

## Dietary Supplements:

Welcome! This module is designed to help you feel more comfortable counseling and guiding families about supplement use. Please read through the module as well as the suggested articles and become familiar with the listed websites. When you are ready, pick a supplement and research it.

Can you narrow down a few brands you can recommend? Try visiting a pharmacy/drug store and possibly try taking the supplement for a week or two. Please use your judgement re: taking the supplement yourself and only do so, if you can do so safely.

Let's start with a case!

**Case:** Nick is a 3.5 year old male with a diagnosis Autism Spectrum Disorder you are seeing for a well child check in your busy clinic day. Mom shares they have been referred for ABA therapy and are waiting to hear back about scheduling. He has been receiving speech therapy and making a bit of progress, he has a few words and can ask for things and knows the names of his family members. Mom shares he has difficulty falling and staying asleep and she is wondering if you have any ideas. He tantrums frequently and it can be very difficult to redirect him. His diet is fairly restricted and he is on the slender side. Mom shares he is frequently constipated and it is hard to get him to eat things with fiber. She has been reading on-line and is part of an online parent's group for kids with ASD and she is wondering if she should have him try omega-3 fatty acids?

## Overview of Supplement Use in Pediatrics:

- ~ $\frac{1}{3}$  of children in US use dietary supplements; Among children who take dietary supplements, 41% reported using supplements to "improve overall health", 37% to "maintain health", 23% for "supplementing the diet", 20% to "prevent health problems", and 14% to "boost immunity"
- Multivitamins with minerals (MVMs) were the most frequently reported supplement products used by children, followed by multivitamins (without minerals), vitamin C, calcium, and botanicals
- Other frequently used supplements used in pediatrics: vitamin D, iron, omega-3-FA's, melatonin, probiotics

## Journal Articles/Suggested Readings (can be found in Box under Supplements Folder):

- Stierman B, Mishra S, Gahche JJ, Potischman N, Hales CM. Dietary Supplement Use in Children and Adolescents Aged  $\leq 19$  Years — United States, 2017–2018. *MMWR Morb Mortal Wkly Rep* 2020;69:1557–1562.
- Bailey, R. L., Gahche, J., Thomas, P. R., & Dwyer, J. T. (2013). Why US children use dietary supplements. *Pediatric Research*, 74(6), 737-741.
- Jun S, Cowan AE, Toozé JA, Gahche JJ, Dwyer JT, Eicher-Miller HA, Bhadra A, Guenther PM, Potischman N, Dodd KW, Bailey RL. Dietary Supplement Use among U.S. Children by Family

*Income, Food Security Level, and Nutrition Assistance Program Participation Status in 2011–2014. Nutrients. 2018; 10(9):1212.*

- Please visit website: National Center for Complementary and Integrative Health: “10 Things to Know About Dietary Supplements for Children and Teens”, as well as “Using Dietary Supplements Wisely”
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### **Developing a Framework:**

How do you advise a parent/family about supplement choices? How do supplements differ from medication? As pediatricians, we are often asked about supplements for various conditions-zinc or echinacea for the common cold, gripe water for colic, probiotics for diarrhea, cranberry for UTI's, etc., how do we counsel patients and families about these options? And then there is the concern about possible contamination, drug-supplement interaction, and on and on!

How do we help support families making decisions about options that may be offered outside of the traditional Western medical system?

As we know, many families are practicing Traditional Health and Healing practices outside of what we offer in clinics. We need to feel comfortable asking patients respectfully and humbly about their healing practices and honor their cultural and family healing practices. When helping a family think through options, I have found the ECHO Whole Health Tool to be helpful.

- Efficacy: What has shown efficacy (and expanding our definition of this- patient quality of life, qualitative data, mixed methods research, etc)
- Cost: Is this Cost effective for patients and the hospital?
- Harm: Is there Harm with this modality? (Toxicities, contamination, drug-supplement interactions?)
- Opinion: What is the Opinion of our patients? Does this align with their spiritual/cultural/healing beliefs?

### **Journal Articles/Suggested Readings (can be found in Box under Supplements Folder):**

- *Passport to Health, Whole Health Tool, ECHO*
- *Agostoni, Carlo; Esposito, Susanna; Nobili, Alessandro. Dietary Supplements in Infants and Children: Only Beneficial?, Journal of Pediatric Gastroenterology and Nutrition: August 2016 - Volume 63 - Issue 2 - p 177-180*
- *Harvard Health Blog, What's in Your Supplements, 2019.*
- *Tucker, J. Unapproved Pharmaceutical Ingredients Included in Dietary Supplements Associated with US Food and Drug Administration Warnings. JAMA Network Open. 2018;1(6):e183337.*
- *Lovett E, Ganta N. Advising patients about herbs and nutraceuticals: tips for primary care providers. Primary Care. 2010 Mar;37(1):13-30.*

### Useful Websites:

Spend some time with the websites listed below. These may be helpful if you are trying to help provide evidence-informed information to families about supplements. A good literature review using the UCSF Electronic Library Resources is always a good place to start as well.

- Natural Medicines (Found through UCSF MyAccess → Electronic Library Resources → Databases)
- University of Wisconsin Department of Family Medicine and Community Health Integrative Medicine Dietary Supplement Guide (<https://www.fammed.wisc.edu/integrative/resources/supplement-samplers/>)
- National Institute of Health, Office of Dietary Supplements, Botanical Dietary Supplements (<https://ods.od.nih.gov/factsheets/BotanicalBackground-Consumer/>)
- Consumer Labs: Leading provider of independent test results and information to help consumers and healthcare professionals identify the best quality health and nutrition products (<https://www.consumerlab.com/>)
- The American Botanical Council Website (<https://www.herbalgram.org/>)
- App as well: NCCIH HerbList (geared more for patients)

There are organizations that certify supplements and can provide a measure of confidence in their ingredients. These include:

- the NSF International Dietary Supplement Certification (<https://www.nsf.org/knowledge-library/supplement-vitamin-certification>)
- the US Pharmacopeia (USP) Dietary Supplement Verification Program (<https://www.usp.org/verification-services/verified-mark>).

Supplements that have NSF or USP certification will have this indicated on their label.

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### Experiential:

Choose a supplement you have been wanting to know more about either for a clinical question that has come up for you in the past (or the above case), or for something you have been wanting to learn more about.

- Spend some time with the above websites and do a literature review to learn more about the supplement. Additionally, narrow down your choices of a supplement (i.e., what brands are recommended, etc.)
  - Next, visit a drug-store where supplements are sold (Walgreens, Target, Pharmaca), etc. How does it feel to
  - Would you try taking one of the supplements for a week? Pay attention to the cost, frequency of dosing, taste, and how the supplement makes you feel.
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