



BY JONATHAN TOMMEY

Following my previous article in Issue 28 of The Autism File reporting back from the DAN! Conference in Cherry Hill, New Jersey, I promised to deliver summaries of the presentations from Dr Kenneth Bock, Dr Sidney Baker and Dr Jeff Bradstreet.

Jonathan Tommey has a degree in Sports Science Bsc (University of Manchester) and a Foundation degree in Clinical Nutrition (University of Bedfordshire).

Jonathan is the Founder and Director of The Autism Clinic Ltd in Hampton, Middlesex, United Kingdom and specialises in the treatment of individuals with ASD.



DEFEAT AUTISM NOW! (DAN!) CONFERENCE 2008

CHERRY HILL, NEW JERSEY

4th - 8th April 2008

For those of you who may be unaware of 'The Defeat Autism Now!' movement, it was initiated in the 1990s by Dr Bernard Rimland, Dr Jon Pangborn and Dr Sidney Baker. Bernie and Jon each have autistic sons. Sadly Dr Rimland passed away in 2006 but Dr Jon Pangborn and Dr Sidney Baker remain massively influential in guiding the DAN! movement forward.

The DAN! movement encourages professional individuals associated with the research and treatment of autism to become "united as a group" to discuss the science, research, treatments and therapies available to support our children in aiding their recoveries.

Autism is multi-factorial in its aetiology and having new science based treatment opportunities will pave the way for a much brighter future for our children. I can remember my first DAN! conference in 2000 in San Diego where the focus was specifically focused on immunology and vaccinations; now we find the circle is revolving and many new findings are being discussed as information, research and directions are forever changing, benefiting us all as we move forward in recovering our children.

Kenneth A Bock, MD, FAAFP, FACN, CNS

Kenneth A Bock, MD graduated Summa Cum Laude from the State University of New York at Buffalo in 1973 and went on to receive his MD with Honours from the University of Rochester, School of Medicine in 1979. He is Board Certified in Family Medicine and is a clinical



Dr Kenneth Bock MD

instructor in the Department of Family Medicine at Albany Medical College. He is a certified clinical nutrition specialist and has demonstrated advanced proficiency in chelation therapy. Since 2004, Dr Bock has been a site investigator for the Trial to Assess Chelation Therapy (TACT), sponsored by the National Institutes of Health (NIH) in the United States.

He is a fellow of the American Academy of Family Practice, the American College of Nutrition and the American College for Advancement in Medicine. He is the current President of The American College for Advancement in Medicine.

For the past 25 years he has dealt with complex medical problems by integrating alternative modalities with conventional medicine into a comprehensive integrative medical practice, and for the last eight years he has focused that approach on children with autism spectrum



disorders and ADD/ADHD. See www.rhinebeckhealth.com

I believe 'inflammation' plays a significant role in autism and this is initiated by immunological responses to pathogenic opportunists, food allergens and oxidative stress derived from reactive oxygen species and other foreign toxins.

Dr Kenneth Bock's presentation was: **'Clinical approaches to chronic inflammation in autism spectrum disorders'**

This is therefore a subject close to my heart and I do hope this will provide some information and insight into how to manage it through the close association with your practitioner's guidance.

The key to normal immune function depends upon balanced immune system responses: cellular responses from T (thymus derived) and B (bone derived) cells and a humoral response from an antibody mediated response.

Cytokines are small peptides secreted by a variety of cells regulating the immune response; some increase inflammation, some reduce it. In many subjects with autism the pro-inflammatory response is high and the anti-inflammatory response is low so inflammation becomes out of control. Studies have shown that the pro-inflammatory cytokines such as interleukins 1 and 6 and tumor necrosis factor-alpha are elevated and the anti-inflammatory cytokines such as TGF-beta and IL 10 are low.

Inflammation is common in neurological tissue and gastrointestinal tissue and can result in tissue destruction and autoimmunity (where the immune system attacks itself), oesophagitis, colitis, atopic dermatitis, asthma, immune inflammation and neuroinflammation.

Dr Bock did not include this within his presentation but increases in nuclear factor kappa B increases the turning on of pro-inflammatory cytokines. Both elevations have dramatic impacts on the conversion of tryptophan to serotonin. Serotonin is a neurotransmitter that if low can cause:

- **Disordered sleep patterns**
- **Insomnia**
- **Anxiety or depression**
- **Abnormal appetite and food craving**
- **Hypersensitivity to light and sound**

It is also involved in peristalsis (gut contractions forcing the food bolus into the stomach and within the bowel pushing the stool). This pathway disturbance also then releases some very potent neurotoxins such as quinolonic acid and peroxynitrite affecting brain function. Do any of these symptoms fit your child? So is it deficiencies of tryptophan or a disturbed pathway conversion to serotonin due to inflammatory cytokines, or a combination of the two.

Oxidative stress can also lead to inflammation and Dr Bock described his direct approach to dealing with this:

1. Deal with potential factors that may underlie and contribute to oxidative stress and chronic inflammation: toxins, heavy metals and infectious agents.
2. Gastrointestinal Issues:
 - a. Dysbiosis
 - b. Intestinal hyper permeability increasing passage of toxins, dietary peptides enhancing allergenic responses.
3. Nutritional deficiencies / imbalances.
4. Immunological imbalances.

What are the good anti-oxidants?

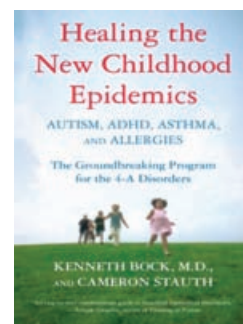
Vitamins C, A, E, CoQ10, super oxide dismutase, selenium, quercetin, germanium, selenium, alpha lipoic acid, green tea and pycnogenol.

High anti-inflammatory foods include fish oils, curcumin, melatonin, phosphatidylcholine, and lysine. Enhance glutathione levels through improving methylation and transulfation, providing n-acetyl cysteine (though not with candidiasis), silymarin (milk thistle to support the liver), trimethylglycine, folic acid, transdermal or intravenous glutathione.

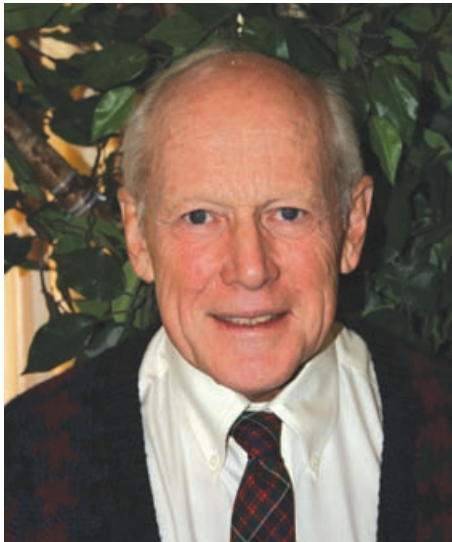
Glutathione is the body's most potent antioxidant. Prunes are also high in antioxidants and will support sluggish bowel movements also as they are a good laxative.

Drugs such as spironolactone, pioglitazone, celecoxib and minocycline have also showed beneficial effects as has low dose naltrexone, hyperbaric oxygen therapy and intravenous immunoglobulin therapy (IVIG).

A book I would recommend would be 'Healing the New Childhood Epidemics. Autism, ADHD, Asthma and Allergies' by Dr Kenneth Bock and Cameron Stauth.



There are of course other methods for managing and defeating inflammation and oxidative stress but this is a good start.



Sidney Baker, MD

Sidney M Baker, MD, who is arguably the world's most knowledgeable autism doctor, one of the founders of the Autism Research Institute's Defeat Autism Now! project, and the primary author of the Defeat Autism Now! *Clinical Options Manual*. Sidney Baker, MD, received the prestigious 1999 Functional Medicine Linus Pauling Award at the Sixth International Symposium on Functional Medicine. See www.medigenesis.com.

Dr Baker's presentation was **'Who ignores individuality fails the patient'**

I have always said that autism is a psychologically classified disorder based around a simple triad of impairments. Individuals with autism express many psychological, biomedical, physiological and neurological impairments and through the identification of such imbalances and by following the correct, unique and specific treatment can help enormously.

We are all unique individuals with a specific inherited genetic blueprint which fundamentally is responsible for our general appearance and functioning; this also provides the general predisposition associated now with autism.

I see many disease and health conditions within the parents and grandparents of autistic children: many autoimmune, many gastrointestinal and inflammatory issues often coupled with an atopic history. Immune susceptibility may therefore have a leading edge in predisposing a child. This immunity is then often T and B cell deficient or has dominance towards a Th2 response favouring allergenic responses over a

pathogenic response. The natural death ratio of 1 girl to 4 boys also mirrors the autistic girl to boy ratio of 1 to 4.

An infectious state may then be initiated coupled with an inflamed response. This may be further exacerbated using broad spectrum antibiotics repeatedly in the child's first year further suppressing the immune system and leaving the gut especially more vulnerable to insults and later damage. This 'leaky gut' then allows an excess of food peptides, toxins and pathogens into the systemic blood system putting additional pressure on the detoxification resources which are commonly low and dysfunctional.

Identification of methylation and transulfation defects are also identified now in a sub group of parents which has an impact on toxin elimination. Environmental triggers such as chemicals, heavy metals, pesticides, vaccines etc. may exacerbate such predispositions and initiate inflammation changes in gene expression and immune dysfunction. Delivered and environmentally exposed pathogens and allergens create inflammation, inflammation and toxicity leading to further problems and the vicious cycle has evolved ... acquired autism.

With each child, the predispositions, histories may be similar but will not be identical, the use of diagnostic tests, treatments, therapies and alternative approaches must also not be identical as the child's autistic aetiology may vary distinctly or subtly.

Identify the problems first; identify what the individual needs and what needs to be taken away.

Clean up the gut (food and flora) using anti-fungal, anti-biotic, anti parasitic, anti virals, and the correct dietary interventions such as hypoallergenic, gluten / casein free, specific carbohydrate diet, anti candida, low oxalate and the body ecology diets. If required, digestive aids such as enzymes, betaine hydrochloride and / or nutrient supplementation may also be supplemented. Aim also to improve methylation / transulfation and enhance detoxification.

Introduce the 'super foods'. I know this may be problematical for 'picky eaters' and therefore juicing, disguising in other foods and making ice cubes and lollies are often successful methods upon implementation.

- Brassica (crucifera) family: broccoli, cabbage, Brussels sprouts, cauliflower, collard greens, kale, kohlrabi, mustard, rutabaga, turnips, bok choy, Chinese cabbage, horseradish, radish, spinach and watercress.
- Allium family: onion, garlic, leeks and chives.
- Brightly coloured fruits and vegetables, walnut, almond, dark chocolate, blueberry, pomegranate, green tea, acai, brassica tea, rosemary, ginger, turmeric, decaffeinated coffee, Vitamin D, selenium, sprout extract, silymarin, fish oil concentrate.

These are simple pointers to using beneficial foods. The underlying methodologies are identifying the issues and provide what is needed.



Jeff Bradstreet, MD, MD(H), FAAFP ICDRC Founder, Medical Director, and President

Dr Bradstreet graduated from the University of South Florida, College of Medicine and received his residency training from Wilford Hall USAF Medical Center. As a flight surgeon, he was involved in aerospace medicine research and has extensive experience and training in environmental medicine and toxicology. He is a fellow of the American Academy of Family Physicians and a member of the American College of Toxicology. He is involved in autism related outcome studies and environmental research with the University of Washington and UCLA and serves as an adjunct Professor of Child Development and Neuroscience

at Southwest College of Naturopathic Medicine in Tempe, Arizona. He has offices in Florida and Arizona and is internationally recognised as a lecturer and researcher in autism. His son, Matthew, is recovering from autism with the combined help of biomedical and behavioural interventions. See www.icdrc.org

Dr Jeff Bradstreet gave an inspirational talk entitled:

'Innovative therapies and strategies for non responders'

Many parents have tried numerous approaches relating to biomedical, educational, sensory and alternative therapies to try and support their children. Many have seen dramatic improvements, even recovery, and yet some have seen no real improvements and as a result have become commonly disillusioned and often despondent.

On a personal note this is a marathon and not a sprint and we must note that each child is different to every other. There is no singular course of action that will benefit all. The specificity and accuracy of the protocol(s) put in place is therefore of paramount importance.

Dr Bradstreet commented, "We must define individual needs, issues and pathologies. This assists the selection of proper treatment instead of trial and error and shotgun approaches. This approach monitors the efficacy of interventions, i.e. when are we done treating, did we give enough or too much treatment, and the evaluation of possible side effects. Some treatments die out, parents feel dejected and many have invested much finance into their child's treatment and have seen poor results with stress, time constraints and the commitment dying out."

"Inflammation of the brain and gut with vasculitis and pathogen persistence combined with permanent injury, mitochondrial dysfunction, oxidative stress and purkinje cell loss. Encephalitis as an example of 'inflammation' of the brain and can occur in two forms:

- primary encephalitis which involves direct viral infection of the brain and spinal cord; and
- secondary encephalitis where a viral infection first occurs elsewhere in the body and then travels to the brain".

Many individual children with autism have increased pro-inflammatory

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cytokines such as TNF alpha in their cerebrospinal fluid. Steroid therapy may therefore play a role in this type of inflammation. Inflammation of the nervous system and oxidative stress may cause an imbalanced neurological response. The vagus nerve as an example is responsible for heart rate, gastrointestinal peristalsis, sweating and muscular constrictions in the larynx and mouth. Methyl mercury may be one toxin that can interfere with this parasympathetic activity but of course there may also be other inhibitors.

The vagus nerve and histamine help regulate acid production in the stomach as well as motility; Vitamin B6 and zinc are also important for gastric secretions, both of which are commonly low. I know of many children who have low levels of hydrochloric acid and as a result there is poor digestion of foodstuffs, reduced B12 absorption and an enhanced ability for pathogens such as bacteria to survive this acid medium.

New treatments such as nicotine seem to have a beneficial affect on brain inflammation. Oxytocin and secretin are neuropeptides with low risks of side effects (if used in moderation) which have also revealed positive outcomes in some non-responders. Oxytocin modulates neural circuitry for social cognition and fear in humans. ACTOS or pioglitazone has also had good affects on neuroinflammation and has increased vocabulary in certain subjects. PANDAS (Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections) is a new type of disorder with common autistic features induced by strep infection. This again provides an alternative issue for investigation, another turning of a new stone.

New treatments such as Helminthic therapy using the pig worm 'spp'. Trichuris suis has also been effective in some cases of inflammatory bowel disease and may again be a potential support for your child if bowel inflammation is present.

The common ground here is inflammation and toxicity, both need to be identified and supported.

The use of diagnostic tests and selected markers for the identification of some of the known issues were

talked about: heavy metal chelation, the need for antioxidants and supporting glutathione levels via methylation and transulfation were again a top priority.

In summary Dr Bradstreet suggested:

- 1. Reconsider your clinical impression and alternate views on pathophysiology.**
- 2. Poor compliance with your plan is one likely cause of poor response.**
- 3. Re check your biomarkers and look for additional ones.**
- 4. Consider lab error – repeat as needed to be sure.**
- 5. Network with colleagues and never give up – NEVER!**

From Dr Bradstreet's presentation it was clear that all avenues must be taken in order to ensure that your child is given the opportunity to improve their health and functionality. Autism is clearly a complex multi-factorial condition that needs detailed investigative approaches that may yield specific treatment protocols to be applied.

The DAN! conference yet again produced some wonderful presentations and I again learned a great deal. It is important to understand some of the many and new issues associated with the underlying pathophysiology, biomedical aberrations and all other associated issues regarding the understanding of autism. It may well help you make some well educated decisions regarding the testing and interpretation. It may help you direct challenging questions to your practitioner / consultant and to progress in helping support the reasoning and implementation behind your child's protocols.

I wish you the very best success with all of your endeavours.

