

asperger syndrome

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**this brochure was made available due to sponsorship from The National Lottery
Distribution Trust Fund.**

ASPERGER'S SYNDROME

Dr J C Lombard

1. IDENTIFICATION OF ASPERGER'S DISORDER

In 1944, Hans Asperger, an Austrian physician, published an account describing children with impaired social interactions and communication. Asperger's disorder is one of five disorders defined under the category of Pervasive Developmental Disorders and is thus best understood as a milder variant of the Autistic Disorder.

The most widely used and acknowledged definition of Asperger's syndrome in the USA is the *DSM-IV* (*American Psychiatric Association 1994:74-75*<http://www.geocities.com/Athens/Troy/1807/criteria.htm> 1994:1-3). While the symptoms of the syndrome overlap with those of other conditions, such as autism, it is often the unique combination of behaviours in social interaction and the affected learners' narrow range of interest that baffle professionals and parents alike, and that commonly lead to misdiagnosis. The DSM-IV definition comprises two primary clusters of traits that must be present to meet the criteria for a diagnosis of Asperger's syndrome. The first primary cluster is collectively designed as a qualitative impairment of social interaction comprising the following four elements, of which at least two must be evident to substantiate a diagnosis of the syndrome:

- Marked deficits in nonverbal behaviours (ie. gesturing, facial expression, body posture);
- Impaired ability to establish peer relationships;
- Absence of 'spontaneous seeking to share enjoyment, interests or achievements with others'
- Deficits in social reciprocity.

The second major DSM-IV trait consists in the affected person's narrow range of interests, and stereotyped behaviours and activities. One of the following has to be present:

- Preoccupation with one restricted area of interest;
- Inflexibility or rigidity, sticking to a set, sometimes non-functional routine;
- Stereotyped and repetitive motor movements.

1.1 GILLBERGS CRITERIA FOR ASPERGER'S DISORDER

1.1.1 SEVERE IMPAIRMENT IN RECIPROCAL SOCIAL INTERACTION (At least two of the following)

- (a) inability to interact with peers
- (b) lack of desire to interact with peers
- (c) lack of appreciation of social cues
- (d) socially and emotionally inappropriate behaviour

1.1.2 ALL-ABSORBING NARROW INTEREST (At least one of the following)

- (a) exclusion of other activities
- (b) repetitive adherence
- (c) more rote than meaning

1.1.3 IMPOSITION OF ROUTINES AND INTERESTS (At least one of the following)

- (a) on self, in aspects of life
- (b) on others

1.1.4 SPEECH AND LANGUAGE PROBLEMS
(At least three of the following)

- (a) delayed development
- (b) superficially perfect expressive language
- (c) formal, pedantic language
- (d) odd prosody, peculiar voice characteristics
- (e) impairment of comprehension including misinterpretations of literal/implied meanings

1.1.5 NON-VERBAL COMMUNICATION PROBLEMS
(At least one of the following)

- (a) limited use of gestures
- (b) clumsy/gauche body language
- (c) limited facial expression
- (d) inappropriate expression
- (e) peculiar, stiff gaze

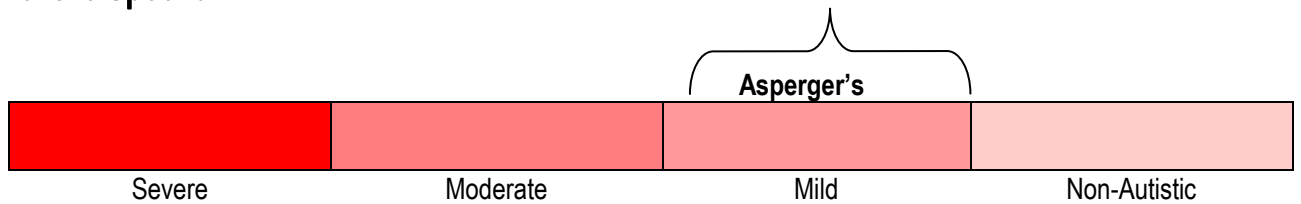
1.1.6 MOTOR CLUMSINESS

Poor performance on neuro developmental examination.

(All six criteria must be met for confirmation of diagnosis).

FIGURE 1 Pervasive Developmental Disorders / Autism Spectrum Disorders

Autistic Spectrum



Cognitive Ability

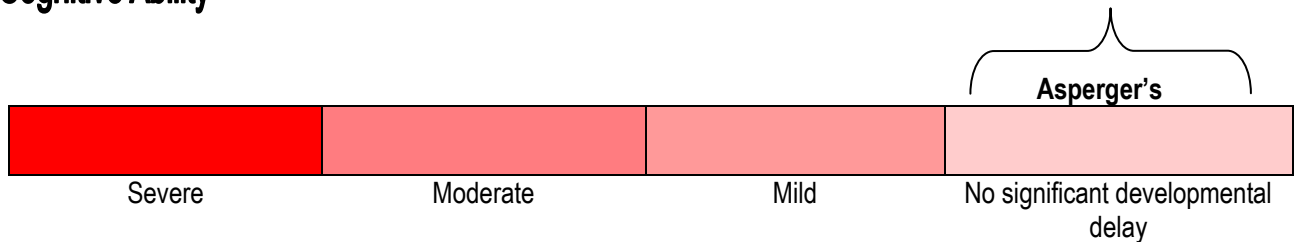


FIGURE 2 Relationship between Autism and cognitive ability

TABLE 1

AUSTRALIAN SCALE FOR ASPERGER'S SYNDROME

A. SOCIAL AND EMOTIONAL ABILITIES

1.	Does the child lack an understanding of how to play with other children? For example, unaware of the unwritten rules of social play?	0	1	2	3	4	5	6
		Rarely		Frequently				
2.	When free to play with other children, such as school lunchtime, does the child avoid social contact with them? For example, finds a secluded place or goes to the library.	0	1	2	3	4	5	6
		Rarely		Frequently				
3.	Does the child appear unaware of social conventions of codes of conduct and make inappropriate actions and comments? For example, making a personal comment to someone but the child seems unaware of how the comment could offend.	0	1	2	3	4	5	6
		Rarely		Frequently				
4.	Does the child lack empathy, ie. the intuitive understanding of another person's feelings? For example, not realising an apology would help the other person feel better.	0	1	2	3	4	5	6
		Rarely		Frequently				
5.	Does the child seem to expect other people to know their thoughts, experiences and opinions? For example, not realizing you could not know about something because you were not with the child at the time.	0	1	2	3	4	5	6
		Rarely		Frequently				
6.	Does the child need an excessive amount of reassurance, especially if things are changed or go wrong?	0	1	2	3	4	5	6
		Rarely		Frequently				
7.	Does the child lack subtlety in their expression of emotion? For example, the child shows distress or affection out of proportion to the situation.	0	1	2	3	4	5	6
		Rarely		Frequently				
8.	Does the child lack precision in their experience of emotion? For example, not understanding levels of emotional expression appropriate for different people.	0	1	2	3	4	5	6
		Rarely		Frequently				
9.	Is the child not interested in participating in competitive sports, games and activities?	0	1	2	3	4	5	6
		Rarely		Frequently				
10.	Is the child <i>indifferent</i> to peer pressure? For example, does <i>not</i> follow the latest craze in toys or clothes.	0	1	2	3	4	5	6
		Rarely		Frequently				

B. COMMUNICATION SKILLS

11.	Does the child take a literal interpretation of comments? For example, is confused by phrases such as 'pull your socks up', 'looks can kill' or 'hop on the scales'.	0	1	2	3	4	5	6
		Rarely		Frequently				

12. Does the child have an unusual tone of voice? For example, the child seems to have a 'foreign' accent or monotone that lacks emphasis on key words.

0	1	2	3	4	5	6
Rarely		Frequently				
13. When talking to the child does he or she appear uninterested in your side of the conversation? For example, not asking about or commenting on your thoughts or opinions on the topic.

0	1	2	3	4	5	6
Rarely		Frequently				
14. When in a conversation, does the child tend to use less eye contact than you would expect?

0	1	2	3	4	5	6
Rarely		Frequently				
15. Is the child's speech over-precise or pedantic? For example, talks in a formal way or like a walking dictionary.

0	1	2	3	4	5	6
Rarely		Frequently				
16. Does the child have problems repairing a conversation? For example, when the child is confused, he or she does not ask for clarification but simply switches to a familiar topic, or takes ages to think of a reply.

0	1	2	3	4	5	6
Rarely		Frequently				

C. COGNITIVE SKILLS

17. Does the child read books primarily for information, not seeming to be interested in fictional works? For example, being an avid reader of encyclopaedias and science books but not keen on adventure stories.

0	1	2	3	4	5	6
Rarely		Frequently				
18. Does the child have an exceptional long-term memory for events and facts? For example remembering the neighbour's car registration of several years ago, or clearly recalling scenes that happened many years ago.

0	1	2	3	4	5	6
Rarely		Frequently				
19. Does the child lack social imaginative play? For example, other children are not included in the child's imaginary games or the child is confused by the pretend games of other children

0	1	2	3	4	5	6
Rarely		Frequently				

D. SPECIFIC INTERESTS

20. Is the child fascinated by a particular topic and avidly collects information or statistics on that interest? For example, the child becomes a walking encyclopaedia of knowledge on vehicles, maps or league tables

0	1	2	3	4	5	6
Rarely		Frequently				
21. Does the child become unduly upset by changes in routine or expectation? For example, is distressed by going to school by a different route.

0	1	2	3	4	5	6
Rarely		Frequently				
22. Does the child develop elaborate routines or rituals that must be completed? For example, lining up toys before going to bed.

0	1	2	3	4	5	6
Rarely		Frequently				

E. MOVEMENT SKILLS

23. Does the child have poor motor coordination? For example, is not skilled at catching a ball.

0	1	2	3	4	5	6
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24. Does the child have an odd gait when running?

Rarely		Frequently				
0	1	2	3	4	5	6
Rarely		Frequently				

F. OTHER CHARACTERISTICS

For this section, tick whether the child has shown any of the following characteristics:

(a) Unusual fear or stress due to:

- ordinary sounds, e.g. electrical appliances
- light touch on skin or scalp
- wearing particular items of clothing
- unexpected noises
- seeing certain objects
- noisy, crowded places, e.g. supermarkets

(b) A tendency to flap or rock when excited or distressed

(c) A lack of sensitivity to low levels of pain

(d) Later in acquiring speech

(e) Unusual facial grimaces or tics

(Attwood, T. 1998. *Asperger's Syndrome A guide for parents and professionals*. London: Jessica Kingsley Publishers)

2. DIAGNOSTIC PITFALLS

2.1 DIFFERENTIAL DIAGNOSIS

2.1.1 EARLY CHILDHOOD AUTISM

As both are defined by the DSM IV as Pervasive Developmental disorders, there are commonalities between the two namely impairments in social interaction, communication and range of interests and activities. The differences exist primarily in the degree of impairment. Secondly, a person with Asperger's cannot possess a clinically significant cognitive delay. All persons with Asperger's possess an average to above average intelligence. Subsequently self-help skills are on par with chronological age. Curiosity about the environment is present during childhood.

- **SOCIAL INTERACTION**

Persons with autism are more likely to be aloof and indifferent to others whereas persons with Asperger's tend to be passive and reflect inappropriate one-sided approaches. Usually this population has a need for social interaction but displays a social ineptness and a lack of interpreting and understanding social cues. Some persons with Asperger's may appear to prefer their own company and may compensate for social difficulties by being over formal. They typically have problems handling confrontations and may unwittingly behave in antisocial ways.

- **COMMUNICATION**

While a person with autism may experience a delay in or total lack of speech, an individual with Asperger's cannot possess a clinically significant general delay in language. Despite having a well-developed vocabulary and grammar, individuals with Asperger's syndrome have an impaired understanding of what language is all about. Their speech

has an inappropriate content usually centered on a preferred subject to which they return again and again with an almost obsessive monotony. They are very literal and may have trouble understanding metaphors, idioms or jokes.

- **INTERESTS AND ACTIVITIES**

Individuals with Asperger's syndrome are pedantic and become obsessed with intellectual topics such as amassing facts about astronomy, computers or memorizing rugby scores for the last 20 years. The person with autism may be more involved in repetitive activities with object such as flapping straws or playing with little pieces of paper.

As opposed to autism Asperger's syndrome usually has a later onset and the outcome usually more positive. Social and communication deficits are less severe and the circumscribed interests more prominent. Individuals with Asperger's often have a higher verbal IQ than performance (or non-verbal) IQ. In autism the case is usually the reverse. Motor clumsiness is more frequently seen in individuals with Asperger's syndrome and neurological disorders more common.

2.1.2 NORMAL VARIANT OF PERSONALITY

Asperger's syndrome may shade into eccentric normality as people differ in their levels of skill and social interaction and their ability to read non-verbal social skills. The difference between persons with Asperger's syndrome and other persons with a complex inner world of one's own is that the latter can take part appropriately in two-way social interaction at times and are influenced by social experiences whereas the person with Asperger's syndrome seems "cut off" from the effects and outside contacts and experiences.

2.1.3 SCHIZOID PERSONALITY

Asperger's syndrome is often regarded as a form of schizoid personality. The latter is also characterized by lack of empathy, single-mindedness, and odd communication, social isolation and over sensitivity.

2.1.4 SCHIZOPHRENIA

Careful observation of speech is crucial in the diagnosis of schizophrenia as opposed to Asperger's syndrome. In Asperger's syndrome speech may be irrelevant but this is due to a tendency to become stuck in well-worn conversational grooves rather than to produce original ideas. Individuals with schizophrenia experience thought echo substitution or insertion voices talking to each other or commenting on the individual's actions. There exists thus a marked contrast between the "woolliness" of schizophrenic thought and the pedantic and concrete thoughts found in Asperger's syndrome.

2.1.5 PSYCHOTIC SYNDROMES

As individuals with Asperger's tend to be over sensitive of the fact that they are misunderstood and made fun of, this disability could be mistaken for a paranoid psychosis.

2.1.6 OBSESSIONAL NEUROSIS

Individuals with obsessional neurosis are very aware of their illogicality as opposed to individuals with Asperger's syndrome who are not necessarily aware of their own repetitive interests and actions.

2.1.7 AFFECTIVE CONDITIONS

Social withdrawal and lack of facial expression in Asperger's syndrome is often confused with a depressive illness. Distress in unfamiliar situations may appear to be an anxiety state. Because individuals with Asperger's syndrome reflect excited talking about certain topics, it may appear to be due to hypomania. Careful investigation of the full clinical picture and early developmental history could clarify the diagnosis. It is however possible that a double diagnosis of Asperger's syndrome and an affective condition can be made.

3. Neuropsychological deficits

TABLE 2

Four levels of observation

Levels of observation	Problems
Observable behaviour	Autism spectrum disorder
Neuropsychological deficits	Deficits of theory of mind, executive functions, central coherence, lack of sense self, and
Neuro-physiology	EEG abnormalities, epilepsy...
Neurochemistry	Glutamate, Neuro-transmitters, hormones



3.1 THEORY OF MIND

Another affliction suffered by learners with Asperger's syndrome is what has become known as **Mind Blindness**, which means that they are unable to think about other people's thinking- and, further, to think about what they think about our thinking or even to think about what they think we think about their thinking. This ability underlies much of our interaction with others, informing our understanding of others' behaviour and influencing our actions towards others. This is an ability everyone appears to have; in fact it is so common as to have escaped specific investigations until quite recently. In psychological terms, this is described as the ability to appreciate that other people have mental states such as intentions, needs, desires and beliefs, which may be different from our own (*Cumine et al 1998:19*). This empathetic ability to "enter into others thoughts" develops from the age of around four years and enables learners to understand that other people's states of mind influence and explain their behaviour (*Attwood 1998:112*).

It appears that the route understanding other people's minds, and even becoming aware at all that other people think and feel, is much more difficult for learners with Asperger's syndrome, and can be linked, in degree of severity, to the difficulties experienced by dyslexic learners in learning to read. In contrast, people without this condition understand others so effortlessly that they seem to have been born with this ability. (*Cumine et al 1998:20-21*).

3.2 EXECUTIVE FUNCTIONING

These functions involve planning, motivation, impulse control as well as the inner experience of time. Neuro-typical individuals have the capacity to move from one activity to the other with relative ease. However, persons with Asperger's syndrome think about these transitions more often and find

3.3 CENTRAL COHERENCE

This term is used for the drive in normal development to try to piece things together and integrate a large number of stimuli. Persons with Asperger's syndrome struggle to look at things as details in a gestalt that forms a whole.

"Further, my mind constantly revises general concepts as I add new information to my memory library; it's like getting a new version of software for the computer..."

Temple Grandin (1995)

3.4 LACK OF SENSE OF SELF

Although learners with Asperger's syndrome may be active participants in an activity, they seem to have difficulty in reflecting on what they have learnt. They may be able to perform rote memory tasks extremely well, but have a detached form of any sense of self and subsequently do not necessarily internalise experiences.

3.5 SENSORY DIFFICULTIES

Learners with Asperger's syndrome also display hypersensitivity. According to *Aylott (2000:853)* there is almost no exception to the rule that people with Asperger's syndrome have problems with some of their senses. Extreme sensitivity to some kinds of stimuli is common among learners with Asperger's syndrome.

Williams (*in Aylott 2000:853*) argues that having a heightened sensory awareness can explain Asperger's syndrome as

"simply an internal human 'normality' with the volume turned up".



4. COMMUNICATION AND SOCIAL SKILLS

4.1 Language impairment

The language impairments of learners with Asperger's syndrome may also cause them to be viewed as strange, eccentric learners. Both verbal and nonverbal communication poses difficulties for learners with Asperger's syndrome. Weaknesses in communication may be explained at least partially by a lack of 'gaze monitoring'. Pragmatic language, vocabulary development, and shared attention all assume that the speaker and listener are focussing on the same thing, and a significant strategy for the listener is that of checking what the speaker is looking at. Such a strategy appears to develop spontaneously in young infants, but an absence of joint attention by around 18 months is a strong diagnostic indicator for Asperger's syndrome (Connor 1999:84-85).

According to ICD-10 as well as DSM- 4 criteria a person with Asperger's syndrome shows qualitative impairment in social interaction dysfunction in the presence of normal intelligence and normal language development. The criteria for autism or any other PDD are not met. The person however lacks social and emotional reciprocity and will e.g. dominate the interaction. The Asperger's syndrome individual are often viewed as different due to their unusual quality of social behaviour and conversational skills (Attwood, 1998)

Some questions however are raised by the above-mentioned definition such as: How exactly does AS differ from autism, so-called "High Functioning Autism" (HFA) and Semantic Pragmatic Disorder (SPD)? Research indicated that individuals with Asperger's syndrome perform better on theory of mind and verbal memory tests than individuals with high functioning autism.

With regards to the social dysfunction associated with the syndrome, their research indicated that *pedantic speaking style* may be used as a diagnostic feature of Asperger's syndrome. The authors compared pedantic speaking style in a sample of 17 Asperger's syndrome and a control sample of 13 high functioning autism individuals. Of the AS sample, 76% were categorised as being pedantic compared to 31% of the controls with HFA. Terms used by Bishop et al (1992) to describe Semantic Pragmatic Disorder bare a striking resemblance to "pedantic quality" e.g. use of "inappropriacy", "including too much info" and "socially inappropriate style".

Boucher (1998) proposed that AS, autism as well as Semantic Pragmatic Disorder share a specific deficit in information processing. The ability to draw information together at a "central" level seems to be impaired. If the underlying causes in AS, HFA and autism are the same, how then are they differentiated? Firth and Venkatesh (1999) uses a very concrete comparison to explain this concept by saying that it is possible to have a sore throat without it being due to tonsillitis (just like it is possible to like rugby without it being due to being a South-African!)

She (Firth and Venkatesh, 1999) proposed that

- those children who have mainly linguistic deficits due to a central processing disorder, should be labeled as SPD,
- those with central processing problems, significant social deficits but intact language skills would be labeled AS
- and those with significantly affected skills in all areas of Wing's (1991) "Triad of impairments" could be said to have autism.

It seems then that even though the debate regarding the "boundaries" of AS, SPD and autism might continue, there is consensus that the distinctive communication features found in individuals with AS, seem to be the result of underlying information processing (cognitive) processes as well as pragmatics:

- "Difficulty in organising and drawing together (process) information to make it coherent and meaningful" (Utah Frith, 1989)
- "The majority of people within the autistic spectrum have some degree of difficulty with processing sensory input; information is received BUT processed and integrated in an unusual way" (Frith and Venkatesh, 1999)
- "AS reflects a specific deficit in information processing which impairs the registration and organisation of complex experience. It also impairs the ability to generate behaviour and to plan. (Boucher, 1998)
- Verbal and non-verbal information is processed and stored as unanalysed "wholes" (Prizant, 1983)



- “The inability to understand the nature of mental representations and their role in determining the behavior of people; difficulty to attribute mental states to people”.

When looking at these descriptions it seems that most authors agree that an unusual way of processing- and acting on information (central processing disorder) result in the distinctive communication features that result in difficulty to initiate and maintain social interaction.

4.1.1 SPECIFIC LANGUAGE AND COMMUNICATION FEATURES IN LEARNERS WITH ASPERGER'S SYNDROME

A dearth of literature exists on the pedantic style, pragmatic as well as the perspective taking difficulties of person's with Asperger's syndrome. Interesting to note is that the acquisition and development of syntax and phonology in Asperger's syndrome individuals correspond to that of other children. It is mainly the areas of pragmatics, semantics and prosody where the difference to other children is noted.

The following schematic presentation is an attempt to demonstrate the underlying cognitive deficit in Asperger's syndrome and the resulting distinctive language and communication features associated with the syndrome.

CENTRAL PROCESSING DISORDER

UNUSUAL WAYS OF PROCESSING AND ACTING ON INFORMATION

DIFFICULTIES:

<u>SEMANTIC</u>	<u>PRAGMATIC</u>	<u>SYNTACTIC</u>	<u>PHONOLOGICAL</u>
DISORGA- NISED THINKING	PERSPECTIVE TAKING OF CONVERSA- TION PARTNER	MEMORISATION PRONOUNS	DISFLUENCY PROSODY
THEORY OF MIND			
DIFFICULTY WITH COGNITIVE FLEXIBILI- TY	DIFFICULTY TO MONITOR THE LISTENER'S INFORMATIO- NAL NEEDS PEDANTIC SPEECH: MAY INCREASE WITH AGE IMPAIRED USE OF NON-VERBAL COMMUNICATION		



SEMANTIC DIFFICULTIES:

▪ *Theory of mind:*

The research of Uta Frith (1989) indicated that Asperger's syndrome individuals have an impairment to "mind-read". Three main areas of impairment have been identified:

▪ *Mental representations:*

The individual with Asperger's syndrome finds it difficult to acknowledge that his behaviour has a direct influence on the behaviour and thoughts of those around him. They have difficulty to conceptualise and appreciate the thoughts and feelings of others

▪ *Pretence and imagination:*

Asperger's syndrome individuals often demonstrate difficulty with pretend play and imagination in general. Play actions may often seem very imaginative and creative. A closer look could reveal actions that are a duplication of the original sources e.g. you might hear the teacher's or mother's tone of voice. Where as other children prefer to pretend to be certain character (e.g. Spiderman) the Asperger's syndrome individual often prefer to pretend to be an object e.g. a teapot or window wipers. Some however develop a rich, imaginative inner life.

▪ *Joint attention:*

To show or request things by means of gestures (e.g. pointing); may be absent or impaired especially in the young child

▪ *Difficulty with cognitive flexibility:*

Rigid thinking patterns are demonstrated e.g. one track minded. Asperger's syndrome individuals do not adapt to change or failure and unfortunately often do not learn from their mistakes

▪ *Other semantic features include:*

○ *Difficulty to learn through observation (experience):*

Asperger's syndrome individuals have difficulty in generalising and application of acquired knowledge

○ *Literal interpretation:*

The Asperger's syndrome individual seem to be less aware of implied, hidden or multiple meanings such as are related to idioms and metaphors. Abstract thinking poses difficulty. Will e.g. have difficulty with phrases such as "She was over the moon", "Let's toast the bride" or "Keep your eye on the ball"

○ *Difficulty in interpreting the speaker's intention and motivation:* This requires making sense of non-verbal clues and the person must be able to put himself in someone else's shoes

○ *Peculiar word choice and difficulty with abstract language:* A good example of this is the description by Temple Grandin (1995) in her book on p.18 of her throwing her hat out window of her mother's car and the consequences of that action:

○ *The need for familiarity and predictability* (due to central processing disorder) might result in the child producing first words that relate to his interests and personal needs. Wing's (1981) description of the communication style of the individual with Asperger's syndrome highlights the need for and dependency on familiarity as follows: "They tend to get stuck in well-worn conversational grooves rather than to produce new ideas".

○ Age related features might include:

0-2 yrs: Routine changes might upset the child

3-5 yrs: Do not gradually develop the ability to generate or build new phrases (use memory to remember speech). Feels more secure in familiar situations.



6-8 yrs: The person says much more than he actually understands; people direct complex language to the person and this might result in conversation breakdowns

Ages 9 and ↑: Speech is taken very literally; Difficulty with humour, sarcasm and metaphors e.g. “Pull up your sock” or “Stretch your legs”. May not make inferences about situations and people e.g. “Can you turn the page?””Yes” but fails to actually turn the page. In secondary education might experience problems with different lessons, classes and teacher’s different linguistic styles

PRAGMATIC DIFFICULTIES:

Pragmatic difficulties include (amongst others):

▪ *Perspective taking of the conversational partner:*

How much information does the partner need? Does the partner know whom the people are that I am talking about e.g. who is “he” or “Sam”? Is the partner perhaps tired, sick or in a hurry? Is the partner interested in the conversational topic at all?

▪ *Monitoring of the listener’s informational needs:*

Asperger’s syndrome individuals have difficulty monitoring their listener’s informational needs e.g. too much or too little info.

▪ *Pedantic speech:* *The Oxford Dictionary* defines pedantic speaking style as follows: “ a person who overrates book-learning or technical knowledge or displays it unduly or unreasonable; one who lays excessive stress upon trifling details of knowledge or upon strict adherence upon formal rules”. Pedantic speech might increase with age, as persons with Asperger’s syndrome tend to specialize in idiosyncratic interests. Over time some of them gather enormous amounts of factual information that they tend to use in social situations with no regard to the interest of the listener.

▪ *Impaired use of non-verbal communication:*

Non-verbal communication also reflect an impairment in social behaviour e.g. the limited use off gestures, clumsy body language, limited facial expression and peculiar stiff gaze

▪ Other pragmatic difficulties:

- to observe the rules of politeness and to understand social amenities. They may appear ill mannered e.g. might not use “Thank you” and “Please”.
- Unawareness of the unwritten rules of social interaction
- to understand and use humour, sarcasm
- to interpret and use facial expression
- they often choose peculiar topics relating to own interests
- Age related features might include:

0-2 yrs: the child not making good eye contact. Might not join in peek-a-boo games.

3-5 yrs: May prefer own company because conversation is difficult

6-8 yrs: Favours particular topics; Repetitive speech; Insensitive to needs of conversational partner (e.g. talks at the same time); Poor body language e.g. faces away from partner, peculiar tone of voice (has learnt whole phrases together with particular intonation pattern)

Ages 9 and ↑: Conversation skills continue to be unusual and he may need to be taught rules of discourse; Excessive talking about 1 topic



SYNTAX

- Due to the processing difficulties mentioned earlier e.g. “whole processing” some individuals with AS tend to memorise language rather than develop it according to a rule based system
- Pronoun reversals
- Difficulty in responding to open-ended questions. They perform better with forced alternatives e.g. “Did you swim or did you play soccer today?” As opposed to “Tell me about you day” or “What did you do at school today?”
- Age related features might include:
6-8 yrs: Appear to have good language skills and well formed sentences; complex words in their vocabulary might astound the listener.

PHONOLOGY

- Disfluencies e.g. hesitations, false starts, reformulation
- Prosody e.g. peculiar voice intonation and often inappropriate inflection
- Lack of variation in pitch and stress

4.2 Social skills

The social impairments of learners with Asperger’s syndrome are well documented (*Koning & Magill-Evans 2001:23-23*). They include socially and emotionally inappropriate behaviours that may result in a lack of appreciation of social cues, inability to interact with peers or to develop peer relationships, and impairment in the ability to use non-verbal behaviours to regulate social interaction. Learners with Asperger’s syndrome have also been described as having difficulty comprehending others’ facial expressions and understanding the rules governing social interaction, perceiving the feelings of others, and making adjustments to fit different social contexts or the needs of different listeners. They are lacking in social-emotional reciprocity and show marked impairments in non-verbal communication, expressed, for example, in tone of voice, facial expression, gesture, gaze and posture, and they tend to suffer from speech and language abnormalities (*Koning & Magill-Evans 2001:23-24*).

To a great extent, society appraises its individual members according to how they look, behave and talk. Learners with Asperger’s syndrome have no distinctive physical features but are primarily viewed by other people as different because of their unusual or idiosyncratic quality of social behaviour and conversation (*Attwood 1998:28; Attwood 2000:88*). *Trower (in Barnhill 2001:260)* observes that social behaviour is the most central, distinctive and critical characteristic of human beings. Given this assertion, persons with Asperger’s syndrome are at a clear disadvantage in coping with their social world. The authors of this paper concur with this statement based on their experience in working with persons with Asperger’s syndrome.

Learners with Asperger’s syndrome often have severe difficulties in interpreting the emotional cues and clues present in the facial expressions, intonation and body language of those with whom they interact. Yet, learners with Asperger’s syndrome are not necessarily indifferent and may overreact or under-react to the emotional behaviour of others. The affected learners seem to have no schemata upon which to scaffold emotional behaviour patterns, and although they are capable of learning emotional survival skills they will never totally internalise the vast repertoire of social skills and mores which non-Asperger individuals assimilate as a natural process of social development.

5. THERAPEUTIC INTERVENTION & CLASSROOM FACILITATION

Because of the wide range of variation in the severity of the difficulties experienced by people diagnosed as having Asperger’s syndrome, there should also be a corresponding spectrum of provision. As yet, there is no known treatment that has a permanent effect on the basic impairments underlying Asperger’s syndrome but handicaps can be diminished by appropriate management and education. These individuals respond best if there is a regular,



organized routine. Caregivers and parents should recognize subtle difficulties in comprehension of abstract language in order to communicate with the child in a way that he/she can understand.

Principles of structured teaching

- Visually based
- Managing behaviour
- Create independence
- Work from top to bottom and left to right
- What? Where? How long? What to do when I'm finished?

Counselling from someone who has a full understanding of the syndrome may reduce emotional distress subsequent to this disability. This counselling should consist of a concrete explanation, reassurance and discussion of fears and social difficulties. Psychoanalysis, which depends upon the interpretation of complex symbolic associations, has not proven useful in this condition.

Appropriate education is of particular importance as it may assist in the development of special interests. There is no type of school that is particularly suitable for those with Asperger's' syndrome. Educational progress depends largely on the severity of the child's impairments as well as the understanding and skill of the teachers and caregivers.

Learners with Asperger's syndrome have the intelligence to compete in regular education, but they often do not have the emotional resources to cope with the demands of the classroom. These learners are easily stressed due to their inflexibility. Self-esteem is low, and they are often very self-critical and unable to tolerate making mistakes. Accordingly, these learners, especially adolescents, may be prone to depression. Rage reaction or temper outbursts in response to stress and frustration are common. They also rarely seem relaxed and are easily overwhelmed when things are not as their rigid views dictate they should be. Interacting with people and coping with the ordinary demands of everyday life takes continual effort (*Williams 1995:14*).

Individuals with Asperger's' syndrome can settle in open employment in jobs with a regular routine. Ideally employers and workmates should be tolerant and knowledgeable of the individual's eccentricities, fears and social inadequacies.

8. LIST OF REFERENCES

Attwood, T. 1998. *Asperger's Syndrome. A guide for parents and professionals*. London: Jessica Kingsley Publishers.

Attwood, T. 2000. *Strategies for Improving the Social Integration of Children with Asperger's Syndrome*. *Autism* (4)1:85-100.

Aylott, J. 2000. *Learning Disability Nursing: Autism in Adulthood: The Concepts of Identity and Difference*. *British Journal of Nursing* 9(13):851-858.

Barnhill, G. 2001. *What is Asperger Syndrome*. *Intervention in School and Clinic* 36(5):259-265.

Bishop, D.V. & Adams, C. 1992. *Comprehension problems in children with specific language impairment: literal and inferential meaning*. *Journal of Speech and Hearing Research* 35, pp119 – 129.

Boucher, J. 1998. SPD as a distinct diagnostic entity: logical considerations and directions for future research. *International Journal of Language and Communication Disorders* 33, pp.71-81.

Connor, M. 1999. *Children on the autistic spectrum : Guidelines for mainstream practice*. *Support for Learning* 14(2):80-86.



- Cumine, V., Leach, L. & Stevenson, G. 1989. *Asperger Syndrome: A Practical Guide for Teachers*. London: David Fulton Publishers.
- De Clercq, H. 2003. *Mum, is that a human being or an animal?* Bristol: Lucky Duck Publishing.
- Frith, U. 1989. *Autism: explaining the enigma*. Oxford: Blackwell.
- Frith, U. 1992. *Autism and Asperger syndrome*. Cambridge: University Press.
- Firth, C. & Venkatesh. 1999. *Semantic pragmatic language disorder*. United Kingdom: Winslow.
- Grandin, T. 1995. *Thinking in pictures*. New York: Doubleday.
- Koning, C. & Magill-Evans, J. 2001. *Validation of the Child and Adolescent Social Perception Measure*. *Occupational Therapy Journal of Research* 21(1):49-67.
- Lombard, J.C. 2000. *Asperger's Disorder*. Unpublished article.
- Lombard, J.C., Janssen, C.J. & Saunders, D. 2004. *A theoretical research model for the improvement of inclusive education of learners with Asperger's syndrome in South Africa*. Unpublished article.
- Neihart, M. 2000. *Gifted Children with Asperger's Syndrome*. *Gifted Child Quarterly* 44(4):222-230.
- Pansegrouw, I. 2001. *Asperger's syndrome: language and communication features and intervention*. Unpublished article.
- Peeters, T. & Gillberg, C. 1999. *Autism. Medical and Educational Aspects*. Lonon: Whurr Publishers.
- Prizant, B.M. 1983. *Language acquisition and communicative behaviour in Autism: Toward an understanding of the "whole" of it*. *Journal of Speech and Hearing disorders*, 48, pp. 286 – 296.
- Thomas, G., Barratt, P., Clewley, H., Joy, H., Potter, M. & Whitaker, P. 1998. *Asperger syndrome – practical strategies for the classroom. A teacher's guide*. Leicester City Council and Leicestershire County Council: The National Autistic Society.
- Tsai, L. 2000. *Children with Autism Spectrum Disorder : Medicine Today in the New Millennium*. *Focus on Autism and Other Developmental Disabilities* 15(3):138-145.
- Williams, K. 1995. *Understanding the Student with Asperger's Syndrome*. *Focus on Autistic Behaviour*. 10(2):9-16.
- Wing, L. 1981. *Asperger's syndrome: a clinical account*. The MRC Social Psychiatry Unit, Institute of Psychiatry, London.
- Wing, L. 1991. *Diagnosis of disorders in the autistic continuum*. Based on paper presented at Skive, Demark.

Internet sources

American Psychiatric Association 1994:74-75 <http://www.geocities.com/Athens/Troy/1807/criteria.htm> 1994:1-3)