Psychotherapy & The Treatment of Children with AD/HD

Researchers from the RAND Corporation and the University of Pittsburg found that less than one child in ten with AD/HD receive psychotherapy along with pharmacotherapy. Sometimes this trend was found more in areas of the country where there were fewer licensed psychologists, but this was not always the case. These practices have been carried out despite research that indicates co-therapy (medication with talk therapy) works best long term with children who have AD/HD. This may keep comorbidities from being treated and cause problems in social development.

Researchers found a psychosocial treatment program for SCT children called the Child Life Attention Skills Program (CLAS) which integrates psychosocial treatment and training at home and at school results in significant improvements in teacher and parent reported attention, organizational skills, social skills and global cognitive functioning.

Biomarkers That Predict Future Dyslexia

Researchers did diffusion MRI’s of kindergarten children and found that the development of the left arcuate fasciculus and superior corona radiata as key fibers predicted 56% of the variance of whether a child would develop dyslexia. This shows the importance of the development of left dorsal white matter in development of phonological processing and reading.

Scientists discovered the development of the connections between
the task positive networks and the fault mode networks in children
with AD/HD are significantly delayed in their development when
compared to non-disabled children. Thus, it appears that AD/HD
children mature significantly slower than non-impaired children and
the difference is in the large network connections in the brain.

Sripada, C.S., et al. (September 30, 2014). Lag in maturation of the brain’s intrinsic functional architecture in
attention-deficit/hyperactivity disorder. PNAS, 111(39), 14,259-14,264.
Reading Connectivity in Dyslexic Vs. Non-Dyslexic Brains

Dyslexics have significantly more divergent connectivity within the visual association areas and visual pathway as well as prefrontal cortex areas when compared to non-dyslexics. They also have reduced connectivity in the left temporal lobe’s left fusiform gyrus. Non-dyslexics can integrate visual information and modulate their attention to visual stimuli significantly better than dyslexics. This allows them to recognize words on their visual properties whereas dyslexics must use phonological processing.

Scientists found that the combination of stimulant medication, parent training, and Risperidone worked significantly better with children who had AD/HD, comorbid ODD and peer aggression than children who had stimulant medication and parent training only.

AD/HD and Obesity

Researchers found after a 33 year controlled prospective study that AD/HD boys had significantly Body Mass Indexes as adults than boys who did not have AD/HD. This study also controlled for socioeconomic status and other mental disorders.

Exercise and AD/HD

Researchers discovered that 26 minutes of rigorous exercise every school day can significantly improve AD/HD symptomatology in small children in school.

A recent study of AD/HD children who were treated with stimulant medication indicated the stimulants did not stunt the children’s eventual adult height.

AD/HD and Predicting Errors

Scientists have found those with AD/HD have impaired decision making and learning from experience abilities due to dysfunctional reward prediction errors caused by anomalies in the medial prefrontal cortex.

AD/HD, Stimulants, & Guanfacine

Researchers found that the use of Guanfacine Extended-Release with a stimulant worked significantly better in adolescents with AD/HD than using Guanfacine Extended-Release, or stimulants alone.

Prenatal Anti-Depressants, AD/HD, & ASD

Scientists found pregnant mother who take anti-depressants for depression during their pregnancy are risk of having offspring with AD/HD, but not Autism Spectrum Disorder.

Clements, C.C., et al. (August 26, 2014). Prenatal antidepressant exposure is associated with risk for attention-deficit hyperactivity disorder but not autism spectrum disorder in a large health system. Molecular Psychiatry. DOI: 10.1038/mp.2014.90.
When we learn to read mirror image letters like “b and d”, and “p and q” or brains must learn to inhibit the automatic mental processing of their mirror image. This process never goes away even with excellent adult readers.

Rice University researchers found that homework was more useful if students were given refresher problems for the next two homework assignments, that spacing all sets of new problems over a three week period instead of one night and giving immediate feedback on homework did best.

Fatty Acids and AD/HD

Scientist found that omega 3/6 fatty acids had similar effects in children with AD/HD as methylphenidate. Additionally, they found Omega 3/6 fatty acids when used with methylphenidate was more tolerable than when either was used alone.

An international group of scientists believe they have found a medication (diuretic bumetanide) that may help those with ASD improve their emotional face perception.

Researchers from the Netherlands evaluated older adults with Autism Spectrum Disorder ages 53 to 83 regarding the quality of their lives. When compared to age match controls without ASD their quality of life was significantly worse. The researchers determined that age was not the variable that accounted for this. It was having ASD.

A recent research literature review of Sensory Integration Therapy with autistic individuals indicated they may not be effective. The reviewers recommended future research of Sensory Integration Therapy use more rigorous research designs and larger subject groups.

ASD, Pain, and Sleep

Scientists discovered children with autism spectrum disorder have abnormally high levels of pain and sleep difficulties. More specifically those with ASD were found to have significant parasomnias, sleep duration and apnea difficulties. It was recommended those being evaluated for ASD be screened for sleep and pain problems.

Recently, those with autism spectrum disorder were found to significantly rate neutral emotional faces as displaying negative emotions. Adults with ASD were particularly biased toward rating happy facial expressions as neutral. The researchers determined those with ASD must have a negative bias toward reading emotional facial expressions.

Researchers found children with autism spectrum disorder relied more on reading facial expressions than the situation the person emoting the expression when determining the emotional “temperature” of a setting. This was with the exception of the emotional expression of fear. The scientists believed children were reasonably as good as their non-impaired peers at reading facial expressions. The children with ASD, however, did not pay attention to the context of the situation the facial expression was expressed.

Investigators found that children with autism spectrum disorder are impaired in knowing what to say in response to others. This may indicate they have significantly more difficulty in the cognition of social anticipation.

Swedish researchers learned adults with autism spectrum disorder experience significantly higher stress and less ability to cope with it than non-impaired adults. It was suggested programs be created to help ASD adults learn to control and cope with their stress.