The Road To Recovery Clinic Presents

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Why Methyl-B_{12}?

What Science Says
What Parents Say
What the Children Say

The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

The *Methyl* Form Of The B_{12} Family Helps Most Children With Autism Move Towards Recovery!

The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

The *Methyl* Form Of The B_{12} Family And Some Children With Autism Move To Recovery!

The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind

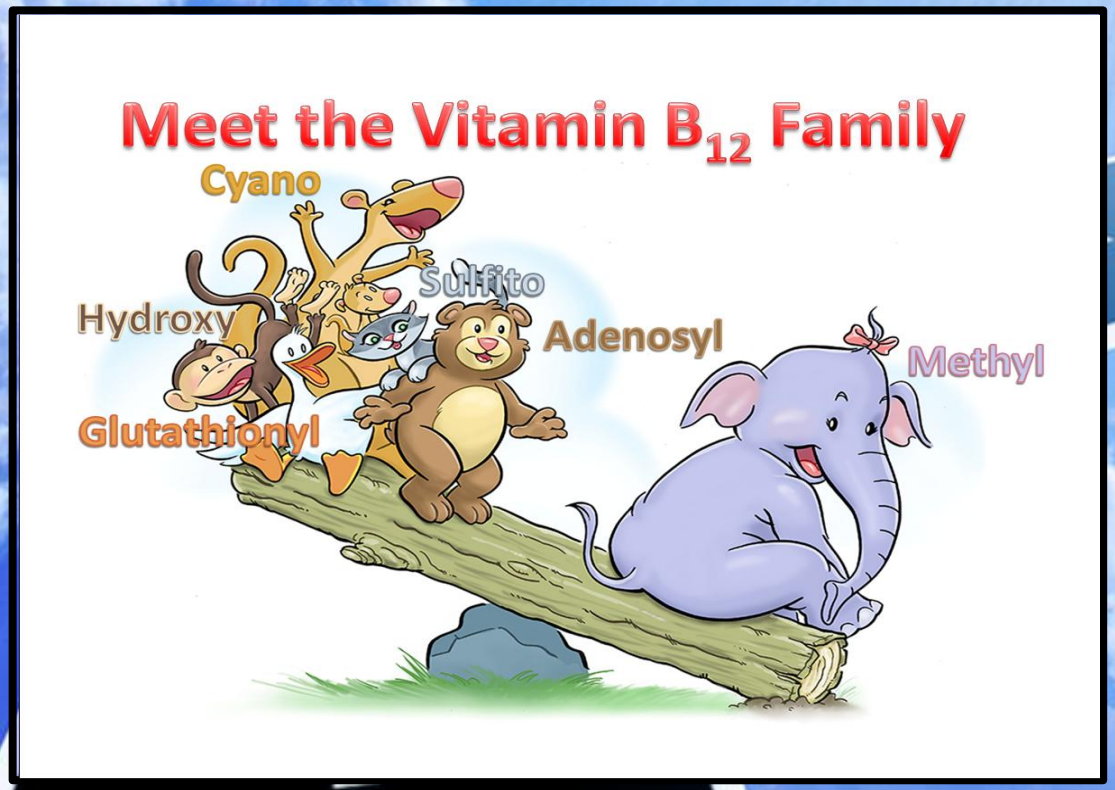
Special credit for information contained on several of my slides belongs to my esteemed colleagues:

Richard Deth , Ph.D.

Tapan Audhya, Ph.D.

The Road To Recovery Clinic Presents

A Gateway Medicine to Open Your Child's Mind



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Scientists Say "Methyl-B_{12} Is Really Needed."

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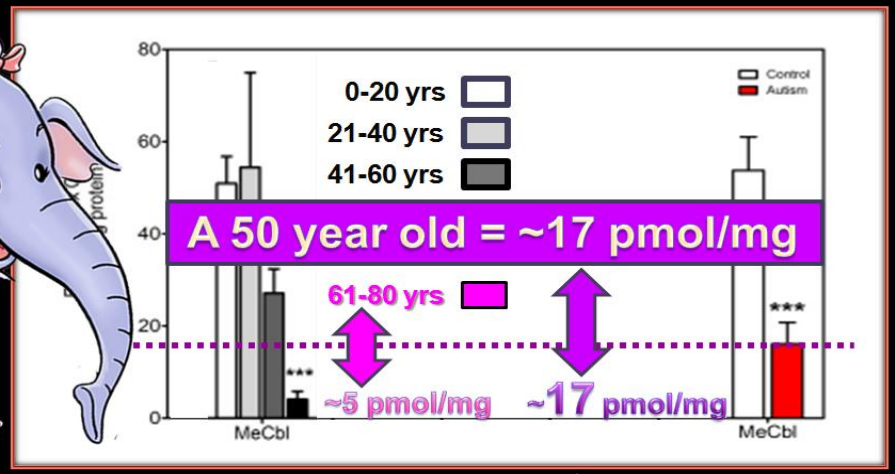
A Gateway Medicine to Open Your Child's Mind

Brain Levels In The Frontal Cortex Of Many Forms Of The Vitamin B_{12} Family Are Low In Autism



Autism Like a 50 yr old **Aging**

Graph courtesy of Richard Deth, PhD

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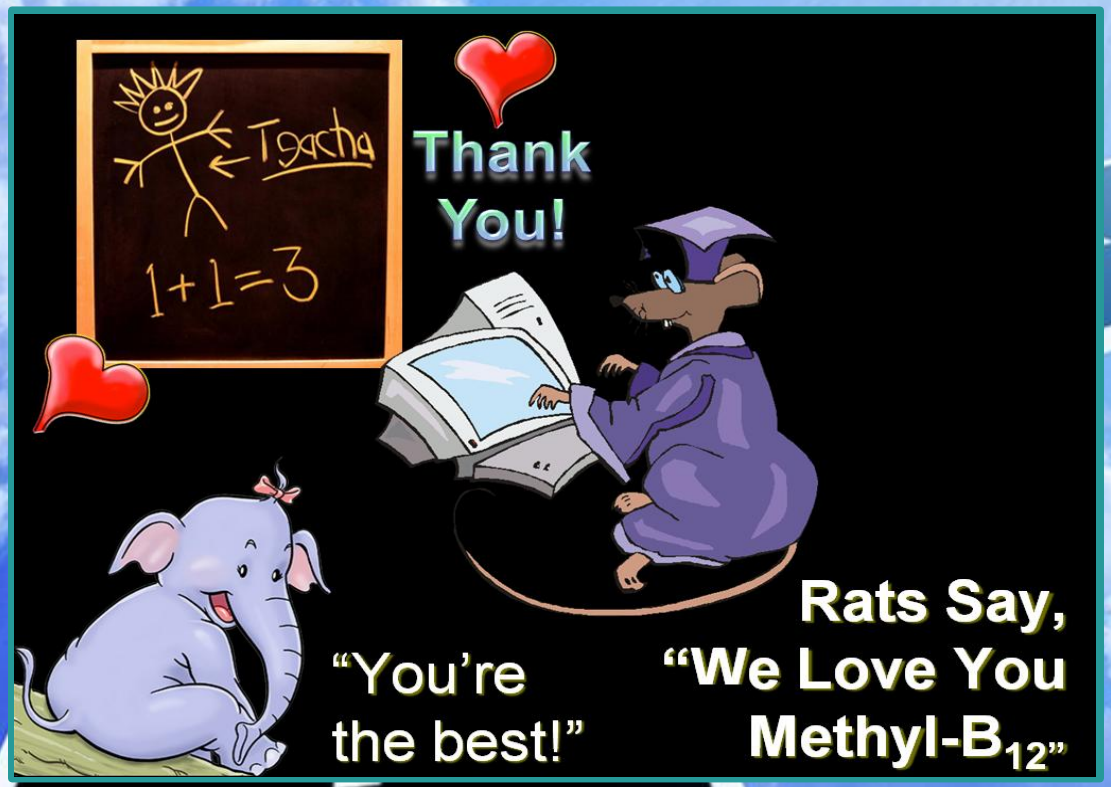
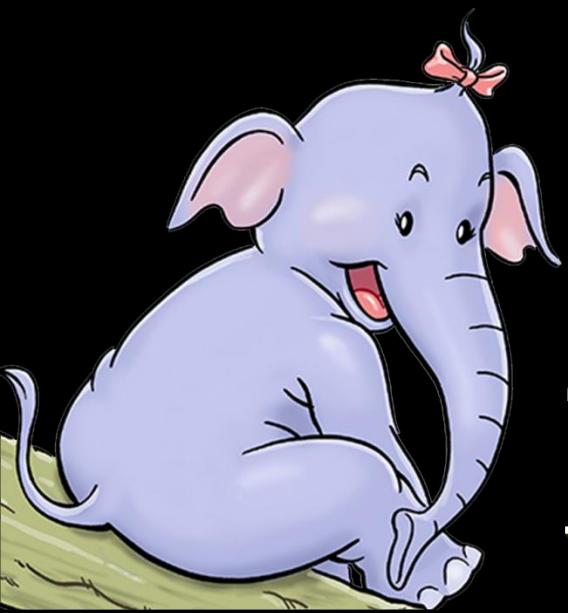


Thank You!

But Why Would Rats Say That?



"You're the best!"

Rats Say, "We Love You Methyl-B_{12}"

Because of Okada's Very Important Rat Study!

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

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Experimental Neurology 222 (2010) 191–203

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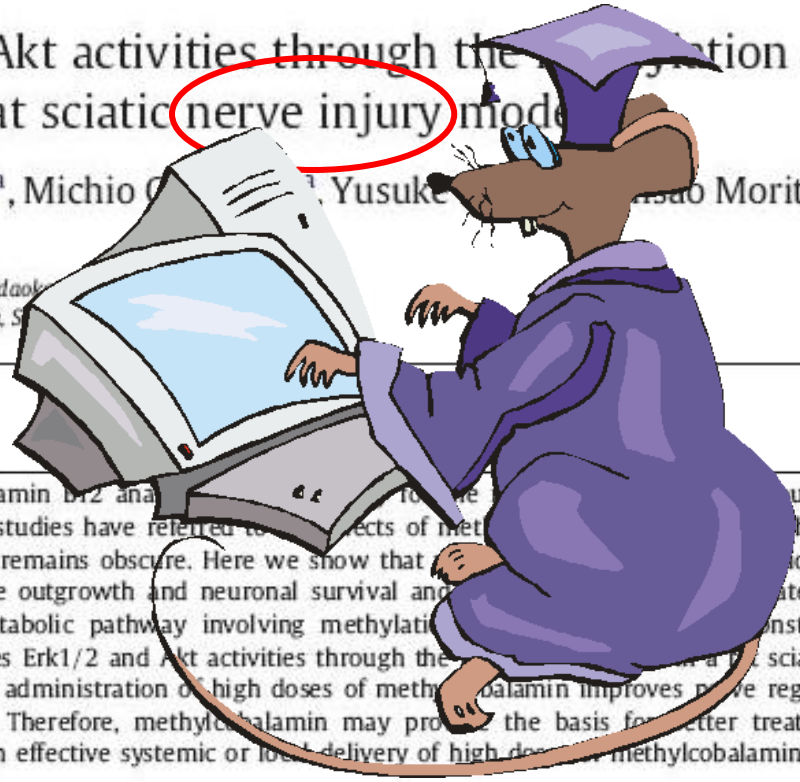
Methylcobalamin increases Erk1/2 and Akt activities through the methylation cycle and promotes nerve regeneration in a rat sciatic nerve injury model

Kiyoshi Okada [a], Hiroyuki Tanaka [a,b,*], Ko Temporin [a], Michio [illegible] [a], Yusuke [illegible] Moritomo [a], Tsuyoshi Murase [a], Hideki Yoshikawa [a]

[a] Department of Orthopaedics, Osaka University Graduate School of Medicine, 2-2 Yamadaoka
[b] Medical Center for Translational Research, Osaka University Hospital, 2-15 Yamadaoka, S



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Received 28 Aug
Revised 24 N
Accepted
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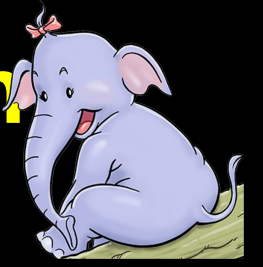
ABSTRACT

Methylcobalamin is a vitamin B12 ana[illegible]us system. Although some previous studies have refe[illegible]he precise mechanism of this effect remains obscure. Here we show that [illegible]ions above 100 nM promotes neurite outgrowth and neuronal survival and [illegible]ated by the methylation cycle, a metabolic pathway involving methylati[illegible]nstrate that methylcobalamin increases Erk1/2 and Akt activities through the [illegible] sciatic nerve injury model, continuous administration of high doses of meth[illegible]balamin improves nerve regeneration and functional recovery. Therefore, methylcobalamin may pro[illegible]e the 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 B_{12}. Dr. Deth has published scientific studies on the role of D_4 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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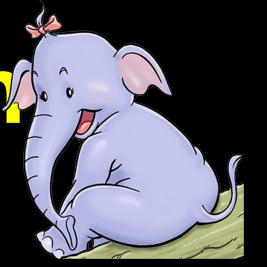

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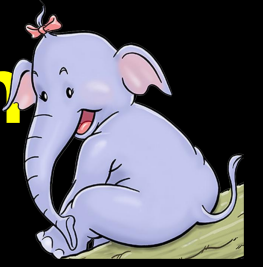

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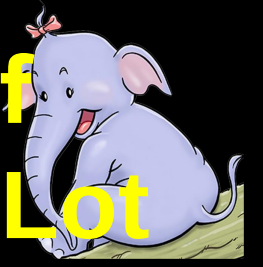
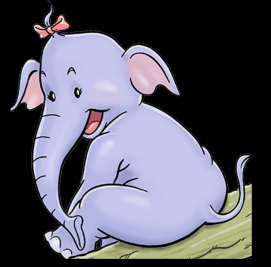
Dr. Deth's Summary Of The Okada Study Said A Lot



"Although the article (Okada et al.) is basic science, it does provide some important insights into the effects of methyl-B_{12} (MeB_{12}) on neurons and how it does it. Using neurons from rats, they showed that MeB_{12} 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. MeB_{12} 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 MeB_{12} reflected increased methylation, and adding SAM had similar, but weaker effects. MeB_{12} increased activation of the MAP kinase and PI3 kinase signaling pathways, indicating that it mimics the effects of neurotrophic growth factors. Finally, MeB_{12} improved the repair of transsected 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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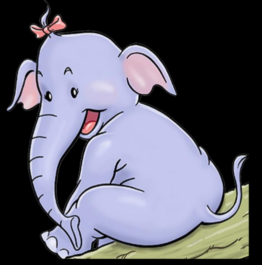

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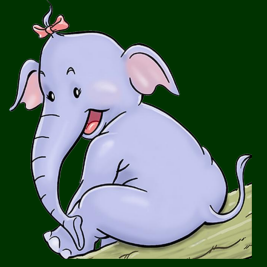
THE NEXT SLIDES MAKE THIS EASIER TO UNDERSTAND

Methyl-B_{12} Rat Study Results!



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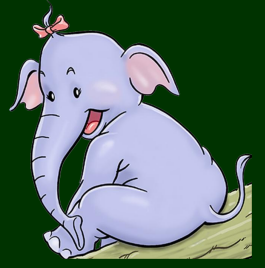

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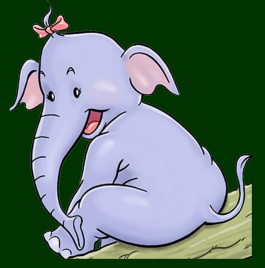

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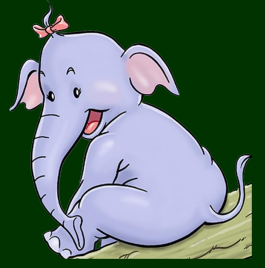

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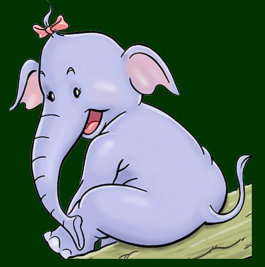

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Major Role In Creating Neuronal Networks

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Functional Recovery **Of Motor Activity Was Noted**

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Repair In Conjunction With More Myelination

The Rats Said

Okada K, et. al., Methylcobalamin increases …. nerve regeneration…
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“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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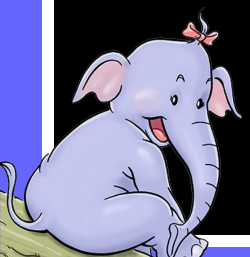
1. Only the methyl form of the vitamin B_{12} analogs gave significant clinical improvements

Dr. Okada Told Me



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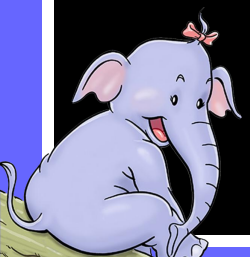

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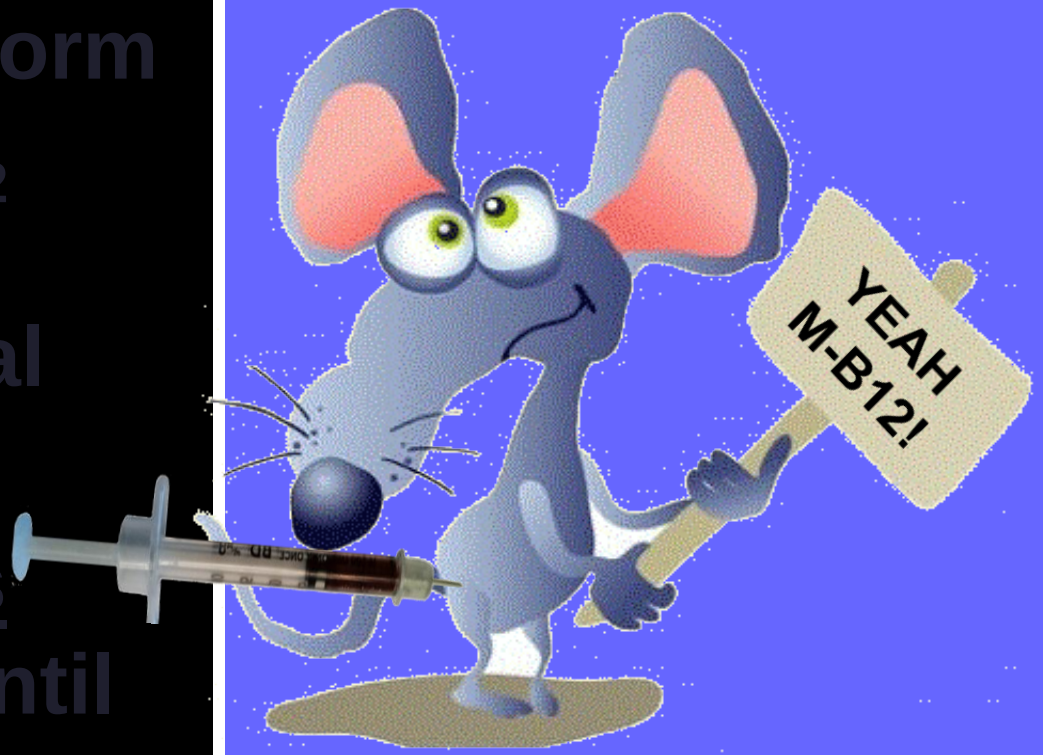

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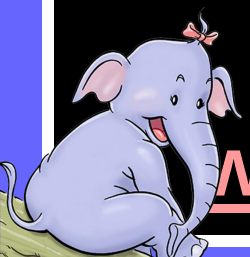

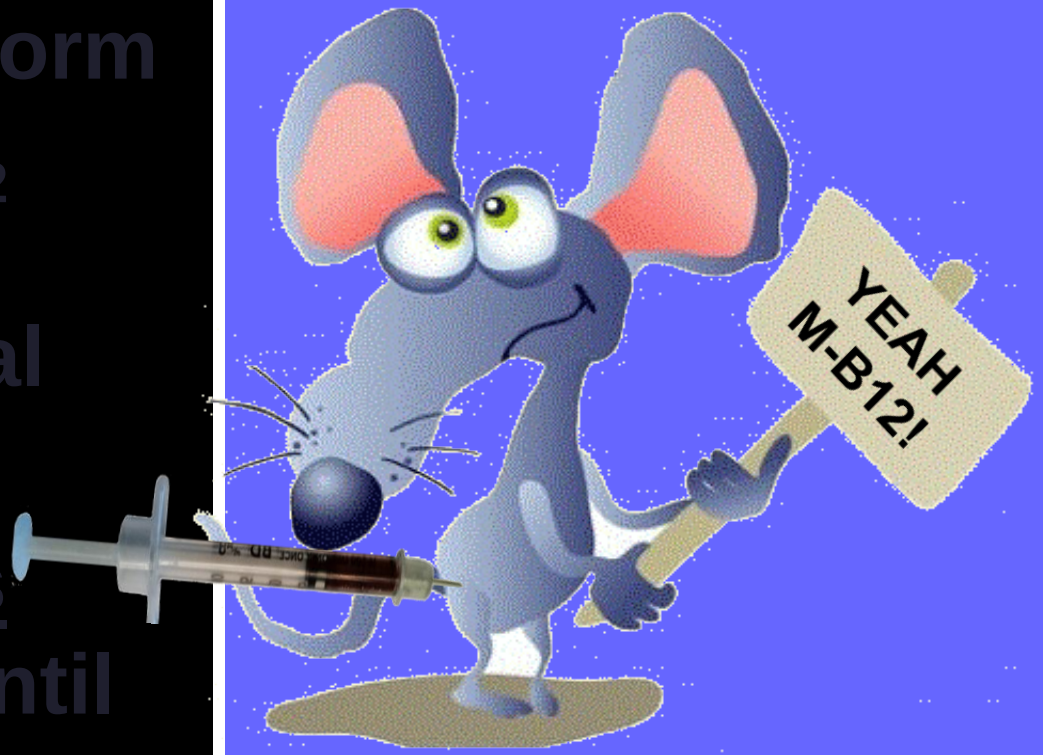

"Such A Tiny Little Needle!"

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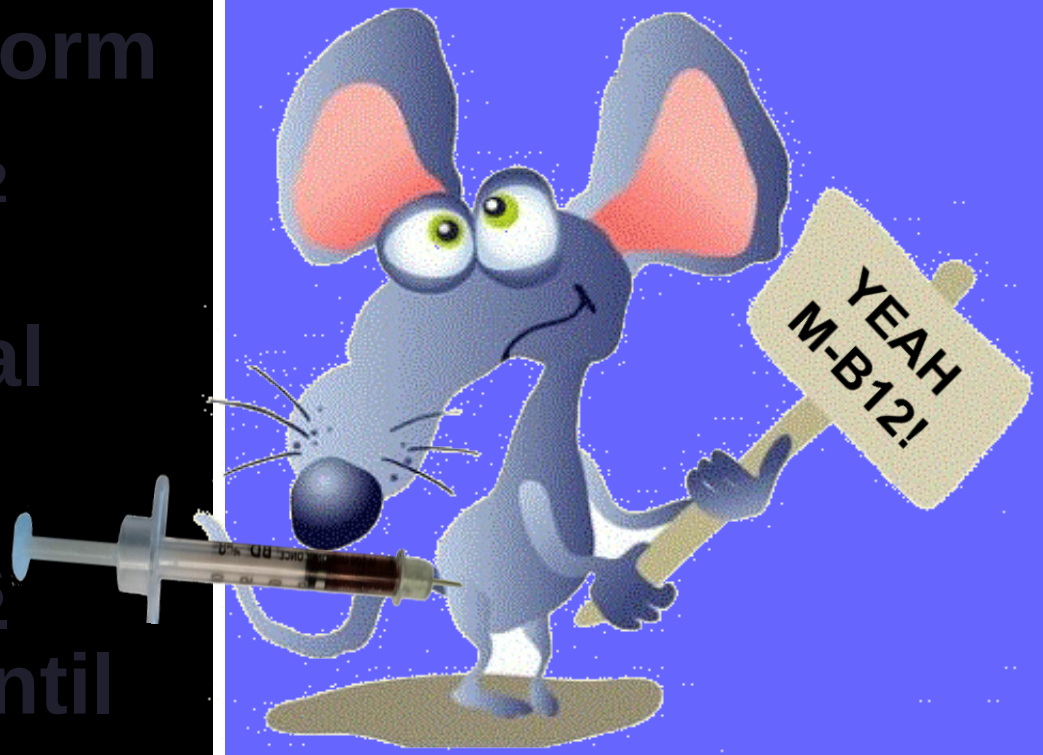

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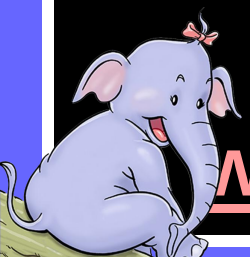

"It Did Not Hurt One Bit!"

So Rat's Love Methyl-B_{12} But Why Do Parents Of Children With Autism Love It So Much?

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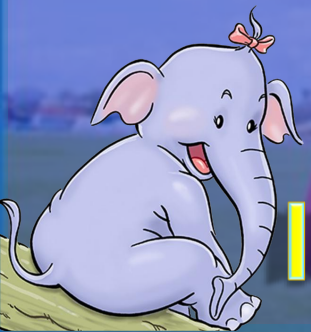
Because There Are 135 Autism Symptoms Parents Say Methyl-B_{12} Affects

So Rat's Love Methyl-B_{12} But Why Do Parents Of Children With Autism Love It So Much?

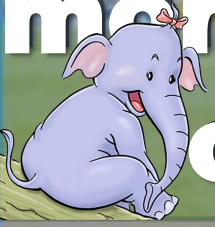
These Are The Top 15 Symptom Improvements In The Parents Own Words



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.

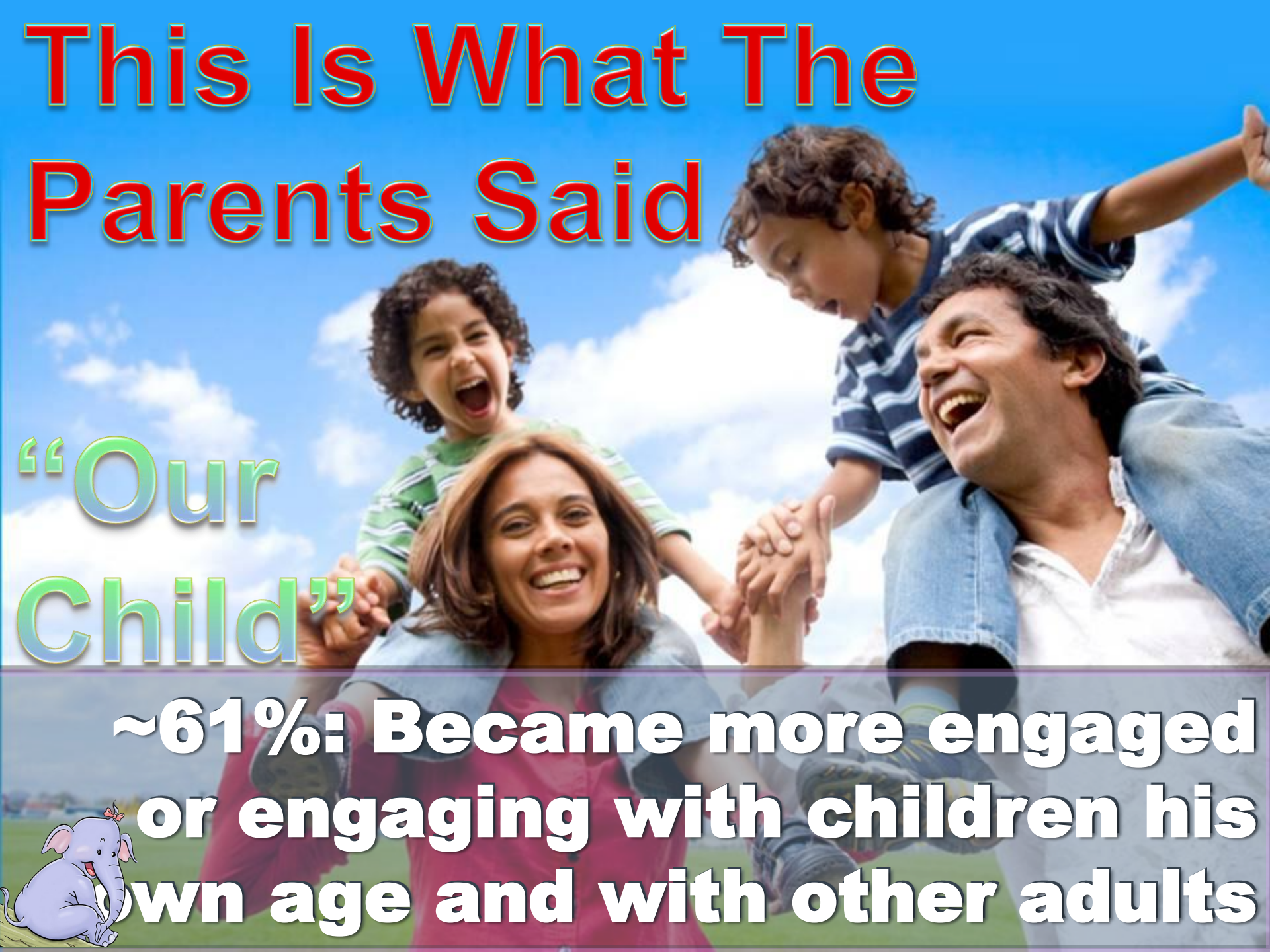
This Is What The Parents Said

"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

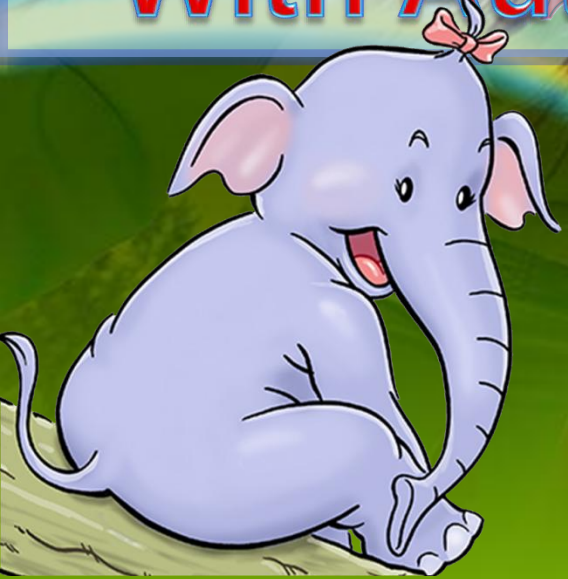
"Our Child"

~56%: Became a much happier and pleasant to be around [illegible] 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-B_{12} But Why Do Children With Autism Love It So Much?



"You're the best!"

Kids Say, "We Love You Methyl-B_{12}"

Kids Say

"You're the best!"

Kids Say, "We Love You Methyl-B_{12}"

Kids Say

We love methyl-B_{12} because she makes our brains work better!

"You're the best!"

Kids Say, "We Love You Methyl-B_{12}"

Kids Say

Methyl-B_{12} is letting us do new things that we could never do before!

"You're the best!"

Kids Say, "We Love You Methyl-B_{12}"

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.

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.

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!