

# Are Pregnant Women Living in WDB More Likely to Birth Children on the Autism Spectrum?

70+ countries



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New Jersey, USA

Registered Herbalist - American Herbalist Guild  
CIRS - Shoemaker Certified Practitioner  
Member – ILADS

# Gratitude

Dr Ritchie Shoemaker MD whose body of work has helped thousands of families with Autistic children around the world have hope again after many other treatments failed.

A HUGE token of gratitude and sincere thanks to Dr Scott McMahon MD without whose tireless mentoring and guidance over the years, my work with CIRS in the pediatric population would not have been possible.

# Abbreviations used

CIRS - Chronic inflammatory response syndrome

ASD - Autism spectrum disorder

SPD - Sensory processing disorder

ADD - Attention deficit disorder

ADHD - Attention deficit hyperactivity disorder

IBS - Irritable bowel syndrome

UC - Ulcerative colitis

OA – Osteo arthritis

RA – Rheumatoid arthritis

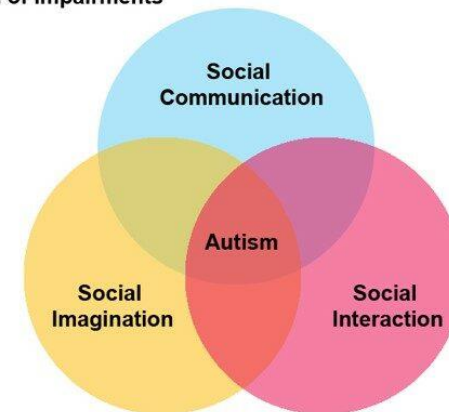
OM – Osteo myelitis

# Autism

Lifelong, nonprogressive neurological disorder typically appears before three years.

## Triad of Impairments:

The Triad of Impairments



# Autism

## DSM-V Autism Diagnostic Criteria (2013)

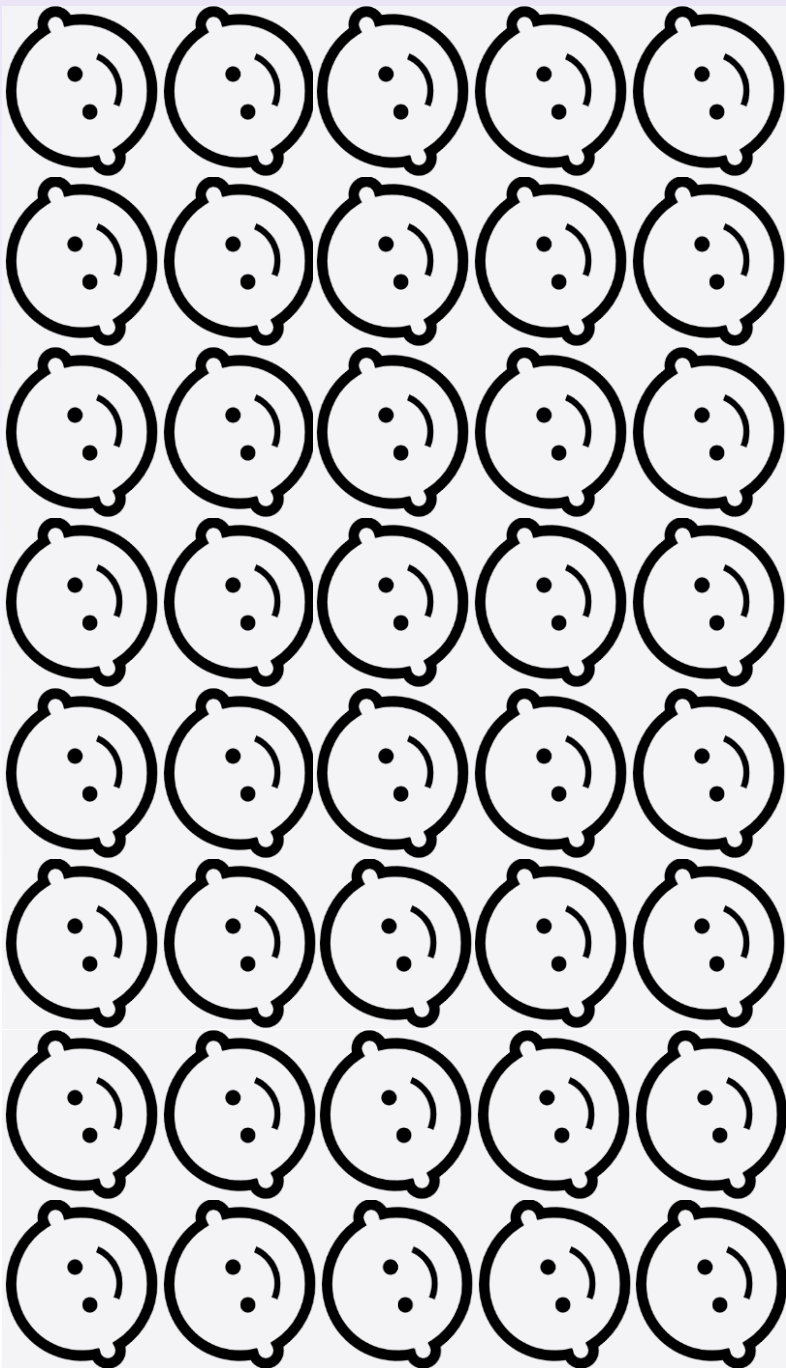
A. Persistent deficits in social communication and social interaction across multiple contexts.

B. Restricted, repetitive patterns of behavior, interests, or activities.

C. Symptoms must be present in the early developmental period.

D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

E. These disturbances are not better explained by intellectual disability or global developmental delay



**1** in **41**

**50%+ have one or more chronic sleep problems**

**Anxiety disorders affect an estimated 11 to 40%**

**8x more likely for 1+ chronic gastrointestinal disorders**

**32% 2-5 years overweight and 16% obese.**

Maenner MJ, Shaw KA, Bakian AV, et al. Prevalence and Characteristics of Autism Spectrum Disorder Among Children Aged 8 Years — Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2018. MMWR Surveill Summ 2021;70(No. SS-11):1–16. DOI: <http://dx.doi.org/10.15585/mmwr.ss7011a1>.

# Digging Deep – Inflammation and Infection

Autism – Inflammation - Immune dysregulation connection

“Increasing evidence supports the presence of immune dysfunction and inflammation in the brains of children with ASD,”

IL-37 is increased in brains of children with autism spectrum disorder and inhibits human microglia stimulated by neurotensin

Irene Tsilioni, Arti B. Patel, Harry Pantazopoulos, Sabina Berretta, Pio Conti, Susan E. Leeman, Theoharis C. Theoharides

*Proceedings of the National Academy of Sciences Oct 2019, 116 (43) 21659-21665; DOI: 10.1073/pnas.1906817116*

Afghanistan  
Argentina  
Australia  
Austria  
Bangladesh  
Belgium  
Bosnia and Herzegovina  
Brazil  
Canada  
China  
Colombia  
Croatia  
Denmark  
Dominican Republic  
Ecuador  
Egypt  
Finland  
France  
Germany  
Ghana

Greece  
Guatemala  
Hungary  
India  
Indonesia  
Ireland  
Israel  
Italy  
Jamaica  
Japan  
Kazakhstan  
Kenya  
Kuwait  
Kyrgyzstan  
Liechtenstein  
Lithuania  
Malaysia  
Mexico  
Mongolia  
Morocco

Netherlands  
Nigeria  
North Macedonia  
Norway  
Pakistan  
Panama  
Philippines  
Poland  
Portugal  
Qatar  
Republic of Congo  
Romania  
Russia  
Saudi Arabia  
Serbia  
Singapore  
Slovakia  
Somalia  
South Africa  
South Korea

Spain  
Sri Lanka  
Sweden  
Switzerland  
Thailand  
Togo  
Turkey  
Ukraine  
United Arab Emirates  
United Kingdom  
United States  
Uzbekistan

**BNH is in 70+**  
**COUNTRIES**



# CIRS – Chronic Inflammatory Response Syndrome/Biotoxin Illness

Genetic predisposition in approx. 24% of the population

- Innate immune system doesn't "present" these biotoxins to the cellular immune system for antibody production and subsequent elimination
- The innate immune system continues to be activated -- stuck on repeat -- but the adaptive immune system never responds.
- Biotoxins are fat and water soluble -Wide distribution in body -Absorbed through respiratory and GI mucosa & skin

# GAO Case definition of CIRS

In 2008, the Government Accountability Office (GAO) provided a formal case definition of CIRS in relation to water-damaged buildings, which includes the following criteria:

1. Potential for exposure to a water-damaged building
2. Symptoms similar to those documented in published, peer-reviewed literature
3. Laboratory results similar to those documented in published, peer-reviewed literature
4. Documented response to therapeutic protocol

Shoemaker RC. Surviving Mold: Life in the Era of Dangerous Buildings. Otter Bay Books: Baltimore, MD, 2010.

[https://www.survivingmold.com/docs/POA\\_MOLD\\_7\\_27\\_10\\_final.pdf](https://www.survivingmold.com/docs/POA_MOLD_7_27_10_final.pdf)

Argentina 1  
Australia 8  
Austria 1  
Bangladesh 2  
Belgium 1  
Bosnia and Herzegovina 1  
Brazil 2  
Canada 4  
China 1  
Colombia 2  
Croatia 2  
Denmark 1  
Dominican Republic 3  
Ecuador 2  
Egypt 3  
Finland 1  
France 1  
Germany 2  
Ghana 1

India 7  
Indonesia 2  
Ireland 2  
Israel 4  
Italy 2  
Jamaica 1  
Japan 2  
Kazakhstan 1  
Kenya 3  
Kuwait 1  
Kyrgyzstan 1  
Lithuania 1  
Malaysia 1  
Mexico 5

Nigeria 2  
Norway 3  
Pakistan 18  
Philippines 5  
Poland 2  
Portugal 1  
Qatar 2  
Republic of Congo 1  
Romania 2  
Russia 4  
Saudi Arabia 2  
Serbia 2  
Somalia 19  
South Africa 4  
South Korea 1

Spain 14  
Sri Lanka 4  
Sweden 1  
Switzerland 1  
Thailand 1  
Togo 2  
Turkey 1  
Ukraine 2  
United Arab Emirates 4  
United Kingdom 10  
United States 57  
Uzbekistan 1

Above are current counts at BNH  
as of February 2022  
Total 238.  
Age: 18 months to 14 years

# CIRS- WDB and CIRS-Lyme

All ASD patients above CIRS- WDB positive = 100% = 238 families affected

Additional Observation-

- CDC positive for Lyme Disease
  - 19 in the United States = 7.98% of total
- ILADS positive for Lyme Disease (Igenex, Armin Labs, MDL)
  - 29 total in USA, UK, and EU = 12.18% of total



# Clothes & Furniture





# Fridge & Air Conditioners









# Stage 1

Biotoxin Effects

Approximately 24% of people cannot naturally remove biotoxins from their body.

# 2

Cytokine Effects

Headache, muscle ache, unstable temperature regulation and difficulty concentrating.

# 3

Reduced VEGF

Restricted blood flow and lower oxygen levels leads to fatigue, muscle cramps and shortness of breath.

# 4

Immune System Effects

Gliadin (gluten sensitivity), actin, anca (ulcerative colitis), cardiolipins (affects blood clotting), & more.

# 5

Low MSH

Sleep problems, chronic severe pain, malabsorption or 'leaky gut', and easily acquire infections.

# 6

MARCoNS

In sinus cavities and possibly jaw. Self perpetuating downward spiral.

# Exposure to Biotoxins

- Systemic Inflammatory response - chronic states of overwhelming fatigue and malaise

## Multi system pathology

1. **Cognitive:** memory loss, concentration difficulties, confusion, learning difficulties, difficulty finding words, disorientation, mood swings, anxiety, panic
2. **Neurological:** numbness, tingling, metallic taste, vertigo, temperature regulation, dizziness, tics, atypical seizures, fine motor skill problems
3. **Musculoskeletal:** aches, cramps (claw-like cramping of hands and feet), joint pain, morning stiffness, ice-pick pains
4. **General:** headache, frequent urination and increased thirst, night sweats, static electricity or shocks, appetite swings.
5. **Gastrointestinal:** abdominal pain, diarrhea
6. **Eyes:** light sensitivity, red eyes, blurred vision, tearing
7. **Respiratory:** sinus congestion, cough, shortness of breath

# BNH Patients' symptoms at a glance

- **Neurological, Behavioral and developmental concerns:** Global developmental delay, Speech and language Delays, Attention Deficit and Hyperactivity (ADD, ADHD), Sensory Processing Disorder, PANS, Epilepsy/Seizures, Ataxia, Dysgraphia, Motor/vocal tics, Anxiety/separation anxiety
- **Immune and allergic disorders:** Eczema, food allergies, asthma, chronic or recurrent infections, autoimmunity (PANS, Hashimoto's)
- **Gastrointestinal problems:** Constipation, diarrhea, GERD, food intolerance, feeding difficulties, poor appetite, rectal prolapse
- **Sleep disorders:** Difficulty falling asleep, early or night waking, nocturnal enuresis, snoring, open mouth breathing, night terrors.
- **Other:** Frequent urination, sinusitis, obesity, night sweats, mood disorders, arthritic disorders, temperature regulation, aggression, self harming behaviors, assimilation and retention of knowledge.
- Most above generally deemed as ASD symptomatology by local primary care and /or specialists if any.

# Illnesses diagnosed in family members that improved after treatment

- Recurrent severe Sinusitis, Sleep apnea, Asthma
- Chronic headaches or Migraines
- Crohn's disease, UC, IBS
- Endometriosis, Interstitial Cystitis
- Diverticulitis
- Depression, anxiety, ADHD, Mood Disorders
- Allergies, eczema, psoriasis
- RA, OA, OM, Raynauds
- Obesity
- Severe dental caries/decay and gingivitis

# Illnesses diagnosed in family members that haven't yet improved after treatment (treatment ongoing)

- Cancer
- Alzheimers
- Sarcoidosis
- Parkinsons

# Multiples

- Set of twins in USA (x2 incl New Orleans), UK, Dubai, Pakistan, Somalia, India.
- Set of triplets in Chicago and Qatar
- All diagnosed on the spectrum
- Individual differences in clinical presentation and hence treatment accordingly customized



# Pediatric History Screen

(Dr McMahon's guidelines)

< 8 years old

**Threshold= x5 "Yes"  
Answers**

> 8 years old but <13 years old

**Threshold= x8 "Yes"  
Answers**

Teens and Adults

**Threshold= x13 "Yes"  
Answers**

- Kids are harder to evaluate, less cooperative
- Difficult to assess shoulder strength
- Often unable to perform hyper flexibility tests
- They are more flexible

# Pediatric Care

(Dr McMahon's guidelines)

Look for CIRS in kids with ASD who have continuing single complaints:

- Chronic Headache **52/238 with head banging = 21.8%**
- Fatigue **92/238 = 38.6%**
- Chronic abdominal pains **172/238 = 72.2%**
- Primary nocturnal enuresis **42/238 = 17.6%**
- OR
- Inattention/ADD/ADHD **122/238 = 51.2%**
- PANS **All = 238 = 100%**
- Unexplained joint or muscle pains **37/238 = 15.5%**
- Severe asthma **21/238 = 8.8%**

# **Pediatric Care Labs CIRS Screening: Dr McMahon's Guidelines (Used for US Patients)**

- **HLA DRB1, DQ and B3, B4 and B5 (hi res)**
- **ADH/osmolality**
- **ACTH/ Cortisol**
- **If 0 tests are abnormal do not pursue**
- **Is 1 test abnormal use clinical judgement**
- **If 2-3 tests abnormal do full CIRS work up**

# Labs we were able to do

- **WDB Visible Mold** - 65% = 154 families
- **WDB with no visible mold** 35% = 84 families
- **HERTSMI positive** - 100% in the USA (57 families) and 50% in UK (5 families)
- **HLA DR** – All 57 in the US
- **TGF-B1** 80% of the US patients tested abnormal= 45 patients
- **C4A** 80% of the US patients were tested. 63% abnormal (high) = 45 patients tested and 28 found high.
- **ACTH/ Cortisol** 80% of the US patients were tested. All abnormal = 45 patients
- **ADH/osmolality** 80% of the US patients tested abnormal. 45 patients
- **MARCoNS +ve** 70% of all patients worldwide tested. 166 patients.
- **VCS Failed** 100% (238 families) at least one parent/sibling of all patients tested worldwide

# Additional Labs

Available in all countries listed  
prior

- Lab testing
  - CBC/CMP/Iron panel/Ferritin/Vitamin D
  - Bacterial titers
  - ASO
  - Viral Titers
  - Cortisol
  - Immunoglobulins
    - - IgA, IgG, IgE, IgM
  - Allergy testing
  - Sex Hormones
  - Thyroid Hormone

# Antifungals Usage

A huge concern in ASD patients

Dr Shoemaker's  
research and related  
findings

- Shocking increase seen in VI VR and GI GR in MARCoNS testing 3000+ patient data used, 2002 to 2018
- Directly related to indiscriminate use of antifungals for nasal fungi, mis-diagnosed systemic candidiasis or prophylactic use of azole antifungals in patients receiving antibiotic therapy
- Azole resistance and microbial transfer of resistance
  - Azoles are mutagenic; sharing the same eco-niche with MARCoNS permits genomic exchange, extracellular transfer and plasmid transfer of resistant moieties
  - Azoles in agriculture. Global crisis.
  - Azole use in children with ASD is relatively high (Itraconazole, Fluconazole. Also Mebendazole, Albendazole and Metronidazole. Related?)

# MARCoNS

Of those who were able to complete testing

- VI/GI or VR/GR - 11/166 patients total. All on long term Flucanazole or Itraconazole and 4/11 also received Mebendazole and Metronidazole
- Based on parent request and clinical presentation, all 238 patients plus family members treated for MARCoNS with Formula 1 NSB with significant improvements seen in naso-sinal and neurological symptoms.

# PANS: Pediatric Acute Onset Neuropsychiatric Syndrome

Abrupt, dramatic onset of obsessive-compulsive disorder or severely restricted food intake  
Concurrent presence of additional neuropsychiatric symptoms,

At least two of the following seven categories:

- Anxiety (often separation anxiety)
- Emotional lability and/or depression
- Behavioral (developmental) regression
- Sensory or motor abnormalities
- sleep disturbances incl night terrors
- Nocturnal enuresis
- Frequency of Urination
- Irritability, aggression, and/or severely oppositional behaviors
- Deterioration in school performance (Dysgraphia, ADD, ADHD, SPD)
- Symptoms are not better explained by a known neurologic or medical disorder, such as Sydenham's Chorea.

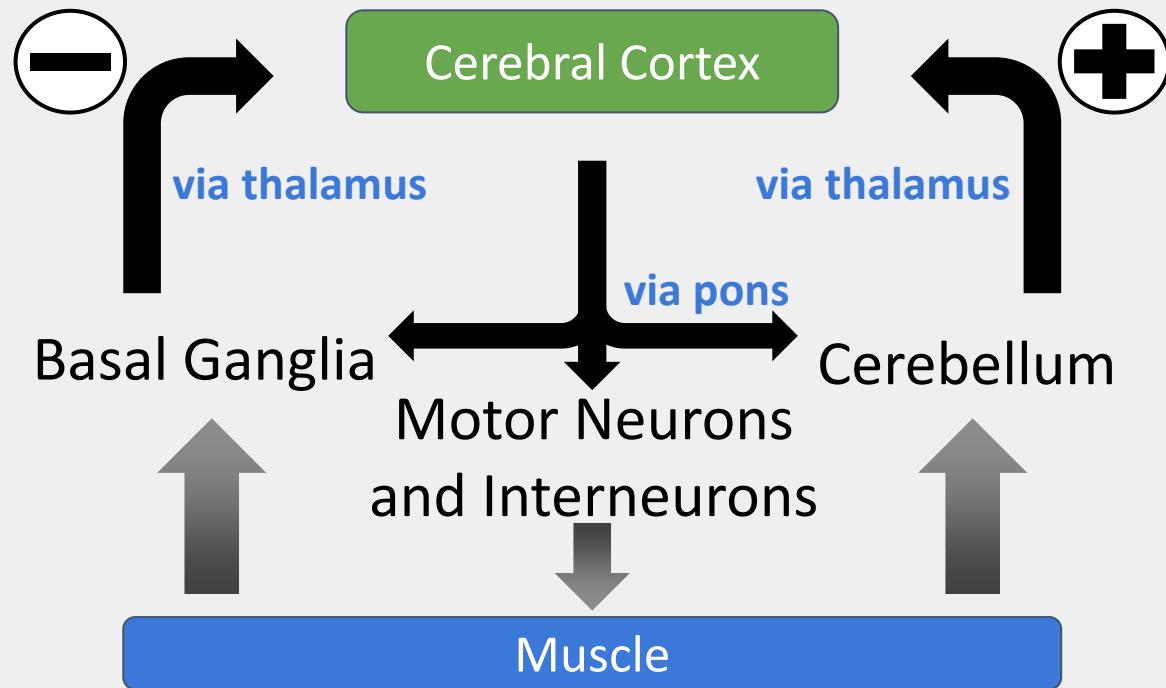
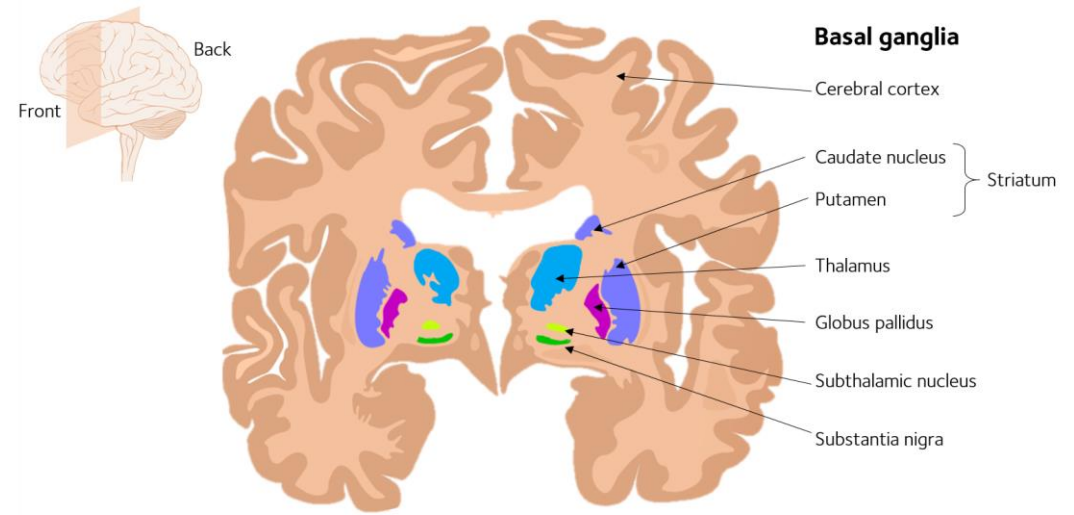
Chang K, Frankovich J, Cooperstock M, Cunningham M, Latimer M, Murphy T, Pasternack M, Thienemann M, Williams K, Walter J, Swedo S. Clinical Evaluation of Youth with Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS): Recommendations from the 2013 PANS Consensus Conference. J Child Adolesc Psychopharmacol. 2015; 25(1): 3–13.



# NeuroQuant findings in CIRS: McMahon S., et al, 2016

- Increased parenchyma (8 of 9 structures)  
Left amygdala, Right forebrain,  
both pallidum statistically significant
- Decreased caudate nucleus
- Decreased ventricles
- Fully treated patients demonstrate significant improvements

# ASD “stims” and PANS Connection



- Basal Ganglia and Cerebellum modify movement minute-to-minute
- Motor cortex sends information to both
  - cerebellum output is excitatory
  - basal ganglia is inhibitory
- Balance between systems provide smooth, coordinated movements
- Imbalance displays as movement disorders

# Recap of PANS/PANDAS Study, 2018, presented by Dr Scott McMahon MD (used with permission)

- Dr. Shoemaker, Dr. Jennifer Smith, Dr. Jimmy Ryan and Dr. McMahon
- 39 self-reported doctor-diagnosed cases of PANS/PANDAS presenting to Dr. Shoemaker, Dr. Smith and Dr McMahon CIRS clinics.
- Retrospective chart review, IRB approved

# Recap of PANS/PANDAS Study, 2018, presented by Dr Scott McMahon MD (used with permission)

- Summary:
  - 33 of 33 PANS/PANDAS patients had CIRS
  - Proteomic findings similar
  - NQ findings the same except for increased hippocampus volume in CIRS/PANS vs. CIRS
  - Transcriptomics findings in CIRS/PANS the same as expected for CIRS pediatric patients

# Recap of PANS/PANDAS Study, 2018, presented by Dr Scott McMahon MD (used with permission)

## Discussion:

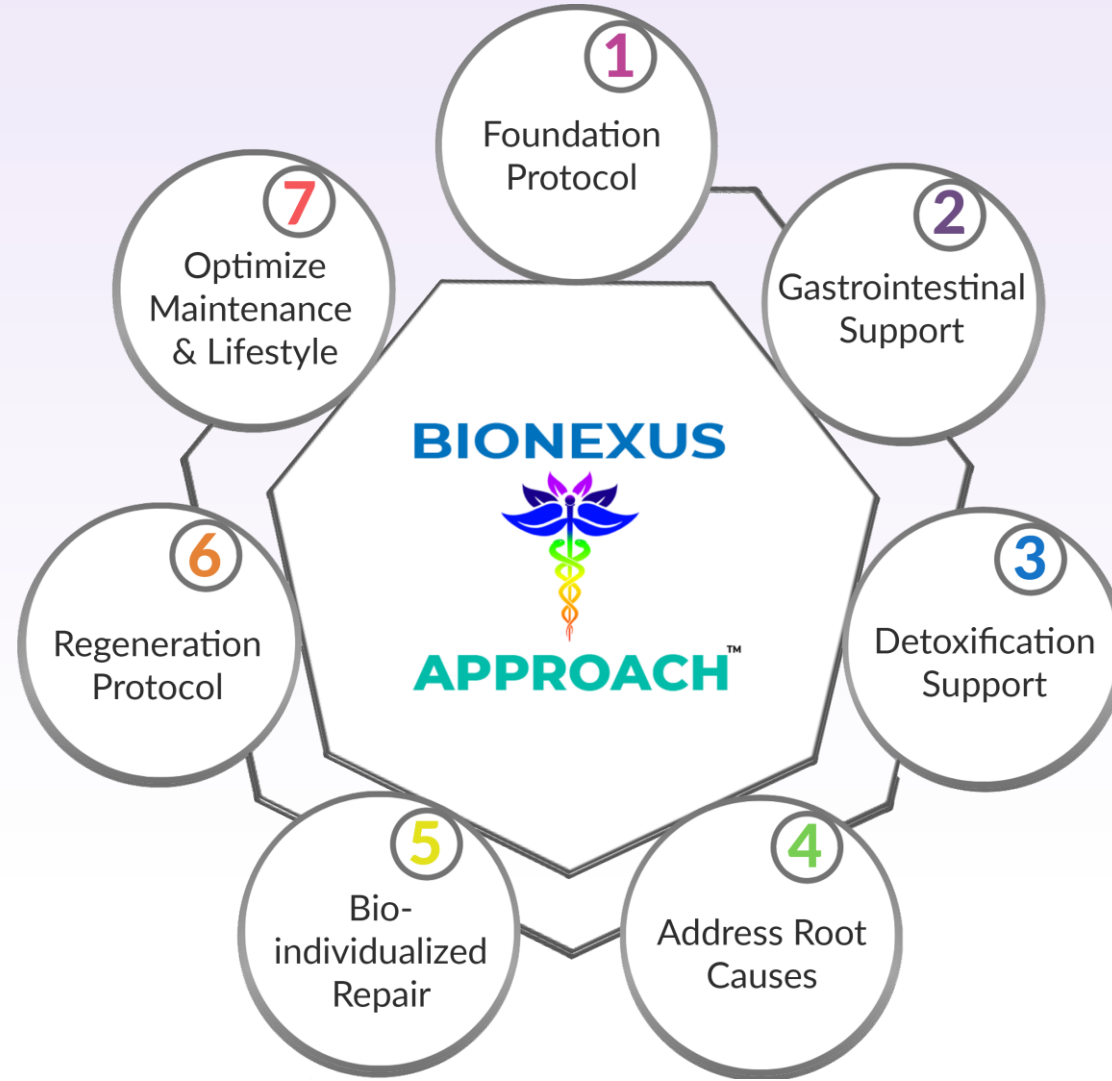
- PANS/PANDAS and CIRS are associated
  - PANS/PANDAS appear to be either a phenotypic variant of CIRS or requires CIRS to occur
- Patients with a PANS/PANDAS diagnosis should be worked up for CIRS and given CIRS treatment trial – *Can we extrapolate this to patients with ASD+PANS with exposure to WDB?*
- Prospective studies should be done to confirm our results and further characterize the association

# Case study (UK)

- 4 year old male child diagnosed with ASD at age 2.5 yrs.
- Symptoms- Non verbal, aggressive, self injurious- hand biting, mood swings, ADHD, IBS, rectal prolapse, poor sleep, nocturnal enuresis, separation anxiety, teeth grinding, night sweats, fatigue, frequent SOB, eczema, food sensitivities, environmental allergies/chronic Rhinitis
- Special needs school in the UK with ABA therapy. No change
- 100+ year old townhouse (renovated). WDB. Neighbor's the same.
- Mom - Chronic rhinitis, Eczema, SOB – used steroid inhaler, fatigue
- Dad – IBS last 5 years
- Maternal grandmother has Asthma, Eczema, Sleep Apnea. Grandmother's house is 100+ years old.

# Case Study cont

- Child – ASD+PANS+CIRS
- Ref to UK local IEP plus started BNH- ASD protocol
- Post treatment (ongoing) mom reports- happy, energetic, interested in exploring environment, curious, attempting peer social interaction, BMs regular, no rectal prolapse, sleeping alone and well, no enuresis, no night sweats, beginning to babble and make sounds, able to say “mama”, being “cheeky” much to mom’s delight, good reports from teachers, teeth grinding only occasionally, nasal congestion cleared, eczema waning, hand biting occasional now
- Mother - Eczema, sinusitis, rhinitis, and SOB all clear. Hasn’t used her inhaler in 5 months. Has more time for herself. Not rushing to school for rectal prolapse assistance for her son.
- Father- Not very compliant but reports IBS improving and supports mom fully now.
- Grandmother – Eczema eliminated. Treatment ongoing.





# Primary Herbal Categories

- Neurological
- Immune
- Digestive
- Anti-inflammatory
- AntiMicrobial
- Detoxifying
- Nutritive

# Camel Milk

## Medicinal Use

- Camel milk is the closest to a human mother's milk<sup>1</sup>.
- It is a highly nutrient dense milk with high amounts of bioavailable vitamins, minerals, antioxidant, proteins, blood sugar stabilizing insulin, and unique antibodies.
- The most important proteins in camel milk are whey proteins, which contain albumin, lactoferrin, immunoglobulins
- Camel's Milk has *more* antibodies than breastmilk and they are up to 10x smaller, gaining the name nanobodies.

1 - Nutritional and Therapeutic Characteristics of Camel Milk in Children: A Systematic Review:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4700900/>

# Camel Milk Therapy

[J Coll Physicians Surg Pak](#). 2015 Nov;25(11):819-23. doi: 11.2015/JCPSP.819823.

## **Behavioral Benefits of Camel Milk in Subjects with Autism Spectrum Disorder.**

[Al-Ayadhi LY<sup>1</sup>](#), [Halepoto DM<sup>2</sup>](#), [Al-Dress AM<sup>1</sup>](#), [Mitwali Y<sup>2</sup>](#), [Zainah R<sup>2</sup>](#).

[Evid Based Complement Alternat Med](#). 2013;2013:602834. doi: 10.1155/2013/602834. Epub 2013 Aug 29.

## **Camel Milk as a Potential Therapy as an Antioxidant in Autism Spectrum Disorder (ASD).**

[Al-Ayadhi LY<sup>1</sup>](#), [Elamin NE](#).

# Additional Modalities to Consider

- Acupuncture
- Lymphatic Massage
- Physical Therapy
- Transcutaneous Electrical Nerve Stimulation (TENS)
- Pulsed Stimulation Therapy

**Approach: to maintain/ improve flexibility, desensitize nerves, increase endorphins and improve immunologic function**

# The Vaso-Vagal Response and MCAS

EFT/TFT

Microcurrent on ear acupuncture  
points.

Low 0.5 Hz setting

Craniosacral osteopathy

Tomatis Auditory  
program/Listening therapy

Transcendental Meditation

# Autism Parent's Outreach

- Pakistan mold free build, biodynamic farm, therapy center
- Pakistani moms lecturing on Mold and mycotoxins in rural areas
- Croatia-Serbian mom's group. Mold free build in progress
- Spanish group – Dynamic dad helps 14 families communicate

# APO continued

اس پاکستانی ڈاکٹر اور آٹزم کے بچے کی ماں کی  
زبانی سنیں، اپنے بیٹے کے آٹزم سے صحت  
یاب ہونے کی کہانی شیئر کریں۔

MOLD BIOTOXIN ILLNESS

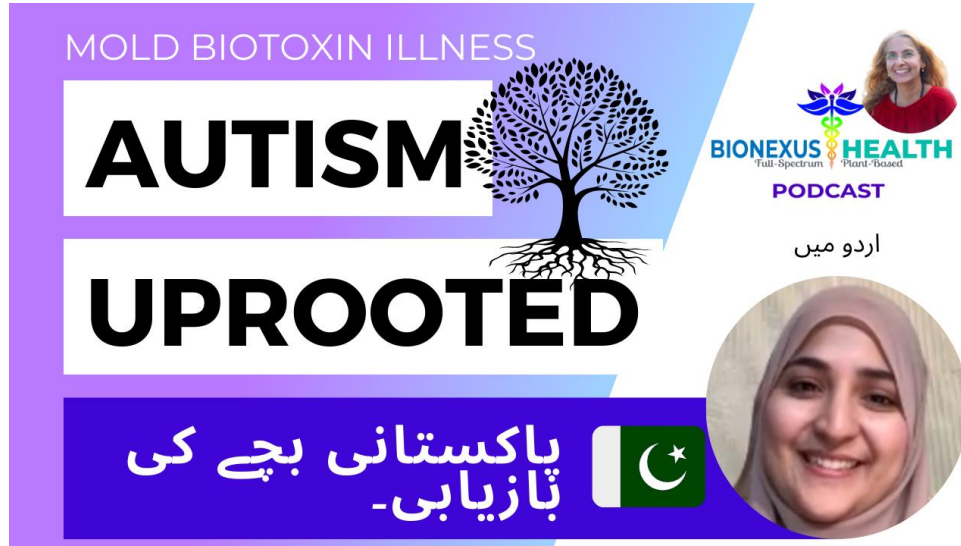
**AUTISM**

**UPROOTED**

پاکستانی بچے کی  
بازیابی۔

BIONEXUS HEALTH  
Full-Spectrum Plant-Based  
PODCAST

اردو میں



- Autismo desarraigado: recuperación del autismo de un niño en España

MOLD BIOTOXIN ILLNESS

**AUTISM**

**UPROOTED**

RECOVERY OF A  
SPANISH CHILD

BIONEXUS HEALTH  
Full-Spectrum Plant-Based  
PODCAST

Porciones en español



# APO - contd

Sažetak majčinog puta na oporavak sa svojim autističnim sinom  
poslušajte na srps kohrvatskom •

MOLD BIOTOXIN ILLNESS

# AUTISM UPROOTED

RECOVERY OF A BALKAN CHILD

BIONEXUS HEALTH  
Full-Spectrum | Plant-Based

PODCAST

Poslušajte sažetak

- Pakistan and Middle East

**Benazir Zainab**  
A working mom of a child with PANS and PANDAS, Lyme and co-infections, mold illness.

## Mold Toxicity and Mold Induced Autism

zoom f LIVE

Autism Resource Group Pakistan

Sunday Oct 24, 2021 At 8:00pm

AUTISM RESOURCE GROUP PAKISTAN

[www.facebook.com/groups/AutismResourceGroupPK](https://www.facebook.com/groups/AutismResourceGroupPK)



Next step – retrospective information refinement wrt pre/post Rx data tabulation and additional statistical comparisons and calculations.

# THANK YOU

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