

## **DISCLAIMER**

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The information contained herein includes both psychological and non psychological interventions. The delivery of psychological services requires a medical referral whilst non psychological services do not.

Each person is an individual and has a unique psychological profile, biochemistry, developmental and social history. As such, advice will not be given over the internet and recommendations and interventions within this website cannot be taken as a substitute for a thorough medical or allied health professional assessment or diagnosis.

# Pervasive Developmental Disorder (PDD)

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## INTRODUCTION

Pervasive Developmental Disorder (PDD) is an umbrella term used to define a wide range disorders including a spectrum of behavioral problems commonly associated with autism.

PDDs range from 'mild' developmental delays and disorders to more serious developmental disorders such as mental retardation, cerebral palsy, and the autistic spectrum of disorders. Within each type of developmental disorder, or diagnostic category, there are numerous 'sub-types', with varying intensity of symptoms, and most importantly, considerable individual variation.

The term [Learning Disabilities](#) (LDs) is another 'umbrella' term, and refers to a range of specific learning disorders (SLDs) and assumes that the individual has normal cognitive ability.

SLDs include such things as:

- A problem in reading (e.g. Dyslexia);
- Arithmetic, (e.g. Dyscalcula);
- Spelling;
- Written expression or handwriting;
- Understanding and/or use of verbal (e.g. Dysphasia, Dysomnia);
- expressive language and nonverbal abilities.

[Attention Deficit Disorder](#) (ADD) is related, but separate from a learning disability.

See also the articles on [Sensory Integration](#) (which includes a table of landmarks in motor development), and [Remedial Teaching](#).

Pervasive Developmental Disorders (PDDs) are different from learning disabilities (which are specific). PDDs are manifested by pathology in all areas of mental function: behaviour, cognition, and affect (emotion). They pose significant problems for the individual, parents, society and the allopathic medical model. The underlying pathophysiology of PDD is under investigation, but PDDs can be caused by a number of different insults to the brain (triggers). These causes may be as diverse as viral infections, dysmorphic syndromes, or genetic abnormalities of intracellular metabolism. There is current controversy over the use of certain immunisations in genetically susceptible individuals. The number of possible combinations of triggers or causes produce symptoms unique to the individual yet similar to others who experience a particular 'category' of PDD.

Current research suggests several Central Nervous System (CNS) facets are affected at different levels. For example, at the molecular level, the type of serotonin-transporter gene promoter may modulate the severity of PDD. At the neuroanatomical level, preliminary brain imaging studies have identified differences, although no single anomaly has been demonstrated as diagnostically conclusive with absolute reliability. Many children with PDD also have a [central auditory processing deficit](#), which implies distorted pathways between hearing and cortical processing. Comorbidity with other conditions is common and encompasses the spectrum of learning difficulties (LDs).

A much neglected factor in both learning disorders and pervasive developmental disorders is the effects of subtle [brain injury](#), or neuronal shearing as may occur in a closed head injury (coup-contra-coup) due to 'whiplash', a knock or fall. 'Bumps' to the head can cause more damage than you think - prevention is the best cure.

PDD can be differentiated into four main categories according to the age of onset, course of development and prognosis. The four main categories are: [autism](#), childhood onset pervasive developmental disorder, childhood disintegrative disorder, and childhood schizophrenia.

### **AUTISM OR KANNER'S SYNDROME**

Is a syndrome of early childhood characterised by abnormal social relationships; language disorder with impaired understanding, echolalia, and pronominal reversal ( using third party sense in referring to oneself), rituals and compulsive phenomena (insistence on the preservation of sameness); and uneven intellectual development with mental retardation in most instances.

Autism is usually manifest in the first year of life, and its onset is not later than the age of three. Prognosis is strongly determined by the amount of language the child has by age 7. Symptoms tend to remain consistent throughout development, with some individuals acquiring symptoms of schizophrenia in adolescence or young adulthood.

Neurologic examination usually reveals nonfocal findings (e.g. poorly coordinated gait, myclonic jerking, motor stereotypies), although it should be noted that about 20-40% of children with PPD (particularly those with an IQ < 50) may develop seizures before adolescence.

### **CHILDHOOD-ONSET PERVERSIVE DEVELOPMENTAL DISORDER**

Is a syndrome similar to autism but with a later stage of onset (36 months to 12 years of age). The disorder is characterised by abnormal social relations (eg aloofness, inappropriate affect, lack of skill in making friendships), and by bizarre mannerisms, which commonly include odd movements, strange gestures, and unusual speech patterns. Although the disorder is not fully expressed until after age 36 months, some features may appear earlier. Except for a later onset, the disorder appears to be a variant of autism. It often coexists and tends to become blurred with symptoms of Tourettes, obsessive-compulsive disorder, and attention deficit disorder. Prognosis tends to be as for autism.

### **RETT'S SYNDROME**

Is a devastating neurological disorder that strikes primarily little girls, depriving them of communication and motor skills and rendering them completely dependent on others for every basic need. Girls with Rett's Syndrome appear to develop normally until 6 to 18 months of age. They then enter a period of regression, losing speech and hand skills they had acquired. Most girls develop seizures, repetitive hand movements, irregular breathing and motor-control problems. A slowing of the rate of head growth may also become apparent (Microencephaly). The girls usually live to adulthood, but most never regain the ability to use their hands or to speak.

### **CHILDHOOD DISINTEGRATIVE DISORDER**

Is a heterogeneous collection of syndromes with onset after age 3 and prior normal development. Some cases are later identified as specific neurodegenerative syndromes (eg., slow virus infections to the central nervous system, juvenile cerebromacular degeneration); others have no identifiable cause. Typically the child develops normally until age 3-4 years (including speech acquisition, toilet training and adequate social behaviour). At onset, a period of vague illness and mood changes ensue. The child is generally irritable and complaining, followed by marked regression of the developmental landmarks achieved. Deterioration occurs in all areas of development to a grossly defective level. Prognosis is usually poor and lifelong care is usually required. No specific treatment exists in the allopathic model.

### **CHILDHOOD SCHIZOPHRENIA**

Typifies psychotic states with onset after the age of 7 years and with behavioural similarities to adult schizophrenia. Available evidence suggests that environmental stresses precipitate manifest illness with children of genetic predisposition. The prevalence of this disorder increases with age. Childhood schizophrenia forms a continuum with the adolescent and adult forms. It is characterised by withdrawal, apathy, flat affect, thought disorder (blocking and perseveration), ideas of reference, hallucinations and delusions and complaints of thought control. Diagnosis is based on descriptive clinical phenomena.

Other types of PDD include [Asperger's Syndrome](#), and according to [DSM-IV](#), "PDD Not Otherwise Specified".

Children with Pervasive Developmental Disorders vary widely in their abilities, intelligence, and behaviours. Some children do not speak at all, others speak in limited phrases or conversations, and some have relatively normal language development. Repetitive play skills and limited social skills are generally evident as well. Unusual responses to sensory information - loud noises, lights etc. - are also common.

Simon Baron-Cohen and colleagues (1992, 1996) observed that abnormalities in gaze monitoring, protodeclarative pointing, and pretend play noted in toddlers during visits to their clinic in the United Kingdom were useful in predicting the later diagnosis of autistic disorder.

Estimates of PDD incidence range from 10 -19 cases per 10,000 individuals, and the incidence appears to be increasing each year.

Any history of deficiencies in the following areas may indicate a need for evaluation for Pervasive Developmental Disorder.

#### **LANGUAGE DEVELOPMENT:**

- Delay - May suggest autism or PDD Not Otherwise Specified
- Regression - Consistent with Rett's disorder or childhood disintegrative disorder
- Normal language development - A diagnostic feature of Asperger's Syndrome

#### **POOR SOCIAL INTERACTION:**

- Social isolation
- Poor eye contact
- Attachment to unusual objects (a piece of string, bottle caps etc.)
- Overdeveloped, circumscribed interests in odd or specific topics
- Inability to engage in imaginative play

#### **STEREOTYPED BEHAVIOURS:**

- Hand flapping
- Self-injurious behaviours (e.g. head banging)
- Difficulty making a transition between activities (a need for 'sameness')

## **SENSORY INTEGRATION DIFFICULTIES:**

- Oral aversion to certain textures or colours
- Olfactory aversion
- Tactile aversion to certain fabrics (eg, tags on clothing, position of socks)
- Auditory aversion to loud or specific noises or certain types of music

## **FUNCTIONAL DEVELOPMENTAL LEVELS**

Stanley I. Greenspan, M.D., and Serena Wieder, Ph.D. of The Interdisciplinary Council on Developmental and Learning Disorders (ICDL) propose a developmentally based approach to the evaluation of Pervasive Developmental Disorders.

In this model, there are six functional developmental levels. They include the child's ability to accomplish the following:

1. *Attend to multisensory affective experience* and, at the same time, organise a calm, regulated state and experience pleasure.
2. *Engage with and evidence affective preference and pleasure for a caregiver.*
3. *Initiate and respond to two-way, presymbolic gestural communication.*
4. *Organise chains of two-way communication* (opening and closing many circles of communication in a row), maintain communication across space, integrate affective polarities, and synthesize an emerging prerepresentational organization of self and other.
5. *Represent (symbolise) affective experience* (e.g., pretend play or functional use of language), which calls for higher level auditory and verbal sequencing ability.
6. *Create representational (symbolic) categories and gradually build conceptual bridges between these categories.* This ability creates the foundation for such basic personality functions as reality testing, impulse control, self-other representational differentiation, affect labeling and discrimination, stable mood, and a sense of time and space that enables logical planning. This ability rests not only on complex auditory and verbal processing abilities, but on visual-spatial abstracting capacities as well.

## **CONCLUSION**

**A child's healthy development in all forms, particularly those of social/emotional, communication, and behaviour, should be closely monitored by parents and care givers continually, and by health care practitioners through screenings incorporated into each neonatal visit..... education of all concerned in the care of children as to the early warning signs as well as knowledge of the available interventions and current research into developmental disorders should be a priority of all governments.....**

Early recognition and appropriate synergistic interventions are crucial to success in amelioration of developmental disorders and any problem perceived by a parent or teacher warrants attention. Yet for many children, the early warning signals of underlying problems go unnoticed until preschool and the demands of disciplined structure and academic learning.

Many parents report normal development in their child until age 2 years before noticing the deficits in social and communicative skills. Screening all births for signs predictive of pervasive developmental disorders and subsequent neonatal vigilance is important.

With appropriate interventions, a child can overcome or learn to compensate for a wide range of developmental problems. Intensive, well-designed, and timely intervention can improve the prospects—and the quality of life—for many children who are considered at risk for cognitive, social, or emotional impairment

**For more information or to make an appointment please contact us on (02) 9637 9998 during business hours.**

## **FURTHER READING SUGGESTIONS**

- Learning Disabilities
- Attention Deficit Disorder (ADD) & Attention Deficit Hyperactivity Disorder (ADHD)
- Sensory-Motor Integration and Learning and Remediation of reading, spelling, and comprehension
- Remediation of reading, spelling, and comprehension
- Auditory Processing Disorder
- Post Concussive Syndrome / Head Injury
- Autism and Autistic Spectrum Disorders
- Alternative & Complementary Strategies for Epilepsy
- Asperger's Syndrome

## **LINKS**

### **PLEASE NOTE :**

Learning Discoveries offers the links below as a convenience to our clients and the users of this website. However, we do not control third party websites and we are not responsible for the websites content.

- **DSM-IV**

To view the DSM-IV criteria and revisions online please go to BraveNet® Clinical Capsules on the above link.

<http://www.behavenet.com/capsules/index.htm>.

DSM-IV is a coded reference manual published by the American Psychiatric Association to provide clear descriptions of diagnostic categories in order to enable clinicians and investigators to diagnose, communicate about, study, and treat people with various mental disorders.

- **The Interdisciplinary Council on Developmental and Learning Disorders**

<http://www.icdl.com/>

The Interdisciplinary Council on Developmental and Learning Disorders - Chaired by Stanley Greenspan M.D., the ICDL is a non profit organisation of professionals from all disciplines working with children with developmental and learning disorders, collaborating and sharing knowledge. Its aim is to improve the identification, prevention and treatment of developmental and learning disorders. Its a wealth of information for professionals and parents.

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