



# ECHO IDAHO: Autism

**Supporting Parents who Wish to Explore Complementary  
and Alternative Therapies in Autism.**

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**Brittany Blockman, MD, MA, FAAP**

**St. Luke's Children's Integrative Medicine, Medical Director**

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# Learning Objectives

- ▶ Understand patterns of CAM use in children with Autism
- ▶ Discover common CAM therapies used in children with Autism
- ▶ Learn how to evaluate safety and efficacy of CAM therapies in Autism
- ▶ Be able to discuss safety/efficacy of CAM therapies with families of children with Autism

# Patterns of CAM use in Autism

- ▶ **52%-74%** of families with an ASD child report using CAM.
- ▶ **70%** of therapies used are biologically-based therapies: **supplements** or **special diets**.
- ▶ Parents felt that **75%** of the therapies used were beneficial.
- ▶ Even before diagnosis, **30%** of children have already received a CAM treatment.
  - ▶ **9%** of this population has used a potentially harmful therapy such as chelation.

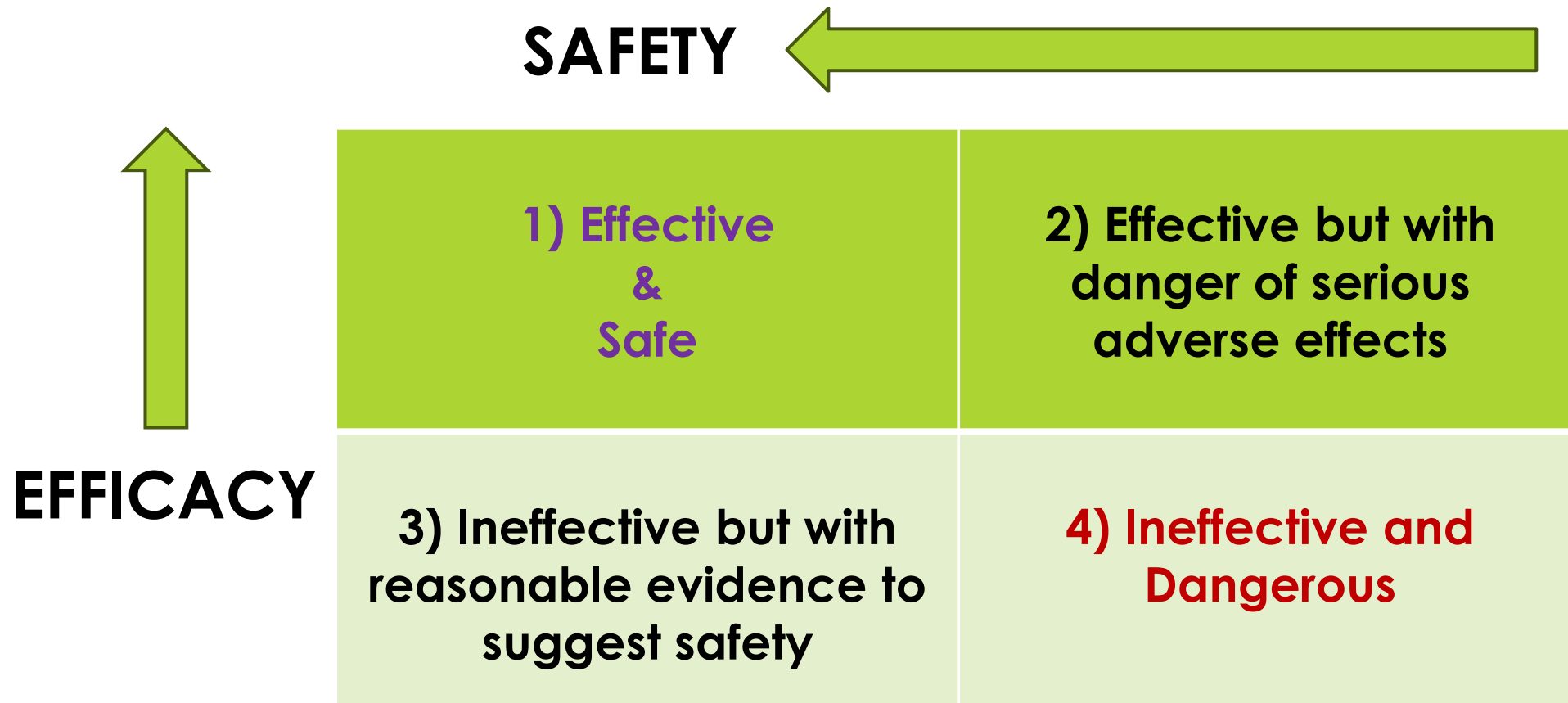
*(Wong, et al., 2006; Hanson, et al., 2007; Levy, et al., 2003)*

# CAM Definition

- ▶ Complementary and alternative medicine is defined according to the National Center for Complementary and Integrative Health (NCCIH) as:

“A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.”

# How to Evaluate Safety/Efficacy of CAM Therapies



# How to Evaluate Safety/Efficacy of CAM Therapies: Resources

## ▶ My go-to point of care references:

- **Natural Medicines Comprehensive Database** - Online version is updated daily. Print version is updated several times a year. Available through St. Luke's library online.
- **Consumer Labs** – Subscription site that does product evaluations, including laboratory tests of ingredient levels.

# How to Evaluate Safety/Efficacy of CAM Therapies: Resources

## ▶ **NIH general CAM resources:**

- **Safety info** of select therapies and supplements:  
<https://nccih.nih.gov/health/safety/topics.htm>
- **Alerts and Advisories:** NIH Center for Complementary Medicine and Integrative Health Alerts and Advisories pg.  
<https://nccih.nih.gov/news/alerts>

## ▶ **NIH Child-specific CAM resources :**

- ▶ NIH, NCCIH Digest, 2012, “Children and Dietary Supplements” at  
<https://nccih.nih.gov/health/providers/digest/children>
- ▶ NIH, “Five things to know about Safety of Dietary Supplements in Children and Teens”  
<https://nccih.nih.gov/health/tips/childsupplements>

# Natural is not the same as Safe

- ▶ **Remind families that “natural” is not synonymous with safe.**
  - ▶ It is important to acknowledge that for all their healing potential, supplements need to be treated with respect.
  - ▶ A TSP of castor oil will make one’s bowels regular, but a single castor bean can cause one to bleed out of their intestines.
  - ▶ It has been estimated that a quarter of modern drugs are derived from materials found in plants; they contain potent chemical compounds, and large numbers of them.



# Examples of Safe/Possibly Effective CAM Therapies for ASD

- ▶ **What I say to families:** *There are small studies showing that some patients show improvements after taking or doing X and that it appears safe, without any major side effects.*
  - ▶ Supplements
  - ▶ Dietary
  - ▶ Music Therapy
  - ▶ Sensory Integration Therapy

# Safe/Possibly Effective Supplements

**1. Vitamin B6 and Magnesium:** Some studies suggest that this combination may improve behavior and communication in children with autism.

*(Mousain-Bosc, et al., 2006)*

**2. Methyl-B12 (Methylcobalamin):** Some studies report that methylated B12 injections may lead to behavioral improvements in some children with autism, particularly in communication, social interaction, and attention.

*(James, et. al., 2009; Bertoglio K, et al., 2010)*

# Safe/Possibly Effective Supplements – Cont'd

- ▶ **Folinic Acid:** Overall, folinic acid shows promise in improving verbal communication and reducing some of the core symptoms of autism, particularly in children with cerebral folate deficiency or FRA autoantibodies. (Rye, et al., 2018; Rossignol, et al., 2012)
- ▶ **Omega-3 fatty acids:** Especially EPA and DHA, have been associated with improvements in hyperactivity, social skills, and cognitive function in children with autism. (Bent, et al., 2011)
- ▶ **Melatonin:** Shown to be effective in improving sleep disturbances, which are common in children with autism. (Rossignol, et al., 2011)

# Safe/Possibly Effective – Elimination Diets

- ▶ **2006 RCT:** Children on GFCF elimination diets showed minor behavioral improvements, but results not significant for core ASD traits. *(Elder, et al., 2006)*
- ▶ **2011 Systematic Review:** No significant improvements in core autism symptoms but did report some benefits in secondary outcomes like gastrointestinal symptoms on GFCF diet. *(Pillsbury, et al., 2011)*

**\*I tell families\*:** *If you are exploring the possibility of using elimination diets, make sure to consult with a healthcare provider or dietician to ensure balanced nutrition and growth monitoring.*

# Safe/Possibly Effective - Therapies

- ▶ **Music therapy:** Improves social interaction, communication, and behavioral outcomes in children with autism. (*Gold, et al., 2006*)
- ▶ **Sensory Integration Therapy:** This therapy, which focuses on improving how children with autism process sensory information, has shown promise in enhancing daily functioning and reducing maladaptive behaviors in autism. (*Schaaf, et al., 2012*)

# Ineffective (& High Cost) but Likely Safe CAM Therapies for ASD

- ▶ **What I say to families:** *If you really want to try this, I can't stop you – but I just want you to know this has 0 evidence that it will work and I don't want you to drain your financial resources paying for this. I would rather you spend your time and resources elsewhere for your child.*

## Examples:

### 1. Neurofeedback (Kouizer, 2009)

- ▶ Involves training the brain to regulate its electrical activity using real-time feedback from EEG monitoring.
- ▶ \$100 - \$200 per session; full treatment \$5,000 - \$15,000.
- ▶ May have some applications in conditions (ie ADHD) but research supporting its use in autism is lacking.

# Ineffective & High Cost but Likely Safe CAM Therapies for ASD – Cont'd

## 2. **NAET (Nambudripad's Allergy Elimination Techniques)** (AAAAI, 2013)

- ▶ Claims to treat autism by diagnosing/eliminating allergies through combo of chiropractic, acupuncture, and nutritional therapies.
- ▶ \$100 - \$300/session; tx over mos or yrs with cost > \$5,000 or more.
- ▶ No evidence supporting for treating autism

## 3. **Craniosacral Therapy** (Hartman, 2001)

- ▶ Involves light touch to manipulate the skull, with the goal of improving neurologic function
- ▶ Sessions \$75 - \$150 and treatments may extend for months, accumulating costs of \$5,000 or more.
- ▶ No scientific basis

# Examples of Unsafe and Likely Ineffective CAM Therapies for ASD

- ▶ What I say to families: ***Absolutely do not try this. There is potential for major harm to your child. \*(You may want to pre-emptively warn families about the dangers of chelation.)***

## 1. Chelation Therapy (*Pediatrics, 2009*)

- ▶ Involves using chemicals to remove heavy metals from the body
- ▶ There is no evidence that heavy metals cause autism
- ▶ Dangerous side effects - kidney damage, seizures, death



# Examples of Unsafe and Likely Ineffective CAM Therapies for ASD – Cont'd

## 2. Hyperbaric Oxygen Therapy (HBOT) (*Jepson, 2007*)

- ▶ Pressurized chamber where O<sub>2</sub> is delivered to potentially reduce inflammation and improve brain function.
- ▶ Despite some anecdotal reports, there is no good evidence supporting HBOT's effectiveness in treating autism.
- ▶ Potential Side effects: ear injuries, lung damage, and oxygen toxicity.

## 3. Stem cell therapy (*Master, et al., 2013*)

- ▶ Injection of stem cells into a child's body with the belief that it can "repair" neurological deficits associated with autism.
- ▶ No evidence for stem cell therapy as an effective treatment for autism,
- ▶ Procedures carry serious risks.
- ▶ Treatments can range from \$10,000 - \$50,000 or more.

# Examples of Unsafe and Ineffective CAM Therapies for ASD – Cont'd

## 4. **Miracle Mineral Solution (MMS) aka chlorine dioxide** (*FDA.gov, 2010*)

- ▶ Essentially industrial bleach marketed as an autism cure
- ▶ Can cause severe damage to the GI tract and other toxic effects.

## 5. **Chiropractic therapy** (*Pediatrics, 2007*)

- ▶ Involves spinal adjustments to supposedly improve the nervous system and behavior and symptoms in children with autism.
- ▶ There is no scientific basis for chiropractic treatment in autism, and it can lead to serious injury, such as dissection of the a vertebral artery.

# Key Points

1. **Majority of families w/ ASD child are using CAM** – may not be reported to PCP.
2. **Use the safety/efficacy rubric** when asked about CAM therapies for ASD:
  - a. If families want to try CAM for ASD, **steer towards safe/potentially effective category.**
  - b. **Warn families against the dangers** of unsafe/effective therapies.
  - c. Likely **ineffective therapies that are also expensive** can cause **financial harm.**
3. When asked about safety/efficacy of specific ASD treatment unknown to you, **use point-of-care resources provided.**

# Additional Resources

- ▶ Feel free to message or refer to me for patient consultations:  
St. Luke's Children's Integrative Medicine
- ▶ Check out my YouTube channel for free resources/webinars  
(for healthcare providers and families):  
[@Dr.BrittanyBlockman](#)

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