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AUTISM AND OTHER DEVELOPMENTAL DISABILITIES (AODD)/  
IMAGINE CONFERENCE MAY 21, 2026

# Fact vs. Fiction: Identifying evidence-based practices in Autism Spectrum Disorder (ASD)

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# Objectives

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Define “evidence-based practice” and apply the term to ASD



Identify ways to analyze information about ASD



Recognize where to obtain accurate, evidence-based sources on ASD

# Agenda

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What is Evidence-Based Practice (EPB)? (Sylvia, 15 minutes)

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What are the current EBP's for Autism Spectrum Disorder? (Jessica, 10 minutes)

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How can you critically evaluate information about ASD? (Jessica, 15 minutes)

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Where can you obtain accurate information about ASD? (Sylvia, 10 minutes)

# Evidence-based practice (EBP)

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# What does "evidence-based" mean?

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Evidence-based medicine (Sackett, 1997) is the integration of individual clinical expertise with the best available external clinical evidence from systematic research.

- In other words, this is the way professionals make decisions in healthcare.

Evidence-based medicine requires life-long learning and integrating care using the most recent information available.

- Developing expertise over time

# What does "evidence-based" mean?

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Evidence-based practices have come from the medical field can be applied to help us identify:

- the identification of causes of diseases
- diagnostic processes
- treatment/intervention practices

Disciplines: Nursing, Teaching, Psychology, Speech Language Pathology, and many more!

Conditions: Pain management, reading comprehension, cancer, nutrition, diabetes, autism and many more!





# Why are EBP's important?

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Better  
outcomes

Provides a  
framework for  
healthcare

Protects  
patients

Regulation

- Insurance
- Costs

# Examples: Autism Research Evidence Base

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Years of scientific research on autism has included studies on:

- Prevalence
- Causes
- Interventions
  - Early
  - Medical
  - Behavioral
  - School-based

# Causes of autism

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## EVIDENCE-BASED

- Increase in prevalence
  - Increased awareness

The scientific consensus is that autism is highly complex and multifactorial

- Genetic factors are considered to be a major contributor
- Environmental factors

## NON-EVIDENCED BASED

Autism as an epidemic

Unresponsive parenting

Vaccines

Acetaminophen use in pregnancy-  
**see AUCD response**

# Acetaminophen in Pregnancy

Association of University  
Centers on Disability  
(AUCD)

<https://www.aucd.org/>



Acetaminophen isn't a proven cause of autism.



Folic acid isn't a proven treatment.



Vaccines are safe.

***Listen to autistic voices.*** 

# EBP for autism interventions

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# Sources for Autism EBP's (Intervention)

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**\*The National Clearinghouse on Autism Evidence and Practice 2020**

**\*National Standards Project**

Others:

- Systematic Reviews
- Various Organizations
  - American Speech and Hearing Association (ASHA)
  - Association for Behavior Analysis International (ABAI)

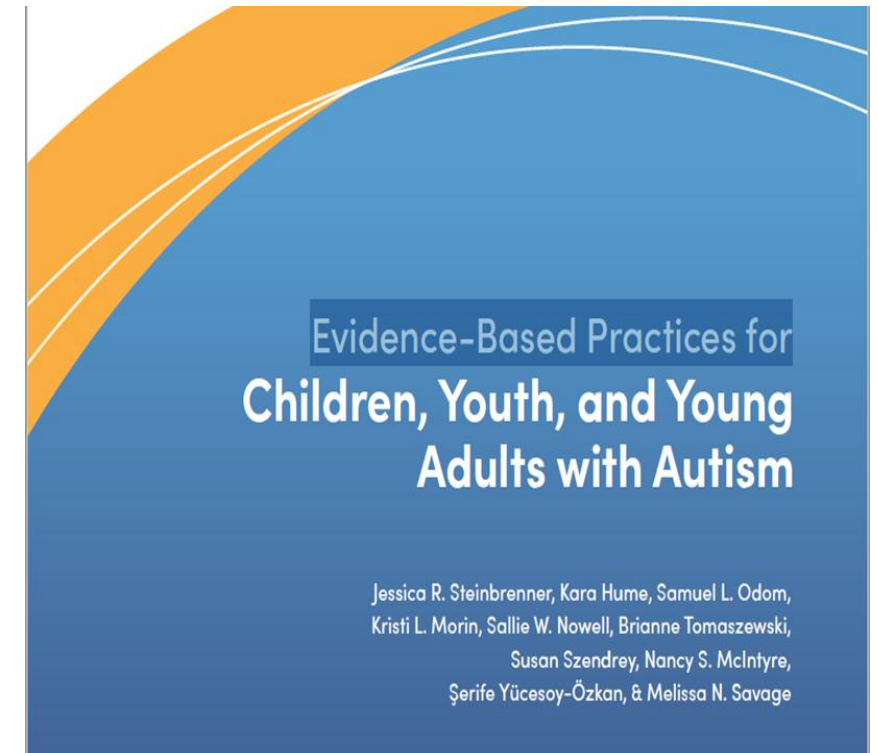
# The National Clearinghouse on Autism Evidence and Practice (2020)

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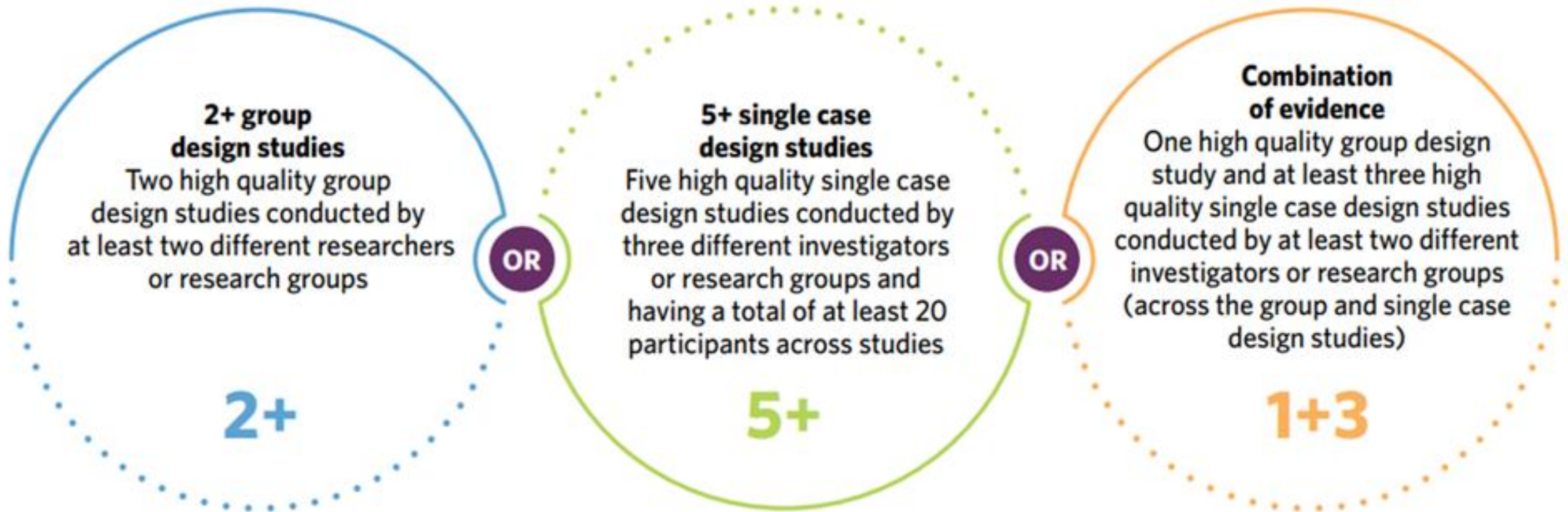
28 practices met criteria for “EBPs”

-10 Manualized Interventions

11 practices with “some evidence”



# The National Clearinghouse on Autism Evidence and Practice (2020)





# 28 Evidence-Based Practices

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- Antecedent-Based Interventions
- Augmentative and Alternative Communication
- Cognitive Behavioral/Instructional Strategies
- Direct Instruction
- Exercise and Movement
- Functional Behavior Assessment
- Modeling
- Naturalistic Intervention
- Peer-Based Instruction and Intervention
- Reinforcement
- Self-Management
- Social Skills Training
- Technology-Aided Instruction and Intervention
- Video Modeling
- Ayres Sensory Integration
- Behavior Momentum Intervention
- Differential Reinforcement
- Discrete Trial Teaching
- Extinction
- Functional Communication Training
- Music-Mediated Intervention
- Parent-Implemented Intervention
- Prompting
- Response Interruption/Redirection
- Social Narratives
- Task Analysis
- Time Delay
- Visual Supports

# 10 Manualized Interventions

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1. Picture Exchange Communication System
2. PRT
3. JASPER
4. Milieu Training
5. Project ImPACT
6. Stepping Stones Triple P
7. Social Stories
8. PEERS
9. Mindreading
10. FaceSay

# National Standards Project (2015)

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## 14 Established Interventions

- Several published, peer-reviewed articles
- Scientific Merit Rating Scale (SMRS) scores of 3+

## 18 Emerging Interventions

- Few published peer-reviewed articles
- SMRS scores of 2

## 13 Unestablished Interventions

- Ineffective, unknown, or adverse effects
- Claims based on testimonials, opinions, or unverified clinical observations
- SMRS scores of 0 or 1



# NSP- Established Interventions

Behavioral Interventions

Cognitive Behavioral Intervention Package

Comprehensive Behavioral Treatment for Young Children

Language Training

Modeling

Natural Teaching Strategies

Parent Training

Peer Training Package

Pivotal Response Training

Schedules

Scripting

Self-Management

Social Skills Package

Story-Based Intervention

# NSP- Emerging Interventions

Augmentative and Alternative Communication Devices

Developmental Relationship-based Treatment

Exercise

Exposure Package

Functional Communication Training

Imitation-based Intervention

Initiation Training

Language Training (Production and Understanding)

Massage Therapy

Multi-Component Package

Music Therapy

Picture Exchange Communication System

Reductive package

Sign Instruction

Social Communication Intervention

Structured Teaching

Technology-based Intervention

Theory of Mind Training

# Reasons why some interventions are not listed as EBP

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Not enough research

Not studied by multiple research teams

Weak study design

Inconsistent results



# How to consider an intervention approach?

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## **Does it match my family's culture and values?**

Hippotherapy is considered a complementary treatment option for ASD and has shown benefits, but randomized control trials are needed.

## **Will it do harm?**

Leucovorin (folinic acid) is not yet considered as a primary treatment for ASD and more studies are needed to clarify the role.

## **How much does it cost?**

# Analyzing information about autism

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# Why Critical Evaluation Matters

Not all information about autism is supported by evidence

Families and professionals are often exposed to overwhelming and conflicting information

Misinformation can lead to:

- Delays in effective intervention
- Financial strain
- Harm



# Types of Information Sources

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Scientific  
Research  
Studies



Organization or  
government  
websites



Social Media  
(TikTok,  
Instagram,  
Facebook,  
Youtube)



Blogs and  
personal  
websites



Testimonials and  
word-of-mouth  
recommendations



Paid programs,  
courses, or  
interventions

# Evaluating Research

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Not all research is created equal

It is important to examine **how** the study was conducted, not just the results

Strong research contributes to evidence-based practice over time

Aspects to consider:

- Who conducted the study
- Study design
- Replication
- Peer Review



# Who conducted the study?

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Do the authors have relevant expertise (e.g., psychology, behavior analysis, education, medicine)?



Are they affiliated with credible institutions (universities, hospitals, research centers)?



Are there any conflicts of interest (e.g., funding from companies that benefit from results)?

# Study Design and Sample

Was there a comparison group?

Was the sample size large enough to draw meaningful conclusions?

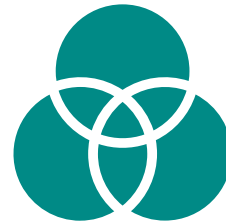
Was the sample diverse?

# Replication & Peer Review

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Have the findings been replicated by other researchers?



Are the results consistent across multiple studies?



Was the study published in a peer-reviewed journal?

# Example: Vaccines and Autism

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## MISCONCEPTION

1998 - Wakefield study, which included significant methodological flaws, discussed MMR vaccine as a cause of autism

2005 - Wakefield study retracted

Current - US Secretary of Health and Human Services has made significant changes to vaccine recommendations and alluded to vaccines causing autism

## EVIDENCE-BASE

16 large-scale scientific studies found no associations with autism and vaccines

Experts on vaccines and experts on autism have spoken out about the lack of scientific evidence for this claim

# Evaluating Information Beyond Research

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Much of the information people use is not directly from research studies

Includes websites, social media, marketing materials, and personal advice

Even when reporting on research findings, **misinformation** can happen

# Research Vs. Media Simplification

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- Article from Stanford Researchers
- Published in Science Advances in 2025
- In a mouse model of autism, one area of the brain was more active
- Researchers used a drug to reduce brain activity in this region
- After treatment, some of the behaviors reduced

SCIENCE ADVANCES | RESEARCH ARTICLE

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## NEUROSCIENCE

### Reticular thalamic hyperexcitability drives autism spectrum disorder behaviors in the *Cntnap2* model of autism

Sung-Soo Jang, Fuga Takahashi, John R. Huguenard\*

Autism spectrum disorders (ASDs) are neurodevelopmental conditions characterized by social deficits, repetitive behaviors, and comorbidities such as sensory abnormalities, sleep disturbances, and seizures. Although thalamocortical circuit dysfunction has been implicated in these symptoms, its precise roles in ASD pathophysiology remain poorly understood. Here, we examine the specific contribution of the reticular thalamic nucleus (RT), a key modulator of thalamocortical activity, to ASD-related behavioral deficits using a *Cntnap2* knockout mouse model. *Cntnap2*<sup>-/-</sup> mice displayed increased seizure susceptibility, locomotor activity, and repetitive behaviors. Electrophysiological recordings revealed enhanced intrathalamic oscillations and burst firing in RT neurons, accompanied by elevated T-type calcium currents. In vivo fiber photometry confirmed behavior-associated increases in RT population activity. Notably, pharmacological and chemogenetic suppression of RT excitability via Z944, a T-type calcium channel blocker, and via C21 activation of the inhibitory DREADD hm4Di significantly improved ASD-related behaviors. These findings identify RT hyperexcitability as a mechanistic driver of ASD and highlight RT as a potential therapeutic target.

# Research Vs. Media Simplification

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# Critically Evaluating Information

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When evaluating information from sources other than research articles, the same critical evaluation skills apply

Consider:

- Source credibility
- Purpose (informing, selling, or persuading)
- Evidence (data/research vs. Opinions)
- Language used
- Transparency
- Cost
- Potential for harm

# Red Flags for evaluating interventions

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1. Unestablished therapies = high cost
2. Mentions "cure" or "guarantee"
3. Lacks transparency about methods or outcomes (no published data)
4. Overpromising – better results than any other therapy, "works for everyone"



# Social Media Considerations

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Content on social media is designed to be engaging, not necessarily accurate

Algorithms prioritize likes, shares, and views

High engagement does **not** equal credibility

Misinformation can spread quickly and widely

# Autism in Social Media

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A recent study (2023) examined the accuracy of information about autism on TikTok. Experts reviewed videos reviewed and found 27% of the information was accurate.

Another study (2025) evaluated information on both TikTok and Instagram and found high misinformation and stigma.

Where can you obtain  
accurate information  
about ASD?

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# Finding accurate information about autism

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1. Look for the evidence-base!
2. Identify the experts and reliable sources
3. Ask questions
  - What is the source?
  - What is the message? Is there a hidden agenda?
  - Is there any bias or conflict of interest?
    - Financial, political, popularity gain?
    - What does the individual/agency/institution have to gain from making claims?
  - What makes most sense for my individual family values?
  - What do expert organizations say?

# Current Reliable Sources

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Association of University Centers on Disability (AUCD) <https://www.aucd.org/>

American Academy of Pediatrics <https://www.aap.org>

Autism Focused Intervention Resources and Modules - <https://afirm.fpg.unc.edu/afirm-modules/>

Autism Navigator

<https://autismnavigator.com/>

# Current Reliable Sources

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Autism Science Foundation - <https://autismsciencefoundation.org/>

Organization for Autism Research- <https://researchautism.org/>

Society of Developmental and Behavioral Pediatrics-  
<https://sdpb.org>

UNM Center for Development and Disability -  
<https://hsc.unm.edu/cdd/autism-programs/>

# Together we rise!

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**Knowledge of evidence-based practices can:**

Be overwhelming!

**But, can:**

Guide our decision-making process for understanding  
information about autism

Challenge misinformation in the autism community

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