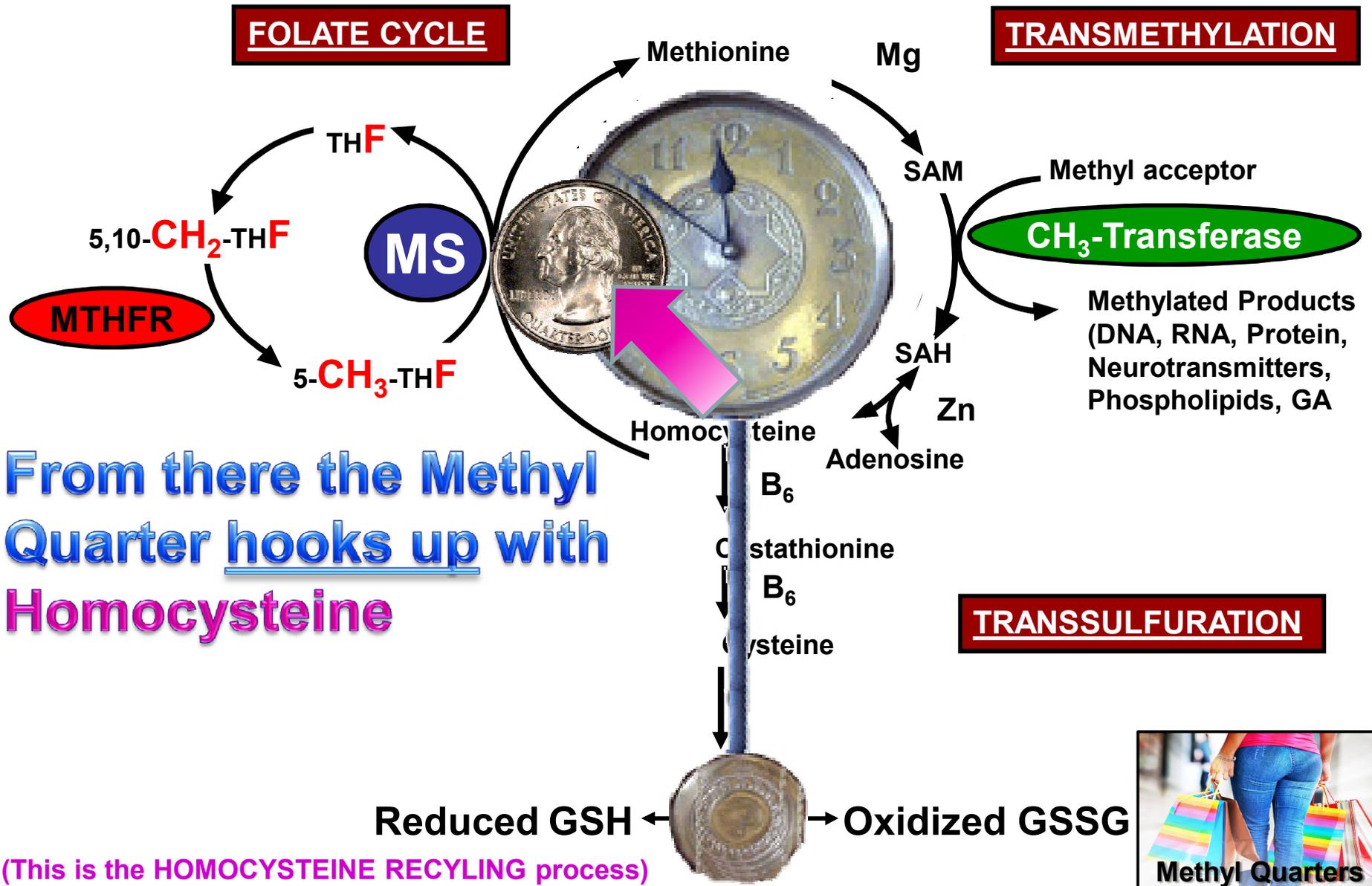
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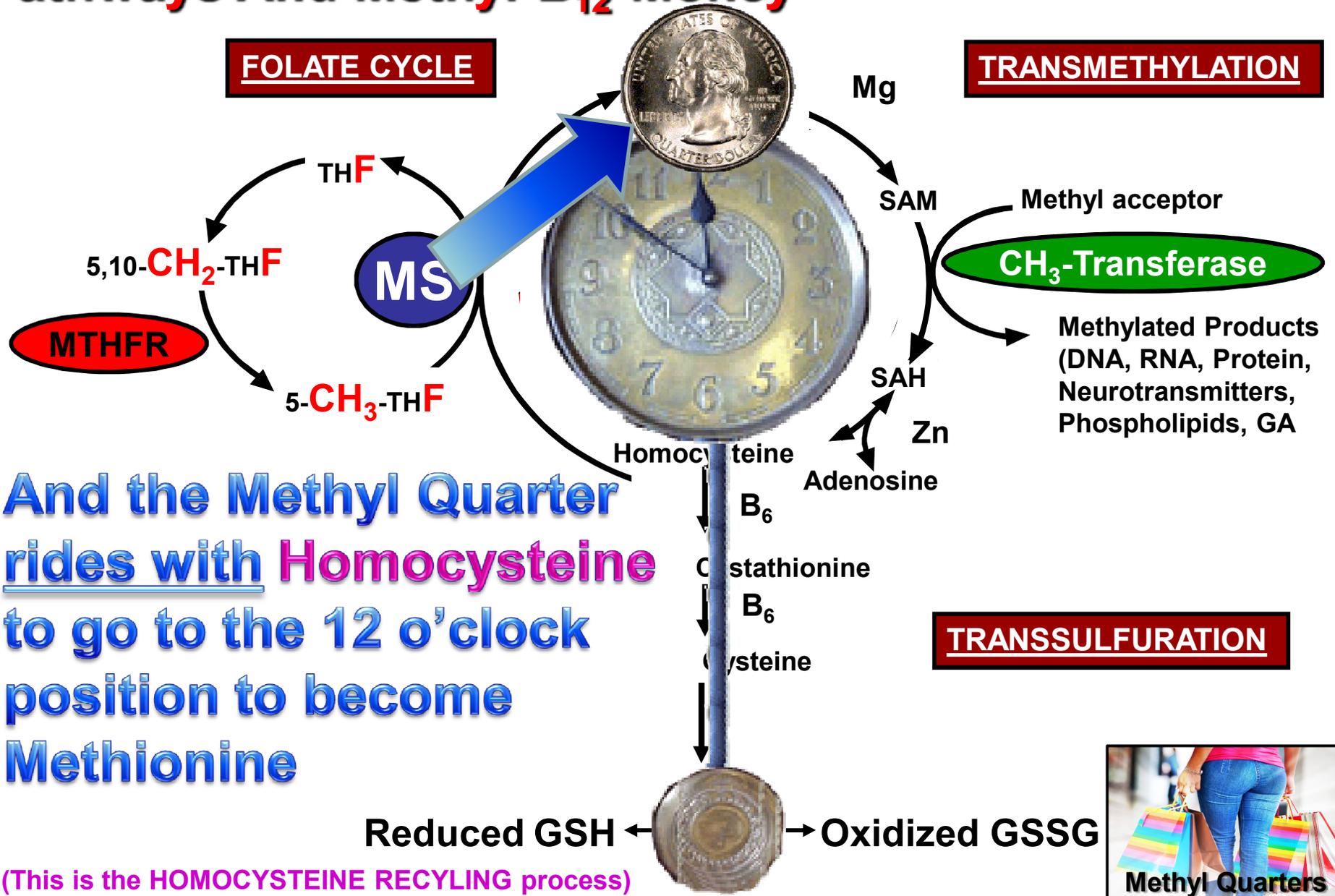


Dr. Neubrander Explains The Interactive Pathways And Methyl-B₁₂ Money

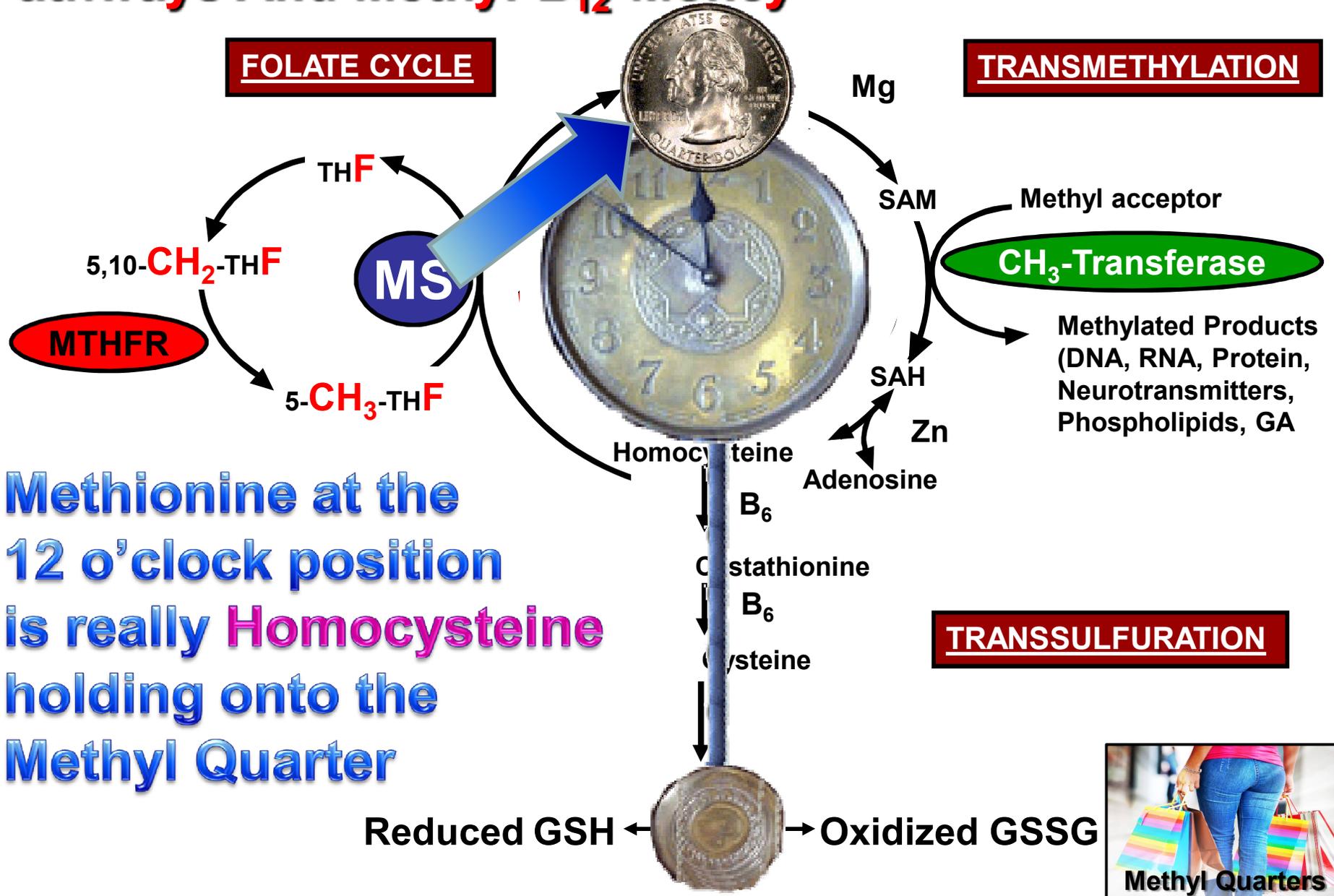


From there the Methyl Quarter hooks up with Homocysteine

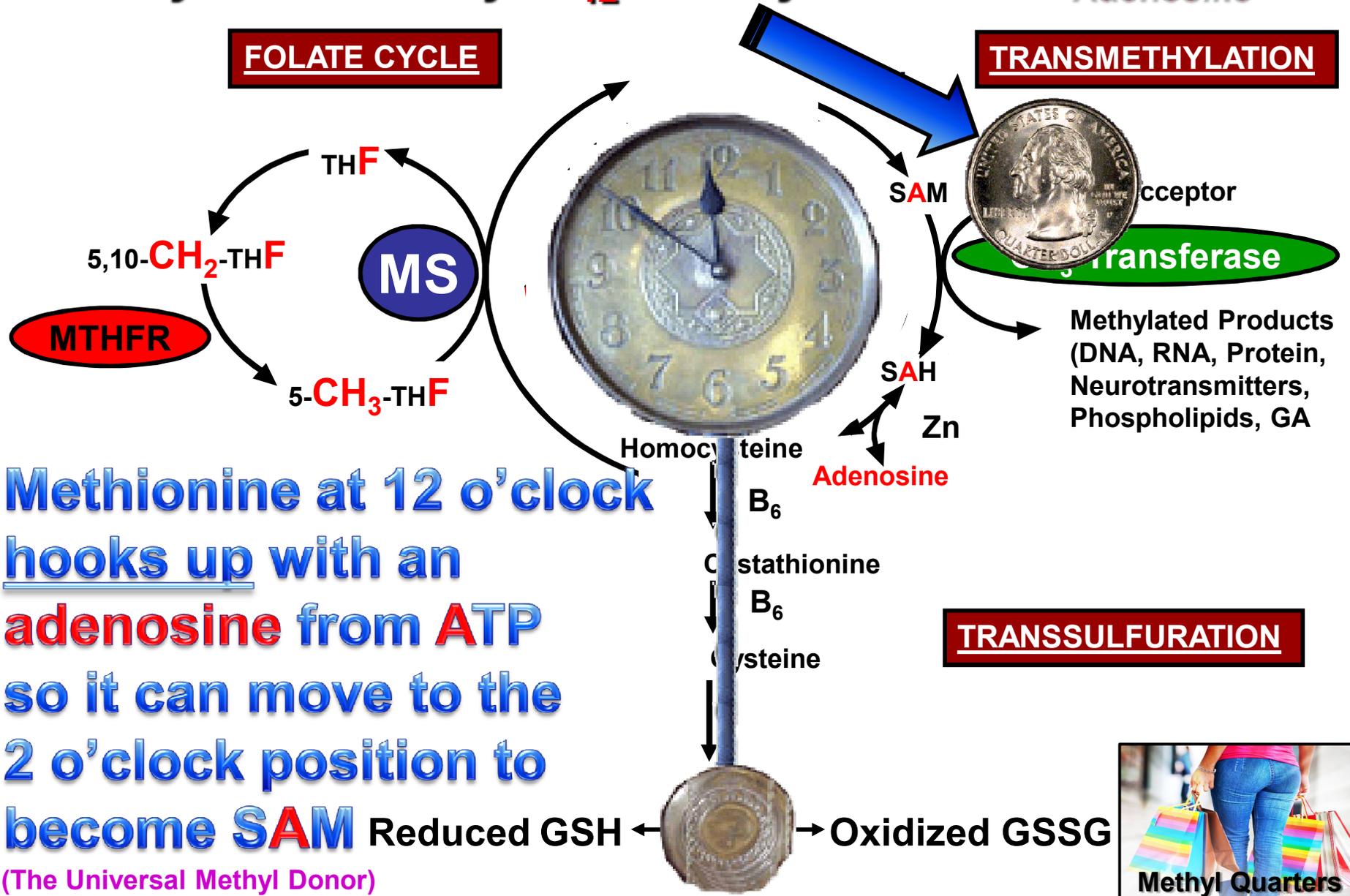
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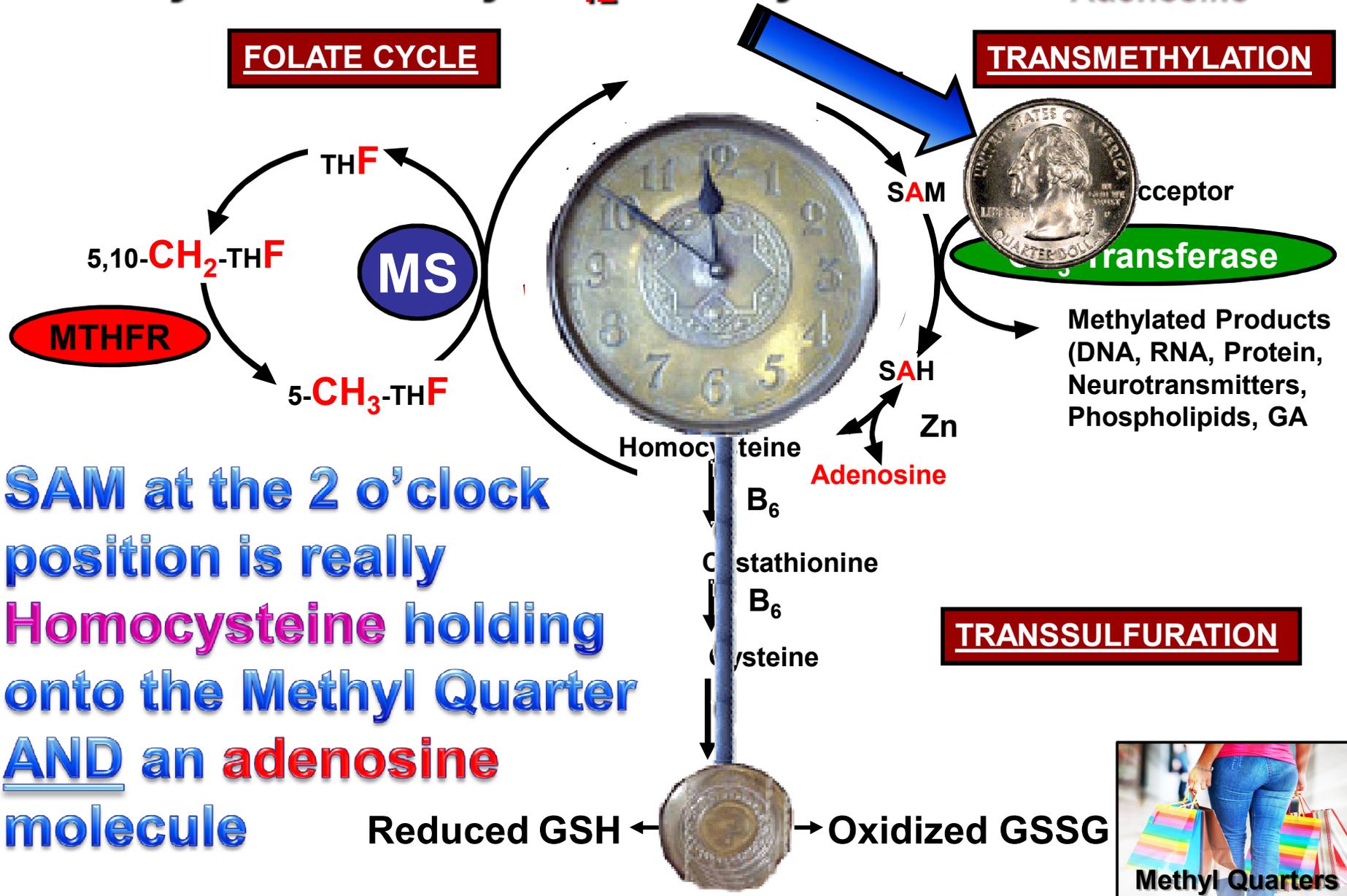


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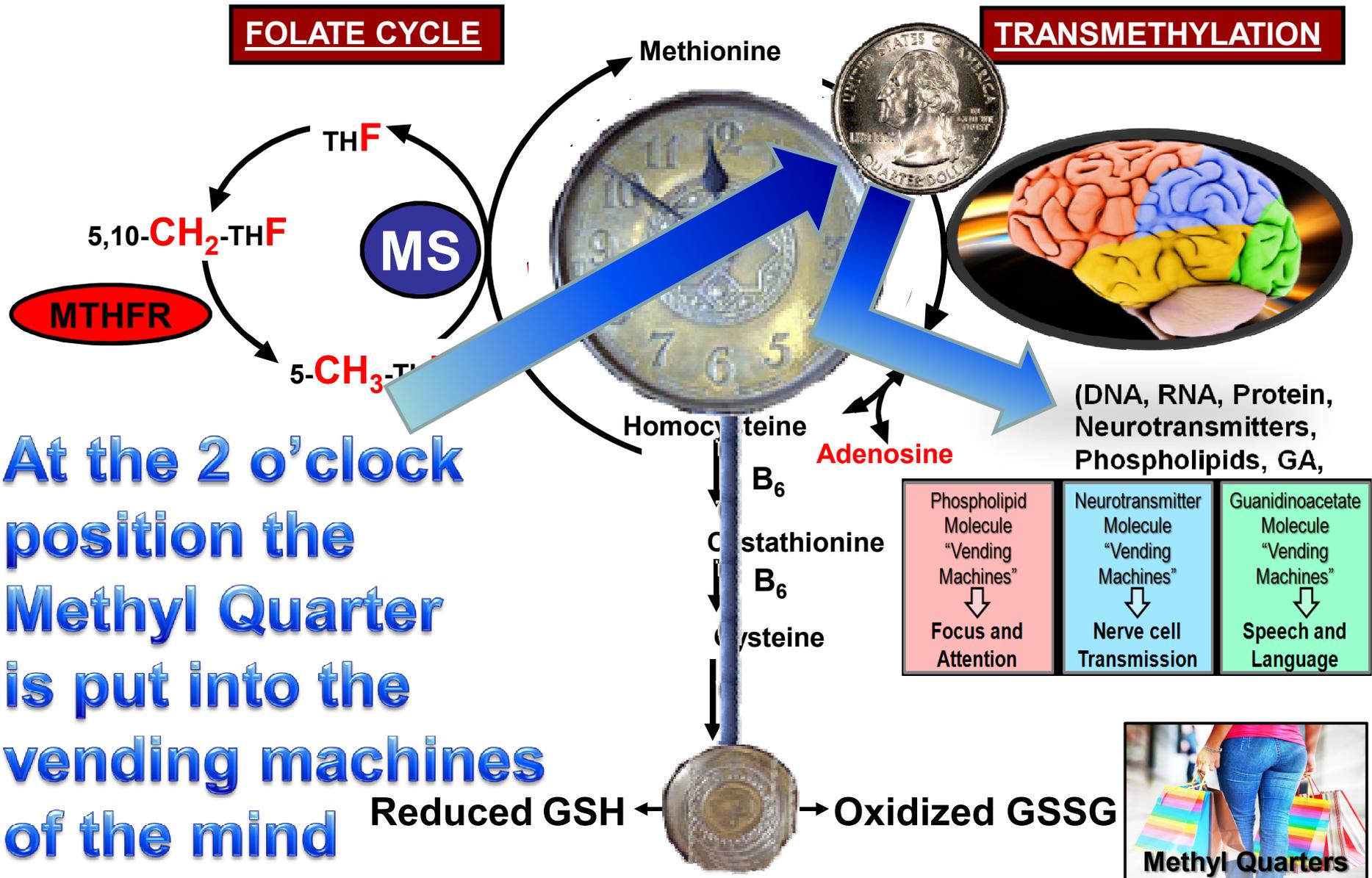


Methionine at 12 o'clock hooks up with an adenosine from ATP so it can move to the 2 o'clock position to become SAM (The Universal Methyl Donor)

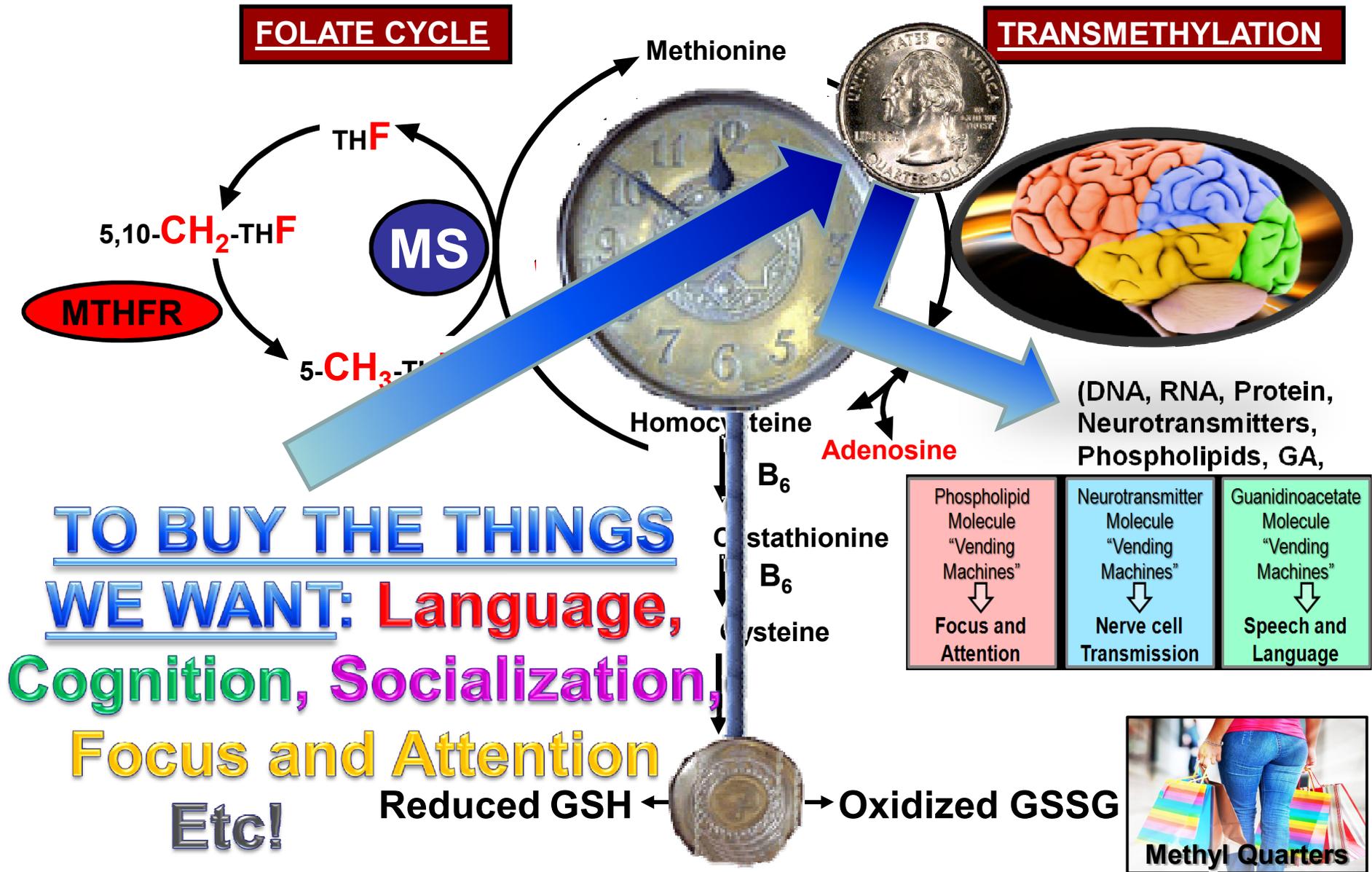
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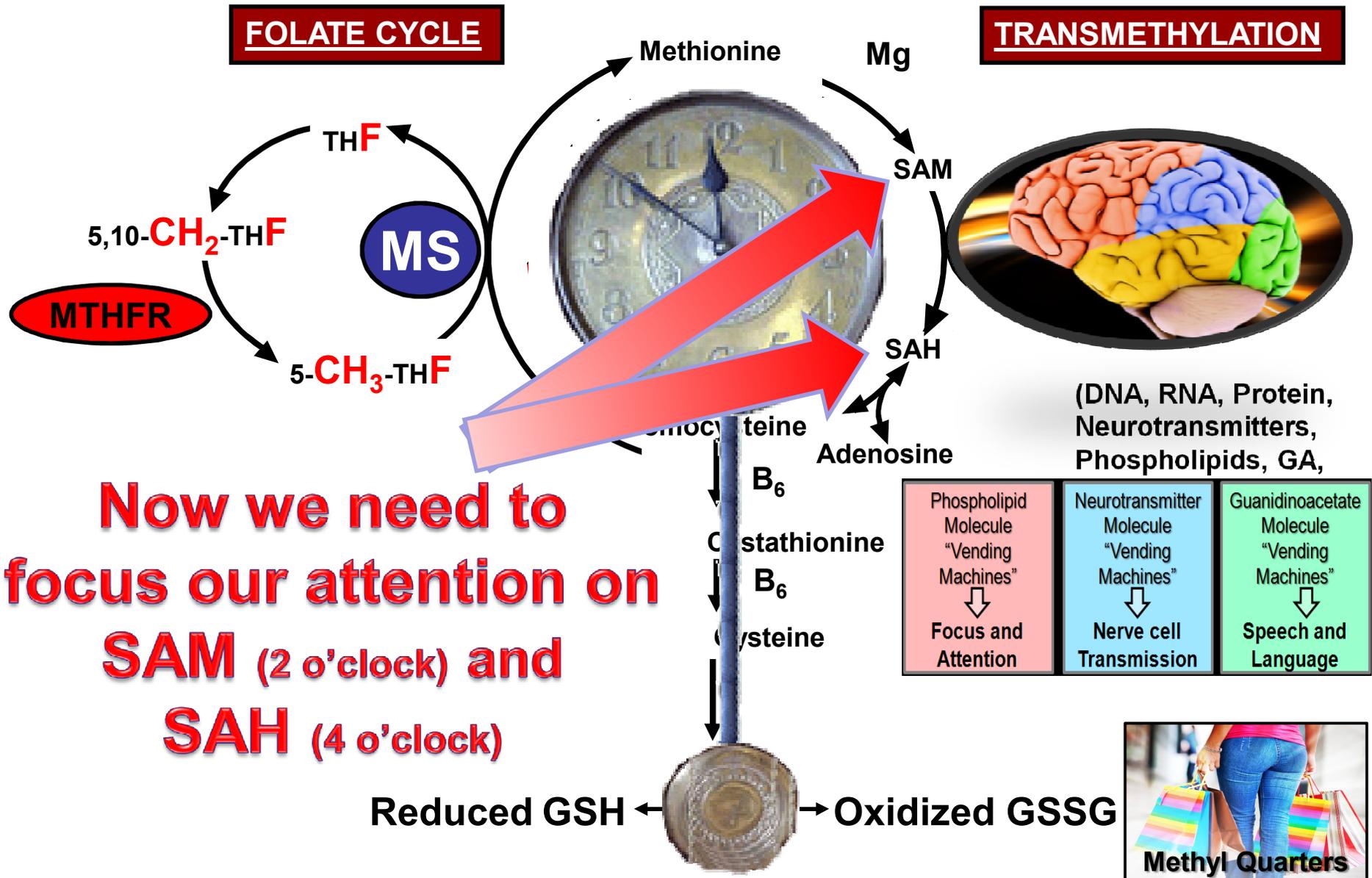
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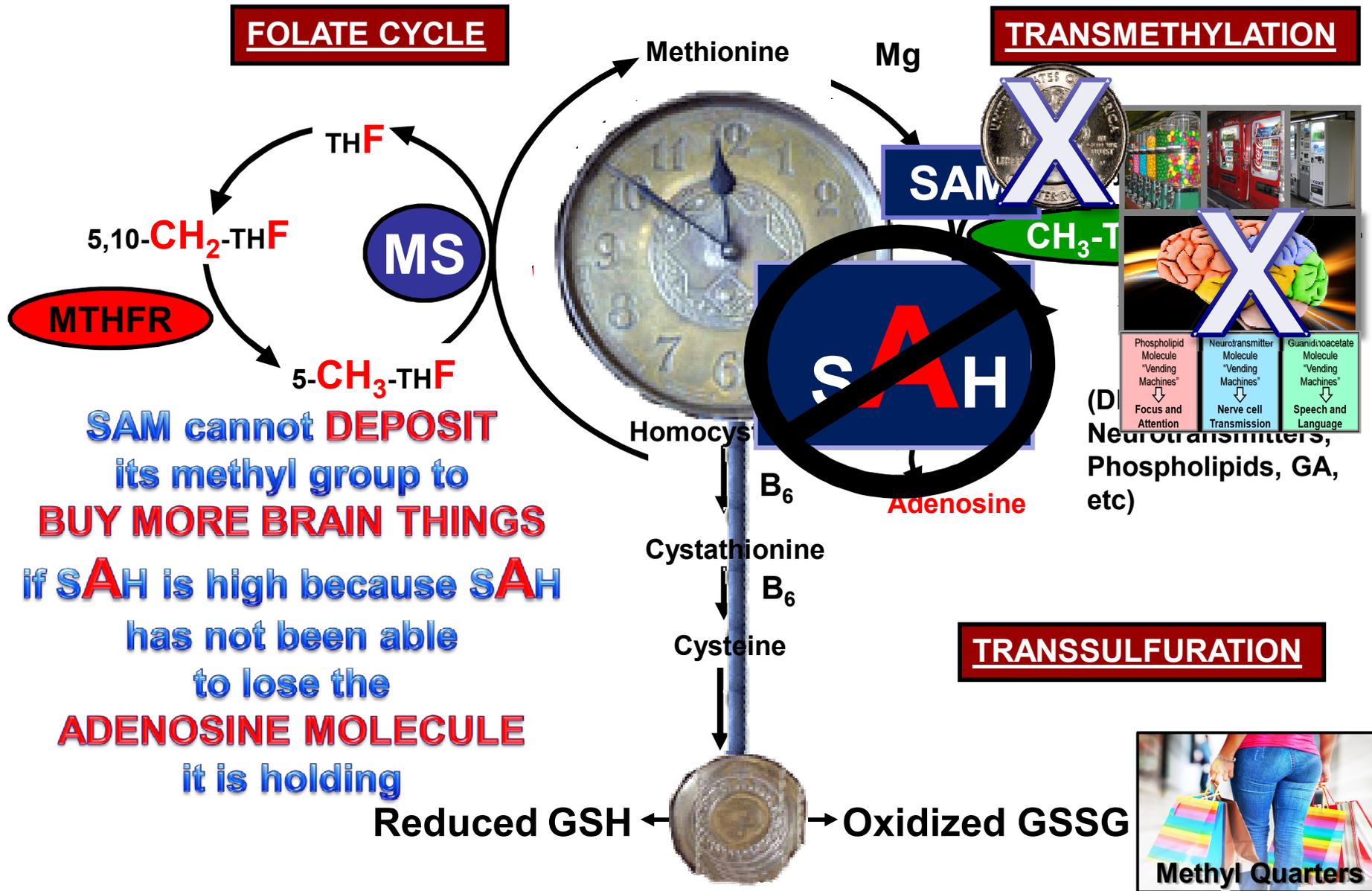
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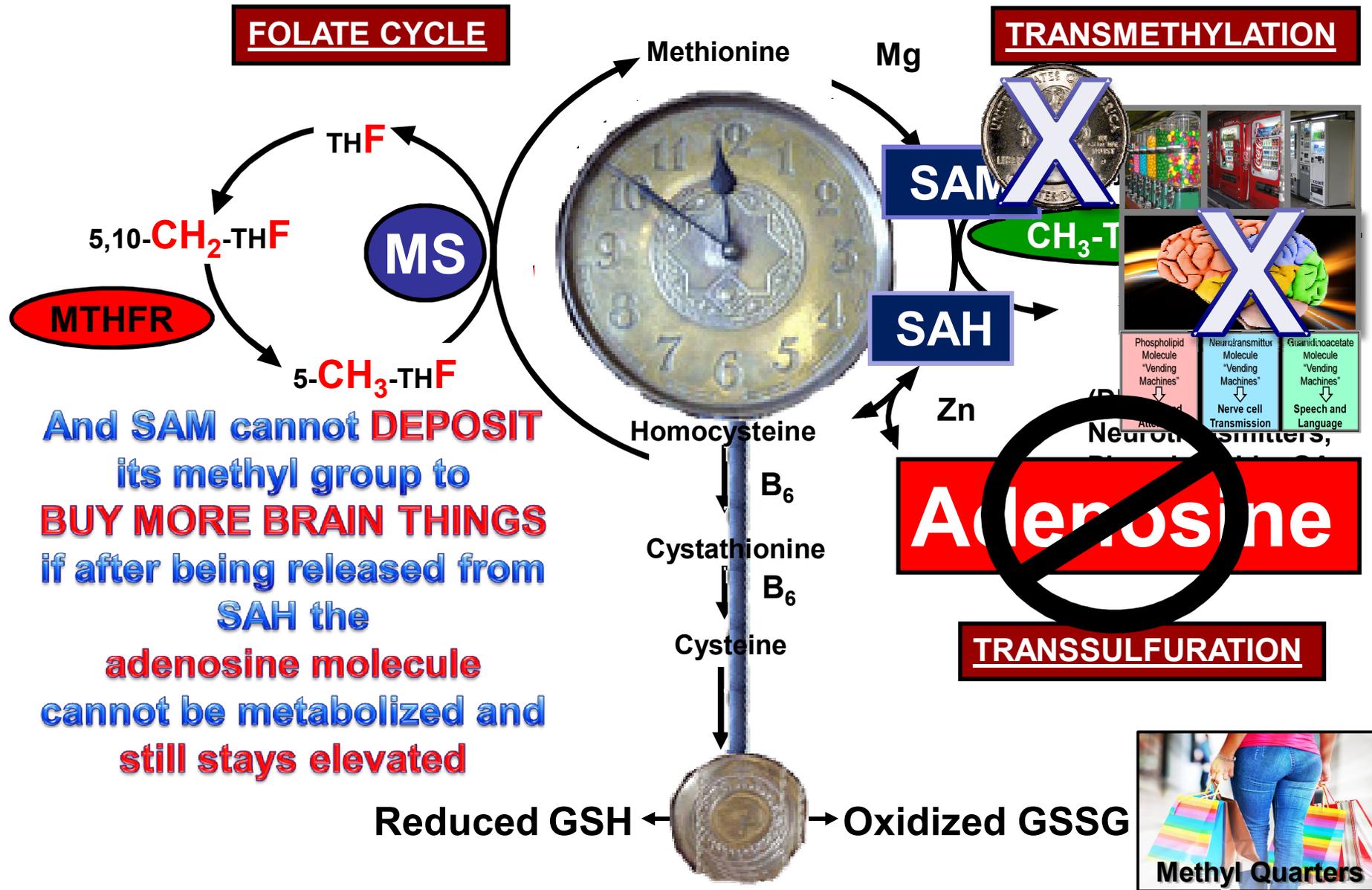
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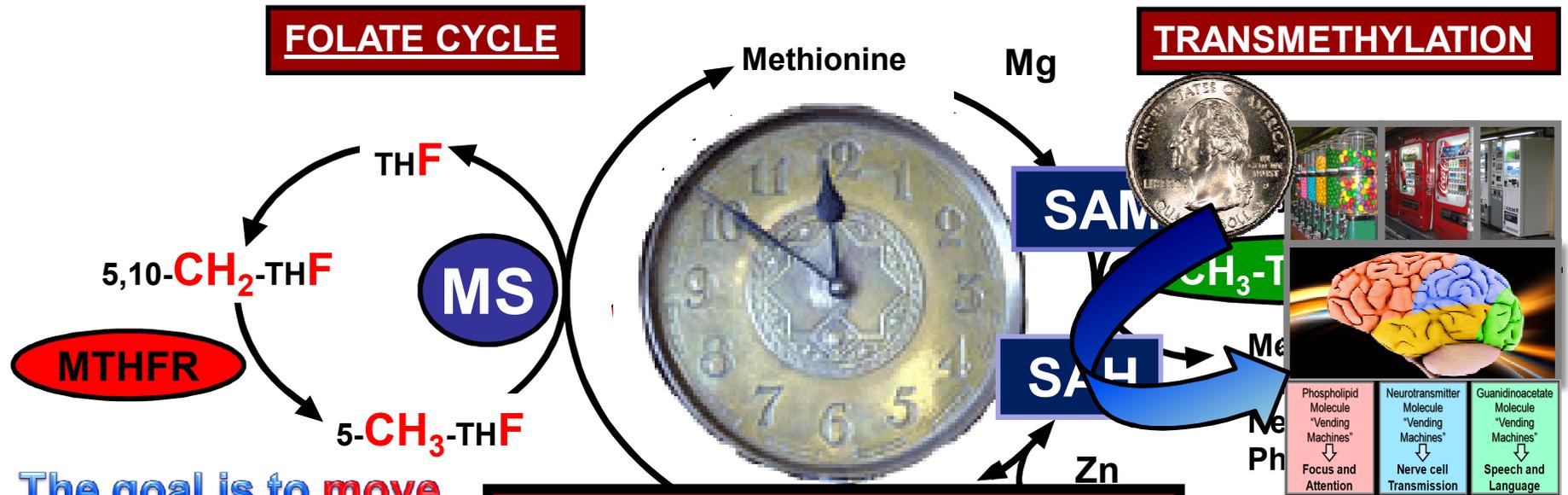
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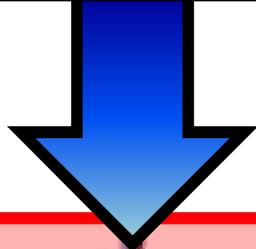


Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



The goal is to move adenosine along and keep SAH low so that SAM's quarters can be deposited and HOMOCYSTEINE (The 6 o'clock position) can be regenerated and move on to CREATE GSH if GSH is low

Homocysteine

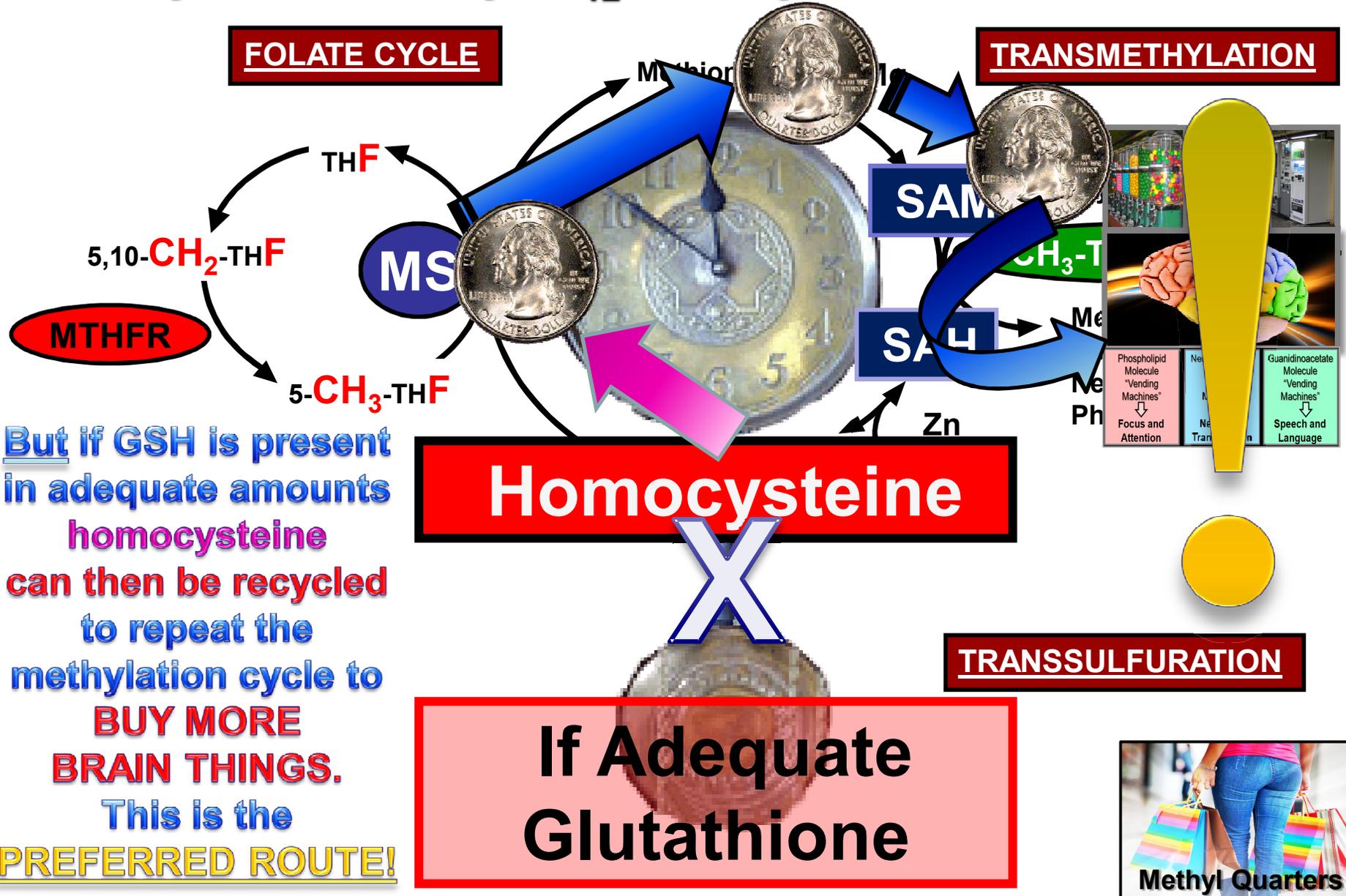


If Inadequate Glutathione

TRANSSULFURATION



Dr. Neubrandner Explains The Interactive Pathways And Methyl-B₁₂ Money



But if GSH is present in adequate amounts homocysteine can then be recycled to repeat the methylation cycle to BUY MORE BRAIN THINGS. This is the PREFERRED ROUTE!

LET'S REVIEW

The Methyl-B₁₂ Grandfather Clock



The Methyl-B₁₂ Grandfather Clock

Methylation is the face of the clock with hands that go “round & round”

(This represents the recycling of homocysteine back to methionine, onward to SAM, next to SAH, and finally returning to homocysteine)



The Methyl-B₁₂ Grandfather Clock

Methylation
“pays” for
education to “make
the brain smart”.
School is at the
2 o’clock position.

Methylation



The Methyl-B₁₂ Grandfather Clock

Methylation
“pays” for
education to “make
the brain smart”.
School is at the
2 o’clock position.

Methylation

**The
methyl group
is also like a
quarter that pays
for different
“products” from
various
vending machines
of the mind.**



CH₃

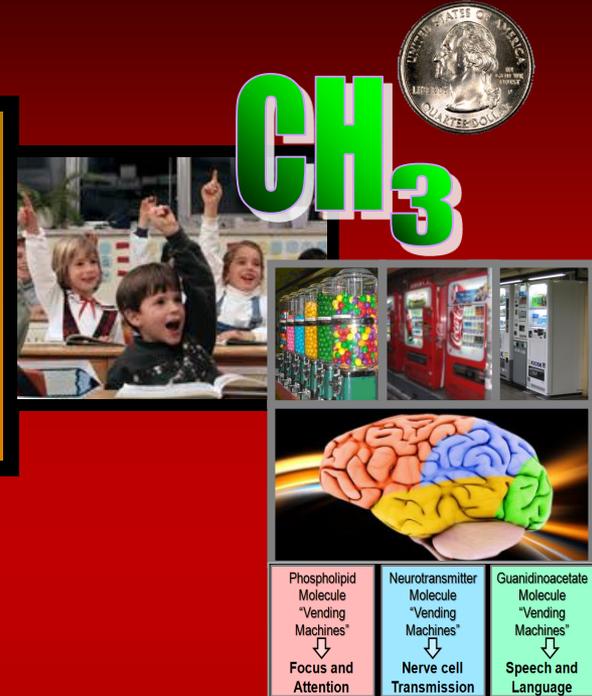


The Methyl-B₁₂ Grandfather Clock

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**The
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CH₃

Phospholipid Molecule “Vending Machines” ↓ Focus and Attention	Neurotransmitter Molecule “Vending Machines” ↓ Nerve cell Transmission	Guanidinoacetate Molecule “Vending Machines” ↓ Speech and Language
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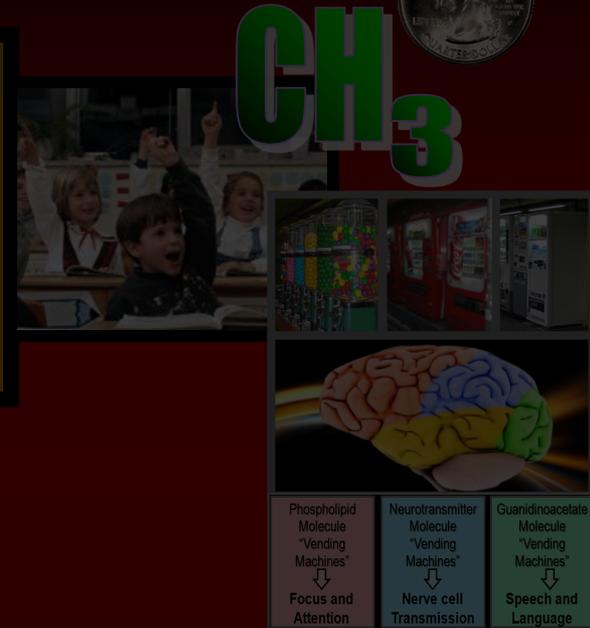
Gains in speech & language
More focus & attention
Better cognition & memory
Increased awareness
Improved executive skills
More appropriate socialization
Ability to understand emotions
More flexible with transition

FOR YOUR CHILD TO HAVE THE GREATEST CHANCE FOR RECOVERY

Methylation
“pays” for education to “make the brain smart”.
School is at the 2 o’clock position.

Methylation

The methyl group is also like a quarter that pays for different “products” from various vending machines of the mind.



Gains in speech & language
More focus & attention
Better cognition & memory
Increased awareness
Improved executive skills
More appropriate socialization
Ability to understand emotions
More flexible with transition

FOR YOUR CHILD TO HAVE THE GREATEST CHANCE FOR RECOVERY

Methylation
“pays” for education to “make the brain smart”.



CH₃

Phospholipid Molecule “Vending Machines” ↓ Focus and Attention	Neurotransmitter Molecule “Vending Machines” ↓ Nerve cell Transmission	Guanidinoacetate Molecule “Vending Machines” ↓ Speech and Language
---	---	---

Your child Must Make Money

methyl group is also like a quarter that pays for different “products” from various vending machines of the mind.



Your child Must Go To School

- gains in speech & language
- More focus & attention
- better cognition & memory
- Increased awareness
- Improved executive skills
- More appropriate socialization
- Ability to understand emotions
- More flexible with transition

The Methyl-B₁₂ Grandfather Clock

**Transsulfuration
is the pendulum,
the bar
and weight
that goes
“back & forth”**



GSH

GSH

The Methyl-B₁₂ Grandfather Clock

The Critical

REDOX PROCESS
that GSH is involved
with goes
“back & forth”



Transsulfuration



GSH



GSH

The Methyl-B₁₂ Grandfather Clock

The Critical

REDOX PROCESS
that GSH is involved
with goes
“back & forth”



We need
OXIDATION
(fire)
and
REDUCTION
(putting the fire out)
so life can be in
balance



Transsulfuration



GSH



GSH

The Methyl-B₁₂ Grandfather Clock

The Critical

REDOX PROCESS
that GSH is involved
with goes
“back & forth”



We need
OXIDATION
(garbage)
and
REDUCTION
(getting rid of the garbage)
so life can be in
balance



Transsulfuration



GSH



GSH

The Methyl-B₁₂ Grandfather Clock

Transsulfuration

“pays” the body’s
firemen and
garbage collectors
to “keep the body
safe, cool, clean,
and comfortable.”

Glutathione
is the body’s
major
intracellular
antioxidant and
one of the major
detoxification
molecules.



GSH

GSH

The Methyl-B₁₂ Grandfather Clock

**We
Need
Both
To
Be
Working
Well!**

Methylation

Transsulfuration



Phospholipid Molecule "Vending Machines" ↓ Focus and Attention	Neurotransmitter Molecule "Vending Machines" ↓ Nerve cell Transmission	Guanidinoacetate Molecule "Vending Machines" ↓ Speech and Language
--	--	--



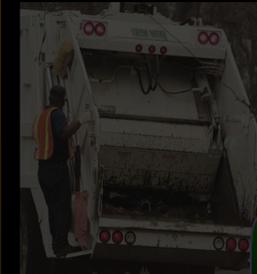
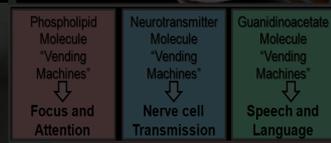
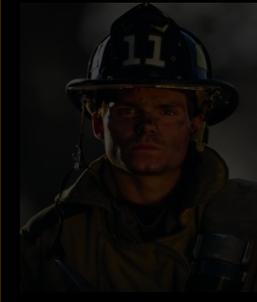
FOR YOUR CHILD TO HAVE THE GREATEST CHANCE FOR RECOVERY

We
Need
Both
To
Be
Working
Well!

Methylation

Transsulfuration

CH₃



GSH

FOR YOUR CHILD TO HAVE THE GREATEST CHANCE FOR RECOVERY



**Your Child
Must Make Money**



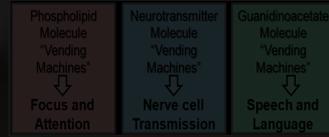
**Your Child
Must Go to School**



**Your Child
Must Put the Fires Out**



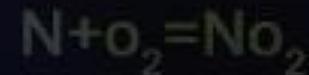
**Your Child
Must Take the Garbage Out**



GSH



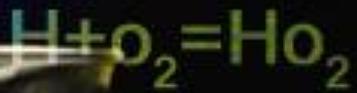
What Do Scientists Say?



$$(\text{a}-\text{b})^2 = \text{a}^2 - 2\text{ab} + \text{b}^2$$

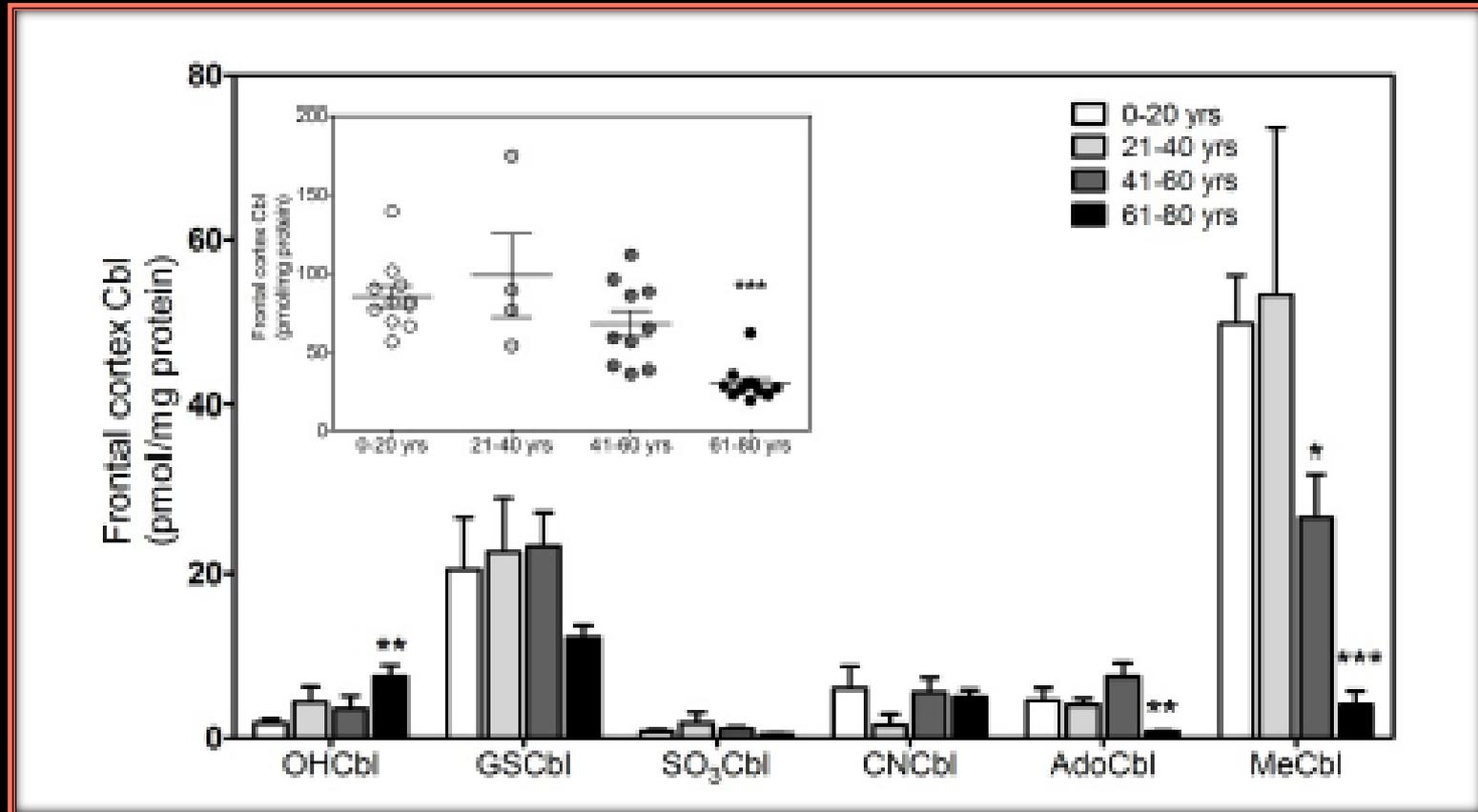


$$(\text{a}+\text{b})^2 = \text{a}^2 + 2\text{ab} + \text{b}^2$$

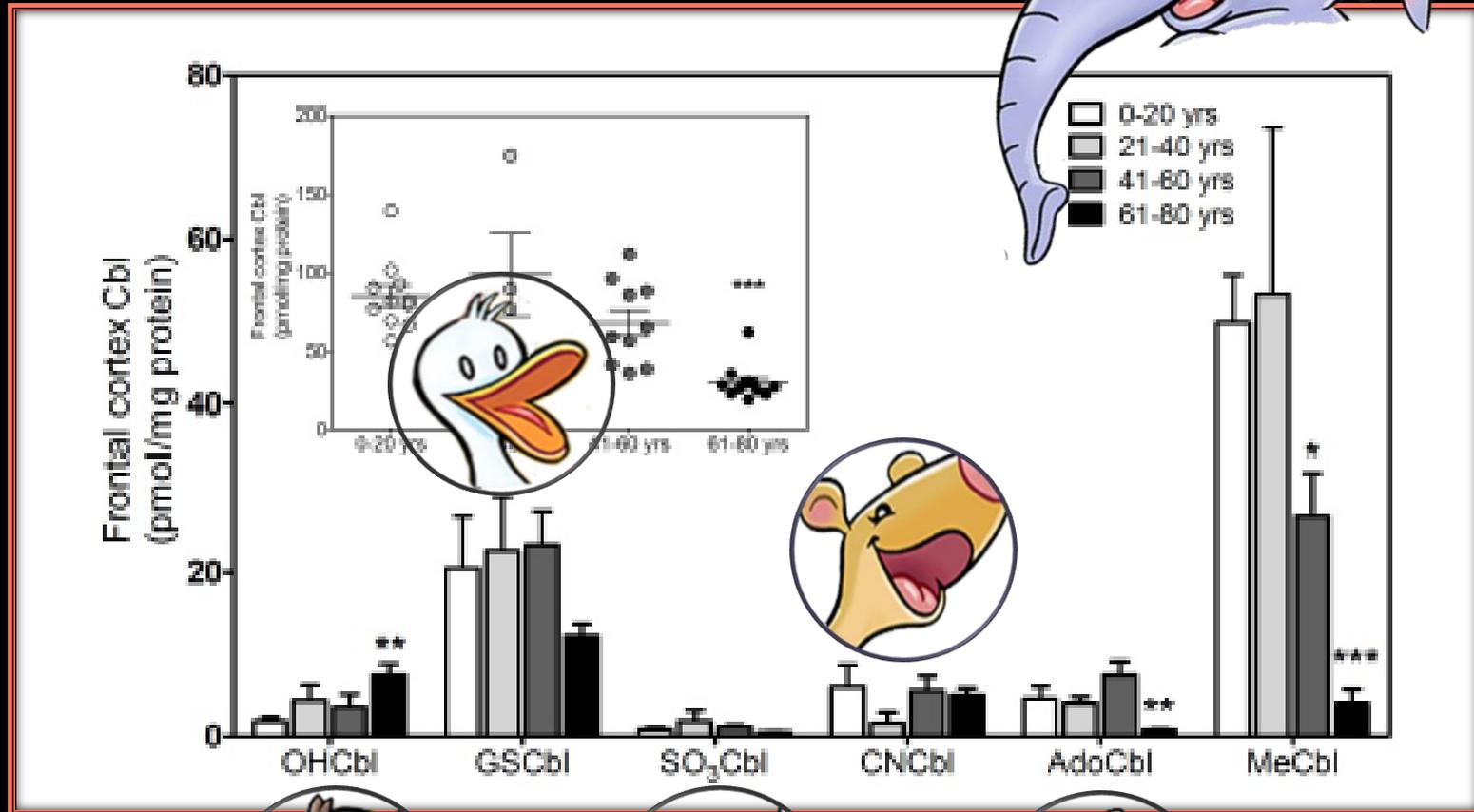
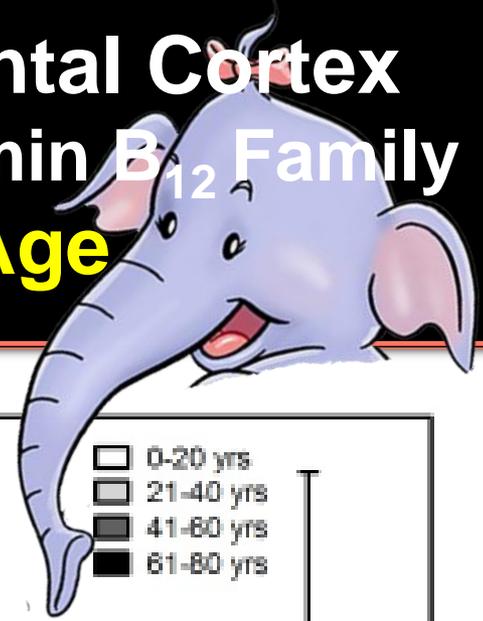


“We’ve noticed some very interesting facts about the B₁₂ Family.”

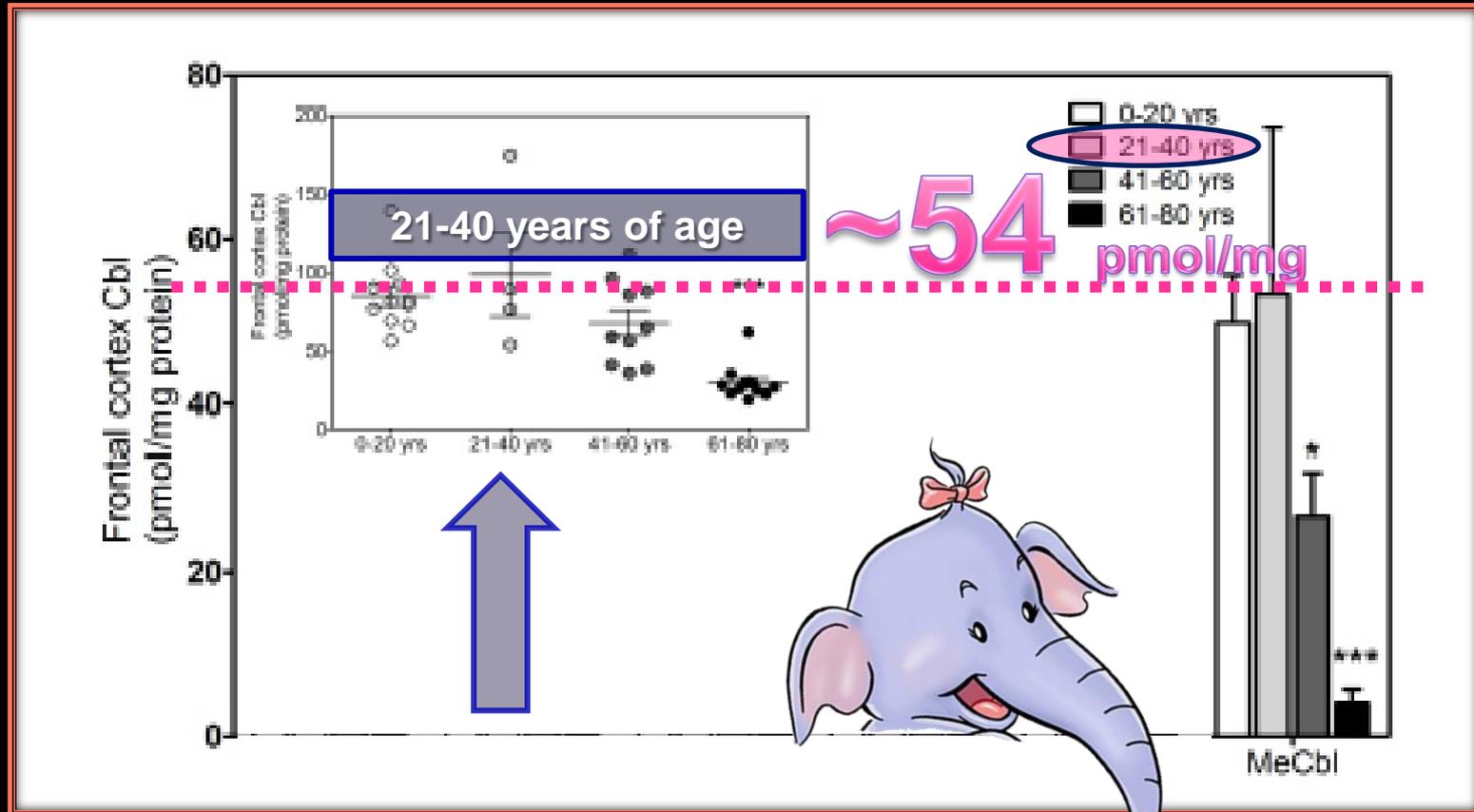
Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Decrease With Age



Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Decrease With Age

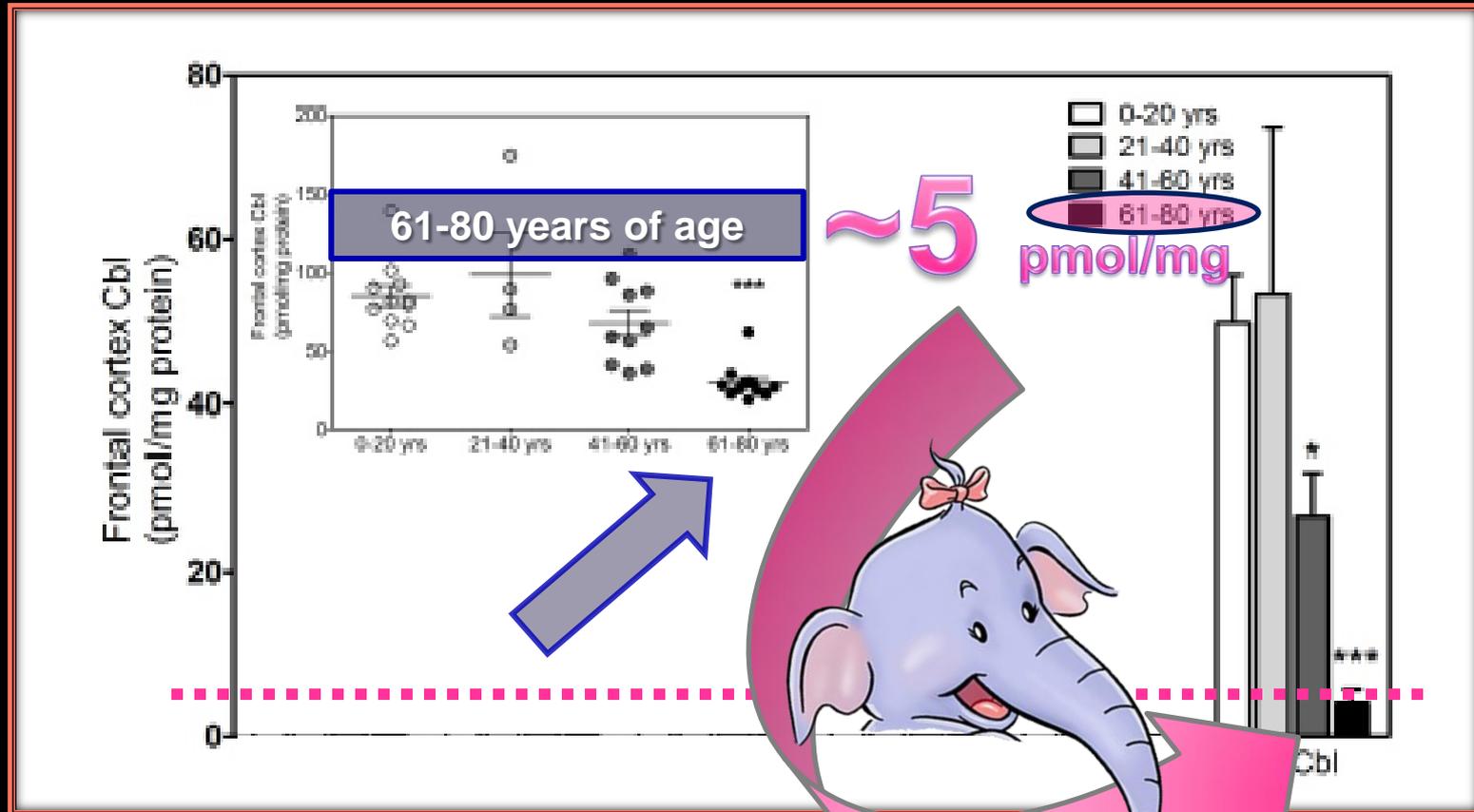


Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Decrease With Age



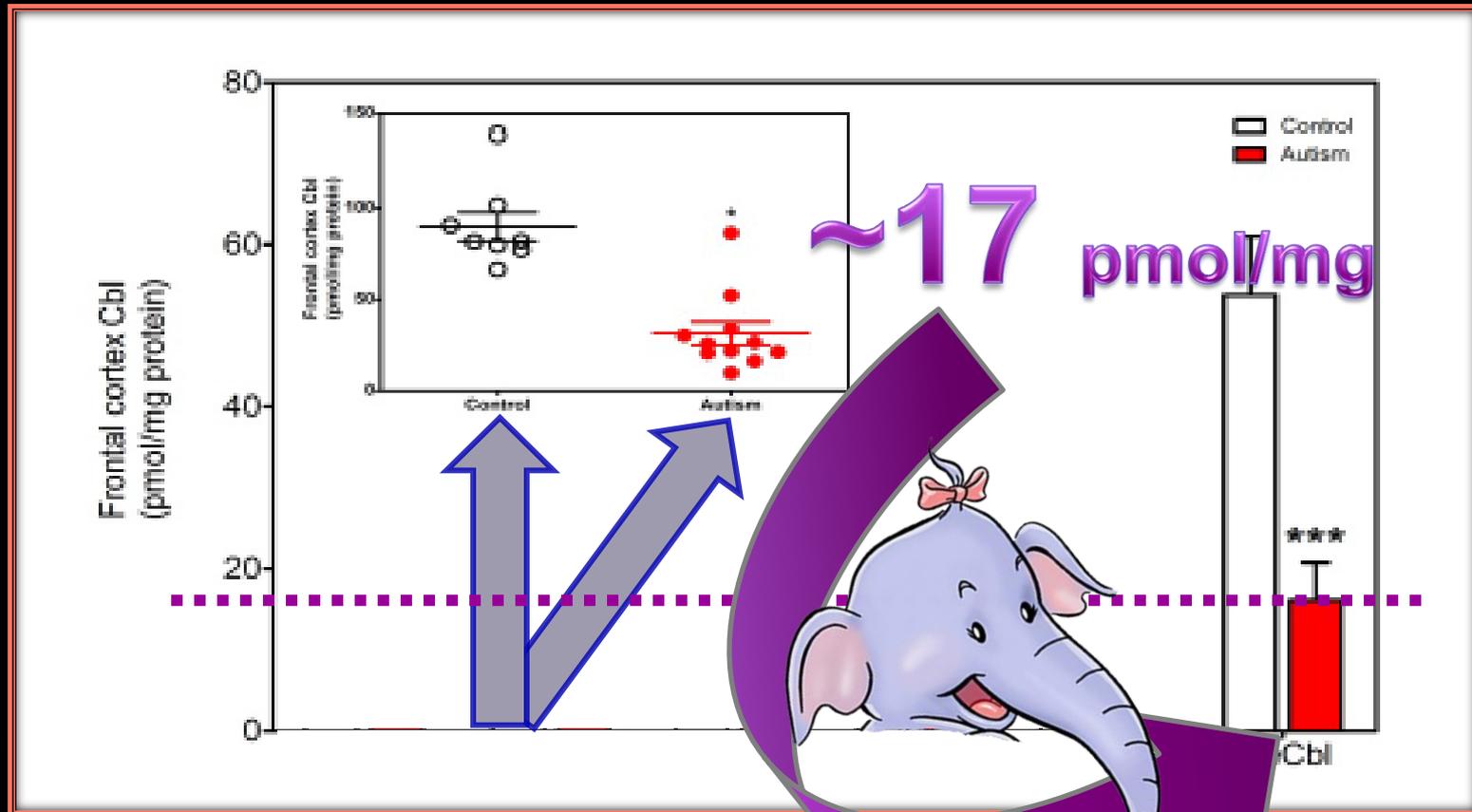
21-40 yrs averages around 54 pmol/mg

Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Decrease With Age



61-80 yrs averages around 5 pmol/mg

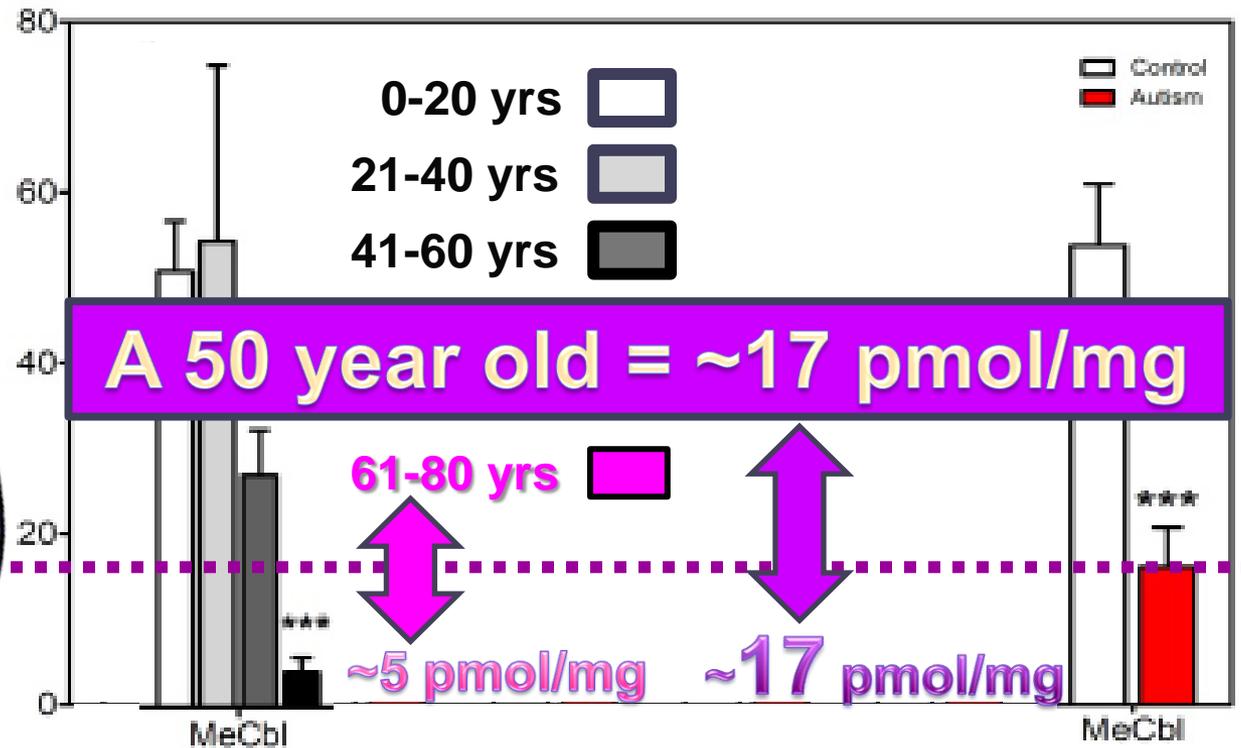
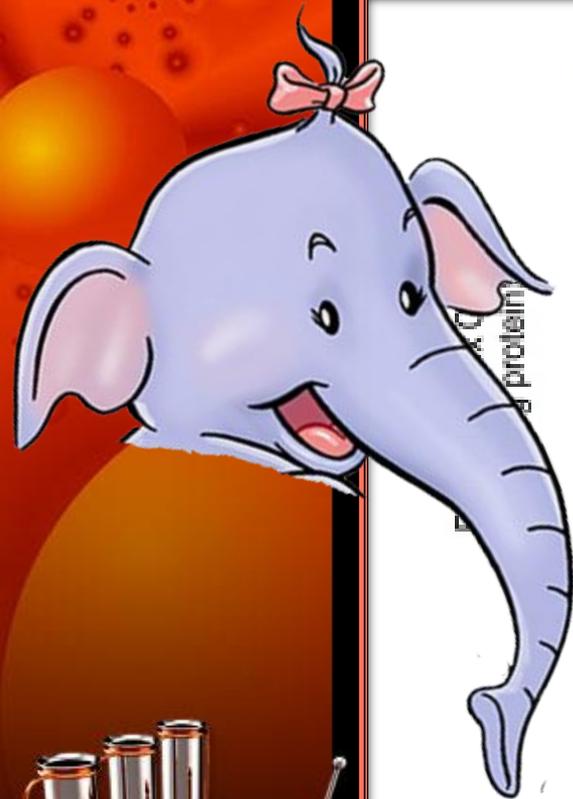
Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Are Low In Autism



Autism averages around 17 pmol/mg



Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Are Low In Autism



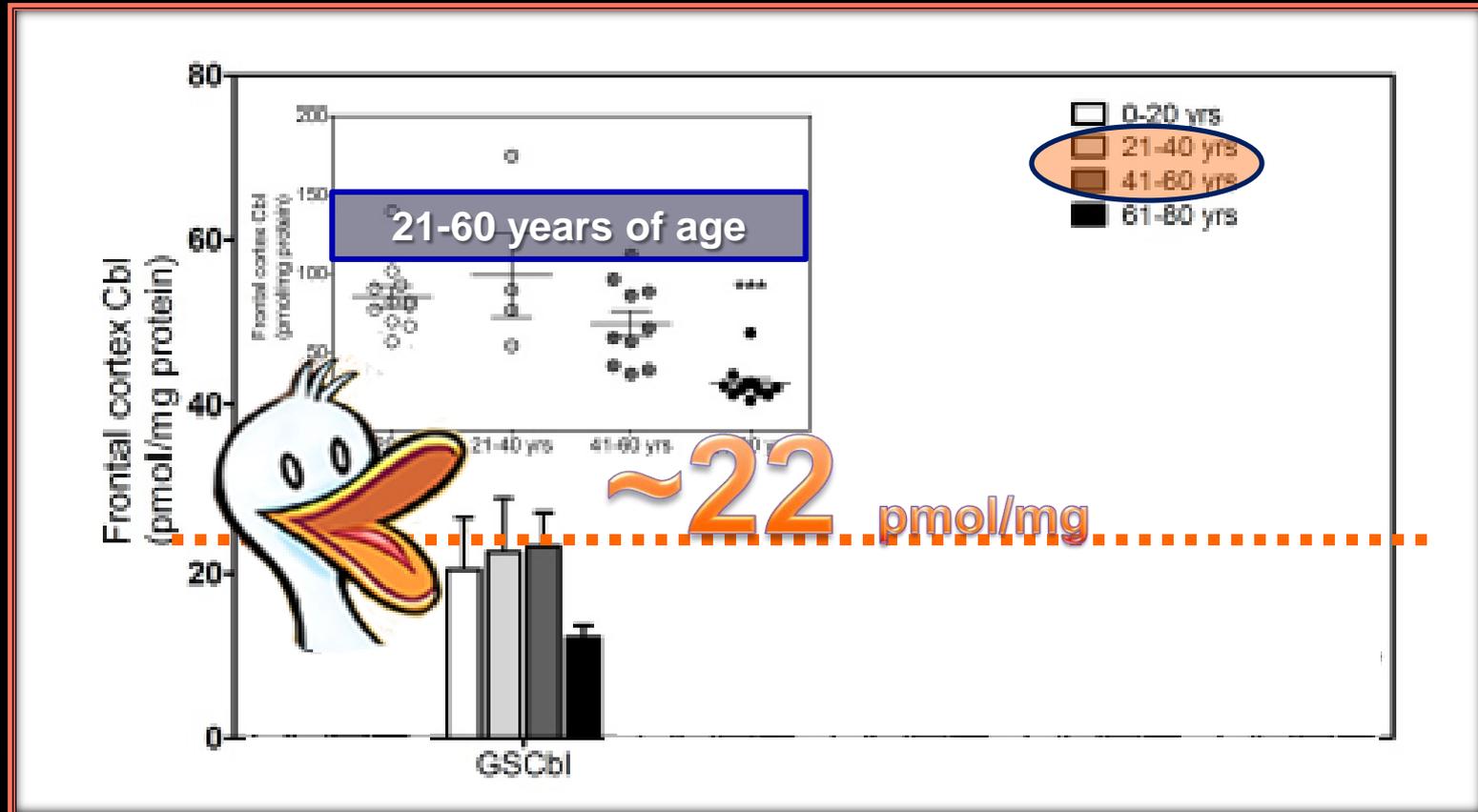
Autism

Like a 50 yr old

Aging

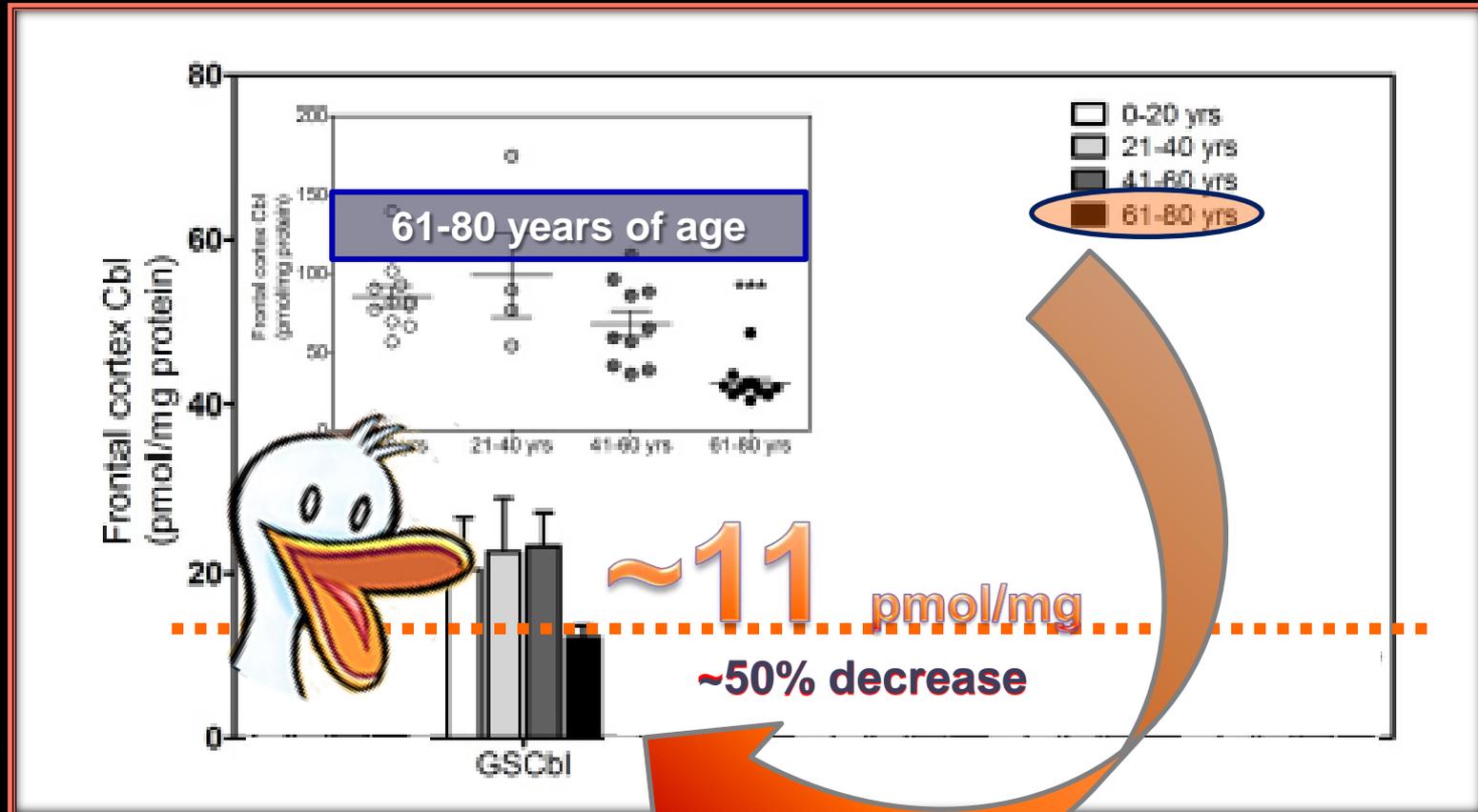


Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Decrease With Age



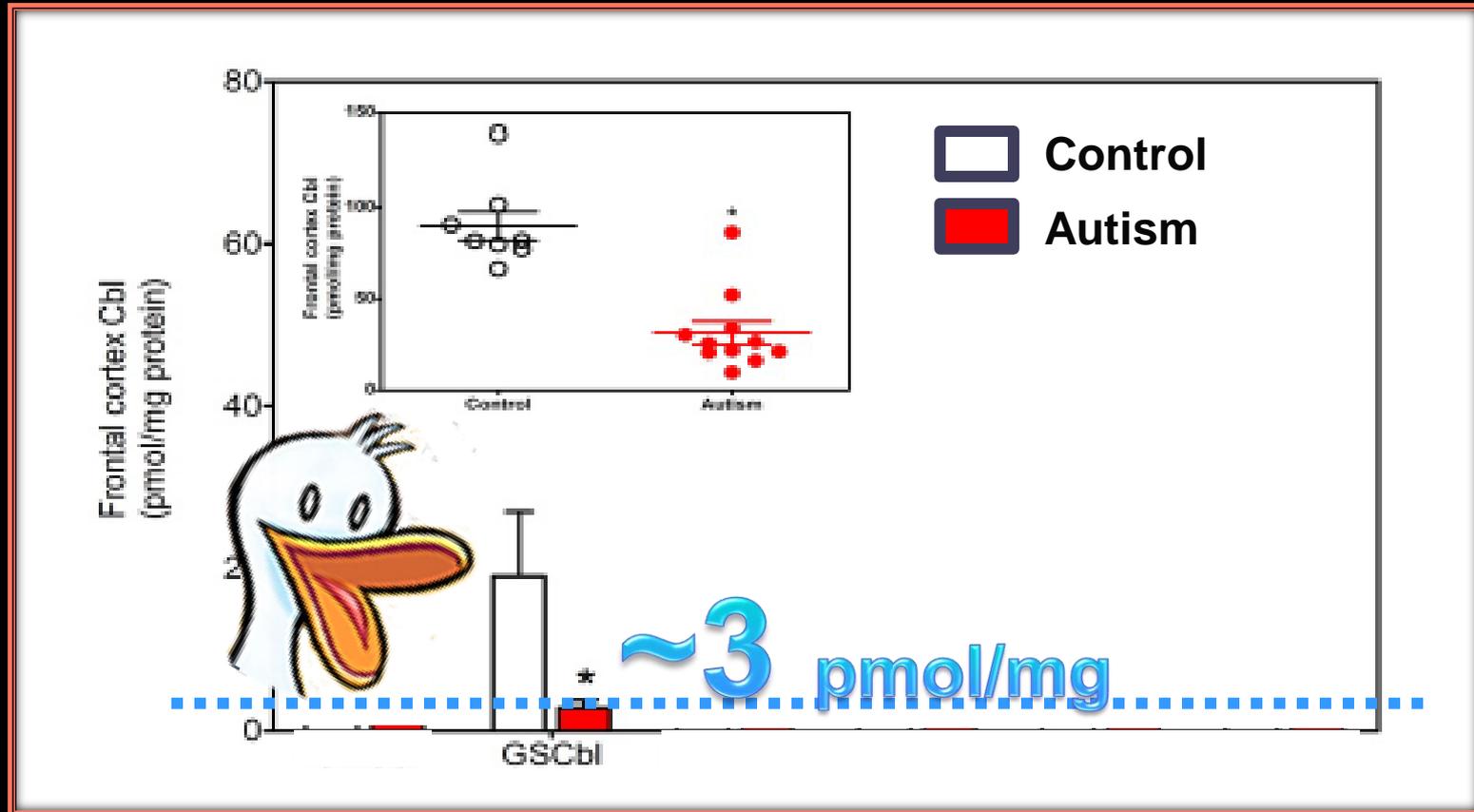
21-60 yrs averages around 22 pmol/mg

Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Decrease With Age



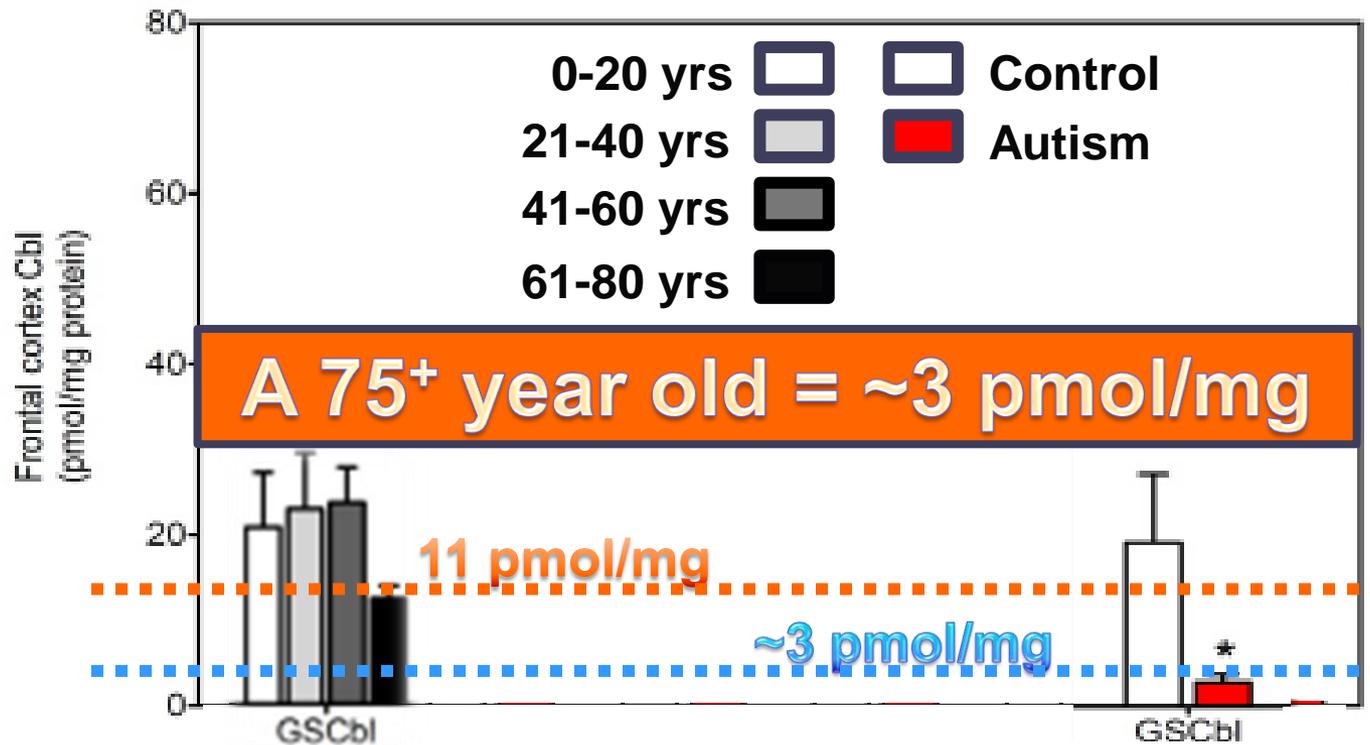
61-80 yrs averages around 11 pmol/mg

Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Are Low In Autism



Autism averages around 3 pmol/mg

Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B₁₂ Family Are Low In Autism

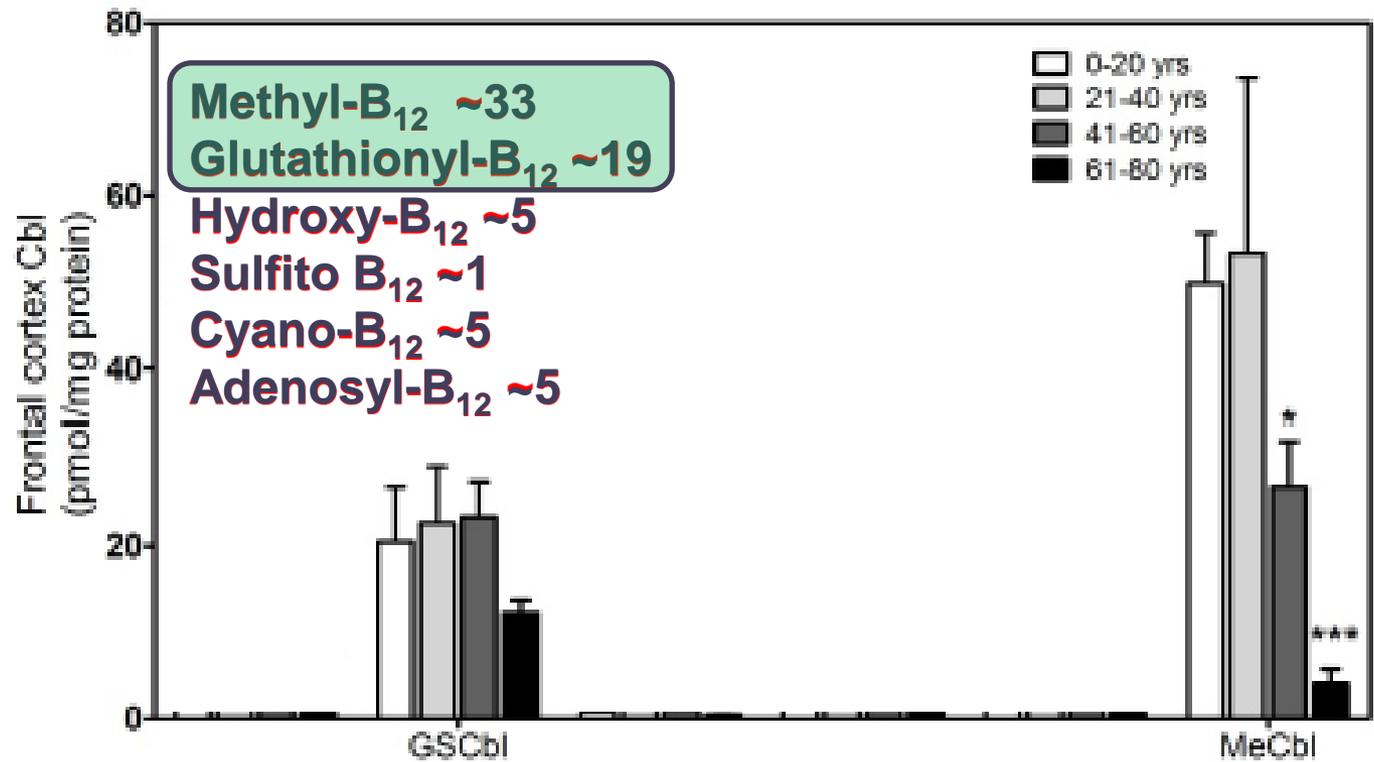


Aging

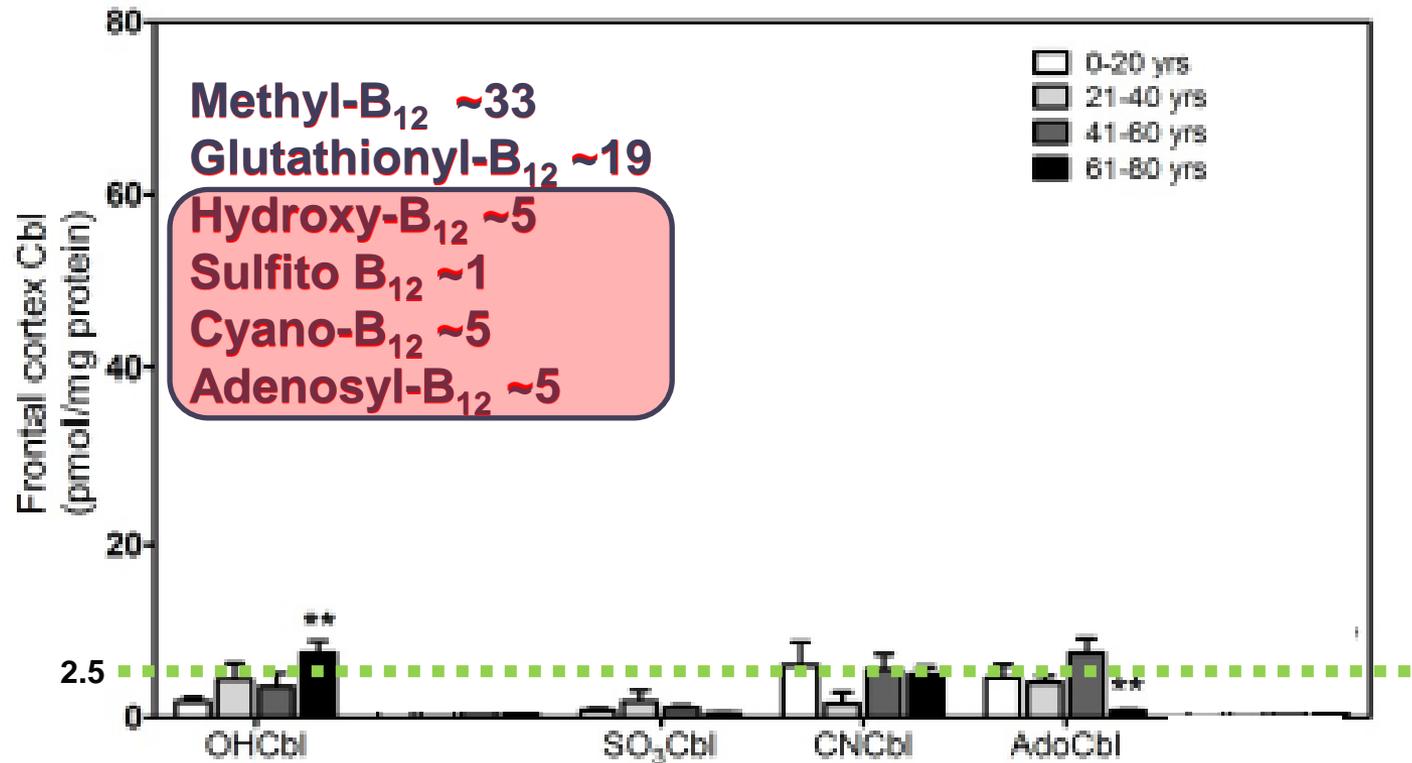
Like a 75+ yr old

Autism

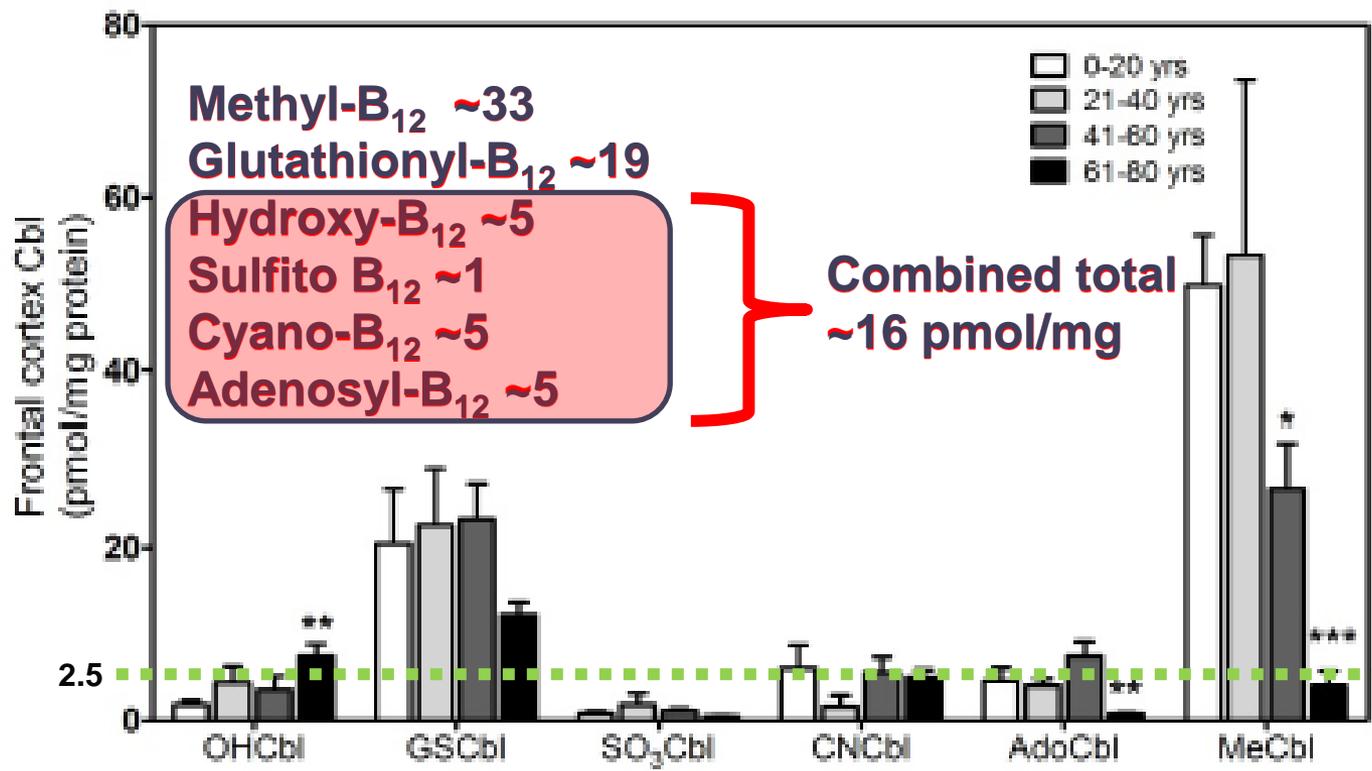
Note the **BARS ARE VERY HIGH** for glutathionyl-B₁₂ and methyl B₁₂.



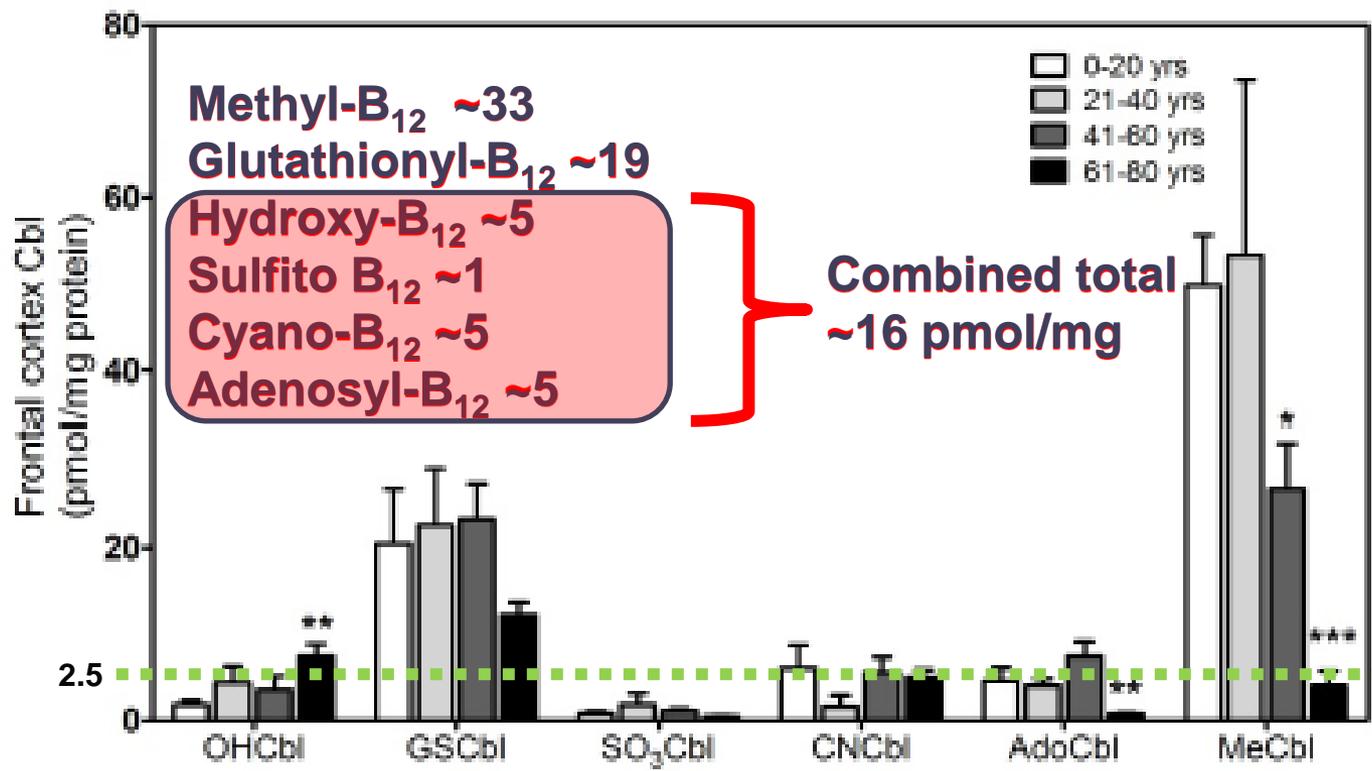
Note the **BARS ARE VERY LOW** for the other four B_{12} family members



Note that the Combined Total Amount of pmols/mg for hydroxy, sulfito, cyano and adenosyl-B₁₂ does not even equal the number of pmol/mg for glutathionyl-B₁₂.

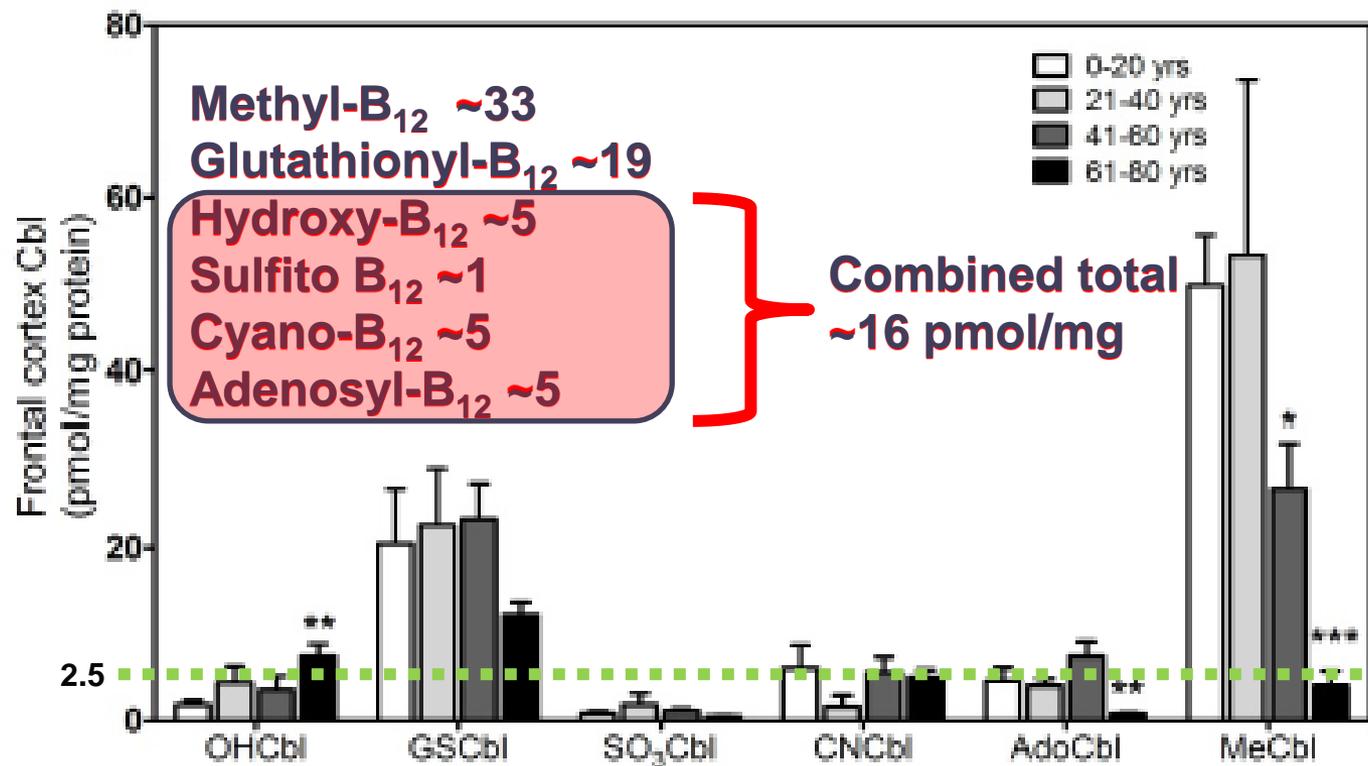


Note that the Combined Total Amount of pmols/mg for hydroxy, sulfito, cyano and adenosyl-B₁₂ does not even equal the number of pmol/mg for glutathionyl-B₁₂.



Methyl-B₁₂: 660% more than hydroxy-B₁₂, cyano-B₁₂ and adenosyl-B₁₂ and 174% more than glutathionyl-B₁₂.

Therefore does MICROMANAGING the various SNP patterns for the B₁₂ family by the popular genetic tests from one's "Scientific Roadmap" really mean what it is said to mean ?



Therefore does MICROMANAGING the various SNP patterns for the B₁₂ family by the popular genetic tests from one's "Scientific Roadmap" really mean what it is said to mean ?

COMT V158M	VDR Taq	B12 types that should be tolerated
--	++ (TT)	All three types of B12
--	+ - (Tt)	All three types with less methyl B12
--	-- (tt)	Hydroxy B12 and Adenosyl B12
+ -	++	All three types with less methyl B12
+ -	+ -	Hydroxy B12 and Adenosyl B12
+ -	--	Hydroxy B12 and Adenosyl B12
++	++	Hydroxy B12 and Adenosyl B12
++	+ -	Hydroxy B12 and Adenosyl B12
++	--	Mostly Hydroxy B12

Because of your "Scientific Roadmap", you are most often told to limit or not use methyl-B₁₂!



Therefore does MICROMANAGING the various SNP patterns for the B₁₂ family by the popular genetic tests from one's "Scientific Roadmap" really mean what it is said to mean ?

COMT V158M	VDR Taq	B12 types that should be tolerated
--	++ (TT)	All three types of B12
--	+ - (Tt)	All three types with less methyl B12
--	-- (tt)	Hydroxy B12 and Adenosyl B12
+ -	++	All three types with less methyl B12
+ -	+ -	Hydroxy B12 and Adenosyl B12
+ -	--	Hydroxy B12 and Adenosyl B12
++	++	Hydroxy B12 and Adenosyl B12
++	+ -	Hydroxy B12 and Adenosyl B12
++	--	Mostly Hydroxy B12

My clinical data from over one million injections disproves this!



Therefore does MICROMANAGING the various SNP patterns for the B₁₂ family by the popular genetic tests from one's "Scientific Roadmap" really mean what it is said to mean ?

COMT V158M	VDR Taq	B12 types that should be tolerated
--	++ (TT)	All three types of B12
--	+ - (Tt)	All three types with less methyl B12
--	-- (tt)	Hydroxy B12 and Adenosyl B12
+ -	++	All three types with less methyl B12
+ -	+ -	Hydroxy B12 and Adenosyl B12
+ -	--	Hydroxy B12 and Adenosyl B12
++	++	Hydroxy B12 and Adenosyl B12
++	+ -	Hydroxy B12 and Adenosyl B12
++	--	Mostly Hydroxy B12

And though "Not A Professional Way" to say what I think, I believe this is



Therefore does MICROMANAGING the various SNP patterns for the B₁₂ family by the popular genetic tests from one's "Scientific Roadmap" really mean what it is said to mean ?

COMT V158M	VDR Taq	B12 types that should be tolerated
--	++ (TT)	All three types of B12
--	+− (Tt)	All three types with less methyl B12
--	-- (tt)	Hydroxy B12 and Adenosyl B12
+−	++	All three types with less methyl B12
+−	+−	Hydroxy B12 and Adenosyl B12
+−	--	Hydroxy B12 and Adenosyl B12
++	++	Hydroxy B12 and Adenosyl B12
++	+−	Hydroxy B12 and Adenosyl B12
++	--	Mostly Hydroxy B12



Therefore does MICROMANAGING the various SNP patterns for the B₁₂ family by the popular genetic tests from one's "Scientific Roadmap" really mean what it is said to mean?

So BE CAREFUL that you do not believe everything you read or hear or everything parent blogs tell you!



OXIDATIVE STRESS

Looking more closely at
glutathione (GSH)
and
methylation (CH_3)

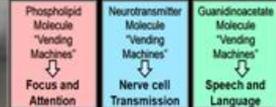


REMEMBER

Glutathione And Methylation Work Very Closely Together

Methylation

Transsulfuration



>40 studies link ASD to oxidative stress, low levels of the antioxidant glutathione (GSH) and impaired methylation

Research Article
Intracellular and Extracellular Redox Status and Free Radical Generation in Primary Immune Cells from Children with Autism

Shannon Ross, Stepan Melnyk, Timothy A. Truty, Aleksandra Pavlic, Eric Seidel, Jangmin Li, Todd Nick, and S. Jill James

Department of Pediatrics, Arkansas Children's Hospital Research Institute, University of Arkansas for Medical Sciences, Little Rock, AR 72205, USA

doi:10.1002/ajmg.b.31410
 First published online 14 July 2012

COMMENTARY

Autism, imprinting and epigenetic disorders: a metabolic syndrome linked to anomalies in homocysteine recycling starting in early life?*

Yvon M. Mink

Metabolic biomarkers of increased oxidative stress and impaired methylation capacity in children with autism**

S. Jill James, Paul Cutler, Stepan Melnyk, Stefanie Jernigan, Lauren Jamil, David W Gaylor, and James A. Whitman

ABSTRACT Autism is a complex neurodevelopmental disorder for which genetic etiology is still unclear. A significant role for epigenetics in the etiology of the autistic disorder is supported by the finding of a high concentration of autism between monozygotic twins and dizygotic twins.

ORIGINAL PAPER

Brain Region-Specific Glutathione Redox Imbalance in Autism

Abha et al. *Nutrition & Metabolism* 2012, 9:35

RESEARCH **Open Access**

The potential role of the antioxidant and detoxification properties of glutathione in autism spectrum disorders: a systematic review and meta-analysis

Perolpe AE Man^{1*}, Manya T. Angley¹, Catherine E O'Doherty¹, Philip Thomas¹ and Michael Ferrel²

Abstract Glutathione has a wide range of functions: it is an endogenous anti-oxidant and plays a key role in the maintenance of intracellular redox balance and detoxification of xenobiotics. Several studies have indicated that children with autism spectrum disorders may have altered glutathione metabolism which could play a key role in the condition.

Methods: A systematic literature review and meta-analysis was conducted of studies examining metabolites, interventions and/or genes of the glutathione metabolism pathways (i.e. the γ -glutamyl cycle and trans-sulfuration pathway) in autism spectrum disorders.

Results: Thirty one studies were included in the review comprising an in vitro study, thirty two metabolite and/or cofactor studies, six intervention studies and six studies with genetic data as well as eight studies examining enzyme activity.

Conclusions: The review found evidence for the involvement of the γ -glutamyl cycle and trans-sulfuration pathway in autistic disorder is sufficiently consistent, particularly with respect to the glutathione redox ratio, to warrant further investigation to determine the significance in relation to clinical outcomes. Large, well designed intervention studies that link metabolites, cofactors and genes of the γ -glutamyl cycle and trans-sulfuration pathway with objective behavioural outcomes in children with autism spectrum disorders are required. Future risk factor analysis should include consideration of multiple nutritional status and metabolite biomarkers of pathways linked with the γ -glutamyl cycle and the interaction of genotype in relation to these factors.

Keywords: γ -glutamyl cycle, Trans-sulfuration pathway, Metabolites, Genes, Supplementation, Autism spectrum disorders.

Background Autism spectrum disorders are a heterogeneous group of neurodevelopmental conditions comprising autistic disorder which is characterised by impairments in reciprocal social interaction and communications and the presence of stereotyped behaviours, Asperger's Syndrome which is distinguished by no significant delay in early language acquisition or cognitive abilities, and pervasive developmental disorder - not otherwise stated (PDD-NOS) in which individuals do not fully meet the criteria for autistic disorder or Asperger's syndrome. Over the last 30 years the number of diagnosed cases has increased from 64-65 to 40 per 1000 for autistic disorder and from 2 to 7.9-9 per 1000 for autism spectrum disorders [1-3] which is largely attributable to broadening diagnostic criteria, younger age at diagnosis and improved case ascertainment [4]. Autism spectrum disorders are increasingly being recognised as a major public health issue.

*Correspondence: perolpe@uq.edu.au
 Full list of author information is available at the end of the article

BioMed Central

Metabolic Endophenotype and Related Genotypes are Associated With Oxidative Stress in Children With Autism

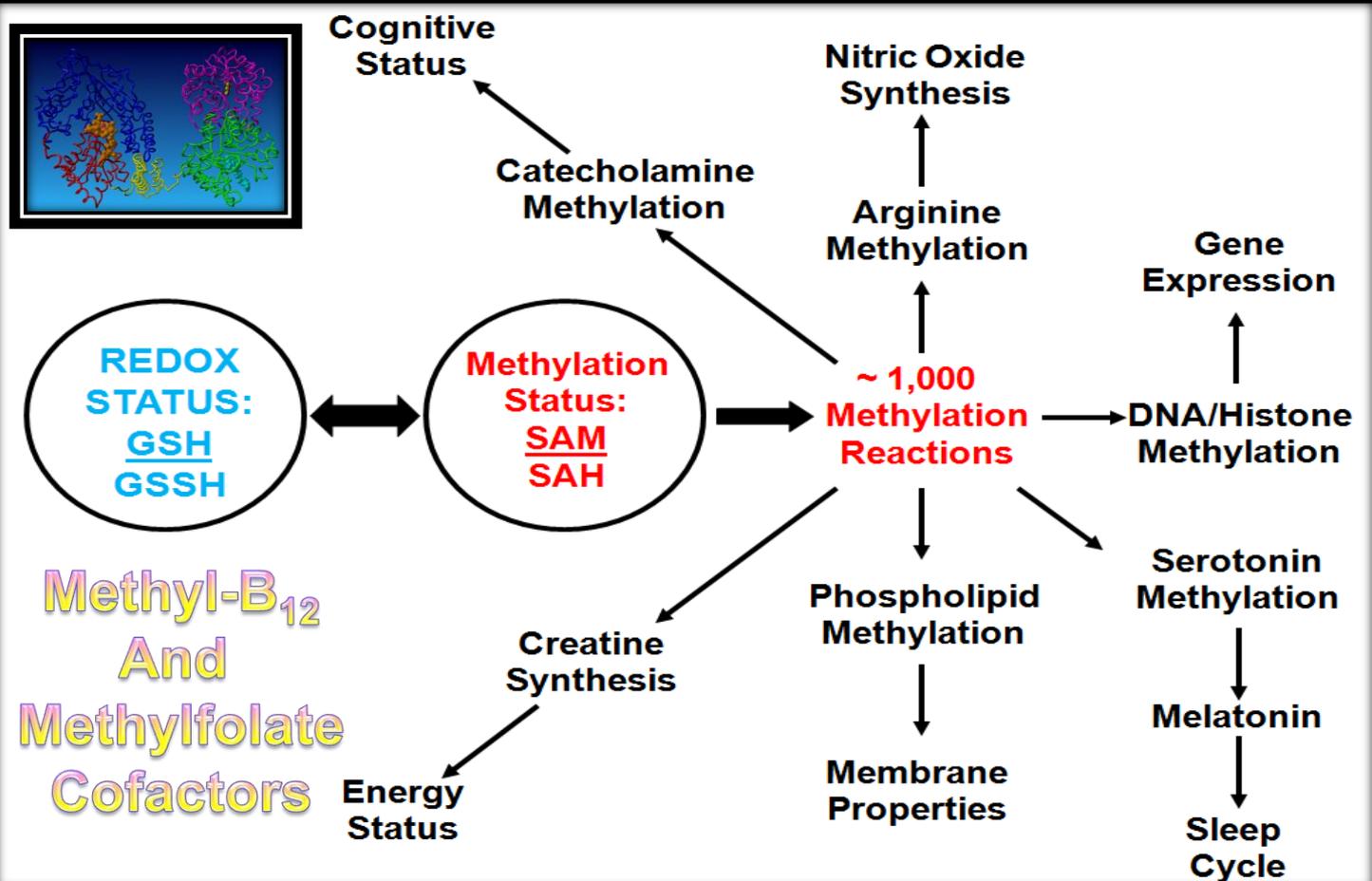
S. Jill James,^{1*} Stepan Melnyk,¹ Stefanie Jernigan,¹ Mario A. Cleves,¹ Charles H. Halsted,² Donna H. Wong,² Paul Cutler,³ Kenneth Bock,⁴ Marvin Boris,⁵ J. Jeffrey Bradstreet,⁶ Sidney M. Baker,⁷ and David W. Gaylor⁸

TABLE II. Transmethylation and Transsulfuration Metabolites in Autistic Cases and Controls

	Control ^a (n = 73)	Autistic ^a (n = 80)	P-value
Methionine (μmol/L)	28.0 ± 6.5	20.6 ± 5.2	<0.0001
SAM (nmol/L)	93.8 ± 18	84.3 ± 11	<0.0001
SAH (nmol/L)	18.8 ± 4.5	23.3 ± 7.9	<0.0001
SAM/SAH ratio	5.5 ± 2.8	4.0 ± 1.7	0.0001
Adenosine (μmol/L)	0.19 ± 0.13	0.28 ± .13	0.001
Homocysteine (μmol/L)	6.0 ± 1.3	5.7 ± 1.2	0.03v
Cystathionine (μmol/L)	0.19 ± 0.1	0.24 ± 0.1	<0.0001
Cysteine (μmol/L)	207 ± 22	165 ± 14	<0.0001
Cysteinylglycine (μmol/L)	39.4 ± 7.3	38.9 ± 11	0.78
Total GSH (μmol/L)	7.53 ± 1.7	5.1 ± 1.2	<0.0001
Free GSH (μmol/L)	2.2 ± 0.9	1.4 ± 0.5	0.0001
GSSG (μmol/L)	0.24 ± 0.1	0.40 ± 0.2	<0.0001
Total GSH/GSSG ratio	28.2 ± 7.0	14.7 ± 6.2	<0.0001
Free GSH/GSSG ratio	7.9 ± 3.5	4.9 ± 2.2	0.0001

SAM, S-adenosylmethionine; SAH, S-adenosylhomocysteine; GSH, glutathione; GSSG, glutathione disulfide.
^aMeans ± SD.

Methionine Synthase Works With The Methyl-B₁₂ and Methylfolate Cofactors To Perform More Than 1000 Critical Functions Of The Body



Methyl-B₁₂
And
Methylfolate
Cofactors

Methylation Summary: Why We Need To Optimize This Process

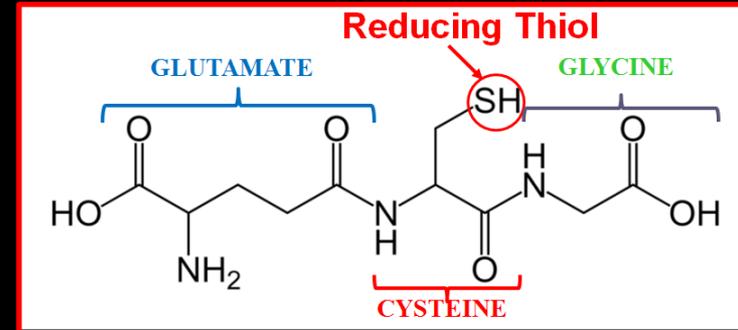


1. It is involved in new cell synthesis, DNA and RNA repair
2. It is necessary for coenzyme Q₁₀ synthesis
3. It is involved in phospholipid metabolism
4. It is involved in folate metabolism
5. It is involved in tetrahydrobiopterin (BH₄) production to make catecholamine and serotonin neurotransmitters
6. It is involved in immune system reactions, e.g. T-cell methylation, viral silencing and histamine methylation
7. Participates in detoxification and the production of glutathione
8. It affects susceptibility to disease by epigenetics



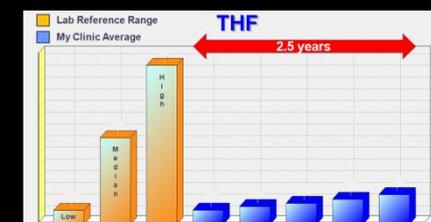
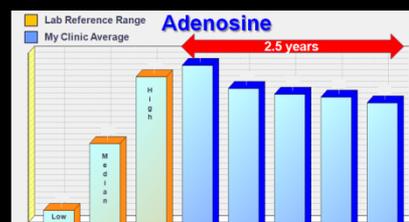
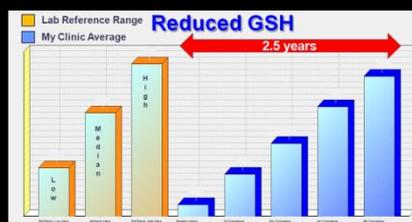
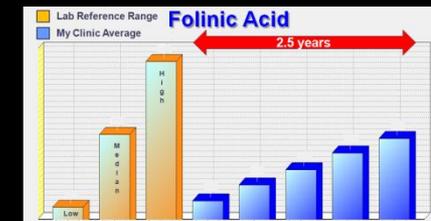
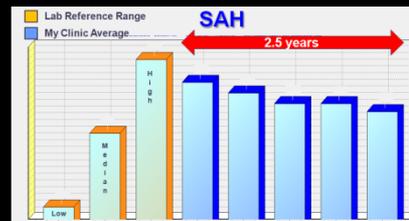
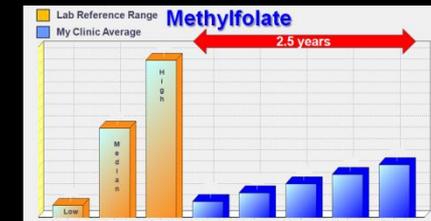
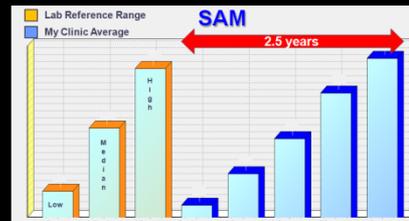
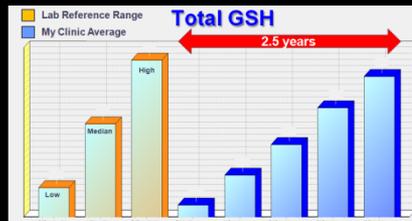
Glutathione Summary:

Why We Need To Optimize What It Does For Us



1. It is the primary intracellular antioxidant
2. It helps quench oxidative stress which is greater in autism
3. It is involved in detoxification and it also protects against toxic exposure
4. It protects against neuroinflammation, inflammation, and neurodegeneration
5. It protects against mitochondrial damage
6. It works synergistically with many other agents to protect against oxidative stress

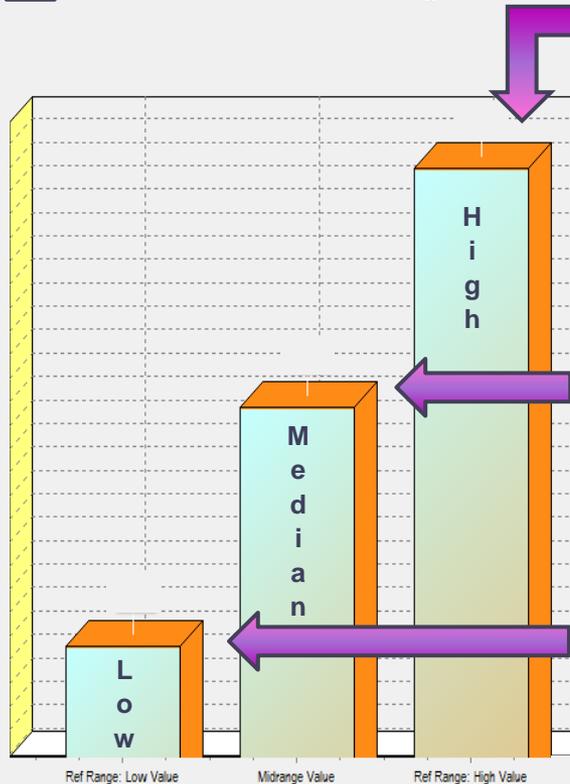
Correcting THE FOLATE CYCLE, TRANSMETHYLATION and TRANSSULFURATION within 2 ½ years (data from the Road to Recovery Clinic)



THE LABORATORY “GRADING SYSTEM”

A New Way To Think About The Meaning Of Your Laboratory Results To See If They Are Just Normal Or Represent Your Optimal Values

■ Lab Reference Range



A lab test with a “HIGH” value
2 standard deviations above the mean
The line between a grade of A+ and
A+ with extra credit

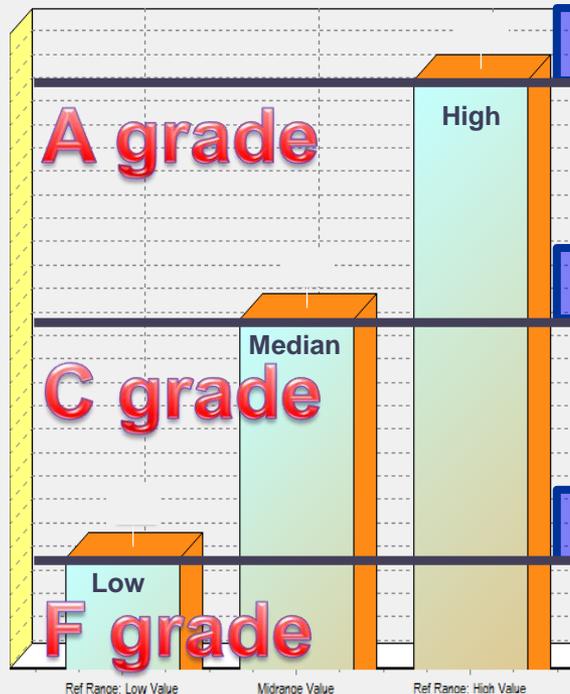
A lab test at the mid range
The mean or the “AVERAGE” value
The value representing a C grade

A lab test with a “LOW” value
2 standard deviations below the mean
The line between a grade of D minus and F



Consider Your Lab Results Like A College Student Who Is Graded By The Standard Grading System

■ Lab Reference Range



The line between A and A+ with extra credit

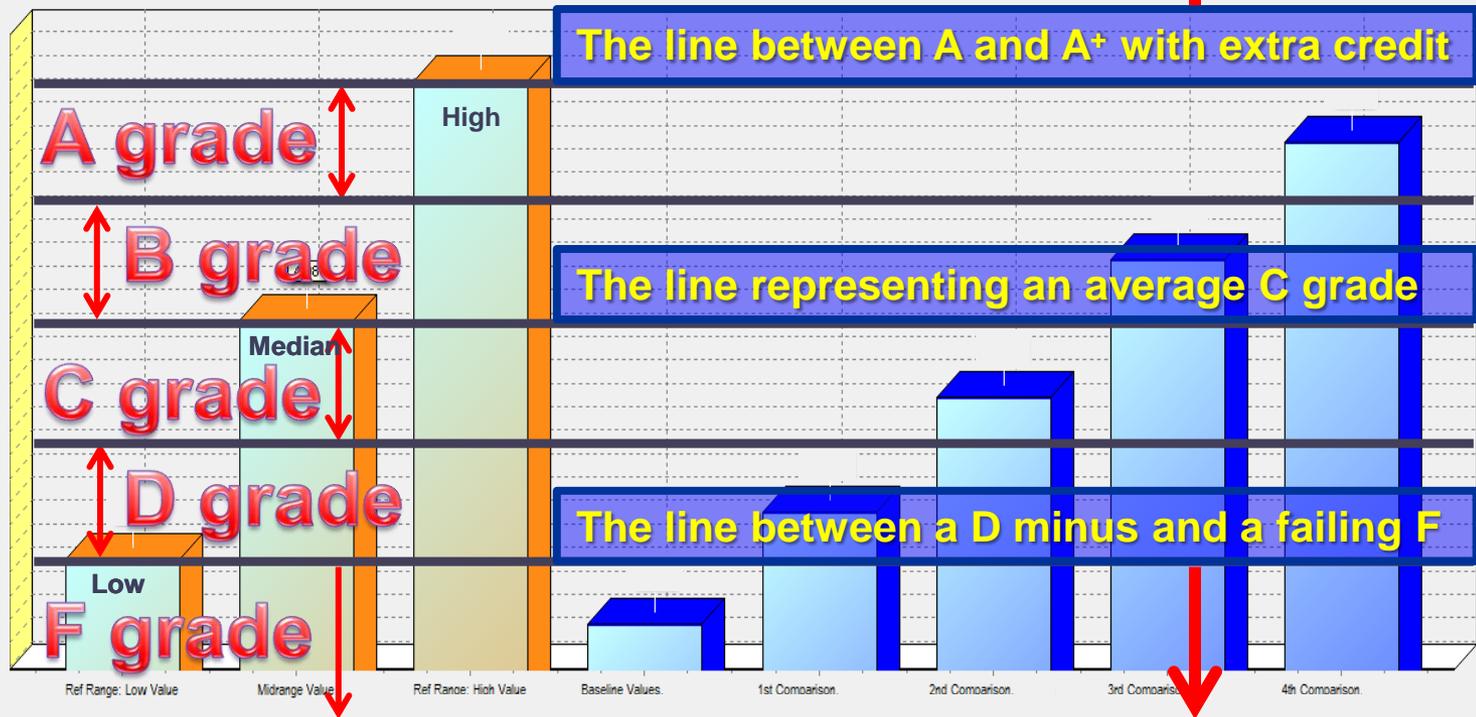
The line representing an average C grade

The line between a D minus and a failing F



Consider Your Lab Results Like A College Student Who Is Graded By The Standard Grading System

- Lab Reference Range
- My Clinic Average



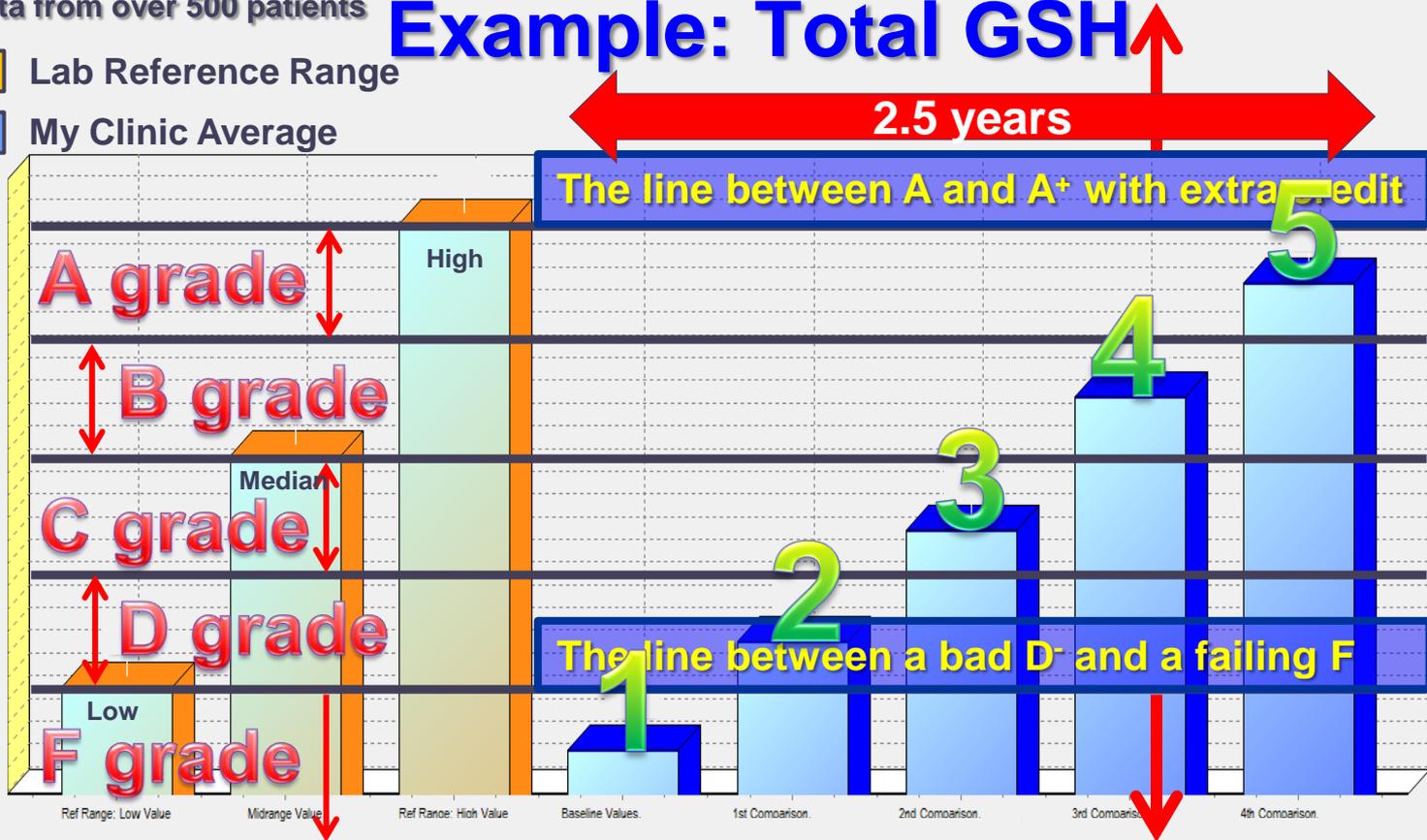
In 2 ½ Years **Patients Doing The Things I Recommended** To Correct Their Abnormal Glutathione Levels Progressed from a Grade of **F** **D** **C** **B** **A!**

1 2 3 4 5

Data from over 500 patients

Example: Total GSH

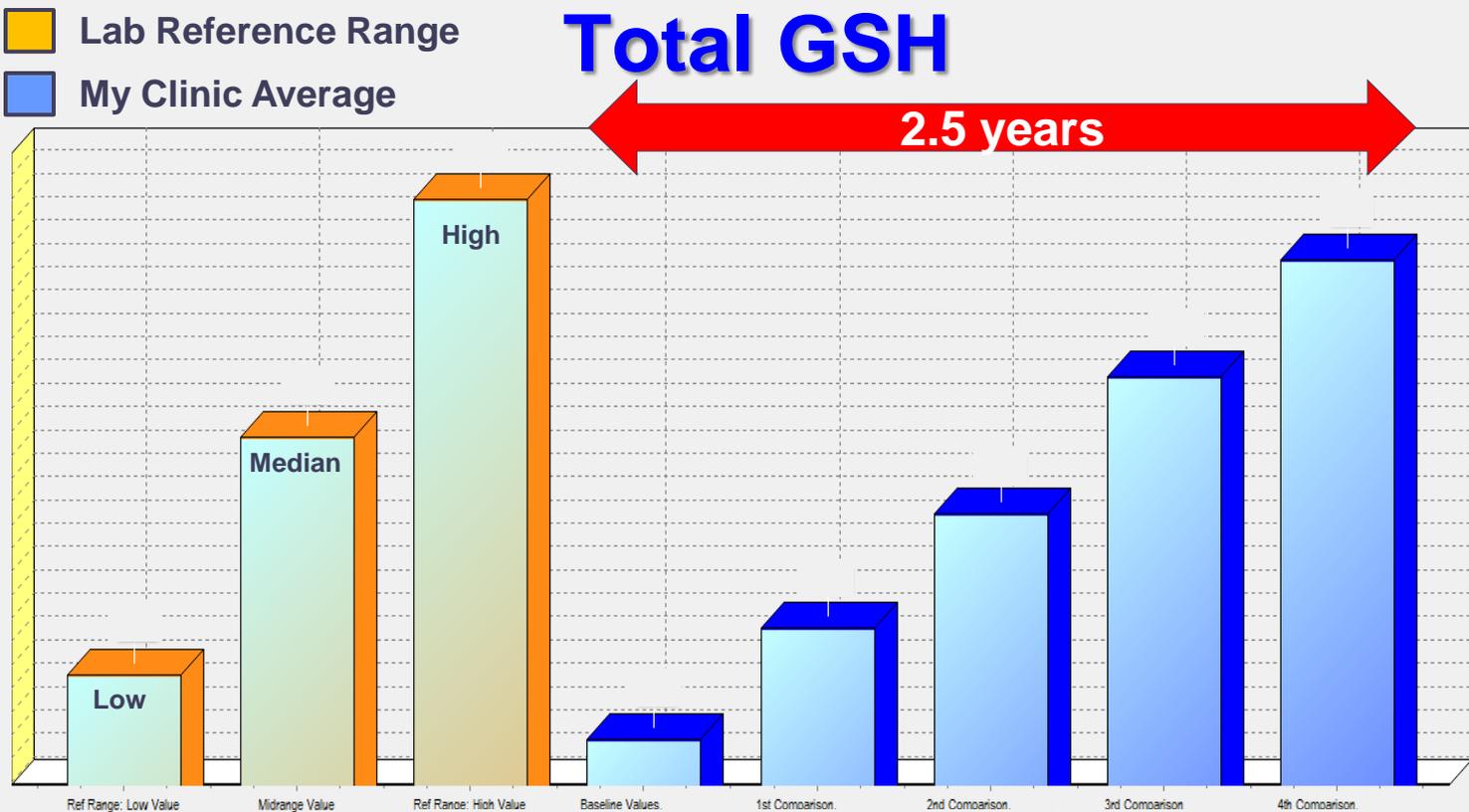
-  Lab Reference Range
-  My Clinic Average



My Clinic's Average Patient's Progressive Increase In Total GSH Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average



My Clinic's Average Patient's Progressive Decrease In Oxidized GSH Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average

Oxidized GSH

2.5 years



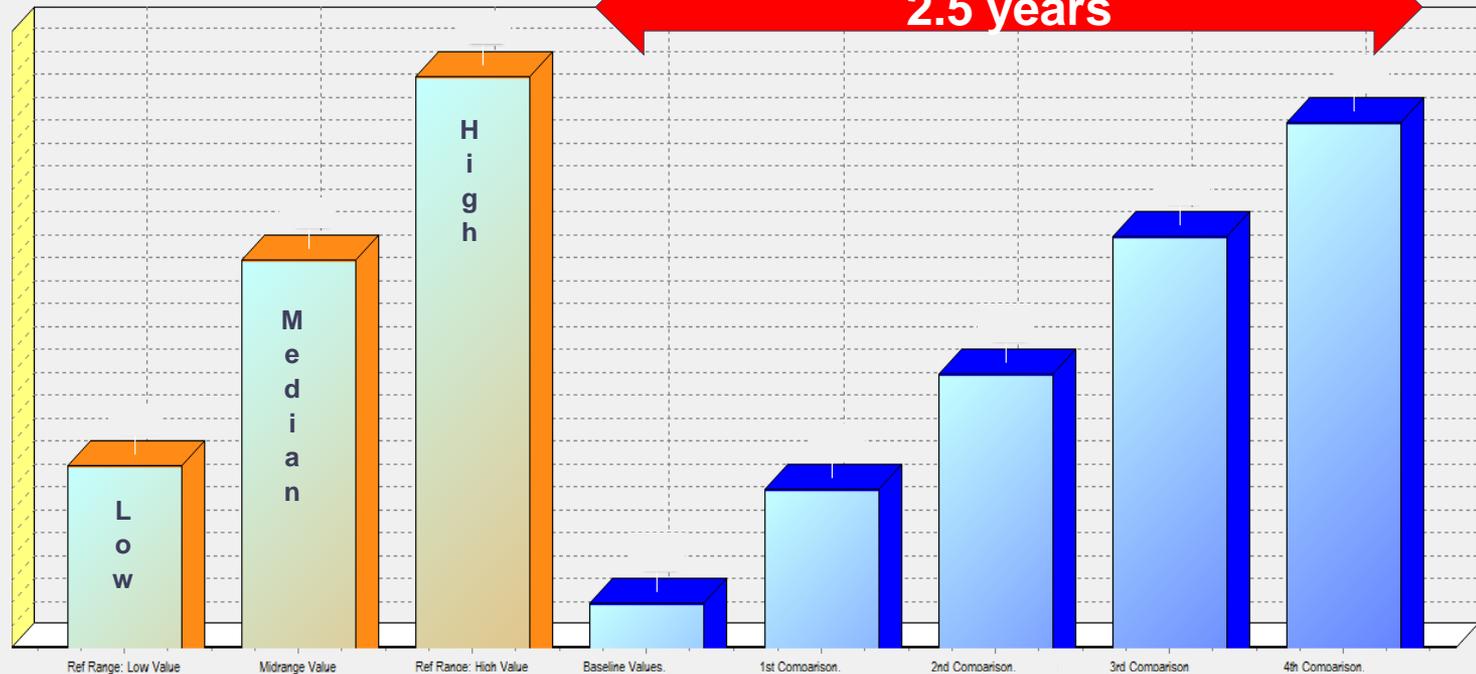
My Clinic's Average Patient's Progressive Increase In Reduced GSH Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average

Reduced GSH

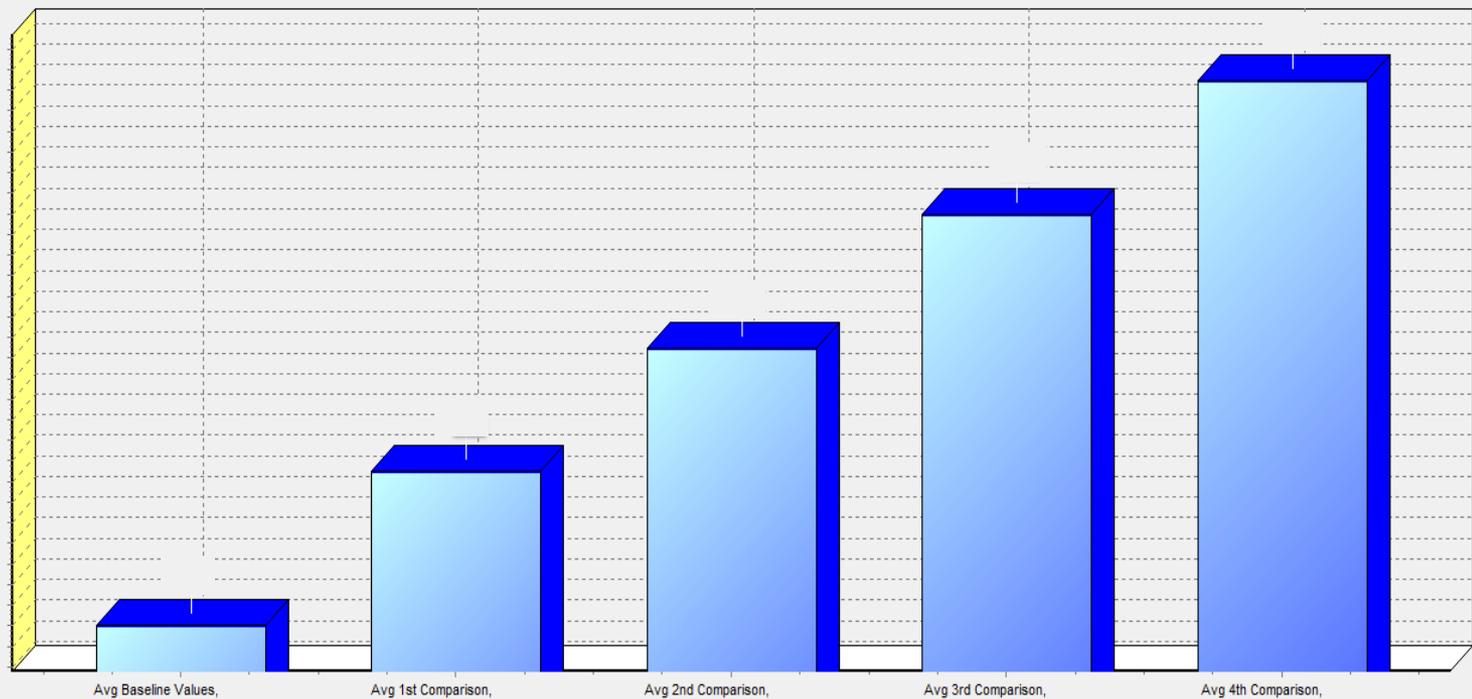
2.5 years



My Clinic's Average Patient's Progressive Increase In Reduced to Oxidized GSH Levels Over A Period Of 2.5 Years

Data from over 500 patients

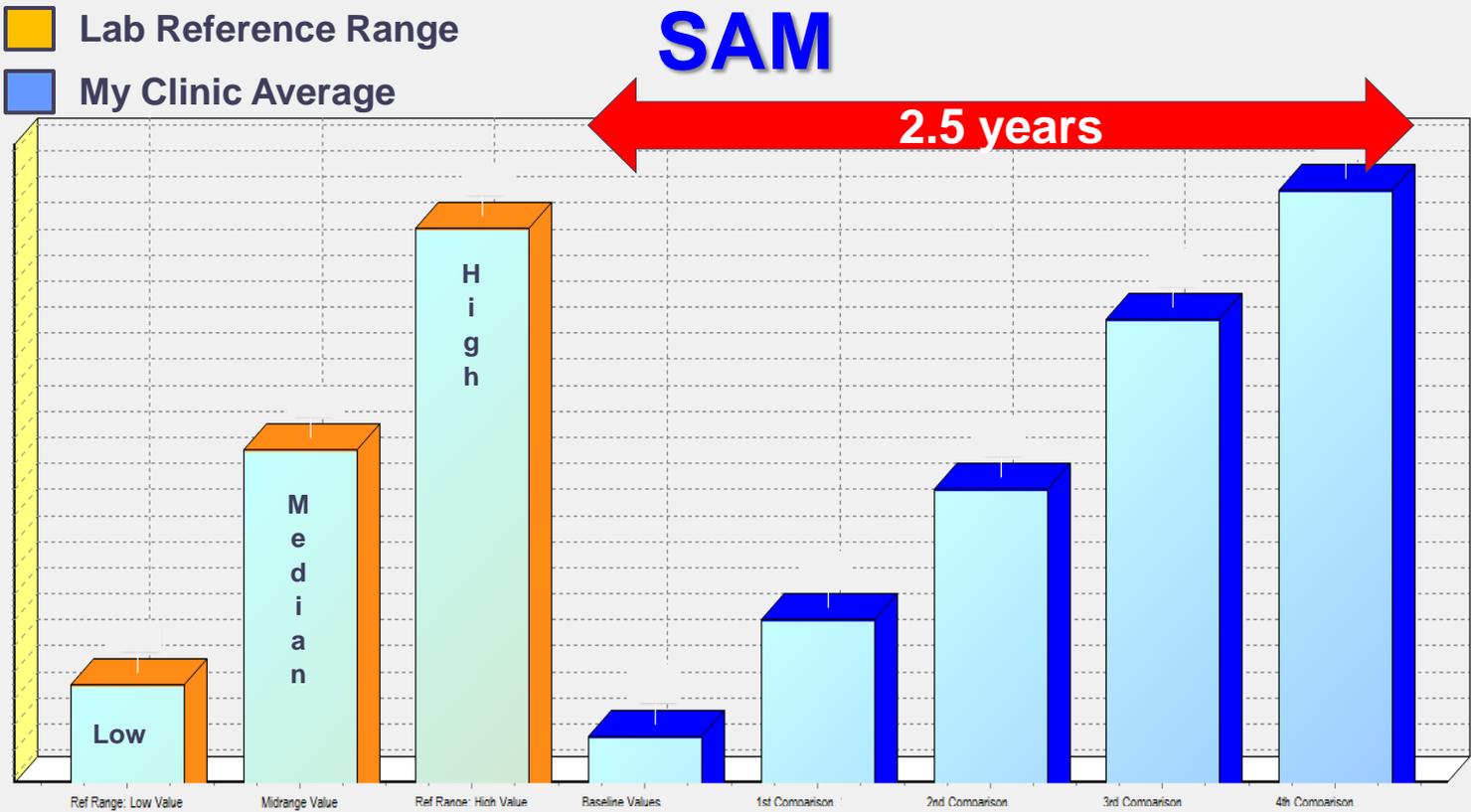
Reduced to Oxidized GSH Ratio



My Clinic's Average Patient's Progressive Increase In SAM Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average



My Clinic's Average Patient's Progressive Decrease In SAH Levels Over A Period Of 2.5 Years

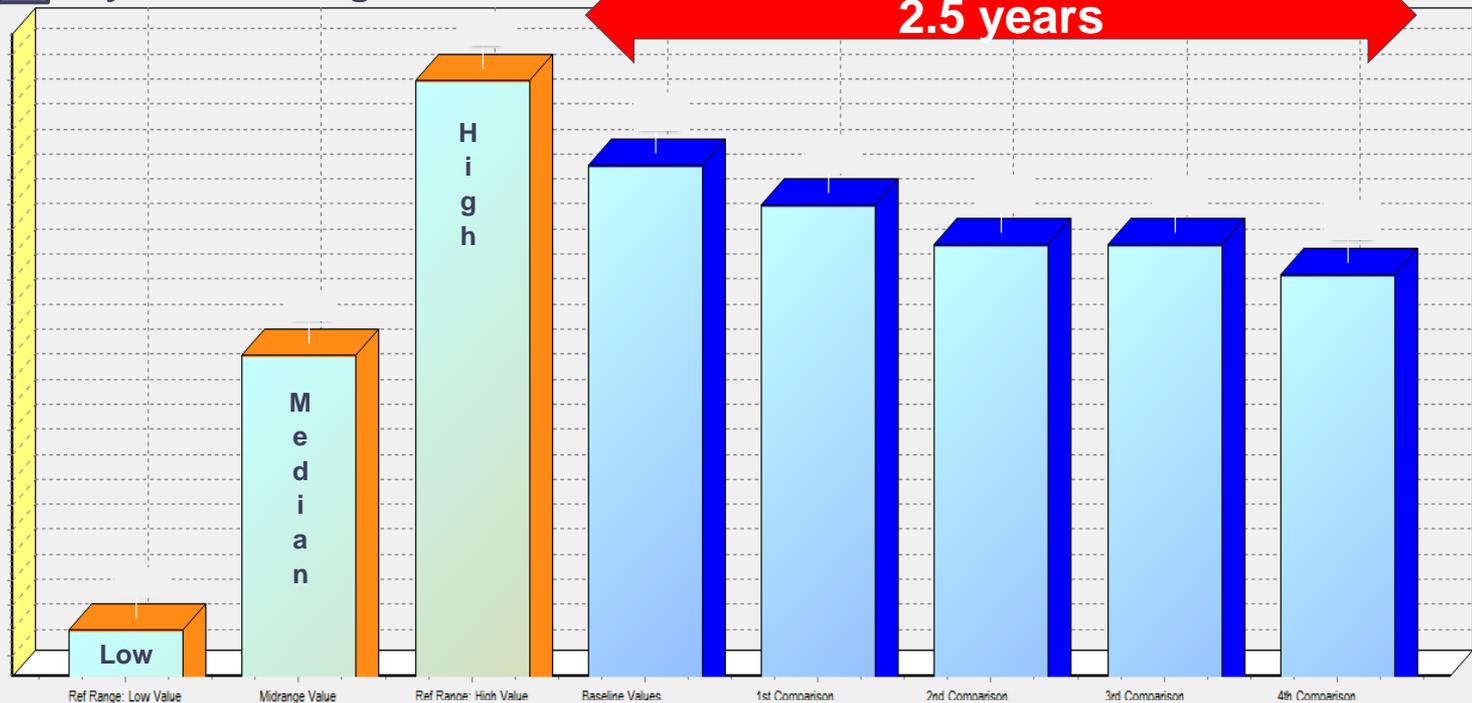
Data from over 500 patients

Lab Reference Range

My Clinic Average

SAH

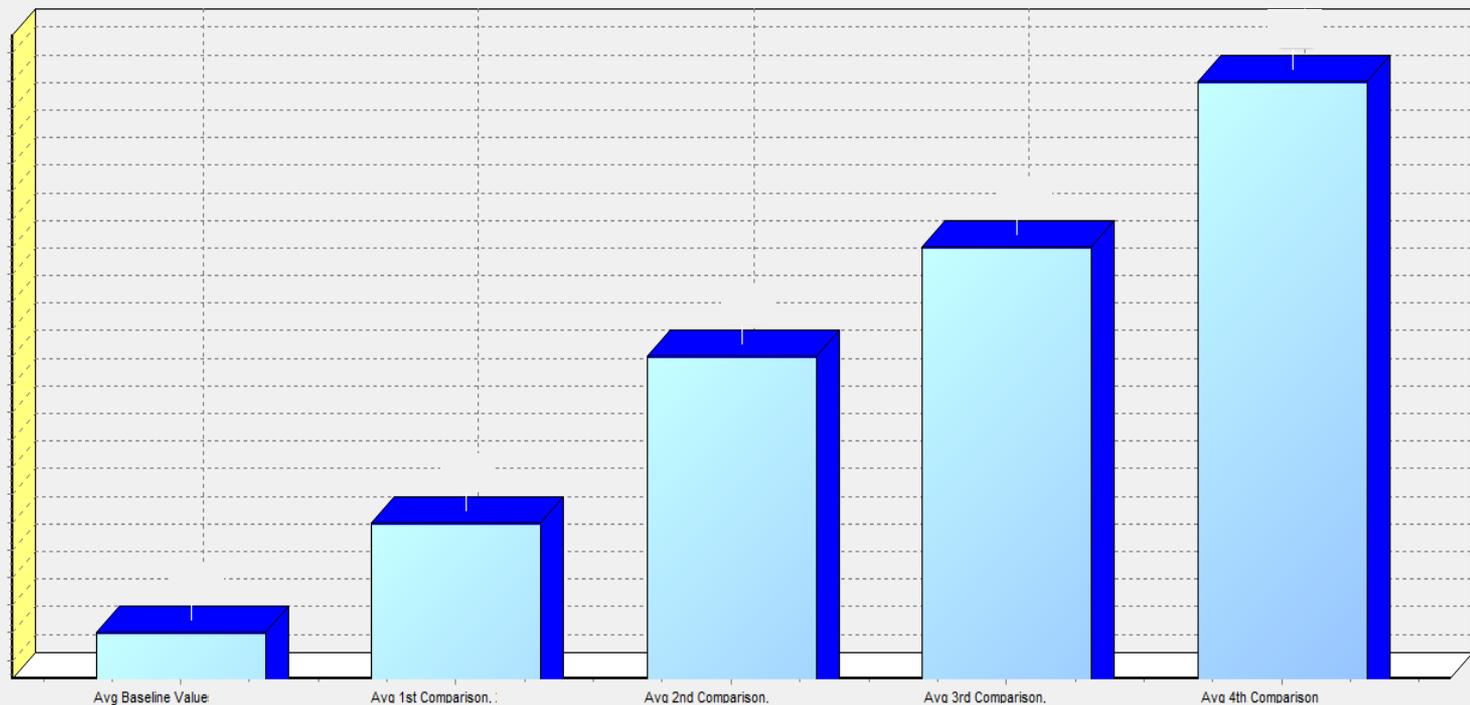
2.5 years



My Clinic's Average Patient's Progressive Increase In The SAM/SAH Ratio Over A Period Of 2.5 Years

Data from over 500 patients

SAM/SAH Ratio



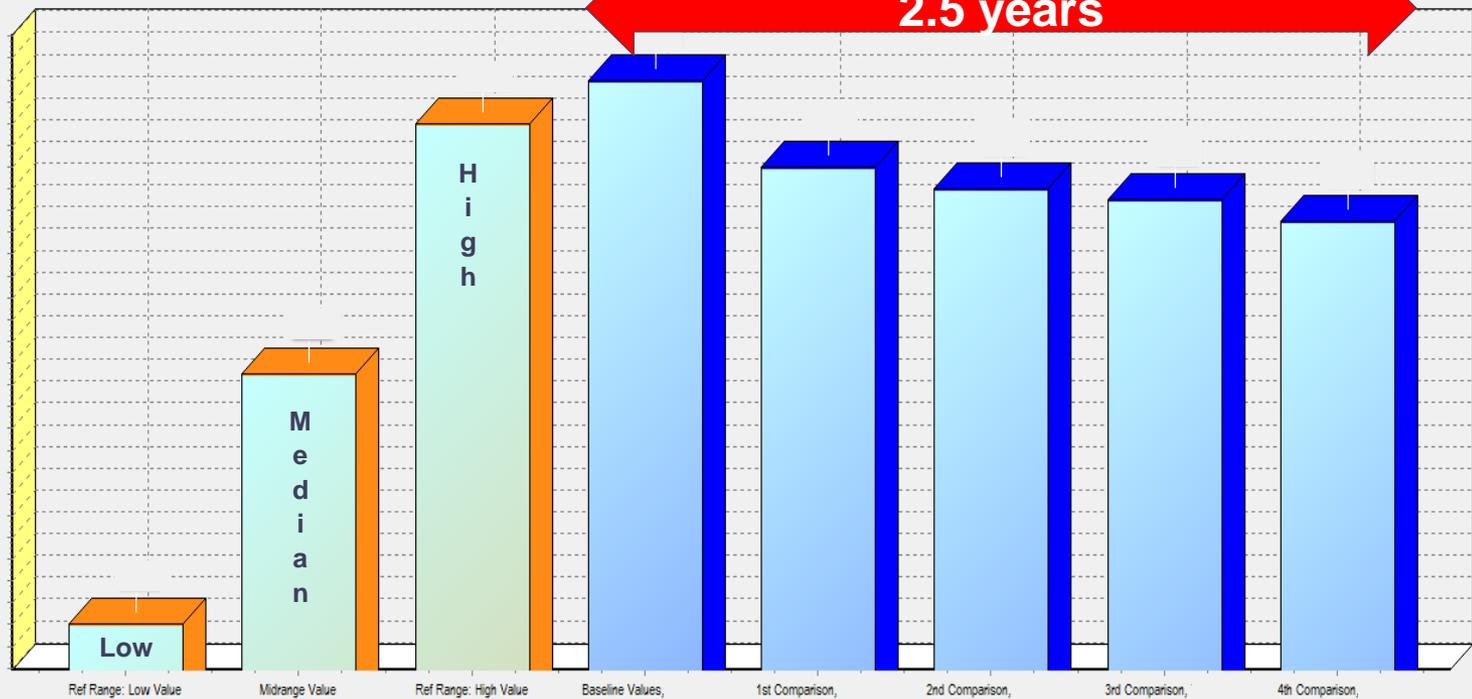
My Clinic's Average Patient's Progressive Decrease In Adenosine Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average

Adenosine

2.5 years



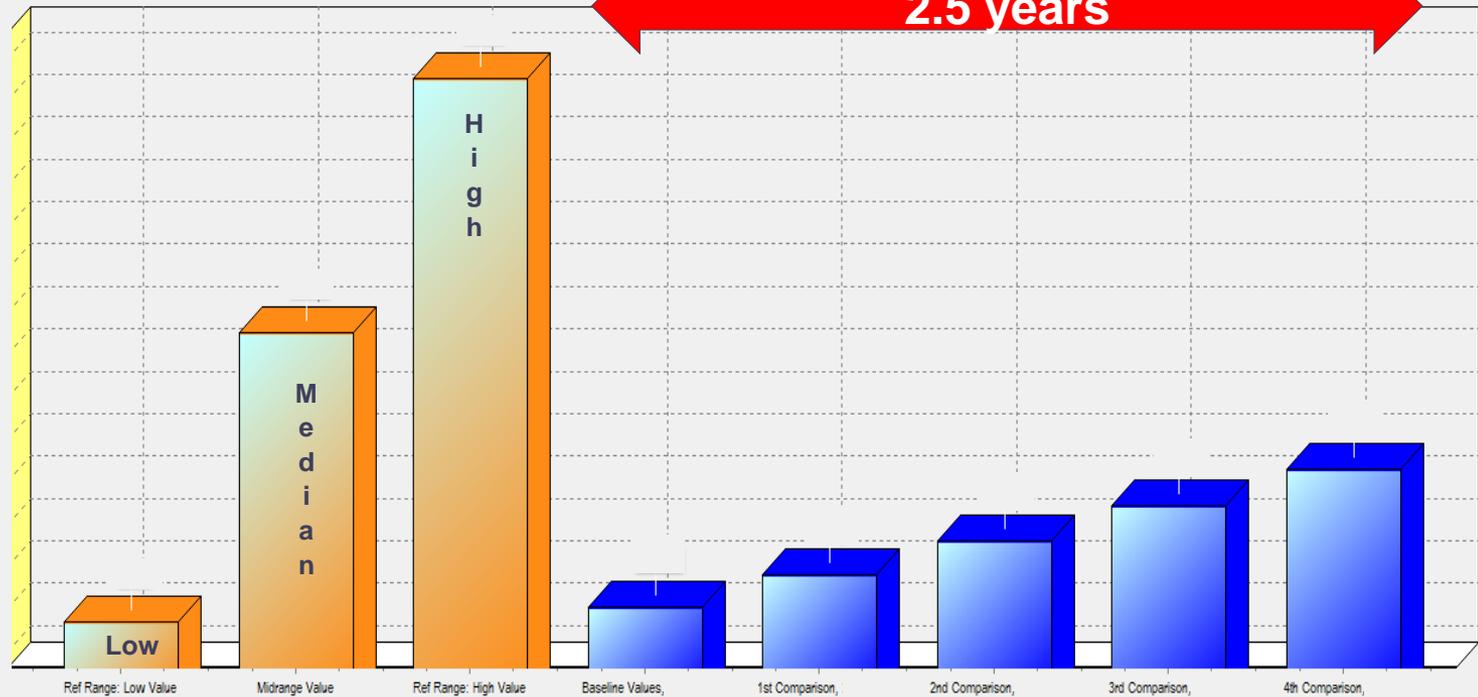
My Clinic's Average Patient's Progressive Increase In 5-Methyl-THF Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average

Methylfolate

2.5 years

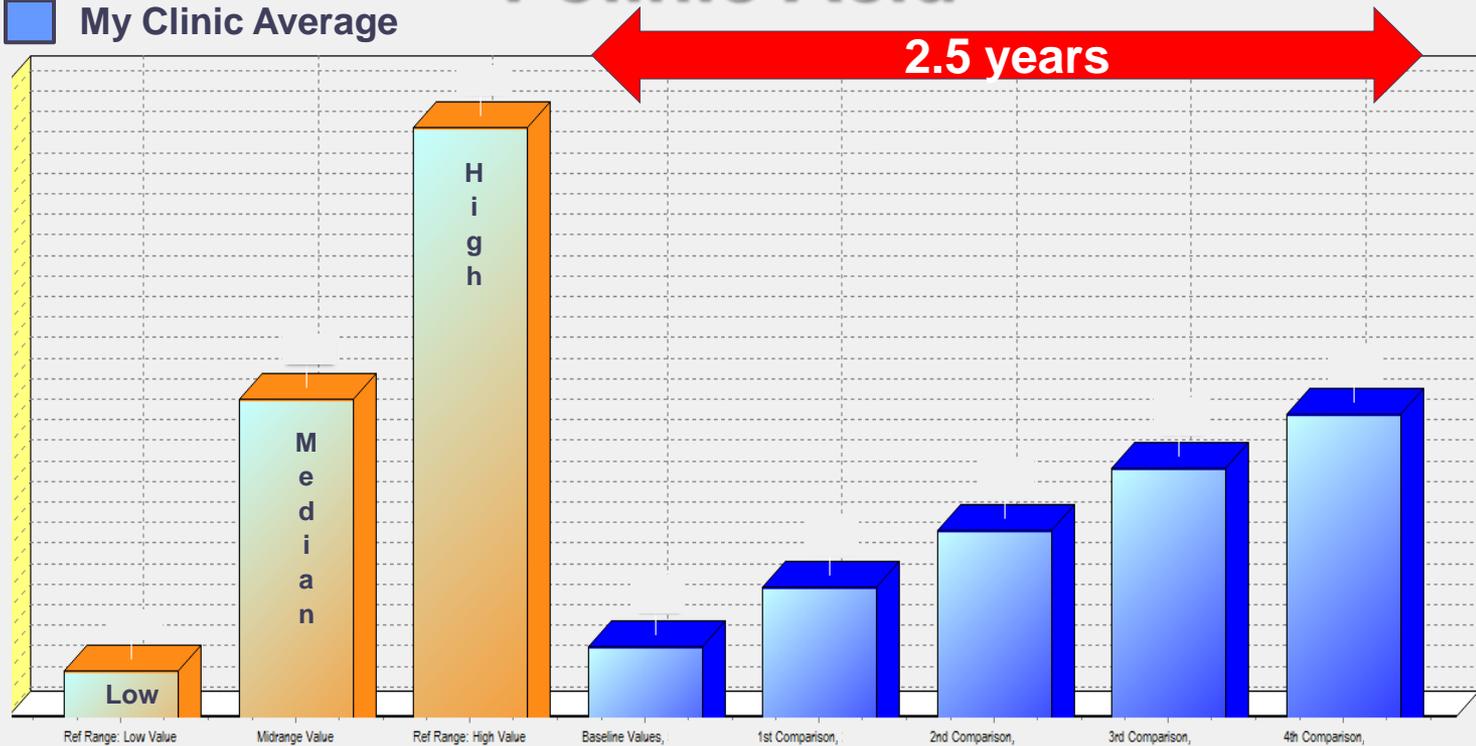


My Clinic's Average Patient's Progressive Increase In Whole Blood Folinic Acid Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average

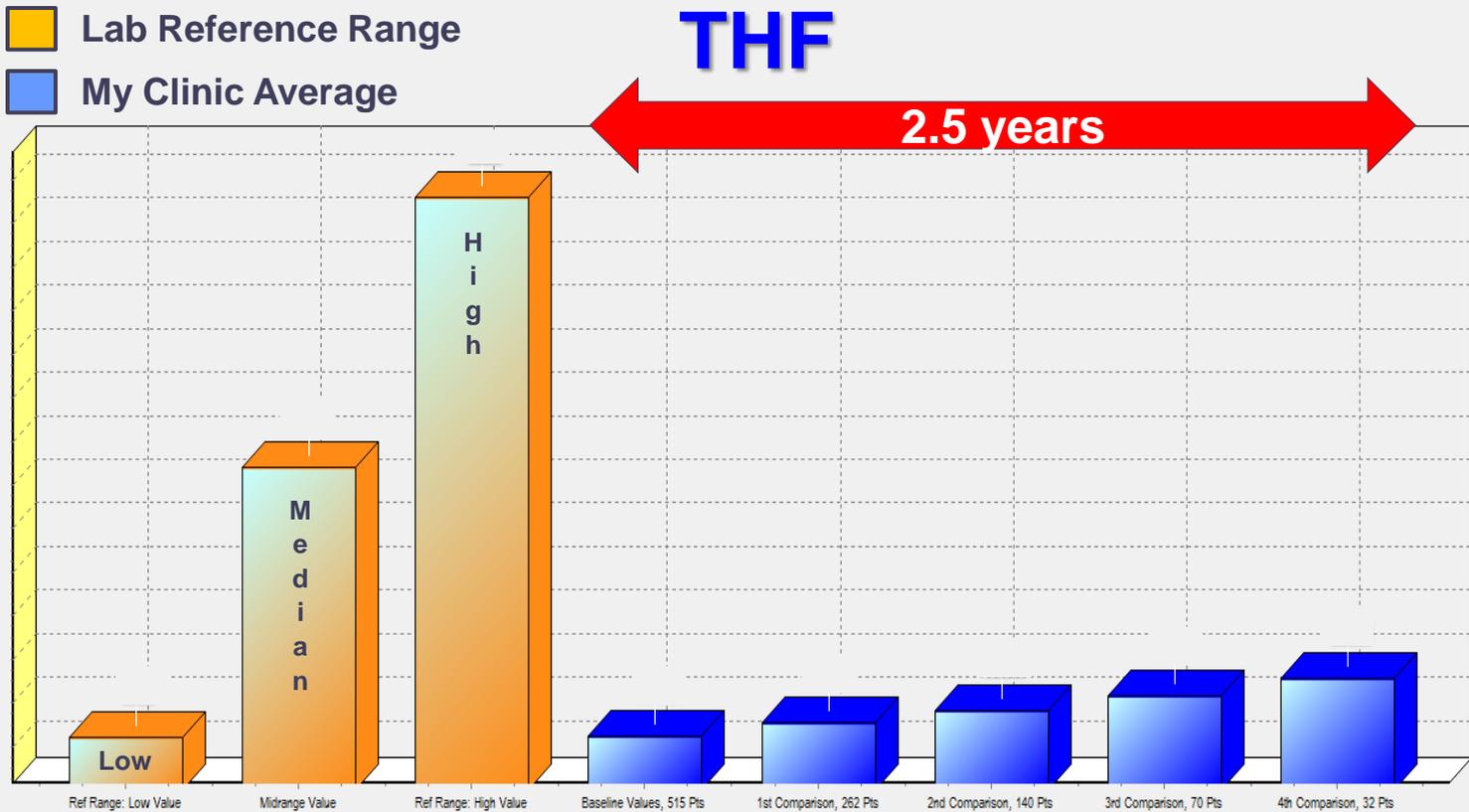
Folinic Acid



My Clinic's Average Patient's Progressive Increase In Tetrahydrofolic Acid Levels Over A Period Of 2.5 Years

Data from over 500 patients

- Lab Reference Range
- My Clinic Average





Can You Fix My Child?

It hurts so bad to see him this way!



There Is No Magic

Just a lot of hard work that never seems to stop

So How Do We Fix These Things?



So How Do We Fix These Things?

Work with someone that knows
what to do and when to do it
AND THEN JUST DO IT!





So How Do We Fix These Things?



THE CRITICAL PRINCIPLES

- Do first things first – **Do Major Treatments** that have the potential to lead towards recovery, not just treatments aimed to relieve symptoms. Everyone starts with methyl-B₁₂ and if possible HBOT as I work through the other areas
- Make sure there is a **System** to what you are doing yourself or being asked to do – not just a “Shotgun Approach”
- Implement treatments in a **Progressive Way** – do the major proven treatments before the *miracle fly-by-night* treatments you hear from clinicians at conferences who make money from *their magic potion* or parental testimonies that are wonderful today but are gone tomorrow
- Do not try to do **Too Much** at the same time or you will be confused as to what is working and what is not which will lead to failure, more money spent, and a lot of tears!



What Options Do We Have That May Help?



MANY THINGS ARE SYNERGISTIC

- Antioxidants: there are *many types* you can choose from
 - Fat soluble types: vitamins A, E, D and K, CoQ₁₀, alpha lipoic acid
- Vitamin C (ascorbic acid)
- Selenium
- Zinc
- Bioflavonoids and carotenoids: leuteolin, quercetin, rutin, resveratrol
- SuperFoods with high ORAC values (oxygen radical absorbance capacity)
 - Acai berry (18,400) is greater than → Pomegranate (10,500) is greater than → Blueberry (3,200) is greater than → Strawberry (2,600) is greater than → Peach (1,300) is greater than → Broccoli (900)



What Options Do We Have That May Help?



MANY THINGS ARE SYNERGISTIC

- Tetrahydrobiopterin – BH_4 (Dr. N. rarely uses it now because significant clinical benefits were rarely reported by his parents when he aggressively tried it when it was the “rage”. The effective dose is ~3 mg/kg which is cost prohibitive to most parents)
- NAC – oral, transdermal, IV, nebulized
- High doses of vitamins C and E and CoQ₁₀ (ubiquinol)
- Selenium (Dr. N. says, “Often very high doses must be used so be careful”)
- Zinc (Dr. N. says, “Often very high doses must be used so be careful”)
- Silymarin (milk thistle)
- Reduced glutathione (Dr. N. says, “Be careful! There are many forms of delivery that can be used—transdermal, oral, liposomal, nebulized, intranasal, intravenous, suppository--from various sources with each source claiming to be better than the others but the effectiveness of the products varies significantly”)



What Options Do We Have That May Help?



MANY THINGS ARE SYNERGISTIC

- Glycine
- DMG
- TMG (Dr. N. says, “Contrary to popular opinion, avoid this when taking methyl-B₁₂”)
- Folinic acid (Dr. N.’s preference)
- Methylfolate (Dr. N. rarely needs to use this if the child is on methyl-B₁₂)
- Zinc, magnesium and B₆ for the face and pendulum on the Methyl-B₁₂ Grandfather Clock
- Vitamin B₂ and a B-complex without folic acid which is the ‘oxidized form’ of the folate family
- Many miscellaneous items including, but not limited to taurine, phosphatidylserine, vitamin K, pycnogenol, carnosine (I rarely use because it retains copper at the expense of zinc))

The Road To Recovery Clinic for the

**Autismo em Conferencia
Multidisciplinar**

October 11, 2014

Belo Horizonte, Brazil

THANK YOU

**for inviting me. Hopefully
you will be able to use
what I've said to help
your child move towards
recovery, maybe all the
way to recovery.**



The Road To Recovery Clinic Presents

Side Effects and Safety of Methyl-B₁₂

During my presentation there was not enough time to discuss in detail how to handle the various types of side effects seen with methyl-B₁₂ or why methyl-B₁₂ is safe to use for years, if not for a lifetime.



The Road To Recovery Clinic Presents

Side Effects and Safety of Methyl-B₁₂

Therefore I wanted to make available to my colleagues in Brazil and to the parents of children with autism a set of slides that discusses both of these important items.



The Road To Recovery Clinic Presents

How to Know if Your Child is a Methyl-B₁₂ Responder

I also did not have enough time today to teach parents how to know what to look for during the Initiation Phase of methyl-B₁₂ and how to know if their child is a responder or not so I have included a set of slides to help them.



The Road To Recovery Clinic Presents

**Be Sure Your Methyl-B₁₂
Is Actually One
That Works**

In addition to all these extra sets of slides I am making available, a final message I want to leave with parents is that they make sure they use an active form of methyl-B₁₂ so they get the results they are looking for in their child.



The Road To Recovery Clinic Presents

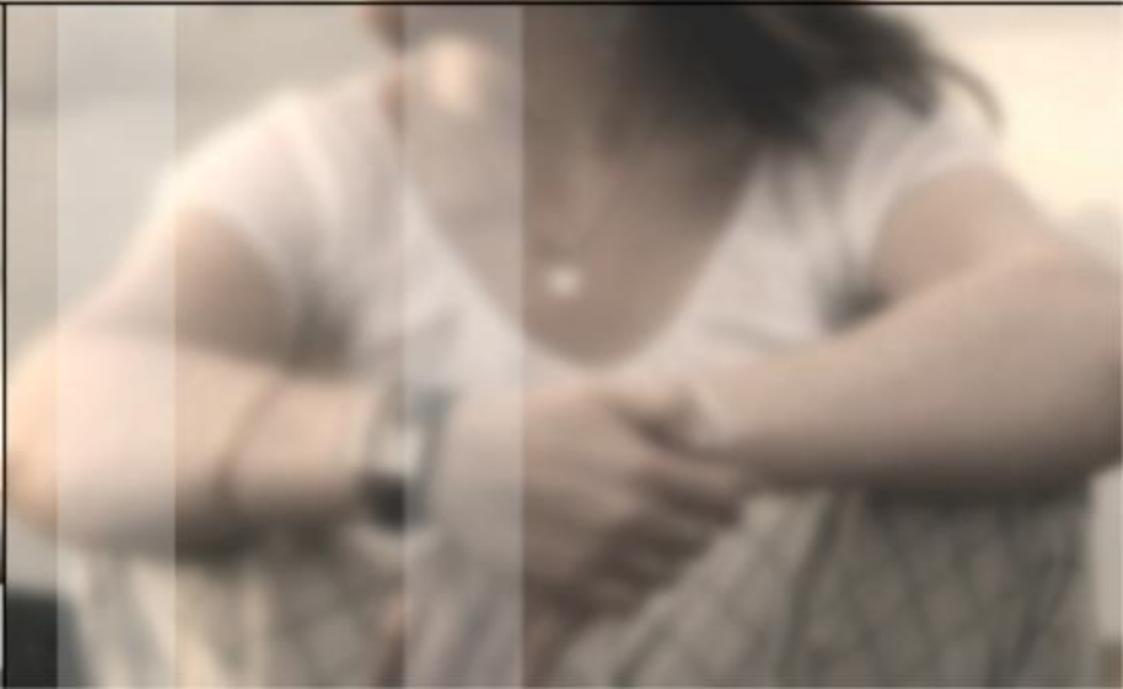
Four Extra Slide Sets
To Help Parents Get
Methyl-B₁₂
To Work

SLIDE SETS THAT FOLLOW

- 1. Side Effects**
- 2. Safety**
- 3. Determining Responses**
- 4. Methyl-B₁₂ Quality**



**Parents often get
concerned when they
see side effects**



**They ask, “Are we
doing the right
thing for our
child?”**



REMEMBER



Good and Evil Will Whisper To You



Good and Evil Will Whisper To You

So be careful who you listen to



Good and Evil Will Whisper To You

Methyl-B₁₂ shots
are good!

Methyl-B₁₂ shots
are bad!



Good and Evil Will Whisper To You

We often have to see some bad to get a lot of good



To have a successful operation



To have a successful operation

It is impossible to do it without having some pain



To have a successful operation

It is impossible to do it without having some pain



SO

be careful who you listen to!



Understanding Tolerable from Intolerable Negative Side Effects

1. ~1 out of 150 children have side effects so bad that they are considered intolerable and the shots have to be stopped.



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2. Between 18% to 37% of parents report side effects that are a nuisance, at times a very big nuisance, but side effects that are tolerable so the shots can be continued.



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3. When the side effects are of the tolerable type, they will return to baseline or become even better within 4 to 6 months.



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So
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Understanding Tolerable from Intolerable Negative Side Effects

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Understanding Tolerable from Intolerable Negative Side Effects

1. ~37% start or increase mouthing objects or biting
2. ~36% show increased stimming

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Understanding Tolerable from Intolerable Negative Side Effects

1. ~37% start or increase mouthing objects or biting
2. ~36% show increased stimming
3. ~32% show worse behaviors (this is usually a positive-negative because it occurs when demands are made)

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Understanding Tolerable from Intolerable Negative Side Effects

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Understanding Tolerable from Intolerable Negative Side Effects

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2. ~36% show increased stimming
3. ~32% show worse behaviors (this is usually a positive-negative because it occurs when demands are made)
4. ~31% have increased hyperactivity
5. ~31% become more aggressive
6. ~24% become silly

**So
be careful
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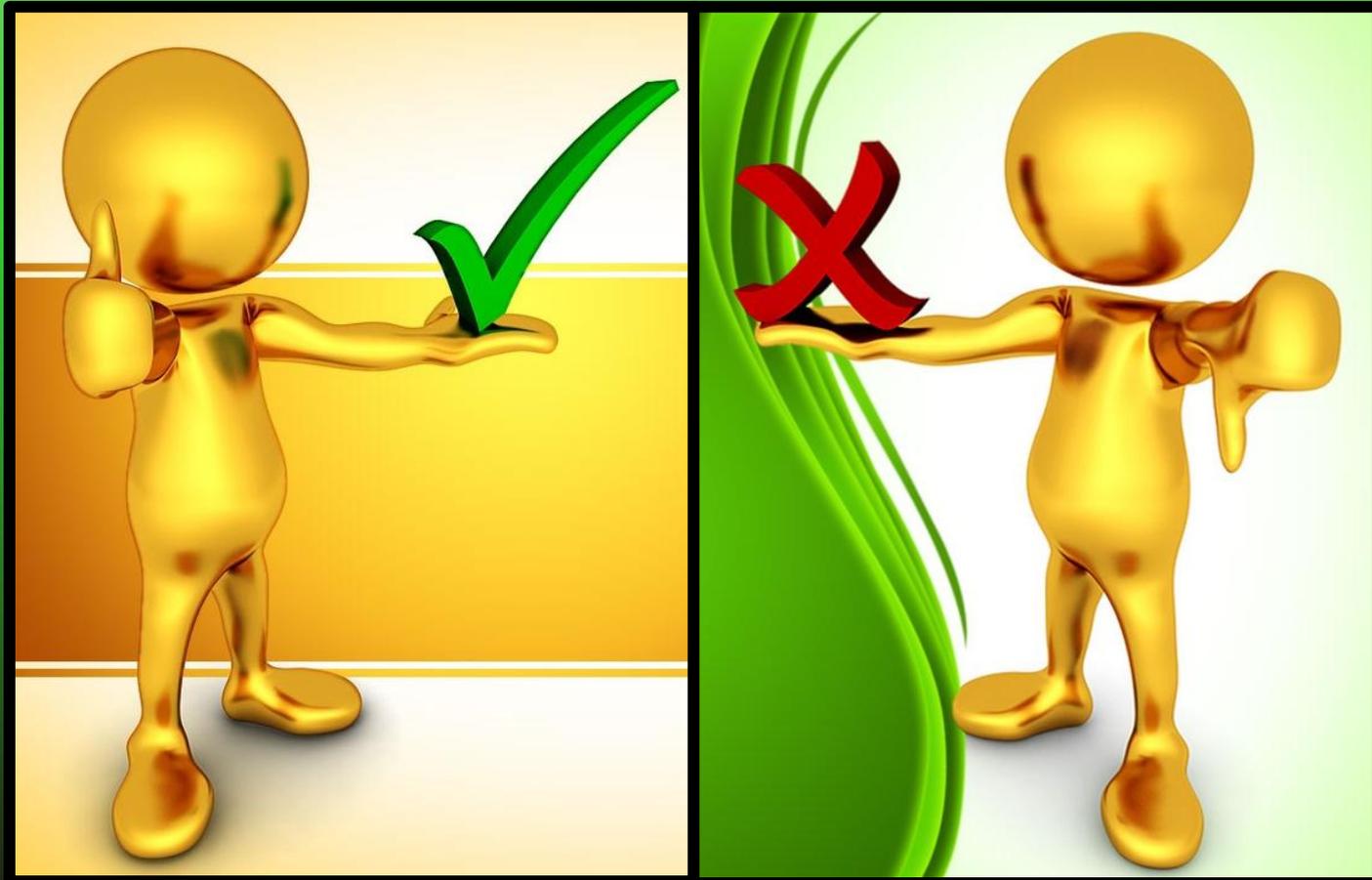
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4. ~31% have increased hyperactivity
5. ~31% become more aggressive
6. ~24% become silly
7. ~18% show increased compulsive behaviors

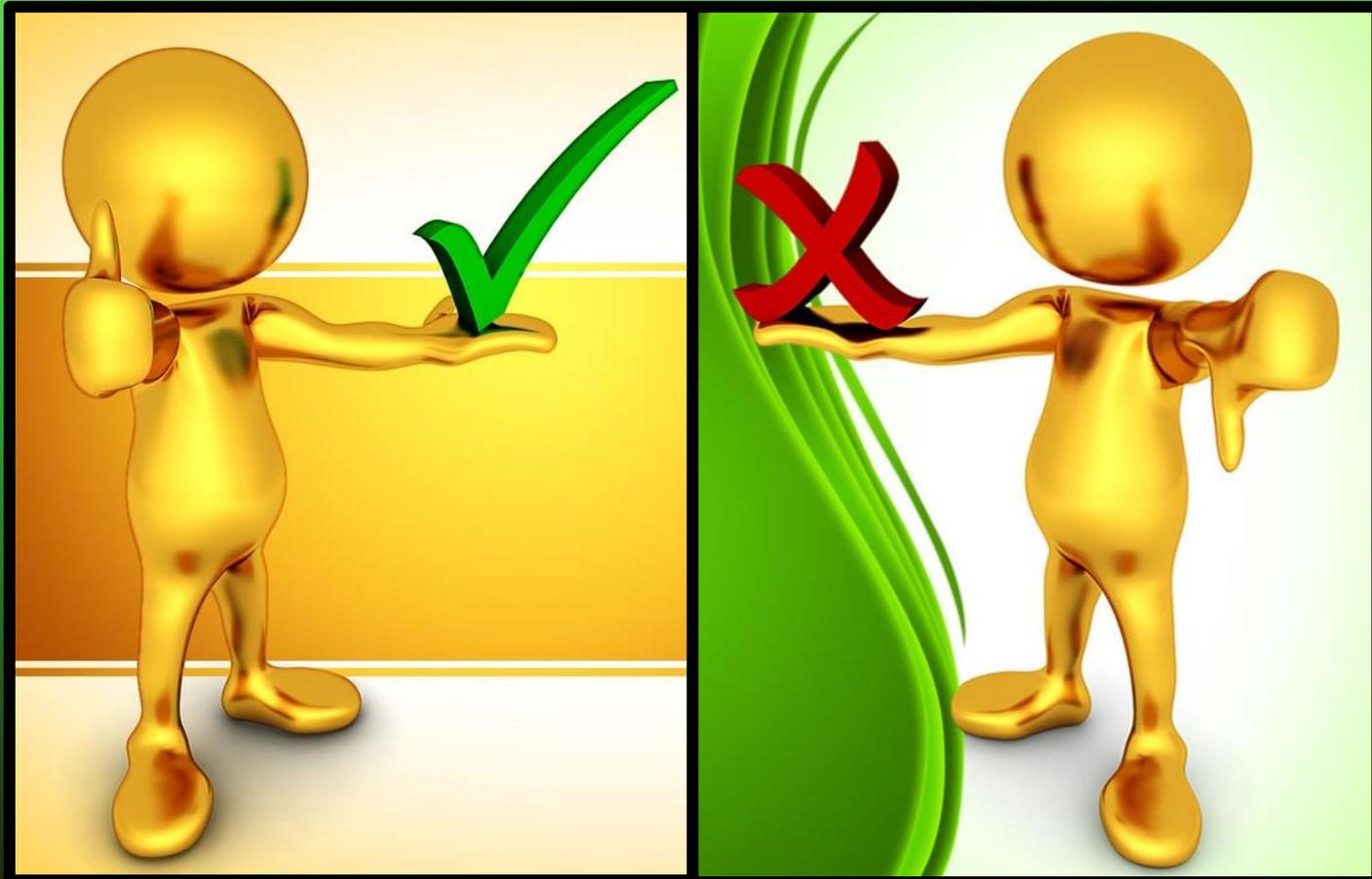
**So
be careful
who you
listen to!**



IT IS IMPORTANT TO UNDERSTAND “Positive-Negative” SIDE EFFECTS



**SO YOU KNOW WHEN TO GIVE A
THUMBS UP
TO WHAT SEEMS TO BE A BAD THING**





Positive Things Are Happening

But the child is
expressing them
a negative way

A 3D rendered golden figure stands on the left side of the image. The figure is holding a large, bright green checkmark in its right hand, which is extended towards the center. The figure's left hand is raised to its forehead in a gesture of surprise or contemplation. The background is a gradient of yellow and orange, with a dark orange horizontal band across the middle.

Keep Doing
The Shots!

**Positive Things
Are Happening**

But the child is
expressing them
a negative way

Understanding Positive-Negative Effects



Parents Say

- ~75%: Attempts to use more words and harder words
- ~74%: Become much more attentive
- ~72%: Become much more aware of things
- ~71%: Become more alert and quick to react
- ~71%: The child becomes much more affectionate than she or she already was
- ~70%: The child understands and follows directions better
- ~69%: Improvements in language – receptive, expressive, number of words, sentence length
- ~68%: Eye contact is improved

Remember
The Good



Parents Say

- ~65%: Follow commands better or for the first time
- ~61%: Become more engaged or engaging with children and adults
- ~59%: Show a much more active mind with the ability to think and do things they could never do before
- ~58%: Have a higher level of concentration
- ~58%: Begin to verbalize and vocalize more
- ~56%: Show much more compliance when asked to do things
- ~56%: Are much happier and pleasant to be around

Understand
The Bad



Understanding Positive-Negative Effects

Remember The Good



- 3 year old little girl
- Never talked before
- Unaware how to get her needs met
- After three weeks on methyl-B₁₂ she takes her mother's hand and leads her to the refrigerator and says nonsensical words meaning, "I want orange juice."



Understanding Positive-Negative Effects

Remember The Good



Understand The Bad

- 3 year old little girl.
- Never talked before.
- Unaware how to get her needs met.
- After three weeks on methyl-B₁₂ she takes her mother's hand and leads her to the refrigerator and says nonsensical words meaning, "I want orange juice."

- Her mother says, "I know you want something but I do not understand."
- The little girl thinks, "I've just told you" so she says it again, much louder and she is now quite upset.
- When the mother still does not understand she has a tantrum!



Understanding Positive-Negative Effects

Remember The Good



- Due to methyl-B₁₂, the little girl was now aware how to get her wants and needs met by asking her mother to help her get them.
- She even tried to communicate what she wanted by verbalizing that she was thirsty as she asked her mother to get her orange juice.



Understanding Positive-Negative Effects

Remember The Good



Understand The Bad

- Due to methyl-B₁₂, the little girl was now aware how to get her wants and needs met by asking her mother to help her get them
- She even tried to communicate what she wanted by verbalizing that she was thirsty as she asked her mother to get her orange juice

- Her mother did not understand her first request and asked her to help her understand.
- The little girl got upset thinking, “I just told you what I want!” so she said it again, louder.
- When her mother still did not understand she had a meltdown and bad tantrum!



Understanding Positive-Negative Effects

Remember The Good



- 4 year old little boy.
- Previously was very compliant with no self-assertiveness and just did what he was asked to do.
- After three weeks on methyl-B₁₂ his father told him to put his computer away because it was time to go to bed.



Understanding Positive-Negative Effects

Remember The Good



Understand The Bad

- 4 year old little boy
- Previously was very compliant with no self-assertiveness and just did what he was asked to do.
- After three weeks on methyl-B₁₂ his father told him to put his computer away because it was time to go to bed.

- He looked at his father as if to say, “I’m having fun so what gives you the right to tell me what to do?” as he continued to play on his computer.
- When his father told him again to stop playing so he could go to bed he had a melt-down type tantrum!



Understanding Positive-Negative Effects

Remember The Good



- Due to methyl-B₁₂, the little boy was now aware that he had the ability to start making some decisions on his own and wanted more independence.
- Because of methyl-B₁₂ he began to “stand up for ‘his rights’ by not just obeying” like he always did before.



Understanding Positive-Negative Effects

Remember The Good



Understand The Bad

- Due to methyl-B₁₂, the little boy was now aware that he had the ability to start making some decisions on his own and wanted more independence.
- Because of methyl-B₁₂ he began to “stand up for ‘his rights’ by not just obeying” like he always did before.

- He did not understand that Dad was “the boss” and that he needed to listen to what the adult said.
- Therefore, when his father did not “acknowledge” his new level of self-expression and independence, he had a tantrum!





Common Positive- Negative Effects

Are you really
sure this is
good?



Common Positive- Negative Effects

Are you really
sure this is
good?

**Without Any Doubt,
A Great Big “YES”!**



Common Positive- Negative Effects

Are you really
sure this is
good?

These frequently occur when
demands are made on the child

Examples And Reasons For Common Positive-Negative Effects

- **Awareness has increased**: *Increased awareness is very frequently the primary underlying reason for the majority of the positive-negative responses parents may see. Once a child becomes more aware, he or she feels more in control of his or her destiny or alternately, the child wants more say in making decisions about his or her destiny. This often manifests itself as a positive-negative because the child now expresses stronger opinions about life, exercises greater self-assertiveness, self-assuredness, self-confidence, and much more independence. The combined set of results from this new-found awareness often lead to what parents and teachers see as negatives when in reality they are positive-negatives.*



Examples And Reasons For Common Positive-Negative Effects

- **The level of self-confidence increases:** *Very often the child's new level of self-confidence is one of the primary reasons for many, if not most of the positive-negative responses. The negative things that the child starts to do are usually associated with the child's increased level of awareness to what the child wants, more personal opinions about how the child believes things "should be" being done, a greater self-assuredness that let's the child "practice" on parents or teachers what he or she believes needs to be done to correct "the situation at hand", a higher level of self-reliance by which the child will begin to do things on his own with a new degree of self-assertiveness and independence to "get it done" the way the child believes things should be being done.*



Examples And Reasons For Common Positive-Negative Effects

- **The child becomes more opinionated:** *Once a child feels more in control of his or her own life's circumstances, the child becomes more opinionated and "experiments or tries out" on adults and peers what he thinks. The child now strongly believes what he thinks is right and what everyone else thinks is not the way things should be. Therefore the child acts and responds in accordance with his new-found belief system. Most adults would view this as a negative thing when in reality it is a positive-negative that demonstrates the child has a greater level of understanding and is willing to "take a stance" for what he or she believes to be right.*



Examples And Reasons For Common Positive-Negative Effects

- **Behavior becomes worse:** *Behavior frequently becomes worse for a period of time until “social appropriateness” is learned by the child. This change of behavior is most often due to positive-negative responses that are secondary to the child having stronger opinions, greater self-awareness, more self-assertiveness, greater self-confidence, and much more independent thought and actions and no longer willing to “just be told” how he should act and behave when he thinks his teachers and parents “don’t get how ‘it’ really should be”. Therefore, the child is true to himself and acts in a manner that is consistent with what he believes which is not how it really should be if he truly understood the social and educational structure that is correct and that children should follow.*



Examples And Reasons For Common Positive-Negative Effects

- **The child is more irritable:** *Frequently following treatment a child may actually become much more irritable instead of less irritable. When this happens it is usually a positive-negative response because the child now is less tolerant of others who do not make his or her life more pleasant or more comfortable on his or her unrealistic time schedule because the child now has stronger opinions, greater self-awareness, more self-assertiveness, greater self confidence, along with much more independence. When this occurs in the child's mind, the child wants what he or she wants now, not later, done his or her way, not your way, and because he or she isn't getting it as hoped for expresses his or her disgust as irritability.*



Examples And Reasons For Common Positive-Negative Effects

- **The child has more frequent and often disturbing mood swings:** *This is a frequent and always undesirable finding but one that is usually a positive-negative response because the child is now able to feel his feelings more acutely than ever before. When this occurs the child realizes that he does not have control of his life though he wants it to be so very much. The child sees what the other children around him are able to do that he is not able to do or control. This hurts very much so tears, frustration and mood swings are the result. Because he now has stronger opinions, greater self-awareness, more self-assertiveness, greater self-confidence, and much more independence, it becomes even more frustrating when he cannot get his or have others understand what he wants them to understand or do.*



Examples And Reasons For Common Positive-Negative Effects

- The child shows more aggression than before: *“Inappropriately appropriate” self-assertiveness is frequently seen. Most often parents and teachers view this as a negative reaction when in reality it is usually the manifestation of a positive-negative response due to a greater awareness of the child’s wants and needs, stronger opinions, greater self-confidence, more self-assertiveness, and an increased level of independence. It is not uncommon for a child, who in the past would let his siblings and peers just take his toys or take over “his space” in a room, to now defend his toys and space as he aggressively pushes them away or acts out.*



Examples And Reasons For Common Positive-Negative Effects

- **The child becomes less cooperative:** *Depending upon the circumstances, a child usually becomes much more cooperative as the treatment progresses. However, it is very common for a previously cooperative child to become less cooperative as he becomes aware that he has “newly acquired powers” to control, at least to some extent, the demands that are being placed on him by adults, and refuse doing things he does not want to do. Such responses demonstrate that the treatment is being successful because it is producing a child who now has stronger opinions about what he should and should not have to do. It proves the treatment is working because the child now has greater self-awareness, more self-assuredness, greater self-confidence, plus much more independence and self-assertiveness to just say “No”.*



Examples And Reasons For Common Positive-Negative Effects

- **The child follows commands and directives less:**
This is similar to the example given for a child who becomes less cooperative. This positive-negative that parents and teachers observe is due to the treatment working in which the child now wants more control of his life, wants the autonomy to make his own decisions, and is aware that he has newly acquired powers to control what “he decides to do” and just not listen or obey what others are telling him to do. Such responses are usually the result of the child now having more self-confidence, a greater sense of independence, stronger personal opinions about a variety of things, greater self-awareness of what he wants and is willing to do, more self-confidence resulting in an independent attitude that leads to the necessary self-assertiveness “to do it his way”.



Examples And Reasons For Common Positive-Negative Effects

- **The child's frustration level increases:** *Frequently following treatment a child may actually become much more frustrated, often to extreme levels of acting out, tantrums and sometimes even meltdowns. When this happens it is usually a positive-negative response because the child is now demanding more control of his life but realizes that he only has limited power to control situations and get what he wants. Now that he has stronger opinions, greater self-awareness, more self-assertiveness, greater self-confidence, and much more independence, it becomes even more frustrating when he cannot get his way or when he is not able to get you to understand what he needs or wants you to do.*



Examples And Reasons For Common Positive-Negative Effects

- **The child has less resilience:** *Frequently following treatment a child may actually become much less resilient rather than more resilient and may act out by biting, pinching, kicking, tantruming or having meltdowns. When this happens it is usually a positive-negative response because the child is now demanding more control of his life but realizes that he only has limited power to control situations and get what he wants. Now that he has stronger opinions, greater self-awareness, more self-assertiveness, greater self-confidence, and much more independence, he becomes even less resilient than he was before treatment when he does not get his way or cannot get you to understand what he wants you to understand or what he wants you to do.*



Examples And Reasons For Common Positive-Negative Effects

- **More upset with changes in routine:** *At times changes in routine in a child's world result in him being more upset than before treatment. When this happens it is usually a positive-negative response because the child is more self-aware of what he wants and does not want for himself. He wants more independence and more control of his life. He now has stronger opinions as to "how things should be in his world". Therefore, with this greater sense of awareness and having stronger opinions how things should be done, when his routine is altered he is forced to realize that he cannot control the situation which often leads to a variety of negative behaviors.*





**Is Methyl-B₁₂ Safe
To Use At High Doses?**



**And Is Methyl-B₁₂ Safe
To Use For Years?**



CONSIDER THIS

When the Census Bureau takes the census, it includes prisoners

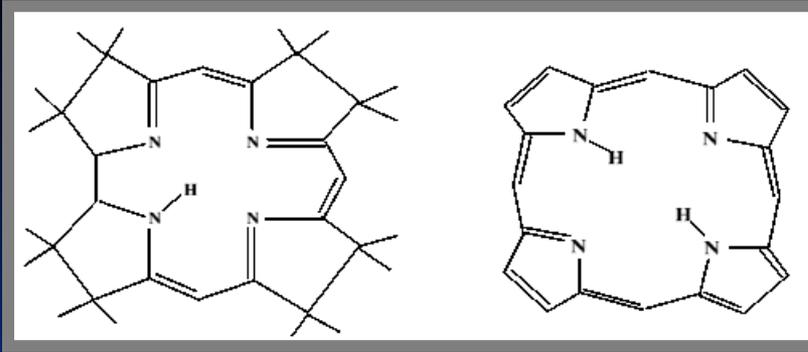


**But The
Prisoners**



**Can't Hurt
Anyone!**





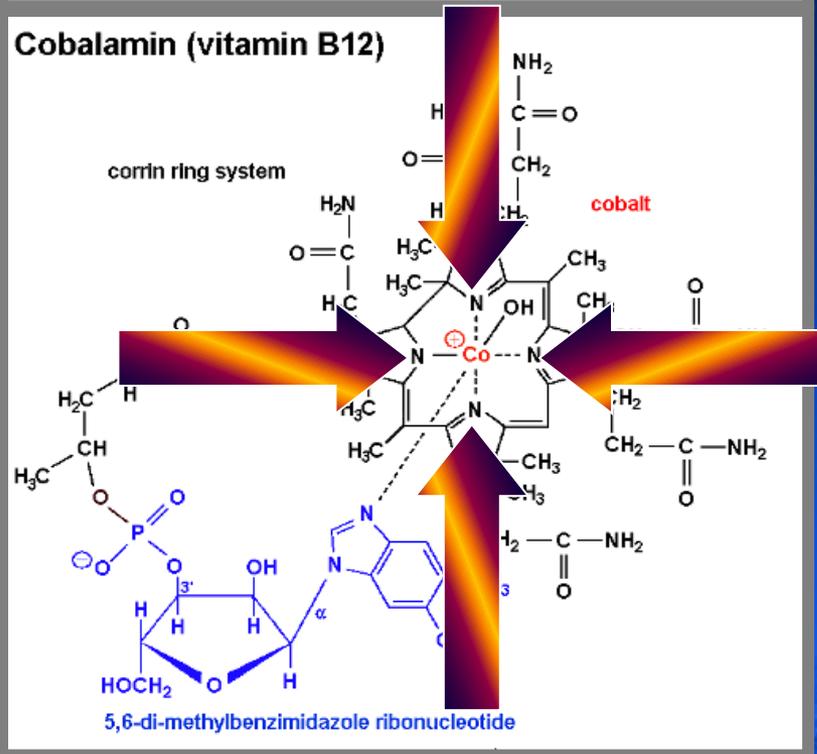
The corrin ring is in the center of the B₁₂ molecule

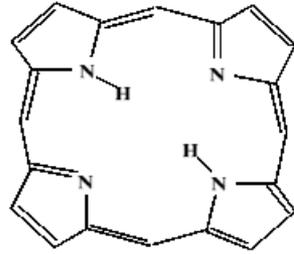
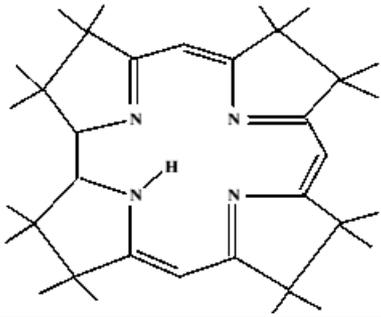


The corrin ring is in the center of the B₁₂ molecule

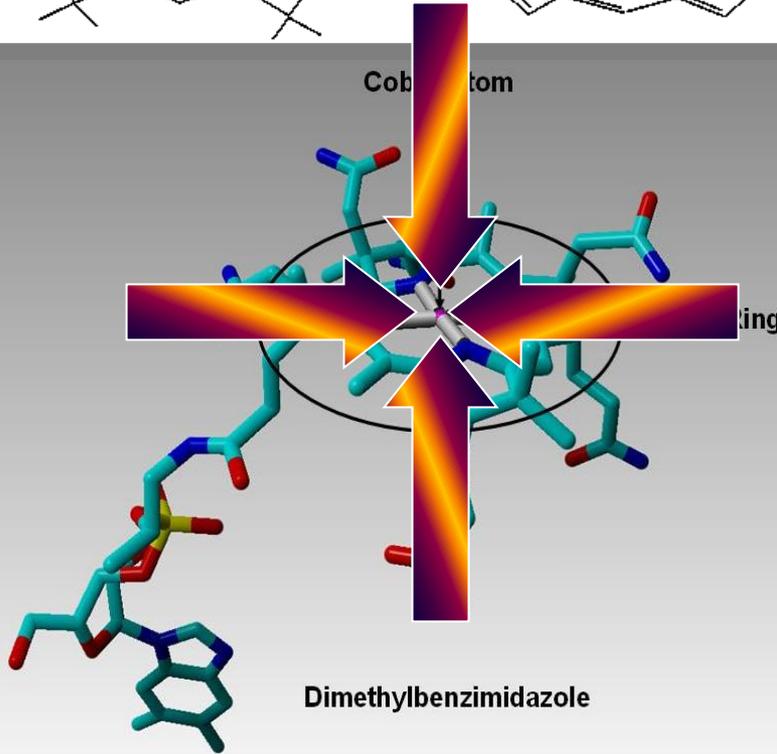
And an atom of cobalt is tightly bound at the center of the corrin ring in the large vitamin B₁₂ molecule

Cobalamin (vitamin B12)





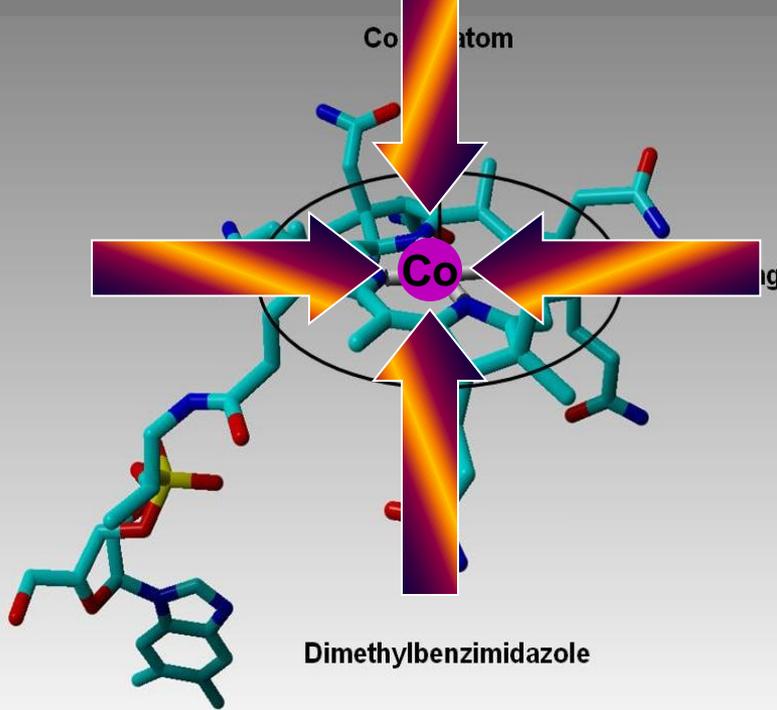
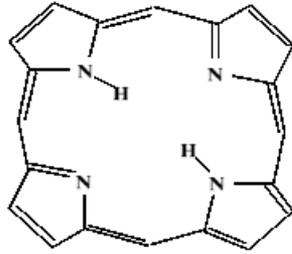
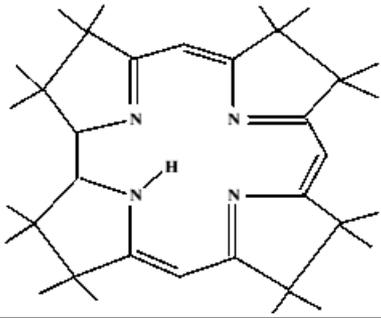
Cobalt atom



Dimethylbenzimidazole

As shown here by its
**THREE
DIMENSIONAL
MODEL**

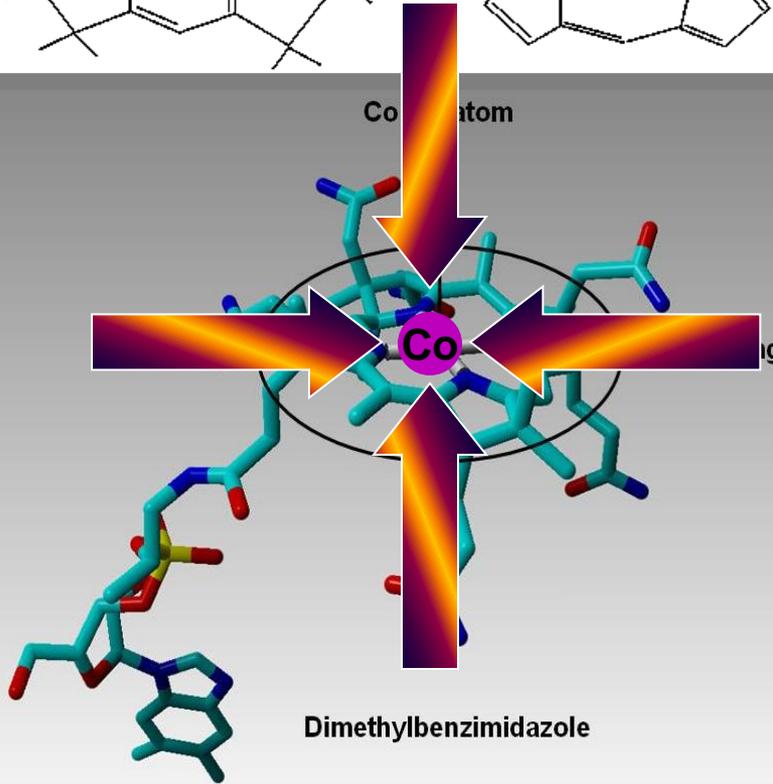
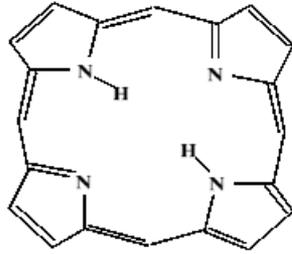
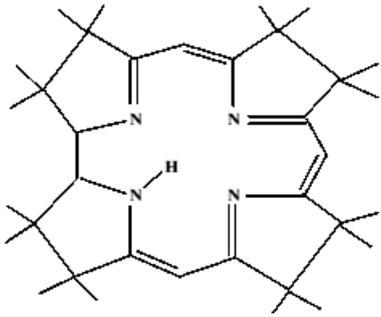




As shown here by its

THREE DIMENSIONAL MODEL





THEREFORE

COBALT

is locked up tight in the

PRISON

of the corrin ring of the

B₁₂ MOLECULE

and therefore can't get

out to hurt anyone!



**Therefore It Is Important
To Always Remember**



**Just As Prisoners
Can't Get Out And
Hurt Anyone**



**Neither Can Cobalt
Get Out And Hurt
Your Child!**



**THE MAJOR RECURRING PROBLEM
IS PARENTS WANT TO SEE TOO
MUCH TOO SOON**



THEY SAY



I KEEP LOOKING FOR IMPROVEMENTS



I KEEP LOOKING FOR IMPROVEMENTS

**But do not see very many so
my child must not be
a responder.**



**THIS IS ONLY TRUE
IF...**



THIS IS ONLY TRUE

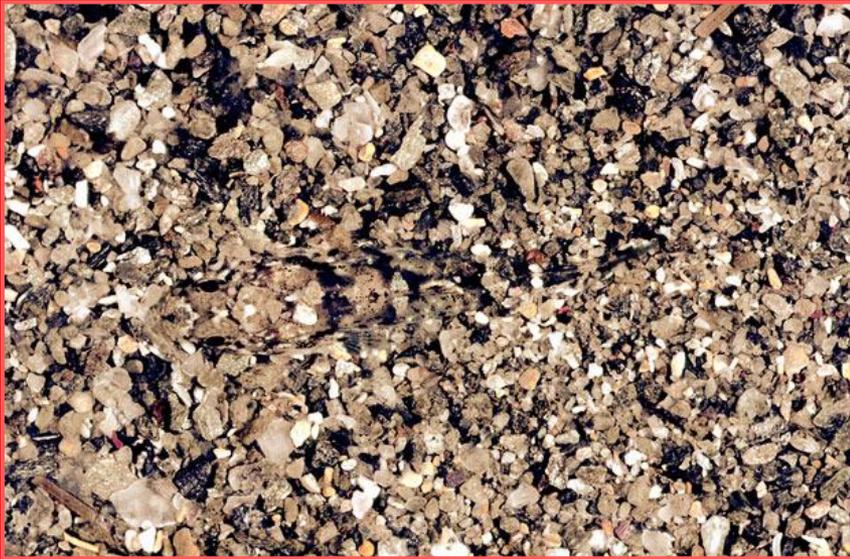
IF

**...you do not know what you
are looking for and how
positive things
may hide from
your view.**



Do You See What I See?

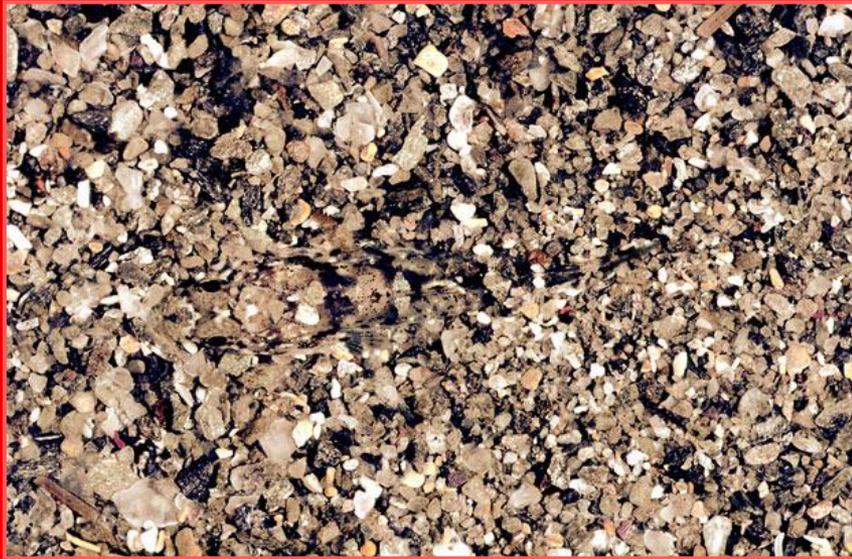
Rock and Sand



Do You See What I See?

Rock and Sand

Or a Goby Fish



Do You See What I See?

Rock and Sand



Do You See What I See?

Rock and Sand

Or a Brown Spider



Do You See What I See?

A Snowy Scene



Do You See What I See?

A Snowy Scene

Or a White Bird



Do You See What I See?

Bark on a Tree



Do You See What I See?

Bark on a Tree

Or a Tree Frog



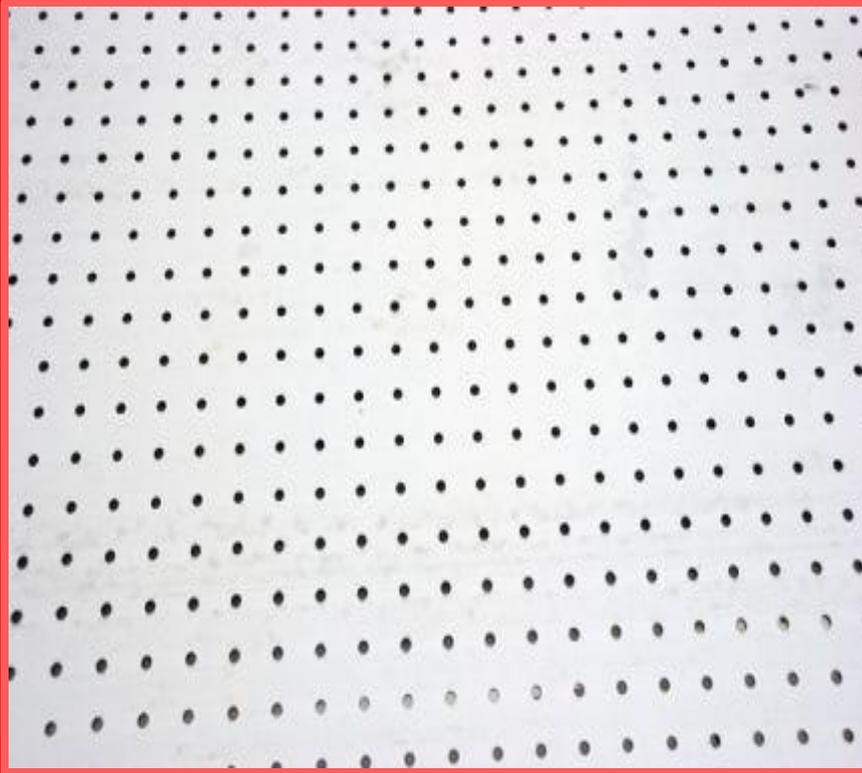
So Be Careful!

Know What To Look For
Know Where To Look
And
Know How It May
Camouflage Itself

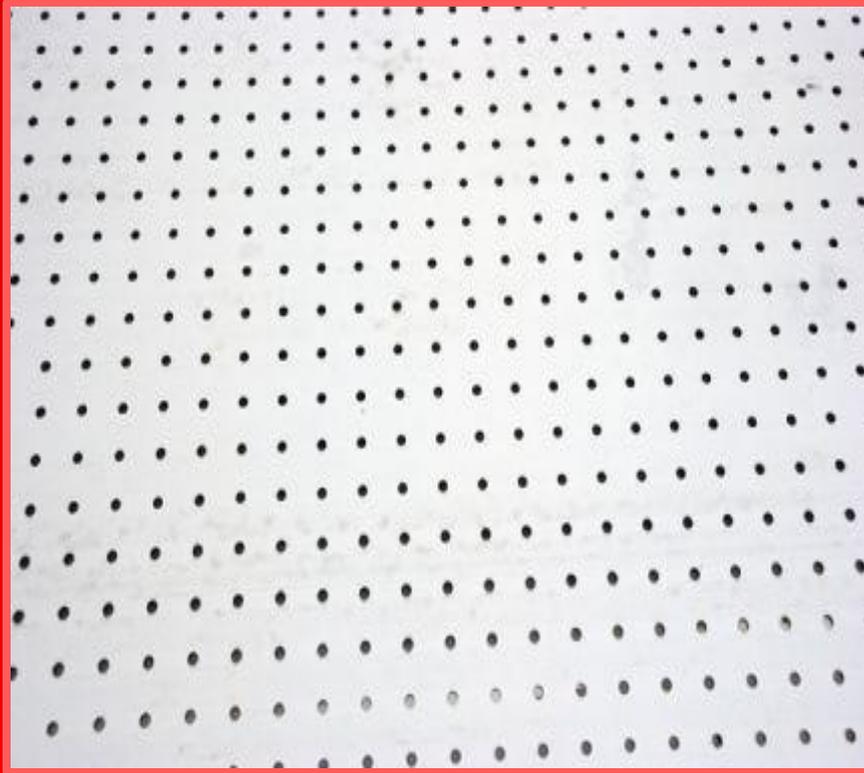


The Pegboard Evaluation Process

Let's You See The Results



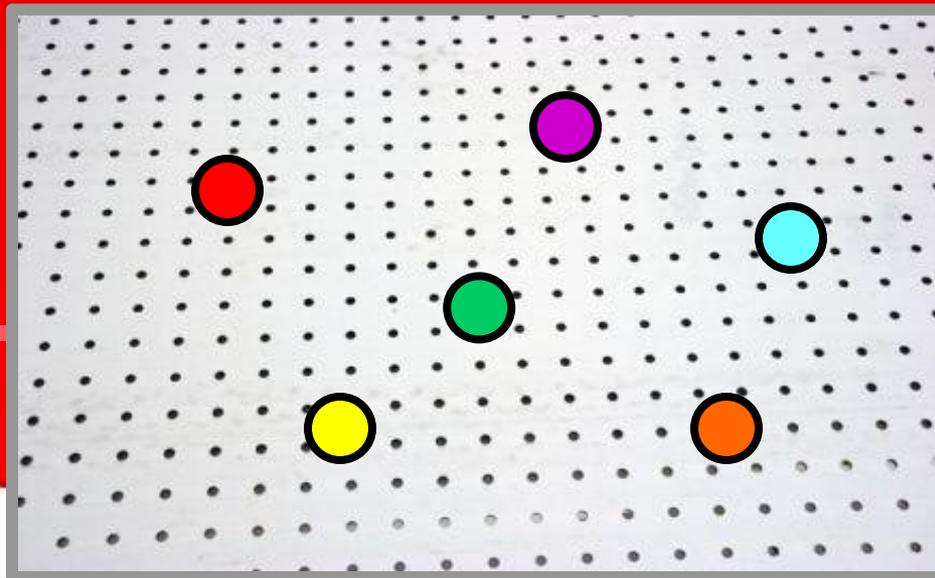
For Six Weeks You Make No Other Changes
Except The Addition Of Methyl-B₁₂



During The Six Week Period You Put A Peg In Your Mind For What Methyl-B₁₂ Is Doing

Add A Peg In Your Mind For

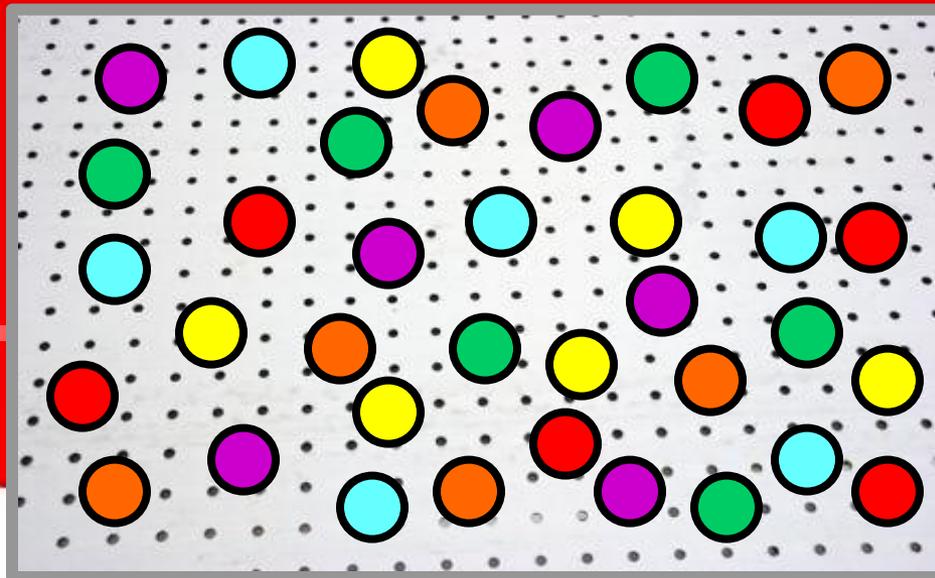
- New things that start
- Things now more frequent
- Things now more intense
- Things the stop
- Things now less frequent
- Things now less intense



At The End Of The Six Week Period You Write Stories For Everything Methyl-B₁₂ Has Done

Add A Peg In Your Mind For

- | | |
|--|---|
|  New things that start |  Things the stop |
|  Things now more frequent |  Things now less frequent |
|  Things now more intense |  Things now less intense |



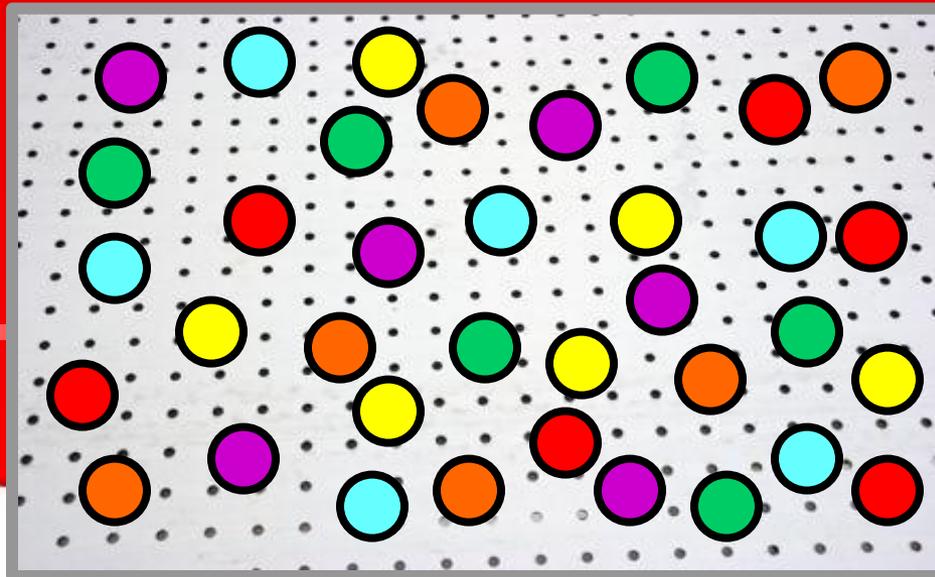
STORIES FOR THINGS LIKE

- Language
- Socialization
- Awareness
- Mood & flexibility
- Self-motivation
- Focus & attention
- Cognition
- Connectedness
- Eye contact

Etc

Add A Peg In Your Mind For

- New things that start
- Things now more frequent
- Things now more intense
- Things the stop
- Things now less frequent
- Things now less intense

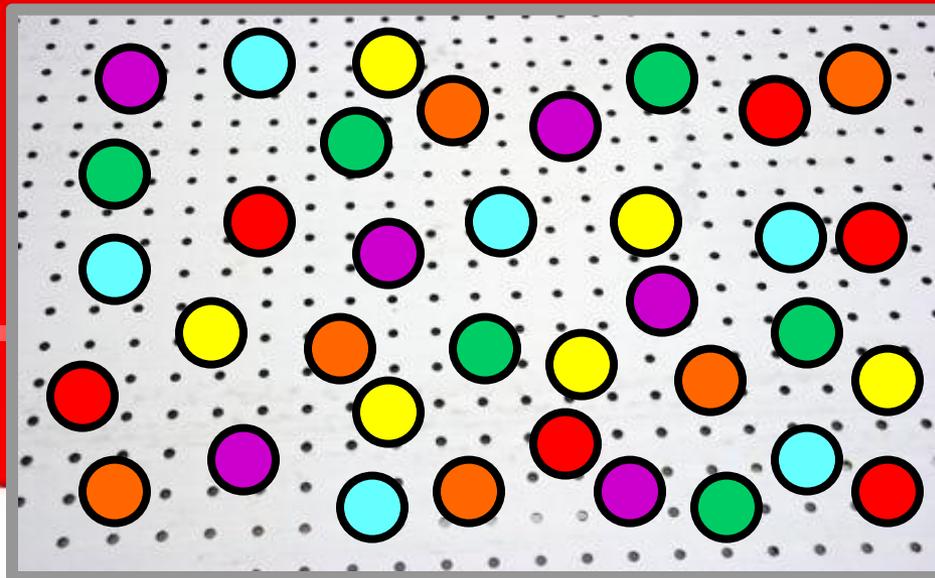


- The new things that started
- Things that become more frequent
- Things that became more intense

- Things that stopped happening
- Things that became less frequent
- Things that became less intense

Example how to write a Pegboard Story

Before starting every three day methyl-B12 shots, our son never did xxxx but now he does it all the time. For Example: xxxxx. We always wanted him to do xxxx but he rarely did it before. Now he never stops and when he does do it he does it so much stronger than in the past. For Example: xxxxx. He also stopped doing xxxxx. Though he still does xxxxx that we hate, he now does it much less often and with much less intensity. For Example: xxxxx

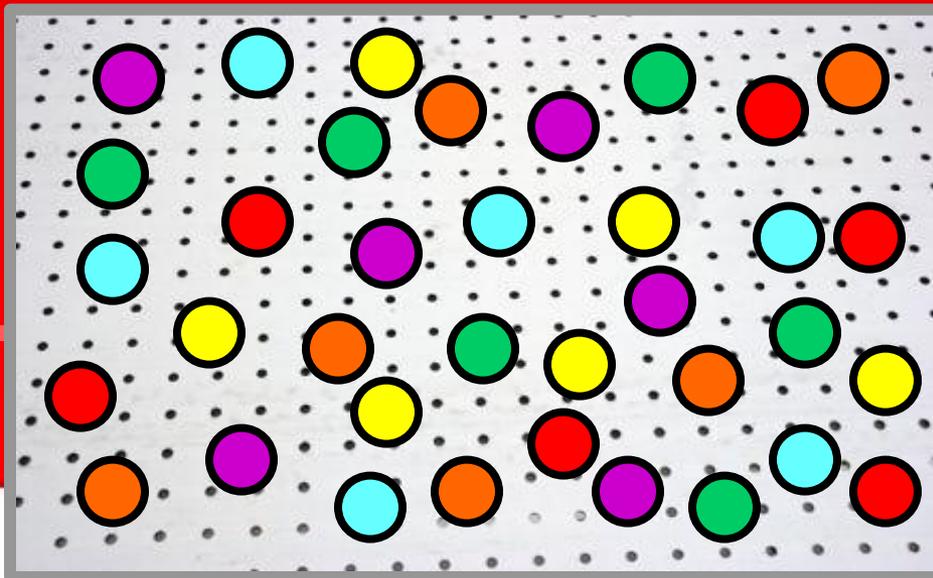


- The new things that started
- Things that become more frequent
- Things that became more intense

- Things that stopped happening
- Things that became less frequent
- Things that became less intense

PARENT PEGBOARD STORIES WILL FOLLOW

Several examples of Actual Pegboard Stories written by many different parents will give you a better idea of what you are to be looking for in your child during the first six week Methyl-B₁₂ Initiation Phase. During this period of time you are to make no other changes except the addition of methyl-B₁₂ and you are to document the changes that occurred “over baseline” during that 6 week period of time.



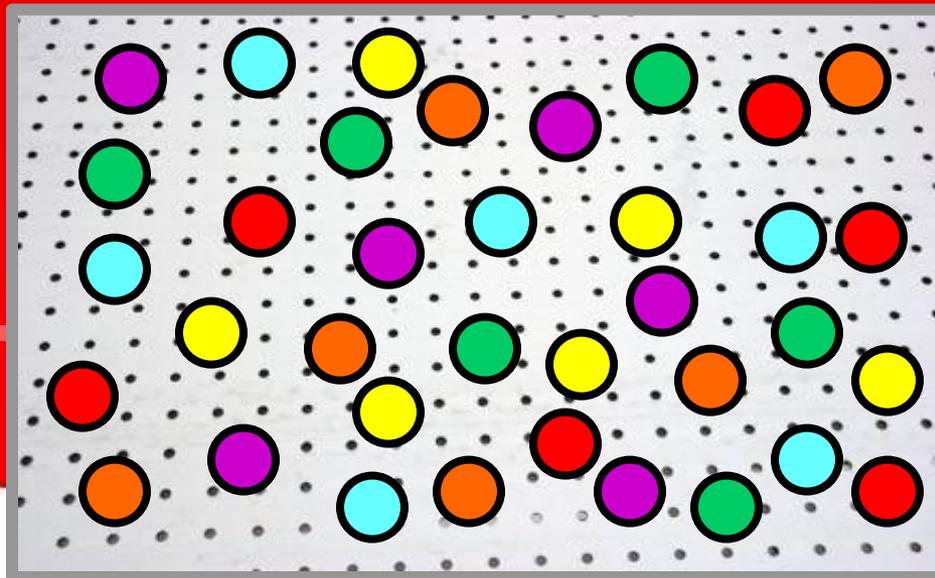
- The new things that started
- Things that become more frequent
- Things that became more intense

- Things that stopped happening
- Things that became less frequent
- Things that became less intense

PARENT PEGBOARD STORIES WILL FOLLOW

What you will see is parents telling their child's story after starting methyl-B₁₂ shots. Though they may label the category a certain way, things like language or attention or mood or "whatever", you will see that their stories often "wander beyond their title" as they think about things that changed in their child's life. This is OK because WE WANT THEM TO TELL THEIR STORY in story form.

THAT
IS
OK



WE WANT
THEIR
STORY



A Parent's Pegboard Story Relating To Their Child's Language Improvements From Methyl-B₁₂

When Timmy was just 1 year old he was able to count up to 10; by the time he was 18 months he was able to count up to 30. When asked to name certain numbers he would answer correctly. Timmy was able to name some of his colors. Once he started to regress, his already small vocabulary became even shorter to nonexistent. He would start to use numbers as his language and babble sounds rather than try to make out words. Once starting methyl B12 his vocabulary started to return. It did not seem to happen overnight, but by the 7th shot Timmy was completing a puzzle with his therapist and starting to name the shapes of the puzzle. He said “circle” and “ovah” (oval) in a row! During another occasion around the 9th shot, Timmy named the color of the puzzle, “red” and then “orahh” (orange). Recently, Timmy was completing a number puzzle and counted each number as he put them



A Parent's Pegboard Story Relating To Their Child's Language Improvements From Methyl-B₁₂

in. At the 11th shot, Timmy's therapist noticed that his babbling seemed more conversational. As she was naming objects to him he started babbling what sounded more like words, sounds that were different each time. "Bah, sis, dah, hmm" while prior to starting the shots, he would babble sounds over and over – "mamamama" and "yaayaaya". Also before starting, the only 2 word combinations that he used were "Come here" and "Come on". Now he uses both of those and "Stan Up", and "Sis daww" (Stand up and Sit down). Yesterday he even said "Get up!". He also says "I want". All of the words he has been using now are often in the proper context. Although he does seem to count and use numbers a lot in his vocabulary, the addition of other proper words has returned and increased.



A Parent's Pegboard Story Relating To Her Child's Socialization Improvements From Methyl-B₁₂

Lorena was affectionate, but in the second week of MB12 she was even more affectionate. She runs to her parents when they get home or pick her up at school. She kisses more, including her teacher (she spontaneously kissed her teacher) and she goes hand in hand with her classmates, something she never did before. Great improvement in socialization. She kisses her mother and other people spontaneously. Three weeks after the shots she spontaneously kissed her teacher. She now shows affection to her peers at school. Before the shots she never showed any reactions when her mother picked her up at school. Now she runs to her mother smiling and hugs her. The same happens when her father gets home from work. Three weeks after the shots she asked her sister to play, they ran after each other and she showed a lot of pleasure. She lets her sister give her baths, put her to sleep and do



A Parent's Pegboard Story Relating To Her Child's Socialization Improvements From Methyl-B₁₂

other things that she did not allow before the shots. She requests her sister's company more and more, goes to her room and says Julia, and stays in her sister's room just to be with her. She requests us to play with her, and does the same at school - something that never happened before the shots. We see more concentration, better eye contact; she sustains eye contact until we finish talking to her - that never happened before the shots. She notices people, responds to her own name and looks at who calls her, something that rarely happened before the shots. For example, three weeks after the shots the mother arrived at school to pick her up and she was not in the classroom as usual, but suddenly Lorena came running and hugged her Mom's legs and looked up as if saying "I,m here!" The other day Lorena hid from the teacher in the bathroom and ran out and hugged her when her name was called!



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

Gavin has always had an active mind and been far more intelligent than his years. However, his focus was always more on his likes (robots, legos, dinos). He has broadened his variety of observations and has been able to notice things and make connections about real life, instead of just imaginary things and toys. Example: One day (after 3 weeks of shots), we were in a diner and Gavin watched a worker clean the floor. He turned to me and said, "Mamma, what is she doing?" and then, "Why is she cleaning the floor?" I told him that she's working really hard so that we can have a nice clean place to eat and I said, "Isn't that nice". He said, "Yeah". After a while and a few different conversations, he said "Mamma, she did a great job cleaning the



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

floor. I want to say thank you to her and tell her she did a great job. She should know she did a great job.” I told him go ahead and he did! He went over to the counter and told her with a nice loud voice, “Excuse me! Thank you for cleaning the floor. You did a great job.” That was one of the proudest moments of my life! He was amazing. He showed that he was thinking about her actions and what I said and then came up with his own way of thanking her. The thought process that went into his actions was amazing to me. He not only showed intelligence, but confidence, independence, and such a warm caring heart. It was like the fog had been lifted off of him and the true Gavin had been let out. I said a thank you prayer to God and told everyone about what he



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

did! Another example of Gavin's creative and active mind: Last week (5 weeks of shots), I went to observe him in school and he told his ST that she couldn't put their fish game away because it was the fish's turn to talk and play. When further questioned, he made up an entire story of how the fish waited for the kids to play and now it was their turn. He said "They want to talk and then these 2 fish are gonna get married and they are all going to have a party." She couldn't help but laugh. The two teachers came up to me after and said Gavin has been doing that a lot. He comes up with "very rationale reasons why things need to be done" and he is "very convincing and funny". Gavin has also been able to comprehend much more non-spoken things as well. For example,



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

one day (4 weeks of shots), I put his hair in a ponytail without saying anything (I have to have my fun too). He got up and said "What are you doing?" with an inquisitive look. I said "Nothing." He walked away, sat on the steps and with a very sad (pretend) face he said, "I am so sad. You hurt my feelings that you want me to be a girl!" Hahaha, he caught me! He never had said anything about his "feelings" before. This showed me that he had a logical, yet assumptive thought of my action and he was smart enough to play around with me to try to make me feel bad.



A Parent's Pegboard Story Relating To Her Child's Improvements In Learning From Methyl-B₁₂

Okay - I confess. I had hoped after a few shots Elijah would quote Shakespeare! Or at least start singing the ABC song. He still does a lot of vocal stimming. However, letting go of my silly expectations I see major improvement even if it's not sentences. Within the last 3 weeks he is imitating sounds and play so much that his therapists are pushing for more time to work even harder with him because he's finally showing enough improvement in this area. He even imitated moo for cow and baba for sheep. He says up in context -- major difference! He will even say hi if he feels like it. He has said ball and baby several times recently and in context. I am waiting for him to just bust out with a sentence -- I need to be patient. He is so happy and excited when he makes



A Parent's Pegboard Story Relating To Her Child's Improvements In Learning From Methyl-B₁₂

a certain sound or word that we are hoping he will be encouraged to try even harder. I believe he will continue to improve if he continues the shots-and perhaps will start to talk in sentences once he goes on daily shots. The fog is slowly lifting....



A Parent's Pegboard Story Relating To Her Child's Improvements In Behavior From Methyl-B₁₂

Matin behaves a lot better in comparison to 6 weeks ago, in particular his laughs and cries are more appropriate. He used to laugh and giggle while running around the house or staring at lights. He also would get upset for no apparent reason. Even though it still happens, it has decreased by 60%. He used to grunt, hum and repeat shishhh a lot during the day. I remember being in a department store two months ago and Matin was humming and making shishhh noises almost the entire time and almost every one turned and looked at him. Last week we went to the same place for shopping and I noticed that he hummed a few times and only for a very brief time.



A Parent's Pegboard Story Relating To Her Child's Improvements In Behavior From Methyl-B₁₂

The humming got worse after the second week, but after the fifth week it gradually got less. He still hums a lot, but the grunting and shish sound is almost gone. His PICA started before starting the B12 shots but it got more frequent and intense after the second week. After week five it has started to decrease as well. Matin is in general happier, calmer and more cooperative. He understands what is expected from him and as a result gets frustrated less often. His gestures are more meaningful and appropriate, waving bye bye, pointing, taking my hand and taking me to the computer or refrigerator; signing for "more" and "open" are more frequent. Matin has been a good sleeper from the beginning but after the second week of receiving the shots, the pattern of his sleep has



A Parent's Pegboard Story Relating To Her Child's Improvements In Behavior From Methyl-B₁₂

improved and also he falls sleep a lot easier and quicker. Toe walking decreased a small degree after the third week. Stimming increased after the second week but it started to decrease after week five. He still loves to turn switches off and on a lot but if you limit him he doesn't get as upset.



A Parent's Pegboard Story Relating To Her Child's Improvements In Focus/Attention From Methyl-B₁₂

Matin can focus for longer period of time in comparison to 7 weeks ago. The last week of October when he started his ABA he could sit for 2-3 minutes and finish (maybe) one task. He needed many breaks and physical activities between each table activity. Now he can sit for 10-15 minutes and finish 3-4 table activities. He needs less breaks and he learns and enjoys the sessions. He used to struggle to finish one activity - he wanted to go and run around the house. Since he focuses more he learns faster and easier. He learned his colors and shapes in less than a week; he can identify and match many objects and pictures; he says more words; he can identify 0-10 and at least 15 letters. This is due to his better attention and concentration. Today he was working with the ABA



A Parent's Pegboard Story Relating To Her Child's Improvements In Focus/Attention From Methyl-B₁₂

therapist and was on the table for about 30 minutes doing different activities. Before having him sit and do anything was a challenge, but now he is ready to be engaged and taught.



A Parent's Pegboard Story Relating To Her Child's Improvements In Communication From Methyl-B₁₂

Before the shots, Sanskar was able to make choices but was not demanding. Also if we make him do an undesired activity he would cry. From his eighth shot, we realized a change in his personality. He is more stubborn, aggressive, independent and demanding in a positive way. He will say “I no like it”, if he doesn't want to do something. After the eighth shot, he said to me “I like Mommy”. Now he often says “I like Vedant” for his brother. On his eighth shot, he pointed at the OT(therapist) and said “It looks nice” - that amazed her! On his tenth shot while eating dinner, Sanskar said “Daddy please give me iPhone”. We were surprised that he used “please” while requesting. After his eleventh shot, during the session with his speech therapist, he bumped his chin



A Parent's Pegboard Story Relating To Her Child's Improvements In Communication From Methyl-B₁₂

on her foot and immediately complained to me, "She hit you". I asked him who. He replied "Jen hit me". Also in the evening, when his daddy stopped him from doing something, he came to my room and said "Daddy not be nice". I asked why, what happened? he said "He hitting". I am glad that Sanskar is able to express his feelings and communicate if something goes wrong which he was not doing at all prior to the shots. Sanskar always liked funny and silly things which his brother did and was trying to participate, however he will not initiate it. After the shots we noticed that he loves being silly both verbally and physically more than ever and will initiate it. He will often initiate silly actions and sounds to his daddy and laughs when his dad responds. After the sixth shot the



A Parent's Pegboard Story Relating To Her Child's Improvements In Communication From Methyl-B₁₂

therapist reported that he initiated silly play at school with his peers. Prior to the shots Sanskar was not asking questions of what and where. These type questions were emerging for him. He would often say "Vedant where are you?" while playing hide and seek with him. After the second shot he asked his therapist at school "Where's Mommy go?" After the third shot while pointing at me he asked, "Tell me who is this?" Pointing at himself he asked, "Tell me who is this?" Pointing at closet asked, "Tell me what is this?" AMAZING!!! At the eighth shot he asked, "Who is this?" And, "Who is outside?" The next day he asked me, "Tell me what shape is this?" On the ninth shot he asked me, "What time it is?" Overall his ability to ask questions has significantly



A Parent's Pegboard Story Relating To Her Child's Improvements In Communication From Methyl-B₁₂

improved and now he often asks questions like, “What time it is?” or “What sound it is?” or “What is daddy eating?” He asks, “Where is Vedant?” He will often say, “Show it to daddy” and then go to him and say, “Daddy look my jacket.” He has been commenting more upon almost everything for which he often needed cues and prompts before the shots.



A Parent's Pegboard Story Relating To Her Child's Improvements In Emotion From Methyl-B₁₂

Délio is more alive because he “lives his emotions” deeply. Therefore he demonstrates better what he wants and what he’s feeling with facial expressions and body movements. For example, when he’s happy, he laughs more, jumps more with real excitement - everyone understands his mood and is happy too. Délio now demonstrates he wants to please us so when we praise a behavior, like when he uses bathroom correctly instead of urinating on the floor, he smiles and demonstrates satisfaction, self confidence, and pride. Délio is more affectionate than before. For example, he demonstrates he is happy when he is beside me. He seeks me out at home to give me attention and he waits for me, sitting on the floor of the bathroom when I am taking care of



A Parent's Pegboard Story Relating To Her Child's Improvements In Emotion From Methyl-B₁₂

myself. He holds my legs, my hand or my neck and loves to lay down in my lap and be caressed on his hair, on his face or on any other part of his body. He's more emotionally present and lovely. He seeks for attention, affection and gives them back with a lovely smile. I'm happier now because I feel loved by my son and he demonstrates he cares that I pay attention to him, if I caress him, if I praise him, if I'm proud of him. I feel my son is more connected to me now and we're get to know each other better. Délio is more affectionate with his family in general. For example, his grandmother always asked him to give her a piece of food he was eating but he never gave any to her. A day after MB12 shots, he gave to her a little piece of his rice pasta . My god, it was a time of



A Parent's Pegboard Story Relating To Her Child's Improvements In Emotion From Methyl-B₁₂

celebration for me and my mother. Both of us started to laugh and praise him. It was a very special moment, something subtle and small for someone else, but for us it was a symbol of Délio's recovery, a hope of change.



A Parent's Pegboard Story Relating To Her Child's Improvements In Gross Motor & Body Control From Methyl-B₁₂

Improvement has been seen with Josh in navigating his way around the pool and water park. He leapt from one "lily pad" to another at the water park without needing help to steady them. In the past he rarely went on them and if he did he needed help to steady them or he would fall off. He always wanted someone to watch him and stand nearby in case he needed help. Now he also climbs the pool ladder more easily. His swimming is much stronger and he really moves around the pool much better. In addition , he climbed stairs more than three times to go down a water slide that in the past he would not have climbed easily or frequently. Although he has better control for physical activities, he is flapping a lot more often than he was prior to the shots.



A Parent's Pegboard Story Relating To Her Child's Improvements In Mood From Methyl-B₁₂

Josh's mood prior to the shots was of great concern. He was depressed, angry, and making bizarre and violent statements many times throughout most days, often without any known trigger to set him off. We were very concerned and considering mental health hospitalization. Since taking the shots, his mood has improved greatly. Although he still indicates a lot of hostility toward siblings and he is often negative, he is much better than he was prior to the shots. His instances of aggression were several each day, to the point of school not allowing him to attend and providing home services as a result. Now he may have several days without aggression toward others. He now has said "hi" spontaneously to the brother that before he was targeting his



A Parent's Pegboard Story Relating To Her Child's Improvements In Mood From Methyl-B₁₂

aggression towards. He gets happy about upcoming events and sometimes he can go through most of the day without incident.



A Parent's Pegboard Story Relating To Her Child's Improvements In Socialization From Methyl-B₁₂

We all agree that this was the most obvious response to methyl B12 for Vítor. Before the shots he was a loving boy conforming to autistic patterns but on the second week after the shots he became even more affectionate and social. For example, before the shots he accepted his grandmother's hug but in the second week he spontaneously gave her a huge hug. He now hugs other children spontaneously and seeks interaction. Three weeks after the shots, our neighbor came to our apartment to play and he ran to her, showing his toy and hugging her. He tries to hold other children's hands many times when he is among the kids. Last week his teacher said he became 'a kisser'! His relationship with his sister is now wonderful and loving, they do many more things



A Parent's Pegboard Story Relating To Her Child's Improvements In Socialization From Methyl-B₁₂

together than ever before. He hugs and kisses his sitter and all the family members much more. He asks us for interaction. Before the shots he had good eye contact for autistic patterns but after the third week everybody noticed that he was making eye contact easily, by just calling him by his name, for example. He has much better eye contact now than before. For example, before the shots he never looked at us while he was looking at a book. Now he shows us things and pictures in the book. By the third week after the shots one thing happened. I was having a headache and I put my hands on my head and closed my eyes. When I opened my eyes he was staring at me with a very curious face. When we (family, sitters, everyone) get distracted and don't give him



A Parent's Pegboard Story Relating To Her Child's Improvements In Socialization From Methyl-B₁₂

attention he now comes us and looks into our eyes, as if he's saying "Hey, I'm here!"



A Parent's Pegboard Story Relating To Her Child's Improvements In Attention From Methyl-B₁₂

Destiny had no focus before we started the shots. We could not get her to look at anything or play with anything. It was so sad she couldn't even look at pictures or watch a whole TV show - she just couldn't stay focused. After the shots she has such great focus on all kinds of things - games, books, TV, playing with other people. She can now sit for over five minutes and play with a toy or game. She will look at four or five books in one sitting. She can watch a ½ hour TV show. She can jump on the trampoline for more than ten minutes. She watches the birds outside and stays watching them. She can focus when interacting with others while before she would only do it with me. Now she interacts with everyone in the house or anyone that comes to the house. She plays with them



A Parent's Pegboard Story Relating To Her Child's Improvements In Attention From Methyl-B₁₂

and her memory is getting so much better than before the shots because now she will go to people once she looks at them and remembers who they are. She remembers things – for example she starts playing with a toy without me having to show her how to do it again. Her interest in things has increased. She really likes books and blocks, her piggy and the trampoline. She gets interested in new things like Legos and her ball pit. Before the shots she would not pick the balls up or play in the pit at all. She never played with toys and showed no interest in them at all. She only liked to stim with one hand and two fingers. Destiny's motor skills before the shots were not there. She could not stack blocks or push the coins into the bank. She still has a little trouble with



A Parent's Pegboard Story Relating To Her Child's Improvements In Attention From Methyl-B₁₂

putting things into small spaces but not into big spaces. She is not so clumsy anymore with walking and stepping over things. Now she is starting to jump over things and starting to run in a way she could never do that before. Before the shots she was obsessed with one thing all day long and hardly ever put it down and if she did she always went back to it. Also before the shots she was obsessed with the color blue and circles. If you showed her either, that was it, she just stimmed with it and put it up to her face real close. Now after the shots started her obsessions have gone away some. Though she is still little obsessed with blue and some circle things she will put them down after a few seconds of stimming with them and she does not go back to them unless we



A Parent's Pegboard Story Relating To Her Child's Improvements In Attention From Methyl-B₁₂

are doing something with them. Destiny has started to try to sing. She dances around the room while songs are on. Though there are not many words you still know what she is trying to do which we have never seen before ever. She has started to laugh at TV shows or if someone is playing with her. She also laughs at her movements in the mirror. She was trying to see her foot in the mirror one day and kept losing her balance and was laughing so hard till she did it as she kept working on it and never gave up. She laughs at silly noises and expressions on people's faces. Before the shot she would laugh at nothing at all and just crack up for like ten minutes. When we ask her something now she will say no or yes at the right time while answering you. If I ask her to play



A Parent's Pegboard Story Relating To Her Child's Improvements In Attention From Methyl-B₁₂

ball she will say yes or no. When we ask her if she wanted to eat she will answer us with yes or no. When you tell her to do something she doesn't want to do she will tell you no. If you say "Does Destiny want something or does Destiny want to play" she will sometimes say yes.



A Parent's Pegboard Story Relating To Her Child's Improvements In Health From Methyl-B₁₂

Destiny's health has improved so much since we started the shots. Before the shots she was sick every couple of weeks. If anyone came around her she got sick and we often ended up at the hospital. It was something new all the time or it was her ears infected. Sleep was just not here - we were lucky if she slept for 3-4 hours a night. She seemed like she was missing a vitamin because she was always looking like she was sick with dark circles under her eyes with hair and skin that never looked healthy at all. Destiny was grinding her teeth and looked bad because of it. Since she started the shots she does have the dark circles. She is gaining weight a lot more than before. I think she eats more because she has good energy because of the shots. The sleep is



A Parent's Pegboard Story Relating To Her Child's Improvements In Health From Methyl-B₁₂

so great. She sleeps 6-8 hours a night and sometimes takes a nap during the day. This started after the 6th shot and keeps getting better. She may wake up a few times a night to look for her bottle or to look for me. She wakes up so rested. She wakes up most of the time smiling. She doesn't move so much during the night like she did before. She has more energy than before but good energy like other kids, not hyperactivity. Destiny doesn't grind her teeth as much as she did before and she looks good. Destiny gets her shot around 4 pm because if I give it to her when she is sleeping she wakes up and goes for hours and if I give it to her in the am by mid-evening she is wiped out. Then she wants to go to bed early because it seems like she ran out of steam.



A Parent's Pegboard Story Relating To Her Child's Improvements In Focus & Attention From Methyl-B₁₂

Since the first shot we started noticing Michael's attention was much better. He would never pay attention to airplanes before but after the shot the first time he saw an airplane he not only said the word airplane but he showed us an airplane was up there. Before the shots it was harder to explain things like "write the letter in this space". Now it feels really good when I ask him to write in a specific space and he does it! His eye contact even is a big improvement. Now he understands that when he talks, at least to me, he needs to look at my eyes and he is definitely doing it, especially when he does not really want to do something. School is also reporting better attention.



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

Language was one the first big changes we saw in Michael. With the first shot, he went to the bathroom and I was with him and he looked at my eyes and told me flo flo.. So I said what are you saying? And he pointed to the toilet and repeated flo flo.. And I asked him, "Do you want me to flush the toilet?" And he answered, "Yes!!!" Then he was using the computer and he usually asks me to find the web site of the Century 21 Store. So he called me mama, and said woma... woma so I thought he wanted the Century 21 page and he said no, no woma.. and I realized he said Walmart and I asked him do you want Walmart? And he smiled and said yes!!! Some of the words he already had he is saying more clearly now. He has one or two words for everything



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

and they are a very good approximation. When I talk more conversationally, he is having little conversations with me like... "Hi".. He responds, "Hi." I asked, "How are you?" He responds, "Good (gu gud)".. then I asked things like, "Did you eat your lunch? Or did you have fun at school? Did you behave well?" And he answers, "Oh yeah!!".. I can ask him what store he wants to go to.. and he can respond not exactly with the name but I start naming them and he says yes to where he wants to go. We had noticed this after the second week of shots. Spontaneous speech is presented specially when I am driving in that he shows me places. For the very first time he asked me to take him to visit one of his cousins. His name is Jean Pierre and he told me " Mama..



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

yan yier!!” I was shocked because I could not believe he asked me to take him there.... This is a cousin we only visit every one or two months!



A Parent's Pegboard Story Relating To Her Child's Improvements In Socialization From Methyl-B₁₂

We noticed changes just few days ago, one big change we noticed is with the kids from our church. When they tried to talk to him or play he was most of the time ignoring them. We always had to tell him “Michael your friend is talking to you...” We had a special activity last Sunday May 25 and Michael surprised us because he was running with all the kids. He was not playing with them but was imitating them and wanted to be where they were to the point that they started including him in their game... This is one the biggest challenges for our son, and seeing him looking to another kid is a big step for us. Even with the adults he is greeting them. When we asked him to do so before, he was just ignoring people. He is hugging and kissing his daddy; he is more attached to him



A Parent's Pegboard Story Relating To Her Child's Improvements In Socialization From Methyl-B₁₂

now. He is paying really good attention to what his daddy is doing and he is trying to imitate him. If he is sitting on the sofa he comes and sits right next to him. If daddy is playing with the ball he comes next to him and wants to do it too.



A Parent's Pegboard Story Relating To Their Child's Improvements In Age Appropriateness From Methyl-B₁₂

Before the Methy-B12 shots, Rohan used to sit and climb up and down the stairs one step at a time or hold mommy's hand while doing the same. Towards the end of first 6 week cycle of MB12 he started to climb up and down using alternating legs with no support. He is now able to hold the bath mug in his hand and also holds the marker in his hand and scribbles on the board which was not the case before the MB12 shots were started. We noticed it about the 8th shot. Prior to MB12 shots he did not have any non-verbal communication gestures. He is able to now show "want more" with his hands put together. We definitely saw this one big thing that happened. He hands over his shoes to us when we ask for them while dressing him. This is a new thing he did not do



A Parent's Pegboard Story Relating To Their Child's Improvements In Age Appropriateness From Methyl-B₁₂

before. He now gives us a 'high five' and claps his hands when asked and these are other new things that he picked up on doing after the shots. He also started pointing occasionally for the last 2 to 3 days. These things he could not do before the MB12 shots.



A Parent's Pegboard Story Relating To Their Child's Improvements In Behavior From Methyl-B₁₂

Prior to starting the Methyl B12 shots, Rohan used to scream a lot by stretching his legs very hard and hitting his head on us. He used to bite us and bite himself some times. His aggression levels have now decreased and he does not scream like before though it still exists to some extent. He is more pleasant and more cooperative now. He now cooperates while dressing or by removing his shoes. We observe that his behavior is good on the first and 2nd day after every shot and he comparatively gets crankier on the 3rd day. He hardly used to let us touch his face while bathing but now he is comfortable with us washing his face. We observed these changes on about the 3rd shot. Rohan has always been affectionate, but now he shows more of it by hugging



A Parent's Pegboard Story Relating To Their Child's Improvements In Behavior From Methyl-B₁₂

us, kissing us and going to his little brother and trying to kiss him. He used to repeatedly look at his palm and move his fingers. He used to run around the house continuously. He used to spin a lot. These symptoms have now decreased to a great degree though they still exist to some extent. Rohan used to laugh loud sometimes for no reason and make big sounds. We have not seen this happening since the 2nd shot .



A Parent's Pegboard Story Relating To Her Child's Improvements In Feelings From Methyl-B₁₂

It has become easier for John to become less frustrated and what a relief it is. When he comes into the kitchen wanting food and Mom tells him he must wait for her to finish cooking, he is okay with it and comes back within a couple minutes. He is still impatient but this does not make him engage in disruptive behaviors. Hyperactivity was a big factor. He would run around the house aimlessly, climb furniture, and jump on the bed. He would enjoy this. Now he sits or lays on the bed for the most part, stays seated longer and rarely climbs on furniture. As for being cuddly, this change has been most observed at school. The teacher reported by the parent teacher communication journal that John often wanted squeezes, reached out for the aides, or wanted



A Parent's Pegboard Story Relating To Her Child's Improvements In Feelings From Methyl-B₁₂

to be hugged or held. John wants to be more involved with others. He's always had an interest in those around him but didn't know how to approach them. At school, the teacher has reported that he will stand next to his classmates and hug them, as to reach for their attention. At home, he grabs our hands sometimes to just watch TV with him as he wants to spend time together.



A Parent's Pegboard Story Relating To Their Child's Improvements In Vocabulary & Sentence Structure From Methyl-B₁₂

We noticed that soon after initiating the MB-12, Nick's use of fuller (and complete) sentences increased. This period of time was also the same time that we began ABA therapy, and we had been doing speech therapy for about 6 weeks prior to this. Rather than say "Mommy, sit", he would say, "Mommy...come sit at the table". On our way driving home, instead of saying, "Going home", he would say, "...we are going home". His sentence structure/syntax has also improved. His vocabulary was always very strong, and continues to be. He knows many advanced words: "excavator", "trolley", "container", etc., so this was never a big concern, and always an area of strength. He has made a marked improvement (with constant coaching and speech therapy) in the use of



A Parent's Pegboard Story Relating To Their Child's Improvements In Vocabulary & Sentence Structure From Methyl-B₁₂

pronouns (“he”, “she”, “we”, “they”, etc.). He is using questions more, especially WHERE (“Where did mommy go?”), and WHO (“Who is that?”- in response to seeing an unknown person on the computer screen). This is a big change for him, as he asked very few questions in the past. However, he still does not ask “WHY?” or “WHEN?”.



A Parent's Pegboard Story Relating To Her Child's Improvements In Conversational Speech From Methyl-B₁₂

Nicholas' echolalia has vanished! This was a constant problem, and we haven't seen it since starting ABA and MB-12 therapy. He is definitely more spontaneous with his expressive speech: he reliably requests things he wants or wants to do. He is more responsive to questions, although this remains an issue, as one will often have to ask him several times to get an answer (although this is also somewhat better). There are times he knows what to say, and doesn't, waiting for you to say it. He does not have much in the way of "conversations", per se. He will listen and respond, but doesn't add anything to your commentary to make the exchange a true conversation.



A Parent's Pegboard Story Relating To Her Child's Improvements In Conversational Speech From Methyl-B₁₂

Nick has always been a singer (which we regard as a form of language). However, one would always have to ask him to sing a song. Now, his singing is more spontaneous and self-driven. Altogether, he sings more often than he used to, and is pleased when he is praised for doing so. Nick's speech is clearer, from an articulation point of view. Although this was not a really big problem, it bears mention that it is a little bit better. Also, tone inflection is appropriate, with upturns in tone with questions, etc. He is asking more questions (see "vocabulary and sentence structure" above), with an increasing frequency in response to his environment ("Who is that?" to a person on the computer screen- indicating to us that he recognized the picture of a person as a



A Parent's Pegboard Story Relating To Her Child's Improvements In Conversational Speech From Methyl-B₁₂

person, not just a picture). However, he never asks “Why?” or “When” questions, so we have a long way to go here. His responses to “yes and no”-type questions are more prompt and accurate.



A Parent's Pegboard Story Relating To Her Child's Improvements In Age Appropriateness From Methyl-B₁₂

Since starting the shots, I feel Jake definitely is more energetic and is more often having an activity level appropriate for his age. He is trying new things that he would never do before without being prompted or taken by the hand to do it. For example, trips to the park are not just consisting of him going on the swing. He is following his brother and climbing the rock wall, ladders, climbing over bridges, and going down the slide. This is much more normal behavior than sitting on the swing for 45 minutes or sitting in the grass and picking at it. Also, he is beginning to understand, smile, and laugh at funny parts of movies. For example, he laughed at a funny part of the Monsters Inc. movie. He actually understood the humor in it which is definitely new for



A Parent's Pegboard Story Relating To Her Child's Improvements In Age Appropriateness From Methyl-B₁₂

him. Jake is also laughing more and smiling more when he is doing fun things. For example, he looks me in the eyes now and smiles before going down the slide. He also looked for me when he was going on rides at the amusement park and locked eyes with me, smiling and laughing as he went around. Usually, I would have to yell his name, wave violently, and he still would not look for me. So this is definitely a positive change. Jake is also more assertive. His brother is pushy and is used to getting his way especially since Jake was so passive. His brother would take something from him in the past or knock him over and Jake would have no reaction. Now, since the shots, this is different. For example, Jake was jumping on our small indoor trampoline and



A Parent's Pegboard Story Relating To Her Child's Improvements In Age Appropriateness From Methyl-B₁₂

Derek pushed his way onto the trampoline and Jake was not having it. He shoved Derek off so hard that Derek fell and cried. After making sure my other son was okay, I delighted in the moment that Jake actually stuck up for himself. I was so proud of him and I think he was proud of himself. Also, there is a little boy in his behavior therapy class that takes everything from him. The therapists reported that Jake now tells the little boy “no” and takes back his toys. He is good about it in that he is not hitting. Also, he is not screaming or crying; he is verbalizing his feelings. Jake is simply taking back what is his. Like I said before, this is a welcome change because a lot of kids would take advantage of Jake's passiveness and constantly take things from him.



A Parent's Pegboard Story Relating To Their Child's Improvements In Language From Methyl-B₁₂

We think this is the area that Isha has shown the most noticeable improvements. She had very good receptive speech but limited expressive speech before we started the MB-12 shots. She had single words and not too much spontaneous speech and no sentences. After about 4 weeks of starting the shots, we noticed her speech was getting better : 4-5 word sentences, spontaneous speech like pointing at birds in the sky and airplanes and saying "bird...bird". It just kept getting better and better after that – she says lots of things now like "don't touch my shoes", "don't touch my cookies", "bye bye papa", "papa pick me up", "I want apple" etc. Also, she is louder and clearer with her individual words. We have also noticed that it's easy for us to teach her new



A Parent's Pegboard Story Relating To Their Child's Improvements In Language From Methyl-B₁₂

words, even long and complicated words like “firetruck”, “mailtruck”, “hippopotamus”. Etc. All in all, she has more words now, speaks a lot more frequently, tries to imitate most things that we say.



A Parent's Pegboard Story Relating To Her Child's Improvements In Awareness From Methyl-B₁₂

In the past, Jake was definitely in his own world at points. Jake is so much more aware now beginning the day after the first shot. For example, we were outside on the deck, the day after the first shot. He was about to knock someone's drink off of the table. My mom said, "Jake do not knock that over." He looked her right in the eye, gave her a sly smirk, and quickly knocked it off the table. Jake jumped and laughed after he did, continuing to look my mom right in the eye. This is the engagement I have been waiting for! That is normal kid behavior. Another example is now he is aware when family comes in the room. Every morning my dad stops by to help me with the kids. Usually Jake does not acknowledge him, but now he runs over to him, kisses him, and takes his hand to



A Parent's Pegboard Story Relating To Her Child's Improvements In Awareness From Methyl-B₁₂

come and sit with him. When I pick Jake up from school he comes running to hug me. This started to happen about a week after the shots began. Jake also plays a game where he runs across the room and hugs my husband and then runs back across the room to hug me. He has a huge smile and laughs the whole time he is doing this game. Imitation was always hard for Jake, but now he watches us and copies us. He is touching his head, belly, ears, nose, knees, clapping his hands, jumping, etc. I used to have to take him by the hand and make him do it. Now he just does it by watching us. Jake is also quicker to respond to commands. For example, he brought a broken television remote over to me. Without pointing, I said, "Jake, this remote is broken. Can you get



A Parent's Pegboard Story Relating To Her Child's Improvements In Awareness From Methyl-B₁₂

me the other remote on the couch and bring it to me?" He listened immediately and brought me the remote. Before the shots, I would have had to repeat myself several times, point in the direction of the remote, or take him by the hand to show him. His understanding has increased so much and he is proud of himself. Another example that shows he is so much more aware was our recent trip to the rides. In the past, I would always shout Jake's name when he was going around and around on a ride. This time was different. He found me each time he went around, smiled, and looked me right in the eye. He didn't wave, but this was huge for us. I was so excited. Even when we pulled up to the rides, he looked all around and smiled hugely knowing he was in



A Parent's Pegboard Story Relating To Her Child's Improvements In Awareness From Methyl-B₁₂

for a good time. Also, at his one therapy center, the kids have to take their shoes off and place them in the cubbies. I always have to prompt Jake to do this; however, about two weeks after the first shot Jake took his shoes off himself and placed them in the cubby without me prompting him. When he came out of the session, he ran over, found his shoes in the cubby (there were about 8 other pairs), and gave them to me to put them on. He did this with a big smile, knowing that he did something good. Even when I clap and tell him he did a good job, it is registering. He claps too, jumps, and smiles. Overall, Jake is so much more aware of his world and is responding to praise, and is definitely more engaged.



A Parent's Pegboard Story Relating To Their Child's Improvements In Physical From Methyl-B₁₂

We feel the dark circles he's always had under his eyes have lessened and look a little bit better, but can't explain why, unless it's because of the shots. Jonah has shown improvement in imitating us and following direction/commands; for example, Jason getting him to try jumping for the first time. Although he came close but didn't quite do it, Jonah has fun trying and loved it – he thought it was funny. One thing I must mention (but not sure which category it belongs in so Physical was my best guess) is....Jonah has been a nightmare for the past year or so when it comes to any kind of grooming/hygiene, for example, washing/cutting hair, brushing teeth and clipping nails are the worst. The day after he received his 1st shot, when he saw his toothbrush he



A Parent's Pegboard Story Relating To Their Child's Improvements In Physical From Methyl-B₁₂

laid down for me and opened his mouth wide and left it open until I was finished, never once whined or cried. Since then he sometimes whines a little when he knows it's time to brush but pretty willingly opens his mouth and lets me do it. He absolutely doesn't care at all now when I wash his hair in the bath, he actually likes it now. Jason cuts the boys' hair and since starting the shots we have only cut Jonah's hair once (which was just 2 days after his 1st shot) and it was so amazing, he just sat there and read a book and didn't move a muscle or whine at all the whole time it took for Jason to cut his hair. He was happy with his book and content which was so hard to believe, like a night and day difference! Usually I'm struggling to hold him still while



A Parent's Pegboard Story Relating To Their Child's Improvements In Physical From Methyl-B₁₂

Jonah's screaming at the top of his lungs the entire time, his face is red and we're all just sweating, it was so difficult. That's why that big change in him was so hard to believe, we thought we we're delusional! This all started immediately once starting the shots. The only thing for some reason that is still a battle every time is clipping his nails but hopefully that will get better too over time.



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

Regarding the general cognition it seems like Kasper has found the key. He sees relevancy and connections between things. For example when we play memory he says which cards are similar and puts them together and says they are the same kind. He seems to have a better comprehension of how things work. That certain things takes time. Cause and effect. Turn taking. That we sometimes need to attend to his little brother before him. He has better concentration and can focus longer periods on the same game or thing we are doing. Everything from eating, playing, getting dressed and so forth. He is getting better doing things that he is told. Following instructions and directions. He can focus and concentrate longer periods of time (if not tired). We feel like he



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

understands more now, he knows what's expected of him and he understands what to do in different situations. Before the shots it was hard to get him to concentrate while, for example, playing the game Memory or doing a puzzle, but now he can sit for a longer period and enjoys the game/puzzle. It was also hard for him to take directions, wait for his turn etc. That is still a problem but not nearly as big as before the shots. Now you can just remind him of the rules and he is OK with them and waits for his turn. He is much more focused than before and you can see that he wants to learn and therefore pays lots of attention. We feel like it is much easier for him to learn new things. We don't always have to push him and show him many times how to do things, now it sometimes



A Parent's Pegboard Story Relating To Her Child's Improvements In Cognition From Methyl-B₁₂

is enough if we tell him how to do it. We think that has to do with him listening much better and being more concentrated. Before the shots it was often hard for Kasper to, for example, sit by the table and eat when his little brother screamed, or when I was in the kitchen doing dishes or something else than just sit by his side. Now he is less distracted, he can focus on what he is doing even if there are other things going on around him. He is now more open minded and flexible. If he is playing with something and we tell him to maybe do it differently, he now doesn't get mad or angry, instead he tries to do it like we suggested and if that doesn't work or if it isn't fun he goes back doing it the way he did before but he still tries.



A Parent's Pegboard Story Relating To Their Child's Improvements In Communication From Methyl-B₁₂

For the first 3-4 weeks after starting Sammy on the MB12 shots we were having trouble detecting any responses. However, around week 4, we started to see definite changes in his communication and language skills. Sammy was verbal before the shots but his verbal skills were limited. He had a large vocabulary but rarely put more than 3 words together in simple sentences (e.g. "I want milk"). His vocabulary choices tended to be repetitive with little variance. In the last 2 weeks, we have seen him consistently speaking in longer sentences. One change is his use of adjectives and longer more complex sentences. He will now add in colors, big/little, or possessive pronouns. For example, where he used to say "I want shoes" he will now say "I want to wear my



A Parent's Pegboard Story Relating To Their Child's Improvements In Communication From Methyl-B₁₂

blue shoe's" or "I want to put on my Diego underwear." So his communication is more descriptive and generally more complex. We have also seen him using new vocabulary words. For example, last week when he wanted some magnetic letters on the door that were too high for him to grab he said "I can't reach the letters, mommy." I have never heard him use the word "reach" before. He also has started differentiating his shoes, using the words "sneakers" and "sandals" instead of just shoes. Another example is that he recently asked for "another cracker". Again, this is the first time we've heard him say "another" instead of just more. In general he seems more chatty. While much of it remains hard to understand, there is a clear attempt at more complex



A Parent's Pegboard Story Relating To Their Child's Improvements In Communication From Methyl-B₁₂

vocalization. He is also answering yes/no questions more consistently with less repetition in the asking and less prompting for an answer. And he has started asking simple “where” questions: “where is Teddy and Anna” (his brother and sister) which he was not doing prior to the B12 shots. So overall, there has been definite progress in his language and communication skills.



A Parent's Pegboard Story Relating To Her Child's Improvements In Eye Contact From Methyl-B₁₂

We have experienced a moderate increase in eye contact overall. Dad reports that before the shots CJ was not at all engaged when playing with him. Now, after starting the methyl-B12 shots CJ is constantly checking in with you if you are on the other side of the room; he will find you and make eye contact with you. He tries to interact with you and to get your attention. His ABA therapist always comments on his eye contact and says he always checks in with her when they are reading or playing a game.



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

Before Isabella was diagnosed with PDD NOS she did say mom, but then she stopped saying it. When we started the treatment with the shots she started saying more syllables, specifically with “m” and b” and started saying “mama” more often; that was like in the second week of the shots. Then on the 5th week, we were in the supermarket, she was in her stroller and I wasn't paying attention to her and suddenly I heard her saying “give me, give me” and indicating that she wanted a soda. I was the most happy mother in the world. I`ve noticed that when I am not available for her she will try to say “give” so I can pay her attention. She makes us understand her needs and what she wants perfectly, although she does not speak yet. When she wants something she takes my



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

hand and takes me to where the thing is that she wants. She can make choices on what she likes, for example with toys and food. She knows perfectly what she likes and what she does not like.



A Parent's Pegboard Story Relating To Their Child's Improvements In Language From Methyl-B₁₂

Milani's language is showing many areas of improvement. Along with having a better attention span and a boost in her receptive language, Milani is expressing herself more often. For example "I don't want juice... I want chips." Before the shot she was having a hard time labeling and remembering what common items where. Now we know exactly what she wants. Milani's sentences are still mainly 3 to 4 words, but every so often the sentence length gets a little longer. For instance, instead of her saying "Mommy read book" she said "Mommy, I want to read book to you." Wow!!! I was amazed at how correctly, clear, and lengthy that sentence was. That happened around the 4th shot, and I was completely floored. Although, she still remains to use 3 to 4 words or more,



A Parent's Pegboard Story Relating To Their Child's Improvements In Language From Methyl-B₁₂

I now know she is completely capable of making more complex sentences. She is beginning to express how she feels about shows on TV or the clothes she is wearing. For example, "Mommy. That's awesome" or "I like Bubble Puppies" (Bubble Guppies). Around the 6th shot Milani began asking more questions like, "Where is Mommy going? What that boy doing? What's your name?" I have more confidence when I ask her a Yes or No question that she will actually give me a real answer instead of always saying Yes without really knowing what she is answering. For example, I can give her a choice about what shirt she would like to wear. She will actually look at both and say "Ummm ... I want this one!" or "I like that one Mommy." Or she



A Parent's Pegboard Story Relating To Their Child's Improvements In Language From Methyl-B₁₂

can choose what activity she'd like to do. For example, "Mommy I want to paint." She had her first shot on 10/04 and by 10/29, she was getting dressed for school and she told her Grandma, "I am going to school and ride school bus." On her arrival at school she pointed out and said "Look.... She has a pumpkin...I like pumpkins". My mother was so excited to tell me that she pointed out the pumpkin and was shocked that she even knew what it was. Milani has made much improvement over the short amount of time that she has been taking MB12 shots. Close family and friends have mentioned how they are able to understand what she is saying vs. what she was like before the shots. Everyday is getting more exciting as we learn what is really going on in her world.



A Parent's Pegboard Story Relating To Her Child's Improvements In Mood From Methyl-B₁₂

Before starting MB12 injections, I would describe Antonio as often irritable and somewhat discontent overall. He would of course have his moments of happiness and enjoyment, but overall we would see a lot of fussiness during the course of the average day. He was very easily annoyed by the average things that go on... even at home. Something as simple as the sound of the washing machine, or his brother playing, or the sight of a neighbor coming over, would be enough to annoy him and send him running upstairs to his room to escape and spend a good part of his day there. This seems to have decreased slightly.. we would describe the change as mild.. but it's definitely there. He seems to spend more time during the course of the average day in the living area



A Parent's Pegboard Story Relating To Her Child's Improvements In Mood From Methyl-B₁₂

where the rest of the family is, and just overall seems a bit more content and less likely to get annoyed or frustrated by little things. When discussing whether or not we saw any changes in his behavior after starting the MB12 injections, my husband and I, at the same time, said the exact same words "He seems happier". He seems to be a bit more cooperative...an example being when I tell him it's time for a bath. For some reason, although he does like baths, in the past he would seem very annoyed by this, run away, and often cry. Once he actually got in the bath, was usually fine, but this was his pattern. I was thrilled to notice, about 2 weeks into doing the shots, when I said "Antonio, it's time for a bath", he came into the bathroom as if to say "Ok, I'm ready" (not



A Parent's Pegboard Story Relating To Her Child's Improvements In Mood From Methyl-B₁₂

literally, but in a non-verbal way) and he didn't put up any resistance. We would say he definitely seems to have more good days and better moods overall since starting the MB12 injections.



A Parent's Pegboard Story Relating To Her Child's Improvements In Eye Contact From Methyl-B₁₂

Alessandro has had not had the greatest eye contact since he was 13 to 14 months old. It has been a struggle through the years to have him look at anyone when he is saying anything. He has been working on this with his therapist for years and the progress has been spotty. He will look at you fleetingly and speak but now that he started the shots I see there have been more times when he will look me dead on and say exactly what he wants without his eyes looking away. He will hold the eye contact. I feel that since he has been taking the methyl-B12 we are seeing this in a more frequent manner which has been pleasing to us.



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

Before the shots the only words Vítor knew was “no” and some two or three syllable words. Two weeks after the shots, he began to babble a lot and increased the amount of syllables he would use. Now he has 4 words. He says the last syllable of many words. More than words, his communication skills improved a lot. Before the shots he would eventually point to things. Now he points to show things to us he wants and always with good eye contact. For example, if he wants his lion toy he points to the lion and says “...on” (for lion) and so on. Before the shots when we encouraged him to say a word he would be upset and scream. Now he tries to say many, many words, especially the ones with animal names (he loves animals). Now he can say the vowel sounds and is also



A Parent's Pegboard Story Relating To Her Child's Improvements In Language From Methyl-B₁₂

imitating many more animal sounds like the sounds that are made by a cow, a snake, a horse and a lamb.



A Parent's Pegboard Story Relating To Her Child's Improvements In Learning & Understanding From Methyl-B₁₂

After the shots Vítor understands even more, not only language, but also the concept of family. Before the shots he was very aware of his mother, father and sister. Two weeks after the shots he became more affectionate to others like his grandparents, uncle and aunt. Before the shots he did not retain what he learned and many times would lose his gains. After the shots he now retains every new thing he learns. For example, his OT is very happy that now in every session he remembers and repeats what they did in previous sessions. When she demands something he responds immediately in many cases. Before the shots that would take much more time to accomplish. He is becoming potty trained and after the second week on the shots he could say “pee” and



A Parent's Pegboard Story Relating To Her Child's Improvements In Learning & Understanding From Methyl-B₁₂

“poop”. He did not lose that. The few words and syllables he learned he did not forget as before. Now he is much less upset when redirected. His memory is better. For example, he now remembers where he left his toys and as told above, he remembers things done at the therapy. Five weeks after the shots he saw his brush and inks that we keep in a box in a room. He asked for them and then went to the balcony to look for the painting we did 2 days before. I did not know what he was doing after I saw him removing papers and books until he found the painting which he knew exactly where it was. Then he began to paint that specific painting.



A Parent's Pegboard Story Relating To Her Child's Improvements In Overall Global Feeling From Methyl-B₁₂

Our overall global feeling is much better now than before the shots. Our hope of Vítor having a normal life or even getting fully recovered has increased immensely. He is much happier and confident because now he can communicate so much better. It was hard for him before because most of the time we had to guess what he wanted. That was very frustrating. He no longer cries when I leave him at school and he is much happier there now. As a family we do better. His sister is happy because before the shots he interacted with her, but he did not want to. Many times she felt rejected, despite of all our explanations. She would say many times that her brother did not love her. Now she tells us she knows her brother loves her a lot. They interact much more.



A Parent's Pegboard Story Relating To Her Child's Improvements In Overall Global Feeling From Methyl-B₁₂

Because he is getting so much better I feel more relaxed and now I can finally enjoy time with my daughter and my husband. At school he is more engaged with the activities and the staff don't have to chase him all the time like they did in the past when he would often try to escape from the group. He is also much happier at school. In addition to our family his Occupational Therapist, Speech Therapist and Physiotherapist are very happy with his gains and very optimistic about his future.

In addition, his ATEC score dropped from 69 to 45. We are very happy and willing to continue on this road.



**As Stated Above, The Major
Recurring Problem Is Parents Want
To See Too Much Too Soon**



**So Make Absolutely Sure
You Understand Perfectly
THE GERMINATION PRINCIPLE**



**During the Methyl-B₁₂ Initiation Phase
THE ONLY THING WE NEED TO DOCUMENT
is whether your child had
ANY UNDENIABLE CHANGES**



Many Strong Responses
have no more meaning than
A Few Mild Responses



We Start With a Packet of Mixed Seeds

50 Rose Bush Seeds

50 Oak Tree Seeds



We Start With a Packet of Mixed Seeds



1. When you start your six week methyl-B₁₂ “Diagnostic Protocol” you are given 100 seeds to plant: 50 Rose Bush Seeds and 50 Oak Tree Seeds.



We Start With a Packet of Mixed Seeds



1. When you start your six week methyl-B₁₂ “Diagnostic Protocol” you are given 100 seeds to plant: 50 Rose Bush Seeds and 50 Oak Tree Seeds.
2. At the end of your six week Diagnostic Protocol I ask you, “How many pretty roses or tall oak trees do you have?”



We Start With a Packet of Mixed Seeds



1. When you start your six week methyl-B₁₂ “Diagnostic Protocol” you are given 100 seeds to plant: 50 Rose Bush Seeds and 50 Oak Tree Seeds.
2. At the end of your six week Diagnostic Protocol I ask you, “How many pretty roses or tall oak trees do you have?”
3. You answer me and say, “None!”



We Start With a Packet of Mixed Seeds



1. When you start your six week methyl-B₁₂ “Diagnostic Protocol” you are given 100 seeds to plant: 50 Rose Bush Seeds and 50 Oak Tree Seeds.
2. At the end of your six week Diagnostic Protocol I ask you, “How many pretty roses or tall oak trees do you have?”
3. You answer me and say, “None!”
4. That is true! But what you do have will be many tiny seedlings indicating **GERMINATION AND LIFE.**



We Start With a Packet of Mixed Seeds



1. When you start your six week methyl-B₁₂ “Diagnostic Protocol” you are given 100 seeds to plant: 50 Rose Bush Seeds and 50 Oak Tree Seeds.
2. At the end of your six week Diagnostic Protocol I ask you how many pretty roses or tall oak trees do you have.
3. You answer me and say, “None!”
4. That is true! But what you do have will be many tiny seedlings indicating **GERMINATION AND LIFE.**

CAUTION



The size of the initial growth has nothing to do with the size or beauty of the final plant!

We Start With a Packet of Mixed Seeds



Therefore your job is to keep weeding, watering and fertilizing your **TREATMENT GARDEN** over the next few years so it will produce the beautiful **RECOVERY LANDSCAPE** that you want to see in your child's **GARDEN OF HEALING**.



**“So How Did
You Discover
Methyl-B₁₂?”
You Ask**

CHANCE
CHANCE



LUCK
LUCK

It happened strictly

**BY
CHANCE!**

It was just plain

**PURE
LUCK!**



CHANCE
CHANCE



LUCK
LUCK

**“And What Is The Pharmacy’s
Secret That Makes Their Methyl-B₁₂
So Good?”
You Ask**

CHANCE
CHANCE



LUCK
LUCK

Just like Coca Cola, after years of hard work and research, it is their Secret Recipe that makes the difference



~~CHANCE~~

~~LUCK~~

And just like KFC, after years of hard work and research, it is also their Secret Recipe that makes the difference



KFC

CHANCE

LUCK

And just like KFC, after years of hard work and research, it is also their Secret Recipe that makes the difference

CHANCE



KFC

LUCK

Plus Practicing On
1.5 to 2.0 Million Doses
While They Got Their
SECRET RECIPE
RIGHT
Sure Did Help!

So Remember

To Use

The Right Methyl-B₁₂

To Get

The Best Results!

THE RIGHT METHYL-B₁₂ MATTERS



“Bad”

Methyl-B₁₂

- Inferior raw material
- Wrong concentration
- Wrong pH
- Wrong Process
- Wrong dose
- Wrong delivery site

THE RIGHT METHYL-B₁₂ MATTERS



“Good”

Methyl-B₁₂

Superior raw material

Right concentration

Right pH

Right process

Right dose

Right delivery site

P
H
A
R
M
A
C
Y
1



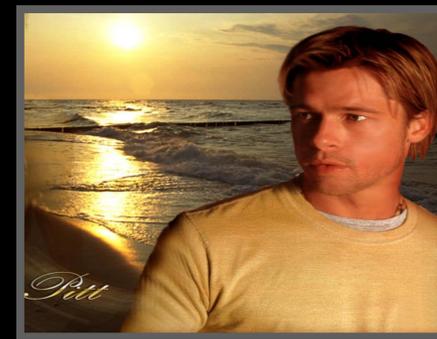
Inferior raw material
Wrong concentration
Wrong pH
Wrong Process
Wrong dose
Wrong delivery site



P
H
A
R
M
A
C
Y
2

Superior raw material
Right concentration
Right pH
Right process
Right dose
Right delivery site

P
H
A
R
M
A
C
Y
1



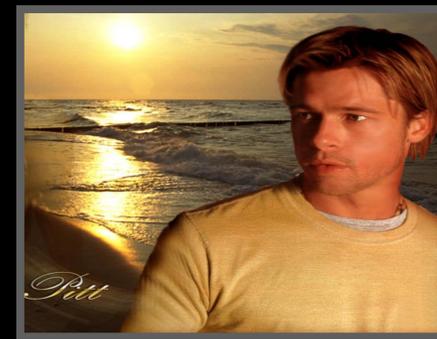
P
H
A
R
M
A
C
Y
2

Wrong Process

Right process

1. Total time needed for each step of the total procedure.
2. Total time used for the entire process from start to finish.
3. Temperatures for each step of the total process.
4. Order of adding the majority of ingredients.
5. Order of adding any premixes or pH modifiers.
6. The processing equipment used to create the various subunits of the final batch.

P
H
A
R
M
A
C
Y
1



P
H
A
R
M
A
C
Y
2

Wrong Process

Right process

Because methyl-B₁₂ contains cobalt, a metal capable of having multiple valences, alterations in the pH, as well as variations in the temperatures and processing times used for each step along the way will affect the final product as well as whether undesirable intermediate compounds have been produced and remain behind in the final product.

**Let Me Explain
How This
Works In
“People Terms”**



Baking A Methyl-B₁₂ Cake

AN ANALOGY

is the easiest way
to understand the
principle I am
trying to teach



Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



METHOD 1

Make a batch of cake batter.
Bake in the oven at 350 degrees
for 1 hour. Take out of the oven.
Eat and enjoy!



Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



METHOD 2

Make an identical batch of cake batter. Put in the oven at 100 degrees for 3.5 hours. Take out of the oven. Eat and enjoy??



Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



COMPARISON



Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



COMPARISON

The same ingredients

Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



COMPARISON

The same ingredients

The same amount of heat

Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



COMPARISON

The same ingredients
The same amount of heat
The only difference was

Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake



COMPARISON

THE
PROCESS

Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake

Pharmacy 1



Pharmacy 2



COMPARISON

THE
PROCESS

Baking A Methyl-B₁₂ Cake

It is the
“PROCESS”
that makes
the best cake

Pharmacy 1

Methyl-B₁₂
Type 1

Pharmacy 2

Methyl-B₁₂
Type 2

COMPARISON

THE
PROCESS



Case Example

Pharmacy 1

Methyl-B₁₂
Type 1

Pharmacy 2

Methyl-B₁₂
Type 2

COMPARISON

THE
PROCESS

Case Example

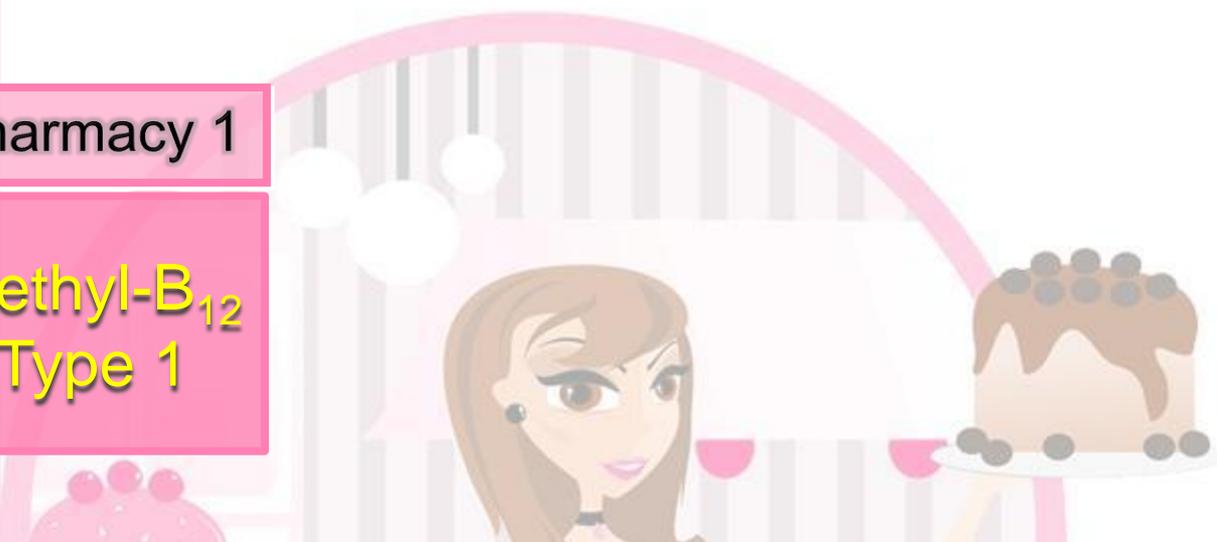
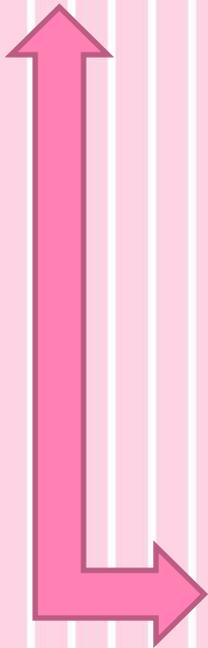
100%
Compliance

100%
Clinical
Failure

Pharmacy 1

Methyl-B₁₂
Type 1

	Name all the biological therapies that you have ever tried no matter whether they worked or did not work:
	CF/GF and SF diet, supplements, probiotics, TD-GSH, TD-AL, MB12 shots (from Pharmacy X)
	Name all the biological therapies that you have tried that have undoubtedly worked – indicate the benefit you saw with each one and indicate your level of compliance:
MB-12 from Pharmacy X did not work for our daughter. we had 100% compliance	CF/GF and SF diet, supplements, probiotics, TD-GSH, TD-AL, MB12 shots (from Pharmacy X) improved speech and better interaction with parents.



Case Example

100%
Compliance

100%
Clinical
Failure

Pharmacy 1

Methyl-B₁₂
Type 1

“No results
were noticed
from MB-12”

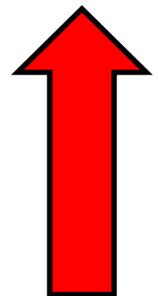
XXXXXX
XXX has tried MB12 shots from **Pharmacy X** for 6 weeks. (What results were noticed? What dose/volume and frequency? (Please advise.)

Methyl-B12 injections with or without adenosyl-B12 injections in the same syringe (“painless!”)
RULES: MAKE NO OTHER CHANGES for the next 5-weeks.

No result noticed w/ MB-12 from Pharmacy XXX

Carefully read and understand the instructions for the 1st MB12 follow-up including, but not limited to creating the appropriate “groupings”. Be sure you understand every concept from the handout entitled “Autism One Chicago 2005” relating to tolerable vs.

First cycle of shots ordered by Dr. Neubrander or a member of the professional staff on Remember that at this time there is no definitive laboratory test indicating who will or who will not respond to a clinical trial of methyl-B12. In addition, blood tests for “B12” are high normal to high in about 85% of children who respond to the shots because B12 builds up in the serum and cannot get into the cells, much like blood sugar



Case Example

“You are wasting our time and money but I guess we have no choice but to do it your way!”

Pharmacy 1

Methyl-B₁₂
Type 1

Pharmacy 2

Methyl-B₁₂
Type 2

An illustration of a woman with long brown hair and a black choker, looking towards the right. She is in a pharmacy setting with a pink archway and hanging lights. To her right, a hand holds a round chocolate cake with white frosting and blueberries. To her left, there is a pink, bubbly object.

“We are very upset with you, Dr. Neubrandner, because we already know that methyl-B₁₂ does not work for our daughter so why should we go to the extra expense and delay doing other things just to try it again?”

Case Example

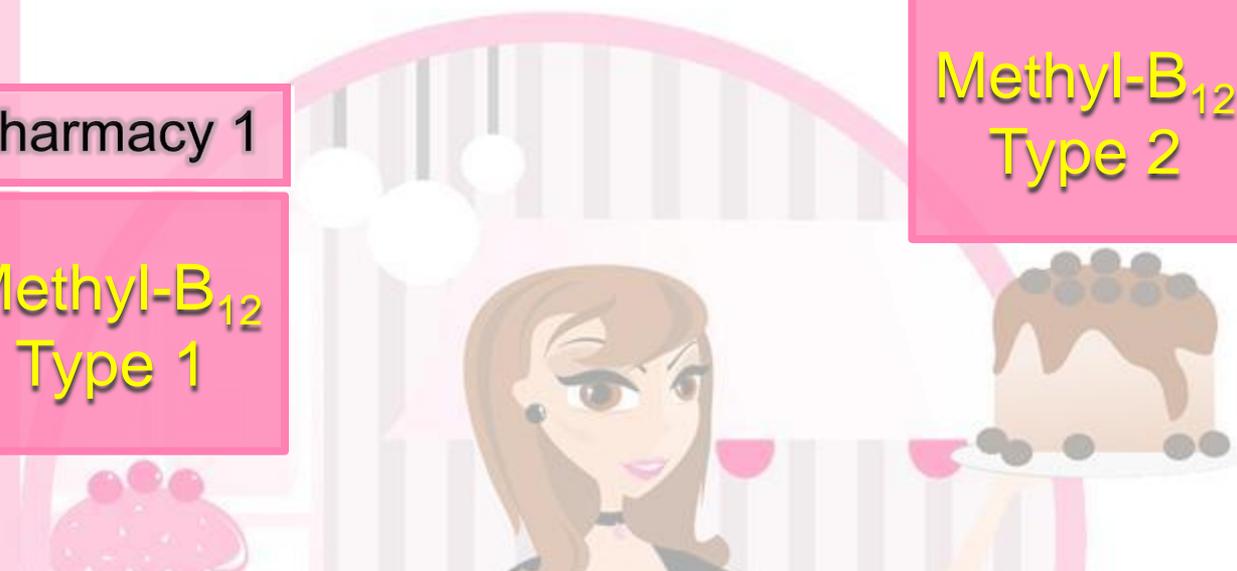
**JUST
SIX
WEEKS
LATER**

Pharmacy 1

Methyl-B₁₂
Type 1

Pharmacy 2

Methyl-B₁₂
Type 2



**“You were right!
We cannot
believe it! We’re
amazed!”**

SPEECH and LANGUAGE

Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



We think this is the area that our daughter has shown the most noticeable improvements. She had very good receptive speech but limited expressive speech before we started the MB-12 shots. She had single words and not too much spontaneous speech and no sentences. After about 4 weeks of starting the shots, we noticed her speech was getting better:

SPEECH and LANGUAGE

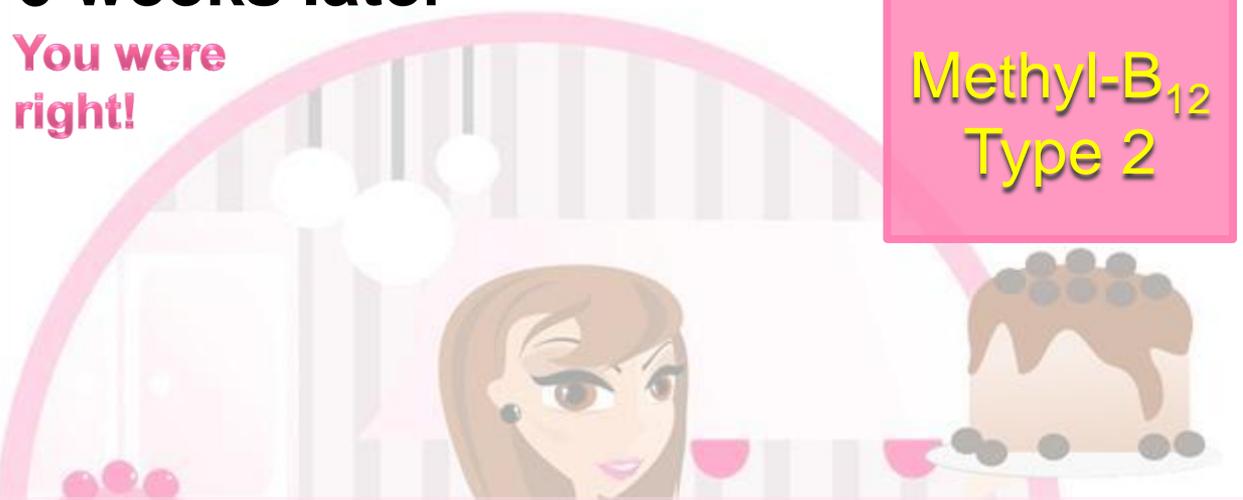
Case Example

Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2



4-5 word sentences, spontaneous speech like pointing at birds in the sky and aeroplanes and saying “bird...bird”. It just kept getting better and better after that - she says lots of things now like “don’t touch my shoes”, “don’t touch my cookies”, “bye bye papa”, “papa pick me up”, “I want apple” etc. Also, she is louder and clearer with her individual words. We have also

SPEECH and LANGUAGE

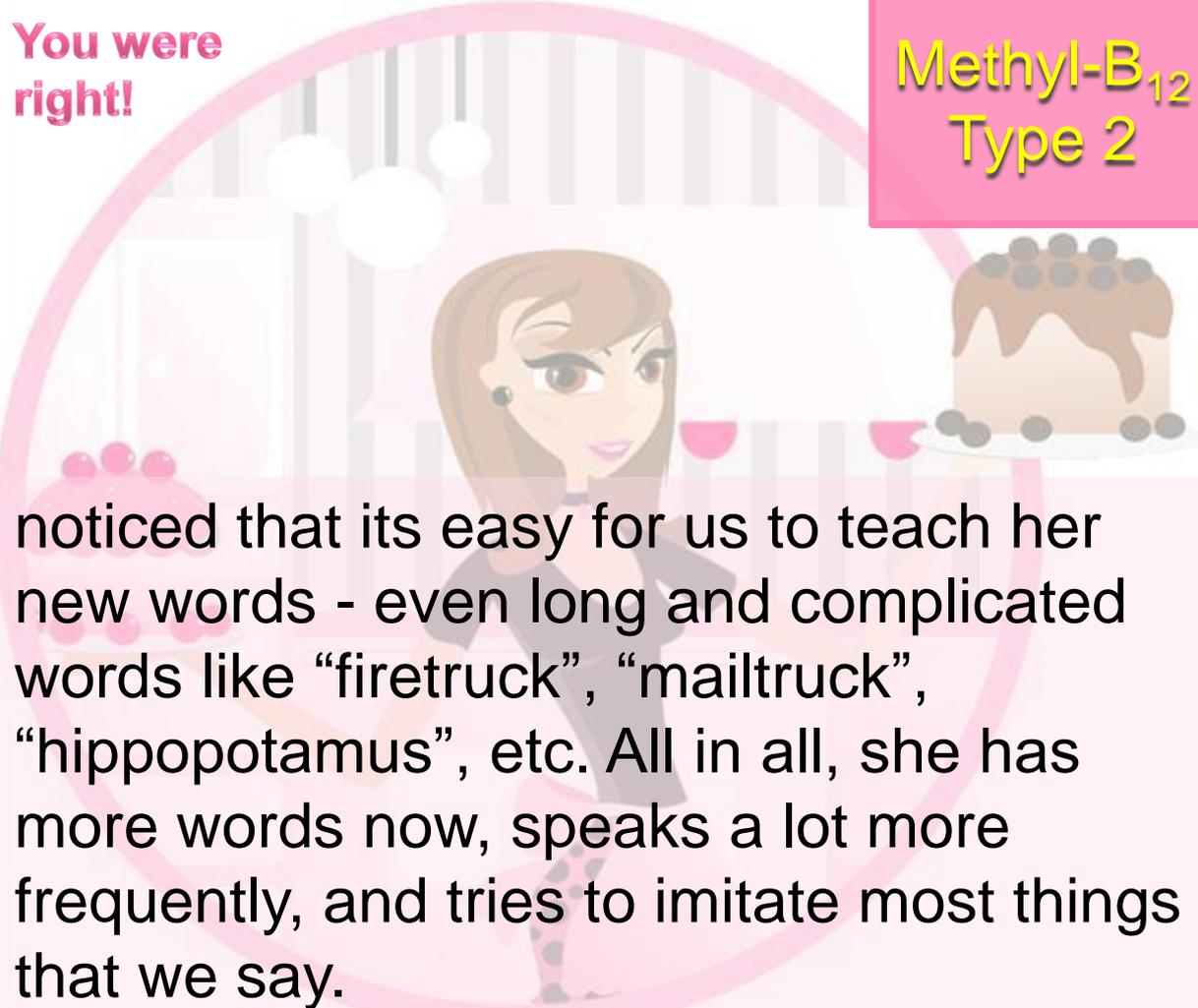
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2

A stylized illustration of a woman with long brown hair, wearing a dark top and patterned leggings, standing in a pharmacy. She is holding a pink cup. To her right is a large chocolate cake with white frosting and blueberries. To her left is a hand with pink nail polish. The background shows pharmacy shelves and a door.

noticed that its easy for us to teach her new words - even long and complicated words like “firetruck”, “mailtruck”, “hippopotamus”, etc. All in all, she has more words now, speaks a lot more frequently, and tries to imitate most things that we say.

COGNITION

AWARENESS

INTELLIGENCE

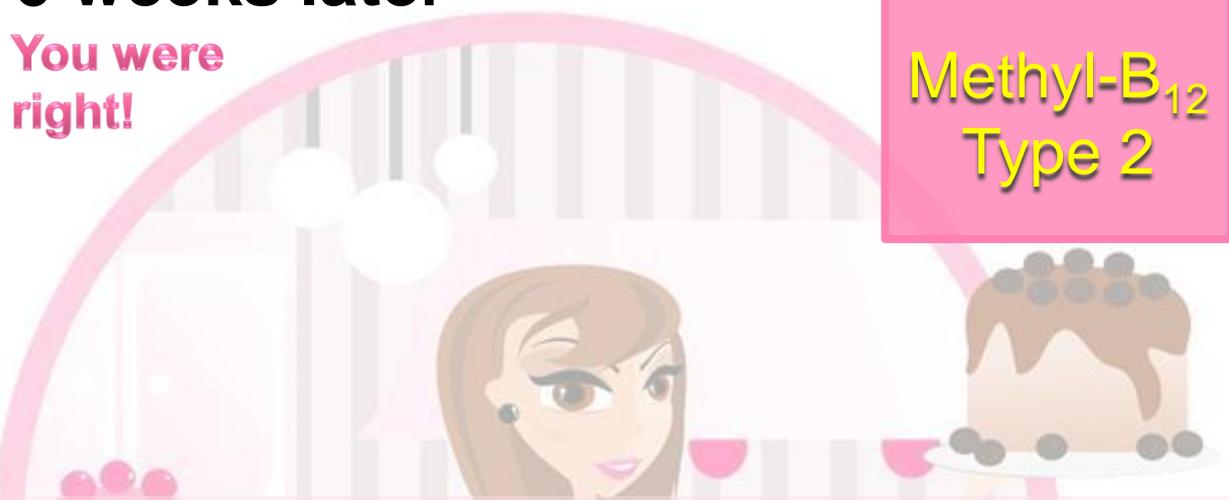
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



Awareness/Attention/Focus: Our daughter seems more alert and aware of her surroundings. She points at things constantly during her car rides to school and back, naming things along the way - “white van”, “blue car”, “window” etc. Before we began the shots, we did notice that she did not respond to her name once in a while. All that has disappeared after

Case Example

Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2



the shots ; she consistently responds to her name and its easy to get her attention without repeating ourselves or raising our voices. She is also more focused on tasks now and stays longer at doing something than before. We can see her concentration is improved now and can see her trying to make an effort to learn more complex things, words and tasks.

COGNITION

AWARENESS

INTELLIGENCE

COGNITION

AWARENESS

INTELLIGENCE

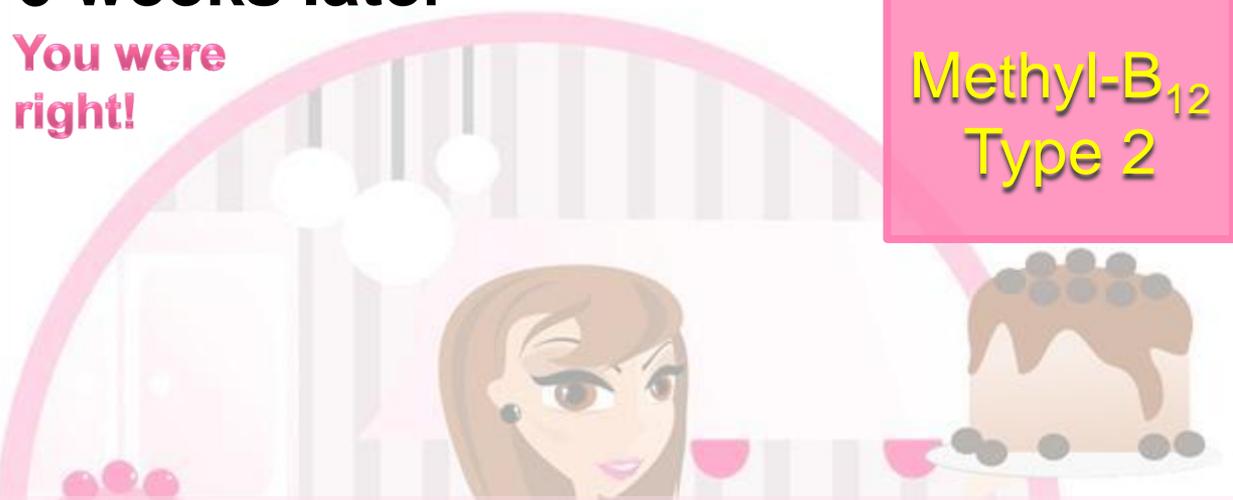
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



Learning, intelligence: We have seen a new ability to connect the dots and she just seems smarter now. For example, she opened a book the other day to see a picture of a girl with a phone in her hand and pointed at the girl and said, “Hi, how are you?” She had never done that before the shots. So, she was able to connect the phone with the greeting people normally

COGNITION

AWARENESS

INTELLIGENCE

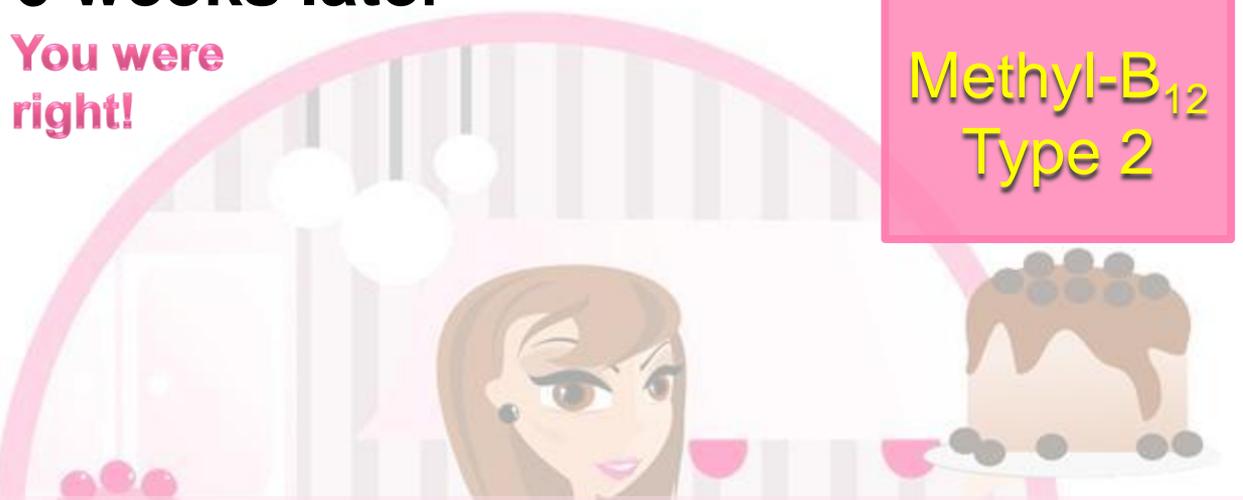
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



use when they pick up the phone. She saw a picture of a car and a boy spraying water on it and said -“boy washing car”. Also, I remember a situation where she saw a red car in a book and got her toy car which is red and put her toy car next to the red car in the picture. These are examples of higher level thinking that we had not seen before. It has also been easy to teach her

COGNITION

AWARENESS

INTELLIGENCE

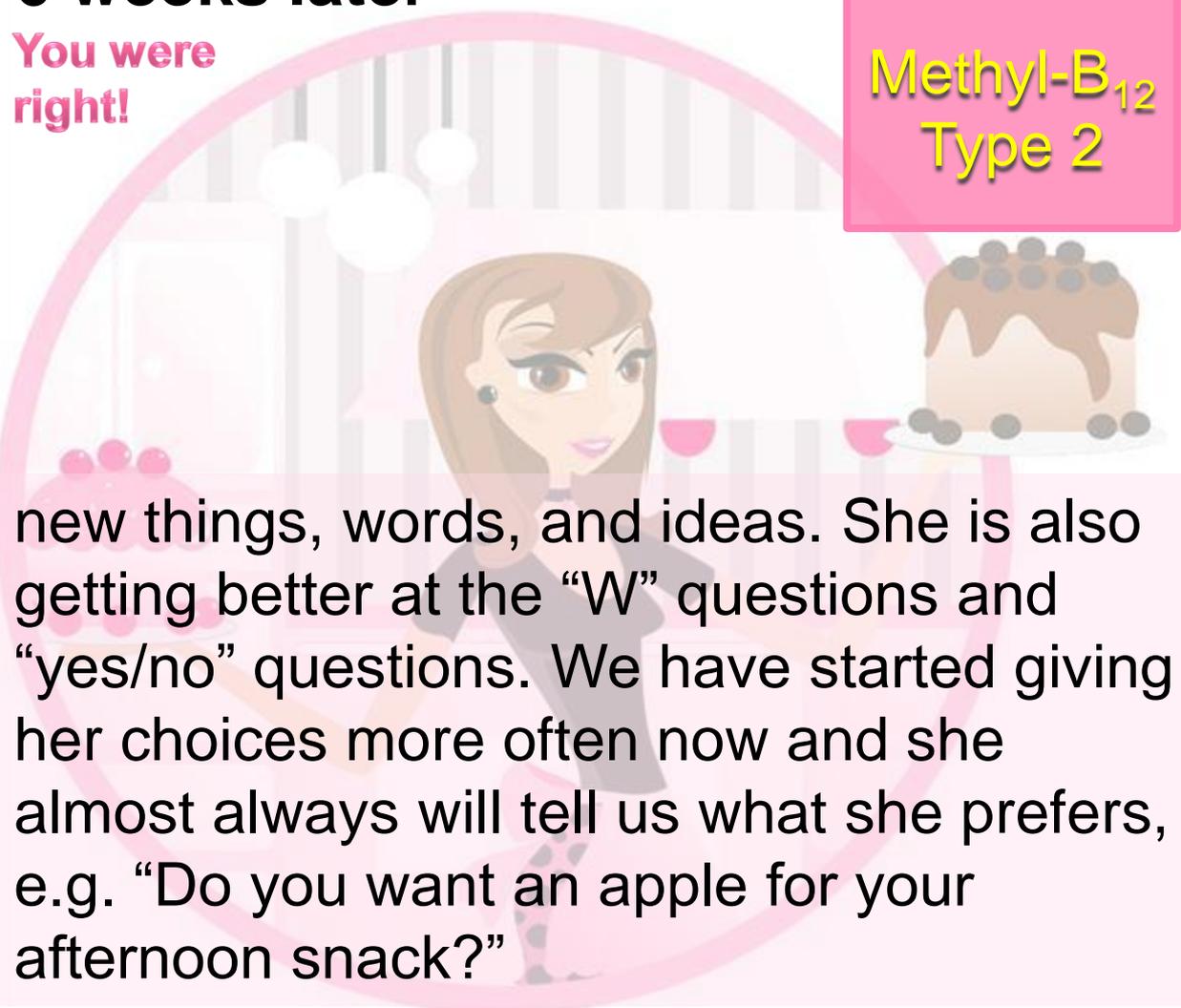
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



new things, words, and ideas. She is also getting better at the “W” questions and “yes/no” questions. We have started giving her choices more often now and she almost always will tell us what she prefers, e.g. “Do you want an apple for your afternoon snack?”

COGNITION

AWARENESS

INTELLIGENCE

Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2

An illustration of a woman with long brown hair, wearing a dark top, standing in a pharmacy. She is holding a pink cup. To her right is a large chocolate cake with white frosting and blueberries. The background shows pharmacy shelves and a door. The entire scene is framed by a large, light pink circular arc.

Imaginative play: She is now more into pretend play (e.g. picking up the phone and talking into it). Before the shots, she did have only a few toys she played with and always tried to do the same thing with those toys. Now, she plays with a lot more toys and gets creative.

SOCIALIZATION
AFFECTION

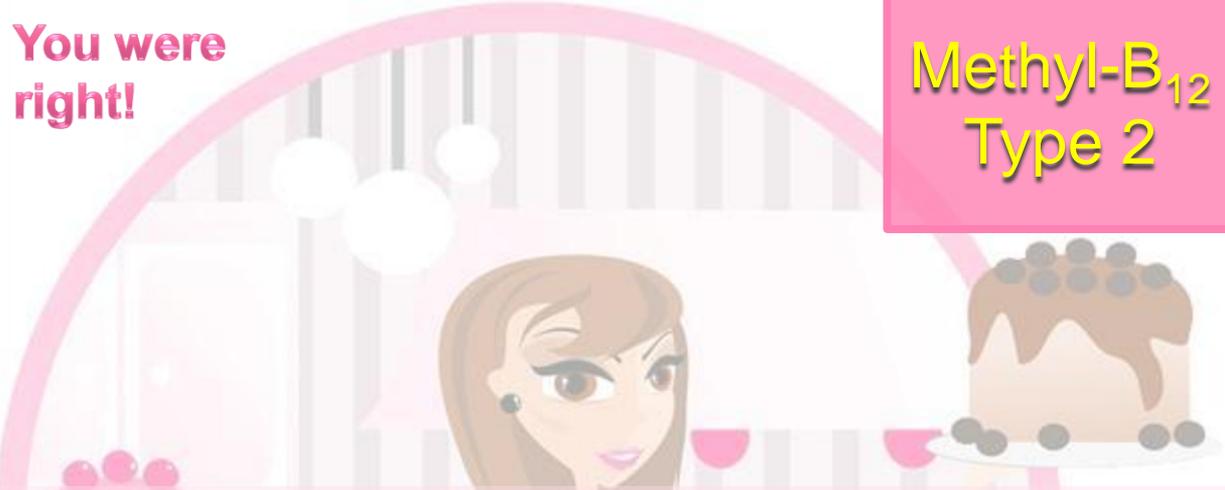
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



Before the shots, we felt our girl was not very affectionate toward people other than her parents. We have seen a mild increase in her affection levels after starting the shots – e.g. she will now randomly hug and say “I love you” that she almost never did before. She also seems more emotional now, so when sad we see the tears slowly building up in her

SOCIALIZATION
AFFECTION

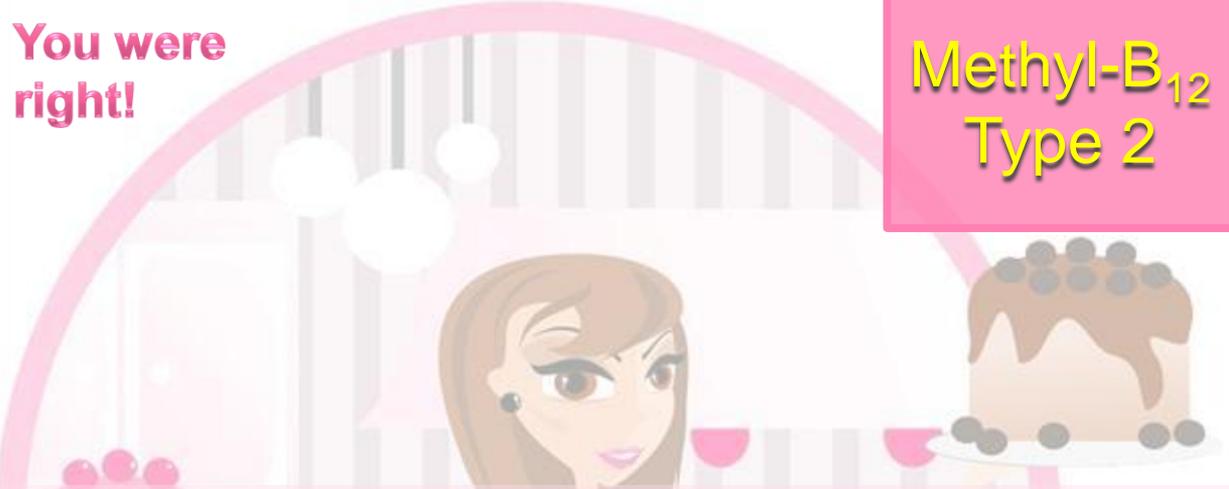
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



eyes and she will just sit quietly in one place and cry. Previously, she would just throw a tantrum when upset/sad and maybe toss a few things around (e.g. tossing a book, spoon etc). We have not yet seen much change in her socialization with other kids. She still does not make an effort to play with other kids. She plays next to them but not with them.

Case Example

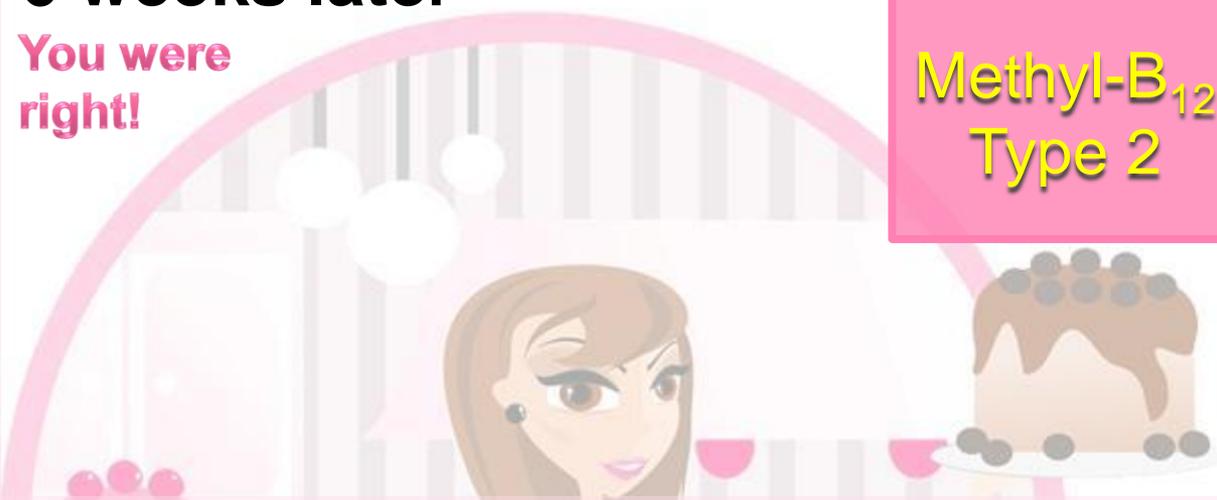
Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2

ATTITUDE
DISPOSITION
ACTIVITY
LEVEL

An illustration of a woman with long brown hair, wearing a dark top, standing in a pharmacy. She is holding a pink cup. In the background, there are shelves with white bottles and a large pink archway. To the right, there is a cake on a white plate with blueberries on top. The scene is set in a brightly lit pharmacy environment.

Overall, we have noticed a mild to moderate change in our daughter's general demeanor and activity levels. She was quite hyperactive before we began the shots – e.g. her teachers at preschool always said she could not sit still in one place and was always running around. We used to see the same behavior at home as well. After about 3-4 weeks of

Case Example

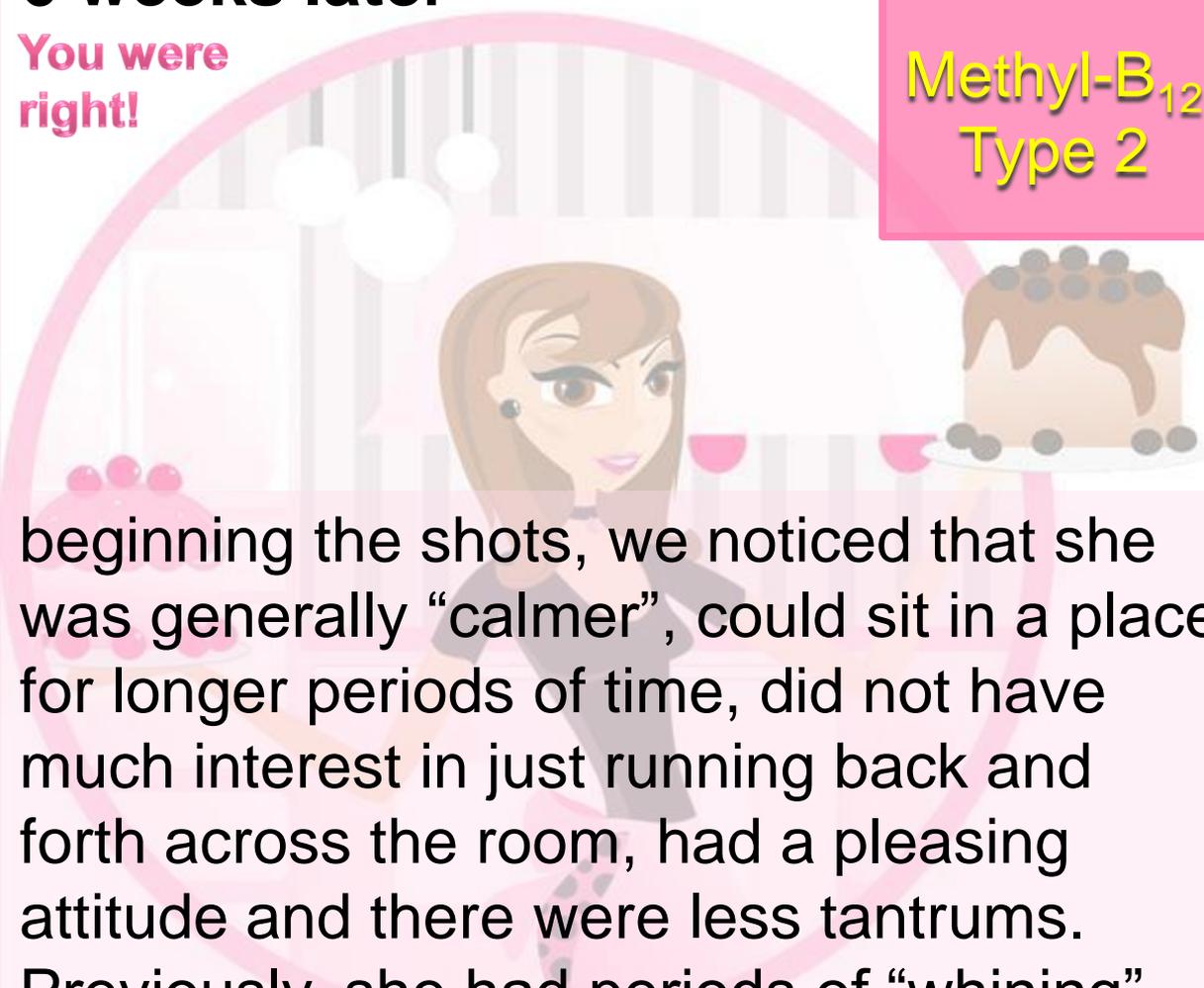
Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2

ATTITUDE
DISPOSITION
ACTIVITY
LEVEL



beginning the shots, we noticed that she was generally “calmer”, could sit in a place for longer periods of time, did not have much interest in just running back and forth across the room, had a pleasing attitude and there were less tantrums. Previously, she had periods of “whining” as soon as she got back from school. Now, its easy for her to go sit in her chair

Case Example

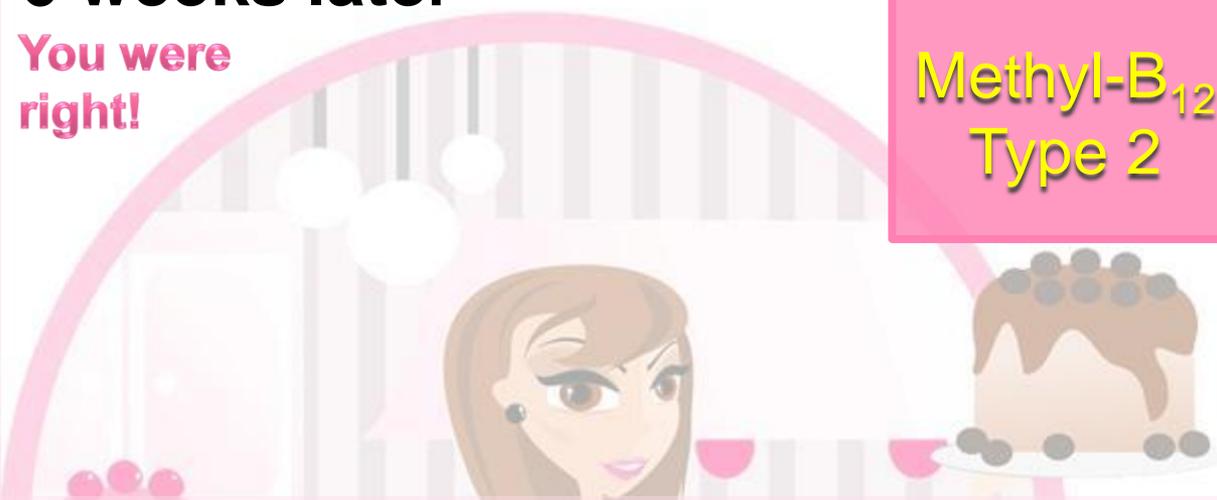
Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2

ATTITUDE
DISPOSITION
ACTIVITY
LEVEL



after she gets back from school and eat her snack while glancing through a book. She also seems happier as I have seen her smiling and laughing with more intensity than before. Irritability and frustration have decreased from before. Also, compulsive play has decreased – e.g. she spent a lot of time playing with a spoon and bowl before. Now, she will try

Case Example

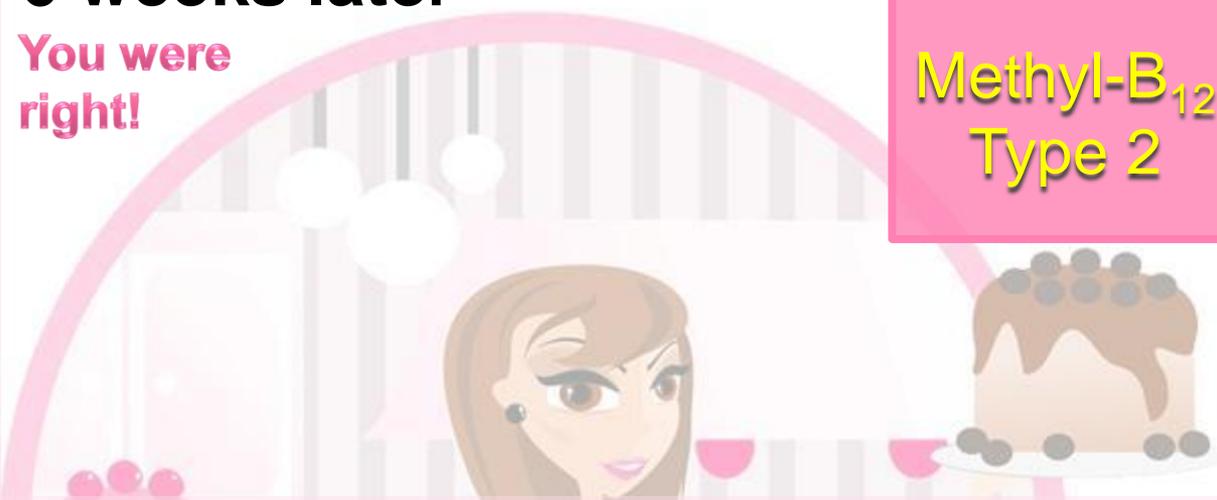
Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2

ATTITUDE
DISPOSITION
ACTIVITY
LEVEL

A stylized illustration of a woman with long brown hair, wearing a dark top, standing in a pharmacy or store. She is looking towards the right. In the background, there are shelves with various items, including a cake on a stand. The scene is framed by a large, light pink circular arc.

out different toys, books and activities and does not restrict herself to a limited set of activities. She is more “independent” because she tries to do more things herself like taking off her shoes after coming back from school, getting into her car-chair by herself without any help etc. She is also trying new things like trying to get on a bike and riding it that she was not

Case Example

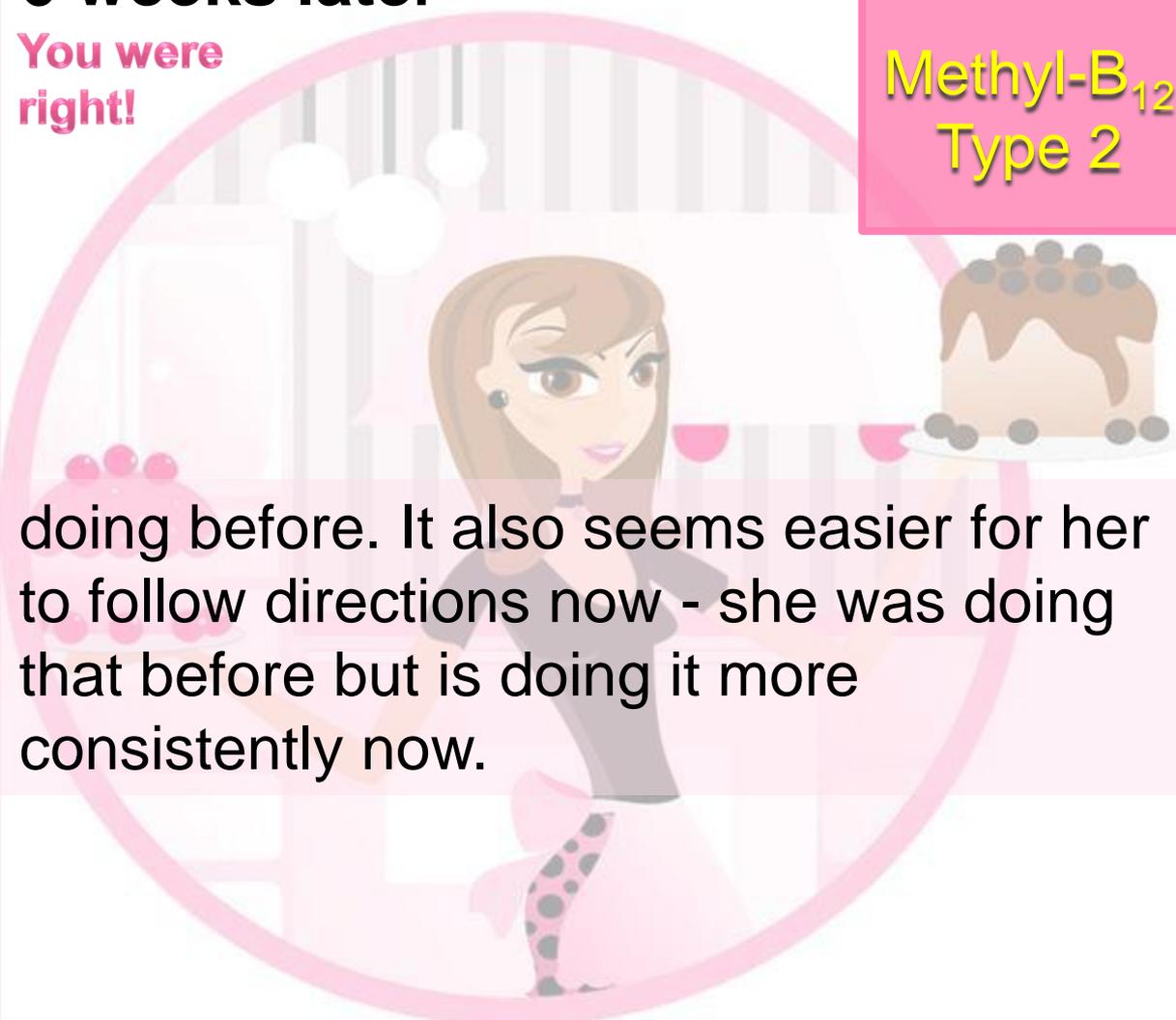
Pharmacy 2

6 weeks later

You were
right!

Methyl-B₁₂
Type 2

ATTITUDE
DISPOSITION
ACTIVITY
LEVEL



doing before. It also seems easier for her to follow directions now - she was doing that before but is doing it more consistently now.

HEALTH
AND
BODILY
FUNCTIONS

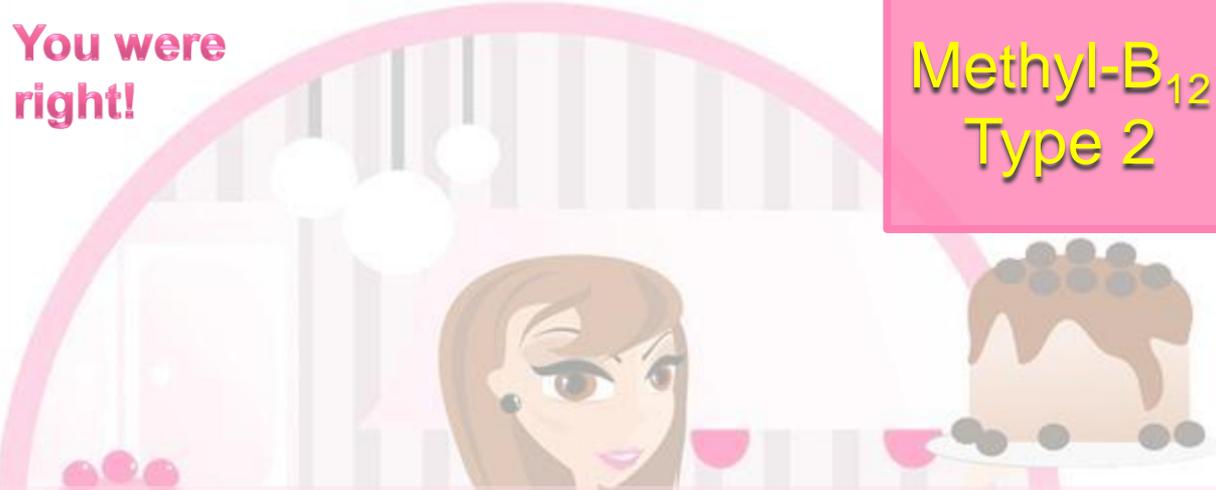
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



While our daughter was a relatively healthy kid, she did have problems with catching a cold very often. For example, she would be the only kid in her daycare who had a cold in peak summer when temperatures were in the 90's. Every time the season changed, she would be down with the cold. The season has changed in our country now but she has not had a

HEALTH
AND
BODILY
FUNCTIONS

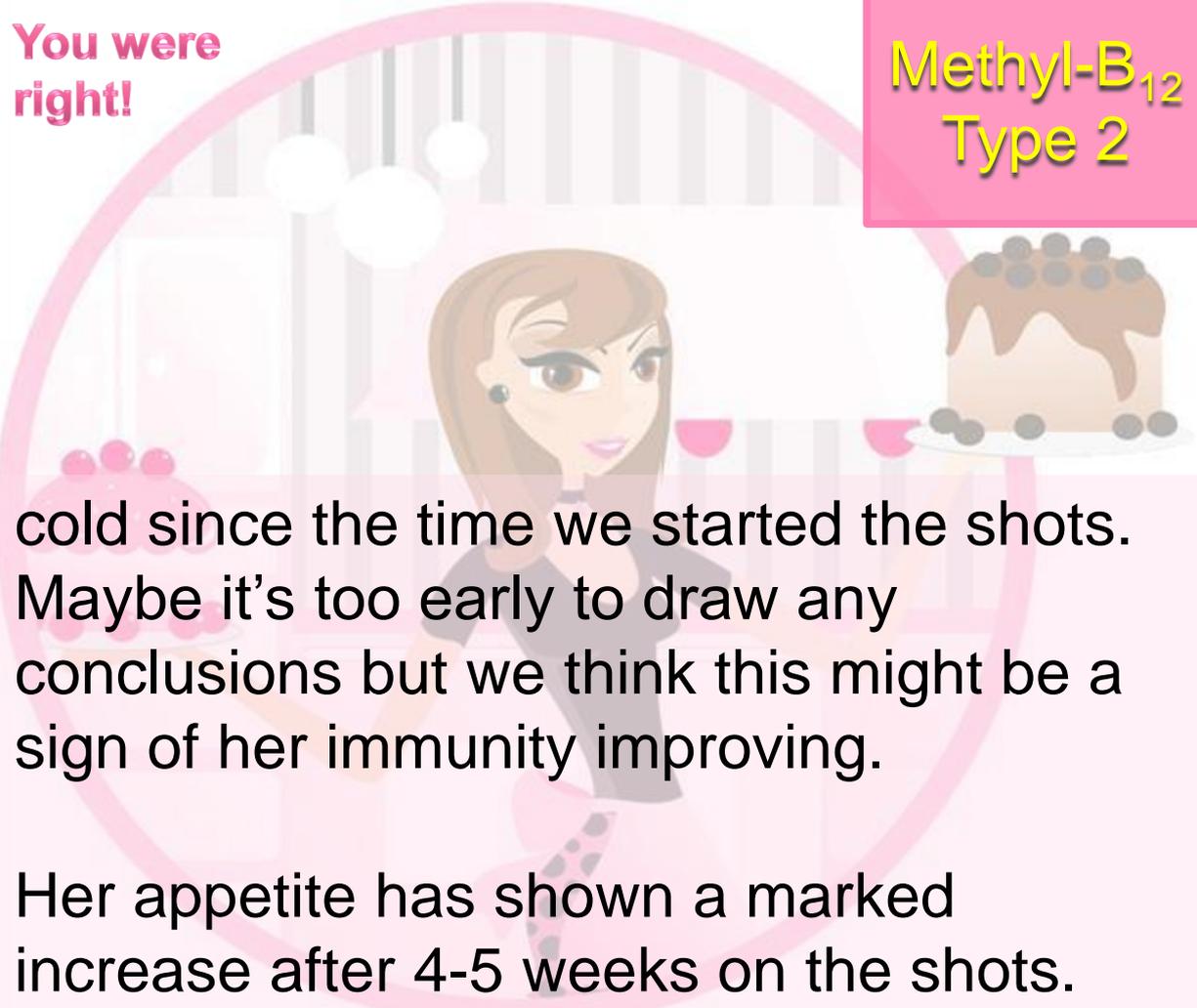
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2

A stylized illustration of a woman with long brown hair, wearing a dark top and a pink skirt, standing in a pharmacy. She is holding a small pink cup. In the background, there are shelves with various bottles and a large cake on a table to the right. The scene is framed by a large, light pink circular arc.

cold since the time we started the shots. Maybe it's too early to draw any conclusions but we think this might be a sign of her immunity improving.

Her appetite has shown a marked increase after 4-5 weeks on the shots. For example, one day she came home after school and ate 3 bananas and then

HEALTH
AND
BODILY
FUNCTIONS

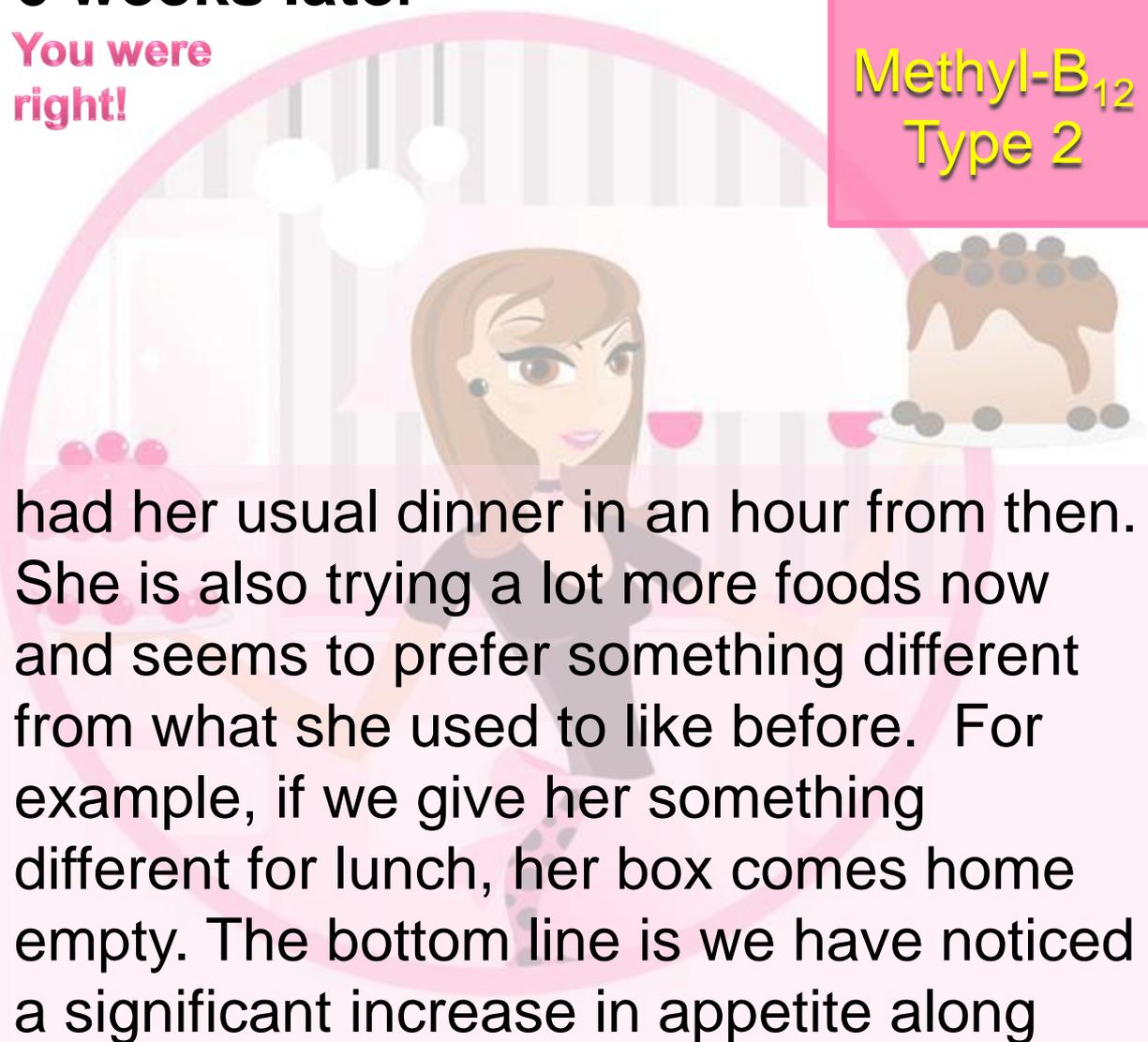
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



had her usual dinner in an hour from then. She is also trying a lot more foods now and seems to prefer something different from what she used to like before. For example, if we give her something different for lunch, her box comes home empty. The bottom line is we have noticed a significant increase in appetite along

HEALTH
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BODILY
FUNCTIONS

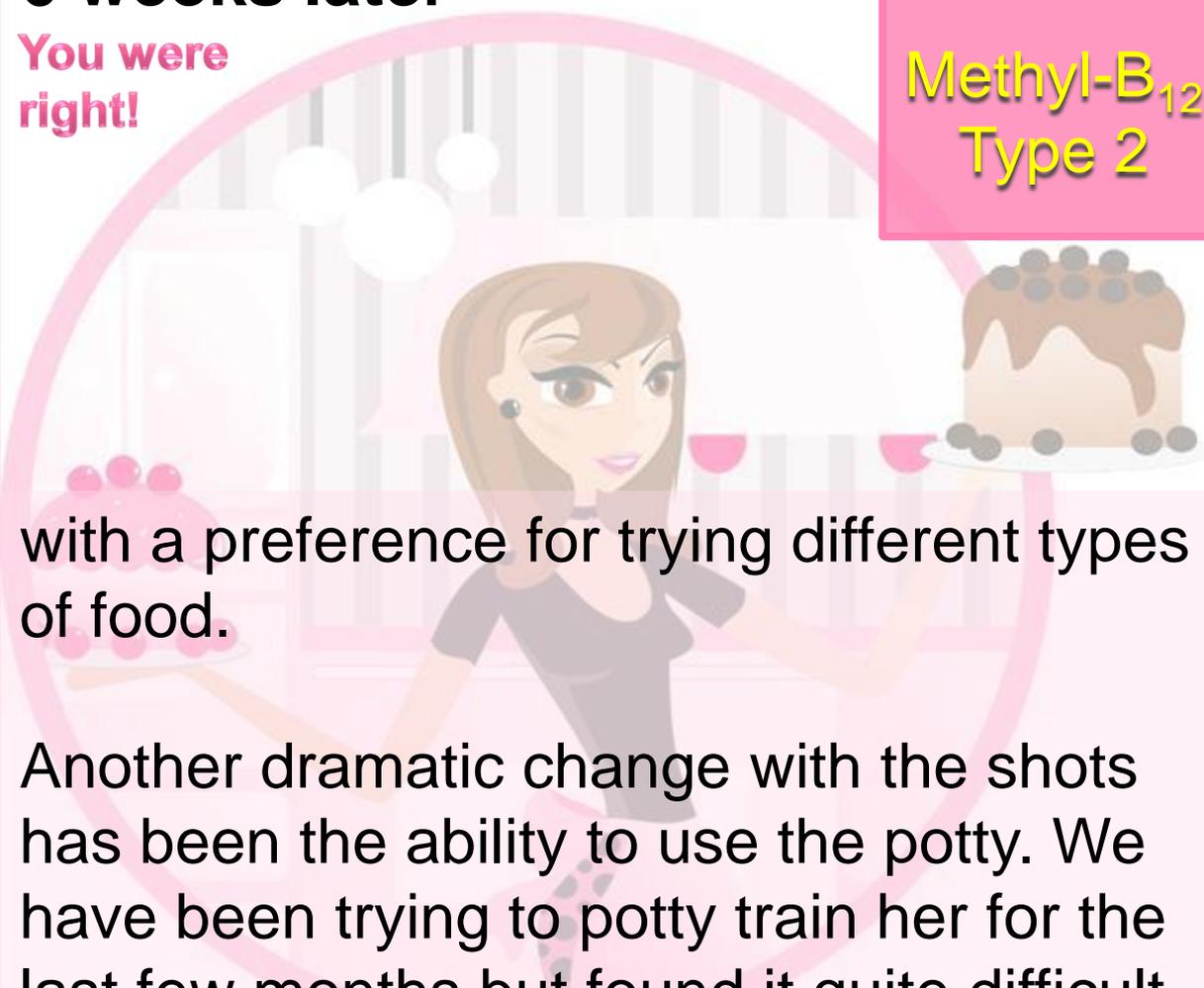
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



with a preference for trying different types of food.

Another dramatic change with the shots has been the ability to use the potty. We have been trying to potty train her for the last few months but found it quite difficult. Within a week of using the shots, she showed a lot more control of her bodily

HEALTH
AND
BODILY
FUNCTIONS

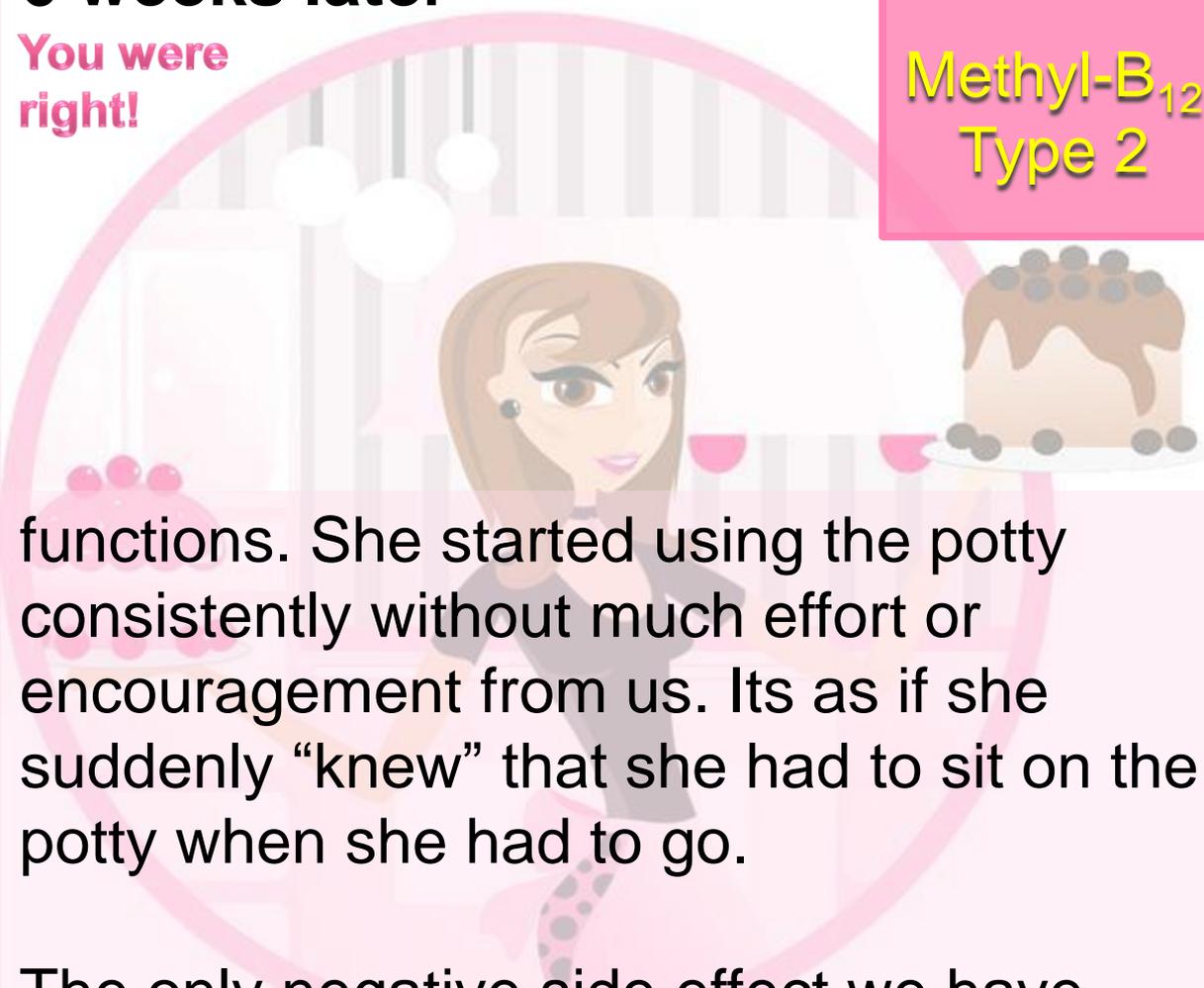
Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



functions. She started using the potty consistently without much effort or encouragement from us. Its as if she suddenly “knew” that she had to sit on the potty when she had to go.

The only negative side effect we have seen with MB-12 has been a few days when she had sleep disturbances. These

HEALTH
AND
BODILY
FUNCTIONS

Case Example

6 weeks later

You were
right!

Pharmacy 2

Methyl-B₁₂
Type 2



were quite mild and not very troublesome. Basically, she would get up in the middle of the night and be active for an hour or so before going back to sleep. She was a sound sleeper before we started the shots. The symptoms have gotten better over time and this is not a big worry for us at this point.

The Choice Is Yours To Make

Pharmacy 2

Methyl-B₁₂
Type 2

Pharmacy 1

Methyl-B₁₂
Type 1



The Road To Recovery Clinic
And Dr. Neubrander Say,
“It Is Important To Get
Methyl-B₁₂ Working
For Your Child
As Soon As
Possible!”

