

## PEDIATRICS—FALLON

continued from page 12

transitional and other issues. The exact nature of the inability to process the sensory input is unknown. There is much speculation and conjecture as to whether SID is a genetic or acquired condition. It is also not fully known as to whether it is an inability to process information which would make it a central nervous system disorder or whether it is a dysfunction or malfunction of the way in which the information is either transmitted or received which would make it a peripheral nervous system disorder.

### Chiropractic Care

Chiropractic care should be the cornerstone of any sensory integration treatment plan for children with all types of SID as well as children who suffer from transition-anxiety dysfunction. If the basic dysfunction in both sensory integration issues and/or transition-anxiety disorder are due to aberrant input, reception, organization or aberrant output of the peripheral and/or central nervous system, chiropractic care should be an important part of the life of the child with SID.

The child with SID or with transition-anxiety disorder experiences aberrant, injured, or defective sensory input. Much or most of that sensory input comes from mechanoreceptors. Mechanoreceptors supply information from the environment about shape, texture, weight, pressure, contour and other qualities as well as an overview of the landscape of objects in the external environment. Mechanoreceptors are responsible or involved in the following:

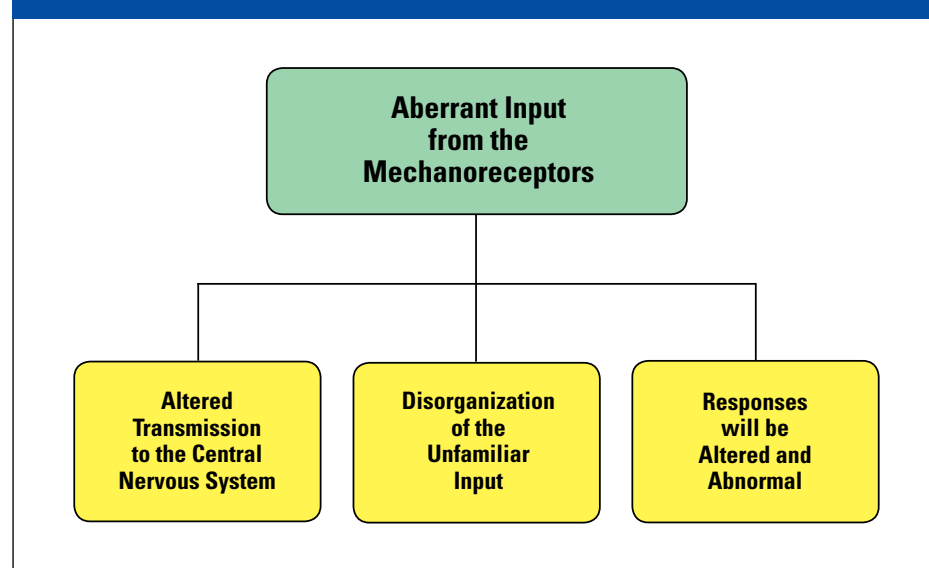
- touch
- pressure
- pain
- texture
- weight
- contour
- proprioception
- the cochlear portion of hearing
- balance
- osmotic change

For example, postural dysfunction or proprioceptive dysfunction in the child with SID can be due to aberrant input from the mechanoreceptors of the joints, the vertebral discs, the skin and other locations. Similarly, the mechanoreceptors of the skin in a tactile defensive child, for example, may respond very poorly to light touch but very well to deep touch. In these children, light touch feels almost noxious or painful, whereas deep touch or pressure feels pleasurable.

In these cases the mechanoreceptors send an abnormal signal further up the neurological chain in the form of altered, defective or corrupted signals to the central nervous system. Once the aberrant afferent input is made into the nervous system, disorganization of the input into the central nervous system begins and abnormal response or output is likely. (FIGURE 4)

When there is abnormal, aberrant or disorganized input from the mechanoreceptors, a shift from either a balance between parasympathetic and sympathetic firing, or from slight parasympathetic dominance to a sympathetic dominance occurs. This shift to a sympathetic dominance has a significant impact on the child. In addition to changing the neuroimmune status of the child leaving the child open for multiple infectious and atopic conditions, it will also have a

Figure 4. Disorganization of input



pressing affect on the behavioral aspects of the child. In the case of the child with the transition-anxiety disorder, who has as we know an already disorganized input mechanism, will result in an anxiety state, and a furtherance of the transitional disorder.

Chiropractic care for these children therefore is paramount in the restoration of the autonomic nervous system imbalance as well as putting normal mechanoreceptor input into the child's spine, hence helping to restore normal reception, output and thereby influencing behavior. Children who have simple falls, birth trauma, or any type of childhood trauma that occurs as a result of the achievement of normal childhood milestones, are at risk for this type of problem.

The chiropractic adjustment can help to correct some of this aberrant input by activating the mechanoreceptors of the facet joints of the spine, as well as in other areas, to help correct abnormal neurological input into the child. In the presence of subluxation this can either be the root cause of this problem or can greatly augment its presence. Removal of subluxation and the correction of the root cause of the aberrant input will serve to change the behavior of the child.

Another key factor in this process is the response of the autonomic nervous system to the failure or aberrant functioning of the mechanoreceptors. This abnormal firing of the mechanoreceptors can cause such factors as imbalance, proprioceptive dysfunction or other autonomic nervous system dysfunction. Along with proprioceptive or balance issues, such conditions as an abnormal heartbeat, blood pressure liability, maldigestion or breathing dysfunction can occur.

The range of dysfunction is great, and the stretch from autonomic failure to transitional-anxiety disorder is profound. It is therefore paramount that transitional-anxiety disorder be recognized and not relegated to some type of behavioral defiance. Chiropractic care and the restoration of normal nervous function can help those with transitional-anxiety disorder.

True recognition of a child's problem, and subsequent correction or change in the nervous system with chiropractic adjustments can help the child to function normally. It can have a significant impact not only on the life of the child but that of the family as well.

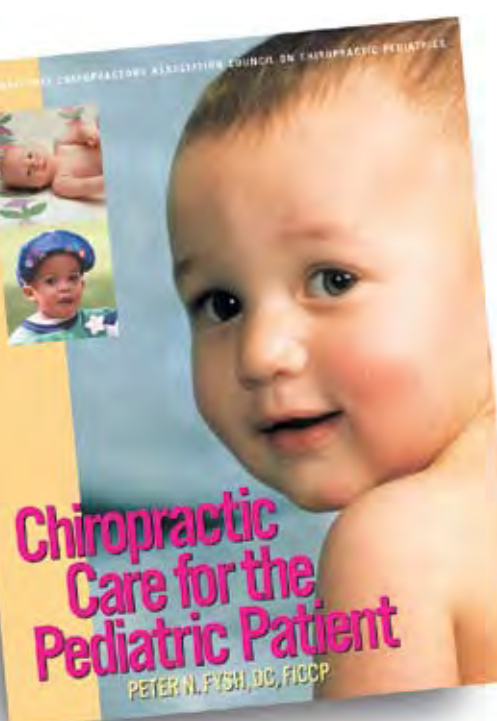
### Bibliography

1. McFarlane AC. Posttraumatic stress disorder: a model of the longitudinal course and the role of risk factors. *J Clin Psychiatry*. 2000;61 Suppl 5:15-20; discussion 21-3

2. Lau JY, Lissek S, Nelson EE, Lee Y, Roberson-Nay R, Poeth K, Jenness J, Ernst M, Grillon C, Pine DS. Fear Conditioning in Adolescents With Anxiety Disorders: Results From a Novel Experimental Paradigm. *J Am Acad Child Adolesc Psychiatry*. 2008 Jan;47(1):94-102.
3. Jou YH, Fukada H. The causes and influence of transitional stress among Chinese students in Japan. *J Soc Psychol*. 1996 Aug;136(4):501-9.
4. Hamilton NG, Sacks LH, Hamilton CA. Object relations theory and pharmacotherapy of anxiety disorders. *Am J Psychother*. 1994 Summer;48(3):380-91

5. Dowling CF. Differentiating normal speech dysfluency from stuttering in children. *Nurse Pract*. 1994 Feb;19(2):30, 34-5.
6. Ivarsson T, Melin K. Autism spectrum traits in children and adolescents with obsessive-compulsive disorder (OCD). *J Anxiety Disord*. 2007 Oct 24.
7. McLaughlin EN, Stewart SH, Taylor S. Childhood anxiety sensitivity index factors predict unique variance in DSM-IV anxiety disorder symptoms. *Cogn Behav Ther*. 2007;36(4):210-9.
8. Bowen R, Chavira DA, Bailey K, Stein MT, Stein MB. Nature of anxiety comorbid with attention deficit hyperactivity disorder in children from a pediatric primary care setting. *Psych Res*. 2008 Jan 15;157(1-3):201-9. Epub 2007 Nov 19.
9. Compton SN, Kratochvil CJ, March JS. Pharmacotherapy for anxiety disorders in children and adolescents: an evidence-based medicine review. *Pediatr Ann*. 2007 Sep;36(9):586-90, 592, 594-8.

**JOAN M. FALLON, D.C., F.I.C.C.P.** is an internationally recognized practitioner, teacher, writer and researcher on chiropractic pediatric care. She has a special interest in children with PDD and autistic spectrum disorders and has done considerable research in her practice to find the cause of their problems and ways to help them. Her research efforts to improve the lives of autistic children were recognized with a special commendation by the New York State legislature in 1995. Dr. Fallon has made an enormous contribution to the profession in the area of pediatrics with her research, writings and interaction with other health care providers and non-chiropractic academia on the efficacy of chiropractic for children and pregnant women. She is one of the founding leaders of the ICA Council on Chiropractic Pediatrics.



# A Must Have Book!

## Chiropractic Care for the Pediatric Patient

by Peter N. Fysh, DC, FICCP

- **Hardbound; 456 pp**
- **30 chapters**
- **Fully illustrated with photographs, radiographs, diagrams**
- **Well-referenced with appendices, index and office forms**

**YES!** Send me a copy of *Chiropractic Care for the Pediatric Patient*.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Phone # \_\_\_\_\_

**Check one:**  ICA Member \$71  
 Non-Member \$79  
 Add \$10 for shipping in the US • Add \$20 for shipping outside US

**Charge to:**  Mastercard  Visa  Am Express

Total payment \$ \_\_\_\_\_  Check enclosed

Account No. \_\_\_\_\_

Signature \_\_\_\_\_ Exp date \_\_\_\_\_

**Mail to:** ICA Sales, 1110 N. Glebe Road, Ste 650  
 Arlington, VA 22201 USA or fax 703-351-7893

### Three ways to order:

1. **By phone:** **1-800-423-4690** or **703-528-5000** (credit card orders only)
2. **By Fax:** **703-351-7893** (credit card orders only)
3. **By Mail:** International Chiropractors Association  
 1110 N. Glebe Road  
 Suite 650  
 Arlington, VA 22201 USA

